

AN ASPECTUAL ANALYSIS OF *BA*\*

The *ba* construction has been widely discussed in the literature; however, so far no analysis provides a satisfactory account for all of the distributional properties of *ba*. This paper considers the *ba* construction from an aspectual point of view. I argue that the *ba* predicate describes a bounded event. Whether an event is bounded in Chinese may depend on situation type only, or it may depend on both situation type and the aspect a situation is presented in. As for the *ba* NP, it is specific in the sense of Liu (1990). I further argue that the two properties – boundedness and specificity – are related. There is a dependency between the *ba* argument denotations and the event described by the predicate, and this dependency can be characterized in terms of a structure-preserving function – a homomorphism. The relation preserved is the ‘all of’ relation. On this view boundedness and specificity are simply different manifestations of the same property that is inherent in the meaning of a *ba* predicate. The *ba* construction is thus shown to be an example of how aspectual considerations constrain both the predicate and an NP argument in Chinese.

## 1. INTRODUCTION

This paper examines one single construction in Chinese, the *ba* construction, illustrated in (1):

- (1) Ta ba gongke zuowan-le  
 he BA homework do-finish-ASP  
 ‘He finished his homework’

(1) differs from a regular transitive sentence in that what is taken as the object appears to the left of the verb, as object of the preposition *ba*. The *ba* construction is one of the most widely discussed topics in Chinese linguistics. For years linguists have been fascinated by its complexity, part of which is exhibited in the syntactic and semantic restrictions on both the predicate and the object. These restrictions will be the focus of this study. We will examine the factors that affect the well-formedness of a *ba* sentence and various constraints on verb types, verb complements, and nominal reference that the construction is subject to.

Because the range of properties associated with the *ba* construction is rather complex, the construction has been examined from various perspectives. At least four approaches can be identified. In the rest of the section I will briefly introduce these four approaches. This will present us with a general picture of what linguists have been concerned with and will help us better understand the issues to be addressed in this study.

The disposal analysis (L. Wang (1945)) is probably the earliest analysis of *ba* sentences. It studies what effect the action expressed by the verb has on the referent denoted by the *ba* NP. According to it, the function of the *ba* sentences is to express a sense of disposal: what has happened to X, or what did Y do to X, where X is denoted by the object of *ba*. Thus (1) above is appropriate as an answer for the question: what happened to his homework? The disposal analysis later came under the notion transitivity, first applied to *ba* sentences by Thompson (1973) and later by Hopper and Thompson (1980). On this view, *ba* sentences express a sense of transitivity, which refers to the effects of the action that pass from the agent to the patient. The disposal/transitivity analysis is also followed in works such as H. Wang (1957), Hashimoto (1971) and Y. Li (1974), among others.

The second approach, the topic-comment approach, focuses on the information structure of the sentence. On this approach, the *ba* sentences present a clear breakdown between what is the topic and what is the comment of the sentence. The *ba* argument is the topic, whereas what follows is the comment. This approach can be found in Hsueh (1987). A related contrast also having to do with the information structure is found in Mei (1978), where he contrasts the presupposition with the focus.

The third approach is syntactic, represented by works of Koopman (1984), A. Li (1985) and Travis (1984). It focuses on the syntactic properties of the *ba* construction. Some of the issues of concern are: How does a *ba* sentence relate to an ordinary transitive sentence? Are *ba* sentences derived from movement? What status does *ba* have with respect to theta-theory and Case theory? The works cited above do not all give the same answers to these questions; however, they share an important assumption: the NP position following *ba* is a theta-position, theta-marked by the matrix verb. This is supported by alternation between sentence like (2a) and (2b):

- (2) a. Ta ba pingguo chi-le  
       he BA apple eat-ASP
- b. Ta chi-le pingguo  
       he eat-ASP apple
- ‘He ate the apple.’

It is clear that semantically the *ba* NP relates to the verb in (2a) in the same way as the direct object relates to the verb in (2b). In Travis (1984), this link between (2a) and (2b) is characterized in terms of a lexical rule. A lexical rule is involved in (2a), which blocks the realization of the internal

argument. *ba* is said to have the function of absorbing the internal theta-role, which is then realized as the object of *ba*.

Finally, there is the aspectual approach, pursued in works such as Szeto (1988) and Yong (1993). It links the restrictions on the VP structure that occurs with *ba* to the aspectual systems. This approach will be examined in more detail in section 3.

It should be noted that the four approaches are not necessarily incompatible with each other; they are simply concerned with different issues related to the construction. So far, however, there is not a single analysis on any of the four approaches that offers a satisfactory answer to the questions the analysis is concerned with. Putting aside the aspectual approach until section 3, we briefly comment on the other three approaches here. Thus although a great number of *ba* sentences carry a sense of disposal, various cases which resist the disposal/transitivity analysis have been observed in the literature (e.g., Lü (1948), Thompson (1973), Mei (1978)).<sup>1</sup> The sentences in (3) (Mei (1978)), for instance, cannot be accommodated by the disposal analysis:

- (3) a. Ta ba ni hentou le<sup>2</sup>  
       he BA you hate-thorough ASP  
       ‘He hates you thoroughly.’
- b. Ta ba yige dahao jihui cuoguo le  
       he BA one-CL big-good opportunity wrong-pass ASP  
       ‘He let a great opportunity pass.’

(3a) cannot be an appropriate answer for the question: ‘What did he do to you?’, and for (3b) it does not make sense to ask the question ‘What did he do to the opportunity?’.

As for the topic-comment analysis, it is not clear how one can verify if a *ba* sentence is amenable to a breakdown between topic and comment or between presupposition and focus. It appears that in order to check it, it is necessary to put the *ba* sentence in a discourse context. However, proponents of this analysis have not shown us how the choice of a *ba* sentence over a regular transitive sentence is motivated in a context.

Finally, in the syntactic approach the *ba* NP position is theta-marked by the matrix verb. This approach works well in cases where the object of *ba* corresponds to the direct object in a regular transitive sentence, as we have seen in (2). However, (2) represents only one type of *ba* sentences. There are other types of *ba* sentences where the NP following *ba* does not correspond to the direct object, as illustrated in (4–5), from Goodall (1989):

- (4) a. Ta ba wo ku de xinfan  
 he BA I cry DE heart-disturbed  
 ‘He cried so much that I got disturbed’
- b. Ta ku de wo xinfan  
 he cry DE I heart-disturbed  
 ‘He cried so much that I got disturbed.’
- (5) a. Ta ba tieshu ku de kai-le hua  
 he BA iron-tree cry DE blossom-ASP flower  
 ‘He cried so much that the iron tree blossomed.’
- b. Ta ku de tieshu kai-le hua  
 he cry DE iron-tree blossom-ASP flower  
 ‘He cried so much that the iron tree blossomed.’

First, consider (4a). Since the matrix verb *ku* ‘cry’ is intransitive, the object of *ba* cannot be theta-marked by it. Further, comparison between (4a) and (4b) shows that the *ba* object actually corresponds to the subject of the complement clause. The same holds for (5a), where the *ba* NP corresponds to the subject of a sentential idiom, as in (5b). Clearly *tieshu* in (5a) is not theta-marked by the intransitive verb *ku* ‘cry’.<sup>3</sup>

This paper will take an aspectual approach to the *ba* construction. It has two goals. First, we will examine restrictions on the predicate and the object of *ba* – the *ba* NP. We will show that all of the structures that occur in the *ba* environment can be subsumed under a simple description. Second, and more significantly, we will suggest that in fact the restrictions on the *ba* NP and on the predicate are closely related. Our analysis makes use of the ideas developed in Krifka (1989) and Dowty (1991), where thematic relations are seen as links between nominal references and events.

The rest of the paper is organized as follows: Section 2 lists the essential properties of *ba* sentences. Section 3 examines the restrictions on the predicate, and section 4 looks into the restrictions on the object following *ba* – the *ba* NP. Section 5 relates the predicate to the *ba* NP in terms of a structure-preserving function, and section 6 is a brief conclusion.

## 2. PROPERTIES OF *BA* SENTENCES

There are basically two requirements on the well-formedness of a *ba* sentence, given in (6):

- (6) a. The *ba* NP is specific.  
 b. There must be some element other than the basic verb<sup>4</sup> in the predicate.

We will come back in section 4 to what it means for an NP to be specific. For now, it suffices to say that specific NPs include definite NPs and some indefinite NPs. (1, 2) contain NPs that are definite or receive a definite interpretation in the case of bare NPs, and (3b) and (7) show that the *ba* NP can be indefinite:

- (7) Ta ba yiliang che mai le  
 he BA one-CL car sell ASP  
 ‘He sold a car.’

The second requirement, i.e., (6b), however, is much more complicated and is one that has puzzled linguists for years. The complex VP in the *ba* environment is classified into six types in Wang (1945). Lü (1948) divides it into thirteen cases under five classes. In the following I reorganize the environments into nine cases; they are grouped according to structural properties of the predicate:<sup>5</sup>

- (8) a. V + resultative verb complement  
 b. V + *de* (resultative)  
 c. V + retained object  
 d. V + perfective marker *-le*  
 e. V + PP (dative or locative)  
 f. V + quantified phrase  
 g. V + *yi* + V (the tentative construction)  
 h. V + durative marker *-zhe*  
 i. Adv + V

The most common environment where *ba* occurs is in a resultative context, which either contains a resultative verb complement (8a) or the resultative clitic *de* (8b), illustrated in (9) below and (4a, 5a) above, respectively.

- (9) Ni dei ba wenti kan qingchu  
 you have-to BA question read clear  
 ‘You have to read the questions so that they are clear.’

(8c) refers to sentences like (10), where the verb is followed by an object. These sentences are often cited as counterexamples to the claim that the *ba* NP is the object of the verb:

(10) a. ta ba damen shang-le suo  
 he BA gate put-on-ASP lock  
 'He locked the gate.'

b. Ta ba juzi bo-le pi  
 he BA orange peel-ASP skin  
 'He peeled the orange.'

(8d) refers to cases like (2a), where the only element following the verb is the perfective marker *-le*.

(8e) concerns sentences with an indirect object or a locative phrase:

(11) a. Wo ba zidian jie gei Laowang  
 I BA dictionary lend to Laowang  
 'I lent the dictionary to Laowang.'

b. Ta ba didi song dao chezhan  
 he BA younger-brother take to station  
 'He took this younger brother to the station.'

(8f) refers to sentences that include a quantified phrase in the VP. The quantified phrase can express duration (12a), frequency (12b), or a part-whole relation (12c):

(12) a. Wo ba jiaozi zhu-le shi fengzhong  
 I BA dumplings boil-ASP ten minute  
 'I boiled the dumplings for ten minutes.'

b. Ta ba zhe dianying kan-le liangbian  
 he BA this movie watch-ASP twice  
 'He watched the movie twice.'

c. Laowang yikouqi ba xigua chi-le yiban  
 Laowang one-mouthful-breath BA watermelon eat-ASP half  
 'Laowang ate half of the watermelon in one sitting.'

(8g), the tentative construction, is illustrated in (13):

(13) Qing ni ba xin kan-(yi)-kan  
 please you BA letter read-one-read  
 'Please read the letter (a little).'

In the tentative construction the verb is reduplicated, and in between the two verbs *yi* 'one' may be optionally inserted. It describes a bounded event

of short duration, meaning doing something ‘a little bit’ (Li and Thompson (1981)).

(8h) refers to sentences that contain *-zhe*, which is the durative aspect marker (Li and Thompson (1981)). *-Zhe* basically presents a continuous and stable situation without regard to endpoints (Smith (1991)). With *ba*, it is used to bring about a state which is durative.

- (14) a. Ba zhengjian dai-zhe  
 BA ID carry-ZHE  
 ‘Carry your ID (with you).’
- b. Wo ba neixie dongxi na-zhe (Tie (1990))  
 I BA those things take-ZHE  
 ‘I’m going to take those things (with me).’

Finally, in (8i) the predicate contains a preverbal adverbial but nothing after the verb:

- (15) a. Xiaoming ba dongxi man wuzi reng  
 Xiaoming BA things whole room throw  
 ‘Xiaoming throws things all over the room.’
- b. Wo zhengzai ba zhuozi wang wuli ban  
 I Prog BA table towards room-in move  
 ‘I was moving the table into the room.’

Thus we have seen nine environments where the VP requirement is satisfied. (8a-f) have long been observed and are frequently discussed in the literature; (8g-i), on the other hand, though recognized, have not received much attention. Indeed, on the disposal approach (Li and Thompson (1981)), it is suggested that the tentative construction and the durative *-zhe* are not likely to occur with *ba* since they involve a use of *ba* that exhibits weak disposal or transitivity. However, on the semantic approach proposed here, it is assumed that all nine environments license *ba* because they *all* satisfy the semantic requirements on the VP, to which we now turn.

### 3. THE *BA* PREDICATE

In this section we begin to look more closely at the *ba* predicate. We would like to see whether the predicate environments listed in section 2 can receive a unified treatment. Recently various people have observed that the predicates allowed in *ba* sentences are constrained by aspectual

properties. This is approached in two ways. The first is to link *ba* to perfectivity (section 3.1), while the second connects *ba* to situational aspect (section 3.2). In section 3.3 we present our analysis, where we will show that both the perfective/imperfective distinction and situational aspect play a role in the well-formedness of a *ba* predicate.

### 3.1. *Perfectivity and ba*

Mei (1978) is the first study to propose aspect as a condition on the *ba* predicate. He notices that *ba* sentences are often presented in the perfective aspect, marked by *-le*. He then classifies verbs according to whether they take *-le*. If a verb cannot be marked by *-le*, then the *ba* sentence is not possible. Therefore, in this analysis what matters is the potentiality of a verb to be presented in the perfective aspect.

Hopper and Thompson (1980) link transitivity to perfectivity. They consider the *ba* construction as a construction that ranks high on the transitivity scale, and as such, the construction requires either a perfective particle or a phrase or clause specifying the conceptual boundary of the action.

Szeto (1988) also makes a connection between perfectivity and *ba* sentences. For him a perfective event is a temporally bounded event. He says temporally bounded events can be represented by V-Resultative structures.

When we evaluate these claims against the predicate environments given in the previous section, it is not difficult to see that the link between *ba* and perfectivity only covers part, but not all, of the contexts. Although many *ba* sentences are in perfective aspect or can be marked by *-le*, some *ba* sentences do not need to be given in the perfective aspect, as in (16). In fact there are also *ba* sentences that cannot be presented in the perfective aspect. For instance, V-de structure cannot be given in the perfective aspect as in (17):

(16) Qing ni ba men guan qilai  
 please you BA door close up  
 ‘Would you please close the door?’

(17) a.\*Ta ba zi xie-de le hen da  
 he BA character write-DE ASP very big  
 ‘He wrote the character very big.’

b. Ta ba zi xie-de hen da

Nonetheless, despite the empirical inadequacy, linking *ba* to aspect opens up a new way of looking at the issue. In section 3.3 we will see that the predicates that are admitted in *ba* sentences indeed satisfy certain aspectual restrictions.

### 3.2. Aspectual Classes of Verbs

Besides linking *ba* to perfectivity, there are also studies that attempt to characterize the context of *ba* in terms of situational aspect. The study of situational aspect has a long tradition (Kenney (1963), Vendler (1967), among others). In Vendler (1967) verbs and their complements are classified into four situation types: States, Activities, Accomplishments, and Achievements. Since then this classification has been revised in various studies. Dowty (1979), for example, regroups the verbs into eight classes, while Smith (1991) proposes five classes. There are also studies that classify Chinese verbs into aspectual classes, either adopting Vendler's four situation types (Tai (1984), Teng (1986)) or with revision (Chen (1988)).

(18) gives some examples of Chinese verbs on Vendler's classification.

(18) a. State:

<u>you qian</u>	'be rich'
have money	
<u>xing Wang</u>	'have the last name Wang'
name Wang	

b. Activity:

<u>da dianhua</u>	'be on the phone'
hit phone	
<u>kan xiaoshuo</u>	'read novels'
read novels	

c. Accomplishment:

<u>zou sanli lu</u>	'walk three miles'
walk three-mile road	
<u>kan yi kan</u>	'take a look'
look one look	

d. Achievement:

<u>faxian yige mimi</u>	'discover a secret'
discover one-CL secret	
<u>daoda xuexiao</u>	'arrive at school'
arrive school	

One study that makes use of Vendler's classification in the context of *ba* is Sybesma (1992), where he suggests that *ba* occurs with Accomplishments. Accomplishments are telic events, events that have an inherent terminal point or an end state. That is, *ba* seems to be sensitive to whether the event is telic or not. As support for this hypothesis, we can observe the following contrasts:

- (19) \*Laowang ba Li xiaojie xihuan                      State  
 Laowang BA Li miss like  
 'Laowang likes Miss Li.'
- (20) \*Wo fangjia zaijia ba xiaoshuo kan              Activity  
 I on-vacation at-home BA novels read  
 'I read novels at home during vacation.'
- (21) Qing ni ba xin kan yi kan                      Accomplishment  
 please you BA letter read one read  
 'Would you please take a look at the letter?'
- (22) \*Shei ba zhefeng xin faxian de?              Achievement  
 who BA this-CL letter discover DE  
 'Who discovered the letter?'

In (19–22) we can see that the only well-formed *ba* sentence contains an Accomplishment. However, when more data is considered, the hypothesis runs into difficulty both ways: there are *ba* sentences with non-Accomplishments and sentences of Accomplishments which nonetheless cannot occur with *ba*, as seen in (23) and (24) respectively:

- (23) Women dou ba Laowang dangzuo laoshi  
 we all BA Laowang take-as teacher  
 'We all consider Laowang as our teacher.'
- (24) \*Wo dasuan mingtian ba neibenshu kan  
 I plan tomorrow BA that-book read  
 'I plan to read that book tomorrow.'

In (23) *dangzuo laoshi* 'take as teacher' is not an Accomplishment but an Achievement; on the other hand, in (24) *kan neibenshu* 'read that book' is a typical case of Accomplishment, and yet it does not license *ba*. (23–24) suggest that the *ba* predicate cannot be equated with Accomplishments.

We will now consider another attempt that relates *ba* to situation types. Yong (1993) is an extensive study of *ba* that makes use of the aspectual

system proposed by Chen (1988). Chen groups Chinese verbs and their complements into five aspectual classes. The five classes are derived on the basis of three features: [ $\pm$ stative], [ $\pm$ durative], and [ $\pm$ telic]. [+Stative] covers the same group of verbs as Vendler's Statives. All the rest are [-stative]. [Durative] distinguishes dynamic situations that have a duration from those that do not, and [telic] concerns whether a situation has a potential terminal point or not. The five classes are given in Table 1:

TABLE 1  
Mandarin situation types (Chen (1988))

Situations	Stative	Durative	Telic
I. State	+		
II. Activity	-	+	-
III. Accomplishment	-	+	+
IV. Complex Change	-	-	+
V. Simple Change	-	-	-

These situations are illustrated in (25–29):

- (25) State  
xing Wang name Wang 'have the last name Wang'  
xiangxin Laowang believe Laowang 'believe Laowang'
- (26) Activity  
pao bu run steps 'jog'  
jiao shu teach books 'teach'
- (27) Accomplishment  
yanzou Lanse duonaohu play Blue Danube 'play the Blue Danube'  
zuo yige muxiang make one-CL wooden:box 'make a wooden box'
- (28) Simple Change  
baozha explode 'explode'  
wangji dongxi forget things 'forget things'

- (29) Complex Change
- |   |                        |
|---|------------------------|
| <u>gaishan</u> <u>guanxi</u>                  | ‘improve relationship’ |
| improve relationship                          |                        |
| <u>zuo</u> <u>cheng</u> <u>zhuo</u> <u>zi</u> | ‘make into a table’    |
| make-into table                               |                        |

Of the five situation types, Yong says Accomplishments, Simple Changes, and Complex Changes are bounded events, which are defined as telic events, following Dahl (1981).<sup>6</sup> His claim, then, is that *ba* occurs with bounded events; that is, *ba* is allowed in Accomplishments, Simple Changes and Complex Changes.

Yong stresses the point that boundedness is a property of situational aspect, a notion of Aktionsart. This is to be distinguished from the perfective/imperfective distinction, which has to do with the way the speaker views the situation. *ba* is only constrained by boundedness, not by the perfective/imperfective aspect. It can be presented in either perfective or imperfective aspect. The distinction Yong is trying to make is characterized as two parameters of aspect in Smith’s (1991) system: situational aspect and viewpoint aspect, the latter corresponding to the perfective/imperfective distinction. Thus in Yong’s analysis the viewpoint aspect is not relevant in deciding the well-formedness of a *ba* predicate.

The various predicate environments given in section 2 would be assigned the following situation types in Yong’s analysis:

- |   |                                 |
|---|---------------------------------|
| (30) a. V + complement                            | Simple Change or Complex Change |
| b. V + <i>de</i> (resultative)                    | Accomplishment                  |
| c. V + retained object                            | Accomplishment                  |
| d. V + perfective marker <i>-le</i>               | Accomplishment                  |
| e. V + PP (dative or locative)                    | Complex Change                  |
| f. V + quantified phrase                          | Accomplishment                  |
| g. V + <i>yi</i> + V (the tentative construction) | Accomplishment                  |
| h. V + durative marker <i>-zhe</i>                | Accomplishment                  |
| i. Adv + V  | ?                               |

Aside from (30i), which is not considered, the predicate types illustrated here, according to Yong, belong to one of the three situation types: Accomplishment, Complex Change, and Simple Change. On this analysis, then, *ba* is entirely conditioned by situation types.

Yong’s study is the first serious attempt to relate *ba*’s environment to aspectual classes of verbs; it covers a wide range of data. The detailed analysis lends considerable support to the aspectual approach. However, the analysis is not entirely satisfactory. First of all, there is an inconsistency in

his analysis. Although Yong stresses that situation types and the perfective/imperfective distinction need to be distinguished and that *ba* is strictly constrained by boundedness, which is a property of situation types, he includes (30d) V *-le* and (30h) V *-zhe* as a subtype of Accomplishments. By so doing, Yong confuses the two aspectual systems. On Chen's system, which Yong adopts, whether a predicate is marked by aspect markers does not affect which situation type it belongs to. However, (30d) and (30h) are considered Accomplishments on the basis of both the predicate and the aspect markers *-le* and *-zhe*, respectively.

(30d) is in fact related to another problem, which we saw earlier in section 3.1. That is, there are Accomplishments that cannot go with *ba* unless accompanied by *-le*. For example, (31) is an Accomplishment:

- (31)   gai   neige   fangzi  
           build that-CL house  
           'to build that house'

However, (31) cannot be predicate of a *ba* sentence without *-le*:

- (32) a. \*Ta yao/zhengzai ba neige fangzi gai  
           he will/Prog BA that-CL house build  
           'He will/is build(ing) that house.'
- b. Ta ba neige fangzi gai le  
       he BA that-CL house build ASP  
       'He built that house.'

Cases like (32a) are not explained. In general, in Yong's analysis it is not clear why certain Accomplishments need to be supported by *-le*, while other Accomplishments need not (30b, c, f, g).

In short, we have seen that the predicate environment for *ba* seems to be sensitive to the aspectual properties of the predicate. However, in one way or another the aspectual analyses proposed so far have failed to capture the various structures of *ba*. The problems encountered by previous analyses can be summarized as follows:

- (33) a. Whether one adopts Vendler's system or Chen's system, *ba*'s environment cannot be accommodated by resorting to situation types or perfectivity alone.
- b. Accomplishments do not behave uniformly with respect to the licensing of *ba*. In particular, Accomplishments with the predicate V + specific NP object can license *ba* only if supported by the perfective marker *-le*.

### 3.3. *Proposal*

Our analysis also makes use of the notion boundedness to characterize *ba*'s environment. Our claim is this: *ba* occurs with predicates that denote bounded events. This appears to be similar to Yong's analysis. However, our analysis differs from Yong's analysis in an important aspect: *ba*'s environment is constrained by both situational aspect and viewpoint aspect. Our task in this section, then, lies primarily in explicating what counts as a bounded event and how a bounded event is expressed in Chinese. In the following, events will refer to denotations of predicates, presented in perfective or imperfective aspect, and situations will refer to denotations of uninflected predicates.

Let us first consider how boundedness is defined by Dahl (1981):

- (34) A class of situations or a characterization of a situation [e.g., a sentence] is bounded if and only if it is an essential condition on the members of the class or an essential part of the characterization that a certain limit or end-state is attained.

As mentioned earlier, on this definition boundedness is the same as telicity. A bounded situation is a telic situation, a situation with an inherent terminal point or a resultative state. I will depart from Dahl's view in two aspects. First, I will extend the notion of boundedness to events and take it to be a property of events as well as a property of situations. To decide if an event is bounded, I consider the entire predicate, including the aspect markers. Secondly, rather than looking at whether an event has a potential terminal point or a resultative state, I will determine if an event or a situation is bounded on the basis of whether the terminal point or resultative state is treated as part of the meaning of the predicate. A situation may have a potential terminal point or resultative state – telic – and yet the predicate may behave in a way that does not include the terminal point or resultative state as part of its meaning. In such a case the situation is telic and yet unbounded. In section 3.3.2 we will see just such a case.

What I will suggest is that an event can be bounded in two ways: it can be bounded on the basis of the situation denoted by the uninflected predicate, or it can be bounded when a situation of an appropriate type is presented in a certain aspect. If the terminal point or resultative state is included in the meaning of the uninflected predicate, then the situation alone will guarantee a bounded event. If, however, the terminal point or resultative state is included only when the situation is presented in an appropriate aspect, then a bounded event depends on both the situation and the aspect

it is presented in. In the first case I consider situational aspect only, while in the second I consider both the situational aspect and the viewpoint aspect.

### 3.3.1. *Bounded Situations*

First, consider the case involving situational aspect only. Typical examples of telic situations, recognized in the literature, are given in (35):

- (35) run three miles, walk to the park

As discussed in Taylor (1977) and Dowty (1986), these predicates are characterized by the lack of the subinterval property. That is, telic predicates meet the criterion in (36):<sup>7</sup>

- (36) When a predicate  $\rho$  combines with a definite NP to form a sentence  $\phi$ , the truth of  $\phi$  at an interval I entails that  $\phi$  is false at all subintervals of I.

For example, if John walked to the park in the interval from 1:00 PM to 1:30 PM, then it is false that he walked to the park in any subinterval of that time, e.g., between 1:10 PM and 1:15 PM. The subinterval property is found in atelic predicates – States and Activities, but not in telic predicates – Accomplishments and Achievements.

However, I will suggest that the lack of the subinterval property does not necessarily identify bounded situations, which in my analysis is not the same as telic situations. Rather, I suggest that bounded situations are characterized by another property, given in (37):

- (37) Bounded situations do not have internal stages that are static or stages that can be viewed as such.

Static stages refer to stages that are homogeneous and state-like. They are available in the following situations:

- (38) a. be dark  
b. wear a T-shirt  
c. look at the picture

On the other hand, the situation of running three miles does not have such stages. There is not a moment at which someone is at the state of running three miles. Rather, a situation like running three miles has successive stages but not static stages. In English it is difficult to test if a situation has static internal stages because situations presented this way are not consistently marked. Progressives are often used but not always.<sup>8</sup>

- (39) a. It was still dark when I left home.  
 b. He was wearing a sweater when I met him.  
 c. They kept looking at the picture.

In general, situations that have the subinterval property also have the static stage property. This includes States and Activities. However, the converse does not hold. In Chinese there are telic situations that do not have the subinterval property but do have the static stage property. In section 3.3.2 we will see just such cases.

Now in Chinese when stages of a situation are presented as static, they are consistently marked by the imperfective marker *-zhe*:

- (40) a. Wo chumen de shihou tian hai hei-zhe  
 I out-door DE time sky still dark-ZHE  
 ‘When I went out, it was still dark.’  
 b. Ta chuan-zhe maoyi  
 he wear-ZHE sweater  
 ‘He was wearing a sweater.’  
 c. Tamen yizhi kan-zhe neizhang zhaopian  
 they continuously watch-ZHE that-CL picture  
 ‘They watched the picture continuously.’

On the other hand, situations that do not have static internal stages cannot be marked by *-zhe*:

- (41) a. \*Ta pao-zhe sanli lu  
 he run-ZHE three-mile road  
 \* ‘He is running three miles.’  
 b. \*Ta zou-zhe dao gongyuan qu  
 he walk-ZHE to park Dir  
 ‘He is walking to the park.’

*-zhe* is considered a marker of the durative aspect (Li and Thompson (1981)), a marker that presents a continuous and stable situation without regard to endpoints (Smith (1991)). It basically marks a situation as stative or resultative:

- (42) a. Qiang shang gua-zhe yizhang hua  
 wall on hang-ZHE one-CL painting  
 ‘A painting is hanging on the wall.’

- b. Tian hia liang-zhe  
 sky still light-ZHE  
 'It is still light.'

*-zhe* can also occur in non-stative situations, where it focuses on an internal stage of an on-going event, and in this case that stage is viewed as static:

- (43) Renmen taio-zhe, chang-zhe  
 people dance-ZHE sing-ZHE  
 'People were dancing and singing.'
- (44) Tamen zheng kai-zhe hui ne  
 they Prog be-in-session-ZHE meeting Prt  
 'They are in the middle of a meeting.' (Lü (1980), p. 594)

Smith ((1991), p. 363) gives the following description for *-zhe*:

- (45) a. *Zhe* [S] presents a moment or interval of a situation S that includes neither its initial nor final endpoints; and that does not precede the initial point.  
 b. Intervals focused by *-zhe* have the [+State] property.

Yeh (1993) further observes that *-zhe* marks a contingent state, not an absolute state. In other words, *-zhe* does not occur with individual-level predicates but only with stage-level predicates. The following sentences are ill-formed:

- (46) \*Ta zhidao-zhe zhege wenti de daan  
 he know-ZHE this-CL question DE answer  
 'He knows the answer to this question.'
- (47) \*Ta xing-zhe Wang  
 he name-ZHE Wang  
 'He has the last name Wang.'

Our concern here is with *-zhe* in non-stative situations. From the above description, it follows that in order for *-zhe* to occur in non-stative situations, the situations need to be such that their internal stages can be viewed as static, homogeneous states. Situations that do not have this property cannot be marked by *-zhe*. For example, the situation of growing up does not contain any stage that can be viewed as stable, and the situation of sleeping for three hours also does not have any stage at which one is in the state of sleeping for three hours:

- (48) \*Xiaoming zhangda-zhe  
 Xiaoming grow-up-ZHE  
 ‘Xiaoming keeps growing up.’
- (49) \*Ta shui-zhe sange zhongtou  
 he sleep-ZHE three-CL hour  
 \*‘He is sleeping for three hours.’

Therefore, (48–49) are ill-formed for the same reason (39–40) are out.

So far we have characterized bounded situations in terms of (37). Given that (37) has a morphosyntactic correlate in Chinese – non-stative situations with no static internal stages cannot be marked by *-zhe*, we arrive at the following generalization:

- (50) If a non-stative predicate cannot be marked by *-zhe*, then it denotes a bounded situation.

We are now ready to consider *ba*'s environment again. The various predicate structures that accept *ba* are repeated in (51):

- (51) a. V + complement  
 b. V + *de*  
 c. V + retained object  
 d. V + perfective marker *-le*  
 e. V + PP (dative or locative)  
 f. V + quantified phrase  
 g. V + *yi* + V (the tentative construction)  
 h. V + durative marker *-zhe*  
 i. Adv + V

(51d) and (51h) will be discussed in section 3.3.2. Here I will consider the other seven environments, which are not accompanied by aspect markers. Most of these structures, in Yong's analysis, were assigned one of the three situation types: Accomplishments, Complex Changes, and Simple Changes.<sup>9</sup> On close examination, however, we find that regardless of which situation types the seven cases belong to, they all share one feature: none of the structures can be marked by *-zhe*. This is seen in (52):

- (52) a. \*Wo ba wenti kan qingchu-zhe.  
 I BA question see clear-ZHE  
 ?‘I'm seeing the question clearly.’

- b.\*Ta ba jia baochi-zhe de hen ganjing.  
 he BA home keep-ZHE DE very clean  
 ‘He keeps his home very clean.’
- c.\*wo ba damen shang-zhe suo  
 I BA gate put-on-ZHE lock  
 ‘I’m locking the gate.’
- d.\*Ta ba wenti kan-zhe yibian  
 he BA question read-ZHE once  
 \*‘He is reading the question once.’
- e.\*Wo ba xin kan-zhe yi kan  
 I BA letter look-ZHE one look  
 \*‘I’m taking a look at the letter.’
- f.\*Ta ba xin fang-zhe zai zhuoshang  
 he BA letter put-ZHE at table-on  
 ? ‘He is putting the letter on the table.’
- g.\*Ta ba dongxi man wuzi reng-zhe  
 he BA things whole room throw-ZHE  
 ‘He is throwing things all over the room.’

In accordance with (50), this suggests that the predicates denote bounded situations. That is, the seven types of *ba* predicates denote situations where the terminal point or resultative state is included in the meaning of the predicate.

Given that in these cases the terminal point or resultative state is included in the meaning of the uninflected predicate, we have bounded events regardless of how the situation is presented. The perfective/imperfective distinction, therefore, should not affect the licensing of *ba*. This is indeed the case, as illustrated in (53–59), where I present the events in a variety of ways, e.g., habitual, progressive with the marker *-zai*, perfective with *-le*, with the modal *yao* ‘will’.

- (53) a. Qing ba wenti kan qingchu  
 please BA question read clear  
 ‘Please read the questions clearly.’
- b. Ta yijing ba xingli na chulai le  
 he already BA luggage take out ASP  
 ‘He has already taken out the luggage.’

- (54) a. Ta zongshi ba jia baochi den hen ganijing  
 she always BA house keep DE very clean  
 'She always keeps her house very clean.'
- b. Ta ba qian kan de hen zhong  
 he BA money look DE very important  
 'He considers money very important.'
- (55) a. Qing ni ba zhexie xinfeng dou tieshang youpiao  
 please you BA these envelopes all paste stamps  
 'Would you please put stamps on all of the envelopes.'
- b. Ni you meiyou ba damen shang sou?  
 you have not-have BA gate put-on lock  
 'Did you lock the gate?'
- (56) a. Wo yao ba neige wenti xiang yibian  
 I will BA that-CL question think once  
 'I will think about that question once.'
- b. Ta ba shui zhu-le bantian  
 he BA water boil-ASP half-day  
 'He boiled the water for a long time.'
- (57) a. Ni neng bu neng ba xin kan yi kan?  
 you can not can BA letter look one look  
 'Can you take a look at the letter?'
- b. Ta ba xin kan-le yi kan.  
 he BA letter look-ASP one look  
 'He took a look at the letter.'
- (58) a. Wo hui ba shu fangzai zhuoshang  
 I will BA book put-on table-on  
 'I will put the book on the table.'
- b. Ta mei ba shu fangzai zhuoshang  
 he not-ASP BA book put-on table-on  
 'He didn't put the book on the table.'
- (59) a. Ta zhengzai ba dongxi wang wuli ban  
 he in-progress BA things towards room-in move  
 'He is in the process of moving things into the room.'

- b. Ta ba tou yi tai  
 he BA head one raise  
 ‘He raised his head up.’

Thus we saw that seven out of nine predicate structures of *ba* are licensed on the basis of the situations they denote. Morphosyntactically these structures consistently resist marking by *-zhe*. The incompatibility between *ba* and *-zhe* is a striking property of *ba* sentences. It points to a fundamental property of *ba*: the events described in *ba* sentences do not have static internal stages.

### 3.3.2. *-le* and *-zhe*

In this section I consider the second way whereby an event is bounded. It concerns cases where the terminal point or resultative state is not included in the bare predicate but becomes part of the predicate when the situation is presented in an appropriate aspect. There are two such cases: *-le* and *-zhe*.

3.3.2.1. *-le*. I first consider the structure where the verb is followed by the perfective marker *-le* only, as in (51d), with examples in (60):

(51) d. V + perfective marker *-le*

- (60) a. Ta ba neiliang che mai-le  
 he BA that-CL car sell-ASP  
 ‘He sold that car.’

- b. Ni ba neifeng xin xie-le, women jiu chuqu  
 you BA that-CL letter write-ASP we then out-go  
 ‘As soon as you write that letter, we will go out.’

In the literature situations of the form V + specific NP object like *mai neiliang che* ‘sell the car’ and *xie neifeng xin* ‘write that letter’ are taken as telic since they contain an inherent terminal point, i.e., when the car is sold and when the letter is written. In fact, they are Accomplishments on either Vendler’s system or Chen’s system. However, as mentioned in section 3.2 (32a), unlike other telic situations, these cases cannot license *ba* if they are not presented in the perfective aspect. (61) presents more examples:

- (61) a.\*Ta yao ba neiliang che mai  
 he will BA that-CL car sell  
 ‘He will sell that car.’

- b.\*Ta zhengzai ba neifeng xin xie  
 he Prog BA that-CL letter write  
 'He is writing that letter.'

Thus the question we need to answer is this: Why are predicates of the form V + specific NP different from other telic predicates with respect to *ba*?

I would like to suggest that in Chinese V + specific NP object does not denote bounded situations. Although the situations it denotes have an inherent terminal point, the predicate behaves in a way that does not include that terminal point. Two pieces of evidence can be given in support of our view. First, the structure cannot be modified by the duration phrase *zai X nei* 'in X (amount of time)', with the interpretation 'complete/finish something in X'.

- (62) a.\*Ni neng zai yige zhongtou nei kan neiben shu ma?  
 you can at one-CL hour in read that-CL book Q  
 'Can you read that book in an hour?'  
 b.\*Wo xiwang zai yige xingqi nei mai neiliang che  
 I hope at one-CL week in sell that-CL car  
 'I hope to sell that car in a week.'

The other telic predicates, on the other hand, can be modified by the duration phrase with the intended reading:

- (63) a. Ta neng zai yige zhongtou nei kanwan neiben shu  
 he can at one-CL hour in read-finish that-CL book  
 'He can finish reading that book in an hour.'  
 b. Ta zai yige zhongtou nei ba chuangzi xi-de  
 he at one-CL hour in BA window wash-DE  
 hen ganjing  
 very clean  
 'He washed the windows clean in an hour.'  
 c. Ta zai wu fengzhong nei ba xinfeng dou tieshang  
 he at five minute in BA envelope all paste  
 youpiao  
 stamps  
 'He put stamps on all the envelopes in five minutes.'

- d. Ta dei zai yifengzhong nei ba xin kan yibian  
 he has-to at one-minute in BA letter read once  
 ‘He has to read the letter once in one minute.’
- e. Ta neng zai banxiaoshi nei ba didi  
 he can at half-hour in BA younger-brother  
 songdao jichang  
 take-to airport  
 ‘He can take his brother to the airport in half an hour.’
- f. Qing ni zai liang fengzhong nei ba xin kan  
 please you at two minute in BA letter look  
 yi kan  
 one look  
 ‘Could you please read the letter in two minutes?’

This suggests that the situations in (62) cannot be temporally bounded, whereas the situations in (63) can. Notice that the English counterpart of (62) are well-formed, which indicates that in English the situations concerned are bounded.

- (64) a. Can you read that book in an hour?  
 b. I hope to sell that car in a week.

The second piece of evidence comes from interaction with *-zhe*. V + specific NP object can be marked by *-zhe*:

- (65) a. Wo zheng kan-zhe neiben shu (ne)  
 I Prog read-ZHE that-CL book Prt  
 ‘I am reading that book.’
- b. Taishang zheng yanzou-zhe lanse duonaohu  
 platform-on Prog play-ZHE blue Danube  
 ‘On the platform they are playing The Blue Danube.’

Other telic predicates, as we saw in section 3.3.1, are incompatible with *-zhe*. Since *-zhe* marks an on-going event as stable and static, this suggests that situations described by *kan neiben shu* and *yanzou lanse duonaohu* contain internal stages that can be viewed as static. This is not possible for other telic predicates and is another piece of evidence that situations denoted by V + specific NP object are unbounded.

These two criteria – the inability to be temporally bounded and the ability

to be viewed as having static stages – serve to distinguish situations denoted by V + specific NP object from the seven situations discussed in section 3.3.1. Situations that have internal stages and yet do not satisfy these two criteria are unbounded. Thus although selling a car and taking someone to the airport both have an inherent terminal point, the former is unbounded according to these two criteria. This is a case where telicity does not imply boundedness.

If V + specific NP object describe non-bounded situations, then it follows that V + specific NP object alone will not license *ba*. However, the second strategy of licensing *ba* is operative here. That is, when the situations are viewed perfectly, bounded events will arise. These events can be temporally bounded, as in (66):

- (66) a. Ta zai yige zhongtou nei kan-le neiben shu  
 he at one-CL hour in read-ASP that-CL book  
 ‘He read that book in an hour.’
- b. Ta zai santian nei mai-le neiliang che  
 he at three-day in sell-ASP that-CL car  
 ‘He sold his car in three days.’

That is, although the terminal point is not included in *kan neiben shu* ‘read that book’, it is included in the perfective form *kan-le neiben shu*.

Two things should be made clear here. First, in both sentences of (66) the actual terminal point is reached; this is not necessarily the case, however. As pointed out in Li and Thompson (1981), *-le* does not signal a completed event; it only presents an event in its entirety. (60b), repeated as (67), is an example where the event has not taken place yet:

- (67) Ni ba neifeng xin xie-le, women jiu chuqu  
 you BA that-CL letter write-ASP we then out-go  
 ‘As soon as you write that letter, we will go out.’

Second, *-le* can make an event bounded only if the situation concerned is telic. Atelic situations presented perfectly do not lead to bounded events and do not license *ba*.

- (68) a. Wo jintian zongsuan kan-le dianying  
 I today finally watch-ASP movie  
 ‘I finally watched a movie today.’

b. Zuotian xia-le yu, jintian liangkuai yidian  
 yesterday fall-ASP rain today cool a-bit  
 ‘It rained yesterday; it is cooler today.’

(69) a.\*Wo jintian zongsuan zai liangge zhongtou nei  
 I today finally at two-CL hour in  
 kan-le dianying  
 watch-ASP movie  
 ‘I finally watched a movie within a two hour period today.’

b.\*Zuotian zai jixiaoshi nei xia-le yu  
 yesterday at a-few-hours in fall-ASP rain  
 ? ‘It rained within a few hours period yesterday.’

(70) Wo jintian zongsuan ba dianying kan le  
 I today finally BA movie watch ASP  
 ‘I finally watched the movie today.’

(68) contains atelic situations *kan dianying* ‘movie watching’ and *xia yu* ‘raining’, and (69) shows that these situations presented in the perfective aspect cannot be temporally bound. And although (70) licenses *ba*, it does not mean the same as (68a); in fact, two different situations are involved: movie watching for (68) and watching a particular movie for (70). This is because the same NP (*dianying* ‘movie’) receives different interpretations preverbally and postverbally. In (68) it is interpreted non-specially and does not refer to any particular movie. *kan dianying* is an Activity of movie-watching. On the other hand, *dianying* in (70) is interpreted specifically and refers to a particular movie already known in the context. Thus (68) can never be presented in a *ba* form and still remain atelic.

3.3.2.2. *-zhe*. The second case of *ba* licensed by inflected predicates concerns *-zhe*, as in (51h), illustrated in (71):

(51) h. V + *zhe*

(71) a. Ba zhengjian dai-zhe  
 BA ID carry-ZHE  
 ‘Carry your ID with you.’

b. Wo ba jieshao xin na-zhe  
 I BA recommendation letter take-ZHE  
 ‘I’ll take the recommendation letter with me.’

After our extensive discussion in section 3.3.1 on how *-zhe* is incompatible with the *ba* predicate, it is a puzzle why sentences like (71) are well-formed. To see what is going on, it will be useful to consider more of *-zhe*'s properties.

We already know that *-zhe*'s basic function is to present a stable situation without regard to endpoints. So far all the sentences with *-zhe* are given in the realis mode. Now *-zhe* can also occur in the irrealis mode:

- (72) a. Ni neng bu neng zai menkou zhan-zhe?  
 you can not can at doorway stand-ZHE  
 'Can you stand at the door?'  
 b. Qing ni dai-zhi shoutao  
 please you wear-ZHE gloves  
 'Could you please wear gloves?'

In (72a) the addressee is asked to go to the door and stand there, and in (72b) the addressee is asked to put on gloves and continue to wear them. In both cases the event consists of two parts; for example, in the first part of (72b) an action of putting on gloves is brought about, and the second part is the continuous and resultative state of wearing gloves. The first part is inceptive, while the second is stative and resultative. The combination of the two constitutes a bounded event, with an action and a resultative state. Such events can be temporally bounded:

- (73) a. Qing ni cong ba dian dao shi dian zai  
 please you from eight o'clock to ten o'clock at  
 menkou zhan-zhe  
 door-entrance stand-ZHE  
 'Could you please stand at the door from eight to ten?'  
 b. Qing ni zai zhe yige zhongtou nei wubi  
 please you at this one-CL hour in be-sure  
 dai-zhe shoutao  
 wear-ZHE gloves  
 'Could you please make sure to wear gloves within this hour?'

Thus *-zhe* in an irrealis sentence does not mark some internal stage of an event as static; rather, it serves to mark the resultative state of an event which is yet to happen. The irrealis mode then provides the inception of the action, and from the two combined – the beginning of the action and the resultative state – we can infer that the action will be completed.<sup>10</sup>

We should note that it takes both irrealis and *-zhe* to arrive at a bounded event. Compare (72) with (74), which is in the realis mode:

- (74) a. Ta zai menkou zhan -zhe  
 he at doorway stand-ZHE  
 'He is standing at the door.'
- b. Ta dai-zhe shoutao  
 he wear-ZHE gloves  
 'He is wearing gloves.'

Here what is described is simply a state of standing and a state of wearing gloves. The events are unbounded since they cannot be temporally bounded:

- (75) a. \*Ta zuotian cong ba dian dao shi dian zai  
 he yesterday from eight o'clock to ten o'clock at  
 menkou zhan-zhe  
 doorway stand-ZHE  
 ? 'He was standing at the door from eight to ten yesterday.'
- b. Ta zuotian cong ba dian dao shi dian zhan  
 he yesterday from eight o'clock to ten o'clock stand  
 zai menkou  
 at doorway  
 'He stood at the door from eight to ten yesterday.'
- (76) a. \*Ta dai-zhe santian shoutao  
 he wear-ZHE three-day gloves  
 \*'He was wearing gloves for three days.'
- b. Ta dai-le santian shoutao  
 he wear-ASP three-day gloves  
 'He wore gloves for three days.'

In (75) the event *zhan zai menkou* 'standing at the door' can be temporally bounded, but *zai menkou zhan-zhe* cannot, although the two expressions virtually have the same meaning. In (76) for the event of wearing gloves to be temporally bounded, it needs to be marked by the perfective marker *-le*, not *-zhe*.

On the other hand, (77) is in irrealis without *-zhe*, and the addressee is only asked to grab the pen; he is not asked to hold it.

- (77) Qing ni zhua zhezhi bi  
 please you grab this-CL pen  
 ‘Could you please grab this pen?’

When the subject is second person, a sentence can be ambiguous between the realis reading and the irrealis reading, as in (78):

- (78) Ni zhua-zhe wode shou  
 you grab-ZHE my hand  
 (i) ‘You are holding my hand.’  
 (ii) ‘Hold on to my hand.’

(78) either describes a state or gives a command to bring about a change of state.

Recall earlier we saw that *-zhe* can mark either stative situations or non-stative situations. Since *-zhe* in irrealis marks a future resultative state, rather than the internal stages of non-stative situations, only verbs that occur in stative situations can appear in irrealis sentences. (79) gives some examples of such verbs, and the sentences in (80), with non-stative verbs, are ill-formed:

- (79) a. zhua-zhe ‘grab, hold’  
 b. na-zhe ‘take, hold’  
 c. chuan-zhe ‘put on, wear’  
 d. dai-zhe ‘bring, carry’  
 e. zuo-zhe ‘sit down, be sitting’

- (80) a.\*Qing ni chang-zhe ge  
 please you sing-ZHE songs  
 ‘Could you please sing some songs?’  
 b.\*Wo yao yizhi zuo-zhe gongke  
 I will continuously do-ZHE homework  
 ‘I’ll continuously do the homework.’

Now that we have shown that *-zhe* in irrealis denotes bounded events, it is not surprising that *ba* occurs in this environment. Our analysis makes a predication, however; that is, *ba* occurs with *-zhe* only in an irrealis sentence. This is borne out in two respects. First, *ba* sentences in realis with *-zhe* are ill-formed:

- (81) a. \*Ni weishenme yizhi dou ba neizhang zhaopian  
 you why continuously all BA that-CL picture  
 dai-zhe?  
 carry-ZHE  
 ‘Why do you always carry that picture with you?’
- b. Ni weishenme yizhi dou ba neizhang zhaopian  
 you why continuously all BA that-CL picture  
 dai zai shenshang  
 carry at body-on  
 ‘Why do you always carry that picture with you?’
- c. Ni weishenme yizhi dou dai-zhe neizhang  
 you why continuously all carry-ZHE that-CL  
 zhaopian?  
 picture  
 ‘Why do you always carry that picture with you?’
- (82) a. \*Ta shi ba jieshao xin na-zhe  
 he is BA recommendation letter carry-ZHE  
 ‘It is indeed the case that he carries the recommendation letter  
 with him.’
- b. Ta shi na-zhe jieshao xin  
 he is carry-ZHE recommendation letter  
 ‘It is indeed the case that he carries the recommendation letter  
 with him.’

In (81) *ba* can be used when the situation of carrying the picture is expressed by a locative phrase ((81b)). On the other hand, when *ba* is not used, then the same situation can very well be expressed by *V-zhe* ((81c)). (82a) can be contrasted with (71b); the former is in the realis mode, while the latter is in the irrealis mode.

Secondly, the ambiguity observed in (75) disappears in a *ba* sentence:

- (83) Ni ba wode shou zhua-zhe  
 you BA my hand grab-ZHE  
 ‘Hold on to my hand.’

(83) can be interpreted only as an imperative, not as a stative, since only in the irrealis mode is the event bounded. We can also note the following contrast:<sup>11</sup>

- (84) a. Ni na-zhe shu  
 you hold-ZHE book  
 (i) ‘You are holding the book.’  
 (ii) ‘Hold the book.’
- b. Ni ba shu na-zhe  
 you BA book hold-ZHE  
 ‘Hold the book.’
- (85) a. Ta chang-zhe ge  
 he sing-ZHE song  
 ‘He is singing’
- b.\*Ta ba ge chang-zhe  
 he BA song sing-ZHE  
 ‘He is singing.’

In (84), since the predicate is stative, *-zhe* marks a resultative state, and the sentence is compatible with both the irrealis and the realis reading. Thus (84a) is ambiguous between the future resultative and the present stative readings. Further, since the irrealis reading concerns a bounded event, it supports *ba*. Therefore (84b) is well-formed and it has the future resultative reading. In (85), since the predicate is non-stative, *-zhe* marks the internal stages of singing as static. This is the reading in (85a), and the event is unbounded. Since *-zhe* does not mark singing as resultative, there is no reading where the event of singing is bounded, and *ba* is therefore not available, hence the ungrammaticality of (85b).

In short, *-zhe* occurring in *ba* sentences concerns stative predicates only, and it can do so only in the irrealis mode because only in the irrealis mode is the event bounded. In the realis mode the same situation is unbounded – it is simply a state, e.g., (82b). *-zhe* has the same function of marking a resultative state in both modes; however, what makes an event with *-zhe* bounded in the irrealis mode is that the inception of the action is included in the meaning of the sentence, provided by the irrealis mode. This, together with the resultative state, marked by *-zhe*, gives rise to a bounded event, with completion of the action as inference. Thus the fact that *-zhe* occurs in *ba* sentences is not in conflict with the claim that events denoted by *ba* predicates do not have internal stages that can be viewed as static. I take the latter to be a central property of *ba* predicates.

### 3.3.3. *Summary*

In this section we have been concerned with how bounded events are expressed in Chinese. Three types of bounded events are identified. First, events are bounded simply on the basis of the situation denoted by the uninflected predicate. Seven out of nine environments of *ba* are of this type. Bounded situations are characterized by having no static internal stages, and in Chinese they have a morphosyntactic correlate – they cannot be marked by *-zhe*. Secondly, bounded events arise when telic but unbounded situations are presented perfectly. This concerns predicates containing V and a specific NP object. Finally, irrealis sentences denote bounded events when accomplished by *-zhe*, which marks the resultative state of events that are yet to take place.

In section 2 we saw that one structural property shared by *ba* predicates is that there must be something other than the basic verb in the predicate. We can now see what functions the extra elements serve. These are precisely the elements that, when combined with the verb, denote bounded events. This is done in one of two ways: the extra elements may lead to bounded situations ((51a–c, e–g, i)), or they may mark the aspect of the situation ((51d, h)).

On our analysis, then, it doesn't matter which system of situational aspect we adopt. Bounded situations correspond neither to Vendler's Accomplishments plus Achievements, nor to the sum of Accomplishments, Simple Changes, and Complex Changes in Chen's system. This is because in Chinese, bounded situations are not identical to telic situations. In particular, V with specific NP object denotes unbounded situations. Rather, the above discussion suggests that the best way to tell whether a situation is bounded in Chinese is to rely on a morphosyntactic property – the inability of a predicate to be marked by *-zhe*.<sup>12</sup>

Cross-linguistically the *ba* construction appears to be unique to Chinese. A possible explanation for this is the fact that the *ba* construction has greatly to do with the aspect marker *-zhe*, which also seems to be unique cross-linguistically. Eight of the nine predicate environments can be identified on the basis of *-zhe*. *-zhe* is special in that it marks both stative situations and non-stative situations, giving rise to the resultative reading and the static reading respectively.

## 4. THE *BA* NP

In this section we turn to the *ba* NP and examine the restrictions imposed on it. In section 2 we mentioned that a condition on the *ba* NP is that it

is specific. Here we will examine what it means for the *ba* NP to be specific. Section 4.1 considers which NPs occur with *ba*. In section 4.2 we introduce a view of specificity presented in Liu (1990), which we will adopt here.

#### 4.1. Which NPs Occur with *ba*?

In general it is observed that the *ba* NP is definite or has a specific interpretation. For example, Hashimoto (1971) says that the *ba* NP must be an NP with definite reference. Y. Li (1974) says that indefinite *ba* NPs are highly restricted. In Tiee (1990) it is said that the *ba* NP always denotes a definite or specific thing or person. Similar remarks can be found in Teng (1974) and Li and Thompson (1981), among others.

This requirement is illustrated in the following sentences:

- (86) a. Wo jie-le yiben shu, mei jie liangben  
 I borrow-ASP one-CL book not borrow two-CL  
 'I borrowed one book, (I) didn't borrow two.'
- b. Wo ba yiben shu jie gei Laowang  
 I BA one-CL book lend to Laowang  
 'I lent Laowang a book.'
- (87) a. Ta song-le hua gei wo  
 he give-ASP flowers to me  
 'He gave me flowers.'
- b. Ta ba hua song gei wo  
 he BA flowers give to me  
 'He gave me the flower(s).'
- (88) a. Ta wang-le wode xin  
 he forget-ASP my letter  
 'He forgot my letters.'
- b. Ta ba wode xin wang-le  
 he BA my letter forget-ASP  
 'He forgot my letters.'

In the (a) sentences, the direct object NP – indefinite, bare, or possessive – is most likely interpreted non-specifically although it can also be interpreted specifically. However, in the (b) sentences the same NP must be

interpreted specifically. That is, these NPs are interpreted differently depending on whether they occur preverbally or postverbally. It is beyond the scope of this study to account for such differences; here we simply note that indefinite NPs or NPs not marked for definiteness receive the specific interpretation in the context of *ba*.

However, so far the NPs that have been considered are limited to definite NPs and the NPs in (86–88). Other NP types have generally been ignored. For example, quantified NPs other than numerals have not been considered in the *ba* context. Can they occur in the *ba* context? In order to answer this question, it will be useful to consider a wider range of NPs.

Besides NPs with numeral Det, many types of quantified NPs are also allowed in the *ba* context. First, (89) shows that universally quantified NPs can occur with *ba*, and in (90) we see that ‘most’ is acceptable:

- (89) a. Wo ba meifen baogao dou kan le  
 I BA every-CL paper all read ASP  
 ‘I read every paper.’
- b. Ta ba suoyou de dangao dou chi le  
 he BA all DE cake all eat ASP  
 ‘He ate all of the cake.’
- (90) Wo ba dabufen de xuesheng liu zai jiaoshi  
 I BA most DE students keep at classroom  
 ‘I kept most of the students in the classroom.’

These are strong NPs (Barwise and Cooper (1981)). Turning to weak NPs, (91–92) suggest that ‘many’ and ‘certain’ are also allowed:

- (91) Wo ba henduo dongxi fangdao cangku qu le  
 I BA many things put-to storage Dir ASP  
 ‘I have put many things into the storage.’
- (92) Tingshuo xuexiao ba mouxie xuesheng kaichu le  
 hear-say school BA certain-Pl student expel ASP  
 ‘I heard that the school expelled certain students.’

On the other hand, NPs with modified numerical Dets are not acceptable:

- (93) \*Wo ba sanwuge juzi chiwan le  
 I BA three-five-CL orange eat-finish ASP  
 ‘I ate three to five oranges.’

- (94) \* Wo ba shilai ge xiaohai daidao gongyuan qu  
 I BA about-ten CL children take-to park Dir  
 'I took about ten children to the park.'

Further, decreasing NPs are also not allowed:

- (95) \* Wo ba shige yixia de lan juzi rengdiao le  
 I BA ten-CL below DE rotten orange throw-away ASP  
 'I threw away less than ten rotten oranges.'
- (96) \* Ta ba budao san feng juanzi daihui jia gai  
 he BA not-reach three CL papers take-back home grade  
 'He took fewer than three papers home to grade.'

(97) is a list of NPs that are allowed as *ba* NP, and (98) is a list of NPs barred from this context:

- (97) demonstrative NPs, pronouns, names, bare NPs, possessive NPs, universally quantified NPs, *most* N, NPs with bare numeral Det, *some* N
- (98) decreasing NPs, NPs with modified numeral Det

I will suggest that NPs that are allowed in the *ba* context are not a random group of NPs; rather, they constitute a natural class that can be independently identified. To see this, we will introduce a theory of specificity proposed in Liu (1990).

#### 4.2. Generalized-Specificity

Liu (1990) classifies NPs in natural language into generalized (G)-specific NPs and non-specific NPs. The identification of G-specific NPs begins with data on quantifier scope in English. The basic observation is that NPs in the same position may behave differently in terms of scope. We can first make a distinction between subject position and object position. In basic transitive sentences as NP in subject position can always be scope-independent of the NP in object position. This is illustrated in (99):

- (99) a. Every teacher criticized three students.  
 b. Most teachers criticized three students.  
 c. Some teacher criticized three students.  
 d. No teacher criticized three students.  
 e. Few teachers criticized three students.

That is, regardless of which quantifier is in subject position, all of the sentences in (99) have a reading in which the subject does not depend on the object for scope interpretation. For example, (d) is interpreted as there does not exist a teacher that criticized three students. In fact, this is the only reading (d) has. It does not have a reading where we find three students and each of them was criticized by no teacher.

By contrast, in object position NPs show different possibilities. Consider (100):

- (100) a. Two students answered every question correctly.  
 b. Two students answered most questions correctly.  
 c. Two students answered some question correctly.  
 d. Two students answered no question correctly.  
 e. Two students answered few questions correctly.

Here in (a, b, c) the object can be interpreted independently of the subject. Thus in (a), for example, regardless of which two students are chosen, each question has to be considered. Similarly, in (b) we can independently find a group of questions that constitute a majority of the questions, without paying attention to which two students are chosen. The sentence thus has a reading where two particular students each answered that set of questions correctly. On the other hand, in (d–e) the object NP cannot be scope-independent of the subject NP. (d) does not have a reading in which there is no question such that it was answered correctly by two students; neither does (e) have a reading where we independently identify a group of questions that are few in number and two students answered each of them correctly.

Thus NPs do not behave uniformly with respect to scope in object position. Liu defines G-specific NPs as the NPs that can be scope-independent in object position. In (100), then, this includes the object NP in (a–c) but excludes the object NP in (d–e). When applied to a wide range of NPs, this criterion classifies the NPs in (101) as G-specific and the ones in (102) as non-specific:

- (101) definite NPs: demonstrative NPs, pronouns, names  
 universally quantified NPs: *every* N, *all* N, *each* N  
*most* N  
*some* N  
 bare numeral Det: *two* N
- (102) decreasing NPs: *no* N, *few* N  
 modified numeral Det: *more than three* N, *about ten* N

Having established such a distinction in English, Liu then extends it to Chinese and assumes that the Chinese counterpart of NPs in (101) and (102) are also G-specific and non-specific respectively. That is, universally quantified NPs, NPs with bare numerical Det, etc., are G-specific in Chinese as well, while decreasing NPs are non-specific. This is given in (103) and (104):

- (103) definite NPs: demonstrative NPs, pronouns, names  
 universally quantified NPs: *suoyou de* N ‘all of the N’,  
*meige* N ‘every N’  
*most* N: *daduoshu de* N ‘most N’,  
*dabufen de* N ‘most N’  
*some* N: *mou xie* ‘certain N’  
 bare numeral Det: *liangge* N ‘two N’
- (104) decreasing NPs: *shige yixia de* N ‘fewer than ten N’  
 modified numeral Det: *shilai ge* N ‘about ten’,  
*san wu ge* N ‘three to five N’

Liu claims that the distinction in Chinese is in fact supported by evidence within the language itself: G-specific NPs are all and only the NPs that can be quantified by *dou* ‘all’, the universal quantifier. The behaviour of *dou* has been discussed extensively in recently literature (Lee (1986) and Cheng (1995), among others). Syntactically it is an adverb; it occurs preverbally, and it quantifies over NPs to its left. In general, universally quantified NPs have to occur with *dou*:

- (105) a.\* Meige xuesheng jiao-le zuoye  
 every-CL student turn-in-ASP assignment  
 ‘Every student turned in the assignment.’  
 b. Meige xuesheng *dou* jiao-le zuoye  
 every-CL student all turn-in-ASP assignment  
 ‘Every student turned in the assignment.’
- (106) a.\* Suoyou de xuesheng hui jia le  
 all DE student return home ASP  
 ‘All of the students have gone home.’  
 b. Suoyou de xuesheng *dou* hui jia le  
 all DE student all return home ASP  
 ‘All of the students have gone home.’

In addition, certain NPs may optionally occur with *dou*. When accompanied by *dou*, these NPs are universally-quantified. (107) are some examples:

- (107) a. Sanjia gongsi dou shi tade  
 three-CL company all be his  
 ‘The three companies are all his.’
- b. Kaojuan dou shouqi le  
 exam all collect ASP  
 ‘The exams have all been collected.’
- c. Dabufen de jiedao dou you zuozhuan xian  
 most DE street all have left-turn lane  
 ‘Most of the streets have left turn lanes.’ (For most streets, they all have left turn lanes.)

The subject is an indefinite NP in (107a), bare NP in (107b), and the proportional NP ‘most N’ in (107c). These are G-specific NPs. In fact, when we consider which NPs can be quantified by *dou*, it turns out that all and only the ones that are assumed to be G-specific can be so quantified. Thus besides the NPs in (107), definite NPs and NPs that denote ‘certain N’ are also compatible with *dou*:

- (108) a. Women dou meiyou shuohua  
 we all not-ASP speak  
 ‘None of us said a word.’ (All of us did not speak.)
- b. Mouxie canguan dou guanbi le  
 certain restaurant all close ASP  
 ‘Certain restaurants have closed.’ (For certain restaurants, they have all closed.)

Non-specific NPs, however, cannot occur with *dou*:

- (109) a. \*Sanwu ge xiaohai dou zai gongyuan wan  
 three-five CL child all at park play  
 ? ‘Three to five children are all playing at the park.’
- b. \*Shige yixia de keren dou tizao zou le  
 ten-CL below DE guest all early leave ASP  
 ? ‘Less than ten guests have all left early.’

Thus, according to Liu, *dou* divides NPs in Chinese into two classes, and they correspond to G-specific and non-specific NPs established on the basis of facts concerning quantifier scope in English.

Returning to *ba*, as we consider the NPs allowed in *ba* against the G-specific/non-specific distinction, i.e., comparing (97–98) with (103–104), we see that the two lists are remarkably similar. In fact, NPs occurring with *ba* are precisely the ones that are considered to be G-specific by Liu. First of all, NPs generally recognized to occur in the *ba* context – demonstrative NPs, pronouns, names – are individual-denoting and are G-specific. Further, the quantified G-specific NPs in (103), i.e., NPs not previously considered, are included in (97). For the NP types not in (103) but compatible with *ba* – bare NPs and possessive NPs – they are also G-specific since they can be universally quantified.

Thus the NPs allowed in the *ba* context cover a wider range of NPs than is generally included in the class of specific NPs. However, we see that if we adopt the generalized notion of specificity proposed by Liu, then these NPs are indeed specific in the extended sense. Extended this way, specific NPs in Chinese are defined as NPs that can be universally quantified, i.e., NPs that can occur with *dou*.

A note of clarification is in order here. When we say that the *ba* NP is G-specific, we consider only the types of NP that can occur in this context. G-specificity does not say how the *ba* NP is going to be interpreted. Thus it is well-known that certain indefinite NPs, e.g., *sanben shu* ‘three books’, can be interpreted either ‘specifically’ or ‘non-specifically’. So far we have not explained why this is the case. This will be taken up in section 5.

## 5. RELATING THE *BA* NP TO THE *BA* PREDICATE

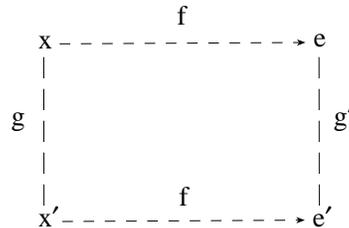
### 5.1. *Dependency*

I have devoted considerable space to the description of *ba*'s environment because so far *ba*'s distribution has resisted a satisfactory description in the literature. The intent here is to show that there is a general principle that governs the interplay between various syntactic and semantic factors with respect to *ba*. The various contexts that allow *ba* can all be subsumed under a simple description – the predicate denotes a bounded event, and the *ba* NP is specific in the sense of Liu (1990).

We are now ready to consider the predicate and the *ba* NP together. I will suggest that the restrictions on the predicate and the restrictions on the *ba* NP are connected; that is, there is a dependency between the *ba* NP argument and the predicate, and boundedness and specificity are

different manifestations of a property that holds of the dependency. The dependency can be characterized in terms of a very simple notion in semantics. The idea has been explored in Krifka (1989) and Dowty (1991), where the way the aspect of telic predicates depends on their NP arguments is captured in terms of a structure-preserving function – a homomorphism.

Dowty (1991) relies on homomorphism to characterize a new type of thematic role, which he calls Incremental Theme. An Incremental Theme is an argument of a telic predicate, which expresses a dependency between the argument denotation and the aspect of the event described by the predicate. For example, in evaluating the event described by *eat an apple*, we can find out the aspect of the event – completed, part-way through, not yet begun – by looking at the apple. If the apple is half-gone, then we know the event is also half-way through; whereas if the apple is gone, then we know the event is completed. This dependency can be captured in terms of a function that is structure preserving. Thus the meaning of a telic predicate is a function which maps the argument denotations into the domain of events, and in telic predicates the structure that is preserved is the ‘part of’ relation: If  $x$  is mapped to the event  $e$ , then part of  $x$  is also mapped to part of  $e$ . This is given in the following diagram, where  $x'$  is part of  $x$  and  $e'$  is part of  $e$ ,  $f$  is the homomorphism, and  $g, g'$  are comparable relations that hold of  $(x, x')$  and  $(e, e')$ , respectively. The structure-preserving property guarantees that  $f(g(x)) = g'(f(x)) = e'$ .



Our suggestion is that homomorphism also offers an elegant way to capture the meaning of *ba* predicates. I will take the meaning of a *ba* predicate to be a homomorphism that maps the *ba* argument denotations into the domain of events, and the structure that is preserved in this case is the ‘all of’ relation. For example, *xiewan* ‘write and finish’ in *ba zhefengxin xiewan* ‘write and finish the letter’ maps *zhefengxin* ‘this letter’ to the event writing and finishing this letter. The ‘all of’ relation that is preserved in the mapping makes sure that all of the letter – the entire letter – is mapped to all of the event, i.e., finishing the letter. In the case of *ba dangao chi-le yiban* ‘ate half of the cake’, the *ba* predicate maps

the cake to the event described by the *ba* predicate – eating half of the cake. Again, the ‘all of’ relation that is preserved guarantees that all of the cake is mapped to the entire event, which is eating half of the cake. Here, the dependency between the aspect of the event and the NP denotation is quite obvious – in order to know if the event is complete (i.e., whether half of the cake is eaten), one needs to know the size of the entire cake.

When applied to the predicate, the ‘all of’ relation characterizes the event as bounded since only events that are bounded can enter into the ‘all of’ relation. Unbounded events like ‘know Japanese’ cannot be quantified because such events do not have boundaries – beginning point and terminal point – and it does not make sense to consider an ‘entire’ event of knowing Japanese. Only events with boundaries (both end points) provide a domain for universal quantification. Similarly, when it comes to NP denotations, the ‘all of’ relation makes sure that the individuals can be quantified by ‘all of’. And only G-specific NPs denote individuals that can be so quantified. Further, for indefinite NPs that in principle can be interpreted either ‘specifically’ or ‘non-specifically’, only the ‘specific’ interpretation will be possible. Consider (110):

- (110) Wo hui ba sanben shu dou fangzai zhuoshang  
 I will BA three-CL book all put-at table-on  
 ‘I will put all three books on the table.’

In this sentence the *ba* NP is the indefinite *sanben shu* ‘three books’, and it is (G)-specific since it can occur with the universal quantifier *dou*. Now *sanben shu* is interpreted ‘specifically’ as ‘the three books’, and when the event has reached its end, all of the three books will be on the table. Now if *sanben shu* were interpreted ‘non-specifically’, as any set of three books, then such individuals would not be able to be quantified by ‘all of’ since there is no domain in which the quantification can take place. Likewise, if the NP were non-specific, such as *budao wuben shu* ‘fewer than five books’, its denotation would not be able to be quantified by ‘all of’ either, for the same reason. It does not make any sense to have an individual which is all of the fewer than five books. Thus the ‘all of’ relation inherent in the *ba* predicate ensures that the *ba* NP is G-specific and that indefinite NPs in this context are interpreted ‘specifically’.

Further, the ‘all of’ relation will ensure that the *ba* argument participates in the entire event. Therefore, if an argument only participates partially in a bounded event, *ba* will not be allowed. The predicates in (111) are such cases:

- (111) a. *kandao dierzhang* ‘read up to chapter two’  
 b. *kanjian Laowang* ‘see Laowang’

In (111a) chapter 2 participates in only the final point of the event, and in (111b) Laowang is part of the event only as a result of the seeing; the argument has not gone through the entire event, even though the latter concerns an instant event. (112) shows that *ba* cannot occur in these predicates:

- (112) a. \**Jintian women ba dierzhang kandao-le*  
 today we BA chapter-two read-up-to-ASP  
 ‘Today we read up to chapter two.’  
 b. \**Wo ba Laowang kanjian le*  
 I BA Laowang see ASP  
 ‘I saw Laowang.’

In the following we consider some other consequences that follow from our analysis.

## 5.2. Consequences

### 5.2.1. *Non-Quantifiable Events and NP Denotations*

NP denotations and events incompatible with the ‘all of’ relation are incompatible with *ba*. That is, NP denotations and events not quantifiable cannot occur with *ba*.

Since only events with a beginning and an end can be quantified by ‘all of’, it follows that States and Activities don’t occur with *ba*. Both States and Activities lack the beginning and end points: the former describe situations that are stable and homogeneous while the latter concern dynamic processes. Indeed they don’t occur with *ba*. (113) illustrates that Activities, even when presented perfectly, do not license *ba*, and (19) above is an example of States not compatible with *ba*:

- (113) a. *Wo jintian zongsuan qi-le che*  
 I today finally ride-ASP bike  
 ‘I finally rode the bike today.’  
 b. \**Wo jintian zongsuan ba che qi-le*  
 I today finally BA bike ride-ASP  
 ‘I finally rode the bike today.’

(114)(=19) \*Laowang ba Li xiaojie xihuan  
 Laowang BA Li miss like  
 ‘Laowang likes Miss Li.’

As for the effect on the *ba* argument, see section 5.2.2.

### 5.2.2. *More on the Specificity Effect*

In section 5.1 I have shown that the ‘all of’ relation is responsible for why the *ba* NP is specific (in the generalized sense) and why the indefinite is interpreted ‘specifically’. We can now see that the reason why the *ba* NP is specific is closely related to the event being bounded. On our view, then, specificity of the *ba* NP, in terms of either NP types or NP interpretation, need not be stipulated separately as an additional requirement on the construction. It follows from the ‘all of’ relation in the meaning of the *ba* predicate. This property is reflected as specificity on the NP argument and bounded events on the predicate. I take the correlation between the *ba* NP and the predicate as a central property of the construction.

We can also see that only on the extended sense of specificity can we accommodate all of the NPs that occur with *ba*. Note that G-specific NPs may or may not have a specific reference or denote an individual the speaker has in mind. Although these notions are often relied upon in the discussion of the *ba* NP, they cannot be considered as reliable criteria for the *ba* NP. These notions are rather vague; further, they cannot be applied to universally quantified NPs. Here we have provided a semantic account for why the *ba* NP is specific – it has to do with the meaning of the *ba* predicate.

### 5.2.3. *The Total Affectedness Effect*

When the predicate contains a verb of affectedness, the individual denoted by the *ba* NP may exhibit a total effect of the affectedness. This follows from the ‘all of’ relation that is preserved in the mapping from the NP denotations to the events. Since, as suggested in section 3.3, an event may be bounded on the basis of the situation alone or on the basis of both the situation and the aspectual viewpoint, the total effect of the affectedness may also show up in two ways. First, when the situation is bounded, depending on how it is presented, the total effect may have already taken place ((115)) or will take place ((116)):

- (115) a. Ta song-le hua gei wo.  
 he give-ASP flower to me  
 ‘He gave me flowers.’
- b. Ta ba hua song-(le) gei wo.  
 he BA flower give-ASP to me  
 ‘He gave me the flowers.’
- (116) a. Wo zhengzai wang wuli ban jiaju  
 I Prog toward room-in move furniture  
 ‘I am moving furniture into the room.’
- b. Wo zhengzai ba jiaju wang wuli ban  
 I Prog BA furniture toward room-in move  
 ‘I am moving the furniture into the room.’

In the (a) sentences the individual may or may not be completely affected, but in the (b) sentences the individual is definitely affected as a whole. Thus in (116), for example, once the event reaches the end, all of the furniture understood in the context will be in the room. In this case, then, it is the meaning of the predicate that is responsible for the totality of the effect.

The individual may also be completely affected because the event is presented perfectly:

- (117) a. Lai he hongdou tang  
 come drink red-beans soup  
 ‘Come eat the red beans soup.’
- b. Lai ba hongdou tang he-le  
 come BA read-beans soup drink-ASP  
 ‘Come eat up the red beans soup.’

In (a) the addressee is asked only to eat some of the soup, but in (b) the addressee is asked to eat all of the soup.

Notice that the ‘all of’ relation is not responsible for the affectedness. Rather, we assume, along with Mei (1978) and Tenny (1987), among others, that affectedness is a property of the verb. A *ba* verb may or may not have the property of affectedness. The ‘all of’ relation contributes to the totalness of the effect only when the affectedness effect is present. Thus, as expected, not all *ba* sentences exhibit the affectedness effect. This was seen earlier in (3b), repeated here:

- (118) Ta ba yige dahao jihui cuoguo le  
 he BA one-CL big-good opportunity wrong-pass ASP  
 'He let a great opportunity pass.'

In such cases, affected is absent, and naturally there is no total affectedness.

#### 5.2.4. *The Transfer Effect*

Since the meaning of a predicate is taken to be a mapping between the argument denotations and the events, certain properties can be transferred from one domain to the other. Thus for example, the property of countability is transferred from the argument domain to the event domain (Krifka (1989)), with the result that a countable NP is mapped to a countable event – Accomplishment – whereas an uncountable NP is mapped to an uncountable event – Activity. Another case of transfer from the argument domain to the event domain is seen in the marking of progressive in German and Finnish, discussed in Krifka (1992). In these two languages progressivity is not marked by verbal morphology but is marked on an argument of the verb, by a prepositional or partitive case marking. Krifka says that this is because a partitive object corresponds to an event that is not complete, hence progressivity. Therefore, how the NP argument is expressed can have an effect on the aspectual properties of the predicate.

Krifka (1992) shows that the transfer can in fact go the opposite direction as well. Thus in Slavic languages when an NP is not marked for definiteness, aspect marking can distinguish between the definite and indefinite interpretation of that NP. Perfectivity forces the definite interpretation, while the imperfect aspect gives rise to the indefinite interpretation.

*ba* sentences also exhibit a transfer of reference from the event domain to the NP argument. Consider the following sentences:

- (119) Ta ba yitiao shoupa diu-le  
 he BA one-CL handkerchief lose-ASP  
 'He lost a handkerchief.'
- (120) a. \*Ta ba yitiao shoupa shi-le  
 he BA one-CL handkerchief pick-up-ASP  
 b. Ta ba yitiao shoupa shiqilai-le  
 he BA one-CL handkerchief pick-up-Dir-ASP  
 'He picked up a handkerchief.'
- (121) Ta ba neitiao shoupa diu-le  
 'He lost that handkerchief.'

- (122) Ta ba neitiao shoupa shi-le  
 ‘He picked up that handkerchief.’

These sentences have long been observed in the literature. L. Wang (1945) says (120a) is ill-formed because the event is accidental. Lü (1948), on the other hand, attributes the unacceptability of (120a) to the indefiniteness of the *ba* NP; on his view a definite NP would render the sentence acceptable, hence (121). However, the contrast between (119) and (120a) remains unaccounted for, as both have indefinite NPs. And yet (119) is well-formed, and (120a) is not.

What we can observe from (119–122) is that there is a contrast between sentences with *diu* ‘lose’ and sentences with *shi* ‘pick’, but the contrast shows up only when the *ba* NP is indefinite (cf. (121–122)). There is a sense that the *ba* NP in (120a) is less ‘specific’ than the *ba* NP in (119). Although it is difficult to be precise about the nature of the difference, we can see that it has to do with the nature of the event. A handkerchief that got lost is more likely to be a particular one, whereas a handkerchief that was picked up could be any handkerchief. Assuming that the lack of ‘specificity’ or particularity of the handkerchief is what is responsible for the ill-formedness of (120a), the question that arises is: why is (120b) well-formed then? This is where the transfer effect comes in. We know that the indefinite NP associated with the picking event is not ‘specific’ enough; however, it can be made more specific if the event is more specific. One way of making an event more specific or particular is to provide a clear ending for it, and in Chinese this involves attaching complements to the verb, e.g., the directional complement. Thus (120b) is a more specific event than (120a) because in (120b) the final point of the event is clearly indicated. And the specificity of the event in (120b) is transferred to the indefinite NP. Hence the well-formedness of (120b).

What is transferred in this case, then, is the specificity property, and it is transferred from the predicate to the *ba* argument.

## 6. CONCLUSION

In this paper I have looked at the *ba* sentences from an aspectual point of view. The context where *ba* can occur is event-dependent, and I have characterized the dependency between the *ba* argument and the aspectual properties of the predicate in terms of a homomorphism. Restrictions on both the *ba* NP and the predicate are thus accounted for. In section 3.3 we mentioned that the *ba* construction is unique cross-linguistically; there are no other languages where exactly the same range of predicate struc-

tures is involved with an NP argument. We suggested that this has to do with the existence of the imperfect (durative) marker *-zhe*. However, once the various restrictions on *ba* are shown to follow from mappings that are structure-preserving, we can see that the *ba* construction is only one type of such mappings. Other types of structure-preserving mappings can be found in English (Dowty (1991)), Finnish and German, and Slavic languages (Krifka (1992)). Looked at this way, the *ba* construction is not unique after all. It is but an example of how aspectual considerations constrain both the predicate and the NP argument in Chinese. In this study I have not discussed how the *ba* sentences are to be analyzed syntactically, but my analysis supports an approach which takes the *ba* NP as an argument assigned by the entire predicate, including the aspect marker. Huang (1992) is one such analysis, where the notion of complex predicates is applied to the *ba* sentences. Further, in line with Krifka's (1989) proposal that nominal reference and events are linked by thematic relations, one can look into the possibility that the *ba* NP is assigned a thematic role by the aspectual phrase. This will be an area to be explored in future research.

#### NOTES

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<sup>1</sup> Thompson (1973) notes that the notion transitivity does not provide a complete explanation for the *ba* construction. However, she points out that transitivity is useful in explaining the behaviour of the retained object construction and the extent construction (also known as the resultative construction), illustrated in (i) and (ii) respectively:

(i) ta ba zhimen ti-le yige dong  
he BA paper-door kick-ASP done-CL hole

'He kicked a hole in the paper door.

(ii) ta ba duzi ku de dou teng le  
he BA stomach cry DE all ache ASP

'He cried so much that his stomach hurt.

<sup>2</sup> In fact, (3a) not only presents a problem for the disposal analysis, it also poses difficulty for the aspectual approach that we will propose later. The problem is that the predicate *hentou* 'hate thoroughly' appears to denote a state, and yet most statives don't occur with *ba*. It is therefore a puzzle why *ba* is allowed in (3a). However, close examination reveals that in fact (3a) does not denote a state; rather, *hentou* has the structure V+resultative verb complement and denotes a bounded situation. This can be seen by contrasting *hentou* with *hen* 'hate', the latter denoting a state:

- (i) a. Wo hen hen Laowang  
I very hate Laowang  
'I hate Laowang very much.'
- b. Ta zuishang bu shuo, xinli hen-zhe ne  
he mouth not say heart-in hate-ZHE Prt  
'Although he does not say, in his heart he hates it.'
- (ii) a. \*Wo hen hentou Laowang  
I very hate-thoroughly Laowang  
'\*I hate Laowang thoroughly very much.'
- b. \*Ta xinli hentou-zhe ne  
he heart-in hate-thoroughly-ZHE Prt  
'He hates it thoroughly in his heart.'

First, only statives can be modified by *hen* 'very', and the (a) sentences show that *hentou* cannot be modified by *hen* 'very', while *hen* 'hate' can. Further, the (b) sentences suggest that *hentou* does not take the imperfect marker *-zhe*, whereas *hen* does. In section 3.3.1 we will propose that non-statives that cannot be marked by *-zhe* denote bounded situations. (3a) is precisely such a case – it is non-stative and cannot be marked by *-zhe*.

<sup>3</sup> There is another view in the syntactic approach to which the difficulties raised do not apply. In this view *ku de xin fan* 'cry DE disturbed' is a complex predicate, and *wo* 'I' is the object of the complex predicate. This view is advocated in Huang (1992).

<sup>4</sup> By this I mean verbs such as *xie* 'write', *shuo* 'speak' but not *xie-wan* 'write and finish' or *shuo-qingchu* 'speak clearly'. The latter are complex verbs that are plausibly outputs of a word formation process which combines a basic verb and a verb or adjective expressing a resultative state, traditionally called resultative verb complement, into a complex resultative verb.

<sup>5</sup> No particular significance is attached to the order in which the nine cases are presented, except that the first six cases are more commonly discussed in the literature. I will not include cases like (i), which is not acceptable to most modern Mandarin speakers:

- (i) Ta ba baba si-le  
he BA father die-ASP  
'His father died on him.'

<sup>6</sup> In Chen's system, Simple Changes are atelic, as shown in Table 1; however, Yong departs from this and regards Simple Changes as telic.

<sup>7</sup> I thank a reviewer for bringing my attention to the subinterval property. Dowty initially applies the subinterval property to sentences, but he says it can be applied to predicates as well: If a predicate when combined with definite NPs to form an atomic sentence (but without aspectual modifiers or indefinite plurals) has the subinterval property, then it is a state or an activity. This is how (36) is derived.

<sup>8</sup> Further, progressives mark successive stages as well as static stages, depending on the predicate. Therefore progressive marking does not always signal static stages.

<sup>9</sup> Yong did not consider the structure Adv + V.

<sup>10</sup> I thank a reviewer for pointing out that the completion of action is an inference but not part of the meaning of *-zhe*.

<sup>11</sup> I thank James Huang for offering these examples.

<sup>12</sup> This does not mean that if a predicate cannot be marked by *-zhe*, then it will accept *ba*. The only correlation established here is between *-zhe* and bounded situations. However, not

all bounded situations license *ba*. In section 5 I will suggest that the meaning of the *ba* predicate is a structure-preserving function, a homomorphism. Predicates expressing bounded situations, i.e., not allowing *-zhe* but nonetheless non-structure-preserving, will not accept *ba*.

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