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**Situation types and aspectual classes of verbs in Mandarin  
Chinese**

**He, Baozhang, Ph.D.  
The Ohio State University, 1992**

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**SITUATION TYPES AND ASPECTUAL CLASSES OF VERBS  
IN MANDARIN CHINESE**

**DISSERTATION**

**Presented in Partial Fulfillment of the Requirement for  
the Degree of Doctor of Philosophy in the Graduate  
School of the Ohio State University**

**By**

**Baozhang He, B.A., M.A.**

**\* \* \* \* \***

**The Ohio State University**

**1992**

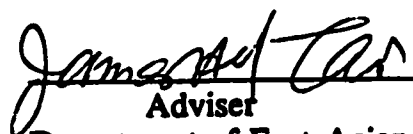
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## **PUBLICATIONS**

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## **FIELD OF STUDY**

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<b>Activity:</b>	John drives a car. John walks.
<b>Accomplishment:</b>	John built a house. John walks to the station.
<b>Achievement:</b>	John won the race. John arrived at the station.

The time schemata Vendler (1967:106) used to characterize these four classes of verbs are the following:

**For activity: A was running at time  $t$  means that time instant  $t$  is on a time stretch throughout which A was running.**

**For accomplishment: A was drawing a circle at  $t$  means that  $t$  is on the time stretch in which A drew a circle.**

**For achievement: A won a race between  $t_1$  and  $t_2$  means that the time instant at which A won the race is between  $t_1$  and  $t_2$ .**

**For state: A loved somebody from  $t_1$  to  $t_2$  means that any instant between  $t_1$  and  $t_2$  A loved that person.**

To restate the above briefly, it can be said that states lack continuous tense and are predicated for a shorter or longer time; activities can be used with continuous tense with no set terminal point; accomplishments are compatible

with continuous tense but with a set terminal point and; achievements lack continuous tense and predicated only for a single instant of time.

There are two crucial parameters involved here in the classification. The first one is the temporal units (instant vs. stretch), which can be grammatically realized in sentences by whether or not they are compatible with continuous tense. The second one is the definiteness or indefiniteness of the temporal units involved, expressed by the employment of either **any**, **a**, or **the**. The following table summarizes the classification more graphically and clearly:

	- continuous ("instant")	+ continuous ("stretch")
- definite ("any", "a")	State	Activity
+ definite ("the")	Achievement	Accomplishment

### 1.1.2. Dowty's Lexical Decomposition Theory and Aspectual Classes

Dowty (1979) developed a theory of lexical decomposition for aspectual properties of verbs in English to explain Vendler's verb categories.

The leading idea of this theory as stated by Dowty (1979:71) is given below:

The idea is that the different aspectual properties of various kinds of verbs can be explained by postulating a single



homogeneous class of predicates - **stative predicates** - plus three or four sentential operators and connectives. English stative verbs are supposed to correspond directly to these stative predicates in logical structure, while verbs of the other categories have logical structures that consist of one or more stative predicates embedded in complex sentences formed with these "aspectual" connectives and operators. These aspectual operators and connectives are treated as logical constants - a standard model-theoretic interpretation is to be given for each - and the stative predicates are non-logical constants.

The logical structures of these verb classes proposed by Dowty are succinctly summarized by Foley and Van Valin (1984:39) as follows:

Verb Class	Logical Structure
State	<b>predicate'</b> (x)
Achievement	<b>BECOME predicate'</b> (x)
Activity	<b>DO (x, [predicate' (x) ] )</b>
Accomplishment	<b><math>\phi</math> CAUSE <math>\psi</math></b> (where $\phi$ is normally an activity verb and $\psi$ an achievement verb.)

Furthermore, in studying the semantics of aspectual classes in the framework of interval semantics, Dowty (1979:41) states:

This is the idea that the recursive semantic clauses are to be stated in terms of the (primitive) notion of truth of a sentence with respect to an interval of time (rather than with respect to a moment of time, as in earlier treatment). In particular, the truth of sentence with respect to a given interval I is independent of the truth of that same sentence with respect to subintervals of I, or moments within I, or with respect to superintervals of I.

Dowty (1986) refers to this form of interval semantics as Dowty/Taylor semantics. In Dowty/Taylor semantics for aspectual classes, three aspectual classes of predicates are posited, with the defining criteria as stated below:

- (a) A sentence  $\varphi$  is stative iff it follows the truth of  $\varphi$  at an interval I that  $\varphi$  is true at all subintervals of I. (e.g. if John was asleep from 1:00 until 2:00 PM, then he was asleep at all subintervals of this interval: be asleep is a stative.)
- (b) A sentence  $\varphi$  is an activity (or *energeia*) iff it follows from the truth of  $\varphi$  at an interval I that  $\varphi$  is true of all subintervals of I down to a certain limit in size (e.g. if John walked from 1:00 until 2:00 PM, then most subintervals of this time are at which John walked: walk is an activity.)
- (c) A sentence  $\varphi$  is an accomplishment/achievement (or *kinesis*) iff it follows from the truth of  $\varphi$  at an interval I that  $\varphi$  is false at all subintervals of I. (e.g. if John built a house in exactly the interval from September 1 until June 1, then it is false that he built a house in any subinterval of this interval: built a house is an accomplishment/achievement.) (Dowty, 1986:42)

In this case, they deliberately make no distinction between accomplishments and achievements in Vendler's verb classes. Also, they have clearly pointed out that the criteria for state, activity or accomplishment/achievement are the criteria that give tests for sentences denoting these four event types, not predicates. The classification of lexical predicates in Vendler's categories can therefore be derived from sentences indicating different types.

## 1.2. Studies in Modern Chinese

There have been several studies of Mandarin Chinese based Vendler's categories, notably Tai (1984), Teng (1986), Szeto (1987), and Smith (1991).

### 1.2.1. Tai's Three Categories

The first one to apply Vendler's framework to the study of Mandarin Chinese is (1984). Tai proposes that Chinese has three categories of verbs pertaining to the notion of time. As he puts it:

They are states, activities, and results. The time schemata for states and activities are no different from those in English. The time schema for results doesn't have continuous tenses and it has definite time instant which corresponds to the ending point of an event from the point of view of the result rather than the action (Tai, 1984:294-295).

The argument for this classification is that "the accomplishment verb is expressed in Chinese in the form of a resultative verb compound. While an accomplishment verb in English has both action and result aspects, a resultative verb compound in Chinese has only the result aspect" (Tai, 1984:292). The linguistic data to support this argument is from sentences like the following<sup>1</sup>:

- (1) Ta xue-le sannian Fawen, keshi mei xue-hui.  
 He study-LE three-year French, but Neg learn-know  
 He has studied three years of French, but he has not learned it.

As Tai explains it, the Chinese equivalent for "to study" is xue, and that for "to learn" is xue-hui "study-know (how to)". Xue-hui is a resultative verb compound with xue denoting the action and hui the result, or the attainment of goal (Tai, 1984:291).

It should be made clear that Tai's classification is at the level of verbs, not sentences. Tai has correctly pointed out the fact that many of English accomplishment verbs are expressed in Chinese by resultative verb compounds. He has also observed an important difference between English accomplishment verbs and Chinese resultative verb compounds. While English accomplishment verbs have both action and result aspects, the Chinese resultative verb compounds focus on result rather than action. Even though Tai's classification does not deal with situation types or event types, his insightful analysis can shed light on our further study of verbs, times, and situation types in Mandarin Chinese.

### 1.2.2. Teng's Four Categories

Teng (1986) accepts Vendler's theoretical basis for the categorization and applies them to Mandarin Chinese. He assumes that the internal temporal structures that distinguish the different situation types in Mandarin

Chinese are exactly the same as those in English. Thus, the four situation types in Chinese are the same as Vendler's. He also points out that each of the four situation types in Mandarin Chinese possesses its own particular grammatical features. For example, he studies how the adverbial expressions yixia "in a moment" and mashang "immediately" function differently in different situation types.

Lacking in Teng's article are proof that Mandarin Chinese exhibits exactly the same four situation types as those in English, and specific syntactic and semantic tests that distinguish the four different situation types. It also should be pointed out that Teng is still inclined to talk about the temporal structure of verbs, not situation types.

### 1.2.3. Szeto's Two-System Classification of Verbs in Chinese

Szeto (1987) is a much more comprehensive study with respect to aspect and aktionsart of verbs in Chinese.

Szeto explores the semantic distinction between English and Chinese verbs. According to him,

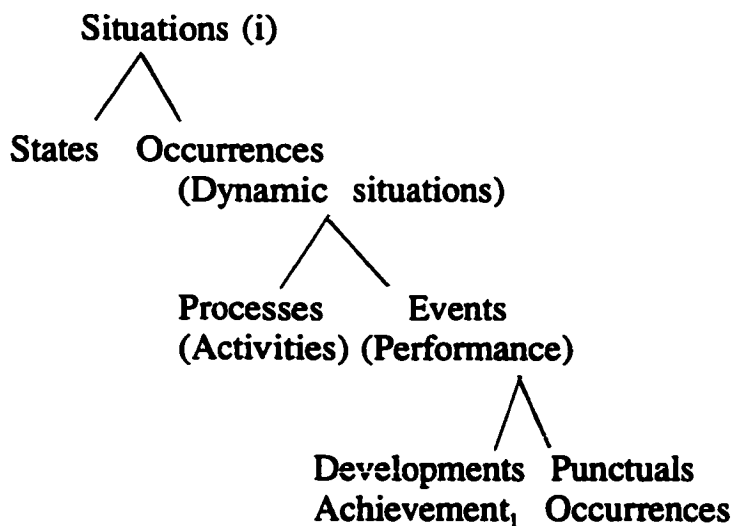
In English, an event referred to in a sentence is conceived of as "progressing" in time in a direction, i.e., from one stage to another (in time sphere), whereas in Chinese, an event is conceived of as being confined in a time sphere. That is, it is

treated as a "self-enclosed" unit of happening, which can be viewed as a whole in its entirety or as condensed. (Szeto 1989:104)

This semantic distinction demonstrates that English verbs have "vectorial" character, which shows a "directed verb content, while the Chinese verbs have a "scalarial" character, which possess a "non-directed" verb content.

Szeto argues that since Vendler's classification of verbs is made based upon the semantic characteristics of English verbs, and since the notion of length of time is different in English from that in Chinese, Vendler's scheme will encounter difficulty when it comes to applying it to the classification of verbs in Chinese.

Based on the aspectual properties of Chinese verbs, Szeto, then, proposes a two-system aspectual classification of verbs, and in his word more accurately, sentences in Chinese in terms of the notion of "change" of situation. This two-system classification is composed of the classification of second-order situations and a classification of temporal changes of second-order situations.



**Examples:**

States:      gao "tall"                      pang "fat"

ai "love"                      hen "hate"

Processes: xue "study"                      xi "wash"

chi "eat"                      sha "kill"

**Developments (Achievement<sub>1</sub>)**

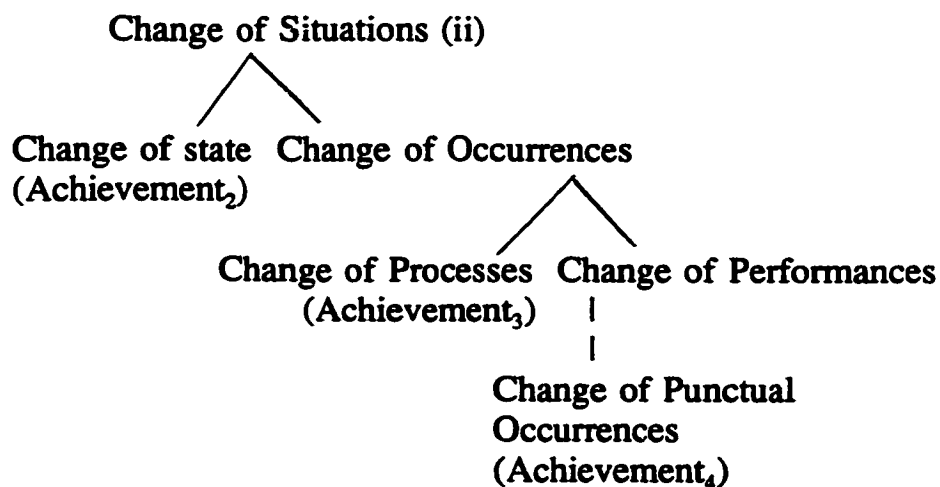
da-si "hit-die"                      ti-shang "kick-injured"

da-po "hit-break"                      sha-si "kill-die"

**Punctual Occurrences:**

si "die"                      diao "fall"

diu "lose"                      tao "escape"



### Examples

#### Change of States (Achievement<sub>2</sub>)

hentou "hate-through"

renchu "identify-come out"

#### Change of Processes (Achievement<sub>3</sub>)

chiwan "eat-finish"

xue-hao "study-complete"

#### Change of Punctual Occurrences (Achievement<sub>4</sub>):

si-diao "die-depart"

diu-diao "lose-fall"

Three points concerning this two-system classification need to be addressed here. First, while Szeto has made every effort to separate different achievement verbs, and grouped them into different classes, he lumps all



kinds of stative verbs together. Adjectival stative verbs such as gao "tall" is quite different from mental and psychological stative/activity verbs such as ai "love" so far as their inherent aspects are concerned because the former can never be used together with progressive zai while the latter can.

Second, what constitutes the inherent temporal structure of a particular situation type is not the verb alone. The presence and the absence of an object, and the (in)definiteness of the object also have to be taken into consideration. This has been very much ignored in Szeto's study.

Third, while Szeto claims that he is classifying the sentences in Chinese, he is actually classifying the verbs in Chinese. Szeto's classification provides a one-to-one relationship between verbs and situations, which does not seem to be correct. The same verb with different aspect markers may present sentences belonging to different situation types. The interaction between verbs and the aspect markers in Chinese, at least to me, is more interesting and important of a study in verb semantics than verb classification. On the other hand, Szeto's classification is similar to Tai's (1984) three categories in consisting of states, activities and results (achievement verbs and resultative verb compounds).

#### 1.2.4. Smith's Four Event Types in Mandarin Chinese

Smith (1990) studies the issue raised by Tai (1984), focusing on event types rather than verb classification. She proposes that Mandarin Chinese does have accomplishments (Telic in her term) contrary to Tai's proposal<sup>2</sup>. She has spelled out the criteria for the classification of event types and designed tests to prove that Mandarin Chinese does have accomplishments, which are realized by resultative verb compounds. According to her, Chinese resultative verb compounds have both duration and result aspects. Her argument thus contrasts with Tai's argument that Chinese resultative verb compounds have only result aspect. Hence, the Chinese resultative verb compounds are the same as English accomplishment verbs. Concerning the recognition of the characteristics of resultative verb compounds, and consequently the recognition of situation or event types in Chinese, this is a major difference between Tai and Smith.

The crucial shortcoming of Smith's article lies in her Chinese sample sentences. Since quite a few of the examples she used to support or reinforce her arguments are either unacceptable or ungrammatical, her arguments are rather weakened and become less convincing<sup>3</sup>.

Previous attempts have been made to study situation or event types in Chinese (Tai 1984, Teng 1986, Szeto 1987, Smith 1990). Teng assumes that Chinese have exactly the four situation types as English does without questioning its appropriateness for Chinese. He then proceeds to discuss the characteristics of the four situation types in Chinese, and how some adverbial behave differently in different situations.

Smith, on the other hand, argues that the four event types are universal, and Chinese is no exception. Hence, there are four situation types in Chinese, the same as in English. To justify her argument, she discusses some syntactic and semantic tests to prove that Chinese resultative verb compounds are no different from English accomplishment verbs. They represent a telic constellation that has the properties of completion, duration and nondetachability<sup>4</sup>.

Both Teng and Smith made certain assumptions before examining the Chinese data and reaching their conclusions. In this study, however, we will examine in more detail our Chinese data, studying some of the more unique features of Chinese grammar, and will try to answer the following three questions. First, does Chinese have all the four situation types as demonstrated in English? Second, if Chinese does have the four situation

types, then how are they realized by different types of verbs in Chinese? Third, how are these different types of verbs grouped themselves together; that is, the question of the aspectual classification of verbs in Chinese.

In our discussion, we will identify the characteristics of each and every situation type, utilizing both syntactic and semantic tests to separate out the different situation types. An even more important task is to establish a set of tests that can be used in the study of Chinese aspectual classes. In constructing these tests, and applying them, we can gain a better understanding of Chinese grammar. However, as we all know, classification of natural kinds cannot be absolute<sup>5</sup>. There are always some items falling between categories because the differences between items are only relative, and falling within a continuum. The continuum is understood on two levels here, the level of verb and the level of situation. We will start with clear and unambiguous cases and proceed to more troublesome borderline cases.

### 1.3. Organization of the Study

In this chapter, we have briefly introduced the theoretical background of this study in the field of general linguistics and the studies in the field of

Chinese linguistics. We have pointed out some problems and set the goal of this study.

Chapter Two of this study is devoted to the investigation of facts concerning the semantic aspects of Chinese verbs and proposal of syntactic tests based on these facts for the aspectual classification of Chinese verbs. First we will define the terms we are going to use in the study, and then we will proceed to construct a number of tests that can be used in the study of Chinese aspectual classes. Some of the tests are adapted from different studies of English. Other tests are constructed based upon grammatical features unique to Chinese. During the course of discussion of the tests for aspectual classification, we will investigate semantic aspects of Chinese verbs, and at the same time, will try to clarify some misconceptions and/or misunderstandings of some facts of the Chinese language.

Chapter Three is devoted to the discussion of situation types presented by the simple perfective sentences and the resultative verb compounds in Chinese. Simple perfectives and the resultative verb compounds are two main issues in the study of situation types in Mandarin Chinese.

Chapter Four is the actual classification of situation types in Chinese by utilizing the tests that have been established in Chapter Two. In Chapter

Four, we answer the three central questions raised in this study. A general picture of the situation types in Chinese and how they are realized by different verb groups in Chinese will also be presented.

Chapter Five is the concluding chapter, in which we briefly summarize the findings of this study. In the end, we will touch upon some theoretical, as well as pedagogical, implications resulting from this study.

## Notes

1. The romanization used here is Pinyin. The following abbreviations are used throughout this thesis:

LE = the aspect marker indicating change in Chinese.

ZHE = the stative marker indicating no change in Chinese

ZAI = the progressive marker in Chinese

CL = classifier (For the convenience of the discussion, no distinction is made between classifier and measure word in this study.)

PL = "men" plural suffix for human beings.

2. As stated earlier, Teng accepts Vendler's classification completely and treats Chinese as having the four situation types, as in English, namely, states, activities, accomplishments, and achievements.

What Smith does, though she uses different terms, is to apply the English types to Chinese. According to internal temporal structure, sentences are classified as states and non-states. The non-states are also known as events. Events are of three kinds; atelic, telic, and change of state. Atelic events and activities refer to the same situation, and so do the telic and accomplishment; changes of state and achievements.

3. Some of Smith's exemplar sentences and her treatment of the Chinese data will be discussed in different sections of this study.

4. In our coming discussion, we will demonstrate that many of Smith's arguments do not hold, and the Chinese data from which she reaches her conclusion, or with which to support her argument are not acceptable.

5. For categorization problems, see Tai (1992).

**CHAPTER II**  
**SYNTACTIC AND SEMANTIC TESTS FOR DIFFERENT**  
**TYPES OF CHINESE VERBS**

**2.1. Classification of Key Terms**

In the study of aspectual classification of Chinese verbs, different linguistic terms have been employed by different linguists. However not all the terms are clearly defined. Moreover, different terms used by different linguists may refer to the same referent, and the same term different referents. Therefore, confusions are bound to occur. In this first section we will clarify and define some of the terms to be used in this thesis, and thereby some misconceptions concerning the inherent/semantic aspects of Chinese verbs.

**2.1.1. Tense, Aspect and Aktionsart**



Tense is a deictic grammatical category. It locates the time of a situation relative to the situation of utterance explicitly or implicitly (Comrie 1976:2).

It is generally taken by modern Chinese linguists that there is no tense, more precisely, no absolute tense, in Chinese<sup>1</sup>. In discussing languages that do not have tense, Lyons (1977:678-9) points out: "what is usually meant is that these languages do not obligatorily relate the time of the situation being described to the time of utterance by any systematic variation in the structure of the sentence". Though Chinese grammar does not mark tense explicitly, Chinese grammar does have the notion of time. When temporal distinction is required, different deictic expressions for time, as well as other means of indicating time, are employed. To illustrate this point, some English and Chinese sentences are provided below.

- (1) He studies Chinese. (present tense)
- (2) He studied Chinese. (past tense)
- (3) Ta qunian zai Taipei xue Zhongwen.  
he last year at Taipei study Chinese  
He studied Chinese in Taipei last year.
- (4) Ta jinnian zai Beijing xue Zhongwen.  
he this year at Beijing study Chinese  
He studies Chinese in Beijing this year.

Sentence (1) locates the situation as being present while (2) locates the situation in the past. In these two English sentences proper inflexional rules have been applied to the verbs to indicate the difference in tenses. In the Chinese sentences (3) and (4), there is no structural change. The relations of times of the situations described to the times of the utterances are presented by the time expression qunian "last year" in (3) and jinnian "this year" in (4). It is true that the Chinese sentence (4) can also have the following English equivalents depending on the context of the discourse:

- (5) a. He studied Chinese in Beijing this year.  
 b. He is studying Chinese in Beijing this year.

Since Chinese does not have an overtly marked tense system, context plays a very important role in determining the telling of time reference.

Aspect, differing from tense, is a non-deictic grammatical category. It is a matter of speaker's viewpoint or perspective on a particular situation. A speaker can choose to present a situation as on-going or completed (i.e.; imperfective aspect vs. perfective aspect).

The imperfective in Chinese is marked by the progressive marker zai before the verb, and the perfective is marked by the suffix -le indicating the implementation of the action denoted by the verb. -Le also marks the relative tense.

Both tense and aspect involve the notion of time, though differently. Tense indicates how the presented situation is in relation to the situation of the utterance while aspect provides different ways of looking at the internal temporal constituency of a situation. To use Comrie's term, tense is of situation-external time while aspect is of situation-internal time (1976).

Another term which needs to be clarified, and distinguished from aspect is aktionsart. Aktionsart means "kind of action" in German. Lyons calls it "the aspectual character" of a verb (1977:706) while Comrie calls it "inherent or semantic aspect" of a verb. It is that part of the meaning of the verb that indicates the nature of the situation portrayed to be one kind rather than another, such as stative or non-stative, punctual or durative to name a few. For instance, the Chinese verbs xiangxin "believe" and shuijiao "sleep" differ in that the former is not compatible with progressive while the latter is. Also, xiangxin "believe" and wang "forget", though both are incompatible with progressive, are different because wang obligatorily occurs with -le while xiangxin does not. The differences between these verbs are in their inherent aspects. The study of this inherent aspect of verbs constitutes a large part of the study of verbal semantics. It needs to be made clear here that the focus of this study is not verb classification but the

inherent aspects of verbs in Chinese. Here are some sentences to illustrate the different inherent aspects of verbs. The subgroup of stative verbs both in English and Chinese are not compatible with the progressive aspect.

- (6) a. I know him.  
 b. \*I am knowing him.
- (7) a. Wo ai chi Zhongguo fan.  
 I love eat Chinese food  
 I love Chinese food.  
 b. \*Wo zai ai chi Zhongguo fan.  
 I ZAI love eat Chinese food

Also, some verbs in Chinese have to be suffixed with the aspect marker -le. This is because they cannot be used alone in a simple affirmative descriptive sentence, owing to the specific characteristics of Chinese verbs in interaction with the aspectual system.

- (8) a. Wo wang-le nide mingzi.  
 I forget-LE your name  
 I forgot your name.  
 b. \*Wo wang nide mingzi.  
 I forget your name.

All this has shown that the grammatical category of aspect and the inherent aspects of verbs are interdependent. It is one of the intended tasks of this thesis to find out the relationship between the two in Chinese.

### 2.1.2. Situations

Another very important and crucial term used throughout this thesis is situation. Following Lyons (1977:483), I will use the term "situation" for abstract concepts such as states, events, actions and etc. in the conceptual framework within which human beings' perceptions of the physical world are organized and described. Situations are of different kinds. A very basic distinction is made between static situations and dynamic situations. According to Lyons, a static situation is conceived of as existing, rather than happening. It is homogeneous, continuous and unchanging. A dynamic situation, on the other hand, is something that happens. It may be momentary or enduring, homogeneous or non-homogeneous.

In our study of the situations in Chinese, we will use the term stative in contrast with non-stative, rather than static with dynamic. There two reasons for doing so. First, stative, as a term, is more fundamental than static. Second, the common practice in recent linguistic studies of situation or event types is that stative and non-stative are more standard terms. More importantly, in Dowty's lexical decomposition theory stative predicates is the base on which other types of aspectual classes are constructed.

Situations can be divided into stative and non-stative. Non-stative situations can be divided into durative or punctual, and durative situations can still be classified into those that are goal-oriented and not goal-oriented. The remaining part of this section is devoted to clarifying and defining these terms that distinguish situation types in Chinese.

#### 2.1.2.1. Stative and Non-stative

The first distinction concerning situation types in Chinese that has to be made is between stative and non-stative. In terms of temporal structure, a stative situation is continuous, homogeneous and unchanging throughout its duration. It lacks natural culmination or endpoints. Consequently, it endures an undefined period of time. Stative situations are considered as existing rather than happening, which is the characteristic of non-stative situations. Non-stative situations may also be called dynamic situations. A dynamic situation involves evolution through time. As characterized by Langacker (1987:244), it is "a continuous series of states representing different phases of the process and construed as occupying a continuous series of points in conceived time". They may or may not involve agency, change, culmination or defined period of time.

There are syntactic and semantic tests that can distinguish states from non-states in Chinese. Usually, adjectival stative verbs in Chinese can be modified by the degree adverb such as hen "very" while the non-stative verbs cannot. Stative verbs are incompatible with the progressive aspect. That is they cannot be marked by zai in Chinese. Also, stative verbs cannot be used in imperative sentences while most of the non-stative verbs can.

#### 2.1.2.2. Durative and Punctual

Another distinction about situation types is between durative and punctual. There are two points that need to be addressed here. First, we differ from Lyons in choosing our terms. He uses the terms momentary and enduring rather than punctual and durative. Second, the terms such as durative or punctual, and momentary or enduring are usually used to refer to the characteristics of verbs, not of situations. We use the terms here not at the verb classification level, but at the level of situation types. What we are concerned with here is the internal temporal structures of different situation types, and how different temporal structures group different situations together. The terms we use can better capture the essence of the temporal structures of situations.

A durative situation lasts in time. In contrast, a punctual situation does not last in time, and it is instantaneous or momentary. The progressive aspect tells the two types of situations apart. Some punctual verbs are repeatable and some are not. A repeatable punctual verb with the progressive marker zai indicates the situation is repeating as in (9a). Non-repeatable punctual verbs, also known as change-of-state verbs, are incompatible with the progressive aspect because they indicate instantaneous situations and cannot be repeated as shown in (10). The progressive marker zai with a durative verb jointly indicates the situation is ongoing as in (11).

- (9) a) Ta zai qiao men.  
 he ZAI knock door  
 He is knocking at the door.
- b) Ta qiao-le sanxia men.  
 he knock-LE three-time door  
 He knocked on the door three times.
- (10) \*Ta zai renchu nei ge ren.  
 he ZAI recognize that CL person
- (11) a) Ta zai kan dianshi.  
 he ZAI watch TV  
 He is watching TV.

Qiao "knock" in (9) is a punctual verb. As soon as the action indicated by the verb occurs, it finishes. On the other hand, it is repeatable, and



consequently it can be followed by the frequency complement as in (9b). When the repeatable punctual verbs are used together with the progressive aspect zai, they function similar to activity verbs.

Durative situations may or may not culminate in a natural endpoint. Unfortunately, that is where confusions set in for some Chinese linguists. We will move on to discuss this aspect of durative, non-stative situations in the following section.

### 2.1.3. Goal Attainment

Chu (1976) studies the semantic aspects of the following pairs of action verbs in English and their counterparts in Chinese:

- |         |                           |                           |
|---------|---------------------------|---------------------------|
| (12) a) | to look for               | to find                   |
|         | to study                  | to learn                  |
| b)      | <u>zhao</u> "to look for" | <u>zhao-dao</u> "to find" |
|         | <u>xue</u> "to study"     | <u>xue-hui</u> "to learn" |

He observes that the first member presupposes an active attempt of the action while the second member implies an attainment of the goal which is meant to be attained by the action. He has made a couple of interesting observations regarding the grammaticization of this semantic contrast

between the two types of verbs in Chinese. First, the presupposition of an active attempt is made possible by the reduplication of the verb. For example, zhao-yi-zhao "look for a while". Second, the presupposition of performance of the action is overtly marked by the perfective aspect marker -le. For example, chi "eat" in contrast with chi-le "has eaten". Third, the implication of attainment of goal is explicitly marked by various resultative complements. For example, chi-bao "eat-full" and kan-wan "read-finish".

What we are interested here is that, according to Chu, the perfective aspect marker le marks the implementation of an action and nothing else. Thus, zhao-le "look for -LE" only means that the action of looking for has been implemented. Resultative complement of the resultative verb compound marks the attainment of goal. Thus, in the resultative verb compound zhao-dao the complement -dao indicates the attainment of goal. The attainment of the goal here may be understood as the culmination of the action. It should be pointed out that when Chu makes the above observations, he is not concerned about situation types. He does not deal with the properties or characteristics of situations in Chinese, nor is he concerned with the grammaticization of different situation types in Chinese. Also, Chu has not explicitly stated whether or not there is a development

leading to the culmination of the result, nor has he mentioned whether resultative verb compounds are durative or not.

In the discussion of event types in Mandarin, Smith (1990) uses the following two terms, termination and completion. According to Smith, termination is associated with atelic events. Atelic events have duration, but no associated outcome, hence can only be said to terminate. On the other hand, telic event consists of a process and an associated outcome: "The essential temporal properties of such events are duration, completion, and nondetachability of process from outcome" (Smith 1990:311). Then, according to her, completion is associated with telic event, but she provides no further definition of completion, and more importantly no clarification of the relationship between completion and outcome. For instance, "build a house" is telic in English. The associated outcome of it is that "the house is built", and "the building of the house is completed". If that is the case, then there is no difference between completion and reaching of the outcome. On the other hand, if the building of the house is given up half-way through, then "building a house" still has an associated or potential outcome as an inherent part of the meaning of the telic event, though it failed to materialize. If the building of the house is not completed and the associated outcome is

not reached, then, within Smith's framework, it is not clear whether the process has terminated or completed.

It should also be pointed out that in English, tense and aspect also play a very crucial role in the notion of completion. It is only with past tense and perfective aspect that accomplishment verbs in English necessarily imply completion (Tai 1984). For instance, consider the difference between "He (has) learned to speak Chinese" and "He is learning to speak Chinese". When we discuss the inherent aspects of verbs, without considering either tense and aspect, or actual materialization, the term "completion" or "completive" may not be appropriate. When we consider the fact that there is no tense-marking in Chinese grammar and the main function of -le is indicating change or implementation of the action denoted by the verb<sup>2</sup>, the notion of completion is even less appropriate.

In this study we will eliminate the terms, "termination" and "completion", and their distinctions. We will use, instead, the terms "goal orientation" and "goal attainment" in the following discussion of semantic aspects of Chinese verbs. A situation that culminates in a natural endpoint, or can lead to an outcome, is said to be goal-oriented or characterized by goal attainment. The goals of goal-oriented situations can be attained, but

may not necessarily be attained. Contrasting with goal-oriented situations, those do not culminate in natural endpoints are not goal-oriented.

An atelic event, or an activity situation, has duration but no associated outcome. It can only be said to be terminated in the sense defined by Smith (1990:311). A telic event, or accomplishment situation, can also be said to be terminated when the process is stopped half way through, because the telic situation can be seen as a combination of atelic situation plus a change-of-state situation. If it stops at a certain point of the atelic situation without a change of state, or without the attainment of goal, it still can be said to be terminated.

Telic events have both duration and associated outcome. This is because they are goal-oriented. In goal-oriented events, the goal is meant to be attained by the action denoted by the verb. It should be made clear that the goal here is the goal inherent to a situation type. It is not to be confused with the subjective goal of the speaker. For instance, the natural ending or outcome of "write a letter" is that the letter is finished even though one may write without actually finishing the letter. On the other hand, if a speaker wants to write two letters, but he has finished only one and said: "I wrote one letter, and have one more to write.", his own goal is not reached. But

so far as the sentence "I wrote a letter" is concerned, the inherent goal of the situation is attained. The distinction made here is important in that the inherent goal of a particular situation is a useful notion in verbal semantics proper, while the subjective goal of the speaker has to do with the speaker's intention which may be dealt with more appropriately in the study of pragmatics. It is this inherent goal of the situations that is of most interest to this study.

In this section, we have clarified and delineated the key terms employed in this study. The terms are of two kinds: one kind aiming at the goal of this study, and the other to be used in the classification of situation types in Chinese.

## 2.2. -Zhe and Zai

It is a common practice among researchers of Chinese grammar to use -zhe and zai as tests for verb classification. -Zhe and zai are used to distinguish stative verbs from activity verbs (Ma 1981, Li and Thompson 1981, Teng 1986, Chen 1988, Tsao 1990). Most of them do so without

asking why zai and -zhe can be used as tests and what their true functions or meanings are. In the following discussion, we will investigate and compare the meanings and functions of both zai and -zhe, and then decide which can be used as test for what, and why.

### 2.2.1. -Zhe as a Stative Marker

While some Chinese linguists claim that -zhe is incompatible with stative verbs (cf., Tsao 1990:68), many more studies have been done to examine the co-occurrence of -zhe with stative verbs, and the meaning and function of -zhe (Chu 1987, Light 1990, Yeh 1991). These studies have shown that -zhe is compatible with some kinds of stative verbs. Stative verbs are of different kinds. There are absolute stative verbs<sup>3</sup> such as shi "be", you "have", and shuyu "belong to", which cannot be modified by the degree adverb hen "very"<sup>4</sup>. For example,

- (1) \*hen shi Zhongguo ren  
very be Chinese
- (2) \*hen you fangzi  
very have house
- (3) \*hen shuyu wo  
very belong to me
- (4) \*hen xing Zhang

very surname Zhang

In colloquial Mandarin, absolute stative verbs cannot be suffixed by -zhe<sup>5</sup>.

Apart from absolute stative verbs, there are also non-absolute stative verbs such as hong "red", gao "tall" and ai "love", which can be modified by degree adverb hen. They apparently can be suffixed by -zhe in colloquial Mandarin. See the following sentences:

- (5) Hua hong-zhe ne.  
flower red-ZHE ne  
The flowers are very red.
- (6) Ta gaoping-zhe ne.  
he happy-ZHE ne  
He is quite happy.

These sentences have shown that it is not quite true that -zhe is incompatible with adjectival stative verbs. The adjectival stative verb hong "red" in (5) is suffixed by -zhe. The function of -zhe is to intensify the redness of the flowers.

Now that we have seen that non-absolute stative verbs can take the suffix -zhe, we will examine more of this type of verbs with -zhe to find out the function of -zhe.

- (7) Ta gao-zhe ne.  
he tall-ZHE ne



He is very tall.

- (8) Wo mang-zhe ne.  
I busy-ZHE ne  
I am very busy.
- (9) Men kai-zhe ne.  
door open-ZHE ne.  
The door is open.
- (10) Qianbian zou-zhe yi ge ren.  
front walk-ZHE one CL person  
In front there is a person walking.

Both (7) and (8) are of stative situation. -Zhe in (7) and (8) functions as a intensifier, which is similar to the function of the degree adverb hen. (9) presents a sustaining stative situation, telling that the door is open. (10) is an existential sentence, in which -zhe indicates the existence of person at a particular position. Examine these sentences, we can see that -zhe can be used with either non-absolute stative verbs or in existential sentence with verbs of motion or posture. No matter what kind of verbs to which it suffixes, the situation presented is a stative one. (More discussion on the function of -zhe can be found later in section 4.1.4. dealing with existential states.)

This function of -zhe also makes the adverbial use of -zhe phrase possible. Consider,

- (11) Ta kan-zhe dianshi chi fan.  
 he see-ZHE TV eat rice  
 He was eating while watching TV.
- (12) Ta ji-zhe shang xuexiao.  
 he hurry-ZHE go school  
 He is in a hurry to go to school.
- (13) Wo mang-zhe xie lunwen.  
 I busy ZHE write thesis  
 I am busy writing my thesis.

In these sentences -zhe is suffixed to action verb or adjectival stative verb, providing a background or manner in which an activity is being carried on. There is neither a beginning nor an ending to the background states because they are now simply atemporal, that is, the temporal properties are subdued and irrelevant. No matter what kinds of verb -zhe is attached to, the situation as a whole contains no temporal contour, no defined period of time, no sense of culmination, and the notion of agency is not present.

From the above discussion we can see that it is not entirely correct to claim that -zhe in Chinese is incompatible with stative verbs. Consequently, -zhe cannot be used as a test to distinguish stative verbs from non-stative verbs because it can be suffixed to both. Furthermore, we can conclude that the function of -zhe is to mark a situation that is stative. This conclusion is in accordance with the findings of some previous studies (Chan 1980, Light

1989). Chan analyzes -zhe as locating a state on a time axis, and Light regards the core meaning of -zhe as [inertia]. According to Light, -zhe means [inertia]<sup>6</sup>. The sentence with -zhe describes a static situation irrespective of the intrinsic temporal properties of a verb. The crucial factor here is that -zhe marks a static state without reference to the temporal structure of a situation.

To summarize the above discussion, we conclude that -zhe marks a stative situation, indicating its continuation. The continuation is the sustaining of an existing state, in which no change of temporal contours is involved, and neither the beginning nor the ending are predicated. Therefore, -zhe cannot be used to distinguish stative verbs from non-stative verbs. Since we cannot use it as a syntactic test, for our purposes, we now turn to the study of zai.

### 2.2.2. Zai as a Progressive Marker

First, let us look at how zai is used in sentences. The following three patterns capture the placement of zai.

(14) zai + Verb

(15) zai + location + Verb

(16) verb + zai + location

In analyzing the construction zai + Verb, Chao (1968:333) treats zai as a preposition with its object, the place word nar "there", omitted. The unreduced construction is then zai + location + Verb. This treatment of zai has brought forth some criticism because for some sentences to have nar "there" as a place word inserted are very awkward (Chen 1978, Teng 1979). Chen (1978:78) gives the following three examples to make her point.

- (17) Zuguo zai (?nar) huhuan.  
fatherland ZAI (there) call  
The fatherland is calling (for us).
- (18) Tianse zai (\*nar) bian le.  
sky-color ZAI (there) change LE  
The sky is changing color (the sky is lowering)
- (19) Dike buduan zai (?nar) biandong.  
earth-shell not-stop ZAI change-move  
The crust of the earth is constantly changing.

The ungrammaticality of (18) with ner "there" is most instructive. Zai and le are not to be used in a simple sentence because zai indicates an activity that is on-going, while le indicates the implementation of an activity. They are semantically incompatible with each other. Nar is the colloquial form of nali. The sentences (17) and (19) do not sound good when nar is inserted. The reason be due to the mixing of a formal literary expression with

colloquial nar "there". For, if nali "there", formal form of nar "there", is inserted in (17) and (19), the two sentences sound much better.

It needs to be pointed out that both Chao and those who criticize him have not recognized the fact that nar "there" in Chinese can refer not only to place but also to time. For instance:

- (20) Cong nar qi, ta meitian shuo Zhongwen.  
 from there begin he every-day speak Chinese  
 From then on he speaks Chinese everyday.

Obviously, nar in (20) does not refer to a particular location but a particular point in time. If we adopt a view by Tai (1989) that zai locates an event both in time and in space, the criticism of Chao's analysis of zai + verb by other linguists would be much weakened. This view can explain the range of usage of zai as exhibited in sentences (21) to (26).

- (21) Zhangsan zai tushuguan du shu.  
 Zhangsan at library read book  
 Zhangsan studies at the library.
- (22) Zhangsan zai tushuguan.  
 Zhangsan at tushuguan.  
 Zhangsan is at the library.
- (23) Zhangsan zai du shu.  
 Zhangsan ZAI read book  
 Zhangsan is studying.
- (24) Wo zai shang daxue de shihou kaishi xue zhongwen de.  
 I ZAI go college De time start study Chinese De.

I started learning Chinese when I was in college.

- (25) Yuehui ding zai liu dian ban.  
 appointment schedule at six o'clock half  
 The appointment is scheduled at six thirty.
- (26) Tade zumu hai zai.  
 his grandmother ZAI  
 His grandmother is still alive.

There are two points we can observe from examining the above sentences. First, the general meaning of zai is to locate an entity in either space (as in (21), (22)) or time (as in (23), (24) (25)). The entity to be located in space or time can be a person, an object, an activity or something else. Second, zai simply indicates existence in (26). Summarizing these few facts, we can arrive at a core meaning analysis of the zai, locating an existence in time or space. In fact, this core meaning analysis of zai has been done in Tai's (1989), where he proposes that "in spatial expressions in Chinese zai indicates the location or existence of an object in space. In temporal expressions, it indicates an action in progress" (Tai 1989:213).

The next question left to be answered is that if zai locates an event in either space or time, how does it serve as a progressive marker? Zai locates an event at a point in time, not a period of time. An on-going activity is homogeneous in the sense that every stretch or substretch of the progress is

identical to the progress as a whole. Move along the time line of progress, and activity at each and every point is identical. Thus, when zai locates one substretch of an on-going activity, it marks the progress as a whole.

As a progressive marker, zai tells an action that is in progress or is on-going. A progressive aspect views a situation as developing, thus dynamic and incomplete, though continuous. In that sense, zai is imperfective. Since state involves no change in temporal contours, no developing or on-going process is to be detected. That is the reason why stative verbs in Chinese are incompatible with the progressive marker zai.

On the other hand, -zhe in Chinese indicates only the existence of an on-going action, and does not look into substretches of the on-going action, or the result of the change of state. It does not indicate that the action is on-going; it indicates, instead, the state of the continuation of the action denoted by the verb. Thus, it is static, contrasting with the dynamic nature of zai. Zhe, in contrast with zai, is perfective in that it views the situation in its entirety, and as an unanalyzable whole<sup>7</sup>.

In this section, we have examined the core meaning of zai, zai as a progressive marker, and its temporal properties. We have also given reasons for why the progressive marker zai is a better candidate than -zhe as a test

to identify non-stative durative verbs. In the following section, we will investigate how it can be used as a test to distinguish non-stative verbs with duration from other kinds of verbs in Chinese.

### 2.2.3. Zai as a Test for Non-Stative Durative Verbs

First, let us look at zai, a progressive aspect marker, as a test to see what verbs are compatible with progressive aspect in Chinese, and what are not.

Verbs have their inherent aspect. Consequently, some verbs are not compatible with progressive aspect while others are. We will examine this phenomenon of Chinese verbs to try to find out what verbs are not compatible with the progressive aspect in Chinese and the reasons behind it.

We have earlier observed that the progressive aspect zai indicates an ongoing activity. For example;

- (27) Ta zai ku.  
he ZAI cry.  
He is crying.
- (28) Ta zai pao.  
he ZAI run  
He is running.
- (29) Xueshengmen zai xie zi.  
student-PL ZAI write character



The students are writing.

- (30) Zhangsan zai chuan yifu.  
 Zhangsan ZAI wear clothes  
 Zhangsan is putting on his clothes.

When we examine the temporal properties of the verbs in the sentences above, we find that they are all durative action verbs. These verbs are used with the progressive aspect to denote processes that are going on. While these verbs are all compatible with zai, there are others that are not, as shown below:

- (31) \*Ta zai gao  
 he ZAI tall
- (32) \*Zhangsan zai si.  
 Zhangsan ZAI die
- (33) \*Wo zai renshi zhei ge ren  
 I ZAI know this CL person
- (34) \*Wo zai zhidao ta weishenme mei lai.  
 I zai know he why Neg come

Now let us examine the verbs in sentences (31) to (34). Renshi "know", zhidao "know" and gao "tall" are all stative verbs without internal temporal information. They are not compatible with the progressive aspect. Si "die" is an instantaneous verb of change of state, and we may call it a verb of instantaneous change-of-state. Since it is punctual and has no

duration, it is also incompatible with the progressive aspect. Now we can see that stative verbs cannot be used with progressive aspect zai because they do not have internal temporal contours. On the other hand, not all non-stative verbs can be used with progressive aspect zai, either. Punctual verbs, or verbs of instantaneous change-of-state cannot be used with zai because of incompatibility of the internal temporal structures.

#### 2.2.4. Summary

To summarize, in 2.2.1., we have re-examined a general observation made previously that stative verbs are incompatible with -zhe. Our re-examination has shown that -zhe marks a stative situation and can be suffixed to both stative and activity verbs. In section 2.2.2., we have established that zai is the progressive marker in Chinese, and can be used as a test in Chinese. In section 2.2.3., we have demonstrated that zai can be used as a test to distinguish activity verbs from stative verbs and verbs of instantaneous change-of-state.

### 2.3. Hen

The degree adverb hen of Mandarin Chinese has been used extensively as a test for the distinction between stative and non-stative verbs in Chinese grammar by a number of linguists (Chao 1968:665, Zhu 1982:55, Kratochvil 1968:113, Li and Thompson 1981:143, Norman 1988:157, Teng 1975:51, Tsao 1990:68). However, they have taken the validity of the test for granted, ignoring the fact that some stative verbs cannot be modified by hen while some action verbs in certain constructions can be modified by hen.

The problem here is that the degree adverb hen is still not well understood. The picture is not so clear-cut because within the cover term "stative verbs", there are subgroups, each functioning differently. We need to look into them case by case. For example, absolute stative verbs are stative, but they are incompatible with the degree adverb hen. In this section, we will discuss when and how hen can be used as a test for the distinction between stative and non-stative verbs. In the course of discussion, we wish to uncover some facts hitherto hidden concerning the degree adverb hen, and henceforth to gain a better understanding of the semantic aspects of verbs, particularly of stative verbs, in Chinese.

### 2.3.1. Hen as a Test for Non-Absolute Stative Verbs

When using hen as a test for stative verbs, most Chinese linguists have actually referred to adjectival stative verbs only as in (1) and (2). However, semantically, linking verbs such as shi "to be" and xing "to be surnamed" are also stative verbs, but they cannot be modified by hen as shown in (3) and (4).

- (1) Ta hen congming.  
he very intelligent  
He is very intelligent.
- (2) Ta hen gao.  
he very tall.  
He is very tall.
- (3) a. \*Ta hen shi xuesheng.  
he very be student
- b. Ta shi xuesheng  
he be student  
He is a student.
- (4) a. \*Ta hen xing Zhang.  
he very surname Zhang
- b. Ta xing Zhang.  
he surname Zhang  
His family name is Zhang.

The reason for the incompatibility of stative verbs such as shi "to be" and xing "to be surnamed" with hen is that they are absolute stative verbs, and cannot denote the degree of a state. Since no degree is involved here,

the degree adverb hen obviously cannot be used to modify them. In contrast, congming "intelligent" in (1) and gao "tall" in (2) are both adjectival stative verbs, and they allow degree expressions. Consequently they can be modified by the degree adverb hen<sup>8</sup>.

The contrast between absolute stative verbs and non-absolute stative verbs with respect to degree expressions can be further seen from their grammaticality in the comparison construction bi "than".

- (5) Ta bi wo congming.  
he than I intelligent  
He is more intelligent than I am.
- (6) Ta bi wo gao.  
he than I tall  
He is taller than I am.
- (7) \*Ta bi wo shi xuesheng.  
he than I be student
- (8) \*Ta bi wo xing Zhang  
he than I surname Zhang

Now we are clear that the degree adverb such as hen can modify non-absolute stative verbs. To use hen as a test for this group of stative verbs, two questions have to be raised and answered. One, what can hen modify and what can it not modify? And, two, why is this the case?

Recognizing the adverb hen as a degree adverb implies that it can only modify verbs of degree, and it cannot modify any verbs of non-degree. Stative verbs denote stative situations, which fall into two categories in Chinese; a non-degree, or absolute category, and a degree category. The former describes absolute states of affairs, and uses verbs like shi "be", shuyu "belong", dengyu "equal to". They are used to identify, to name, or to equate. Therefore, they are stative verbs of non-degree, and can be grouped under the category of absolute stative verbs. Since they are verbs denoting absolute states, they cannot be modified by the degree adverb hen. It is interesting to note that there is another group of non-degree stative verbs.

- (9) a. Wo zhidao zhei jian shi.  
I know that CL matter  
I know that matter.
- b. ??Wo hen zhidao zhei jian shi.  
I very know that CL matter  
I know the matter very well.
- (10) a. Wo renshi ta.  
I know him  
I know him
- b. ??Wo hen renshi ta.  
I very know him  
I know him quite well.

Generally speaking, stative verbs such as zhidao "know" in (9) and renshi "know" in (10) are of the non-degree type. One either knows or does not a particular person or a thing. They cannot be modified by the degree adverb hen. On the other hand, there can be a difference in degree as to how well one knows a particular person or a thing. For this reason, these verbs can be used with hen, as demonstrated by (9b) and (10b).

The adjectival stative verbs and the mental/emotional stative verbs present states of affairs that are of degree. They can be modified by degree adverbs such as hen.

- (11) Ta hen xihuan nei wei jiaoshou.  
 he very like that CL professor  
 He likes that professor very much.
- (12) Ting-le nei jian shi, tamen dou hen shangxin.  
 hear-LE that CL matter, they all very sorry  
 Having heard of that matter, they all felt sorry.

Non-stative verbs are "happenings". They are not verbs of degree though the manners in which the happenings occur are of degree. Non-stative verbs may be either durative, as in (13), or punctual, as in (14):

- (13) a. \*Ta hen pao.  
 he very run
- b. Ta paode hen kuai.  
 he run-De very-fast  
 He runs very fast/His running is very fast.

- (14) a. \*Ta hen faxian.  
he very discover
- b. Te hen kuai de faxian.  
he very fast discover  
He quickly discovered.

Pao "run" is an activity verb. The activity verb itself is of no degree, and hence cannot be modified by the degree adverb hen as shown by (13a). But running can be fast or slow, and the adjective denoting degree can be modified by hen as shown by (13b). Faxian "discover" is a punctual verb, and is of non-degree. Even though it cannot be modified by the degree adverb hen, the speed at which it occurred can be assigned different degrees. Then, the adverb can be modified by hen<sup>9</sup>.

Now we can answer the two questions raised earlier. Hen can only modify stative verbs denoting degree, and it cannot modify absolute stative verbs and non-stative verbs because they are verbs that do not denote degree. Thus, hen can be used as a test only for those stative verbs of degree.

To further understand the nature of hen, we will investigate the adverbial scope of hen, and a special construction in which hen is used to modify activity verbs followed by quantified objects.

### 2.3.2. Hen + Verb + Quantification + (Object)



We have so far treated hen as adverb modifying the verb. However, there is evidence that its scope of modification actually covers entire verb phrase. Let us first examine (15) and (16) which have non-stative durative verbs.

- (15) Ta hen xie guo ji pian hao wenzhang.  
 he very write GUO few CL good article  
 He wrote quite a few number of good articles.
- (16) Jiaqili, Zhangsan hen du le ji ben shu.  
 vocation Zhangsan very read LE few CL book  
 Zhangsan read quite a few books in the vacation.

At first glance, the occurrence of hen appears to contradict our earlier observation that hen cannot occur with non-stative verbs. On closer examination, this use of hen in (15) and (16) is to intensify the quantity of objects of the verbs, and thereby intensifying the degree of the activity denoted by the entire predication. It is important to note that hen can occur with predicates containing activity verbs only when the object is quantified by ji "few, many". This can be illustrated by the following sentences:

- (17) a. \*Ta hen nian-le shu.  
 he very read-LE book
- b. \*Ta hen nian-le zhei ben shu.  
 he very read-LE this CL book
- c. \*Ta hen nian-le san ben shu.  
 he very read-LE three CL book

- d. Ta hen nian le ji ben shu.  
 he very read LE few CL book  
 He read quite a few book.

Nian shu "read book" in (17a) is an activity verb predicate. It cannot be modified by the degree adverb hen. The object of nian in (17b) is modified by a deictic marker zhei "this", and the object in (17c) is modified by quantified expression san ben "three copies". They cannot be modified by the degree adverb hen, either. The only grammatical sentence is (17d), in which the object of the verb is modified by an indefinite quantified expression ji ben "few copies". It seems that the degree adverb hen "very" here intensifies the degree of the activities denoted by the indefinite number ji "few, many".

Apart from intensifying an indefinite amount of objects, hen can also be used to quantify duration or frequency of an action.

- (18) Zhangsan ding-zhu nei ge ren hen kan-le ji yan.  
 Zhangsan stare that CL person very look-LE few eye  
 Staring at that person, Zhangsan looked at him for quite a while.
- (19) Jianada wo hen qu-guo ji hui.  
 Canada I very go-GUO few time  
 I have been to Canada quite a few time.

### 2.3.3. Summary

In this section we have discussed hen "very" as a test in the study of inherent aspects of verbs in Chinese. Unlike some other tests, this test is uniquely Chinese. Hen can be used to distinguish stative verbs denoting degree from absolute stative verbs and non-stative verbs.

#### 2.4. Completive and Durative Adverbials in Chinese

##### 2.4.1. Dowty's Tests for Aspectual Classification in English

Dowty's (1979) aspectual classes are based on the verb classification scheme proposed by Vendler (1967). Vendler's four classes of verbs are states, activities, accomplishments and achievements. Examples of verbs from Vendler's four categories are listed below:

(1)

States	Activities	Accomplishment	Achievement
know	run	paint a picture	recognize
believe	walk	make a chair	spot
have	swim	deliver a sermon	find
desire	push a cart	draw a circle	lose
love	drive a car	recover from illness	die

In his study, Dowty uses both syntactic and semantic criteria to define these aspectual classes<sup>10</sup>. First, Dowty makes a distinction between states

and activities, a distinction actually between states on the one hand and activities and accomplishments on the other. His distinction is similar to that between stative and non-stative verbs proposed by Lakoff (1965). Only non-statives occur in the progressive: e.g.,

- (2) a. \*John is knowing the answer.
- b. John is running.

Only non-statives occur as complements of force and persuasion: e.g.,

- (3) a. \*John forced Harry to know the answer.
- b. John forced Harry to build a house.

Only non-statives can occur as imperatives: e.g.,

- (4) a. \*Know the answer!
- b. Run!

Only non-statives co-occur with the adverbs "deliberately" and "carefully":

e.g.

- (5) a. \*John deliberately knew the answer.
- b. John ran carefully.

And only non-statives appear in Pseudo-cleft constructions: e.g.,

- (6) a. \*What John did was know the answer.

- b. What John did was run.

Activities are distinguished from accomplishments in that the former take durative adverbials (for-phrases) and the latter completive adverbials (in-phrases) and are marginal with for-phrases<sup>11</sup>. This can be illustrated by (7) and (8).

- (7) a. John ran for an hour.  
 b. (\*)John ran in an hour<sup>12</sup>.
- (8) a. ?John wrote a letter for an hour.  
 b. John wrote a letter in an hour.

Apart from taking different adverbials, activity verbs and accomplishment verbs also differ in their entailments with for-phrases. If John ran for an hour, then John ran at any time during the hour. But, if John built a house, then it is not the case that John built a house at any time during the hour.

Activity verb and accomplishment verbs also differ in their entailment with progressive and non-progressive. If John is running, it entails that John has run. But, if John is building a house, it entails that John has not built the house yet.

In the end, activity verbs and accomplishment verbs also differ when they appear as complements of the verb "stop". For example:

- (9) a. John stopped running.  
 b. John stopping building the house.

From (9a) the conclusion can be made that John did run, but the conclusion cannot be reached from (9b) that John built a house, only that he was building a house.

Achievement verbs usually do not take for-phrases and cannot be complements of the verb "stop". For example:

- (10) a. John noticed the painting in a few minutes.  
 b. ??John noticed the painting for a few minutes.

For achievement verbs, their entailments with in-phrases also differ from accomplishment verbs. John noticed the painting in a few minutes does not entail that John was noticing the painting throughout the period of a few minutes. On the other hand, John built a house in a month entails it is true that John was building a house during the month.

The different behaviors of the activity verbs, accomplishment verbs and achievement verbs in English with durative adverbial and complete

adverbials can be best illustrated by the spend-an-hour/take-an-hour distinction with these verbs:

- (11) a. John spent an hour running. (activity)  
 b. (\*)It took John an hour to ran.
- (12) a. John spent an hour writing a letter. (accomplishment.)  
 b. It took John an hour to write a letter.
- (13) a. It took John a few minutes to notice that person.  
 (achievement)  
 b. ??John spent a few minutes noticing that person.

"Run" in (11) is an activity verb. To indicate the duration of John's running, only the verb "spend" can be used while the verb "take" cannot be used. "Write a letter" in (12) is an accomplishment. Accomplishment verbs can co-occur with both "spend" and "take". "Notice" in (13) is an achievement verb. Achievement verbs can co-occur with "take", but are very strange with "spend".

We will start our study of Chinese aspectual verbs here by examining the applicability of Dowty's tests to Chinese. We will first investigate the Chinese equivalents of for-phrases and in-phrases, that is, to look for corresponding durative adverbial (for-phrases) and completive adverbials

(in-phrases) in Chinese. We will then see whether or not the Chinese verb hua "consume" can be used as a test equivalent of the spend-an-hour/take-an-hour test in making distinctions among activity verbs, accomplishment verbs and achievement verbs in Chinese.

#### 2.4.2. The Positional Function of Time Expressions

In Chinese, time expressions can be placed either before or after the verb in a sentence. They are noun phrases but function as adverbials modifying verb phrases. They can indicate completive, durative or lapse of time depending upon the inherent aspect of verbs involved, and whether they are placed before or after a verb. We will first look at the preverbal time expressions, and then the postverbal time expressions.

As a rule, preverbal time expressions function as a completive adverbial (e.g. in a hour) in Chinese. Here are some examples:

- (14) Ta yi xiaoshi hua-le liang zhang hua.  
 he one hour paint-LE two CL picture  
 He painted two pictures in an hour.
- (15) Ta ban xiaoshi xi-wan-le suoyoude yifu.  
 he half hour wash-finish-LE all clothes  
 He finished washing all the clothes in thirty minutes.



In (14) and (15) the preverbal time expressions function like in-phrase in English.

There are seeming counter-examples to the above rule about the preverbal time expressions in Chinese. Consider,

- (16) a. Zhangsan yi xiaoshi xie zi, yi xiaoshi zuo fan.  
Zhangsan one hour write character, one hour cook rice  
Zhangsan writes characters for an hour and cooks for an hour.
- b. \*Zhangsan yi xiaoshi xie zi<sup>13</sup>.  
Zhangsan one hour write character
- (17) a. Lisi yi xiaoshi dou zai da dianhua.  
Lisi one hour all ZAI make phone-call  
Lisi is on the phone for a whole hour.
- b. \*Lisi yi xiaoshi zai da dianhua.  
Lisi one hour ZAI make phone-call

The preverbal time expressions in (16a) and (17a) are clearly not complete adverbials. On closer inspection, the structure of (16a) requires two clauses that parallel to each other. Without the second clause, the sentence is incomplete. This particular structure is used to make a contrast or enumeration. (17) involves the use of dou (all), which also has an emphatic function in Chinese. The emphatic expression requires that what is to be emphasized be placed before it<sup>14</sup>. Without dou "all" the sentence would be ungrammatical as shown in (17b).

We have seen that preverbal time function like in-phrases in English, namely the completive adverbials for accomplishment verb phrases. Now, we will move to see how the postverbal time expression function in Chinese.

Let us first examine the following sentences:

- (18) a. Ta zuo-le yi ge zhongtou fan.  
he cook-LE one CL hour rice  
He cooked for an hour.
- b. Ta zuo-le yi ge zhongtou de fan.  
he cook-LE one CL hour De rice  
He cooked for an hour.
- c. Ta zuo fan zuo-le yi ge zhongtou.  
he cook-rice cook-LE one CL hour  
He cooked for an hour.
- (19) a. Ta zuo-wan fan yi ge zhongtou le.  
he cook-finish rice one CL hour LE  
He has finished cooking for an hour.
- b. Fan zuo-hao yi ge zhongtou le.  
rice cook-ready one CL hour LE  
The food has been ready for an hour.
- (20) a. Ta si-le san tian le.  
he die-LE three day LE  
He has been dead for three days.
- b. Nei ben shu diu-le santian le.  
that CL book lose LE three-day LE  
The book has been lost for three days.

All English translations of the above Chinese sentences use for-phrases to express the postverbal time expressions in Chinese. However, it should be noticed that these for-phrases are not all durative in the sense that the activity is being carried on during the time indicated by the postverbal time expression. They are durative only in the sentences in (18). In (19), the time expression indicates the lapse of time since the completion of the action rather than the duration of the action. The verbs in (19) are all resultative verb compounds, with the first verb indicating the action and the second the result of the action. Postverbal time expressions with such verbs indicating the time lapse after the result is achieved. That is to say they do not indicate the time used to cook but the time after the cooking is done until the time of the utterance. The time expression in (20) also indicates the lapse of time since the completion of the action. The verbs in (20) are all instantaneous. They cannot last. The time expression used after them can only mean the lapse of time after the change of state occurred. Thus, with respect to interpretation of postverbal time expressions, resultative verb compounds and verbs of instantaneous change-of-state can be grouped together.

To summarize the above discussion on the functions of both the pre- and postverbal time expressions, we find that the preverbal time expressions

have only one function, completive. The postverbal time expressions have two functions, one indicating duration, the other indicating the lapse of time. Their relationship with different kinds of verbs is shown below.

(21)

	Pre-verbal	Post-verbal
Activity V		durative
Accomp. V	completive	
RVC		lapse of time
Instantaneous		lapse of time

#### 2.4.3. Hua, not a Good Test in Chinese

Smith (1990) proposes to use the verb hua "consume" as a test to prove that resultative verb compounds have durative aspect and therefore RVC's in Chinese are telic constellations. We need to have a better understanding of the nature of this test to decide whether or not it is a good test in Chinese.

Smith interprets the verb hua as meaning "to take time". This interpretation is not quite accurate. Semantically, the Chinese verb hua is more like the English verb "to spend", meaning "to use up" or "to consume". It is not equivalent to the English verb "to take" here, which has a meaning

"to need" or "to require". The right interpretation of the meaning of hua in Chinese is crucial because the two verbs "to spend" and "to take" in English are used as a test to distinguish activities, accomplishments and achievements. The following sentences, taken from Dowty (1979:56-59) illustrate the test of the three-way contrasts of using the two verbs in English<sup>15</sup>.

- (22) a. John spent an hour painting a picture.  
 b. It took John an hour to paint a picture.
- (23) a. John spent an hour walking.  
 b. (\*)It took John an hour to walk.
- (24) a. It took John a few minutes to notice the painting.  
 b. ??John spend a few minutes noticing the painting.

In (22) "to paint a picture" is an accomplishment, and the distinction between spend-an-hour/take-an-hour is not shown in accomplishment. "To walk" in (23) is an activity. The distinction is made here. "To take an hour" in (23b) does not describe the duration of John's walking, but rather the time span before John actually engaged in walking if (23b) is taken as an acceptable sentence. "To notice" in (24) is an achievement verb, and achievements are generally very strange with the duration phrase.

In Chinese there is no real equivalent of the English "to take time" and it is especially true that there is no such English equivalent sentence pattern of "It takes somebody sometime to do something". The distinction between "spend" and "take" is well kept in English, and that is the reason they can be used as a good test to tell activities, accomplishments and achievements apart. In Chinese the distinctions cannot be demonstrated by the single verb hua.

As a matter of fact, hua can occur with different categories. This can be illustrated by the following sentences.

- (25) a. Ta hua le yi xiaoshi xie xin. (Activity)  
 he spend-LE one hour write letter  
 He spent an hour writing letters.
- b. Xie xin hua le ta yi xiaoshi. (Activity)  
 write letter spend LE he one hour  
 He spent an hour writing letter.
- (26) a. Ta hua le yi xiaoshi xie le yi feng xin. (Accomp.)  
 he spend LE one hour write LE one CL letter  
 He spent an hour writing a letter.
- b. Xie yi feng xin hua le ta yi xiaoshi. (Accomp.)  
 write one CL letter take LE he one hour  
 It took him an hour to write a letter.
- (27) a. Ta hua le yi xiaoshi xie-wan le yi feng xin. (Result)  
 he spend LE one hour write-finish LE one CL letter  
 He took an hour to finish writing a letter.

b. Xie-wan yi feng xin hua le ta yi xiaoshi. (Result)  
 write-finish one CL letter take LE he one hour  
 To finish writing one letter took him an hour.

(28) Ta hua le san nian xue Zhongwen. (Activity)  
 he spend LE three year study Chinese  
 He spent three years studying Chinese.

(29) Ta hua le san nian cai xue-hui Zhongwen. (Result)  
 he spend LE three year only learn Chinese  
 It took him three years until (before) he finally learned Chinese.

We have shown that hua is not a useful test in Chinese. It cannot distinguish an activity situation which is realized by a verb and a generic object as in (25), an accomplishment situation by a verb with a quantified or specific object as in (26), or a resultative situation by a resultative verb compound as in (27). Hua as a test is borrowed from English spend/take distinction. It is not quite applicable in Chinese.

#### 2.4.4. Summary

To summarize, in this section we have first outlined the syntactic and semantic tests introduced by Dowty (1969) that define the four aspectual classes in English, focusing on the completive adverbial (in an hour) and durative adverbial (for an hour). Then we found positional functions of time expressions in Chinese that work similar to the completive adverbials (in-

phrases), and durative adverbials (for-phrases) in English that distinguish activities, accomplishments and achievements. In the end, we showed that hua is not a good test for aspectual classification in Chinese.

## 2.5. Verb-Copying

The grammatical process of verb-copying has triggered some debates on theoretical issues in the field of Chinese linguistics in the past decade (Li & Thompson 1981, Huang C-T 1982, Tai 1989, Huang C-R 1990 and Chang 1990), but theoretical issues are not our main concern here. In this section we will discuss verb-copying as a test in the study of semantic aspects of verbs in Chinese. We will try to find out what constitutes the semantic basis for verb-copying, and how it can be used as a test for aspectual classification of Chinese verbs. After showing verb-copying as a test for non-stative durative verbs, we will apply it to the resultative verb compounds in Chinese to disprove the claim made by Smith (1990) that Chinese RVC's possess durative aspect.

### 2.5.1. Verb-copying as a Test for Activity



Verb-copying is a grammatical process in which an identical verb is repeated after an object when followed by certain adverbial elements (Li & Thompson 1981:442-450). It generally has the following pattern:

- (1) NP + V + direct object + V + adverbial element

The adverbial elements after the copied verb can be of different kinds, such as duration, frequency, resultative and descriptive. These adverbial elements have been referred to as verbal complements. Since the focus of this study is the internal temporal structure of sentences, the most relevant, on which we will concentrate, is the durational complement.

In discussing the semantic motivation of verb-copying, Tai states: "Verb-copying is semantically motivated in that the repetition of the verb has a natural semiotic function of signifying the repetition of an activity" (Tai 1989:4). Thus, the verb that can go through the grammatical process of verb-copying must have duration or repetition, and consequently verb of instantaneous change-of-state cannot be copied. Consider,

- (2) Ta shang ke shang-le san ge zhongtou<sup>16</sup>.  
he attend-class attend-LE three CL hour  
He has attended the classes for three hours.
- (3) \*Ta xia ke xia-le san ge zhongtou.  
he finish class finish-LE three CL hour
- (4) Wo xiang nei ge wenti xiang-le san ge zhongtou.

I think that CL question think-LE three CL hour  
I thought about that question for three hours.

- (5) \*Wo faxian nei ge wenti faxian-le san ge zhongtou.  
I discover that CL question discover-LE three CL hour

The activity verb phrase shang ke in (2) has durative aspect, and it can be used with verb-copying. By the same reasoning, the verb phrase xiang wenti also has durative aspect, and can also be used with verb-copying as in (4). Xia ke "finish class" in (3) cannot continue, consequently it cannot be used with verb-copying. Faxian in (5) is a typical instantaneous verb of change-of-state, and it does not possess the inherent semantic structure to be compatible with the one of verb-copying.

The duration of verb-copying can be expressed by the following pattern (6).

- (6) NP + V + durational element (de) object.

Then, sentences (2) to (5) can be rewritten as (7) to (10) respectively. The verbs that cannot be copied, that is to say, the verbs that cannot appear in pattern (1), cannot appear in pattern (6), either. Consider,

- (7) Ta shang-le san ge zhongtou de ke.  
he attend-LE three CL hour DE class  
He attended the class for three hours.

- (8) \*He xia-le san ge zhongtou de ke.

he finish-LE three CL hour DE class

- (9) Wo xiang-le san ge zhongtou de wenti.  
I think-LE three CL hour DE question  
I thought for three hours
- (10) \*Wo faxian-le san ge zhongtou de wenti.  
I discover-LE three CL hour DE question

Verb-copying have duration, and the semantic motivation of verb-copying allows activity verb phrases to be used with verb-copying, as shown by (11) and (12).

- (11) Ta xie xin xie-le yi ge zhongtou.  
he write letter write-LE one CL hour  
He wrote letter for an hour.
- (12) Ta xie-le yi ge zhongtou de xin.  
he write-LE one CL hour DE letter  
He wrote letter for an hour.

The next question that needs to be answered is whether verb-copying can be used with accomplishment verb phrases? If it can, then is the length of time durative or completive? Look at the following sentences:

- (13) Ta xie yi feng xin xie-le yi ge zhongtou, hai mei xie-wan.  
he write one CL letter write-LE one CL hour, still Neg. write-finish  
He has been writing a letter for an hour, but have not finished it, yet.
- (14) \*Ta xie-le yi ge zhongtou de yi feng xin.  
he write-LE one CL hour DE one CL letter

(13) shows that verb-copying can be used with accomplishment verb phrase. The duration indicated by verb-copying is only durative, not complete. In other words, verb-copying may appear in an accomplishment constellation, but it indicates only the duration aspect, not the attainment of goal. Also, while the activity verb phrases can be used in pattern (6) to provide a stronger sense of duration as in (12), the accomplishment verb phrases cannot as shown by (14). Two more pairs of sentences are provided to illustrate the point.

- (15) a.   Wo xie yi feng xin xie-le san ge zhongtou.  
I write one CL letter write-LE three CL hour  
I wrote a letter in/for three hours.
- b.   \*Wo xie-le san ge zhongtou (de) yi feng xin.  
I write LE three CL hour (DE) one CL letter
- (16) a.   \*Ta pao yi yingli lu pao-le shi fenzhong  
he run one mile road run-LE ten minute
- b.   \*Ta pao-le shi fenzhong (de) yi yingli lu.  
He run-LE ten minute (DE) one mile road

The grammatical process of verb-copying is semantically motivated. It can only be used with verb with duration. When it is used with accomplishment verb phrases, it is only durative, not complete. That is why verb-copying can be used a test for duration, more precisely for activity.

### 2.5.2. RVC's Do not Possess Durative Aspect

Smith (1990) claims that the Chinese telic events are realized by resultative verb compounds which have a durative aspect. Now we will use verb-copying to test this claim. Look at the following two sentences:

- (17) a. \*Zhangsan xie-wan yi feng xin xie-wan-le yi ge zhongtou.  
Zhangsan write-finish one CL letter write-wan-LE one CL hour
- b. Zhangsan xie yi feng xin xie-le yi ge zhongtou.  
Zhangsan write one CL letter write-LE one CL hour  
Zhangsan wrote a letter for an hour.

As shown in (17a), resultative verb compounds are incompatible with the process of verb-copying. This means that the resultative verb complement does not possess duration, contrary to Smith's claim.

The incompatibility of the progressive marker zai with RVC's in Chinese also shows that RVC's do not possess duration aspect. This can be illustrated by (18) and (19)

- (18) \*Zhangsan zai xie-wan yi feng xin.  
Zhangsan ZAI write-finish one CL letter
- (19) \*Wo zai kan-jian Zhangsan.  
I ZAI look-see Zhangsan

The results of the two tests show that the telic event expressed by RVC's do not have duration.

Smith uses the following sentence to argue for the duration of RVC's.

- (20) Tamen sannian gai-hao-le nei ge qiao.  
 they three-year build-finish-LE that CL bridge  
 They built that bridge in three years.

Her argument is that sentences like (20) show "that completive RVC's are compatible with expressions of durativity. The inability of RVC's to occur with imperfect turns out to be irrelevant to the event-type analysis" (Smith 1990:319). Now we need to see whether this is true. What we really need to do here is to have a better understanding of the time expression before the verb in (20). When we examine the sentence carefully, we find that the first part of a resultative verb compound can be inserted before the time expression sannian "three-year". The verb inserted can only be the action verb gai "build", with or without le, but not the whole resultative verb compound gai-hao "build-finish" as shown below:

- (21) a. Tamen gai(-le) san nian gai-hao-le nei ge qiao.  
 they build(-LE) three year build-finish-LE that CL bridge  
 They built that bridge in three years.
- b. \*Tamen gai-hao(-le) san nian gai-hao-le nei ge qiao.  
 they build-finish(-LE) three year build-finish-LE that CL  
 bridge

First, (21a) shows that the duration is not of the resultative verb compound gai-hao "build-finish", but the action verb gai "build". It is not

the RVC's, but the action verbs, that are compatible with expressions of durability. The time expression indicates the duration of the activity gai qiao "bridge-building". This leads us to provide an explanation for one of the characteristics of resultative verb compounds, i.e.; RVC's cannot be used in either reduplication or verb-copying, because both verb reduplication and verb-copying have a semiotic function to signal duration of the activity denoted by the verb (cf. Tai 1989). RVC's do not have duration because the semantic center of the predication realized by the resultative verb compound [V R] is R not V. That is the result of an activity, not the activity itself (Tai 1974, Hsueh 1989, Ross 1990). Consequently RVC's cannot be used in reduplication or verb-copying.

The ungrammaticality of (21b) is not because that resultative verb compound cannot be followed by a time expression; it can. When a time expression follows a resultative verb compound it indicates the lapse of time after the change of state denoted by the verb compound as shown in (22).

- (22) Tamen gai-hao nei ge qiao sannian le.  
 they build-finish that CL bridge three-year LE  
 They have finished building that bridge for three years.

The duration expression sannian "three-year" in (21b) is after the resultative verb compound gai-hao "build-finish", indicating the lapse of time, which

usually refers to the time from the change of state to the time of the utterance being made. (21b) is ungrammatical because of verb-copying. (21a) is different. The time expression sannian "three-year" after the action verb gai "build" indicates the duration of the activity of gai qiao "build bridge", and it is before the resultative verb compound gai-hao "build-finish" indicating the length of time before the change of state taking place. Though one is the duration of an activity, and the other is the time before the change of state, they refer to the same span of time. That is the reason (21a) is grammatical.

It should also be noticed that resultative verb compounds [V R] are of different kinds, because V and R may have different relationships (Lu 1977, Ross 1990). Smith can place a durational expression before a completion resultative compound gai-hao "build-finish" as in (20) to arrive at a grammatical sentence, but this may not do for other type of resultative compounds. Consider,

- (23) \*Wo yi ge zhongtou ting-dong-le tade hua.  
I one CL hour listen-understand-LE his word
- (24) \*Wo santian mai-dao-le yi ben Zhongwen shu.  
I three-day buy-achieve-LE one CL Chinese book



Ting-dong "understand by listening" in (23) and mai-dao "succeed in buying" in (24) are achievement resultative compounds. They may not have a preceding time expression. Thus, in contrast to (20), (23) and (24) are ungrammatical.

Our discussion of resultative verb compounds has shown that they do not possess duration because first they are incompatible with the progressive marker zai; second, they are incompatible with the grammatical process of verb-copying which have a semantic function of indicating duration in Chinese and; third, the time expression placed before the resultative compound does not indicate the duration of the resultative verb compound, contrary to Smith's claim. Recall that preverbal time expression is completive with accomplishment verb phrase.

### 2.5.3. Summary

To summarize, in this section we first discussed the function of verb-copying, which is to indicate the duration of activity without the implication of the attainment of goal. We have thus established that verb-copying can be used as a test for duration of activity in Chinese. Then we used verb-

copying as a test to disprove the claim made by Smith, that the Chinese telic event realized by resultative verb complement has duration.

## 2.6. Entailment Tests

Entailment as a test is commonly used in the study of aspectual classification of verbs in English (Vendler 1965, Dowty 1979). It has also been employed as a test in the study of event types in Chinese (Smith 1990). In this section, we will first discuss the entailment tests that distinguish activities from accomplishments, and accomplishments from achievements in English. Later we will examine some entailment relations in Chinese verbs. In the end we will correct some misunderstanding of entailment in Chinese by Smith, and will show that entailment relationships she constructed between Chinese sentences is misleading.

### 2.6.1. Entailment Tests Used in English

In his book **Word Meaning and Montague Grammar**, Dowty spells out the following entailment relationships that distinguish activities and accomplishments:

- (1) If V is an activity verb, then x Ved for y time entails that at any time during y, x Ved was true. If V is an accomplishment verb, then x Ved for y time does not entail that x Ved was true during any time within y at all.
- (2) If V is an activity verb, then x is (now) Ving entails that x has Ved. If V is an accomplishment verb, then x is (now) Ving entails that x has not (yet) Ved. (Dowty 1979:57)

His entailment relationships serving to distinguish achievement verbs from accomplishment verbs are given below:

- (3) If V is an accomplishment verb, then x Ved in y time entails x was Ving during y time. If V is an achievement verb, then x Ved in y time does not entail x was Ving during y time. (Dowty 1979:59)

Now we need to take a careful look at the elements contributing to these three entailment rules in English before we construct anything similar in Chinese. The first key element in the entailment tests of verbs in English involves time expressions. The durative adverbial for-phrase is used to tell the activity verbs from the accomplishment verbs in (1), and the completive adverbial in-phrase separates accomplishment verbs from achievement verbs as in (2). In Chinese there are no overt markers such as for and in. Instead, time expressions are placed either before or after the verb of different classes to carry out similar functions in Chinese. We have discussed this topic in

section 2.4.2. Their placements and functions are not as clear-cut as durative adverbials (for-phrases) and completive adverbials (in-phrases) in English.

The second important element of these entailment rules has to do with tense and aspect. (1) clearly involves the past tense. Thus, the attainment of goal is necessary for accomplishment verbs in the past tense. (2) distinguishes activity verbs from accomplishment verbs by using the progressive and non-progressive tenses. There are no overt tense markers in Chinese, only aspect markers. Bearing this in mind, in constructing Chinese entailment tests, we need to take into consideration the effect of tense in entailment relationships in English and how to establish entailment relationships when there are no tense markers in Chinese.

The third of the key elements in these entailment relationships is the verbs themselves. The verbs in the pair of sentences that have an entailment relationship are identical in form. That is to say they are identical lexical items. This observation may seem to be trivial, but this is exactly where the problem arises in the previously proposed entailment tests of Chinese. We will come back to this point later.

## 2.6.2. Entailment Relationships in Chinese

The entailment relationships of English discussed earlier do exist in Chinese. In the following discussion, we will first look at the entailments of activity verb phrases with postverbal time expressions that differ from accomplishment verb phrases. Let us look at the following two pairs of sentences with verb-copying<sup>17</sup>.

- (4) a. Zhangsan xie xin xie-le yi ge zhongtou.  
Zhangsan write letter write-LE one CL hour  
Zhangsan wrote letter for an hour.
- b. Zhangsan xie(-le) xin le<sup>18</sup>.  
Zhangsan write(-le) letter LE  
Zhangsan wrote letter/did letter writing.
- (5) a. Zhangsan xie yi feng xin xie-le yi ge zhongtou.  
Zhangsan write one CL letter write-LE one CL hour  
1) Zhangsan wrote a letter for an hour.  
2) Zhangsan wrote a letter in an hour.
- b. Zhangsan xie(-le) yi feng xin le.  
Zhangsan write(-le) one CL letter LE  
Zhangsan wrote a letter.

Xie-xin "write-letter" in (4a) is an activity verb phrase. The copied verb xie "write" is suffixed with -le. This sentence indicates that the activity of "writing a letter" has been implemented and lasted for an hour. It entails that at any time during the one hour (4b) is true, that is, (4a) entails (4b). Xie yi feng xin is an accomplishment in (5a). Under the same conditions, we cannot say that when (5a) is true, (5b) is also true. Therefore (5a) does

not entail (5b). (5a) is ambiguous with two readings. In reading (2) of (5a), the goal has been attained. In reading (1) of (5a), the goal may or may not be attained. Therefore, (5a) does not entail (5b), in which goal attainment is clearly indicated. This point can be further supported by the following pair of sentences:

- (6) Zhangsan xie yi feng xin xie-le yi ge zhongtou, hai zai xie nei feng xin.  
 Zhangsan write one CL letter write-LE one CL hour, still ZAI write that CL letter  
 Zhangsan has been writing a letter for an hour and is still writing that letter.
- (7) \*Zhangsan xie yi feng xin le, hai zai xie nei feng xin.  
 Zhangsan write one CL letter LE, still ZAI write that CL letter

Since in the first reading of (5a), it does not necessarily imply the attainment of goal, it can be followed by a continued clause, indicating the activity is still going on as shown by (6). On the other hand, (5b) has clearly indicated the attainment of goal, and consequently it cannot be followed by a continued clause as shown by (7).

In discussing verb-copying as a test for activity (2.5.), we have pointed out that verb-copying places the emphasis on duration. Without verb-copying, (5b) clearly shows that the goal has been attained. With verb-copying, the duration aspect stands out in (5a). Though the sentence is goal-

oriented, it does not necessarily mean that the goal has been attained. That is why (5a) does not entail (5b) during any time within the one hour indicated by the verb-copying.

Entailments from progressive to non-progressive can also distinguish activities from accomplishments in Chinese. Consider,

- (8) a. Zhangsan zai xie xin.  
Zhangsan ZAI write letter  
Zhangsan is writing a letter.
- b. Zhangsan xie-le xin le.  
Zhangsan write-LE letter LE  
Zhangsan wrote a letter/did letter writing.
- (9) a. Zhangsan zai xie yi feng xin.  
Zhangsan ZAI write one CL letter  
Zhangsan is writing a letter.
- b. Zhangsan xie-le yi feng xin le.  
Zhangsan write-LE one CL letter LE  
Zhangsan wrote a letter.

The imperfective progressive zai in (8a) entails the perfective of (8b) because xie xin in (8) is an activity verb phrase without implying goal attainment. Thus, (8a) entails (8b). The entailment from (9a) to (9b) is however different. The imperfective progressive (9a) does not entail perfective (9b) because of the goal orientation associated with accomplishment verb phrases. (9a) implies that the letter is not completed while (9b) implies that letter is

completed. Here we need to briefly point out that xie xin "write letter" is an activity verb phrase, and xie yi feng xin "write a letter" is an accomplishment verb phrase. The object of the verb in activity verb phrase is generic, while the object in accomplishment verb phrase is quantified. While the accomplishment is goal-oriented, the activity is not. (Later, a whole section 3.1. will be devoted to the discussion of this topic in Chinese.)

It should be pointed out that here we use a non-entailment relation as a test: that is, the affirmative (9a) does not entail another affirmative sentence (9b). It is different from English in which an affirmative sentence entails a negative sentence as shown in (2).

Now we move to see whether entailments can be used to distinguish accomplishments from achievements in Chinese.

- (10) a. Zhangsan yi ge zhongtou xie-le yi feng xin.  
Zhangsan one CL hour write-LE one CL letter  
Zhangsan wrote a letter in one hour.
- b. Zai nei yi ge zhongtouli Zhangsan zai xie yi feng xin.  
in that one CL hour in Zhangsan ZAI write one CL letter.  
During that one hour, Zhangsan was writing a  
letter.
- (11) a. Zhangsan san fenzhong cai renchu Lisi.  
Zhangsan three minute then recognize Lisi  
Zhangsan recognized Lisi in three minutes.
- b. \*Zai san fenzhong li Zhangsan cai renchu Lisi.



in three-minute in Zhangsan then recognize Lisi

In (10a) Zhangsan wrote a letter in an hour, then it is true that Zhangsan was writing a letter during that one hour (10b)<sup>19</sup>. But we can easily see that (11a) does not entail (11b) because Zhangsan was not recognizing (renchu) Lisi during the whole three minutes.

Up to now we can see that entailment tests can be used in Chinese to distinguish activity verbs from accomplishment verbs, and accomplishment verbs from achievement verbs. Let us explore entailment tests a little further.

The verb tingzhi "stop" can also be used to distinguish the three kinds of verb phrases when they appear as the complement. Activities and accomplishments can be the complements of tingzhi "stop" (12a,b), but not so with achievements (12c):

- (12) a. Zhangsan tingzhi pao bu le.  
Zhangsan stop run step LE  
Zhangsan stopped running.
- b. Zhangsan tingzhi xie nei pian wenzhang le.  
Zhangsan stop write that CL article LE  
Zhangsan stopped writing that article.
- c. \*Zhangsan tingzhi xiangqi nei jian shi.  
Zhangsan stop remember that CL matter

Furthermore, (12a) entails that Zhangsan did run "pao bu le", whereas (12b) does not entail that Zhangsan wrote the article "xie le nei pian wenzhang", it only entails that Zhangsan did some writing of the article xie nei pian wenzhang le. Whether he has actually finished the article or not cannot be concluded from the sentence. Xiangqi in (12c) is a verb of instantaneous change-of-state. No sooner has it taken place than it finishes. So it is unacceptable as the complement of the verb tingzhi "stop".

Another way to express the meaning of tingzhi "stop" is the construction containing bu...le. Similar to the complement of tingzhi "stop", this construction can also tell these three kinds of verbs apart. For example:

- (13) a. Zhangsan bu pao bu le<sup>20</sup>.  
Zhangsan Neg run-step LE  
Zhangsan stopped running.
- b. Zhangsan bu xie nei pian wenzhang le.  
Zhangsan Neg write that CL article LE  
Zhangsan stopped writing that article.
- c. \*Zhangsan bu xiangqi nei jian shi le.  
Zhangsan Neg remember that CL matter LE

To negate an activity, either habitual or a particular event, entails that one has performed the activity, and stopped doing so, as in the case of running in (13a). To negate a verb phrase of accomplishment entails the stopping of that particular event without referring to the attainment of goal of that event.

Since the bu...le construction is another way to express the meaning of tingzhi "stop" in Chinese, it is incompatible with verbs of instantaneous change-of-state as in (13c).

To conclude this section, we will briefly discuss an entailment relation in Chinese proposed by Smith (1990:321). In arguing that resultative verb compounds constitute telic sentences in Chinese, she attempts to prove that resultative verb compounds have the three properties of a telic event, namely, completion, duration and nondetachability. Nondetachability can be simply put as the entailment relation between process and outcome. She gives the following pair of sentences to show the nondetachability relationship.

- (14) a.     Zhangsan zuotian xie-wan-le yi feng xin.  
           Zhangsan yesterday write-finish-LE one CL letter  
           Zhangsan finished writing a letter yesterday.
- b.     Zhangsan zuotian zai xie yi feng xin.  
           Zhangsan yesterday ZAI write one CL letter  
           Zhangsan was writing a letter yesterday.

(14a) does entail (14b). However, the entailment relation here cannot be used to prove the nondetachability because it violates the basic rule in using entailment as a test. First, as Smith herself put it, "if a sentence S is true at interval I, S with a telic constellation and a completive RVC, then an imperfective S with the same constellation is true at interval I (1990:321)."

Xie-wan "write-finish" the resultative verb compound in (14a) is instantaneous change-of-state. At that particular interval when xie-wan is true, xie "write" in (14b) cannot be true. Second, let us review the formal entailment relations spelt by Dowty at the beginning of this section, we see that the verbs in two sentences that hold entailment relation are identical in form. The verbs in (14a) and (14b) are, however, not identical. The verb used in (14a) is xie-wan "write-finish" and the verb used in (14b) is xie "write", without the resultative complement. The English translations of the two Chinese verbs in (14a) and (14b) given by Smith happen to be the same. But this is not a typical situation. Often resultative verb compounds and the corresponding action verbs in Chinese are expressed by two different vocabulary items in English. For example;

(15) a.      Wo zuotian zhao-dao-le nei ben shu.  
 I yesterday look-find-LE that CL book  
 I found that book yesterday.

b.      Wo zuotian zai zhao nei ben shu.  
 I yesterday ZAI look that CL book  
 I was looking for that book yesterday.

(16) a.      Wo qunian xue-hui-le Fawen.  
 I last-year learn-can-LE French  
 I learned French last year.

b.      Wo qunian zai xue Fawen.  
 I last-year ZAI study French

I was studying French last year.

If we follow the line of argument by Smith, we then can use the group A verbs to entail the group B verbs. But, such an entailment relation cannot serve as a meaningful test for aspectual classification of verbs either in Chinese or in English.

(15)	A	B
	<u>kanjian</u> see	<u>kan</u> look
	<u>zhaodao</u> find	<u>zhao</u> look for
	<u>xuehui</u> learn	<u>xue</u> study
	<u>tingjian</u> hear	<u>ting</u> listen

The problem of Smith's proposed entailment lies in her misled treatment of RVC's. RVC's have long been recognized as lexical compounds. However, Smith treats the verb and its complement as two independent elements. The fact is that while some resultative verb complements are productive and can be treated by syntactic rules, a large number are not. That is because the compositional semantic properties of the compounds cannot be predicted from their constituent verbs. Since their

meanings are unpredictable, they must be listed in the lexicon, and subject to memorization by the language user (Thompson 1973).

### 2.6.3. Summary

In this section we first presented the entailment tests used in English, and then discussed entailment relations in Chinese and how they can be used as tests in the study of situation types in Modern Chinese. In the end, we examined the entailment relationship concerning Chinese resultative verb compounds proposed by Smith, and showed that her claim is not correct.

### 2.7. Imperatives

An imperative sentence is a sentence used by an addresser to make a command or request to the addressee who is expected to carry out the command or request. The command or request may be made to the addressee to ask him/her to carry out certain activities including those to prevent something from happening.

Generally speaking, imperatives are second person commands whose tones can be softened by using polite expressions or sentential particles.

Sometimes, the first person plural can also be used in imperatives (Li and Thompson 1981:451-462).

Imperatives, either affirmative or negative, can be used as a test to distinguish verbs of different classes of aspectual verbs. The very function of imperative sentences requires that the verbs to be used are dynamic, and agentive, though they may be volitional or non-volitional. We will discuss various aspects of imperatives with respect to aspectual classification of verbs in Chinese.

First of all, the verbs that can be used in an imperative sentence must be dynamic not stative, because the request or command is meant to be carried out by the addressee. For example:

- (1) a. **Chu-qu!**  
**Out-go**  
**Get out!**
- b. **Ba men da-kai!**  
**Ba door open-open**  
**Open the door!**
- c. **Mandiar chi!**  
**slower eat**  
**Eat slower.**
- d. **Bie wang-le gaosu ta!**  
**not forget-LE tell he**  
**Don't forget to tell him!**

- (2) a. \*Dong zhei ge wenti!  
understand this CL question
- b. \*Zhidao ta!  
know him
- c. \*Ai chi Zhongguo fan!  
love eat Chinese food

All the sentences in (1) are grammatical because the verbs involved are all non-stative. The sentences in (2) are all ungrammatical because they involve stative verbs. What these stative verbs denote cannot be carried out by the addressee.

Secondly, not all dynamic verbs can be used in imperative sentences. This involves the notion of agentivity of the dynamic verbs. Contemporary linguistic literature on agency is abundant. Here for the purposes of discussion, we adopt Dowty's "movement" criterion for the notion of agency or controllability. It "involve(s) activity in a physical sense -- either a change of position or else an internal movement that has visual, audible or tactile consequences" (Dowty 1979:165). Three points of clarification are in order here. First, stative verbs do not involve the notion of agency because stative verbs do not indicate change or movement of any kind. The subject in a stative sentence is said to be the experiencer, not an agent. Second, the notion of agency expands to cover from human beings to animate or even



inanimate subjects so long as they can carry out the command or request<sup>21</sup>. For instance, one can order a dog to sit or to catch a frisbee. Third, non-agentive verbs are defined from both the viewpoint and the nature of the activity denoted by the verb. For example, si in Zhangsan si le "Zhangsan died" is not an agentive verb. Though Zhangsan is a human being, si "die" is not something that an agent can do. Having briefly clarified the notion of agentivity, we can see that non-agentive dynamic verbs cannot be used because the addressee must be able to carry out what is asked to do. Here are some example sentences:

- (3) a. Jiao ta jin-lai!  
ask he come-in  
Ask him to come in!
- b. Zuo-xia!  
sit-down  
Sit down!
- c. Bie shuo hua!  
not speak word  
Don't talk!
- d. Ba fan chi-wan!  
Ba food eat-finish  
Finish your food!
- (4) a. \*Xia yu!  
down rain
- b. \*(to a wall) Bie dao!

not fall

Thirdly, it is noticed that some verb can appear in both affirmative and negative imperative sentences while some can appear only in the negative imperatives (Yuan 1991). This is decided by whether the verb is volitional or not. The following examples illustrate the notion of volition:

- (5) a. Kan!  
look  
Look!
- b. Bie kan!  
not look  
Don't look!

A volitional verb is a verb that denotes an action which can be carried out by the agent at his/her own will. The opposite is a non-volitional verb. In the pair of verbs kan "look" and kanjian "see", the former is a volitional while the latter is non-volitional. If one wants, one can look or not. Consequently it can be used in either affirmative or negative imperative sentence to command somebody to kan "look" or not to kan "not to look". That is why both (5a) and (5b) are grammatical sentences. In contrast, (6a) and (6b) are not grammatical.

- (6) a. \*Kan-jian!  
see
- b. \*Bie kan-jian!

not see

The resultative verb compound kanjian "see" is non-volitional because no matter if one wants to kanjian "see" something or not, the result is not controlled by them. What one can only do is to actively kan "look", leaving the result kanjian "see" to be decided by other factors. Because of the non-volitionality of kanjian "see", both (6a) and (6b) are unacceptable sentences.

One can do something so as to prevent some non-volitional acts from happening. (7) is such an example.

- (7) Bie bei bieren kan-jian!  
 not Bei other-people see  
 Don't let other people see you!

Kanjian "see" is non-volitional to either the addressee or bieren "others" in the sentence. It can be used in an imperative sentence to instruct or command the addressee to do something so that he cannot be seen. It is in this sense that most non-volitional verbs are used in imperatives. Here are some more examples:

- (8) a. \*Shui-zhao!  
 sleep
- b. Bie shui-zhao!  
 not sleep  
 Don't fall asleep!

- (9) a. \*Bie zhao-dao nei ben shu!  
Not find that CL book
- b. Bie rang ta zhao-dao nei ben shu!  
Not let he find that CL book  
Don't let him find the book!

Shuizhao "fall asleep" in (8) is non-volitional. One can command someone to go to bed, but he may not fall asleep at his own will or be forced to do so. Thus, (8a) is ungrammatical. On the other hand, one can command someone try everything he can to keep awake, i.e.; not to fall asleep, or to prevent from falling asleep. That is the reason that it can be used in negative imperative sentence as (8b). Similar explanation can be applied to the pair of sentences in (9). It is worth mentioning here that in negative imperative sentences, the addressee is not asked to do what the verb denoted, the implied meaning is to ask the addressee to do something so that he can prevent something from happening. At this point it should be pointed out that not all resultative verb compounds are non-volitional. Some of them are volitional. They serve to indicate the purpose of the first action verb is to reach the result expressed by the second part. The following sentences illustrate the point.

- (10) Xie-wan nei ge zi!  
write-finish that CL character  
Finish writing that character!

- (11) Du-dong zhei pian wenzhang!  
 read-understand this CL article  
 Read so as to understand this article!
- (12) Da-si ta!  
 beat-dead he  
 Beat him to death!

In these sentences, all the resultative verb compounds are volitional. The activity denoted by the first action verb expresses the means, or the manner through which to reach the result that is expressed by the second part of the compound. One can not only initiate the activity indicated by the first verb, but also intentionally and purposely continue the activity until certain result has been achieved. When these verbs are used in imperative sentences, the addressee is asked to carry out and continue the activity until the result has been achieved.

Now we will briefly discuss the relationship between agentivity and volitionality, and their implication in imperatives. An agent is said to do something in the sense that the agent carries out the activity denoted by the verb. An agent can be a human being, a machine or a piece of equipment, and the verbs in such sentences are activity verbs. Volitionality is a semantic feature of a particular group of verbs<sup>22</sup>. Both volitional and non-volitional verbs may or may not be activity verbs, because agentivity and

volitionality represent two different semantic notions, but non-volitional verbs are necessarily non-agentive.

To summarize the discussion of imperatives as a test in verb classification, they can be used to distinguish stative from dynamic verbs, agentive from non-agentive verbs and volitional and non-volitional verbs. It is worth pointing out that the distinction between volitional and non-volitional verbs is parallel to the distinction between activity verbs and change-of-state verbs. Resultative verb compounds may fall into two classes depending on the semantic relationship between action verbs and the resultative complements.

### Note

1. Different approaches have been proposed in the study of the system of temporal reference in Chinese, which can be summarized as the following:

1. a tense system;
2. a modal-tense system with aspectual overtones accompanying the past tense markers;
3. a tense-aspect system; and
4. a pure aspectual system.

Currently, the majority of modern Chinese linguists adopt a view of aspectual system for Chinese. For a detailed discussion, see Chan (1980) and Spencer (1970).

2. See Li and Thompson for the boundness of -LE.

3. The absolute stative verbs here is distinguished from non-absolute stative verbs by the fact that the former cannot, while the latter can be modified the degree adverb such as hen "very". The following paragraphs provide a more detailed discussion.

4. Some seeming counter examples may be found. For example,

- (1) hen youqian  
very have-money  
very rich
- (2) \*hen you shu  
very have book

while (1) is grammatical, (2) is not. The fact is that youqian "have-money" is a colloquial set expression meaning "rich", very much like a stative verb. Thus, it can be modified by the degree adverb hen "very".

5. In written text we can find the sentences like

Liang guo zhijian you-zhe hen hao de guanxi.  
 two nation between have ZHE very good DE relationship  
 There is a very good relationship between the two countries

with you "have" being suffixed with -zhe.

6. Light's explanation of the notion of [inertia] is quoted here as follows:

The notion of [inertia] as proposed here is defined in the strict physical sense. In physics, inertia means that there is radically no change in a given physical system. A body at rest that does not begin to move is in a state of inertia. Similarly, a body that is moving at a rate of X in direction Z and that neither changes speed nor direction is in a state of inertia (Light 1989:133).

7. A similar distinction between situations marked by zai and zhe is also made by Teng. He uses the term "'non-stative' progressive to refer to an ongoing action and 'stative' progressive to an ongoing state" (Teng 1979:1).

8. In the discussion above, we have discussed stative verbs and their relationship with the degree adverb hen. Hen is compatible only with stative verbs of degree. There is one more point we need to raise concerning stative verbs. Under the cover term "adjectives" in Chinese, some can only be used as predicates in sentences, for example duo (many, much) and shao (few, little). They cannot be used as modifiers as most of the adjectives can. On the other hand, some adjectives can only be used as modifiers, and they cannot be used as predicates in sentences. A distinctive feature that these non-predicate adjectives share is that they cannot be modified by the degree adverb hen. We may call these adjectives "adjectives of non-degree". Some examples are given below:

heng "horizontal"  
manxing "chronic"

shu "vertical"  
xiuzhen "pocket-size"



zhengzheng "real"

gongtong "same, mutual"

Since these adjectives cannot be used as predicates, we are not interested in them. Hence they will be excluded from further discussion.

9. I am aware of the following pair of sentences:

- a. \*Ta hen si.  
he very die
- b. Ta shuide hen si.  
he sleep-De very deathly  
He sleeps very soundly/He is sound asleep.

Si "die" is a verb of change-of-state. It is also a verb of non-degree and so cannot be modified by hen as shown by (a). The adverbial use of si "soundly" is demonstrated in (b). The soundness of sleep are of degree and it can be modified by hen.

10. Dowty (1979:60) has provided a summary of the syntactic and semantic tests used to define the classes.

11. Dowty uses for-phrase and in-phrase. For convenience of discussion, we adopt Smith's (1990) terms durative adverbial and completive adverbial.

12. The asterisk is put within a parentheses to indicate that the sentence is grammatical but not in the expected reading. For the purpose of our discussion here, it is not acceptable.

13. To make this sentence grammatical, we can quantify the object as shown in the following:

Zhangsan yi xiaoshi xie wu bai ge zi.  
zhangsan one hour write five hundred CL character  
Zhangsan writes five hundred characters in one hour.

Here the quantification of the object has turned the activity situation to an accomplishment situation. The preverbal time expression is then complete with accomplishments, which is what the rule states.

14. The contrast between the following three sentences best illustrates the use and function of dou.

- a.     Wo renshi tamen.  
        I know they  
        I know them.
- b.     Tamen wo dou renshi.  
        they I all know  
        I know them all.
- c.     \*Wo dou renshi tamen.  
        I all know they

15. These sentences are borrowed from Chapter 2 in Dowty 1979.

16. This example, and some other examples used this section are borrowed from Tai (1989).

17. The reason for verb-copying to be used here is quite simple. It indicates time duration and is compatible with both activity verbs and accomplishment verbs. Postverbal duration expressions can be used with activity verbs but not with accomplishment verbs to express the duration of an action or activity. We use verb-copying for both kinds of situations so that they can be discussed under the same conditions. For intransitive activity verbs, only postverbal duration expressions will be used.

18. There are two le's in this sentence. The first -le was put within parentheses indicating the sentence is grammatical with or without the -le. For the sentence to be correct, the second le has to be there.

19. To explicitly indicate "that" one hour, the deictic marker nei is used. Also it makes the sentence sound much better.

20. This sentence with bu...le is ambiguous with two readings. One reading is to negate the intention. Originally, Zhangsan wanted to run, then he changed his mind. The second reading is that Zhangsan was running, and then he stopped. It is this second reading that we are concerned with here.

21. Two examples borrowed from Dowty (1979:165) are given here.

The refrigerator is running.  
The Stereo is blaring.

The subjects in these two sentences are neither human nor animate.

22. Verb reduplication can be used to test the volitionality of verbs. The volitional verbs can be reduplicated while the non-volitional ones cannot (Li and Thompson 1981:29-31).

## CHAPTER III

### SITUATION TYPES IN SIMPLE PERFECTIVES AND RVC'S

#### 3.1. Simple Perfectives and Attainment of Goal

In this section, we will clarify the issues pertaining to Smith's claim that simple perfectives in Chinese do not semantically indicate the attainment of goal ("completion" in her term).

It is clear from previous research (Chu, 1976, Tai, 1984, Smith, 1990), resultative verb complements in Chinese resultative verb compounds necessarily imply the attainment of goal. What is not quite clear, and not agreed upon, is whether Chinese perfective sentences necessarily imply an attainment of goal.

Chu (1976) has correctly pointed out that in Chinese the presupposition of performance of action is overtly marked by the perfective aspect marker -le. It should be noted, however, that Chu is only concerned with verbs and verbs alone. He does not consider word order, namely the

preverbal and postverbal positions of nouns, and the different types of objects for transitive verbs, because he is not discussing event types in Chinese. Both Chu and Smith seem to conclude that simple perfectives in Chinese do not imply attainment of goal. This conclusion does not seem to be correct. There are many complicating facts that need to be scrutinized. These facts include the nature of the object of the transitive verb, the pre/postverbal position of the logical object of the verb, and the inherent aspect of the verbs concerned. We will discuss these facts one by one below.

### 3.1.1. Nature of the Verb Object

First we need to look at whether the object of the transitive verb is generic or not. Study the following sentences:

- (1) Ta chi fan le.  
he eat rice LE  
He ate.
- (2) Wo kan dianshi le.  
I watch TV LE  
I watched TV.

Generally speaking, when the object is generic in nature, -le only indicates the implementation or the performance of the action. There is no associated

outcome involved, and the activity denoted by the verb can only be terminated. Consequently the attainment of a goal is irrelevant here<sup>1</sup>.

When the object of the transitive verb is non-generic, the situation is more complicated. The type of verb and the nature of object both play a role in indicating the attainment of goal. Here are some simple perfective sentences with quantified objects.

- (3) a. Wo xie-le yi feng xin.  
I write-LE one CL letter  
I wrote a letter.
- b. Wo mai-le yi ben shu.  
I buy-LE one CL book  
I bought one books.
- c. Wo hua-le yi zhang hua.  
I paint-LE one CL picture.  
I painted a picture.

I have given the above three sentences to a few native speakers of Mandarin Chinese, and then ask them in Chinese wo xie-wan-le nei feng xin meiyou "whether I have finished writing the letter"; shu mai-dao-le meiyou "whether I have bought the book" and; wo hua-wan-le nei zhang hua meiyou "whether I have finished painting the picture". They give me positive answers to all the three questions. That is, the letter is xie-wan-le "finished" in (3a), the books are mai-dao/-zhao-le "bought" in (3b), and the painting is hua-wan/-

hao-le "finished" in (3c). I further asked them to judge the following three sentences to see whether they are grammatical:

- (4) a. Wo xie-le yi feng xin, keshi mei xie-wan.  
I write-LE one CL letter but NEG write-finish  
I wrote a letter, but I did not finish the letter.
- b. Wo mai-le yi ben shu, keshi mei mai-dao.  
I buy-LE one CL book but NEG buy-gain  
I bought one books, but I did not buy.
- c. Wo hua-le yi zhang hua, keshi mei hua-wan.  
I paint-LE one CL picture but NEG paint-finish.  
I painted a picture, but I did not finish.

While some say that these sentences are unacceptable, others say that they are very strange. Clearly for the native speakers I have asked, a simple perfective sentence with quantified object indicates the attainment of a goal. Two reasons can be offered for why the previous conclusion is reached that simple perfective sentences do not semantically indicate completion. First, the nature of the object of the verb is not taken into consideration and, second the conclusion is reached based on the judgement of grammaticality of sentences like the following (Smith 1990:331):

- (5) Wo mai-le san ben shu, keshi mei mai-dao.  
I buy-LE three CL book, nut not buy-gain  
I bought three books, but I had not bought them.

The presumption is that sentences like (5) are grammatical, but the fact is that they are not. Furthermore, consider the contrast between (a) and (b) sentences in (6) and (7) in grammaticality.

- (6) a. \*Wo kan-le yi pian wenzhang, keshi mei kan-wan.  
I read-LE one CL article, but not read-finish  
I read an article, but I did not finish it.
- b. Wo kan yi pian wenzhang, keshi mei kan-wan.  
I read one CL article, but not read-finish  
I read an article, but I did not finish it.
- (7) a. \*Wo xie-le yi pian wenzhang, keshi mei xie-wan.  
I write-LE one CL article, but not write-finish  
I wrote an article, but I did not finish it.
- b. Wo xie yi pian wenzhang, keshi mei xie-wan.  
I write one CL article, but not write-finish  
I wrote an article, but I did not finish it.

Structurally all the four sentences contain two clauses with the second clause negating the attainment of goal in the first clause. The only difference between the (a) sentences and the (b) sentences is the presence and absence of the perfective -le. (A) sentences are ungrammatical because the perfective -le in the sentences have already indicated that the goals have been attained. The final goals, when reached, cannot be cancelled by the second half of the sentences. While the (b) sentences are without -le, the natural endpoints are not reached. The attainment of goal is not achieved, though the event type



is goal oriented. The second parts of the sentences in (b) sentences do not intend to cancel the reach of the goal, but only state the facts that the expected endpoints have not been reached, yet.

To further consider the effect of the presence and absence of the perfective -le, compare the following pair of sentences:

- (8) Wo zuotian xie yi ge "yi" zi, keshi mei xie-wan.  
I yesterday write one CL one character, but not write-finish  
I wrote a Chinese character "one" yesterday, but I did not finished it.
- (9) Wo zuotian xie yi pian chang pian xiaoshuo, keshi mei xie-wan.  
I yesterday write one CL long CL novel, but not write-finish  
I wrote a novel yesterday but I did not finish it.

Both (8) and (9) are grammatical, but (9) is a much better sentence than (8). It is quite natural that one may not finish writing a long novel within one day, but it is strange for someone to write a very simple character without finishing it. The problem with (8) is not a syntactic one, but a pragmatic one. We can compare (8) and (9) with (10) and (11), in which the perfective -le are present.

- (10) \*Wo zuotian xie-le yi ge "yi" zi, keshi mei xie-wan.  
I yesterday write-LE one CL one character, but not write-finish
- (11) \*Wo zuotian xie-le yi pian chang pian xiaoshuo, kesh mei xie-wan.  
I yesterday write-LE one CL long CL novel, but not write-finish

When the perfective -le is present, both (10) and (11) are ungrammatical. The perfective -le in the two sentences indicates that the goals have been attained, and consequently the negating second clauses cannot cancel the attainments. The strangeness of (8) does not exist in (10) any more.

### 3.1.2. Preverbal Objects

When a definite object of a verb is placed at sentence initial position, the sentence also shows that the inherent goal has been attained. Consider,

(12) Nei feng xin xie-le.  
that CL letter write-LE  
That letter is written.

(13) Nei ge pinguo chi-le.  
that CL apple eat-LE  
That apple is eaten.

The perfective -le in (12) shows that "that letter" is finished, and in (13) the apple is eaten.

At the sentence initial position, deictic marker zhe "this", or nei "that" is often omitted as shown in the following (13) and (14).

(13) Xin xie-le.  
letter write-LE  
The letter is written.

(14) Pingguo ta chi-le.  
apple he eat-LE

The apple, he ate.

Xin "letter" in (13) and pinguo "apple" in (14) are definite and their references are understood by both the speaker and the listener. The simple perfective in this type of sentences thus also indicates the attainment of goal.

### 3.1.3. Implication Force

Our discussion up to this point has shown that it is not quite true that Chinese simple perfective sentences do not indicate the attainment of goal. Generally speaking they do, but the picture is not a clear-cut one. The implication forces are not the same among various types of verb phrases.

Compare the following sentences:

(15) a. \*Wo mai-le nei ben shu, keshi mei mai-dao.  
I buy-LE that CL book but not buy-gain  
I bought that book but did not buy it.

(16) a. Wo zhao-le nei ben shu, keshi mei zhao-dao.  
I look for LE that CL book but not find  
I looked for that book but did not find it.

(15) is ungrammatical while (16) can be acceptable. In (15), the verb mai "buy" is followed by a definite object, and it is very much goal-oriented. In the simple perfective sentence, the goal is attained and this attainment of a goal cannot be cancelled. Therefore (15) is ungrammatical. In (16), the

verb zhao "look for" is also followed by a definite object. However, the implication of goal orientation is not that strong. Some speakers can accept the sentence while some cannot. The discrepancy here has to do with the different inherent aspects the verbs have. Some verbs like mai "buy" has two inherent aspects: one aspect is the effort of trying to obtain something by buying. This aspect of verb can last for a longer or shorter period. The other aspect of mai "buy" is the actual purchasing, which does not last. On the other hand, verbs like zhao "look for" have only one inherent aspect, which is the same as the first aspect of mai "buy". Compare the following two pairs of sentences:

- (17) a. Nei ben shu wo mai-le santian cai mai-dao.  
 that CL book I buy-LE three-day then buy-gain  
 I shopped for three days and finally bought the book
- b. \*Nei ben shu wo mai-le yihui cai mai-dao.  
 that CL book I buy-LE a-while then buy-gain
- (18) a. Nei ben shu wo zhao-le santian cai zhao-dao.  
 that CL book I look for LE three-day then find  
 I looked for three days and finally found the book
- b. Nei ben shu wo zhao-le yihui cai zhao-dao.  
 that CL book I look-for-LE a-while then found  
 Looked for a while and then found the book.

The verb mai "buy" in (17) has two aspects; one has duration and the other not. It can take only a time expression indicating longer duration, not a time

expression indicating short duration. The verb zhao "look for" has only one aspect, and it can take time expression of either long or short duration. That mai "buy" has two aspects and zhao "look for" has one aspect can be illustrated by the following sentences:

- (19) Nei ben shu wo mai-le santian le.  
 that CL book I buy-LE three-day LE  
 a. I have been buying the book for three days.  
 b. I have bought the book for three days now.
- (20) Nei ben shu wo zhao-le santian le.  
 that CL book I look-for-LE three-day LE  
 I have been looking for the book for three days.

(19) has two readings. (19a) is an activity reading. The postverbal time expression is durative. (19b) is a change-of-state reading, in which the time expression indicates the lapse of time since the book is bought. (20) has only one reading, in which the time expression is durative.

#### 3.1.4. Summary

In this section, we have clarified a very crucial point concerning simple imperfectives in Chinese. For intransitive verbs and transitive verbs with generic objects, the attainments of goals are irrelevant, because they do not denote goal-oriented situations. The situations described by transitive

verbs with quantified objects and definite objects either before or after the verb, are goal-oriented.

### 3.2. Resultative Verb Compounds

Different linguists hold different views on the semantic properties of Chinese resultative verb compounds (hence RVC's)<sup>2</sup>, and these different views on the semantic properties of RVC's are reflected in their different classifications of event or situation types in Mandarin Chinese. This, in turn, has led to recent debates on verb and time, and situation and event types in Chinese (Tai, 1984, Teng, 1986, Szeto 1987 and Smith, 1990).

An accomplishment verb in English has both result and action aspects. Tai (1984) argues that while many of those accomplishment verbs in English are realized in the form of RVC's in Chinese, RVC's only have result aspect but no action aspect. However, Smith (1990), argues that Chinese RVC's have both result and action aspects. They represent the event type of accomplishments, exactly like the accomplishments in English. Since the semantic properties of RVC's are so crucial in the study of semantic aspects

of verbs in Chinese, and no agreement has been reached, we will devote the discussion of this section to it.

In this section, we will first examine some syntactic properties of RVC's and define the scope of RVC's to be studied. We will then discuss the notion of head in Chinese RVC's. Finally, we will apply some tests discussed earlier to investigate the aspectual properties of RVC's in Mandarin Chinese.

### 3.2.1. Syntactic Properties of RVC's

According to traditional analyses, a resultative verb compound is a verb compound consisting of two parts, with the first indicating action and the second the result of the action expressed by the first verb (Chao 1968:435-446, Thompson 1973, Li and Thompson 1981:54-68). Its structure is shown in (1)

$$(1) \quad [V + R]_v$$

V is usually a monosyllabic action verb, transitive or intransitive. Even though dissyllabic action verbs can fill in the slot V, the tendency is to reduce the dissyllabic to a monosyllabic (Zhan 1989). R can be a verb or an adjective (adjectival stative verb). When R is a verb, it is generally an

intransitive verb. When R is an adjective, there is no transitivity involved. There are cases when both V and R are intransitive, but the compound they form is transitive. For example:

- (2) a. Ta pao-zhong-le tui.  
 he run-swollen-LE leg  
 His legs are swollen as the result of running.
- b. \*Ta pao tui.  
 he run leg
- c. \*Ta zhong tui.  
 he swollen leg

Pao "run" is an intransitive action verb and consequently cannot take an object (2b). Zhong "swollen" is an stative verb which also cannot take an object (2c). The resultative verb compound they form is however transitive and can take an object (2a). Generally speaking, adjectives, also called stative verbs in Chinese, outnumber intransitive verbs in slot R.

Having briefly discussed the syntactic properties of RVC's in Chinese, we need to define the scope of the object of our study; i.e., what are considered RVC's in our study. The first distinction we need to make is between resultative complements and directional complements of verb compounds. In the compound form  $[V_1 + V_2]$ ,  $V_2$  can be either a resultative complement as in (3) or a directional complement as in (4).



- (3) Wo kan-wan-le nei ben shu.  
I read-finish-LE that CL book  
I finished reading the book.
- (4) Ta hui-lai-le.<sup>3</sup>  
He return-come-LE  
He came back.

Most linguistic studies make the distinction between the two types while some do not (Li & Thompson 1981, Smith 1990). The resultative complement indicates the state as the result of the action. It possesses its own aspectual properties. As will be shown later, this resultative complement is the semantic focus and therefore the head of RVC. On the other hand, a directional complement simply indicates the direction towards which the action proceeds. We will only deal with RVC's with resultative complements, because they are crucial in the classification of situation types in Chinese<sup>4</sup>.

The second distinction that needs to be made here is that between the resultative complement and the postverbal modifying complement. According to the grammatical relationships between the two verbs in the compound  $[V_1 + V_2]$  and the object NP's, Chinese verb compounds can be classified into two groups. In one group, there exists a pair of sequential subject-predicate relations.

- (5) Ta ku-hong-le yanjing.  
He cry-red-LE eye  
His eyes are red as the result of crying.
- (6) Wo kan-dong-le zhei pian wenzhang.  
I read-understand-LE this Cl article  
I understood this article by reading.

The pair of subject-predicate relation in (5) is Ta ku "He cried" and Yanjing hong-le "Eyes were red". The pair in (6) is Wo kan-le zhepian wenzhang "I read the article" and Wo dong-le zhepian wenzhang "I understood the article". The nominal expression after RVC can either be the subject, as in (5), or the object as in (6), of the resultative complement of R in the RVC<sup>5</sup>. This type of verb compounds are resultative verb compounds in our study.

In the other group of verb compounds, some  $V_2$ 's, though a stative verb, actually function as a modifying element describing the manner in which the action of  $V_1$  is being carried out. Here are some examples of this kind;

- (7) Ta wo-jin-le shouli de qiang.  
he hold-tight-LE hand-in De gun  
He holds tight the gun in his hand.
- (8) Yiding yao rang kerenmen chi-hao shui-hao.  
surely must let guest eat-well sleep-well  
Make sure to let the guests eat well and sleep well.
- (9) Women qu-wan-le.  
we go-late-LE

We went (there) late.

The stative verbs in these examples do not indicate the results of the actions denoted by the verbs, but describe manners of action. Syntactically, they can be reduplicated and placed before the action verb as adverbial modifiers. For example,

- (10) Ta jinjinde wo-zhe shouli de qiang.  
 he tight-tight-De hold-ZHE hand-in De gun  
 He is holding tight the gun in his hand.
- (11) Yiding yao rang keren haohaode chi, haohaode shui.  
 surely must let guest good-good-De eat good-good eat.  
 Make sure to let the guests eat well and sleep well.

In contrast, the resultative complement cannot be treated that way. For example;

- (12) a. Wo kan-wan-le nei ben shu.  
 I read-finish-LE that CL book  
 I finished reading that book.
- b. \*wo wanwande kan-le nei ben shu  
 I finish-finish read-LE that CL book

Semantically, the two verbs in a resultative verb compound have an action-and-result relationship while such a relationship does not hold in verb compounds where  $V_2$  modifies  $V_1$ . In (12), if one kan "read" the book, then he can wan "finish" that book. In (7), jin "tight" cannot refer to the result

of wo "hold" to indicate either he or the gun can become jin "tight". Since modifying complement is different from resultative complement both syntactically and semantically, we need to distinguish the two. Our focus in this study then is only on verb compounds with resultative complements and not on those with modifying complements.

We have given a brief syntactic account of RVC's in Chinese and have defined the scope of object of our study. Now we will proceed to discuss which element is the head of the compound.

### 3.2.2. Head of an RVC

In traditional analyses (cf. Chao 1968),  $V_1$  in RVC's is the head and  $V_2$  is the complement. This analysis has long been accepted in Chinese linguistics without being seriously questioned and challenged until Tai and Chou (1974) and a decade later by Li Linding (1984).

Tai and Chou propose, from a semantic-functional point of view, that:

the center of predication in an RVC falls not on the first verbal element which indicates an action, but on the second verbal part which states the result of that action (Tai & Chou 1974:3).

They further suggest that "the RVC construction is functionally analogous to adverbial-verb construction in Chinese."

Li (1984) seriously questions which is really the complement between the two verbal elements of an RVC. He also argues against the traditional view, that the second verbal element of RVC is not the complement of the first verbal element. Instead, the second part is the center, and the first part is the subordinate.

Tai and Chou, as well as Li have provided strong and convincing arguments in their articles. Here I briefly summarize these arguments below:

- 1) R of [V + R] alone is functionally equivalent to the whole compound [V + R].
- 2) In response to the question raised by using RVC, the first verbal part of the RVC can be, and usually are, deleted.
- 3) The negation scope of the potential forms (bu/mei) covers only the resultative constituent, never the action constituent.
- 4) While the resultative constituent is within the adverbial scope, the action constituent is not.
- 5) The verbal complement after [V + R], is the complement of R, not V.
- 6) R itself indicates the result of change, and V provides additional information on how the result comes about.

In addition to the above arguments, I would like to provide more arguments to support Tai and Chou's proposal. I would suggest that RVC in Chinese is an endocentric construction, and the head of the construction

is the second verb R, not the first verb V<sup>6</sup>. This analysis will provide an explanation for Tai and Chou's proposal that the relationship between V<sub>1</sub> and V<sub>2</sub> is RVC is functionally analogous to that between adverb and verb.

The term "head" in its traditional sense, as used by Bloomfield (1933:195), is in relation to endocentric constructions, where the head is the daughter constituent which has the same distribution as the mother. More recent linguistic discussions on this notion can be found in Zwicky (1985) and Hudson (1987). In his paper, Zwicky discusses six independent criteria for determining the head of a construction. These six criteria are: semantic functor, morphosyntactic locus, subcategorisand, governor, distributional equivalent and the obligatory element. In the following discussion, we will explore the question of which element is the head of a resultative verb compound using the above six criteria. We will first briefly state each criterion and then apply it to the data on resultative verb compounds in Chinese.

The first criterion is the semantic functor. The semantic interpretation of the constructions V+ NP (eat the apple), P+NP (on the street) and NP+VP (He bought a book) all involve a functor on an argument NP. In these constructions V, P and VP are the semantic functors and they are the heads

in the constructions respectively. Both Zwicky (1985:4) and Hudson (1987:113) name this semantic relation a "kind of" relation. That is to say that V+NP (eat the apple) refers to a kind of eating, but not a kind of apples. Look at the following Chinese examples.

- (13) Wo du-dong-le nei ben shu.  
I read-understand-LE that CL book  
I understand that book through reading.
- (14) Tade yanjing ku-hong-le.  
his eye cry-red-LE  
His eyes are red as a result of crying.

Du-dong "read-understand" in (13) refers to a kind of understanding rather than a kind of reading. By analogy, ku-hong "cry red" in (14) refers to a kind of red, rather than a kind of cry. This means that R is the functor in RVC and it is the head.

The second criterion is subcategorisand. The head of a construction is subcategorized, in that its special status or ability to occur with other sister constituents in the construction is listed in the lexicon. Then we need to see in [V + R] which is lexical and which is phrasal because it is the lexical item that is subcategorized. V functions as an adverbial to modify the R (Tai and Chou 1974:3). The [V + R] construction is analogous to the

construction of Mod+V, in which only V is to be subcategorized, because Mod can be phrasal. This analogy can be seen more clearly in (15).

- (15) Tade yanjing (yinwei) ku-le bantian (er) hong-le.  
 his eye (because) cry-LE half-day (so) red-LE  
 His eyes are red because he has cried for a long time.

Based on analogy, R can be construed as the subcategorisand, and thus the head of the construction.

The third criterion is morphosyntactic locus. The head of a construction is the morphosyntactic locus, which bears the morphosyntactic marks of syntactic relations between the construct and other syntactic units. The distribution of marks of tense gives information about the inflectional locus (Zwicky 1985:6). Chinese does not have tense in the sense of overt grammatical marking, but Chinese does mark aspect which is included in the broad sense of tense. Take the aspect marker -le for example, it is suffixed to the verb. Concerning a verb-object compound, it can be placed immediately after the verb or at the end of the compound. Kan-shu "read-book" is a V-O compound. -Le can be suffixed to the head of the verb compound as in kan-le-shu "read-LE-book", or the whole compound as in kan-shu-le "read-book-LE". However, the aspect marker -le can only



suffixed to the second element of the resultative verb compound, not the first. See the following examples:

- (16) a. kan-wan-le shu  
 read-finish-LE book  
 finish reading the book
- b. \*kan-LE-wan shu  
 read LE finish book
- (17) a. han-ya-le sangzi  
 shout-hoarse-LE throat  
 throat being hoarse as the result of shouting
- b. \*han-LE-ya sangzi  
 shout LE hoarse throat

These examples show the first element V of the resultative verb compound is not the morphosyntactic locus, and consequently it cannot be the head of the compound. Thus, we can take R, and not V, as the morphosyntactic locus, and hence treat it as the head of the construction.

The fourth criterion of head is governor. This notion of governorship is irrelevant in V-O compound as well resultative constructions (Dai 1992), we will not belabor this point any further.

The fifth criterion on the head of a construction is that of distributional equivalence. The composing element that is distributionally equivalent to the

whole construction is the head of the construction. Examine the following sentences<sup>7</sup>:

- (18) a. Ta ku-hong-le yanjing.  
 he cry-red-LE eye  
 His eyes are red as the result of crying.
- b. Ta hong-le yanjing.  
 he red-LE eye  
 His eyes are red.
- c. \*Ta ku-le yanjing.  
 he cry-LE eye
- (19) a. Ta pao-diu-le yi zhi xie  
 he run-lose-LE one CL shoe  
 He lost a shoe as the result of running.
- b. Ta diu-le yi zhi xie.  
 he lose-LE one CL shoe  
 He lost a shoe.
- c. \*Ta pao-le yi zhi xie.  
 he run-LE one CL shoe

Hong "red" in (18b), not ku "cry" in (18c) is distributionally equivalent to ku-hong "cry-red" in (18a). The same can be shown in (19) that the second element of the resultative verb compound, not the first element, is distributionally equivalent to the whole compound.

The RVC's in (18) and (19) are used as transitive verbs. The same result is expected of intransitive verbs.

- (20) a. Tade yanjing ku-hong-le.  
his eye cry-red-LE  
His eye are red as te result of crying.
- b. Tade yanjing hong-le.  
his eye red-LE  
His eyes are red.
- c. \*Tade yanjing ku-le.  
his eye cry-LE
- (21) a. Tade xie pao-diu-le.  
his shoe run-lost-LE  
His shoes are lost as the result of running.
- b. Tade xie diu-le.  
his shoe lost-LE  
His shoes are lost.
- c. \*Tade xie pao-le.  
his shoe run-LE

All these examples show that in a resultative verb compound, the second element R, not the first element V, is distributionally equivalent to the whole compound. Thus, it is R, not V, that is the head of the RVC.

The sixth and last criterion is obligatory element, in which the head is the obligatory constituent of the construction. This is very closely related to the previous one. Simply put, a VP must have a V, and V is the obligatory element in the VP and its head. In the previous discussion, we have provided many paired examples which can support the argument that

R, and not V, is the obligatory element in resultative verb compound. Here are some more examples, which are cited in Li (1984):

- (22) a. Shanghai dui ti-ying le Guangdong dui.  
Shanghai team kick-win LE Guangdong team.  
The Shanghai team won the Guangdong team.
- b. Shanghai dui ying le Guangdong dui.  
Shanghai team win LE Guangdong team  
The Shanghai team won the Guangdong team.
- c. (\*)Shanghai dui ti le Guangdong dui.  
Shanghai team kick LE Guangdong team
- (23) a. Wo ting-dong-le nide yisi.  
I listen-understand-LE your meaning  
I understood your meaning through listening.
- b. Wo dong-le nide yisi.  
I understand-LE your meaning  
I understood your meaning.
- c. \*Wo ting-le nide yisi.  
I listen-LE your meaning

While V alone either yields ungrammatical sentences as in (23c), or completely changes the meaning from the whole compound, as in (22c). These examples show that R is obligatory while V is optional to the verb compound.

Without consideration of governor, which is irrelevant in our data, all the other five criteria functor, subcategorisand, morphosyntactic locus,

distributional equivalent and obligatory element have shown that in a resultative verb compound R has the properties of head of the construction. In concluding this section, with respect to the issue of head, we have based our analysis on Tai and Chou's notion of center of predication to further state that in a resultative verb compound R, not V, is the head.

### 3.2.3. RVC Presents a Situation of Change-of-State

In the above discussion, we have argued with supporting evidence that the head of the RVC lies in the second element, not the first element. By extension, it is the second element of an RVC that plays the more important and crucial role in determining situation types the compound presents. In the remaining part of this section, we will try to find out the type of situation RVC presents and summarize the temporal properties RVC's possess in Chinese.

In 2.2.3. when we presented the progressive marker zai as a test, we demonstrated that RVC's are incompatible with the progressive aspect; that is, RVC's cannot denote on-going activities. In 2.5.2. we showed that RVC's do not possess duration, counter to Smith's (1990) claim. Because

RVC's do not have duration, they cannot be used with the progressive aspect<sup>8</sup>.

In 2.4.2. and 2.4.3. we stated that RVC's cannot be used with preverbal time elements to express duration of an activity<sup>9</sup>, and that they can only be used with postverbal time expressions. As we have shown in that section, post-verbal time expressions have two different functions when used with different verbs. With activity verbs, the post-verbal time expressions are durative, indicating the length of time in which the activities are going on. With achievement verbs, the post-verb time expressions indicate the lapse of time; i.e.: the length of time since the change of state has taken place. We find that the post-verbal durational expressions used with RVC's are not durative but indicate time lapse. In this sense, it shows that they represent a situation of change of state.

Also similar to achievement verbs, RVC's are most naturally suffixed by -le, the aspect marker indicating change, in simple affirmative declarative sentences. For example:

- (24) a.   Wo chi-bao-le.  
           I eat-full-LE  
           I am full.
- b.   \*Wo chi-bao  
           I eat-full

- (25) a. Ta kan-dong-le nei ben shu.  
 he read-understand LE that CL book  
 He understood that book by reading.
- b. \*Ta kan-dong nei ben shu.  
 he read-understand that CL book
- (26) a. Nei ben shu zhao-dao-le.  
 that CL book look-found-LE  
 That book is found.
- b. \*Nei ben shu zhao-dao.  
 that CL book look-found

The reason for both achievement verbs and RVC's to co-occur with -le may be explained by the fact that these verbs are verbs of change-of-state. These change of states are instantaneous. No sooner has the change taken place than it is finished. The aspect marker -le indicates change in Chinese. When change of state occur, -le is not only more natural but is also required to mark the change of state aspectually; otherwise unacceptable sentences will be produced.

Now that we have proved that RVC's do not have duration, and presented situations of change of state, we stand in a better position to determine the reason why adjectives outnumber verbs as the second element in an RVC<sup>10</sup>. Adjectival stative verbs present stative situations, that is the states of certain entities. These states can be ever-lasting or temporary, but

are homogeneous, or lack change. RVC's present situations of change-of-state. The resultant states are presented by the adjectival stative verbs. This change of state is not stative. It is brought about in the manner denoted by the first element of the RVC.

#### 3.2.4. Summary

In this section we first outlined the syntactic properties of RVC's. We discussed the headship of the verb compounds. We concluded that the head of an RVC is the second element, not the first element, in the compound. Given our conclusion, it is inappropriate to call the second element the complement of the first element. Instead, the first element is the adverbial modifier of the second element, which is the principal part of the compound. In the end, we argued that RVC's do not possess duration; they present situations of change-of-state. More discussion on the situations presented by RVC's will be given later in the discussion of situation types.



## Notes

1. What we are interested in here is only the simple sentences. We are not considering a part of a sentence, as in the complex structure in the following:

Wo chi le fan jiu zou.  
I eat LE rice then go  
I will leave after eating.

The attainment of goal is implied by the structure here, though the object is generic. Also, we are only dealing with the perfective use of -le. (2) can also be translated as "He (has) started eating" in the sense of change of status. This is not taken into consideration here.

2. There is not even an agreement on what RVC refers to. Some linguists use RVC's to refer to resultative verb compounds (Li and Thompson 1981, Ross 1990), while others to resultative verb complements (Smith 1990). The difference here is crucial because the former discusses the properties of the whole verb compound, while the latter only refers to the complement of the verb of the compound. Following the common practice in the studies of Chinese linguistics, we take RVC in this study to refer to resultative verb compounds, not the complements.

3. It needs pointing out here that the following examples of directional complements given by Smith (1990:327) are not totally accurate:

fei-shang "fly up"  
zou-jin "walk in"  
na-qi "pick up"

In Chinese there are only two simple directional complement morphemes lai "come" and qu "go", which can be attached to verbs to form directional verb compounds. A limited number of verbs can form compounded complements of direction with lai and qu. Together they are attached to verbs to form

directional verb compounds. The examples above use non-simple directional complement morphemes as simple ones, which is not permitted in Chinese. Consequently, the example sentence given by Smith to illustrate her point is understood incorrectly.

Niao fei-shang-le.  
bird fly-ascend-LE  
The bird flew up.

She intends to use shang "ascend" as a simple directional resultative verb complement to prove that it does not change the event type. With or without shang the sentence is still atelic. But the fact is that shang cannot be, and is not, a directional complement in the sentence, though the sentence itself is grammatical. The English translation of it should be "The bird started flying". The sentence is that of a change of state. This use of shang is quite colloquial and it has an unstressed neutral tone in speech.

4. Linguists in favor of treating the two in one group use a simple test of potential form. In this respect, a resultative complement and a directional complement behave similar in that de or bu can be inserted between the verb and its complement. However, they have ignored a very important aspectual factor of change of state involved in RVC's. To negate an RVC, mei has to be used because of its inherent semantic aspect while either bu or mei can be used to negate a verb with a directional complement according to each and every situation.

5. This is a complex matter, and it will not be dealt with here. But this will not affect our later discussion on the semantic properties of RVC's.

6. Dai (1992) argues that V1, not V2, should be analyzed as the head of resultative construction. Dai's use of resultative construction is very confusing, and not clearly defined. In his discussion of resultative constructions, there is not a single resultative verb compound that has been dealt with. His resultative constructions cover the complement of degree that is used for descriptive and potential complements. He claims that his examples of (2) and (3) are traditionally called "resultative complement

constructions", which is not correct. They are not. If the phenomena he discusses are different from ours, I would like to point out that his use of the term is confusing. He is discussing resultative verb complements of Chinese. If he intends to lump all types of verb complements together and refer to them all as resultative construction, our discussion will show that his conclusion is incorrect. While V1 may be the head for a subgroup of his resultative construction, V1 is definitely not the head for the resultative verb compounds.

7. Sentences like the following have been observed, though no good explanations can be offered for these sentences that appear to be counterexamples.

Ta da-si-le yi ge ren.  
he beat-die-LE one CL person.  
He beat a person to death.

\*Ta si-le yi ge ren.  
he die-LE one CL person

Ta da-le yi ge ren.  
he beat-LE one-CL person  
He beat a person.

8. Repeatable instantaneous verbs can be used with the progressive aspect indicating the repeating of an certain activity. RVC's do not denote such an activity either.

9. We have disproved some seeming counter examples of durational expressions used before RVC's by showing that these durational expressions are in fact post-verbal durational expressions of the action verbs of the first elements of the RVC's. They are durational, not completive.

10. This question was brought to my attention by Professor H-Y Tai in our discussions when he was advising me on writing this thesis.

## CHAPTER IV

### SITUATION TYPES AND VERB CLASSES IN MANDARIN CHINESE

In the previous chapters, we have established both syntactic and semantic tests that can be used in classification of situation types in Mandarin Chinese. Situation types are different from verb classes. Verbs interact with aspect markers differently, and the same verb with different aspect markers, different types of object NP's and subject NP's may present situations of different types. Thus, there is not a one-to-one correspondence between verb class and situation type. In this chapter, we will try to gain a whole picture of the situation types in Mandarin Chinese and interface between different verbs and different types of situations.

#### 4.1. STATES

##### 4.1.1. Absolute States

We start our discussion of situation types with the progressive test.

Some verbs cannot be used with the progressive aspect.

- (1) \*Wo zai shi xuesheng.  
I ZAI be student

Other verbs are quite perfect with the progressive aspect, which is marked by zai in Chinese.

- (2) Ta zai xue Zhongwen.  
he ZAI learn Chinese  
He is learning Chinese.

Here are some more examples of verbs that are incompatible with progressive aspect.

- (3) a. \*Zhei ben shu zai shuyu wo.  
this CL book ZAI belong me  
b. \*Nei ge xuesheng zai gao.  
that CL student ZAI tall  
c. \*Wo zai ai chi Zhongguo fan.  
I ZAI love eat Chinese food
- (4) a. \*Wo zai zhao-dao nei ben shu.  
I ZAI find that CL book  
b. \*Wo zai wang ni jiade dizhi.  
I ZAI forget your home-De address

All the verbs in sentences (3) and (4) cannot go along with the progressive aspect in Chinese. However, it seems improper if we simply lump them together. The imperative test can be used here to tell sentences in (3) and those in (4) apart. While the verbs in (4) can be used in

imperative sentences, those in (3) cannot. Here are results of the imperative

test:

- (5) a. \*Shuyu wo!  
belong me
- b. \*Gao!  
tall
- c. \*Ai chi Zhongguo fan!  
love eat Chinese food
- (6) a. Zhao-dao nei ben shu!  
find that CL book  
Find that book!
- b. Bie wang wo jiade dizhi!  
not forget my home-De address  
Don't forget my address!

The result of the imperative test shows that verbs like zhao-dao "find" and wang "forget" are different from the verbs like shuyu "belong to", tall "gao" and ai "love", though none of them is compatible with the progressive aspect. Those that can be used in imperative sentences are involved with doing something or doing something to prevent some happenings. Thus, they denote a kind of happenings. Those that cannot be used in imperative sentences are not happenings. The imperative test tells these two kinds of verbs apart, the former present dynamic or non-stative situations, the latter present stative situations. First we will discuss the verbs that denote stative

situations in more detail.

The verbs that cannot be used with either the progressive aspect or in imperative sentences denote states of affairs. The situations are not happenings, no changes involved, nor culminations or outcomes. The stative situations denoted by these verbs may last longer or shorter periods of times. These are the general characteristics of stative situations. The stative situations themselves are not uniform. When we examine stative situations, we can find that they also differ from one another both semantically and syntactically. The most noticeable difference is that some of the stative situations are presented by the verbs that can be modified by degree adverbs such as hen "very" while some cannot. This indicates that while some stative situations describe the states of affairs which are relative to degree, some do not.

- (7) a. Yi jia yi dengyu er.  
 one plus one equal two  
 One plus one equals two.
- b. \*Yi jia yi hen dengyu er.  
 one plus one hen equal two.

We call this kind of situation, presented by verbs that cannot be modified by hen, absolute state. The verbs that denote such situations are called absolute stative verbs. The verbs in this groups are quite limited in Chinese. Some

examples are given below:

- (8) you "have", shi "be"  
dengyu "equal", shuyu "belong to"  
haoxiang "seem", dangzuo "regard as"  
xing "to surname"  
shu "be born in the year of"

These verbs are usually used to equate, to identify or to name a person or an object. They cannot be modified by the progressive aspect marker zai, and degree adverb such as hen. Nor can they be used in imperative sentences<sup>1</sup>.

#### 4.1.2. Non-Absolute States

In contrast with situations of absolute state, there are situations of relative state, or situations of degree. These situations are realized by stative verbs that characteristically can be modified by the degree adverb hen or by other intensifying adverbs and complements.

It should be pointed out that not all adjectival stative verbs behave alike with hen. To see that clearly, we first need to examine different types of adjectival stative verbs in Chinese. Syntactically, they fall into three groups as the following:



- (9) a. duo "many, much"                      shao "little, less"  
huai "bad"                                      hao "good"  
hong "red"                                      bai "white"  
gao "tall"                                      ai "short"  
zhen "real"                                      jia "false, fake"  
dui "right, correct"                      cuo "wrong"  
zhongyao "important"                      weida "great"  
piaoliang "beautiful"                      meili "beautiful"  
ganjing "clean"                              zhengqi "orderly"  
qingchu "clear"                              shizai "honest"  
dafang "generous"  
fangbian "convenient"
- b. xuebai "snow-white"                      qihei "pitch-dark"  
bingliang "ice-cold"                      huore "fire-hot"  
guntang "boiling hot"                      huohong "fire-red"  
tieqing "iron-black"  
tuhuang "earth-yellow"
- c. luyouyou "green and lush"  
liangjingjing "glittering"

lengqingqing "cold and cheerless"

luanfenfen "confused, chaotic"

luanhonghong "tumultuous, in noisy disorder"

Group A is composed of simple adjectival stative verbs of one single morpheme, though they can be either monosyllabic or dissyllabic. Groups B and C are complex adjectival stative verbs formed by either two morphemes with one modifying the other as in B, or an adjective suffixed by a reduplicated ending as in C<sup>2</sup>.

Group A stative verbs alone cannot be used as predicates because they have an inherent contrastive or comparative meaning in them. That inherent contrastive or comparative meaning can either be realized by conjoined contrastive sentences or neutralized by the degree adverb hen. They are shown in the following sentences:

- (10) ?Zhangsan gao.  
Zhangsan tall  
Zhangsan is tall.

(10) sounds very abrupt or unfinished, because usually simple adjectival stative verbs are used for comparison in conjoined sentences as in (11):

- (11) Zhangsan gao, Lisi ai.  
Zhangsan tall, Lisi short  
Zhangsan is tall and Lisi is short.

If not used for comparison, usually hen "very" or similar degree adverb precedes the stative verb as in (12a). In comparative bi "than" construction hen "very" cannot occur as shown by (12c).

- (12) a. Zhei jian wuzi hen luan.  
this CL room very messy  
This room is messy.
- b. Zhei jian wuzi bi nei jian wuzi luan.  
this CL room than that CL room messy  
This room is messier than that room.
- c. \*Zhei jian wuzi bi nei jian wuzi hen luan.  
this CL room than that CL room very messy

There is one very important point, which is often neglected, i.e.: hen, though known as a degree adverb, does not really express an obvious degree when used in sentences like (12a). It is used to off-set the inherent contrastive meaning of the following adjective. This is shown by the fact that hen is unstressed when spoken.

Adjectival stative verbs, when not used for comparison or contrast or modified by any degree adverbs, can still be used as predicates in sentences if they are reduplicated<sup>3</sup> and suffixed with -de. For example;

- (13) Zhei jian wuzi luanluande.  
this CL room messy-messy-De  
This room is very messy.

The process of adjectival reduplication can be viewed as intensification or

emphasizing modification in Tai's theory of iconicity motivations in Chinese grammar (Tai, 1992).

Stative verbs in B can be used alone as predicates, while those in C have to be suffixed by -de.

- (14) Zhe jian wuzi bingliang.  
 this CL room ice-cold  
 This room is icy cold.
- (15) Tamen shang ke luanhonghongde.  
 they attend class tumultuous  
 Their class is in noisy disorder.

It can be noticed that only Group A adjectival stative verbs can be modified by hen, while the other two groups cannot. The reason is that the adjectival stative verbs in Groups B and C are already modified. They are all simple stative verbs of group A being modified one way or another. In B, the preceding verbal or nominal morphemes define the state of the adjectives. For example, bingliang "ice-cold" means "cold as ice". Guntang "boiling-hot" means "hot as boiling water". In C, we have discussed earlier, the reduplication itself is a process of intensification. From these linguistic facts, we can arrive at one general principle about Chinese adjectival stative verbs, which can be tentatively phrased as:

- (16) In Chinese, simple adjectival stative verbs, if not in comparative constructions, cannot be used alone as

predicates in a simple stative situation. They have to be modified either morphologically or syntactically to neutralize their intrinsic comparative meaning.

So far as the functions of these adjectival stative verbs are concerned, they can be classified into two groups. Group A stative verbs are generally used to refer to the long lasting quality of the subjects in sentences, while the Groups B and C verbs are more descriptive in nature to indicate the temporary states or conditions of the subjects in sentences. Hence, we will call the former quality verbs, and the latter status verbs<sup>4</sup>. Few points concerning the differences between quality verbs and status verbs merit mentioning here. First, apart from quality verbs being more restricted as predicates in sentences since they have to be modified by hen or other degree adverbs discussed earlier, they are also more restricted when used as modifiers than status verbs<sup>5</sup>. Second, states of affairs denoted by quality verbs are permanent while the states or conditions described by status verbs are temporary. Third, quality adjectives can present a beginning of a new existence while status adjectives usually cannot. This demonstrates that quality verbs can be used with inchoative le to indicate the beginning existence of a permanent state while the descriptive status verbs cannot be used that way. For example:

- (17) a. Tianse hei le.  
sky-color dark LE  
The sky has become dark.
- b. \*Tianse qihei le.  
sky-color pitch-dark LE
- (18) a. Zhuangjia hen lu.  
crop very green  
Crops are quite green.
- b. Zhuangjia (hen) lu le.  
crop green (very) LE  
Crops have become very green.
- c. Zhuangjia luyouyoude  
crops green-and-lush-DE  
Crops are green and lush.
- d. \*Zhuangjia luyouyou le  
crop green-and-lush LE

The phenomenon of inchoative le presenting the beginning of a new situation in Chinese is of "categorical switch" or the change of situation type. More discussion on this phenomenon can be found in later section of situations of change-of-state.

#### 4.1.3. Mental States/Activities

Mental verbs are usually used to express a human being's emotional or mental state. This type of verbs includes the following:

(19) <u>ai</u> "love"	<u>re'ai</u> "love"
<u>xin</u> "believe"	<u>xiangxin</u> "believe"
<u>xihuan</u> "like"	<u>taoyan</u> "dislike"
<u>xiang</u> "miss"	<u>xiangnian</u> "miss"
<u>xiwang</u> "hope"	<u>hen</u> "hate"
<u>renshi</u> "know"	<u>zhidao</u> "know"
<u>xinshang</u> "appreciate"	<u>peifu</u> "admire"
<u>zhongshi</u> "pay attention to"	
<u>qingshi</u> "look down upon"	

Comparatively speaking, the stativity of this group of verbs is less strong than the stative verbs discussed previously. Some of them have a very strong flavor of activity<sup>6</sup>. Examine the following sentences:

- (20) a. **Wo ai Mozhatede yinyue.**  
I love Mozart-De music  
I love Mozart's music.
- b. **\*Wo ai-zhe Mozhatede yinyue.**  
I love-ZHE Mozart-De music
- (21) a. **Ta hen ai nei wei xiaojie.**  
he very love that CL miss  
He loves that young lady very much.
- b. **\*Ta hen ai-zhe nei wei xiaojie.**  
he very much love-ZHE that CL miss

- (22) Ta zai shenshende ai-zhe nei wei xiaojie.  
 he ZAI deeply love-ZHE that CL miss  
 He is deeply in love with that young lady.
- (23) Ta ai nei wei xiaojie ai-de yaoming.  
 he love that CL miss love-De extremely  
 He loves that lady extremely.
- (24) Ta ai nei wei xiaojie liangnian le.  
 he love that CL miss two-year LE  
 He is in love with that young lady for two years.
- (25) Ta shangxin hen chang shijian le.  
 he grieve very long time LE  
 He has been grieving for a long time.

Like stative verbs, they can be modified by the degree adverb hen as shown in (21a), but they can occur in activity event type. They can sometimes be used with the progressive marker zai to appear in the pattern zai...zhe ne as in (22), verb copying as in (23), and postverbal time duration expressions indicating the duration of the activities as in (24) and (25). These characteristics are usually associated with activity verbs.

These verbs denote a mental or emotional state. Since a mental or emotional state can be strong or weak, then these verbs can be modified by degree adverbs such as hen. On the other hand, a mental and emotional state can hardly be differentiated from mental activity and emotional behavior, therefore these verbs can also be used as activity verbs to describe a mental



activity or certain emotional behavior. That is the reason why they also possess some features of activity verbs.

To summarize the discussion of the stative situation in Chinese, the following table is presented:

Stative Situations in Chinese

	Progres- sive ZAI	Imperative sentence	Degree hen	Verb- copying
Absolute	-	-	-	-
Quality	-	-	+	-
Status	-	-	-	-
Mental/Emot	(+) <sup>7</sup>	-	+	+

#### 4.1.4. Existential States

Recent linguistic studies in the field of Chinese linguistics on -zhe and existential sentences (Huang 1987, Jaxontov 1988, Tai 1990, Yeh 1991) have lead us to a better understanding of another kind of state in Chinese, i.e.: existential states<sup>8</sup>.

The stative meaning of the existential state is expressed by a particular group of stative verbs suffixed by -zhe in a particular sentence construction.

The particular sentence construction is commonly called existential sentence, with the initial position of expressions denoting place, and the predicates indicating the existence of a person or a thing<sup>9</sup>. The characteristics of the existential states are atemporal, static and involving summary scanning (Tai 1990). The pattern of existential sentences can be said to have the following string:

(26) NP<sub>1</sub> .... V + zhe .... NP<sub>2</sub>  
           1                  2                  3

Position 1 is the position of subject to be filled by a locative expression, and the position 3 that of the NP whose existence is being asserted. The verbs in position 2 that can be used in such sentences are verbs of placement or posture, which also imply the location of a person or a thing. Some examples are shown in (27).

(27) a.   zuo "sit"                           zhan "stand"  
           gui "kneel"                       dun "squat"  
           kao "lean on"                   tang "lie"  
           shui "sleep"                   pa "lie flat on the face"  
           ji "pack"                         zhu "live"  
       b.   fang "place"                   gua "hang"

<u>chuan</u> "wear"	<u>bao</u> "wrap"
<u>bai</u> "place"	<u>an</u> "stall"
<u>cun</u> "store"	<u>jia</u> "put in between"
<u>ju</u> "hold high"	<u>hu</u> "paste"
<u>tie</u> "glue on"	<u>pu</u> "spread over"
<u>bie</u> "pin on"	<u>cang</u> "hide"
<u>ding</u> "nail"	<u>cha</u> "tuck in"
<u>kun</u> "tie"	<u>gai</u> "cover"
<u>dui</u> "pile"	<u>liang</u> "dry in the air"

The verb in (27a) denotes a static posture of a human being or animal in a certain place. The verbs in (27b) denote different ways of placement of things at a certain place. Attachment and demobilization are the two features of these verbs.

Now let us examine the following sentences:

(28) Chuang shang tang-zhe yi ge bingren.  
bed top lie-ZHE one CL patient  
On the bed lies a patient.

(29) Men shang tie-zhe yi zhang zhitiao.  
door on glue-ZHE one paper slip.  
There is a paper note posted on the door.

Syntactically, locative phrases not only occur in the preverbal position, but

also occupy the subject position. The durative aspect -zhe is suffixed to both verbs. Semantically, they all denote a pure static state.

Now we move to have a closer look at the sentences that depict existential states. First, since NP<sub>1</sub> in (26) is a locative expression, the locative preposition zai can be placed before it without changing the meaning. Thus, the pattern (30), as illustrated by (31) and (32)<sup>10</sup>.

(30) (Zai) NP<sub>1</sub> .... V + zhe .... NP<sub>2</sub>

(31) Zai chuang shang tang-zhe yi ge bingren.  
at bed top lie-ZHE one CL patient  
On the bed lies a patient.

(32) Zai men shang tie-zhe yi zhang zhitiao.  
at door on glue-ZHE one paper slip.  
There is a paper note posted on the door.

Second, the sentence with pattern (30) can go through the following transformation as indicated by (33) without changing the meaning:

(33) NP<sub>2</sub> + zai + NP<sub>1</sub> + V + zhe (ne)

For example:

(34) Yi ge bingren zai chuangshang tang zhe.  
one CL patient zai bed lie ZHE  
There is a patient lying in bed.

(35) Yi zhang zhitiao zai men shang tie zhe.  
one CL paper-slip zai door up glue ZHE  
There is a paper note posted on the door.

Third, while preverbal and postverbal adverbials have different functions and meanings with activity verbs (Tai 1975, 1976), the location phrase introduced by zai can be placed either before or after the stative verbs that present existential states without the meaning change. This is one reason these verbs are sometimes called location verbs. In the following examples, the verbs in (36) are that of state, and the verbs in (37) are that of activity.

(36)

gua zai qiangshang === zai qiangshang gua-zhe

hanging on the wall

tang zai dishang === zai dishang tang-zhe

lying on the ground

fang zai zhuzishang === zai zhuzishang fang-zhe

placed on the table

(38)

tiao zai dishang ≠ zai dishang tiao

jump onto the floor                      jumping on the floor

xie zai zhuzishang ≠ zai zhuzishang xie

write on the table              write at the table

At this point, two points of clarification are in order. The first

concerns the verbs of (dis)appearance in the pattern of existential sentences, more precisely presentative sentences, and the second concerns the nature of -zhe in existential sentences.

Insofar as the sentence pattern is concerned, it should be pointed out that verbs of (dis)appearance when suffixed by -le rather than -zhe do not depict a stative situation even though they may appear in a seemingly existential sentence construction. Compare the following two sentences:

(38) Qianbian zou-zhe yi ge ren.  
front walk-ZHE one CL person  
There is a person walking in front.

(39) Qianbian lai-le yi ge ren.  
front come-LE one CL person  
A person is coming in front.

First, (38) is an existential sentence even though the verb zou "walk" may be called a verb of motion. The marker -zhe indicates that there is no change in either the direction or the speed of the moving, or that they are simply irrelevant here. This is a state. On the other hand, (39) presents a situation of a change-of-state. Originally, there is no one in front, but now one is coming.

Secondly, even though the structures of (38) and (39) are similar on the surface, (38) is an existential sentence while (39) is not. In our earlier

discussion, we have observed that the subject NP position in an existential sentence must be filled by a locative, an expression of location. In such sentences, the preposition zai introducing the location is optional. Therefore (40) is grammatical. However, as shown in (41), zai cannot occur in non-existential sentences.

- (40) Zai qianbian zou-zhe yi ge ren.  
 at front walk-ZHE one CL person  
 There is a person walking in front.
- (41) \*Zai qianbian lai-le yi ge ren.  
 at front come-LE one CL person

We have demonstrated both semantically and syntactically that verbs of (dis)appearance in a seemingly existential sentence construction do not present a stative situation. They present situations of change-of-state. Now we continue to discuss the meaning and function of -zhe in existential sentences. As we have briefly mentioned earlier, some linguists call the existential state under discussion resultative state. Their reason is that the predicates in such sentences denote states which by their very nature could have arisen only as a result of deliberate activity of an agent (Jaxontov 1988:132) or denote states that result after a change (Yeh 1991). Not only is this term, resultative state, confusing, but also the analysis is flawed.

First of all, intuitively it is not clear that existential sentences in

Chinese necessarily involve a change of state. Even Jaxontov has acknowledged that sometimes they denote only a state without alluding to a preceding action. Here we borrow some examples from Jaxontov to illustrate this point (1988:132).

- (42) Xixide zhitiao shang gua-zhe luse de shizi.  
thin branch up hang-ZHE green DE persimmons  
Green persimmons hung from thin branches.
- (43) zai na duicha-zhe luanshi de hetan he daolu shang  
at that pile-ZHE stone DE shoal and road up  
on those shoals and road where clusters of stones were heaped  
up here and there
- (44) Yi ke shu xiamian dun-zhe yi tou bai shi da shizi.  
one CL tree under squat-ZHE one CL white stone big lion  
A large lion [sculptured] of white stone was sitting under one  
of the trees

Clearly there are no changes of states involved in the above sentences. They simply present a posture and/or existence of an object at a particular place.

Secondly, technically both Jaxontov and Yeh treat the verb for example chuan "put on, wear" in either existential sentence (46) or non-existential sentence (45) as a single lexical item while there are two -zhe's, one indicating duration as in (47), one change of state as in (46). For example:



- (45) Ta zai chuan yi jian dayi.  
 he ZAI put on one CL overcoat  
 He is putting on an overcoat.
- (46) Ta chuan-zhe yi jian dayi.  
 he wear-ZHE one CL overcoat  
 He wears an overcoat.  
 (He is in an overcoat).
- (47) Ta chang-zhe ge chuan yifu.  
 he sing-ZHE song put on clothes  
 He is singing while putting on his clothes.

According to them, the state presented by (46) is the result of (45). Logically, this may be true, but lexically the verbs in (45) and (46) should be two separate items in lexicon with different meanings. The grammatical relations between the verbs and NP's in the two sentences are also different. In (45) there is an agent-verb-patient relationship, which does not exist in (46). For a unified analysis, we need to keep the verbs in (45) and (46) as two semantically related lexical items, and remain to have a single -zhe that presents a stative situation of no change.

Thirdly, situation-wise a state is stative, and change-of-state is a non-state or an achievement. These two cannot, and are not to, be mixed together. According to Yeh, the stative situation is structurally tied to the change of state (1991). The problem here is how we view the situation. If we view the situation in whole with the change-of-state, then the situation

is a change-of-state, which is not true with other existential sentences. If we view only the second half, without the implied change-of-state, then it is a state.

#### 4.1.5. Habituals

Habitual situations are stative, which may be formed from any verb constellation or situation type with a shifted interpretation. Here we will briefly discuss habituals in Mandarin Chinese.

The most common habituals are generics, which are expressed by a simple sentence without any aspect marking:

(48) Ta chouyan.  
 he smoke  
 He smokes.  
 (He is a smoker).

(49) Ta zai daxue jiaoshu.  
 he at university teach  
 He teaches at a university.  
 (He is a college professor).

(48) can be interpreted as "He is a smoker" and (49) as "He is a college professor". Compare these two sentences with the following (50):

(50) Ta dong Zhongwen.  
 he know Chinese  
 He knows Chinese.

The differences lie in the fact that (50) presents a single event while (48) and (49) present more than one event. That is where the habitual reading comes from. This iterative meaning can also clearly be expressed by different adverbs indicating frequencies such as meitian/tiantian "everyday", and changchang/jingchang "often". For example:

- (51) Ta changchang paobu.  
 he often run  
 He often runs.
- (52) Ta meitian zaoshang xi-zao.  
 he everyday morning take-a-shower  
 He takes a shower every morning.
- (53) Women jingchang tong xin.  
 we often exchange letter  
 We write each other often.
- (54) Wo changchang yujian ta.  
 I often meet he  
 I come across him often.

While the verbs in (51), (52) and (53) are of activity, the one in (54) is of achievement to show that, in addition to activity verbs, other type of verbs can have habitual readings as well.

Another way habituals are expressed is by using the inchoative -le in sentences. Here are some examples:

- (55) Ta (meitian) chi Zhongguo fan le.  
 he (everyday) eat Chinese food LE

Now he eats Chinese food (everyday).

- (56) Ta you (tiantian) he jiu le.  
 he again everyday drink wine LE  
 He drinks again everyday.

Both (55) and (56) express the habitual meaning in that a new existence or state has come into being. He may not have been doing that before, but now he does it. Similarly, (55) and (56) refer to more than one single event respectively. That is the reason adverbs indicating frequencies can be present in the sentences.

#### 4.1.6. Summary

In this section we have examined various stative situations in Mandarin Chinese. All these stative situations are presented by stative verbs of different kinds. They are of absolute stative verbs and stative verbs of degree. Mental or emotional verbs fall between stative verbs and activity verbs because they possess some features of both. Existential states are presented by stative verbs suffixed by -zhe in existential construction. They present stative situations, irrespective of the actions, which might have led to the states. They are simply another kind of state without the change-of-state aspect involved. In the closing, we have briefly discussed the habitual

situations. Habituals are stative, which are derived from other situations.

## 4.2. Activities and Accomplishments

### 4.2.1. Introduction

Now we proceed to examine the situation types that are compatible with the progressive aspect. First, let us take a look at some examples:

- (1) a. Ta zai ku.  
he ZAI cry  
He is crying.
- b. Xiao haizimen zai shang ke.  
little child-PL ZAI have class  
The little children are having their class.
- c. Tamen zai chang yi shou Zhongwen ge.  
they ZAI sing one CL Chinese song  
They are singing a Chinese song.
- d. Ta zai xie yi ben Hanyu yuyanxue de shu.  
he ZAI write one CL Chinese linguistics DE book  
He is writing a book on Chinese linguistics.

The fact that the verb phrases in these sentences are compatible with the progressive aspect tells that they present situations of processes that are going on. Since the verbs can present the situations that are going on, predictably these verbs can be used in verb-copying, indicating the duration

of the processes.

- (2) a. Ta chang ge chang-le shi fenzhong.  
 he sing song sing-LE ten minute  
 He sang for ten minutes.
- b. Ta chang zhei shou ge chang-le shi fenzhong.  
 he sing this CL song sing-LE ten minute  
 He sang this song for ten minutes.
- (3) a. Wo xie xin xie-le yi ge xiaoshi.  
 I write letter write-LE one CL hour  
 I did letter-writing for an hour.
- b. Wo xie yi feng xin xie-le yi ge xiaoshi.  
 I write one CL letter write-LE one CL hour  
 I wrote a letter for an hour.

Verb-copying in these sentences shows that the situations they denote possess duration. Now we move to investigate how they behave with preverbal and postverbal durational time expressions.

- (4) a. Ta pao bu pao-le yi xiaoshi.  
 he run step run-LE one hour  
 He has been running for an hour.
- b. Ta pao-le yi xiaoshi (de) bu.  
 he run-LE one hour (De) step  
 He ran for an hour/He did one hour's running.
- c. \*Ta yi xiaoshi pao bu<sup>11</sup>.  
 he one hour run-step
- (5) a. Wo yi xiaoshi xie yi feng xin.  
 I one hour write one CL letter  
 I wrote a letter in an hour.

- b.    **Wo xie yi feng xin xie-le yi xiaoshi.**  
       **I write one CL letter write-LE one hour**  
       i.     **It took me an hour to write a letter.**  
       ii.    **I wrote a letter for an hour.**
- c.    **\*Wo xie-le yi xiaoshi (de) yi feng xin.**  
       **I write-LE one hour (De) one CL letter**

The differences are detected when durational expressions are present in the sentences. With the sentences in (4), the postverbal durational expressions are durative in that they indicate the duration of the activity as shown by (4a) and (4b). Preverbal duration expressions cannot be used with verbs like pao bu "running" as shown by (4c). In (5), the preverbal duration time expression indicates the amount of time spent to accomplish the task denoted by the verb phrase. The postverbal duration expression can have two readings as shown by (5b i, ii). One reading is "It took me an hour to write a letter" and the other is "I wrote a letter for an hour". It is this ambiguity that shows that verb phrases like the one in (5) possess the inherent goal orientation. Obviously, the durational time expressions separate the two different types of situations these verbs present. Verbs with durative postverbal duration expressions present activity situation, and verbs with completive preverbal duration expressions present accomplishment situations.

#### 4.2.2. Activity Verbs

In this section, we will first list and discuss the activity verbs. We will then discuss the differences between the activity and accomplishment situations, and how to distinguish them with different tests in Mandarin Chinese.

Activity verbs fall into the following categories in Chinese.

##### (6) Monosyllabic action verb

pao "run"

tiao "jump"

zou "walk"

ku "cry"

beng "jump"

zhuan "turn"

chi "eat"

he "drink"

ting "listen"

shuo "speak"

kan "look at"

tan "talk"

hua "paint"

xie "write"

jiao "teach"

zuo "make"

wa "dig"

da "play"

xi "wash"

chao "copy"

xiang "think"

cai "guess"

fang "place"

bai "place"



<u>gua</u> "hang"	<u>dui</u> "pile"
<u>tang</u> "lie"	<u>zuo</u> "sit"
<u>chuan</u> "put on"	<u>dai</u> "put on"

These are very common monosyllabic activity verbs in Chinese to indicate movement or activity<sup>12</sup>.

(7) Action verb with generic object compound

<u>kan shu</u> "read book"	<u>xie zi</u> "write character"
<u>du shu</u> "read book"	<u>zou lu</u> "walk"
<u>kai qiche</u> "drive a car"	<u>pao bu</u> "run"
<u>tiao wu</u> "dance"	<u>chang ge</u> "sing"
<u>qi ma</u> "ride a horse"	

These are mostly transitive verbs followed by a generic object.

(8) Dissyllabic activity verb

<u>yanjiu</u> "research"	<u>xuexi</u> "study"
<u>shiyan</u> "experiment"	<u>taolun</u> "discuss"
<u>bianlun</u> "debate"	<u>biaoyan</u> "perform"
<u>shouji</u> "collect"	

These dissyllabic activity verbs function in the same way as monosyllabic activity verbs. Then when we compare the verbs in (4) and

(5), we find that so far as the verbs *per se* are concerned, there is no difference. The difference between them lies in the nature of the objects of the verbs. While the objects of the verbs in (4) are generic, the objects in (5) are non-generic. This shows that the nature of the objects of transitive activity verbs play an important role in determining the inherent temporal structure of the sentences. Generally speaking the objects of verbs in accomplishments are non-generic, quantified, specific or definite. At this point in the discussion, a very important point needs clarifying. Previous discussions on situation types, either in Chinese or English, have inappropriately used the terms activity verbs and accomplishment verbs. The fact is that the distinction between activities and accomplishments are not necessarily in verbs, but in the whole verb phrases, often associated with the nature of the objects. Recapitulating the differences, intransitive activity verbs and transitive activity verbs with generic objects present activity situations. Transitive activity verbs with non-generic objects may present either activity situations or accomplishment situations<sup>13</sup>. In the following discussion we will first analyze the common features shared by activities and accomplishments in Chinese, namely the features of the activity verbs. Then we will proceed to discuss the internal temporal differences between

activities and accomplishments.

The first unique feature that distinguishes activity verbs from other types of verbs is the grammatical process of verb reduplication. The grammatical function of verb reduplication is to indicate the iterative nature of certain actions for a short period, i.e.: "to do something for a little while". This function of reduplication makes it the best candidate for a test of activity verbs<sup>14</sup>. First only the action verbs can be reduplicated. Second, the time stretch of the action is indefinite. For example:

(9) <u>ting</u> "listen"	<u>ting(yi)ting</u>
<u>wen</u> "ask"	<u>wen(yi)wen</u>
<u>kan</u> "look"	<u>kan(yi)kan</u>
<u>tan</u> "talk"	<u>tan(yi)tan</u>
<u>taolun</u> "discuss"	<u>taoluntaolun</u>
<u>shoushi</u> "straighten up"	<u>shoushishoushi</u>
<u>yanjiu</u> "research"	<u>yanjiuyanjiu</u>

Stative verb cannot be reduplicated, because it indicates the status or the quality (10a). Verbs of instantaneous chang-of-state cannot be reduplicated either, because the initiation and the endpoint of the situation are the same, and consequently they cannot be repeated (10b). Nor can resultative verbs

be reduplicated, because they are verbs of change-of-states (10c).

- (10) a. pa "afraid"                    \*papa  
           ai "love"                        \*ai ai  
           xihuan "like"                    \*xihuanxihuan  
           shi "be"                         \*shishi  
           shuyu "belong to"            \*shuyushuyu
- b.        si "die"                         \*si si  
           fasheng "take place"        \*fashengfasheng  
           bing "sick"                      \*bingbing
- c.        zhaodao "find"                 \*zhaodaozhaodao  
           xiewan "finish writing"       \*xiewanxiewan

Secondly, activity verbs can be used with the progressive aspect, while stative verbs, achievement verbs and resultative verb compounds cannot be used with the progressive aspect. Since we have discussed the progressive aspect marker zai as a test earlier, and we will not go over it again. The following sentences suffice to prove the point.

- (11) a.        Haizi men zai wanr.  
                   child PL ZAI play  
                   The children are playing.
- b.        Xuesheng men zai kan shu.  
                   student-PL ZAI read book

The students are reading books/studying.

- c. Wo zai kan yi ben shi.  
I ZAI read one CL book  
I am reading a book.
- (12) a. \*Zhei ge xuexiao zai hao.  
this CL school ZAI good
- b. \*Wo zai diu yi ben shu.  
I Zai lose one CL book
- c. \*Ta zai xiecuo yi ge zi.  
he Zai write-wrong one CL character

All the sentences in (11) are grammatical, and all the verbs are of activity. They can be used with the progressive aspect. Wanr "play" in (11a) is an intransitive verb, and kan "read" in (11b) is a transitive verb followed by a generic object. The transitive activity kan "read" in (11c) is followed by a non-generic object. All the sentences in (12) are ungrammatical. Hao "good" in (12a) is a stative verb, diu "lose" in (12b) is an achievement verb, and xie-cuo "write-wrong" is a resultative verb. Neither of them can occur with progressive aspect.

Thirdly, like achievement verbs and resultative verb compounds, activity verbs can be used in imperative sentences. The activity verbs differ from them in the fact that while achievement verbs and some resultative verb compounds can only appear in negative imperative sentences, activity verbs

can be used in either affirmative or negative imperatives.

- (13) a. Zou!  
go  
i. Let's go.  
ii. Get out of here.
- b. Qing zuo.  
please sit  
Please take a seat.
- c. Qing ti wo mai yi ben shu.  
please for me buy one CL book  
Please buy a book for me.

Having discussed the characteristics of activity verbs, we will see how activities and accomplishments differ in their internal temporal structures, and we will use some syntactic and semantic tests to distinguish them.

#### 4.2.3. Distinctions between Activities and Accomplishments

Activity is a homogeneous event. Though it is dynamic, or non-stative, it involves no change. That means that an activity can last for an undefined period of time without a natural ending point. In other words, an activity does not culminate. Any two portions of such an event are identical.

Accomplishment, on the other hand, is an activity with a natural ending. It can be seen as a combination of an activity and an achievement. The process of the activity leads naturally to the change of state. When the

change of state is reached, it is said to be culminated. When we say an accomplishment constellation is goal oriented, it is meant that the culmination is inherently existing in the constellation, and it can be reached. It is true that for some particular accomplishment situations, they may develop and terminate half way through without reaching the natural endpoints, but these cases are not of great concern here. They may or may not culminate, but so far as their inherent properties are concerned, they are goal oriented and they possess the potential to reach the endpoint. It is this inherent semantic feature that makes accomplishment as a situation type different from other types of situations.

First, the difference between activity and accomplishment can be detected by the different meanings of durational time expressions in the sentences.

- (14) a. Ta yi xiaoshi xie-le yi feng xin.  
 he one hour write-LE one CL letter  
 He wrote a letter in an hour.
- b. \*Ta yi xiaoshi xie xin.  
 he one hour write letter

Preverbal durational time expressions in accomplishment situations indicate the length of time it takes to attain the goal implied by the verb phrases as shown by (14a), and it cannot be used with activities as shown by (14b).

- (15) a. Ta xie yi xiaoshi xin le.  
 he write one hour letter LE  
 He has been doing letter writing for an hour.
- b. \*Ta xie yi xiaoshi yi feng xin le.  
 he write LE one hour one CL letter LE
- (16) a. Ta kan shu kan-le yi xiaoshi.  
 he read book read-LE one hour  
 He did book-reading for a an hour.
- b. Ta kan-le yi xiaoshi de shu.  
 he read-LE one hour DE book  
 He did one hour reading.
- (17) a. Ta kan yi ben shu kan-le yi xiaoshi.  
 he read one CL book read-LE one hour  
 He read a book for an hour.
- b. \*Ta kan-le yi xiaoshi de yi ben shu<sup>15</sup>.  
 he read-LE one hour DE one CL book

In (15a), the postverbal durational time expressions in activity situations indicate the duration of the activity being carried on. Postverbal durational time expressions in accomplishment situations result in ungrammatical sentences as (15b) and (17b). Since activity situations have no inherent set terminal point and the temporal unit is indefinite, a durational time expression can be present to indicates the length of a certain activity. Accomplishment situations have an inherent set terminal point and the temporal unit is definite. That definite temporal unit cannot be expressed by



a postverbal durational time expression.

To summarize, preverbal durational expressions indicate the time it takes to complete the activity denoted by the verb phrase in an accomplishment situation, and it is not used in activity situations. Activities can have postverbal duration expressions indicating the duration of the activity while accomplishments cannot have postverbal duration expressions.

Secondly, activity situations differ from accomplishment situations in what they entail. In section 2.6.2. we have discusses the entailment relationship between activities and accomplishments in Chinese. Here we will only provide some examples to illustrate the point without repeating the discussion. We have analyzed two different entailment relationships in Chinese, the progressive and adverbial. We will first look into the progressive entailment, and then the adverbial one. The progressive activity entails the perfective, while the progressive accomplishment does not entail the perfective. Compare the sentences in (18) and (19).

- (18) a. Yuetuan zai yanzou.  
orchestra ZAI play  
The orchestra is playing.
- b. Yuetuan yanzou le.  
orchestra play LE  
The orchestra has played.

- (19) a. Yuetuan zai yanzou nei zhi gangqin xiezouqu  
orchestra ZAI play that CL piano concerto  
The symphony is playing that piano concerto.
- b. Yuetuan yanzou-le nei zhi gangqin xiezouqu.  
orchestra play-LE that CL piano concerto Le  
The orchestra has played that piano concerto.
- c. Yuetuan mei yanzou nei zhi gangqin xiezouqu.  
orchestra Neg play that CL piano concerto  
The orchestra did not play that piano concerto.

(18a) is a progressive activity situation. It entails (18b), which is a perfective activity situation. (19a) is a progressive accomplishment situation, but it does not entail (19b), which is perfective accomplishment situation. Though the entailment relations in English and Chinese concerning activities and accomplishment are essentially the same, the differences lie in the statements of the entailments. In English we can state that for an activity if X is V-ing, it entails that X has V-ed, and for accomplishment if X is V-ing something, it entails that X has not V-ed something. In Chinese, for activity if X zai V, it entail that X V-le, and for accomplishment if X zai V-O, it does not entail that X V-le O. That is to say that in English progressive accomplishment entails the negation of perfect, and in Chinese the progressive accomplishment does not entail the perfect. The distinction here is important because of the special characteristics of Chinese negation. (19c)

shows that the negation by mei is not to negate the perfective aspect, but the implementation of the activity denoted by the VP.

The other difference of entailment relationships in activity and accomplishment we have discussed is about what the durative complements in verb-copying entail. Consider the following two pairs of sentences:

- (20) a. Wo kan shu kan-le liang ge zhongtou.  
I read book kan-LE two CL hour  
I read for two hours.
- b. Wo kan shu le.  
I read book LE  
I have read.
- (21) a. Wo kan yi ben shu kan-le liang ge zhongtou  
I read one CL book read-LE two CL hour  
1) I read a book for two hours.  
2) It took me two hours to finish one book
- b. Wo kan-le yi ben shu.  
I read LE one CL book  
I read a book.

There are two ways of looking at the differences of the entailment relationships here. First, for an activity with verb-copying with a duration complement, (20a) entails (20b). That is to say that if (20a) is true, then (20b) is true. However, for an accomplishment with verb-copying of a duration complement, (21a) does not necessarily entail (21b). That is to say that if (21a) is true, (21b) may or may not be true depending on which of the

two reading is involved in (21a). An accomplishment situation is goal oriented, and the duration complement in verb-copying can mean either durative or completive. Second, for an activity with verb-copying of a duration expression, if the sentence (20a) is true, then the sentence without the verb-copying (20b) is true in every single moment in the duration expressed by the duration complement liang ge zhongtou "two hours". The reason is that the perfective activity only indicates that the action denoted by the verb is implemented. Since it has been implemented, then during any single moment of the duration of the activity, it is still implemented. This entailment relationship does not hold for accomplishment. During any single moment of the duration leading to the attainment of the goal, the goal is not attained. That is (21a) does not entail (21b), no matter which if the two readings is taken. For the first reading of (21a), the durational expression is durative, and it is a kind of activity without attainment of goal. It cannot entail (21b), which is an accomplishment with attainment of goal. For the second reading of (21a), the durational expression is completive. The sentence means that "it took me an hour to finish reading one book". Then in the every single moment of the two hours I was just reading, and I did not finished the book until the end of the two hours. In that sense, the second

reading of (21a) does not entail (21b).

Thirdly, adverbs carry different meanings or function differently with activity and accomplishment. Teng (1986) points out how the adverbs mashang "immediately" and yixiar "in a short while" differ in activity in contrast to accomplishment situations. For example,

- (20) a. Wo mashang jiu pao bu.  
I immediately then run step  
I will go running immediately.
- b. \*Wo yixia jiu pao bu.  
I in a while then run step
- (21) a. Wo mashang jiu gei Zhang xiansheng xie yi feng xin.  
I immediately then to Zhang mister write one CL letter  
I will write a letter to Mr. Zhang immediately.
- b. Wo yixiar jiu gei Zhang xiansheng xie-le yi feng xin.  
I a while then to Zhang Mr. write-LE one CL letter  
I wrote Mr. Zhang a letter with very little time.

Mashang "immediately" indicates the time period from the utterance of the sentence to the inception of the activity denoted by the verb in the sentence. Since both activity and accomplishment situations incept, mashang can be used in either situation to indicate the short period before the inception of the activities as in (20a) and (21a). On the other hand, yixiar "in a short while" indicates the short time period from the utterance of the sentence to the culmination of the activity denoted by the verb phrase in the sentence. Since

there is no culmination involved with activity situations, yixiar cannot be used in activities (20b). Culmination is an inherent feature of accomplishment situations, thus yixiar can be naturally used in accomplishment situation as (21b).

Another adverb jihu "almost" can also tells the activity from accomplishments from what they imply. First, consider,

(22) Ta jihu pao-bu-le.  
he almost run-step LE  
He almost ran.

(23) Ta jihu xie-le yi feng xin.  
he almost write LE one CL letter  
He almost wrote a letter.

Jihu with activity implies that the action or the activity fail to be implemented, while with accomplishment it implies that the activity has been implemented but failed to reach the goal. Thus, in (22) he did not run, but in (23) he did start writing the letter, but he did not finish it.

#### Summary of tests for activities and accomplishments

	Activities	Accomplishments
Progressive Zai	+	+
Verb-Copying	+	+
Preverbal completive adverbial	-	+

Postverbal durative adverbial	+	-
<u>Jihu</u> --> activity has occurred	-	+
<u>Yixiar</u> (time span to culmination)	-	+

#### 4.2.4. The definite Objects in Accomplishments

While discussing the problems of Vendler's classification, Dowty has pointed out that:

Accomplishment verbs which take direct objects unexpectedly behave like activities if an indefinite plural direct object or a mass-noun direct object is substituted for the definite (or indefinite singular) one (1979:62).

Here I borrow his examples to illustrate the point.

- (24) a. John ate the bag of popcorn in an hour.  
b. \*John ate popcorn in an hour.
- (25) a. John built that house in a month.  
b. \*John built houses in an month.
- (26) a. It took an hour for John to eat that bag of popcorn.  
b. \*it took an hour for John to eat popcorn.
- (27) a. It took a month for John to build that house.  
b. \*It took a month for John to build houses.
- (28) a. John finished (eating) the bag of popcorn.

- b. \*John finished (eating) popcorn.
- (29) a. John finished (building) the house<sup>16</sup>.
- b. \*John finished building houses.

Similar contrasts exist in Chinese as well. In English, the distinction is made between indefinite plural and mass-noun on the one hand, and the indefinite singular and the definite on the other. In Chinese, the distinction is made between definite and mass-noun on one hand and indefinite quantified (singular or plural) objects on the other. Here are some examples for comparison.

- (30) a. Ta yi ge zhongtou du-le yi ben shu.  
he one CL hour read-LE one CL book  
He read a book in an hour.
- b. \*Ta yi ge zhongtou du shu.  
he one CL hour read book
- c. \*Ta yi ge zhongtou du-le zhei ben shu  
he one CL hour read-LE this CL book
- d. Ta yi ge zhongtou du-le san ben shu.  
he one CL hour read-LE three CL book  
He read three books in one hour.
- e. Ta yi ge zhongtou du-le zhei san ben shu.  
he one CL hour read-LE these three CL book  
He read these three books in one hour.
- (31) a. \*Ta du-le yi ge zhongtou yi ben shu.  
he read-LE one CL hour one CL book



- b. Ta du-le yi ge zhongtou shu.  
he read-LE one CL hour book  
He read for an hour.
- c. Ta du-le yi ge zhongtou zhei ben shu.  
he read-LE one CL hour this CL book  
He read this book for an hour.
- d. \*Ta du-le yi ge zhongtou san ben shu.  
he read LE one CL hour three CL book
- e. ?Ta du-le yi ge zhongtou zhei san ben shu.  
he read LE one CL hour these three CL book

The Chinese examples here show that accomplishment verbs with definite direct objects behave like activities. The main difference between activities and accomplishments is whether or not goal attainment is involved. While activities are not goal oriented, accomplishments are. So far as our above examples are concerned, to read a definite, or particular book does not involve goal attainment while to read an indefinite number of (singular or plural) books is goal oriented. That is to say to read a particular book, one can read a section or the whole book, or read it time and again. Then we may tentatively reach the conclusion that the quantified direct objects are goal oriented while the definite direct objects may not be. With accomplishment verbs, the former present accomplishments, and the latter activities. This conclusion can be further supported by the following

sentences with frequency adverbs. For goal oriented situations, when the goals have been attained, they cannot be repeated. However, for activities, which are not goal oriented, they can be repeated.

- (32) a. Ta changchang du shu.  
he often read book  
He reads often.
- b. Ta changchang du nei ben shu.  
he often read that CL book  
He reads that book often.
- c. \*Ta changchang du yi ben shu.  
he often read one CL book
- d. \*Ta changchang du san ben shu  
he often read three CL book
- e. Ta changchang du nei san ben shu.  
he often read that three CL book  
He often reads those three books.

#### 4.2.5. Summary

In this section, we have discussed the activity and accomplishment situations, and the verbs that present these situations in Chinese. Generally speaking, durative intransitive verbs in Chinese are activity verbs. Durative transitive verbs with generic objects, or verb-object compounds are also activity verbs. Transitive verbs with indefinite singular direct objects may

be activity verbs or accomplishment verbs depending on their semantics. The quantified objects (indefinite plural) are goal oriented in Chinese.

In this section, we also have discussed the characteristics of activities and accomplishments, as well as how to distinguish them in Chinese. In the end, we have pointed out the phenomenon that in Chinese definite objects in accomplishment verb phrases may give activity reading, but unfortunately we have not explain why there is such a contrast between Chinese and English. More research is needed on this issue.

#### 4.3. Change of State

In Chinese, there are two kinds of verbs that present situations of change-of-state. They are achievement verbs and resultative verb compounds. Achievement verbs are single instantaneous verbs that cannot be repeated. The situations they present are achievements. The resultative verb compounds are compounds composed of two elements with the first function as an adverbial modifying the second that present the change of state, which we have discussed in (3.2.2.). The situations they present are results<sup>17</sup>.

Now we proceed to discuss the fact that these verbs are incompatible with the progressive aspect but can be used in imperative sentences. That they can be used in imperative sentences, either affirmative or negative, indicates that they are verbs of happenings of some sort, or they are verbs of non-stative. That they cannot be used together with the progressive aspect indicates that the happening does not last. They are instantaneous verbs. That means that no sooner has the action indicated by the verb taken place than it finishes.

Before going further in our discussion, a few words about the incompatibility of the progressive aspect and verbs of change-of-state are needed. In the earlier sections, we have analyzed verbs that do not possess the progressive aspect, more specifically the verbs that cannot be marked by the progressive aspect marker zai in Chinese. They represent two large situation types; states, and change-of-states which include achievements and results. Although both of these two situation types are incompatible with the progressive aspect, the reasons behind this are quite different. States are of no change, they are constant and homogeneous. It is not a process that is going on, which usually is marked by the progressive aspect. Therefore, states and the progressive aspect do not co-occur. On the other hand, the

core semantic focus in the situation of a change-of-state is the change. That change takes place instantaneously. No sooner has the change taken place than the result of the change occurs. Then situations of instantaneous change-of-state and the progressive aspect are semantically incompatible, and therefore cannot co-occur.

In this section, we will discuss how achievement verbs and resultative verb compounds present situations of change-of-state, and the characteristics of the situations of change-of-state.

#### 4.3.1. Verbs of Change-of-state

##### 4.3.1.1. Achievement Verbs

We will look at achievement verbs first. Here are some examples:

- |                             |                          |
|-----------------------------|--------------------------|
| (1) <u>si</u> "die"         | <u>dao</u> "fall over"   |
| <u>mie</u> "extinguished"   | <u>wang</u> "forget"     |
| <u>zui</u> "drunk"          | <u>xing</u> "wake up"    |
| <u>bing</u> "sick"          | <u>dong</u> "frozen"     |
| <u>kaishi</u> "begin"       | <u>tingzhi</u> "stop"    |
| <u>fasheng</u> "take place" | <u>faxian</u> "discover" |
| <u>renchu</u> "recognize"   |                          |

One essential distinctive feature of the achievement verbs in Chinese is that they have no duration and consequently cannot be used with the progressive zai, verb copying or verb reduplication. They present the instantaneous change-of-state with no reference to how this change of state occurs.

#### 4.3.1.2. Resultative Verb Compounds

In our earlier discussion (3.2.), we excluded directional verb complements and descriptive modifying elements of the verb in our study of the resultative verb compounds. The resultative verb compounds we have discussed can be further sub-classified into three different groups according to how they are semantically expressed by the heads of the compounds. We will briefly discuss them now. The three kinds of resultative verb compounds are<sup>18</sup>:

Resultative compounds: ku-hong "cry-red"

Completion compounds: mai-wan "buy-finish"

Achievement compounds: kan-dong "read-understand"

The resultative compounds differ from the other two in that the heads of resultative compounds are adjectival stative verbs while the heads of

completion and achievement compounds are achievement verbs. Here are some examples of resultative compounds:

- |     |                                 |                                 |
|-----|---------------------------------|---------------------------------|
| (2) | <u>chi-bao</u> "eat-full"       | <u>ya-bian</u> "press-flat"     |
|     | <u>da-lan</u> "hit-apiece"      | <u>shuai-sui</u> "throw-pieces" |
|     | <u>chuan-po</u> "wear-worn-out" | <u>pao-zhong</u> "run-swollen"  |
|     | <u>tiao-lei</u> "jump-tired"    | <u>dong-hong</u> "freeze-red"   |

The first element of the compounds is activity verbs in all cases, and the second element adjectival stative verbs. The resultant states presented by these resultative compounds are expressed by stative verbs, and the manner in which the resultant states are achieved are expressed by the preceding activity verbs. This group of resultative verb compounds is considerably large, and the formation is rather productive in Chinese (Ross 1990).

The similarity between the completion and achievement compounds is that the heads of the compounds are all achievement verbs. The difference between the two is that while the second elements in achievement compounds are instantaneous achievement verbs, the second elements in completion compounds express "something more like the type of action described by the first verb or the degree to which it is carried out than its result" (Li and Thompson 1981:65). In the following some examples of

achievement compounds are given in (3) and completive compounds in (4).

- |     |                                 |                                  |
|-----|---------------------------------|----------------------------------|
| (3) | <u>kan-jian</u> "look-see"      | <u>du-dong</u> "read-understand" |
|     | <u>yu-jian</u> "encounter"      | <u>ting-jian</u> "hear"          |
|     | <u>peng-jian</u> "come across"  | <u>tui-dao</u> "push-fall"       |
|     | <u>ji-gei</u> "mail to"         | <u>liu-gei</u> "leave to"        |
|     | <u>kai-kai</u> "open-open"      | <u>qie-kai</u> "cut-open"        |
|     | <u>da-kai</u> "open-open"       | <u>jie-kai</u> "untie-open"      |
| (4) | <u>nian-wan</u> "read-finish"   | <u>ting-zhu</u> "stop-hold on"   |
|     | <u>xie-hao</u> "write-complete" | <u>zhan-zhu</u> "stop-hold on"   |

The difference between these two types of compounds is demonstrated in their different behaviors with durational time expressions.

- (5) a. Wo kan-le shi fenzhong kan-jian-le ta.  
I look-LE ten minute look-see-LE he  
I looked for ten minutes and found him.
- b. \*Wo shi fenzhong kan-jian-le ta.  
I ten minute look-see-LE he
- (6) a. Wo nian-le shi fenzhong nian-wan-le yi pian wenzhang.  
I read-LE ten minute read-finish-LE one CL article  
I read for ten minutes and finished that article.
- b. Wo shi fenzhong nian-wan-le yi pian wenzhang.  
I ten minute read-finish-LE one CL article  
I read for ten minutes and finished that article.

The first activity verb in the achievement compound cannot be omitted in



(5b) when it is followed by a durative expression, but the activity verb can be omitted in the completive compound in (6b). This suggests that the lapse of time since the inception of the activity until the attainment of goal is not appropriate to the situations presented by achievement compounds, while it is appropriate to the situations presented by completive compounds. This can be further supported by their contrast in grammaticality in the potential forms. For example,

- (7) a. \***Wo shi fenzhong kan-de/bu-jian ta.**  
 I ten minute look-DE/Neg-see he
- b. **Wo shi fenzhong nian-de/bu-wan yi pian wenzhang.**  
 I ten minute read-DE/Neg-finish one CL article  
 I can/cannot finish reading an article in ten minutes.

The potential forms **bu/de** (positive/negative) of the resultative verb compounds show two important points regarding the differences between achievement compounds and completive compounds. First, the time expression before the achievement compound bears no consequence on the change of state resulting from attainment of goal, while they may or may not affect completive compounds. Second, while the occurrence of a change state denoted by an achievement verb is not agentive, it can be for completive compounds<sup>19</sup>. That is to say that an active effort can be made by the agent leading to the change of state denoted by completive

compounds, while it is not true with achievement compounds.

Up to now, we have briefly discussed the achievement verbs and resultative verb compounds that present the situations of change-of-state in Chinese. Now we move to discuss the characteristics of the situation type they present.

#### 4.3.2. Achievements and Results

Apart from the characteristics mentioned earlier, i.e.; incompatible with the progressive aspect and being able to be used in imperative sentences, these verbs have some other characteristics worth noting. First of all, all these verbs are obligatorily suffixed with the aspect marker -le in simple affirmative sentences. For example:

- (8) a. Ta bing-le.  
he sick-LE  
He is ill.
- b. \*Ta bing.  
he sick
- (9) a. Huo mie-le.  
fire go-out LE  
The fire has gone out.
- b. \*Huo mie.  
fire go-out

- (10) a. **Dianying kaishi-le.**  
**movie begin-LE**  
**The movie has started**
- b. **\*Dianying kaishi.**  
**movie begin**
- (11) a. **Ta ku-hong-le yanjing.**  
**he cry-red-LE eye**  
**His eyes are red as the result of crying.**
- b. **\*Ta ku-hong yanjing.**  
**he cry-red LE eye**
- (12) a. **Wo ting-dong-le nide hua.**  
**I listen-understand LE your speech**  
**I understood your words through listening.**
- b. **\*Wo ting-dong nide hua.**  
**I listen-understand LE-your speech**
- (13) a. **Fan zuo-hao-le.**  
**food cook-finished-LE**  
**The food is ready.**
- b. **\*Fan zuo-hao.**  
**food cook-finish**

Sentences (8), (9) and (10) are constructed with achievement verbs, and (11), (12) and (13) resultative verb compounds with a result compound, an achievement compound and a completive compound respectively. It can be seen as shown by (b) sentences that these sentences would be ungrammatical if the verbs are not suffixed with -le. The instantaneous verb with -le

suffixation presents a situation of change-of-state. Concerning the suffixation of -le, it has been shown that Chinese verbs do not have an inherent aspect of implementation (Chu 1976). The implementation of the action is indicated by -le. The implementation and the completion denoted by achievement verbs and resultative verb compounds are a single point in time. Thus, they present an instantaneous change of state. This change of state is marked by -le aspectually. In that sense, verbs of change-of-state have to be suffixed by -le, the aspect marker that indicate change, to indicate that the change has already occurred. Then the general rule for the formation of the change-of-state situations in Chinese is that;

- (14). The change-of-state situation that denotes an instantaneous change-of-state is expressed in Chinese by the combination of verb of change-of-state and the aspect marker -le.

Now we need to examine how the verbs of change-of-state behave with durational expressions.

- (15) a. Ta dao yiyuan liang ge zhongtou jiu si-le.  
 he arrive hospital two CL hour then die-LE  
 He died two hour after arriving at the hospital.
- b. \*Ta liang ge zhongtou jiu si-le.  
 he two CL hour then die-LE
- c. Ta si-le liang ge zhongtou le.  
 he die-LE two CL hour LE

He has been dead for two hours.

Time expressions seemingly can appear either before or after an achievement verb such as si "die". Compare (15a) and (15b), we find that achievement verbs cannot take preverbal time expression in (15b). The time expression before si "die" in (15a) is in fact the postverbal time expression of the achievement verb dao "arrive", indicating the lapse of time. This period is the time between he arrived at the hospital and the time he died. That is to say, from certain point in time up to the point of the occurrence of the change of state<sup>20</sup>. There is no cause-and-result relationship. Most importantly, they do not indicate the period of time for the change of state to take place. In (15a), it is not true that it takes him two hour to die in the hospital. He just happened to die two hour after he was admitted to hospital.

A postverbal time expression with achievement verbs indicates the lapse of time after the change of the state. In (15b) the time expression liang ge zhongtou "two hours" indicates the lapse of time since the change of state, i.e.; he died.

- (16) a.   Wo zhao-dao-le nei ben shu.  
           I find-LE that CL book  
           I found a book.
- b.   Wo zhao-dao nei ben shu san tian le.  
           I find that CL book three day LE

I have found that book for three days.

- c. ??Wo san tian zhao-dao-le nei ben shu.  
I three day find LE that CL book  
I found that book in three days.
- d. Wo zhao-le san tian zhao-dao-le nei ben shu.  
I look-for-LE three day find-LE that CL book  
I looked for three days before the book was found.
- e. \*Wo zhao-dao san tian zhao-dao-le nei ben shu.  
I find three day find-LE that CL book

Similar to achievement verbs, RVC's can have postverbal durational time expressions indicating the lapse of time since the change of state denoted by the RVC's to time the utterance is made or to certain reference point intended by the speaker (16b). RVC's cannot be used in verb-copying, a grammatical process indicating the on-goingness of the activity (16e). This shows that RVC's do not possess a duration aspect, which is also supported by their inability to be used with the progressive aspect. A noticeably distinct feature of RVC's is that, though they do not have duration aspect, the action verbs of the first element of the RVC's can be copied to indicate how the change-of-state is achieved as shown by (16d). Summarize briefly the above discussion on the situations presented by RVC's, we can see these situations present a resultant state. This type of situations does not possess duration.

The next aspect of verbs of change-of-state we need to discuss is the negation. In Chinese there are two negation markers bu and mei. Mei, rather than bu, is to be employed to negate verbs of change-of-state.

- (17) a. Wo mei(you) zui.  
I Neg drunk.  
I am not drunk.
- b. \*Wo bu zui.  
I Neg drunk.
- (18) a. Wo mei xie-cuo zi.  
I Neg write-wrong character  
I did not write any character wrong.
- b. \*Wo bu xie-cuo zi.  
I Neg write-wrong character
- (19) a. Wo mei kan-jian ta.  
I Neg look-see he  
I did not see him.
- b. \*Wo bu kan-jian ta.  
I Neg look-see he

The difference between bu and mei is stated in Li and Thompson (1981:421);

The difference between bu and mei is a purely functional one: bu provides a neutral negation, and mei(you) negates the completion of an event.

The event expressed by verbs of change-of-state is completed because it is instantaneous. Then only mei(you), not bu is to be employed when

negation is needed.

Up to this point, our discussion has been focused on the similarities between situations presented by achievement verbs and those presented by resultative verb compounds. Now we move to see whether there are differences between the two. If there are, we need to see what these differences are and how differently they present certain situations. First let us examine the following sentences.

(20) Ta zou-le liu ge zhongtou zou-zhong-le tui.  
 he walk-LE six CL hour walk-swollen-LE leg  
 He walked for six hours and the result his legs were swollen.

(21) Tamen gai-le yi nian gai-hao-le yi zuo qiao.  
 they build-LE one year build-finished-LE one CL bridge  
 They built for an year and finished building a bridge.

(22) Wo du-le sanbian du-dong-le nei pian wenzhang.  
 I read-LE three-time read-understand-LE that CL article.  
 I understood that article as the result of reading it three times.

In these sentences the first action verb is reduplicated<sup>21</sup>. The adverbial complements are of either duration as in (20) and (21) or frequency as in (22). The replication along with the complement has some interesting points concerning the situations presented by verbs of change-of-states. First, the manner in which the change of state occurs is expressed through the first element of a resultative verb compound. Second, complements of either



duration or frequency can be present with the reduplicated action verb to yield the durative aspect, even though the resultative verb compounds themselves are not durative. These two characteristics of the situation presented by the resultative verb compounds do not exist in situations presented by achievement verbs. This is the main difference between the situations presented by resultative verb compounds and the situations presented by achievement verbs.

Having clarified the differences between the results and achievements, we can tentatively state the differences among accomplishments, achievements and results in Chinese as follows. Resultative situations differ from achievement situations in that the former indicate the manner in which the change-of-state is achieved, while latter do not. Resultative situations differ from accomplishment situations in that the former do not possess duration and the latter do.

The following table summarizes our discussion on achievement situations.

	Achievements	Results
Progressive Zai	-	-
Imperative	(+)	(+) <sup>22</sup>

Preverbal completive adverbial	N/A	N/A
Postverbal lapse of time	+	+
Negation		
bu	-	-
mei	+	+
The manner in which change-of-state implied	-	+

#### 4.3.3. Other Types of Situation of Change-of-state

Situations of change-of-state are not realized only by achievement verbs and the resultative verb compounds in Chinese. Some stative verbs and activity verbs can also present situations of change-of-state under certain condition. In the following we will see how they present situations of change-of-state.

##### 4.3.3.1. Stative Verbs with Inchoative le

When a stative verb appears in a sentence with an inchoative le, the situation is no longer stative. It indicates a new situation has come about. It can be called an inceptive achievement (Smith 1991:387). For example:

- (23) a. Ta pang le.  
           He fat LE.  
           He has gained weight.

- b. Hua hong le.  
flower red LE  
The flower has become red.
- c. Wo ai chi Meiguofan le.  
I love eat American food LE.  
I have grown to love American food.

The inchoative le, marking a boundary or initiation, indicates the implementation of the change denoted by the stative verb. Like other type of achievement, the inceptive achievement implies the emergence of a new situation, and the state as a result of change.

#### 4.3.3.2. Presentative Sentences with le.

In our previous discussion (4.1.4.) we have separated the existential sentences with stative verbs suffixed by -zhe from other type of presentative sentences<sup>23</sup>. We have pointed out and argued that sentences with the existential you "have" and with stative verbs of location or posture present states while verbs of (dis)appearance present situations of change-of-state.

This type of change-of-state involves verbs like the following:

- |                        |                     |
|------------------------|---------------------|
| (24) <u>lai</u> "come" | <u>qu</u> "go"      |
| <u>dao</u> "arrive"    | <u>si</u> "die"     |
| <u>pao</u> "runaway"   | <u>tao</u> "escape" |

fasheng "occur"

Since they involve verbs of motion, the directional verb complements lai "come" and qu "go" can be present in these kinds of sentences. For example:

- |      |                            |                         |
|------|----------------------------|-------------------------|
| (25) | <u>shang-lai</u> "come up" | <u>xia-qu</u> "go down" |
|      | <u>jin-lai</u> "come in"   | <u>chu-qu</u> "go out"  |
|      | <u>hu-lai</u> "come back"  | <u>hui-qu</u> "go back" |

Here are few presentative sentences that indicate change-of-state.

- (26) a. Zheili zuotian si-le yi ge ren.  
 here yesterday die-LE one CL person  
 A person died here yesterday.
- b. Jianyu pao-le yi ge fanren.  
 prison escape LE one CL prisoner  
 A criminal escaped from prison.
- c. Qianbian fasheng-le yi qi chehuo  
 front happen-LE one CL accident  
 An accident happened in up ahead.

The verbs in these sentences are all non-stative. They denote an appearance or a disappearance of a certain entity at a particular place. To indicate the change of state, the aspect marker -le is always suffixed to the verb. The change of state occurs at an instantaneous point in the temporal structure. Unlike stative existential sentences, which present homogeneous situations

without change, there are changes involved in situations presented by sentences in (26). To further illustrate this point, two contrasting examples are give below.

- (27) a. Qiangshang gua-zhe yi fu hua.  
Wang-on hang-ZHE one CL picture  
On the wall there is a picture.
- b. Qiangshang gua-le yi fu hua.  
Wang-on hang LE one CL picture  
There is a picture hanging on the wall.

From the situational point of view, the difference between the sentence with -zhe and the one with -le lies in the fact that the former depicts a scene without change whatsoever, while the latter has the sense of a change of state in it although the state after the change may be stressed. Compare the grammaticality of the following pair of sentences when the adverb yizhi "always" is inserted in the sentences:

- (28) a. Qiangshang yizhi gua-zhe yi fu hua.  
Wang-on always hang-ZHE one CL picture  
There has been a picture hanging on the wall all along.
- b. \*Qiangshang yizhi gua-le yi fu hua.  
Wang-on always hang-LE one CL picture

Now we can see that presentative sentences can present two different kinds of situations: states and change-of-states. We can also see that it is not the verb alone that decides the situation type. The situation type is decided

by the semantics of the verbs, the type of objects, and more importantly the aspect markers in Chinese.

#### 4.3.4. Summary

The discussion in this section centers on the situations of change-of-state in Chinese. We first discussed the verbs that present situations of change-of-state, and then the similarities and dissimilarities of the situations presented by achievement verbs and resultative verb compounds. In the end, we have briefly discussed some phenomena of change of situation type concerning situations of change-of-state.

There are a few types of situations of change-of-state. The two important ones are achievements and results. Achievements are realized by achievement verbs, and results are realized by resultative verb compounds. Other types of situations of change-of-state are achieved through change of situation types by means of aspect marking. Stative verbs, activity verbs, and presentative sentences with verbs of (dis)appearance also present situation of change-of-state when co-occur with aspectual -le or inchoative le.

## Notes

1. By our definition here sentences with shi "be" as predicates are stative. By the same token, sentences of nominal predicates are also stative. For example:

- (1) Jintian xingqiwu.  
today Friday  
Today is Friday.
- (2) Ta Beijing ren.  
he Beijing person  
He is from Beijing.

Even though in sentences like these no copular is present, in negative and most interrogative sentences the copular has to be present as shown by the following examples:

- (3) a. Jintian bu shi xingqiwu.  
today Neg be Friday.  
Today is not Friday.
- b. \*Jintian bu xingqiwu.  
today Neg Friday

2. Strictly speaking, there should be another subcategory of the complex adjectival stative verbs. They are in the form of infixations of li, bu, or -le between the adjectival morphemes and the endings. Since they are largely considered as substandard expressions from certain Northern Mandarin dialect, they are not dealt with here. Some examples of this subcategory are:

hebuliuqiu "swarthy"  
zanglegui "filthy"  
shabulengdeng "stupid"

3. The processes of adjectival reduplication are discussed in most grammar books such as Chao 1968, Li and Thompson 1981, Liu and et. al. 1983 and many more. They are not recapitulated here.

4. Note the terms of "quality verbs" and "status verbs" used here are borrowed from Chao (1968:665) with modification. Chao uses quality verbs, transitive or intransitive, to refer to stative verbs, and keep status verbs to refer to verbs like si "die", which in our discuss belong to a completely different group of achievement verbs. We use the terms "quality verbs" and "status verbs" to refer to subgroups of stative verbs.

5. Zhu (1982:73-75) has pointed out that when the quality adjectives are used as modifiers, they have two forms, one with the particle de and the other without. The use of the quality adjective without de as modifiers is quite restricted. For example:

hou shu	??hou xue	henhoude xue
thick book	thick snow	very-thick-de snow

6. This may be one of the reasons that Tai (1990) calls them mental activities, not mental states.

7. This parenthesis indicates some mental and emotional verbs sometimes can be used with progressive zai in activity reading, and sometimes cannot in stative reading.

8. The choice of terminology here is different from all previous studies just mentioned. The reason for doing so are twofold. First, this term itself is confusing. It is easily confused with the situations presented by resultative verb compounds, which are a change of state, not stative situation. Second, some studies using the terms resultative constructions (Jaxontov 1988) and resultative states (Yeh 1991) are confusing. They admit that zhe, a stative marker presenting a stative situation, which also presents change of state



situations (Yeh 1991). This analysis is not acceptable in that a stative situation cannot be a change of state, which is not a stative. More discussion about this point will be presented in the latter part of the section.

9. Existential sentences can be further classified into subgroups according to the verbs used. The first type are sentences with the existential verb you. Since they are commonly accepted, and agreed upon by different linguists, we will not discuss them any more here. The second type are sentences with verbs of posture, and the third type are those with verbs of motion in Li and Thompson's term (Li and Thompson 1981:509-519) or the verbs of (dis)appearance in Hung's term (Huang 1987). Our discussion will be focused on the latter two. By our definition, the sentences with verbs of motion or (dis)appearance are not of state, but achievement when they are suffixed by the aspect marker le, which indicates change of state.

10. Another way of putting it is that zai introduces the locative phrase, which appears at the beginning of the sentence. In existential sentences, it is optional (Li and Thompson 1981:396).

11. In our previous discussion in section (2.4.2.) we have noted that such sentences are ungrammatical unless they are followed by a clause of similar construction to make a contrast. Then they are no longer simple sentences, and they will be not dealt with in our study here.

12. Some verbs in this list are instantaneous but repeatable. With post-verbal duration expressions, they behave like activity verbs, and quite different from achievement verbs which are instantaneous but non-repeatable. That is the reason we treat them as activity verbs, not achievement verbs.

13. In English, for example, "run" is an activity verb while "run a mile" and "run to the store" are accomplishments. Also, "push" is an activity verb, but "push a cart" is still an activity. The crucial difference between activity and accomplishment is the culmination, or the attainment of goal, that is involved in the situation.

14. It is commonly recognized that verb reduplication can only be used with volitional activity verbs (Li & Thompson 1981:234-235). For example ku "cry" is not a volitional verb, and cannot be used with verb reduplication.

- (1) \*Xiao haizi ku yi ku.  
small child cry one cry

However, such verbs can be used volitionally as shown by the following sentence:

- (2) Ku yi ku xin li tongkuai.  
cry one cry heart in comfortable  
Cry for a while (you) will feel better.

15. This may sound grammatical, but then it is not analyzed as a sentence but as a phrase.

- ta kan-le yixiaoshi de nei ben shu  
ta read-Le one-hour De that CL book  
the book that he read for two hours

16. The typographic error is corrected here. The original sentence in his book reads as "John finishing (building) the house.

17. Tai (1984) introduces the term results as the situations presented by resultative verb compounds. In his article, he outlines the features of results in Chinese. This term is borrowed from him, and throughout the thesis, we have elaborated the features of results in Chinese.

18. Li and Thompson (1981:54-58) has studied four types of resultative verb compounds. There are:

- (i) Cause: da-po "hit-broken"  
(ii) Achievement: mai-dao "buy-arrive"  
(iii) Direction: pao-chu-lai "run-exit-come"  
(iv) "Phase": yong-wan "use-finish"

Ross (1990) has also presented four types of resultative verb compounds. They are:

- (i) Resultative compounds: ku-hong "cry-red"
- (ii) Directional compounds: pao-shang "run-up"
- (iii) Achievement compounds: mai-dao "buy-arrive"
- (iv) Completion compounds: mai-wan "buy-finish"

Smith (1991:353-355) classifies resultative verb complements into completive, directional and result. Within the class of completive there are two types: phase resultative verb complements and strict completive resultative verb complements.

Though they have employed different terms, the classification are almost identical. Li and Thompson's Cause type is similar to Ross's Resultative type and Smith's Result. The "Phase" type of the former is similar to the Completion type in Ross's classification and the phase type in completive class in Smith's classification. The achievement compounds in both Ross and Li and Thompson are roughly the same as the strict completive in Smith's system.

The unclear part of Li and Thompson's classification is about the morpheme dao. Under the achievement compounds, they give the example mai-dao "buy-arrive". Then during the discussion of "phase" compounds, they discuss the morpheme dao, and provide the examples of kan-dao "see-arrive", zhao-dao "search-arrive", meng-dao "dream-arrive" and xiang-dao "think-arrive". Either they have confused themselves and consequently are confusing the readers, or they intend to separate two different dao's, one for achievement and one for phase. They have not given any apparent reasons or arguments for doing so. In the list given by Ross, mai-dao "buy-arrive" and zhao-dao "search-arrive" are placed under achievement compounds.

We separate the resultative verb compounds into three types, with the exclusion of directional compounds for the apparent reasons we have discussed in section 3.2. The terms used by Ross are adopted here in this study.

19. Once again, it needs to be pointed out that the duration expression before the completive compound is not to be taken as completive for the uniformity of the analysis. Secondly, from these examples, the conclusion cannot be reached that completive compounds possess duration. These

compounds cannot be used with progressive zai, and nor are they used with the grammatical processes of verb copying and verb reduplication which indicate duration.

20. Thanks for Professor Ting-chi Tang's comment on this point at NECLL 3.

21. These examples are not of verb-copying in their most strict sense. The copied element is only the first element of the compound.

22. Here the imperatives are mostly in their negative form. Achievement verbs and some sub-groups of resultative verb compounds cannot be used in affirmative imperative sentences.

23. According to Li and Thompson (1981:509), presentative sentences are composed of two types. One is presented by existential and positional verbs, and the other verbs of motion. According to Huang (1987), there are four types of existential sentences. They are sentences with existential verbs you "have", those with verbs of (dis)appearance, those with locative verbs and those with verbs expressing the existence of an event or experience. According to our analysis, Li and Thompson's first type of presentative sentences, or Huang's first and third type of existential sentences are of states while Li and Thompson's second type, and Huang's second type are of achievements.

## **CHAPTER V**

### **CONCLUDING REMARKS**

In the preceding chapters we have investigated tests that can be employed in the aspectual classification of verbs in Mandarin Chinese. During the exploration of the tests, we have come to a better understanding of the Chinese grammar both syntactically and semantically. We have also clarified some misconceptions about the language appeared in some previous studies on verb semantics in Chinese linguistics. After the investigation and construction of the tests, we proceed to the aspectual classification of the verbs in Chinese. Now we stand on more solid ground to answer the questions raised at the beginning of this study.

#### **5.1. Summary of Situation Types and Their Grammaticization in Chinese**

The result of this study has shown that there are four basic situation types in Mandarin Chinese, as proposed by Smith (1990). These four

situation types are states, activities, accomplishments and change-of-states. Within situations of states and change-of-states, further classifications have been made to account for the differences.

Recognizing the universality of human beings having common perceptual and cognitive abilities, we come to the same conclusion as Smith did that the four situation types in Chinese are same as those in English. Then, the question that needs to be answered is not "whether speakers of Mandarin language are aware of the distinction between types of events," but "whether there is a linguistic basis for the distinction in Mandarin" (Smith 1990:309). That is the grammaticization of situation types. This is where we have reached different conclusion from Smith.

States are realized in Chinese by stative verbs. These stative verbs include those that are absolute, which cannot be modified by degree adverb(s), and those that are relative, which can be modified by degree adverb(s), such as hen "very". Existential sentences and habituals also present stative situations. The former are realized by a particular group of stative verbs suffixed with -zhe in existential sentences, and the latter are realized by situations of other kinds with habitual readings. Then there are

mental states/activities, which fall between states and activities because these situations possess the characteristics of both states and activities.

Activities are realized in Chinese by activity verb phrases, and accomplishments are realized by accomplishment verb phrases. Activity verb phrases and accomplishment verb phrases differ in whether they are goal oriented. Activities are not goal oriented, and accomplishments are goal oriented. Goal orientation is determined either by the semantics of the verbs or the type of object NP's of the verbs. The internal temporal structures of these two situation types in Chinese are not different from those in English.

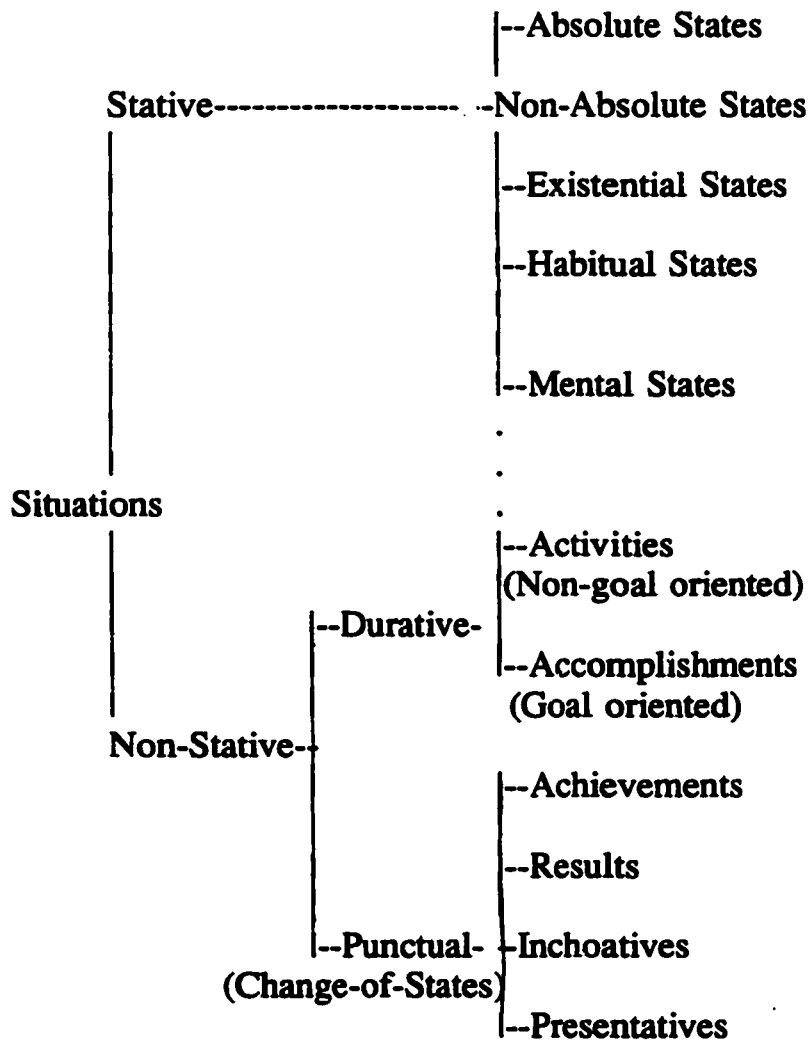
Situations of change-of-state are realized in Chinese by both achievement verbs and resultative verb compounds. The difference between the two is that while the achievement verbs present the situations similar to those achievements in English, the resultative verb compounds present situations of change-of-states accompanied with the manner in which the change of state takes place. The situations presented by the resultative verb compounds are results, which do not possess a durative aspect, but only a result aspect. Inchoative le with adjectival stative verbs or activity verbs also present situations of change-of-state, and so do the presentative sentences

with verbs of appearance or disappearance suffixed by the perfective marker -le.

The following table shows the situation types in Mandarin Chinese. First, the situations are classified according to whether they are stative or non-stative. The stative situations are further divided into sub-classes of absolute, non-absolute, existential, habitual and mental states depending on the common features they share. The dotted line connecting mental states to activities indicates that mental states possess some features of both states and activities. Non-stative situations are further classified into durative and punctual. Non-goal oriented non-stative durative situations are activities, and goal oriented non-stative durative situations are accomplishments. Non-stative punctual situations are change-of-states. They are composed of achievements, results as well as inchoatives and presentative sentences with aspect marker -le.



The situation types in Mandarin Chinese:



The conclusion reached in this study differs from the previous one (Smith 1990) in that we recognize the resultative verb compounds as presenting situations of change-of-state, which do not possess durative aspect. And, we recognize the fact that some simple perfectives in Mandarin Chinese are goal oriented and they present accomplishment situations.

## 5.2. Summary of Tests for Situation Types in Chinese

The following is a summary of the tests used in this study to distinguish different situation types in Mandarin Chinese.

	Sta.				Act.	Accom.	Achi.	
	Abs.	Qua.	Des.	Men.			Achi.	RVC.
Zai	-	-	-	(+)	+	+	-	-
Imp.	-	-	-	-	+	+	(+)	(+)
Hen	-	+	(+)	+	-	-	-	-
V-copying	-	-	-	+	+	+	-	-
Pre-V completive	N/A	N/A	N/A	N/A	-	+	N/A	N/A
Post-V duration	N/A	N/A	N/A	(+)	+	-	N/A	N/A
Post-V time lapse	N/A	N/A	N/A	-	-	+	+	+
V dur. (Obj) entails V at all times of the dur.					+	-	N/A	N/A
Zai V entail V le					+	-	N/A	N/A
Jihu -> has occurred					-	+	+	-
Yixiar -> to culmination					-	+	+	+
Negation bu	+	+	+	+	+	+	-	-
mei	-	-	-	+	+	+	+	+
Habitual reading	-	-	-	-	+	+	+	-

### 5.3. Implications

#### 5.3.1. Linguistic Implications

This thesis attempts to systematically study the situation types and their grammaticization in Mandarin Chinese. Hopefully, the result of this study has shed some light to the understanding of some topics in Chinese linguistics. On the other hand, many important and interesting issues have been touched upon, but have not been solved because of the time limitation and the scope of this study. A great amount of further research needs to be done.

Also, the linguistic fact that the Chinese grammar does not have overt tense markings, only aspect markings, places the research on aspect in Mandarin Chinese in a more important position. Take ba-construction for example. It has puzzled Chinese linguists for decades, if not longer. A tremendous amount of literature can be found on this topic on the study of the nature of the object of ba, the verbs that appear in the construction, and the disposal meaning of the construction. However, it has been very much neglected until the recent development of the studies on verb semantics in Chinese linguistics (Szeto 1987) that the verb phrase in ba-construction is in need of an aspectual requirement. Here, we would like to propose a new

method to study this construction in view of aspectual classification.

The aspectual requirement of the verb phrase in ba-construction can be understood as the attainment of goal or change of state. Consider,

- (1) \*Ta ba nei pian wenzhang kan  
he BA that CL article read
- (2) Ta ba nei pian wenzhang kan-le  
He BA that CL article read-LE  
He read that article.
- (3) Ta be nei pian wenzhang diu-le.  
he BA that CL article lose-LE  
He lost that article.
- (4) Ta ba nei pian wenzhang kan-wan-le.  
He BA that CL article read-finish-LE  
He finished reading the article.

Apparently, stative verbs cannot be used in ba-construction, nor do activity verbs, because they do not involve the notion of change. Accomplishment verb phrase without perfective -le, though goal oriented, also cannot appear in ba-construction because no goal attainment is implied as in (1). The verb phrase in ba-construction can only be of accomplishment with perfective -le that indicates the attainment of goal in (2), or achievement verb in (3), or resultative verb compound in (4). The change involved in ba-construction may also be understood in physical or spatial sense as in (5) and (6).

- (5) Ta ba shu fang-xia-LE.

he BA book place-down-LE  
He put the book down.

(6) Ta ba shu fang zai zhouzi shang le.  
He BA book place on table top LE  
He put the book on the table.

(7) \*He ba shu fang.  
he BA book put

This aspectual analysis of the verb phrase requirement in ba-construction shows the crucial role of aspectual classes of verbs in the understanding of key syntactic constructions in Chinese grammar.

An apparent limitation of this study is the lack of linguistic formalization. It is not intended that formalization is of no importance. On the contrary, we recognize formalization as a very important and necessary component in linguistic studies. But, at the same time, any formalization should be done on the basis of comprehensive and thorough studies of linguistic data. Compared with English, the Chinese language is much less studied. As we have mentioned earlier, Chinese linguists cannot even agree upon whether the resultative verb compounds possess durative aspect, and whether Chinese simple perfectives imply goal attainment. This is the reason we have taken the study of linguistic data as our primary task. It is hoped

that the present study would provide some basic data for formalization and thereby push our study to a new and higher ground.

### 5.3.2. Pedagogical Implication

The present study does not aim to construct a contrastive or pedagogical grammar for the purpose of teaching Chinese as a foreign language to our American students. However, it is obvious that the result of the present study can be used to facilitate the language teaching.

Take durational time expressions for example. Our students tend to produce the sentences like the following:

- (8) \*Sannian (qian) ta si-le.  
three-year (ago) he die-Le

to express "it's been three years since he died" or "he died three years ago". Students are not aware of the fact that in Chinese lapse of time is expressed by placing the time expression after the verb such as si "die". Thus, attention should be brought to our students that, in most cases, time expressions appearing before verbs have different meanings from time expressions appearing after verbs. Some verbs can only take preverbal time expressions, some can only take postverbal time expressions, and some can take either.

Related to the different functions of time expressions, another problem that constantly appears in our teaching Chinese to American students involves the different meanings a verb has. That is the verb of homonyms presenting different situation types. For example:

- (9) Ta zou-le yi ge zhongtou le.  
 he walk/leave-le one CL hour LE  
 a. He has been walking for an hour.  
 b. He has left for an hour.

The Chinese verb zou in (9) has two meanings "walk" and "leave". The former presents a situation of activity and the latter achievement. The compounding problem is that time expressions are to be placed after both activity verbs and achievement verbs, though they carry different meanings. Durational time expression after activity verb is durative as in (9a), and durational time expressions after achievement verbs are of lapse of time as in (9b). Then, not only do we need to let our students know when time expressions follow different kinds of verb, they mean different things; but also to help our students acquire the ability to tell the two meanings apart from contexts. To do this, we are not merely teaching our students to learn the Chinese language, but consciously developing their language learning strategy, which is a crucial composing element of a proficiency oriented language program.

The last point to be presented here involves this thesis itself. An American student in a fourth year level Chinese language class read an early version of this thesis. When reached the part discussing that mei, not bu is to be used in the negation of verbs of change-of-states, he commented that this should be explained in his beginning Chinese textbooks, or by his previous teacher. He would have made much less mistakes if he had known that earlier. It is true that students are explained, and have memorized the rule that to negate a sentence with perfective -le, mei, not bu is to be employed. However, when speaking, students do not make up an affirmative sentence first to check whether it contains -le, and then decide which negation marker is to be used to negate the affirmative sentence. The rule we have given our students is not in the order of the language production. Consequently, students still make errors when speaking even though they have memorized the rule by heart. Students need to be explained when and why mei is to be used, not simply how to use it. The explanation of when and why mei is to be used results from linguistic study of verb semantics in Chinese.

Here we have touched upon only few points on how teaching Chinese as a foreign language can benefit from the results of Chinese linguistic



research. In fact, the teaching of Chinese to American students and the Chinese linguistic research benefit each other mutually. Without enough linguistic studies, linguistic facts cannot be uncovered, and our teaching cannot be effective. On the other hand, Chinese linguists can constantly find research topics in the course of teaching Chinese as a foreign language. Some of the important issues discussed in this very thesis are, in fact, raised by Chinese linguists from their experience of teaching Chinese.

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JCLTA = Journal of Chinese Language Teachers Association

L&P = Linguistics and Philosophy

ZGYW = Zhongguo Yuwen

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