Analysis of Complex Predicates in Mandarin Chinese

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Abstract

This project examines complex predicates in Mandarin, which is a language abundant in complex predicates. The approach of syntactic and semantic analyses in this study is based on the Simpler Syntax model developed by Culicover and Jackendoff (2005), which incorporates the LCS (Lexical Conceptual Structure) approach of Jackendoff (1990), with some minor adjustments to account for my analysis of eventuality structure. This study is also supplemented by approaches taken from other previous studies as necessary.

This study proposes a two-dimensional classification for Mandarin complex predicates. Complex predicates in this study are classified as monoclausal or polyclausal in the syntactic dimension and as resultatives, depictives, directionals, etc. in the semantic dimension. Monoclausal resultatives and polyclausal serial verb constructions with bleached verbs are given particular focus in the thesis and discussed in detail.

Naturally occurring sentences show that some monoclausal resultatives can take imperfective aspect categories. I suggest two sources for the compatibility between these resultatives and the imperfective aspect categories: (a) iterative readings and (b) focus on the process portions of resultatives. A questionnaire undertaken with native speakers shows that compatibility between resultatives and the Progressive Aspect may also be influenced by polarity.

The verb na, which has a full verb meaning of ‘take’ with the hand as the default body part, can be used as a bleached verb and employed as an instrument marker in polyclausal serial verb constructions. A corpus of mouth and foot painting artists-related articles are collected for the analysis of na, where the executive body part is not the hand. The analysis of sentences in the corpus shows that the distinction between full and bleached verbs is not categorical and that verb bleaching can be influenced by pragmatic factors such as context.
Declaration

I declare that:

a. This thesis comprises only my original work towards the degree of Doctor of Philosophy;

b. Due acknowledgement has been made in the text to all other material used;

c. Full ethics procedures and guidelines have been followed;

d. The thesis is fewer than 100,000 words in length exclusive of tables, figures, maps, foreign language examples, references and appendices.

________________________________________

Anthony Chi-Pin Hsu
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## Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ACTL</td>
<td>Actual Aspect marker</td>
</tr>
<tr>
<td>ASSOC</td>
<td>associative</td>
</tr>
<tr>
<td>CL</td>
<td>classifier</td>
</tr>
<tr>
<td>CONT</td>
<td>Continuative Aspect marker</td>
</tr>
<tr>
<td>COS</td>
<td>change of state</td>
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<tr>
<td>CSC</td>
<td>complex state construction</td>
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<tr>
<td>DUR</td>
<td>Durative Aspect marker</td>
</tr>
<tr>
<td>EXP</td>
<td>Experiential Aspect marker</td>
</tr>
<tr>
<td>GEN</td>
<td>genitive/possessive</td>
</tr>
<tr>
<td>INC</td>
<td>Inceptive Aspect marker</td>
</tr>
<tr>
<td>LA</td>
<td>particle <em>la</em></td>
</tr>
<tr>
<td>NEG</td>
<td>negation</td>
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<tr>
<td>NOM</td>
<td>nominalization</td>
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<tr>
<td>NUM</td>
<td>numeral</td>
</tr>
<tr>
<td>PROG</td>
<td>Progressive Aspect marker</td>
</tr>
<tr>
<td>SA</td>
<td>solicit agreement</td>
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Chapter 1: Introduction

1.1 Introduction

This project examines complex predicates in Mandarin. Mandarin is a language abundant in complex predicates. Sentences with complex predicates had been noticed in Mandarin grammar as early as in the nineteenth century (Ma 1998, Song 1998, Song 2000, Zhai 2009), however, there is still disagreement on issues such as definition and categorization. Although the existence of complex predicates has now been generally accepted, many of the previous studies have been focused on the categorization of complex predicates in Mandarin (Zhai 2009). With this project, I would like to bring a more detailed analysis of complex predicates in Mandarin by taking syntactic, semantic, and pragmatic perspectives and their interactions into consideration. In doing so, I will include a larger range of verb constructions in the research object. I will give a special focus on the interaction between aspect and resultative verb constructions (RVCs) and semantic bleaching in serial verb constructions (SVCs).

A predicate predicating an event can be monomorphemic or composed of more than one morpheme. Sometimes the morphemes are bound, and sometimes they can be independent words. Languages can vary in the productivity of the combinations of such predicational elements.

A predicate composed of multiple predicational elements is often called a complex predicate. There are many types of complex predicates, and complex predicates can be classified along many different dimensions, for example, according to morphological structure, syntactical behavior, the way subeventualities contribute to the whole predicate associated with one another, etc (Aikhenvald 2006a, Alsina, Bresnan, & Sells 1997, Baker & Harvey 2010, Butt 2010, Chang 2001, Fan 2016, Li & Thompson 1981, Zhai 2009). Although the compositionality of the meaning of a complex predicate is usually assumed, the meaning of a complex predicate is not necessarily the sum of the meanings of all of its constituents. For example, the complex predicate *chi bao* ‘full from eating’ in (1.1) has the meaning that the subeventuality of John’s eating caused the subeventuality of John’s being full. However, the causality relation between the subevents is not overtly
expressed in the complex predicate (Tham 2012), either by the lexeme chi ‘eat’ or by bao ‘full’:

(1.1) Yuehan chi bao fan le.
John eat full rice ACTL

‘John was full from eating (rice)/having his meal.’

The non-compositionality of complex predicates has also been observed by Tham (2012). Besides the causality in (1.1), there may be other logical relations which are not overtly expressed in complex predicates, and I will discuss this problem in 1.2. In addition, I propose that complex predicates sometimes require pragmatic inferences as well as semantic compositionality in order to be properly interpreted in context, and I will discuss the pragmatic inferences in Chapter 4.

As a means of predicking events, complex predicates can be found in many languages around the world. Complex predicates in Mandarin are not only productive, commonly employed, but also rich in variety. There are various types of complex predicates with different behaviors in Mandarin, and they can be classified according to the semantic relationship between the constituents, the shared arguments of the constituents, the syntactic relationship between the constituents, the degree of idiosyncrasy of the complex predicates, etc. (1.2) – (1.14) are some examples of complex predicates. Among complex predicates in Mandarin, there are resultatives as in (1.2) and (1.3), depictives as in (1.4), directionals as in (1.5) and (1.6), and serial verb constructions with temporally successive eventualities as in (1.7). The constituents of a complex predicate can have a shared argument as in (1.2) and (1.4) or no shared argument as in (1.3), and they can be adjacent as in (1.2) – (1.5) or separated as in (1.6) – (1.9). The meaning of a complex predicate can be largely compositional as in (1.2) – (1.7) or idiosyncratic as in (1.8). The component verbs of complex predicates can be temporally iconic as in (1.9) or not, as in (1.10), and they can be transparent in meaning as in (1.11) or obscure as in (1.12). Combinations of component verbs may be acceptable as in (1.13) and unacceptable as in (1.14). It should also be noted that there is quite a bit of flexibility with respect to the arrangement of involved arguments and adjacency of predicates, both of which are concerns of the literature on complex predicates (Alsina, Bresnan, & Sells 1997, Baker & Harvey 2010, Butt 2010, Aikhenvald 2006a, Chang 2001, Li & Thompson 1981, Fan 2016, Zhai 2009). Chi bao ‘eat full’ in (1.2) is a resultative with adjacent constituents sharing an argument.
(1.2) Ta chi bao fan.
he eat full rice
‘He is full from eating (rice)/having his meal.’

Xiao wan ‘laugh bent’ in (1.3) is a resultative with adjacent constituents sharing no argument.

(1.3) Ta xiao wan yao.
he laugh bent waist
‘He laughs so much/in such a way that his waist bends.’

Sheng chi ‘raw eat’ in (1.4) is a depictive with adjacent constituents sharing an argument.

(1.4) Yuehan sheng chi shucai.
John raw eat vegetable
‘John eats vegetables raw.’

Both (1.5) and (1.6) are directionals. However, the constituent verbs na ‘take’ and lai ‘come’ are adjacent in (1.5) but separated in (1.6).

(1.5) Yuehan na lai le yi ben shu.
John take come ACTL one CL book
‘John took a book and came.’

(1.6) Yuehan na le yi ben shu lai.
John take ACTL one CL book come
‘John took a book and came.’

Dao… he ‘pour… drink’ in (1.7) is a serial verb construction and the constituent verbs are separated.

(1.7) Ta dao shui he.
he pour water drink
‘He pours the water to drink.’

Dong ben xi zou ‘east run west run’ in (1.8) is a four-character idiom and a serial verb construction. Dong ben xi zou has an idiosyncratic interpretation of rushing around for
something rather than literally meaning that someone really runs to the east and runs to the west.

(1.8) Ta wei qian dong ben xi zou.
    he for money east run west run
‘He rushes around for money’

Mai… he ‘buy… drink’ in (1.9) is a serial verb construction, and the component verbs mai ‘buy’ and he ‘drink’ are temporally iconic.

(1.9) Yuehan mai guozhi he.
    John buy juice drink
‘John bought juice to drink.’

Zai… kan… ting… ‘be… see… listen…’ in (1.10) is a serial verb construction, and kan ‘look’ and ting ‘listen’ are in the Delimitive Aspect marked by reduplication. The component verbs kan ‘look’ and ting ‘listen’ are not temporally iconic.

(1.10) Zhoumo Yuehan zai jia li kan kan dianshi ting ting
    weekend John be home inside look look television listen listen
    yinyue.
    music
‘One the weekends, John watched television (a bit) and listened to music (a bit) at home.’

Dai… qu… ‘bring… (go) to…’ in (1.11) is a serial verb construction, and the meanings of the component verbs dai ‘bring’ and qu ‘go to’ are transparent in the serial verb construction.

(1.11) Yuehan dai shu qu Mali jia.
    John bring book go to Mary home
‘John brought a book to Mary’s home.’

Ti… mai…, literally ‘change… buy…’, i.e. ‘for… to buy…’ in (1.12) is a serial verb construction, and the meaning of the component verb ti ‘change’ is not transparent.
(1.12) Yuehan ti Mali mai shu.
John change Mary buy book
‘John bought a book for Mary.’

Kai chang ‘open sing’ in (1.13) can occur together with the meaning ‘start to sing’.

(1.13) Yuehan zhunshi kai chang.
John on.time open sing
‘John started to sing on time.’

Kai chi ‘open eat’ in (1.14) cannot occur together with the meaning ‘start to eat’.

(1.14) * Yuehan zhunshi kai chi.
John on.time open eat
‘John started to eat on time.’

The foregoing demonstrates that Mandarin has a rich inventory of complex predicate types. In Chapter 3 and Chapter 4, I will describe these different behaviors of complex predicates in a more detailed way. Chapter 3 deals with monoclausal complex predicates such as chi bao ‘eat full’ in (1.2). Chapter 4 deals with polyclausal complex predicates such as ti… mai… ‘change… buy…’ in (1.12).

There are several issues about complex predicates in Mandarin which this study is going to address. First, monoclausality is identified as a criterium for complex predicates in previous studies such as Aikhenvald (2006a) and Baker & Harvey (2010). However, in some Mandarin complex predicates, component verbs can have their own sets of grammatical functions and take different aspect markers. For these complex predicates, a monoclausal analysis is not suitable for their syntactic behaviors. This study will present evidence that Mandarin complex predicates can be monoclausal or polyclausal, and clause chaining will be used for the analysis of polyclausal complex predicates. Clause chaining will be introduced in 4.1.1.

Second, predicating a single eventuality is identified as a characteristic by previous studies such as Baker and Harvey (2010), Butt (2010), and Aikhenvald (2006a). Component verbs of a complex predicate can predicate their own eventuality. This can be reconciled by the argument that the eventualities predicated by component verbs in a
complex predicate are subeventualities of an overall eventuality which is predicated by that complex predicate. This study takes a more open stance in assuming that these subeventualities can be linked by various logical relations such as causality, manner, objectivity, etc. Lexical Conceptual Structure (LCS) (Jackendoff 1990) is adopted in this study for analysis at the semantic level. In order to analyze the meanings of complex predicates, conjunctive functions are introduced for describing the logical relations which link subeventualities into overall eventualities. Conjunctive functions, which can complement LCS in the analysis of the meanings of complex predicates, are introduced in Chapter 2.

Third, from the two issues aforementioned, it can be observed that the differences among Mandarin complex predicates have at least two dimensions. There is the monoclausality/polyclausality distinction, which is syntactic. The logical relations between component verbs can be causality, manner, objectivity, etc., which are semantic. Classifications of Mandarin complex predicates in previous studies are often mixtures of considerations of the two dimensions Ding et al. (1961), Li and Thompson (1981), Tao (2009), and Yin (2010). The study of Fan (2016) discusses these two dimensions separately, however, Fan (2016) does not include bi-clausal constructions in serial verb constructions (SVCs). This study will take a similar approach as that of Fan (2016) in introducing syntactic and semantic classifications separately and a different stance from that of Fan (2016) in admitting that Mandarin complex predicates can be monoclausal or polyclausal.

Fourth, Xiao and McEnery (2004) claim that monoclausal RVCs in Mandarin are associated with the Completive Aspect and that the Completive Aspect is incompatible with the Progressive Aspect (Xiao & McEnery 2004: 169). Although they admit that some monoclausal RVCs can occur with the Progressive Aspect, which is contradictory to their claim that the Completive Aspect is incompatible with the Progressive Aspect, they claim that completive RVCs, for example RVCs of which V₂ is wan ‘finish’ (Xiao & McEnery 2004: 162), are strictly incompatible with the Progressive Aspect (Xiao & McEnery 2004: 213). However, there are in fact naturally occurring sentences where completive RVCs cooccur with the Progressive Aspect. (1.15) and (1.16) are examples of naturally occurring sentences where the completive RVCs chi wan ‘eat finish’ and yong wan ‘use finish’ cooccur with the Progressive Aspect marked by zhengzai-:
The residents in the area of Chaihe Town, who were finishing their meals, felt that it was like being caught in a car in emergency braking when the earthquake happened – their bodies flickered and rocked...

The issue of the interaction between RVCs and the Progressive Aspect is addressed in Chapter 3. I propose that iterative reading and focusing on the process parts are two of the sources of the compatibility between monoclausal RVCs and the Progressive Aspect. A survey is conducted to provide empirical evidence for the argument that focusing on the process parts is related to the compatibility between monoclausal RVCs and the Progressive Aspect. The survey will be presented in more detail in Chapter 3.
Fifth, besides lexical entries and morphosyntactic structures, meaning can also be conveyed by context. Nuances in the meaning of utterances with the same surface forms are often decided by context. Meanings conveyed by context may conflict with the meanings carried by lexical entries and structures in utterances. I would like to see what part context plays in generating distinct interpretations of utterances with the same surface form containing complex predicates in Mandarin. I would also like to see if pragmatic meaning can interfere with surface form if there are conflicts among the meanings conveyed by context, lexical entries, and structures. Na ‘take’ in some polyclausal SVCs can have either a bleached verb reading as an INSTRUMENT marker and or full verb reading (thematic roles henceforth in this study will be in upper case). In this study, a corpus of mouth and foot painting artist-related articles with the verb na ‘take’ in polyclausal SVCs is collected. The default body parts of na ‘take’ are hands, but the executive body parts of na ‘take’ in the corpus are not hands, hence, there is a conflict in meaning. The interaction among the context, where the executive body parts of na are not hands, the bleached verb reading, where na functions as an INSTRUMENT marker, and the full verb reading, where na has the meaning of ‘take’ with hands as the default body parts are investigated in Chapter 4. Semantically bleached na as an INSTRUMENT undergoes grammaticalization, and it is noted by Traugott and König (1991: 192-193) that such semantic change involves speaker-hearer negotiations and interactions. In Chapter 4, I will propose a model for the speaker-hearer negotiation and a pragmatic function working at the semantic level to complement the LCSs in order to deal with the speaker-hearer negotiation and the semantic change brought by context.

1.2 Previous Studies and Comments

In section 1.1, I presented a brief introduction to complex predicates in Mandarin. Complex predicates are a common means to convey a variety of events in Mandarin, and the literature contains a number of studies on this topic. In this section, firstly in section 1.2.1, I will briefly review some previous studies on general issues of complex predicates which provide definitions of complex predicates and complex predicate-related constructions and guidelines for categorizing complex predicates such as the adjacency of constituent verbs or relations between the subeventualities projected by the constituent verbs. In section 1.3.2, I address the very question of what complex predicates in Mandarin are, as the objects of investigation in this study, and I provide reasons to justify the definition which I adopt in this study in section 1.2.3. Having reviewed some
classification systems of complex predicates in previous studies, I describe the
classification system which is adopted in this study in section 1.2.4. In section 1.2.5, I
provide a brief review of previous studies about the interactions between some
imperfective aspect categories and monoclausal resultatives in Mandarin. Finally, in
section 1.2.6, I briefly review previous studies of syntactic-semantic-pragmatic
interactions in polyclausal serial verb constructions.

1.2.1 Review and Comments on Previous Studies

In this section, I provide a brief overview of commonly mentioned characteristics of
complex predicates in previous studies. First, I will present non-Mandarin-oriented
previous studies in 1.2.1.1, which may include cross-linguistic studies or studies focusing
on any non-Mandarin language. Studies which focus on Mandarin are presented in
1.2.1.2.

1.2.1.1 Non-Mandarin-Oriented Studies

In one of the earliest surveys of complex predicates, Alsina, Bresnan, and Sells (1997)
define complex predicates as multi-headed predicates composed of more than one
morpheme or word. Each morpheme or word of a complex predicate contributes part of
the overall meaning usually associated with a head.

Alsina (1997) uses mapping between grammatical functions and argument structures to
analyze complex predicates and shows that a predicate may have the same argument
structure but be realized as a single verb form in Chichewa, for example, but as two verb
forms in Catalan. A pair of non-causative/causative predicates is given by Alsina (1997)
as an example: sek-a (Chichewa), riure (Catalan) ‘laugh’/sek-ĕst-a (Chichewa), fer riure
(Catalan) ‘cause to laugh’ (Alsina 1997: 206, 212, 215, 219). However, in a sense, this
approach simply points out that some causative verbs like sek-ĕst-a in Chichewa are
realized as single words in agglutinative languages and as two words in fusional
languages, hence, it transfers part of the burden of studying the characteristics of complex
predicates to identifying the characteristics of wordhood. Although Mandarin is
analytical, many factors still make the judgement of wordhood difficult. For example, the
structure of chi fan ‘have a meal’ and xizao ‘take a shower/bath’ has similar structures:
verb + noun. They behave very similar syntactically, for example
Structures similar to *chi fan* and *xizao* are traditionally called separable words (離合詞) in literature. However, it is still under debate whether separable words are actually words or phrases in Mandarin. In Mandarin, the boundness of morphemes are not categorical, and many largely bound morphemes were free in Old Chinese. *Fan* ‘rice’ is a free morpheme in modern Mandarin, but *zao* ‘shower/bath’ is largely a bound morpheme. Hence, one may analyze *chi fan* ‘have a meal’ as a verb phrase consisting of two words or as a verb, but there is no way to analyze *xizao* ‘take a shower/bath’ as a verb phrase consisting of two words. But *zao* ‘shower/bath’, when occurring together with *xi* ‘wash’,
does behave very much like a free morpheme in the examples above. This will cause difficulties for the study of complex predicates in Mandarin, since Mandarin is an analytic language, and wordhood is not always easily or clearly recognized or categorically defined.

In order to show that a predicate may be realized as a single verb form or two verb forms in different languages, Alsina (1997) pays a lot of attention to the mapping between grammatical functions and argument structures and adopts the Lexical-Functional Grammar (LFG) approach in categorizing grammatical functions in SUBJ, OBJ, and OBL at the lexical level. However, Mandarin is a language where the interpretation of utterances heavily depends on the context, and sometimes there are unusual cases where analysis is difficult if a fixed mapping between grammatical function and argument structure is assumed. The RVC fan si ‘annoy dead/annoy die’ is an example which poses difficulties for an analysis of this kind. Sentence (1.21) has the readings (1.22) and (1.23):

(1.21)  Wo fan si ni.
       I annoy dead/die you

(1.22)  I annoy you so much/in such a way that you die.

(1.23)  You annoy me so much/in such a way that I die.

One possible explanation for the two readings of fan si ‘annoy dead/annoy die’ in (1.21)-(1.23) is to say that there is only one reading of fan si ‘annoy dead with two different word orders as shown in (1.24) and (1.25):

(1.24)  constituent structure: SLOT1 fan si SLOT2
       |    |                  
functional structure: SUBJ OBJ 
       |    |                  
argument structure: STIMULUS EXPERIENCER
(SUBJ annoy OBJ such that OBJ die)
In this analysis, there is only one reading: SUBJ annoy OBJ such that OBJ die. What is different in (1.24) and (1.25) is just the word orders SVO and OVS. However, Mandarin generally does not allow the word order OVS. Even in cases where the objects are topicalized and preposed, the usual apparent word order will be OSV. So the more reasonable explanation is that there are two lexical items with the same surface form fan si as shown in (1.26) and (1.27):

(1.26) constitutional structure: SLOT1 fan si SLOT2

   functional structure: SUBJ OBJ

   argument structure: STIMULUS EXPERIENCER

   (SUBJ annoy OBJ such that OBJ die)

(1.27) constitutional structure: SLOT1 fan si SLOT2

   functional structure: SUBJ OBJ

   argument structure: EXPERIENCER STIMULUS

   (OBJ annoy SUBJ such that SUBJ die)

It should be noted that si ‘die/dead’ in fan si have possibly two readings in both (1.22) and (1.23): one is a verb-like reading ‘die’, i.e. ‘change from the state of being alive to being dead’, and the other one is an adjective-like reading ‘dead’, i.e. ‘being dead’. Hence, (1.26) may be ‘SUBJ annoy OBJ such that OBJ die’ (verb-like reading) or ‘SUBJ annoy OBJ such that OBJ is dead’ (adjective-like reading), which can be expressed in LCSs as (1.28) and (1.29), respectively:
(1.28) [CAUSE([CAUSE([ ]), [BE([ ]), [IN([ANNOYANCE]))]]), [BECOME([ ]), [BE([ ]), [IN([DEADNESS]))]]]

(1.29) [CAUSE([CAUSE([ ]), [BE([ ]), [IN([ANNOYANCE]))]]), [BECOME([ ]), [IN([DEADNESS]))]]

(1.27) may also have a verb-like reading and an adjective-like reading, which can be expressed in LCSs as (1.30) and (1.31), respectively:

(1.30) [CAUSE([CAUSE([ ]), [BE([ ]), [IN([ANNOYANCE]))]]), [BECOME([ ]), [IN([DEADNESS]))]]

(1.31) [CAUSE([CAUSE([ ]), [BE([ ]), [IN([ANNOYANCE]))]]), [BE([ ]), [IN([DEADNESS))]]]

Because it is possible that si ‘die/dead’ in (1.21) may have a verb-like reading and an adjective-like reading, si ‘die/dead’ is glossed in two ways, i.e. ‘die/dead’.

If a fixed mapping between grammatical functions and argument structures for the predicate fan si ‘annoy dead/annoy die’ is assumed, we must accept that fan si represents actually two distinct lexemes with totally contrary meanings STIMULUS fan si EXPERIENCER and EXPERIENCER fan si STIMULUS, each with its own mapping between grammatical function and argument structure. However, there exist other similar RVCs of bidirectional readings with si ‘die’ such as hen si ‘hate dead/hate die’, qi si ‘angry dead/angry die’, xiang si ‘miss (long for) dead/miss (long for) die’, etc., which makes fan si ‘annoy dead/annoy die’ far from an exceptional example. Although not every RVC in the form V si has such bidirectional readings, the existence of so many pairs of RVCs V si with bidirectional readings means they are productive to a certain degree. If we accept that each of the aforementioned complex predicates V si ‘V dead/V die’ with bidirectional readings actually represents two different lexemes with their own mapping between grammatical function and argument structure, and reject that the mapping between grammatical function and argument structure can be influenced by the context, and also deny the participation of pragmatic factors in the interpretations of these RVCs with bidirectional readings, we have to explain why Mandarin is able to encode so many pairs of contrary meanings into the same surface form V si, in defiance of cross-linguistic patterns of argument linking.
Durie (1997) examines what he terms verb serialization cross-linguistically. He lists several key syntactic and semantic characteristics of verb serialization (Durie 1997: 291):

(1.32) A serial verb complex describes what is perceived as a single event.

(1.33) A serial verb complex has shared tense, aspect, modality, and polarity.

(1.34) Serial verbs share at least one argument.

(1.35) A verb is not embedded within or functions as a complement of another verb in a serial verb complex.

(1.36) The serial verb complex takes only one subject.

(1.37) A serial verb complex shows a strong diachronic tendency to lexicalization and grammaticalization of its meaning.

However, some complex predicates in Mandarin do not fit well into these key characteristics proposed by Durie (1997). For example, in section 4.7.1, we will encounter examples of the serial verb construction *na… ma… ‘take… scold…’*, and those examples show that *na* ‘take’ and *ma* ‘scold’ can take aspect markers independently. In section 4.6, an example of a serial verb construction will be presented where there is no shared argument. In section 4.9, I discuss some examples where constituent predicates in serial verb constructions have different polarities. Those examples which do not fit well into (1.32) – (1.37) show that there is still a need to study complex predicates in Mandarin. They also show that further study of complex predicates in Mandarin can contribute to our knowledge about complex predicates cross-linguistically.

Durie (1997: 307) recognizes two major syntactic patterns for verb serialization: serialized verbs are either contiguous or non-contiguous. For example, for an SVO language, if the serialized verbs are contiguous, they have the form (1.38), and if the serialized verbs are non-contiguous, they have the form (1.39).

(1.38) \[S \, V \ldots V \, (O)\]

(1.39) \[S \, V \,(O) \, V \,(O)\ldots\]
The observation of Durie (1997) is in accordance with the syntactic patterns of complex predicates in Mandarin. Based on observations of the ordering of constituent verbs in several kinds of verb serializations, Durie (1997: 304) claims that constraints on the ordering of verbs in non-contiguous verb serializations are also applicable to contiguous verb serializations (Durie 1997: 305-307). While most of the observations of Durie (1997: 305-307) appear to be valid, there is a minor problem in his observation about verb order in BENEFICIARY/GOAL serialization. Durie (1997: 307) claims that, in BENEFICIARY/GOAL serializations, the verbs projecting the main eventualities precede the verbs which introduce BENEFICIARIES / GOALS (all thematic roles will be henceforth in upper case). However, Mandarin is not covered by the claim of Durie (1997: 307) in this regard, as I observe in (1.12) that in \textit{ti... mai... 'change... buy...'}, \textit{ti} ‘change’, which introduces a BENEFICIARY, actually precedes \textit{mai} ‘buy’, which projects the main eventuality.

Durie (1997) agrees that verb serializations in general cannot be syntactically analyzed as subordinated or coordinated clause structures. The distinction between (1.38) and (1.39) made by Durie (1997) is very important because it suggests a direction in the study and classification of the syntactic structures of complex predicates. A clause is usually composed of a predicate and a set of grammatical functions. The form (1.38) suggests a syntactic structure of a single VP or a single clause, and the form (1.39) suggests the presence of a syntactic structure of multiple VPs or multiple clauses. Since in Mandarin, tense is not morphosyntactically marked, it is not possible to judge whether the \([V (O)] (\ldots) [V (O)]\) string in (1.39) is composed of VPs or clauses from the perspective of tense. However, as aforementioned, each constituent V in a \([V (O)] (\ldots) [V (O)]\) string does not have to have the same aspect value and the same polarity in Mandarin. The independence of each \([V (O)]\) cell in aspect and polarity suggests that the \([V (O)] (\ldots) [V (O)]\) strings of complex predicates in Mandarin are composed of syntactic structures which are closer to clauses than VPs. This is in turn has implications for those definitions of ‘complex predicate’ which make monoclausality criterial.

The syntactic structure of (1.12), which contains the polyclausal complex predicate \textit{ti... mai... 'change... buy...'}, is thus (1.40).
(1.40) \[
\text{[Yuehan}_{\text{SUBJ,i}} \text{ tiv } \text{ Mali}_{\text{OBJ}]_{S1}} \text{ [PRO}_{\text{SUBJ,i}} \text{ mai}_v \text{ shu}_{\text{OBJ}]_{S2}} \]
\]
John change Mary buy book
‘John bought a book for Mary.’

(1.40) is in the form of (1.39). Clauses $S_1$ and $S_2$ in (1.40) are neither subordinated nor coordinated but rather connected by clause chaining. I discuss clause-chaining further in 4.1.

Aikhenvald (2006a: 1) is a detailed cross-linguistic description of serial verb constructions. According to Aikhenvald (2006a), serial verb constructions (SVCs) describe what is conceptualized as a single event. SVCs must meet the following criteria: (a) they must be monoclausal, (b) they must have just one tense, aspect, and polarity value, and (c) each component of a SVC must be able to occur on its own. Aikhenvald (2006a, 2006b) makes an important observation on the semantic compositionality of SVCs in that the whole meaning of a serial verb construction may not be equal to the sum of its constituents when used independently. X is an example in Tariana taken from Aikhenvald (2006b: 193), where 3sgnf stands for third person singular non-feminine in the notation of Aikhenvald (2006b):

(1.41) \[
dima \text{ di-hña di-emhani} \\
3\text{sgnf+sleep} \quad 3\text{sgnf-eat} \quad 3\text{sgnf-walk.around} \\
‘go on a hunting or fishing trip for several days’
\]

In addition, Aikhenvald (2006a: 45-46) also excluded idiomatic double verb sequences (such as “go eat”) as SVCs since such double verb sequences are usually restricted in their mood, polarity, tense, and aspect choices, e.g.

(1.42) Let’s go eat.

(1.43) * We went ate.

However, whether limited usage in certain mood, polarity, tense, and aspect choices should be a criterion for not being SVCs is questionable. For example, defective verbs have similar behavior, and it is possible that such constructions are just defective SVCs. The possibility for each constituent to occur on its own is also a questionable criterion for SVCs. There are cases in which the constituents cannot occur on their own. For example,
Aikhenvald (2006a) included some four-character idioms in Cantonese as serial verb constructions (Aikhenvald 2006a: 34, Mathews 2006: 79), but many of the constituent verbs of such four-character idioms cannot occur on their own in modern colloquial language. Similar constructions can also be found in Mandarin, for example,

(1.44) Ta [sha yi jing bai].
    he    kill    one    warn    hundred
    ‘He punishes (someone) as an example to others.’

However, jing cannot be used alone in modern colloquial language. (1.44) is an example showing that some predicates which would be classified as serial verb constructions have constituents which cannot occur independently. Since this study is concerned with complex predicates in Mandarin, the possibility for each constituent to occur independently is not a suitable criterion for SVCs.

Aikhenvald (2006a: 3) classifies serial verb constructions according to four parameters:

(1.45) Symmetrical/asymmetrical composition. A serial verb construction is of symmetric composition if its component verbs are chosen from semantically and grammatically unrestricted classes. A serial verb construction is of asymmetric composition if one of its component verbs is chosen from a semantically and grammatically unrestricted class and the other is chosen from a restricted class (Aikhenvald 2006a: 21-22).

(1.46) Contiguity.

(1.47) Wordhood of components.

(1.48) Marking of grammatical categories. Whether component verbs in a serial verb construction must share marking for grammatical functions, tense, aspect, modality, polarity, valency, or whether they can have independent marking.

Parameter (1.45) involves both syntactic and semantic levels. Parameters (1.46) – (1.48) mostly have to do with syntax. Hence, the approach to classification of serial verb constructions adopted by Aikhenvald (2006a) includes both syntactic and semantic considerations.
Bisang (2009) discusses the study of Aikhenvald (2006a) further and makes a number of important observations. For example, as noted above, Aikhenvald (2006a) proposes that a serial verb construction projects a single eventuality. Bisang further explores the criteria for eventhood and proposes that the criteria for eventhood are culturally specific (Bisang 2009: 804) and moreover fuzzy (Bisang 2009: 805). Bisang (2009: 806-807) argues that some verb sequences which have the form of serial verb constructions are not, in fact, serial verb constructions, because what they project is not a single eventuality and is already in the realm of discourse. However, since the criteria for eventhood still remain fuzzy, the border between eventualities and discourse cannot be said to be clear-cut, and I find that the exclusion of such serialized verbs of which the subeventualities are not very tightly tied together from serial verb constructions, as suggested in Bisang (2009), is not very well founded.

In the study of Baker and Harvey (2010), complex predicates are monoclausal structures involving two or more predicating morphemes. Complex predicates, according to Baker and Harvey (2010), can be further divided into two types: “merger” type complex predicates and “coindexation” type complex predicates. They use the Lexical Conceptual Structure (LCS) approach of Jackendoff (1990) to illustrate the difference between these two types of complex predicates.

For merger type complex predicates, the predicate information from the contributing constituents merges in such a way that their LCSs combine to form the LCS of the whole complex predicate. Baker and Harvey (2010) identify 15 basic LCSs which they describe as simplex event structures corresponding to verbs which they propose can be lexicalised by simple, monomorphemic predicates cross-linguistically. They further propose that what distinguishes the merger type complex predicates is that the LCSs resulting from merger must be one of the 15 basic types. Coindexation type complex predicates, by contrast, can produce LCSs corresponding to complex event structures which often cannot be lexicalised in monomorphemic predicates, e.g. causatives. In the coindexation type, at least one of the arguments of the constituent predicational elements must be shared.

Butt (2010) has investigated complex predicates in detail, especially in Hindi/Urdu, which is abundant in complex predicates. According to Butt (2010), complex predicates involve two or more predicational elements which predicate as a single element. That is,
their arguments map onto a monoclausal syntactic structure. This definition is similar to the definition in Baker and Harvey (2010).

Andrews and Manning (1999) use the Lexical-Functional Grammar (LFG) approach to analyze the complex predicates. The inclusion of LCS in the f-structure in Andrews and Manning (1999) can adaptively account for the semantic incompositionality of complex predicates. For example, although each of the two verbs *chi* ‘eat’ and *bao* ‘full’ does not have the meaning of ‘cause’ in *chi bao* ‘being full caused by eating’, by including the meaning of ‘cause’ in ‘being full caused by eating’ in the LCS as an attribute of the f-structure of *chi bao*, the model of Andrews and Manning (1999) can still produce the complex predicate *chi bao* with the meaning ‘being full caused by eating’.

### 1.2.1.2 Mandarin-Oriented Studies

Edited and based on a series of articles from 1952 to 1953, the Mandarin grammar of Ding et al. (1979) is an important work. Ding et al. (1961) propose that monoclausal depictive complex predicates roughly fall into the category of what they call ‘modifier-head constructions’, while monoclausal causative complex predicates fall into the category of verb-complement constructions. Most polyclausal serial verb constructions, which will be discussed in Chapter 4, fall into the categories of serial verb constructions and pivotal constructions (in a pivotal construction, the object of V$_1$ is the subject of V$_2$). However, exceptions such as de-constructions, discussed in section 4.6, also exist. Ding et al. (1961) use the word “complement” of verb-complement constructions in the sense that the latter complements the meanings of the former.

In their Mandarin grammar, Li and Thompson (1981: 594) define a serial verb construction as a construction containing two or more verb phrases or clauses juxtaposed without a marker indicating the relation between them. Li and Thompson (1981) include pivotal constructions in serial verb constructions, and discuss polyclausal serial verb constructions with bleached verbs functioning like prepositions and polyclausal de-constructions separately from other serial verb constructions. It should be noted that Li and Thompson (1981: 595) claim that two juxtaposed verb phrases or clauses convey two separate but related eventualities. This viewpoint will not be adopted in this study and instead I use a modified version of this claim: two juxtaposed verb phrases or clauses may convey more than one separate subeventuality linked by some logical relation. Besides serial verb constructions, Thompson and Li (1981) describe what they call “verbal
compounds” (1981: 54), which are composed of two verbs and which, as a whole, function as a verb. They list two types of verbal compounds: (I) Resultative Verb Compounds (RVCs) and (II) Parallel Verb Compounds. For Li and Thompson (1981), complex predicates in the form of (1.39) are included in the category of serial verb constructions, while those in the form of (1.38) fall into the subtype of RVCs of verbal compounds. Li and Thompson (1981: 58-67) classify RVCs into four categories: (1) directional RVCs, (2) phase RVCs, (3) metaphorical RVCs, and (4) RVCs obligatorily in potential forms.

Li and Thompson (1981) include pivotal constructions in serial verb constructions and discuss polycausal serial verb constructions with some of bleached verbs functioning like prepositions and polycausal de-construction separately from other serial verb constructions. The distinction between resultative verb compounds on the one hand, and common polycausal serial verb constructions with bleached verbs, and polycausal de-construction on the other, is based on syntactic considerations. The classification of monoclausal RVCs and the arrangement of the discussion on polycausal serial verb constructions including those with bleached verbs and de-constructions is based on a mixture of syntactic and semantic considerations.

Chang (1990) includes verbal strings with forms of both (1.38) and (1.39) in serial verb constructions. In particular, Chang (1990) calls the verb strings in the form of (1.38) VV compounds and those in the form of (1.39) with bleached verbs ‘co-verbial phrases’. Chang (1990: 298) states that a prototypical SVC has a primary feature of temporal sequences and a secondary feature of shared reference. Chang (1990) gives an example to explain the role of temporal sequences in identifying SVCs:

(1.49) \([\text{T}_{\text{SUBJ}} \text{zhong} \text{v} \text{shu}_{\text{OBJ}}]_{S1,t1} \quad \text{[PRO}_{\text{SUBJ}} \text{mai} \text{v} \text{shu}_{\text{OBJ}}]_{S2,t2}]_S\)

\(\text{He plants trees and sells trees.} (\text{This is a reading where there is no temporal sequence, i.e. } t_1 = t_2, \text{ and where } j \neq k.)\)

The translations of (1.49) given by Chang (1990) depend on its readings. (1.50) – (1.52) are three possible readings:
(Chang (1990: 297))

(1.51) He plants trees and then sell trees. (This is a reading where there is a temporal sequence, i.e. \(t_1 \neq t_2\), and where \(j \neq k\).)

(Chang (1990: 298))

(1.52) He plants trees and sells them. (This is a reading where there is a temporal sequence, i.e. \(t_1 \neq t_2\), and where \(j = k\).)

(Chang (1990: 298))

Chang (1990) argues that among the three readings listed in (1.50) – (1.52), only \textit{zhong… mai… ‘plant… sell…’} in (1.49) with the reading of (1.52) is a genuine serial verb construction, while the case of (1.49) with readings of (1.50) and (1.51) are actually coordinate constructions. From the examples (1.49) – (1.52), it can be seen that the definitions which Chang (1990) adopts for serial verb constructions will inevitably make identifying serial verb constructions heavily dependent on the different readings, many of which may share the same surface forms. This factor complicates the analysis of complex predicates in Mandarin.

What is called a \textit{de}-construction by Li and Thompson (1981) is called a ‘resultative complement’ construction by Huang (1992: 110). Huang (1992: 140) comments that \textit{de} is a suffix or a clitic depending on how it is analyzed, and he points out that \textit{de} historically developed from the full verb \textit{de} ‘obtain’. Huang (1992) includes \textit{de}-constructions in complex predicates. This study adopts the same viewpoint that \textit{de}-constructions should be included in the discussion of complex predicates.

The study of Chang (2001) is focused on event structures in Mandarin in particular. When a sentence contains two verbs \(V_1\) and \(V_2\), he proposes that there are three types of such verb constructions (Chang 2001: 17). For resultative verb constructions (RVCs), \(V_1\) and \(V_2\) must be adjacent, e.g.

(1.53) Ta [\textbf{da}]_{V_1} [\textbf{po}]_{V_2} wan.  
he hit broken bowl  
‘He breaks the bowl.’
For serial verb constructions (SVCs), $V_1$ and $V_2$ must not be adjacent, e.g.

\[(1.54)\quad \text{Ta [} \text{dao}_1\text{] shui [he]}_{V2}.\]

\begin{itemize}
  \item he pour water drink
  \item ‘He poured water to drink.’
\end{itemize}

For directional verb constructions (DVCs), $V_1$ and $V_2$ can be adjacent or not adjacent (i.e. adjacency is optional), e.g.

\[(1.55)\quad \text{Ta [} \text{na}_1\text{] le yi ben shu [} \text{lai}_2\text{].}\]

\begin{itemize}
  \item he take ACTL one CL book come
  \item ‘He brought a book here.’ (The book may or may not be here now.)
\end{itemize}

(Chang 2001: 18)

\[(1.56)\quad \text{Ta [} \text{na}_1\text{] [} \text{lai}_2\text{] le yi ben shu.}\]

\begin{itemize}
  \item he take come ACTL one CL book
  \item ‘He brought a book here.’ (The book is here now.)
\end{itemize}

(Chang 2001: 17)

However, Chang’s (2001) analysis cannot explain why, for instance, (1.57) is grammatical but (1.58) is not, where both (1.57) and (1.58) are just (1.55) and (1.56) with an additional GOAL wo jia ‘my home’:

\[(1.57)\quad \text{Ta [} \text{na}_1\text{] le yi ben shu [} \text{lai}_2\text{] wo jia.}\]

\begin{itemize}
  \item he take ACTL one CL book come I home
  \item ‘He brought a book to my home.’
\end{itemize}

\[(1.58)\quad * \text{Ta [} \text{na}_1\text{] [} \text{lai}_2\text{] yi ben shu wo jia.}\]

\begin{itemize}
  \item he take come one CL book I home
  \item ‘He brought a book to my home.’
\end{itemize}

It would be easier to understand the ungrammaticality of (1.58) and the grammaticality of (1.56) from the perspective of clausality. (1.57) has the syntactic structure of (1.59):
Sentence (1.60) is ungrammatical:

(1.60) * [TaSUBJ [nav1 laiV2]V [yi ben shu]OBJ1 [wo jia]OBJ2]s

he take come one CL book I home

‘He brought a book to my home.’

The monoclausal directional na lai ‘take come’ in (1.60) does not have the mapping between its grammatical functions and its argument structure shown in Figure 1.1:

* na lai 'take come': <AGENT, THEME, GOAL>  
  
  SUBJ OBJ1 OBJ2

Figure 1.1.

Ungrammatical mapping between the grammatical functions and argument structure of

na lai in (1.60).

However, na ‘take’ in (1.57) alone can take a THEME as its OBJ, lai ‘come’ in (1.57) alone can take a GOAL as its OBJ, and the monoclausal directional na lai in (1.56) can also take a THEME as its OBJ. This explains the grammaticality of (1.56) and (1.57) and the ungrammaticality of (1.58) and demonstrates that directional verb constructions contain a monoclausal subtype and a polyclausal subtype, and the adjacency of V1 and V2 in directional verb constructions is actually not optional. LCSs are used for analyze argument composition of complex predicates in some previous studies (Butt 1993; Broadwell 1998). For simple verbs of na ‘take’ and lai ‘come’ in Mandarin, we have lexical entries

(1.61) na ‘take’

\[
V_{NP_j} \\
[Take([([ ]_i), ([ ]_j))] \]
The optional argument of the LCS of lai ‘come’ is the GOAL. When na lai ‘take come’ merge as a monoclausal complex predicate, the lexical entry becomes

\[
\begin{align*}
&D (NP) \\
&[GO ([ ]_i, TO ([HERE]_j)])]
\end{align*}
\]

In this case, the GOAL in the simple lai ‘come’ does not appear as a grammatical function of na lai ‘take… come’, so we have (1.60) and Fig. 1.1 unacceptable.

Sometimes when the object of the first constituent verb can be made clear with the help of context, or when the object does not need to be specific and thus omittable, the omission of the object will cause a polyclausal directional verb construction of two juxtaposed clauses look like a monoclausal directional verb with two adjacent verbs. The short discourse in (1.64) – (1.66) is an example:

(1.64) Yuehan: Wo benlai yao na shu qu tongxue jia de.
        John I originally want take book go.to classmate home GEN
        ‘John: Originally I wanted to take the book to my classmate’s home.’

(1.65) Mali: Houlai ne?
       Mary then INT
       ‘Mary: And then?’

(1.66) Yuehan: Houlai wo na qu ta jia de lushang huran
        John then I take go.to he home GEN on.the.way suddenly
        kaishi xia da yu, suoyi wo jiu hui lai le.
        start fall big rain so I just return come COS
        ‘John: Then after I took the book and was on the way to his home, it suddenly began to rain hard, so I just came back.’

In (1.66), the verbs *na* ‘take’ and *qu* ‘go.to’ are apparently adjacent. However, (1.67) shows that *na* ‘take’ can take its own aspect marker, in which case the two verbs are no longer adjacent.

(1.67) Yuehan: Houlai wo **na** le **qu** ta jia de lushang
John then I take ACTL go.to he home GEN on.the.way

huran kaishi xia da yu, suoyi wo jiu hui lai le.
suddenly start fall big rain so I just return come COS

‘John: Then after I took the book and was on the way to his home, it suddenly began to rain hard, so I just came back.’

(1.67) suggests that the syntactic structure of the adjacent verbs *na qu* in (1.66) is better analyzed as a polyclausal directional verb construction as shown in (1.68).

(1.68) …*[wosubj, i nav proobj]|s1 [prosubj, i quv ta jia]|s2
I take go.to he home

‘… I take (the book) to his home …’

This classification of Mandarin complex predicates in Chang (2001) is based on both meaning and form. The description of Chang (2001) of the syntactic behavior of complex predicates of different meanings is not complete, as component verbs of polyclausal resultatives are not necessarily adjacent, nor totally correct, as the aforementioned examples (1.57) and (1.58) demonstrate. However, combined with the two forms of complex predicates in (1.38) and (1.39) suggested by Durie (1997), adjacency as a criterion for classification in Chang (2001) leads to clausality as a direction for our analysis, as the analysis of (1.60) and Figure 1.1 can be used to explain (1.58), where the optional adjacency proposed by Chang (2001) fails to predict its ungrammaticality. Hence, despite its problems, the classification proposed by Chang (2001) is still worthwhile pursuing.

Tao (2009: 210) defines serial verb constructions as follows:

(1.69) A serial verb construction is a syntactic structure with two or more juxtaposed verbs as a complex predicate expressing a series of related actions within a single clause.
(1.70) The verbs share the same subject.

(1.71) There are no connectives to indicate the relationship of the verbs.

(1.72) The verbs share the same tense, aspect, and/or modality.

(1.73) The verbs are with a fixed order and different relationships based on different meanings.

By the definitions in (1.69) – (1.73), Tao (2009) excludes several types of complex predicate from his study, for example, some de-constructions. He similarly (2009: 211-212) does not include monoclausal RVCs in his study. The definition (1.70) of Tao (2009) is not in conflict with the viewpoint of this study that some complex predicates are polyclausal, since polyclausal complex predicates in Mandarin are also included in a single umbrella clause by clause chaining. However, as I discuss in Chapter 4, component verbs do not have to share the same tense, aspect, and/or modality.

Tao (2009: 210) divides serial verb constructions into three types: Type I, the canonical pattern, Type II, the pivotal pattern, and Type III, the coverb pattern. It can be understood that Type II includes polyclausal pivotal SVCs and that Type III includes polyclausal RVCs with semantically bleached verbs functioning as prepositions. According to Tao (2009: 221), SVCs with the symmetric pattern in (1.45) suggested by Aikhenvald (2006a) which are not pivotal would fall in Type I. From the examples given by Tao (2009), Type I is semantically not very homogeneous, as some depictive SVCs (section 4.2) and successive SVCs (section 4.6) fall into this category. The criterion for Type II is syntactic, since it is pivotal. The classification of Type III is a mixture of syntactic and semantic considerations, since its criterion is the semantic bleaching of the component verbs functioning as prepositions.

Zhai (2009) examines serial verb constructions in Mandarin, in particular. Zhai defines an SVC as a simple clause in which the predicate is composed of two or more verbs or verb phrases with the same subject, where there are no pauses (in written language, no punctuation), no conjunctives, no logical relations which are expressed by clauses, but where the order of verbs is arranged by temporal sequence or the logical relations in the eventuality (Zhai 2009: 1). The definition of Zhai (2009) that verbs or verb phrases in a SVC cannot have logical relations which are expressed by clauses is problematic on two
points. First, if SVCs are analyzed from the viewpoint of clause chaining, some SVCs are composed of clauses, and their logical relations are expressed by clauses. Second, even without adopting this viewpoint of clause chaining in analyzing complex predicates, it is clear that some clauses with complex predicates can be expressed as clauses fused with simple predicates. For example, the temporal relation between na ‘take’ and zou ‘walk’ in (1.74) can be expressed as (1.75) or (1.76):

(1.74) Yuehan na le shu zou le.
     John take ACTL book walk ACTL/COS
     ‘John took the book and left.’

(1.75) Yuehan na le shu.
     John take ACTL book
     ‘John took the book.’

(1.76) Ranhou Yuehan zou le.
     then John walk ACTL/COS
     ‘Then John left.’

Hence, this study will not adopt the viewpoint of Zhai (2009) that verbs or verb phrases in a SVC cannot have logical relations which are usually expressed by clauses. However, it is important that Zhai (2009) recognized that subeventualities in SVCs have logical relations.

Four types of such sentences are identified according to the relationships between the constituents of the SVC: (I) sentences in which the order of constituents express temporal iconicity, i.e. the constituents follow their temporal order in the sentence; (II) sentences in which the first constituent causes the second constituent; (III) sentences in which the two constituents describe the same eventuality from a positive and a negative perspective respectively, with the following template (1.77); and (IV) sentences in which the first constituent enables the event realised by the second constituent to take place.

(1.77) VP₁  bu ‘not’  VP₂.

As can be inferred, the classification of Zhai (2009) tends to be based on semantic relations between constituents. However, the four types of sentences also exhibit different
syntactic behaviors. They thus illustrate the interaction between the semantic level and the syntactic level of human languages, a central concern of this thesis.

Fan (2016) focuses on SVCs in Mandarin and Southern Min. In Fan (2016: 85), a distinction between SVCs and bi-clausal structures is made. Fan (2016: 85) adopts several criteria to differentiate SVCs and bi-clausal structures. However, this distinction is established on the presumption that SVCs and bi-clausal (or even poly-clausal) structures are mutually incompatible categories.

In this study, I will take a different stance from that of Fan (2016) in proposing that some SVCs are polyclausal. Actually, as examples which will be presented in section 4.1.1, the fact that component verbs in an SVC can take their own aspect markers is evidence that component VPs in an SVC may actually be clauses, not just VPs. An SVC is thereby a complex clause which contains several chained sub-clauses, because each component VP can have its own tense, aspect, and mood. That is, an SVC may be a product of clause chaining. In this respect, I diverge in this study from such authors as Aikhenvald (2006a) and Baker and Harvey (2010) who both propose monoclausality as a criterion for defining the class of complex predicates.

Fan (2016) divides SVCs into ‘nuclear SVCs’, where component verbs merge into single predicates, and ‘core SVCs’, where component verbs can partly retain their own argument structures (Fan 2016: 88). Fan (2016) then divides nuclear SVCs into subcategories of cause-effect SVCs, and manner-motion SVCs and divides core SVCs into subcategories of resultative SVCs, excessive SVCs, instrumental SVCs, caused-motion SVCs, and purposive SVCs. The division between nuclear SVCs and core SVCs is based on syntax, while the divisions among the subcategorizations within nuclear SVCs and core SVCs are based on semantics. Hence, while the classification of Fan (2016) takes both syntax and semantics into consideration, it is not a mixture of the two but rather a two-dimensional classification, where one dimension is based on syntax and the other based on semantics.

Tham (2012) noticed that semantic incompositionality of complex predicates occurs in Mandarin. Tham (2012) finds that although zai ‘be at’ is a locative coverb, a complex predicate $V$ zai can have a directional reading. Tham (2012) argues that the directional reading, which is not present literally in the complex predicate $V$ zai, arises from contextual-pragmatic factors.
1.2.2 Definition of Complex Predicate as the Subject of this Study

In section 1.2.1, I provided a review and some comments on previous studies related to complex predicates. Some of the studies are cross-linguistic, while some of them are Mandarin-focused. Although there are some commonly mentioned characteristics, there is not a set of unified terms and definitions for complex predicates either cross-linguistically or in Mandarin.

Monoclausality seems to be a commonly mentioned characteristic of a complex predicate-like construction. The studies of Baker and Harvey (2010), Butt (2010), and Aikhenvald (2006a) mention this characteristic explicitly. The study of Fan (2016) makes a distinction between SVCs and bi-clausal structures. The definition for SVCs which is adopted in the study of Zhai (2009) also implies that SVCs are monoclausal. However, from the viewpoint of clause chaining, which I introduce in section 4.1.1, it will be found that some serialized verb strings like na… lai… ‘take… come…’ in (1.59) are actually composed of juxtaposed clauses. That verbs in a string in similar structures can take their own aspect markers and have different polarities, discussed in Chapter 4, is evidence that they are closer to juxtaposed clauses than VPs.

Predicating a single eventuality is also an often-mentioned characteristic of a complex predicate-like construction. This is made clear in the studies of Butt (2010) and Aikhenvald (2006a). However, as pointed out by Bisang (2009), the criteria for eventhood are fuzzy. I will take a broader stance in this study in that subeventualities can make up an overall eventuality as long as they are conceived as a single eventuality and there are logical relations among them.

There is no unique definition for complex predicates. The best approach to defining them for the purposes of this study is to refer to some commonly mentioned characteristics of complex predicates and at the same time to take the characteristics of Mandarin into consideration. Therefore, I would like to apply the term “complex predicate” to a predicative construction with the following properties:

(1.78) monoclausal, or polyclausal with clause chaining

(1.79) predicating a single eventuality
A clause contains a predicate and a unique set of grammatical functions. However, in (1.59), repeated below as (1.80), we have two sets of grammatical functions: *na ‘take’* has *ta ‘he’* as its subject and *yi ben shu ‘one CL book’* as its object, and *lai ‘come’* has *ta ‘he’* as its subject and *wo jia ‘I home’* as its object.

(1.80)  

\[
\begin{array}{ll}
\text{Ta}_{\text{SUBJ}} & \text{na}_\text{V} [\text{yi} \text{ ben} \text{ shu}]_{\text{OBJ}} S_1 \\
\text{PRO}_{\text{SUBJ}}, l\text{ai}_\text{V} [\text{wo jia}]_{\text{OBJ}} S_2 \\
\end{array}
\]

‘He brought a book to my home.’

There are two clauses in (1.80), since each clause can have its own aspect as mentioned before. As such, the second clause requires a subject, be it overt or covert. We can use the volitional adverb *guyi ‘purposely’* to test what the subject is by putting *guyi ‘purposely’* in front of the verb and ask who executes the action on purpose:

(1.81)  

\[
\begin{array}{ll}
\text{Ta} & \text{guyi}_\text{V} [\text{yi} \text{ ben} \text{ shu}] \\
\text{PRO}_{\text{SUBJ}} & \text{la}_\text{V} [\text{wo jia}] \\
\end{array}
\]

‘He takes a book on purpose, and (he) comes to my home.’

(1.82)  

\[
\begin{array}{ll}
\text{Ta} & \text{na}_\text{V} [\text{yi} \text{ ben} \text{ shu}] \\
\text{PRO}_{\text{SUBJ}} & \text{guyi}_\text{V} \text{ la}_\text{V} [\text{wo jia}] \\
\end{array}
\]

‘He takes a book, and (he) purposely comes to my home.’

This covert PRO is more easily to be observed when the two chained clauses have different subjects:

(1.83)  

\[
\begin{array}{ll}
\text{Yuehan} & \text{guyi}_\text{V} \text{ jiao} \text{ Mali} \\
\text{PRO}_{\text{SUBJ}} & \text{he}_\text{V} \text{ cha} \\
\end{array}
\]

‘John purposely made Mary drink tea.’

(1.84)  

\[
\begin{array}{ll}
\text{Yuehan} & \text{jiao} \text{ Mali} \\
\text{PRO}_{\text{SUBJ}} & \text{guyi}_\text{V} \text{ he} \text{ cha} \\
\end{array}
\]

‘John made Mary purposely drink tea.’

In addition, as will be shown in Chapter 4, constituent verbs in SVCs can take their own aspect markers and have different polarities. An analysis which takes SVCs as in (1.80) as juxtaposed clauses linked by clause chaining can accommodate the problems that a SVC in Mandarin can have more than one set of grammatical functions and that constituent
verbs can take their own aspect markers and have different polarities. Hence, I adopt (1.78) as part of the definition of complex predicates in this study. The sentence-final particle -le, which is called ‘change of state (COS) -le’ in Xiao and McEnery (2004), is also evidence for the analysis of taking a sentence with a polyclausal RVC as an umbrella sentence containing chained clauses. COS -le will be discussed in the next section.

1.2.3 Mismatch between Clauses and Eventualities

In this section, I discuss the mismatch between the number of clauses and the number of eventualities in complex predicates. First, I discuss polyclausal SVCs with semantically bleached verbs; then I discuss polyclausal SVCs where there are multiple subeventualities. In discussing these cases, examples of previous studies will also be given. Finally, I will attempt to deal with the issue of eventhood, which is related to the definition of complex predicates adopted in this study.

If it is asserted that every clause should contain an eventuality, there will be another problem: there is a mismatch between the numbers of clauses and the number of eventualities. This mismatch is one of the sources of difficulty in analyzing complex predicates. (1.85) is an example in Mandarin:

(1.85) Ta na dao qie xigua.

he take knife chop watermelon

‘He chopped the watermelon with a knife.’

Na... qie is a serial verb construction with two component clauses. However, na dao usually corresponds to an adpositional phrase in European languages, for example with a knife in English, con un cuchillo in Spanish, etc. In these languages, adpositional phrases are usually not considered eventualities. Of course it can be argued that na dao is not a clause, but then we have to explain why na has many verb-like properties. For example, na can take aspect markers:

(1.86) …, 他拿著開山刀索討一百萬元, ...

…, ta na zhe kaishandao suotao yibanwan yuan, …

he take DUR machete ask one.million dollar

‘…, he asked for one million dollars with a machete, ...’

(www.appledaily.com.tw/realtimenews/article/new/20160325/824192/)
(1.87)  …, 財東一家五口拿了刀和他們對打, …
        …, Caidong yi jia wu kou na le dao han tamen
duida, …
pair.fight
‘…, the family of five of Caidong fight them with knifes, …’

(book.people.com.cn/n/2014/1030/c69398-25941296.html)

In (1.86), na takes the Durative Aspect marker -zhe, and in (1.87), na takes the Actual Aspect marker -le. Another way to solve the problem of a null-eventuality clause is to argue that the verb na is not semantically bleached and has the meaning of physically taking something, but we still need to explain examples such as:

(1.88)  …, 雖然他一不開心就拿別人威脅她, …
        …, suiran ta yi bu kaixin jiu na bieren weixie ta, …
        although he one NEG happy just take other.people threaten she
        ‘…, although he threatens her with other people as long as he gets unhappy, …’

(www.b111.net/novel/10/10784/2688142.html)

In (1.88), na obviously does not have the meaning of physically taking something.

If the clauses headed by na in (1.86) – (1.88) encode no eventualities, the serial verb constructions composed of two chained clauses in (1.86) – (1.88) must be counted as single eventualities with the na-clause playing the thematic role of INSTRUMENT. Cross-linguistically, there are other examples in which a verb-like word straddles the border of an eventuality-encoding verb and a thematic-role-indicating adposition. (1.89) is an example in Puluwat (or Pulutatese) (Durie 1988: 7):

(1.89)  Yi pwe yatipa ngan-i laayif.
        I FUT slice give-TR knife
        ‘I will slice (it) with a knife.’
In (1.89), TR denotes transitive verbal suffix in the notation of Durie (1988). Ngan ‘give’ in (1.89) is employed in a verb serialization and behaves similarly to na ‘take’ in Mandarin both syntactically and semantically.

Bleached verbs in verb serialization constructions can indicate other thematic roles cross-linguistically. For example, Durie (1988: 6-11) points out that in Jabêm (n)dêng ‘facing in the direction of’ can indicate a GOAL as shown in (1.90):

\[(1.90) \quad \text{ja-sôm bing ë-ndêng lau} \]
\[\text{1sg-speak word 3sg-to people} \]
\[\text{‘I address word(s) to the people.’ (I speak a word and it goes to the people)} \]
\[(\text{Durie (1988: 12))} \]

These phenomena can also be found in Mandarin. In Mandarin, COMITATIVE can be indicated by a bleached verb gen ‘follow’ as in:

\[(1.91) \quad \text{Yuehan gen wo lai.} \]
\[\text{John follow I come} \]
\[\text{‘John comes with me.’} \]

and GOAL can be indicated by a bleached verb gei ‘give’ as in:

\[(1.92) \quad \text{Wo gei Yuehan shuo le yi ge gushi.} \]
\[\text{I give John say ACTL one CL story} \]
\[\text{‘I told John a story.’} \]

LOCATION can be expressed by a clause introduced by the verb zai ‘exist’:

\[(1.93) \quad \text{Yuehan zai gongyuan wan.} \]
\[\text{John exist park play} \]
\[\text{‘John plays in the park.’} \]

There are also cases where polyclausal SVCs contain multiple subeventualities. For example, the whole sentence (1.94) is an umbrella clause, which has the structure in (1.95).
(1.94) Yuehan **qu shitang chi le wancan le.**

John go.to canteen eat ACTL dinner COS

‘John had gone to the canteen and had dinner.’

(1.95) [[Yuehan, qu shitang] [PRO, chi le wancan] le]

In (1.95), [Yuehan, qu shitang] ‘John go to canteen’ and [PRO, chi wancan] ‘[John] eat ACTL dinner’ are two serialized chained clauses embedded in the umbrella clause, and each of these two serialized chained clauses projects its own eventuality, which is in turn a subeventuality of the whole eventuality projected by the umbrella clause. An umbrella clause can have its own inflection, be it of tense, aspect, mood, or locutionary force. For example, the second -le in (1.95) may not belong to either [Yuehan, qu shitang] or [PRO, chi le wancan] but rather to the umbrella clause itself. Let us now examine the distribution of this *le* particle more closely in order to avoid the confusion brought by the two types of *le* when analyzing aspect and the structure of sentences.

Sentence-final -le is referred to as a change of state (COS) marker by Xiao and McEnery (2004). In Li and Thompson (1981: 238), COS -le is treated as a sentence-final “currently relevant state” marker. Li and Thompson (1981: 244) (not exhaustively) summarized the usages of COS *le* into the following five functions:

(1.96) Change of state.

(1.97) Correcting a wrong assumption.

(1.98) Reporting progress so far.

(1.99) Determining what will happen next.

(1.100) Closing the speaker’s contribution to the current conversation.

Considering the functions mentioned in (1.96) – (1.100), I agree that there is a hint that COS *le* might actually be a sentence-final particle declaring a change of state and giving a hint of the relevance between such a change and the present moment. Thus, I propose that COS *le* is actually a locutionary force marker for declarations.

The second -le in (1.95) should be analyzed as a locutionary force particle which does not belong to either [Yuehan, qu shitang] or [PRO, chi le wancan] but rather directly to the
umbrella sentence. For example, it is unacceptable if both \([Yuehan \text{ qu shitang}]\) and \([PRO_i \ chi le wancan]\) have their own COS -le like (1.101) with the syntactic structure of (1.102):

\[(1.101) \quad * \text{ Yuehan qu shitang le } \text{ chi le } \text{ wancan le.} \]
\[\text{John go.to canteen COS eat ACTL dinner COS} \]
\[\text{‘John had gone to the canteen and had dinner.’} \]

\[(1.102) \quad * [[\text{ Yuehan qu shitang le}] \ [\text{PRO_i chi le wancan le}]] \]

The immediate dominance of the umbrella sentence over COS -le in (1.94) is evidence for the very existence of the umbrella sentence and the analysis of clause chaining.

Examples of SVCs linked by clause chaining which project multiple subeventualities can also be found cross-linguistically. (1.103) is an example from Tauya:

\[(1.103) \quad \text{ne fofe-a-te ya-ni wate tu-e-?a} \]
\[\text{3SG come-3SG-DR 1SG-ERG NEG give-1/2SG-DECL} \]
\[\text{‘He didn’t come and I didn’t give it to him.’} \]

\[\text{(Foley (2010: 42)}\]

In the notation of Foley (2010) in (1.103), 1 stands for first person, 2 second person, 3 third person, SG singular number, DR different referent or subjects, ERG ergative case, NEG negative, and DECL declarative. (1.103) is analyzed as (1.104) by Foley (2010: 42), where IPs stand for inflection phrases which may dominate sentences.

\[(1.104) \quad [[\text{ne fofe-a-te}]_{IP1} \ [\text{ya-ni wate tu-e-}]_{IP2} \ -?a]_{IP} \]
\[\text{3SG come-3SG-DR 1SG-ERG NEG give-1/2SG-DECL} \]
\[\text{‘He didn’t come and I didn’t give it to him.’} \]

\[\text{(Foley (2010: 42)}\]

We can observe that there are two clauses linked by clause chaining in (1.104), there is no subordinate or coordinate relations between the two clauses in (1.104), none of the constituent verbs is semantically bleached, and each of the constituent verbs projects an eventuality.
Now, I move on to eventhood. (1.105) is an example slightly modified from (1.94) with the syntactic structure of (1.106):

\[(1.105) \text{ Yuehan qu shitang chi wancan le.} \]
\[\begin{aligned}
\text{John} & \text{ go.to canteen eat dinner COS} \\
\text{‘John went to the canteen to have dinner.’/’John had gone to the canteen and had dinner’}
\end{aligned}\]

\[(1.106) \text{ [[Yuehan, qu shitang]\text{S}_1 \text{ [PRO}_i \text{ chi wancan]\text{S}_2 \text{ le}]]s} \]

The purposive second subeventuality in (1.105) can also be negated as (1.107):

\[(1.107) \text{ [[[Yuehan, qu shitang] [PRO}_i \text{ chi wancan]}, [keshi shitang mei kai], [[Yuehan, zhihao e zhe duzi] \text{ S}_1 \text{ PRO}_i \text{ open John can.only hungry DUR stomach}]
\[\begin{aligned}
\text{hui jia] le}]. & \\
\text{return home} & \text{ COS}
\end{aligned}\]
\[\begin{aligned}
\text{‘John went to the canteen to have dinner, but the canteen was not open, so John could only go home hungry.’}
\end{aligned}\]

Admittedly, it is not easy to distinguish two independent eventualities from two subeventualities within an overall eventuality. However, it can be seen that the two eventualities projected by \textit{qu} ‘go.to’ and \textit{chi} ‘eat’ have some possible logical relations. (1.108) and (1.109) are examples of the available meanings of (1.105) in plain language their possible logical relations between its two clauses S\textsubscript{1} and S\textsubscript{2} shown in (1.106):

\[(1.108) \text{ John went to the canteen in order to have dinner. (method-objective)} \]
\[(1.109) \text{ John went to the canteen and then had dinner. (successive time sequence)} \]

Mandarin is a language where the usage of conjunctives between clauses are not always required. In addition, as discussed in section 1.2.1, the criteria for eventhood are culturally specific (Bisang 2009: 804) and fuzzy (Bisang 2009: 805). Hence, in this study, two or more subeventualities can be taken to constitute a single overall eventuality if they
are linked by (one or more) potential logical relations. This definition allows us to be more concrete about criterion (1.79) “predicating a single eventuality” as part of the definition for complex predicates in this study.

1.2.4 Classification

There are many different classification systems for complex predicates suggested in previous studies. Most approaches take both syntactic and semantic characteristics into consideration. However, this does not mean that they are similar. Although some classifications take both syntactic and semantic characteristics into consideration, they examine syntactic and semantic characteristics of complex predicates at the same level, which means that the criteria used are a mixture of syntactic and semantic considerations, such as the studies of Ding et al. (1961), Li and Thompson (1981), Tao (2009), and Yin (2010).

In this study, I would like to see if there exists a systematic classification which can describe the behavior of complex predicates better. Since complex predicates interact with both syntactic and semantic factors, I believe that a classification which takes both syntax and semantics into consideration in a systematic way would be a feasible approach. In this study, I undertake an approach which is similar to Fan (2016). That is, when classifying complex predicates, both syntax and semantics are taken into consideration, but syntactic criteria and semantic criteria are treated separately and at different levels. The result is a classification system of two dimensions, one being the monoclausality/polyclausality contrast and the other one being the semantic/logical relations between component predicates.

1.2.5 Interactions between Aspect and Monoclausal Resultatives

Smith (1997) examines aspect in Mandarin, among other languages. In that study, aspect is divided into ‘viewpoint aspect’ and ‘situation aspect’, and their interactions are examined. Smith (1997: 270) proposes that monoclausal RVCs in Mandarin convey perfective aspect. Smith (1997: 282) divides RVCs into directional RVCs, result state RVCs, and completive RVCs. Da po ‘hit broken’ is classified by Smith (1997: 291-292) as a result state RVC and an Achievement of instantaneous change of state which is incompatible with imperfective aspect, which includes the Durative Aspect (Smith 1997:...
(1.110) shows that result state RVCs are not totally incompatible with the Durative Aspect. I discuss the interaction between RVCs and Durative Aspect in section 3.2.5.2.

The study of Xiao and McEnery (2004), which is a corpus-based study, examines the aspect system of Mandarin in a detailed and systematic way. Xiao and McEnery (2004) propose a “Two-Component Two-Level Model” for the analysis of aspect in Mandarin, where the two components of aspect, situation aspect and viewpoint aspect, are discussed at two levels, the lexical level and the supra-lexical level. However, their analysis of the interaction between the Progressive Aspect and monoclausal resultatives is problematic. Xiao and McEnery (2004) identify that there is a Completable Aspect in Mandarin, and the Completable Aspect is associated with RVCs. Xiao and McEnery (2004: 169), based on the proposed “holisticity” of the Completable Aspect, claim that the Completable Aspect is incompatible with the Progressive Aspect. Then, Xiao and McEnery (2004: 213) adopt the three types of monoclausal RVCs identified by Smith (1997) and claim that among the three types of monoclausal RVCs, completive RVCs are strictly incompatible with the Progressive Aspect, while result-state RVCs and directional RVCs show some tolerance for the Progressive Aspect. Since result-state RVCs and directional RVCs are also identified by Xiao and McEnery (2004) to be carriers of the Completable Aspect, their
analysis of the interaction between the Progressive Aspect and monoclausal resultatives is self-contradictory.

Monoclausal RVCs *V wan* ‘V finish’ are classified as completive RVCs by Xiao and McEnery (2004) and hence should be strictly incompatible with the Progressive Aspect. However, there are naturally occurring sentences like (1.111) in which completive RVCs are marked in the Progressive Aspect:

(1.111) 到秦家的时候，一大家人正在吃完饭...

Dao Qing jia de shihou, yi da jia ren zhengzai chi

arrive Qing family NOM moment one big family person PROG eat

wan fan...

finish rice

‘When (they) arrived at Qing’s home, many of the Qing’s family were finishing eating their meals…’


Because of this conflict in the literature, I conducted a survey to investigate whether native speakers accept completive RVCs in the Progressive Aspect; this survey is reported in 3.2.5.4. The interaction between monoclausal RVCs and the Progressive Aspect will be discussed in detail in section 3.2.5.2.

1.2.6 Syntactic-Semantic-Pragmatic Interactions in Polyclausal Serial Verb Constructions

Traugott and König (1991) examine semantic-pragmatic processes in the early stages of grammaticalization, although their study is not focused on complex predicates. Traugott and König (1991: 192-193) argue that at a given stage a form may have propositional meanings and pragmatic polysemies. Traugott and König (1991: 192-193) further claim that the pragmatic polysemies are grammaticalized later than the propositional ones. It is important to note that Traugott and König (1991:212) recognize that semantic change involves speaker-hearer negotiations and interactions.
Xing (2003) examines the grammaticalization of change of state verbs in Mandarin into other parts of speech. Xing (2003) points out that preposition-like verbs such as *ba*, functioning as a PATIENT marker, *jiang*, also functioning as a PATIENT marker, and *bei*, functioning as an AGENT marker, have undergone syntactic reanalysis. Xing (2003: 108) proposes a general tendency for such grammaticalization processes:

\[(1.112) \text{verb serialization} > \text{verb de-centralization} > \text{verb functionalization}\]

Xing (2003) proposes that verb serialization is the first stage of the grammaticalization of change of state verbs in Mandarin into other parts of speech. In the process of verb de-centralization, distinctions between semantically important main verbs and other secondary verbs appear (Xing 2003: 107-108). In the process of verb functionalization, a verb loses its verbal properties and becomes a function word (Xing 2003: 108). Xing (2003: 101) further points out that pragmatic interference plays a crucial role in the process of grammaticalization.

*Na* as a full verb has the meaning of ‘take’ with hands as the default body part. In addition to a full verb, *na* can also be used as a semantically bleached verb functioning as an INSTRUMENT marker. In this study, a corpus of magazine articles about mouth and foot painting artists was used to investigate the behavior of *na* ‘take’ in SVCs when the executive body part is not the hand. In section 4.9, I propose a model to formally describe and analyze the negotiations and interactions between speakers and hearers mentioned in Traugott and König (1991) and thereby provide support for the argument of Traugott and König (1991) that in the grammaticalization process propositional meanings and pragmatic polysemy may coexist.

### 1.3 Summary

In section 1.1, I presented some examples of various types of complex predicates in Mandarin and proposed some research questions concerning complex predicates in Mandarin, such as a better classification system, the interaction of aspect and complex predicates, and pragmatic interference in the behavior of complex predicates. In section 1.2, first I provided a brief review of previous studies about general issues of complex predicates including various definitions and classification systems which had been used in those studies. Then I provided a definition for complex predicates which is adopted in this study, and I explained the reasons why this definition is adopted. Finally, I provided a
brief review of previous studies about interactions between aspect and complex predicates and the pragmatic interferences which can be used to analyze the syntactic-semantic-pragmatic interactions in polyclausal serial verb constructions in Mandarin.
Chapter 2: Theoretical Frameworks

2.1 Introduction

In the previous section, I argued that more extensive and systematic studies of mismatches between thematic roles and grammatical relations of arguments in complex predicate sentences in Mandarin are needed. Compositional theoretical frameworks are expected to be suitable for this study, because most complex predicates in Mandarin are semantically predictable. In this section, I discuss the theoretical frameworks which I will use for the analysis of complex predicates in Mandarin.

My syntactic approach is based on the Simpler Syntax model developed by Culicover and Jackendoff (2005), which incorporates the LCS (Lexical Conceptual Structure) approach of Jackendoff (1990), with some minor adjustments. This will be supplemented by approaches taken from other previous studies as necessary. Minor adjustments to these approaches are needed for my analysis of eventuality structure, and the reasons for these adjustments are explained.

Although there are no tense markers in Mandarin, grammatical aspect is morphosyntactically marked. In order to discuss the interaction between complex predicates and aspect categories, I first review the aspect system of Mandarin, using the Two-Component Two-Level Model of Xiao and McEnery (2004) as the framework for the analysis. The account of Xiao and McEnery (2004) of the interaction of monoclausal resultative verb constructions (RVCs) and Progressive Aspect is problematic, however, and I propose an alternative explanation for the interaction with supporting reasoning from Krifka (1989a). In order to test the proposal, I conducted a survey of native speakers. The proposal will be introduced in this chapter. The results of the survey are discussed in Chapter 3, where monoclausal complex predicates are discussed.

2.2 Eventuality Structure Templates

Rappaport-Hovav and Levin (1998) propose that eventualities can be analyzed in terms of a decomposition into what they call “event structure templates”. In order to avoid confusion between “events” and “eventualities”, I adopt the term “eventuality structure templates” in this study. Complex eventualities are composed of subeventualities, and
eventuality structure templates, recognizing the compositionality of eventualities structures, provide a good framework for analyzing complex eventualities through combining subeventualities into complex eventualities in a bottom-up direction, and decomposing complex eventualities into subeventualities in a top-down direction. The templates are associated with Aktionsarten, thus the differences between eventualities can be analyzed from this perspective. All the templates are based on five basic eventuality structure templates, which makes the analysis clear and systematic.

Rappaport-Hovav and Levin (1998: 107-108) assume that Universal Grammar has a limited inventory of five eventuality structure templates, and these basic eventuality structure templates have correspondent relations with the four major Aktionsarten of predicates. The five basic eventuality structure templates are set out in (2.1) – (2.5), where entities in angle brackets are constants:

(2.1) I. \([x \text{ ACT}_{\text{<MANNER>}}]\)  (activity)
    i.e. \([\text{activity}(x)]\)
    e.g. “x runs” \(\mapsto [x \text{ ACT}_{\text{<RUN>}}]\)

(2.2) II. \([x \text{ <STATE>}]\)  (state)
    i.e. \([\text{state}(x)]\)
    e.g. “x is happy” \(\mapsto [x \text{ <HAPPY>}]\)

(2.3) III. \([\text{BECOME} \ [x \text{ <STATE>}]\] \ (achievement)
    i.e. \([\text{BECOME} \ [\text{state}(x)]]\)
    i.e. \([\text{achievement}(x)]\)
    e.g. “x arrived” \(\mapsto [\text{BECOME} \ [x \text{ <ARRIVED>}]\]

(2.4) IV. [[x \text{ ACT}_{\text{<MANNER>}}] \text{ CAUSE} \ [\text{BECOME} \ [y \text{ <STATE>}]\]] \ (accomplishment-1)
    i.e. [[\text{activity}(x)] \text{ CAUSE} \ [\text{BECOME} \ [\text{state}(y)]]\]
    i.e. [[\text{activity}(x)] \text{ CAUSE} \ [\text{achievement}(y)]]
    i.e. \([\text{accomplishment}-1(x, y)]\)
    e.g. “x breaks y” \(\mapsto [x \text{ ACT}_{\text{<MANNER>}}] \text{ CAUSE} \ [\text{BECOME} \ [y \text{ <BROKEN>}]\]]

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Rappaport-Hovav and Levin (1998) claim that there are no basic eventuality structure templates other than (2.1) – (2.5).

Although the inventory of eventuality structure templates is fixed and limited, the constants can be replaced by many entities. Thus, six fundamental canonical realization rules can be derived from the eventuality structure templates, assuming that minimal elements of meaning encoded in the constants must be given syntactic expression (Rappaport-Hovav & Levin 1998: 109):

(2.6) manner: \([x \text{ACT}_{\text{MANNER}}]\) (original expression in Rappaport-Hovav and Levin (1998: 109))

\(i.e. \ [\text{activity-manner}(x)] \) (see discussion below)

\(e.g. \ \text{run}\)

(2.7) instrument: \([x \text{ACT}_{\text{INSTRUMENT}}]\) (original expression in Rappaport-Hovav and Levin (1998: 109))

\(i.e. \ [\text{activity-instrument}(x)] \) (see discussion below)

\(e.g. \ \text{hammer}\)

The difference between \([x \text{ACT}_{\text{MANNER}}]\) and \([x \text{ACT}_{\text{INSTRUMENT}}]\) is that the former is the manner of the act is encoded in the lexeme while the latter is the instrument of the act is encoded in the lexeme. For example, we can say that run is a manner of moving, but it is never an instrument of moving. Since (2.6) and (2.7) are both derived from (2.1), I suspect that the original expression of (2.6) in Rappaport-Hovav and Levin (1998: 109), \(i.e. \ [x \text{ACT}_{\text{MANNER}}]\), is actually a subset of (2.1), and the expression \([x \text{ACT}_{\text{MANNER}}]\) would be employed to represent two distinct concepts. Hence, a confusion will arise if (2.1), (2.6), and (2.7) are expressed as in Rappaport-Hovav and Levin (1998: 109). I propose that a more proper way to express (2.1), (2.6), and (2.7) is to maintain (2.1) unchanged, to express (2.6) as \([x \text{ACT}_{\text{MANNER-MANNER}}]\) or \([\text{activity-manner}(x)]\), and to express (2.7) as \([x \text{ACT}_{\text{MANNER-INSTRUMENT}}]\) or \([\text{activity-instrument}(x)]\). A further derivation proposed by Rappaport-Hovav and Levin (1998) is:

(2.5) V. \([x \text{CAUSE} \text{[BECOME} [y <\text{STATE}>]]]\) (accomplishment-2)

\(i.e. \ [x \text{CAUSE} \text{[BECOME} \text{[state}(y)]]]\)

\(i.e. \ [x \text{CAUSE} \text{[achievement}(y)]}\)

\(i.e. \ [\text{accomplishment}-2(x,y)]\)
(2.8) placeable object: [x CAUSE [BECOME [y WITH <THING>]]]
e.g. butter

It is strange that the embedded structure [BECOME [y WITH <THING>]] appears here. (2.8) is derived from (2.5), and WITH <THING> in (2.8) occupies the slot of <STATE> in (2.5). However, WITH <THING> is expressed here rather like an adjunct. If a stricter correspondence between (2.5) and (2.8) was obtained, WITH <THING> should correspond to a <STATE> like entity. Since WITH is not a licensed primitive predicate, I propose that it is more appropriate to express (2.8) as [x CAUSE [BECOME [y <WITH-THING>]]], where <WITH-THING> is a <STATE> like entity. Then (2.8) would have a set of similar structures as [accomplishment-2(x, y)]:

(2.9) place: [x CAUSE [BECOME [y <PLACE>]]]
e.g. bag

(2.10) internally caused state: [x <STATE>]
i.e. [state(x)]
e.g. blossom ↦ [x <IN-BLOSSOM>]

(2.11) externally caused state: [[x ACT] CAUSE [BECOME [y <STATE>]]]
i.e. [[activity(x)] CAUSE [BECOME [state(y)]]]
i.e. [[activity(x)] CAUSE [achievement(y)]]
i.e. [accomplishment-1(x, y)]

Each eventuality e is put between a pair of square brackets as “[e]”. More complex eventuality structures can be built by inserting eventualities in the five basic eventuality structure templates as long as the resulting complex eventuality structure is still in the form of one of the five basic eventuality structure templates and meets the two posited well-formedness conditions on syntactic realization (Rappaport-Hovav & Levin 1998: 112):

(2.12) There must be an argument XP (chosen from VP, AP, or PP) in the syntax for each structure participant in the eventuality structure.

(2.13) Each argument XP (chosen from VP, AP, or PP) in the syntax must be associated with an identified subeventuality in the eventuality structure.
The combination of templates is called “Template Augmentation” (Rappaport-Hovav & Levin 1998: 111, 118). Template Augmentation can be used to explain the simple and resultative usages of sweep (Rappaport-Hovav & Levin 1998: 114-115, 119) as in (2.14), (2.15), and (2.16):

(2.14) Phil swept. (simple, one-argument usage)
(2.15) Phil swept the floor. (simple, two-argument usage)

(2.14) and (2.15) can be analyzed as (2.16), where the underlined entity is optional, and (2.17) can be analyzed as (2.18), which is in the form of the basic eventuality structure template (2.4), is built by augmenting the basic eventuality structure template (2.16), which is in the form of the basic eventuality structure template (2.1).

(2.16) [Phil ACT<SWEEP> FLOOR]
(2.17) Phil swept the floor clean. (resultative, two-argument usage)
(2.18) [[Phil ACT<SWEEP> FLOOR] CAUSE [BECOME [y <CLEAN>]]]

Template Augmentation is a kind of recursion, in fact, because an eventuality can be included in the eventuality structure template of another event. It is exactly this mechanism that a theory needs to analyze a complex event composed of subeventualities. Augmentation also illustrates the compositional nature of complex event structures.

It is interesting to note the similarity between the LCSs of Jackendoff (1990), introduced in the next section, and the event structure templates used here. A primitive predicate in Rappaport-Hovav and Levin (1998) corresponds loosely to a function in Jackendoff (1990). Arguments represented by variables (e.g. x, y) in Rappaport-Hovav and Levin (1998) correspond roughly to arguments represented by ‘THING’ entities in Jackendoff (1990). An eventuality enclosed in square brackets in Rappaport-Hovav and Levin (1998) corresponds roughly to an EVENT entity or a STATE entity in Jackendoff (1990).

### 2.3 Lexical Conceptual Structure

The approach of Lexical Conceptual Structure (LCS) is developed by Jackendoff (1990). LCSs are composed of two type of objects: entities and functions. A typical LCS is in one of the following forms
(2.19) \([E_1 F_1([E_2 x])]\)  (one-argument function)

(2.20) \([E_1 F_1([E_2 x],[E_3 y], ...)]\)  (multi-argument function)

where E1, E2, E3 are entities, F1 is a function, and x and y are variables/constants. LCSs of more than two arguments are also possible. Entities are divided into THING, EVENT, STATE, ACTION, PLACE, PATH, PROPERTY, and AMOUNT (Jackendoff 1990: 43). As we will see in 2.4.3, the theoretical framework which Baker and Harvey (2010: 21) adopt also contains major predicate functions such as CAUSE, BECOME, BE, MOVE, as well as several place functions proposed by Jackendoff (1990) such as IN, AT, FROM, TO, etc.

Since an entity containing a function with arguments can also be an argument of a function, an entity can be embedded in many pairs of parentheses in an LCS and become hard to track. Here I propose a diagrammed version of LCS which makes LCSs easier to be read. An LCS \([E_1 F_1([E_2 ],[E_3 ])]\) can be expressed as shown in the diagram in Figure 2.1:

![Diagram](image)

*Figure 2.1. A diagrammed LCS.*

It can be understood from Figure 2.1 that F1 maps E2 and E3 onto E1. Note that E2 is the first argument and E3 is the second argument of F1, and the first argument is in the left of the second argument in the expression of \([E_1 F_1([E_2 ],[E_3 ])]\). The same convention is adopted where E2, the first argument of F1, is also put in the left of E3, the second argument of F1. For example, the LCS of (2.21) is (2.22), which has the form of (2.20):

(2.21) The door opens.
(2.22) \[(E_1 \text{ BECOME}([E_2 \text{ DOOR}], [E_3 \text{ BE}([E_4 \text{ DOOR}], [E_5 \text{ AT}([E_6 \text{ OPENNESS}]])]))\]]

(2.22) can be expressed as Figure 2.2:

![Diagrammed LCS of (2.22)](image)

Figure 2.2. Diagrammed LCS of (2.22).

2.4 Conjunctive Function

In Mandarin, an eventuality is often composed of several subeventualities. For example, the eventuality projected by (2.23) is composed of two subeventualities which are projected by *zuo* ‘sit’ and *danxin* ‘worried’:

(2.23) zuo zhe danxin

sit DUR worried
‘be sitting worried’

The relationship between the subeventualities within the overall eventuality projected by (2.23) is not clear in the form of the original LCS of Jackendoff (1990), shown in Figure 2.3, where the overall eventuality is E1 and its subeventualities are E2 and E3:
Similarly, the eventuality projected by (2.24) is composed of two subeventualities which are projected by *chi* ‘eat’ and *bao* ‘full’:

\[(2.24) \text{ chi bao} \]
\[\text{ eat full} \]
\[\text{‘full from eating’} \]

The relationship between the subeventualities within the overall eventuality projected by (2.24) is not clear in the form of the original LCS of Jackendoff (1990) either. However, the relations between the subeventualities in (2.23) must be semantically different from those in (2.24), and this is supported by the examples in (2.25) and (2.26), where the semantic relation between the subeventualities in (2.23) can be expressed in plain language as (2.25) but not (2.26):

\[(2.25) \text{ sitting while being worried} \]
\[(2.26) *\text{sitting causes being worried} \]

The semantic relationship between the subeventualities in (2.24) can be expressed as (2.27) but not (2.28):

\[(2.27) \text{ eating causes being full} \]
\[(2.28) *\text{eating while being full} \]

Having found that the logical relation between subeventualities in a complex eventuality can be one of a number of potential types, I propose to introduce a new kind of function into the LCSs, which I term conjunctive functions, because they link two subeventualities.
in an eventuality as conjunctives do in the case of constructions. There are at least two kinds of relations between E2 and E3 in Figure 2.3, i.e. causality in causative complex predicates and contemporaneity in depictive complex predicates. I propose to express causatives as $[E_1 \text{CAUSE}([E_2], [E_3])]$ where E2 is the cause and E3 is the effect.

The constituent subeventualities in depictives can usually be divided into background subeventualities and foreground subeventualities. It has been noted in Xiao and McEnery (2004: 118) that perfective aspect usually appears in foregrounded clauses where the narrative occurs, while imperfective aspect usually appears in backgrounded clauses where background information is provided. Consider (2.29), which contains the complex predicate of (2.23):

(2.29) Yuehan zuo zhe danxin le yi zheng tian.  
John sit DUR worried ACTL one whole day  
‘John was sitting worried for a whole day.’

(2.29) is a sentence with two chained clauses:

(2.30) [[Yuehan, zuo zhe] [PRO, danxin le yi zheng tian]

The durative aspect in Mandarin is an imperfective aspect, and the actual aspect in Mandarin is a perfective aspect. (Xiao and McEnery 2004: 10). In (2.29), zuo ‘sit’, which is marked in the durative aspect, is the background subeventuality while danxin ‘worry’, which is marked in the actual aspect, is the foreground subeventuality. I propose to express a typical depictive as $[E_1 \text{WHILE}([E_2], [E_3])]$ where E2 is the background subeventuality and E3 is the foreground subeventuality.

Having introduced the conjunctive functions CAUSE and WHILE, we can now express causative and depictive complex predicates in LCSs more clearly. Just as there can be more than one logical relation between subeventualities within a complex eventuality, there is more than one kind of conjunctive function to link subeventualities. Subeventualities linked by CAUSE and WHILE are represented graphically in Figure 2.4 and Figure 2.5.
I now introduce another modification to the LCS approach to be used in this study. It should be noted that tense is treated as a function in Culicover and Jackendoff (2005), so, for example, the LCS of (2.31) would be rendered as (2.32):

(2.31) John laughed.

(2.32) \[ \text{[PAST([LAUGH([JOHN])])]} \]

However, I think that tense, aspect, and mood categories in Mandarin are more like modifiers specifying the related characteristics of eventualities rather than contributing the main meaning to eventualities. In tenseless languages like Mandarin, the mere sentence (2.33) can refer to a time in past, present, or future.

(2.33) Yuehan kan shu.

John look book

‘John read books. / John reads books. / John will read books.’
If the past tense is to be stressed, an adverbial guoqu ‘past’ is added:

(2.34) Yuehan guoqu kan shu.
John past look book
‘John read books in the past.’

(2.33) and (2.34) shows that the marking of tense is not a universally essential part in human language. Tense is not a grammatical category in Mandarin and perhaps does not have the same status as in languages where it is a grammatical category. I propose to abandon tense as a function and to treat tense as having referential features in Mandarin. Hence, the Mandarin equivalent of (2.32), i.e.(2.35), will be rendered as (2.36) after our revision or as (2.37) if the aspect is also to be specified:

(2.35) Yuehan xiao le.
John laugh ACTL / COS
‘John laughed.’

(2.36) [LAUGH([JOHN]); PAST]

(2.37) [LAUGH([JOHN]); PAST; ACTUAL]

Having introduced the conjunctive functions CAUSE and WHILE, we now can express causative and depictive complex predicates in LCSs more clearly. (2.38) is an example of a causative complex predicate in Mandarin:

(2.38) Yuehan chi bao le.
John eat full ACTL
‘John was full from eating.’

The LCS of (2.38) can be expressed in the form of (2.39), where the referential feature ACTUAL represents Actual Aspect.

(2.39) [CAUSE([JOHN-EAT], [JOHN-BE-FULL]); ACTUAL]

From (2.39), [JOHN-EAT] is (2.40) and [JOHN-BE-FULL] is (2.41):

(2.40) [CAUSE([JOHN], [MOVE([FOOD], [TO(STOMACH-OF-JOHN)]))])

(2.41) [BE([JOHN], [AT(FULL-NESS)])]
So, the overall LCS of (2.38) is:

\[(2.42) \quad [\text{CAUSE}([\text{CAUSE}([\text{JOHN}], [\text{MOVE}([\text{FOOD}], \text{TO}([\text{STOMACH-OF-JOHN}]])])]), [\text{BE}([\text{JOHN}], [\text{AT}([\text{FULLNESS}]])]); \text{ACTUAL}]\]

Similarly, (2.43) is another example of a depictive predicate:

\[(2.43) \quad \text{Yuehan zuo zhe danxin.} \]
\[\text{John sit DUR worried} \]
\[\text{‘John was sitting worried.’} \]

The LCS of (2.43) can be expressed in the form of (2.44), where the referential feature \text{DURATIVE} represents Durative Aspect:

\[(2.44) \quad [\text{WHILE}([\text{JOHN-BE-SITTED}; \text{DURATIVE}], [\text{JOHN-BE-WORRIED}])]\]

In (2.44), [JOHN-SIT] is (2.45) and [JOHN-BE-WORRIED] is (2.46):

\[(2.45) \quad [\text{BE}([\text{JOHN}], [\text{AT}([\text{SITTED-NESS}]])])]\n
\[(2.46) \quad [\text{BE}([\text{JOHN}], [\text{AT}([\text{WORRY}]])])]\n
So, the overall LCS of (2.43) is:

\[(2.47) \quad [\text{WHILE}([\text{BE}([\text{JOHN}], [\text{AT}([\text{SITTED-NESS}]])]); \text{DURATIVE}], [\text{BE}([\text{JOHN}], [\text{AT}([\text{WORRY}]])])]\]

In this section I showed that there is more than one logical relation linking subeventualities in a complex eventuality. I proposed using conjunctive functions to describe and analyze these logical relations more clearly. I presented the two conjunctive functions, \text{CAUSE} and \text{WHILE}, for causative and depictive complex predicates, respectively. I also gave examples for the analysis of causative and depictive complex predicates using conjunctive functions.

2.5 Simpler Syntax

In section 2.5, I briefly introduce the Simpler Syntax model developed by Culicover and Jackendoff (2005). First I describe the theoretical model then I present the formalism of
Simpler Syntax that can be applied to actual analyses and give a simple analysis to illustrate.

In the model of Simpler Syntax, there are three main modules in the human language faculty: semantics, syntax, and phonology. Each module is autonomous in the sense that each has its own algorithms, but they are not isolated. The modules communicate with one another through interfaces: the semantics-syntax interface, the syntax-phonology interface, and the semantics-phonology interface. The results of the algorithms of one module can be sent to another module through their interface to undergo further calculations.

Algorithms may be involved in just one module or multiple modules. The algorithms only involved with a single module are autonomous algorithms in that module. The algorithms involved with more than one module are conducted in related modules through interfaces between those modules. In the Simpler Syntax model, therefore, there exist constraints that are autonomous in a single module and interface constraints that are involved in multiple modules. This is different from Mainstream Generative Grammar in which the semantics, syntax, and phonology are jammed into a single tree diagram.

Since Simpler Syntax acknowledges constraints in the semantic module, it is natural that Simpler Syntax also includes analysis at the semantic level. The meaning of a sentence is expressed by its Lexical Conceptual Structure (LCS) in the Conceptual Structure tier (CS-tier). The LCS of (2.48) is (2.49) in the original LCS, where tense is a function:

(2.48) John ate a sandwich.

(2.49) \([\text{Eventuality CAUSE([\text{Thing } \text{JOHN}], [\text{Eventuality MOVE([\text{Object SANDWICH}], [\text{Path TO ([\text{Object STOMACH-OF-JOHN}])}])}; \text{INDEF SING}]})] \]

Note that INDEF SING is a feature of sandwich representing the indefinite singular, separated by a semicolon from the object. With our proposed modifications, (2.49) becomes:

(2.50) \([\text{Eventuality CAUSE ([\text{Thing } \text{JOHN}], [\text{Eventuality MOVE([\text{Object SANDWICH}], [\text{Path TO ([\text{Object STOMACH-OF-JOHN}])}])}; \text{INDEF SING}]})]; \text{PAST}] \]
Phrase structure rules regarding word order can be divided into autonomous syntactic constraints and syntax-semantics interface constraints. Autonomous syntactic constraints are entirely within the domain of syntax and have nothing to do with non-syntactic structures. Syntax-semantics interface constraints are conditioned by both syntactic structures and semantic structures. In fact, they are part of the syntax-semantics interface. Traditional phrase structure rules are taken to be autonomous syntactic constraints (Culicover & Jackendoff 2005: 170) and are hence blind to semantics. In addition, Culicover and Jackendoff (2005) use a different formalism to state the traditional phrase structure rules. For example, a traditional phrase structure rule such as (2.51) would be written as (2.52):

(2.51)   PP → P NP

(2.52)   Constituency  Order
         {PP P NP}  [P NP]

By using curly brackets, the constituency part of (2.52) states that a PP is composed of P and a NP without specifying their order. That P is situated immediately to the right of the left square bracket in the “order” part of (2.52) means that a PP always starts with a P. P > NP means that P precedes NP in a PP. Hence (2.52) is in accordance with (2.51). The separate treatment of immediate dominance (ID) and linear precedence rules (LP) like (2.52) comes from the Generalized Phrase Structure Grammar (GPSG) of Gazdar, Klein, Pullum, and Sag (1985).

However, semantics also influences word order. The phrase structure of a sentence like (2.48) would be:

(2.53)   [S NP [VP V NP]]

However, (2.53) cannot prevent a CS like (2.48) from surfacing as (2.54), which is impossible in the real world although grammatical:

(2.54)   # A sandwich ate John.

Traditional phrase structure alone is not enough to account for the grammaticality of an utterance, however. In (2.48), the predicate eat has an agent John and a theme sandwich. In the active voice in English, the agent is often mapped onto the subject and the theme to
the object. The normal word order of an English sentence is subject-verb-object. Since thematic roles are related to semantics, to account for the whole story, we need a mechanism to illustrate the influence of semantics on syntax. Simpler Syntax uses the Grammatical Function tier (GF-tier) to deal with the mapping between thematic roles and syntactic arguments and the ordering of syntactic arguments. Since the GF-tier deals with the mapping between thematic roles, which is within the semantic domain, and syntactic arguments, which is in the syntactic domain, the GF-tier can be seen as part of the semantics-syntax interface. Simpler Syntax adopts the thematic hierarchy (Culicover & Jackendoff 2005: 185) shown in (2.55) to explain the preference for certain thematic roles to be mapped onto certain syntactic arguments:

(2.55)   Actor/Agent > Patient/Undergoer/Beneficiary > non-Patient theme > other

In (2.48), John is the actor/agent, and sandwich is the patient/undergoer. Hence, in a sentence like (2.49) where there are two explicit syntactic arguments, the actor/agent John would be mapped onto the subject and the patient/undergoer sandwich the direct object. The constraint in Simpler Syntax for word order in a sentence containing a subject and a direct object is

(2.56)   GF-tier order                     syntax-tier order
        [GF_i > GF_j]  ⇐⇒  [S NP_i [VP V NP_j] … ] …]

where GF_i is the subject grammatical function, GF_j the direct object grammatical function, NP_i the noun phrase as the subject at the syntactic level, and NP_j the noun phrase as the direct object at the syntactic level. V is in italics because V is rather like a positional reference in the constraint rather than the constraint/rule itself. For example, the appearance of V in (2.56) indicates that NP_j appears immediately to the right of the verb. Items such as V in (2.56) in Simpler Syntax are called contextual features.

By (2.55), the actor/agent John would be mapped onto GF_i, and the patient/undergoer sandwich would be mapped onto GF_j in (2.56). By (2.56), there is a correspondence

(2.57)   GF-tier order                     syntax-tier order
        [JOHN_i > SANDWICH_j]  ⇐⇒  [S JOHN_i [VP EAT SANDWICH_j] … ] …]
is an instance of the constraint (2.56). (2.57) successfully explains the word order of (2.48). A more complete account for (2.48) by Simpler Syntax is shown in Figure 2.6.

\[
\text{[CAUSE ([JOHN
_2], [MOVE ([SANDWICH
_3], INDEF SING)], [TO ([STOMACH-OF-JOHN)])]), PAST]}_1
\]

\[
\text{[GF}_2 > \text{GF}_1]_1
\]

\[
\text{I}_2 \text{NP}_2 \text{i} \text{VP} \text{V}_1 \text{I}_\text{SP} \text{P}_2 \text{N}_2 \text{I}_2]_1
\]

\[
\text{John ate a sandwich}
\]

**Figure 2.6.** Analysis of ‘John ate a sandwich’ (2.48) in Simpler Syntax.

I describe the analysis in Figure 2.6 as a “more complete” account of (2.48) because there are other mechanisms for the CS tier which are not shown in Figure 2.6. For example, the information structure tier (Culicover & Jackendoff 2005: 157), a “sub-tier” of the CS-tier, has features such as FOCUS and TOPIC and can deal with pseudo-clefts such as:

(2.58) What John ate was a sandwich.

However, for a simple sentence like (2.48), the information structure tier is not necessary. The information structure tier is often omitted from analyses given in Culicover and Jackendoff (2005).

### 2.6 The Two-Component Two-Level Model

In this study I investigate the interaction between complex predicates and aspect, focusing in particular on the interaction between monoclausal Resultative Verb Constructions (RVCs) and the Progressive Aspect, which are sometimes compatible and sometimes not. A survey to examine the interaction between monoclausal resultatives and the Progressive Aspect was carried out and the results of this survey are discussed in Chapter 3. For the analysis I adopt the Two-Component Two-Level Model of Xiao and McEnery (2004) In section 2.6, I introduce the Two-Component Two-Level Model together with the aspect system in Mandarin according to this model.

#### 2.6.1 Introduction

Tense and aspect are commonly expressed by specific verbal forms in languages. In some instances, tense and aspect are marked by inflection or affixation of verbs, while in others
they are expressed by special constructions such as verb reduplication or paraphrasal constructions. Well-known examples of aspect expressed by special constructions include *be going to V* for the near future in English and *être en train de V* for the progressive in French. However, not all languages use such mechanisms to treat tense and aspect.

Mandarin is a typical language where the tense of eventualities is not shown on the verb but rather expressed by adverbials. Such languages are often called “tenseless languages”. However, Mandarin does mark the aspect of eventualities by mechanisms such as attaching aspect markers to the verb. In this sense, Mandarin is an aspect language.

A survey was conducted to observe the influence of the interaction between monoclausal RVCs and the Progressive Aspect on grammaticality judgements. It would not be surprising to find that aspect could influence grammaticality judgements. An utterance may be judged as grammatical or ungrammatical just because it appears in different aspect categories. In doing a survey about complex predicates, when we encounter an utterance that is judged to be ungrammatical by native speakers, we should carefully examine whether the ungrammaticality comes from an unacceptable combination of predicates or other factors such as an unacceptable aspect arrangement. Hence, to conduct a sensible survey, we need to understand more about aspect in Mandarin and take a closer look at its influence on judgements of grammaticality. In the next two sections, I briefly review the studies of Comrie (1976) and Xiao and McEnery (2004) which provide the basis for the analysis of aspect in this study.

Aspect involves two different but related concepts: grammatical aspect and lexical aspect (Xiao & McEnery 2004: 14). Many different terms have been used to represent these concepts, for example, Aktionsart, situation aspect, etc., for lexical aspect, and viewpoint aspect, or simply “aspect”, etc., for grammatical aspect (Xiao & McEnery 2004: 14). Some grammarians refer to viewpoint aspect simply as aspect (Li & Thompson 1981; Matthews & Yip 2011; Wade 2011), hence, I would like to follow this convention and use “aspect” for grammatical aspect and “Aktionsart” for lexical aspect.

Aktionsarten have to do with the inherent structures and characteristics of eventualities. Eventualities can be dynamic or non-dynamic, durative or non-durative, or measured by other aspect features. While there have been a number of proposals about how many distinct Aktionsarten there might be, there is broad agreement on the core set: states,
activities, accomplishments, and achievements (Dowty 1979; Vendler 1967). Generally speaking, states are non-dynamic, activities are dynamic and durative, accomplishments are processes which lead to their culminations, and achievements are non-durative. These inherent structures and characteristics influence the combinations of eventualities with different Aktionsarten and different aspect categories.

Aspect has more to do with the viewpoint of speakers toward eventualities than with the inherent structures and characteristics of the eventualities themselves. For example, imperfective aspect categories represent viewpoints in which speakers view eventualities from within, focusing on their temporal structures (Comrie 1976:24), such as Progressive Aspect or Durative Aspect. Perfective aspect categories represent viewpoints from which speakers view eventualities from the outside (Comrie 1976: 4) as a single whole (Comrie 1976: 13). Viewpoints are usually temporal and reflect how speakers conceive the eventualities to be temporally structured.

Human languages employ various mechanisms to mark aspect. Many Slavic languages are known to have pairs of imperfective/perfective verbs. For example, in Russian, писать pisát’ and написать napisát’ are a pair of verbs meaning ‘to write’, where the former is Imperfective and the latter Perfective. Hence, there is an aspectual difference between (2.59) and (2.60), where both verbs are in the past tense:

(2.59) Ивáн писáл письмó.
Iván pisál pis’mó.
‘Ivan was writing a letter.’

(2.60) Ивáн написáл письмó.
Iván napisál pis’mó.
‘Ivan wrote a letter.’

Slavic languages usually encode imperfective and perfective aspect categories of verbs in different but morphologically related lexical pairs, and the dichotomy between imperfective and perfective in those languages is obvious. The study of aspect in Slavic languages has had a strong influence on the study of aspect of other languages, for example, the discovery of the imperfective//perfective dichotomy (Xiao & McEnery 2004; Comrie 1976). Although researchers have identified many different aspect
categories, they fall into one of the two portmanteau categories: imperfective and perfective. For example, Comrie (1976) notes that perfective aspect categories usually include resultative, and imperfective aspect categories usually include habitual, progressive, etc.

Aspect not only refers to the viewpoint of speakers toward eventualities but also to the relations between eventualities or subeventualities. For example, different aspect categories might be employed to describe two simultaneous eventualities such as:

(2.61) When John entered the room, the phone was ringing.

The aspect arrangement of (2.61) provides some information: firstly, the two eventualities share a temporal coincidence, and secondly, the eventuality John entered the room is conceived as being more punctual than the eventuality the phone was ringing, or we can also say that the latter is conceived to be more durative than the former. A similar arrangement can also be observed in Spanish:

(2.62) Cuando Juan entró la habitación, el teléfono soñaba.

when Juan enter the room the telephone ring

‘When Juan entered the room, the phone was ringing.’

In (2.62), entró ‘enter’ is in the Simple Past and soñaba ‘ring’ is Imperfect; both verbs are in the past tense. However, aspect arrangements vary a lot among languages, and morphological contrasts similar to that between the Simple Past and Imperfective pair in (2.62) are only limited to the past tense in many Romance languages (Comrie 1976: 74). For example, in German, a Germanic language, the Simple Past verb form can have an English Simple Past reading or an English Past Progressive reading. Furthermore, the German Simple Past is often colloquially replaced by the Present Perfect:

(2.63) Johann hat einen Brief geschrieben.

Johann have a letter written

‘Johann wrote a letter./Johann has written a letter.’

(2.63) is in the form of the Present Perfect but colloquially can mean Johann has written a letter with a perfective aspect reading, Johann wrote a letter with a perfective aspect reading, and Johann was writing a letter with an imperfective reading. There are at least
two reasons which make the identification of aspect and the recognition of the perfective/imperfective dichotomy difficult. First, alignment between verb conjugations or aspect markers at the morphosyntactic level and aspect at the semantic level is complicated; and second, the distribution and various combinations of tense and aspect surfaced through verb conjugations or aspect markers at the morphological level are usually complicated and asymmetric. I should further point out that because of the difference between the verb form and aspctual meaning the traditional terms of certain tense-aspect may not actually reflect their semantic aspctual values. Hence, I follow Comrie (1976:13) in capitalizing the initial letter when referring to language-specific morphosyntactic tense-aspect categories (e.g. Actual Aspect), and ordinary font when referring to aspect types in general.

A Two-Component Two-Level Model, developed from a corpus study, has been proposed by Xiao and McEnery (2004) for the analysis of aspect in Mandarin. Although the corpora are in Mandarin, their goal is to establish a more unified theory of aspect which may work cross-linguistically (Xiao and McEnery 2004: 245).

In the model of Xiao and McEnery (2004), aspect has two components: situation aspect and viewpoint aspect. As mentioned earlier in this section, situation aspect and viewpoint aspect are often referred to respectively as Aktionsart and aspect. Henceforward, I follow this convention and employ the terms “Aktionsart” and “aspect” instead of “situation aspect” and “viewpoint aspect”.

As noted by many researchers (e.g. Dowty 1979), Aktionsart can be affected by the construction in which a verbal predicate occurs. One way of thinking about this is that Aktionsart can only be determined for an utterance in context, as opposed to lexemes in the abstract. Xiao and McEnery (2004) discuss aspect at the lexical level and the supral-lexical level, i.e. the level of VPs and sentences. Eventualities expressed by the same verbal predicate can have different Aktionsarten, which, according to Xiao and McEnery (2004), are a component of aspect. For example, run is an activity, but run three laps is an accomplishment. Furthermore, situation aspect (Aktionsart) and viewpoint aspect have interactions. Hence, it is necessary to include the supral-lexical level in the discussion of aspect.
2.6.2 Aktionsarten and Aspect Features

Xiao and McEnery (2004) identify six Aktionsarten: individual-level states (ILSs), stage-level states (SLSs), activities (ACTs), semelfactives (SEMs), accomplishments (ACCs), and achievements (ACHs). This classification is more fine-grained than the traditional four-Aktionsarten system: states, activities, accomplishments, and achievements. Xiao and McEnery (2004) further decompose these six Aktionsarten into combinations of five aspect features: [± dynamic (dyn)], [± durative (dur)], [± bounded (bnd)], [± telic], and [± result]. At the supra-lexical level, the aspect features of a core, nucleus, or clause may be influenced by factors such as the countability of the arguments of its predicate or certain adverbials and therefore differ from the aspect features of its predicate. For example, a monoclausal RVC V₁ V₂, which is treated as a nucleus, may have different aspect features from those of V₁. Firstly, for convenience, I list the aspect features of the Aktionsarten in Table 2.1, which is taken from Xiao and McEnery (2004: 59), then I go into a more detailed explanation in the following sections.

<table>
<thead>
<tr>
<th>Aktionsart</th>
<th>[± dyn]</th>
<th>[± dur]</th>
<th>[± telic]</th>
<th>[± bnd]</th>
<th>[± result]</th>
</tr>
</thead>
<tbody>
<tr>
<td>ILS</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>SLS</td>
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</tbody>
</table>

[± dyn] is an aspect feature concerning the internal structure and change of an eventuality. An eventuality with [- dyn] is temporally homogeneous and there is no change either between different phases or at its endpoint. Hence, generally speaking, [± dyn] is an aspect feature which sets states apart from the other Aktionsarten, with states being [- dyn] and all the other Aktionsarten [+ dyn]. However, in the six-Aktionsarten model of Xiao and McEnery (2004), it is somewhat more complicated. In the six-Aktionsarten system, states are divided into individual-level states (ILSs) and stage-level states (SLSs). Individual-level states are generally conceived as the inherent characteristics of things.
and are less easily subject to change whereas stage-level states are the temporary states of things and can change over time. Many languages overtly mark the difference between the two states. For example, Spanish often employs different copulae for ILSs and SLSs:

\[(2.64)\]

Juan es simpático.
Juan be nice
‘Juan is nice.’

\[(2.65)\]

Juan está simpático.
Juan be nice
‘Juan is nice.’

In both (2.64) and (2.65), the copulae *es* and *está* are in the same tense-aspect, i.e. Simple Present, being the conjugated forms of two different lexical items, *ser* and *estar*. In Spanish, *ser* is most often used for inherent characteristics that are less changeable, roughly corresponding to ILSs, and *estar* is most often used to describe temporary and more easily changeable states, roughly corresponding to SLSs. Although both (2.64) and (2.65) are translated as ‘Juan is nice’, *Juan es simpático* means that being nice is the inherent personality of Juan, while *Juan está simpático* does not. Hence, (2.64) also means that Juan is a nice person, while (2.65) has an undertone that Juan is nice at this moment but not necessarily always so nice.

I propose that, in general, the employment of copulae in equivalent Spanish can be used as an auxiliary test for distinguishing ILSs and SLSs. However, this auxiliary test is just a general guide, and we should be careful while using it. For example, *hungry*, a stage-level state, is usually expressed as *tener hambre* ‘have hunger’ in Spanish as in (2.66), where *tiene* is a conjugated form of *tener*:

\[(2.66)\]

Juan tiene hambre.
Juan have hunger
‘Juan is hungry.’

In (2.66), no copula is used, hence the Aktionsart cannot be judged from the copula in the equivalent Spanish in this case. In addition, we cannot overlook the possibility that an eventuality is conceived as an ILS in one language while it is thought of as an SLS in another language and that there may be a mismatch between ILS/SLS and the usage of
ser and estar in Spanish. Since we cannot categorically deny the possible existence of such cross-linguistic and language-specific mismatches, we should think of the “Spanish copula test” as a guide rather than a rule, and remind ourselves not to over-rely on it.

Xiao and McEnery (2004) propose that ILSs are [-dyn] and that SLSs may be [-dyn] or [+dyn]. When the sense of inhomogeneity of an SLS is strong, an SLS has the feature [+dyn] and behaves syntactically like an action (Xiao & McEnery 2004: 59). The duality of SLSs is not surprising, since they describe changeable states, and change contributes to [+dyn]. We can once again observe that, besides the objective characteristics of an eventuality, how speakers subjectively conceive that eventuality is also important. In this case, when the foci are on momentary homogeneous phases, SLSs have [-dyn] readings, and when the foci are on changeable phases, SLSs have [+dyn] readings.

Xiao and McEnery (2004) propose a test for the [± dyn] aspect feature whereby the Progressive Aspect is only compatible with [+ dyn]. They also observe that the Progressive test for [+ dyn] functions well in Mandarin, where the Progressive aspect marker is zai- or zhengzai- (Xiao & McEnery 2004: 42). Hence, in summary, we have two related tests: the Spanish copula test for ILSs and SLSs, and the Progressive test for [± dyn]. However, the Progressive test leaves many pending cases such as:

(2.67) Yuehan e yi zheng tian le.
John hungry one whole day COS
‘John has been hungry for a whole day.’

(2.68) * Yuehan zai e yi zheng tian le.
John PROG hungry one whole day COS
‘John is being hungry for a whole day.’

(2.69) * Yuehan zai e.
John PROG hungry
‘John is being hungry for a whole day.’

In (2.67), we can argue that e ‘hungry’ is not homogeneous and hence is [+ dyn], since it is understandable that the degrees of hunger of being hungry for one hour, one meal, and a whole day are different. However, e ‘hungry’ cannot take the Progressive marker zai-, either with a duration adverbial as in (2.68) or without a duration adverbial as in (2.69). If
we say that \(e\) ‘hungry’ in (2.67) is [+ dyn], then we have to accept that the Progressive tests in (2.68) and (2.69) fail. If we say that \(e\) ‘hungry’ in (2.67) is actually [- dyn] because of its incompatibility with \(zai\)– in (2.68) and (2.69), then we have to explain why \(e\) ‘hungry’ in (2.67) is not [+ dyn] to avoid making the argument circular. In addition, I think that how speakers conceive an eventuality is also a decisive factor and might explain exceptional cases where some tests might fail, therefore enshrining those tests as absolute rules may result in overlooking some important details.

Some eventualities have duration and can be expressed as intervals on the axis of time. Some eventualities are punctual, without duration, and can be expressed as points on the axis of time. [± dur] is the aspect feature to denote this difference: eventualities with [+ dur] are temporal intervals with duration while eventualities with [- dur] are temporal points without duration. A good example of this is the semantically related lexical pair search and find: search denotes the process of a volitional move to make the unknown whereabouts of something known; find denotes the turning point when the whereabouts of something that is previously unknown becomes known, and one has no volitional control over this turning point; search is temporally an interval and is [+ dur], while find is temporally a point and is [- dur].

Xiao and McEnery (2004: 44) propose a test for the [± dur] aspect feature in Mandarin: in Mandarin, the Durative Aspect marker -zhe is not compatible with the [- dur] aspect feature with one exception: semelfactives. A semelfactive eventuality is a punctual eventuality without duration, but semelfactives tend to occur in groups of successive and iterative occurrences. For example, knock is a typical semelfactive eventuality. Although semelfactives are [- dur], they can be combined with the Durative Aspect marker -zhe and render iterative readings. This is explained in Figure 2.7 and Figure 2.8. A single occurrence of a semelfactive eventuality is punctual, as shown in Figure 2.7, where the black dot denotes the location of the semelfactive eventuality of a single occurrence on the axis of time. However, semelfactives tend to appear in multiple and temporally intensive and successive occurrences. When these take place, it is easy to conceive that group of occurrences as a single eventuality, and since a group of punctual occurrences can have a duration, it may be conceived as an interval on the axis of time rather than mere points, as shown in Figure 2.8. Hence, semelfactives with iterative readings can be conceived as intervals on the axis of time and behave like durative eventualities in the
language of speakers who subjectively depict a group of semelfactive occurrences as such. Because of this, I propose that iterative semelfactives are [+ dur]. In Mandarin, this durative eventuality-like behavior of semelfactives is represented by their compatibility with the Durative Aspect marker -zhe when they are to be interpreted as having an iterative meaning.

![Figure 2.7. A semelfactive of a single occurrence.](image)

![Figure 2.8. A semelfactive with an iterative reading.](image)

Xiao and McEnery (2004) distinguish two kinds of endpoints in arguing that [+ telic] eventualities are delimited by spatial endpoints, while [+ bnd] eventualities are delimited by temporal endpoints. Krifka (1989a) unites temporal and spatial endpoints by showing that they are actually projections of the endpoints of eventualities on the temporal and the spatial axes, which will be explained in detail in 3.2.5.2. So, the interaction between for-adverbials / in-adverbials and [+ telic] is not mechanical interactions to be read off from the surface form but rather whether eventualities are interpreted as strictly cumulative or not. Of course, there will be some unusual cases where in the surface form an utterance should not be strictly cumulative but semantically it is strictly cumulative like (2.70), an actual example taken from Piñón (2008):

(2.70) Rebecca ate the apple for five minutes (before dropping it on the floor).
In (2.70) *an apple* should be not strictly cumulative, but considering what Rebecca actually ate is less than an apple, which could be 0.5 apple, 0.6 apple, or 0.7 apple, it is actually semantically strictly cumulative and hence makes the sentence compatible with for-adverbia! The proposal of Krifka (1989a) allows us to explain some cases which seem to have syntactically rare behaviors. Regarding the aspect features \([\pm \text{telic}]\) and \([\pm \text{bnd}]\), I do not find the account of Xiao and McEnery (2004) very satisfying, and I find the theory of Krifka (1989a) more convincing. However, for completeness, the following is a brief overview of \([\pm \text{telic}]\) and \([\pm \text{bnd}]\) according to the model of Xiao and McEnery (2004). I begin with \([\pm \text{telic}]\).

Telic eventualities have endpoints, however, there is no consensus for the term “telicity” (Xiao & McEnery 2004: 45) or “endpoint”. Comrie (1976) takes telic eventualities as processes which lead to endpoints, and this viewpoint inevitably excludes most eventualities which cannot take the Progressive Aspect from the realm of telic eventualities since processes are generally compatible with the progressive. However, as Xiao and McEnery (2004) point out, *John reached the summit*, which clearly has an endpoint, could not be telic according to Comrie (1976), since one cannot focus on the process before the endpoint and say *John was reaching the summit* (Xiao & McEnery 2004: 46). Smith (1997: 19) adopts the concept of “natural final endpoint” and “arbitrary final endpoint”: telic eventualities have natural final endpoints while atelic eventualities have arbitrary final endpoints. While I think that this definition is not concrete enough, the argument of Smith (1997) leads to an important observation: for eventualities, there are characteristically different endpoints.

Not all endpoints have the same characteristics. Xiao and McEnery (2004) distinguish two different endpoints: spatial and temporal. Although the distinction between the two seems clear, it is not always easy to differentiate one from the other. In human languages, speakers often encode delimitedness in related but indirect ways. For example, foot is a unit of length that is related to the length of the body part ‘foot’. Some eventualities can be delimited both spatially and temporally, for example:

\begin{align}
(2.71) & \quad \text{A visit to the temple is a 30 kilometer trip. (spatial)} \\
(2.72) & \quad \text{A visit to the temple is a half day’s trip. (temporal)}
\end{align}
In addition to making a distinction between temporal endpoints and spatial endpoints, Xiao and McEnery (2004) propose the aspect features \([\pm \text{telic}]\) and \([\pm \text{bounded (bnd)}]\) to deal with these distinctions. They assign \([+ \text{telic}]\) to eventualities with spatial endpoints, \([-\text{telic}]\) to eventualities without spatial endpoints, \([+ \text{bnd}]\) to eventualities with temporal endpoints, and \([-\text{bnd}]\) to eventualities without temporal endpoints (Xiao & McEnery 2004: 51).

Two tests are usually employed to diagnose whether an eventuality in English is telic or atelic: the entailment test and the for/in test (Dowty 1979: 60). The entailment test starts with the question: If one is \(Ving\), has one \(Ved\)? For a telic eventuality such as \(\text{build a house}\), the answer is no, while for an atelic eventuality such as \(\text{run}\), the answer is yes. However, as Xiao and McEnery (2004) notice, this test does not work in Mandarin. For example, for the eventuality in (2.73), the diagnostic question in the entailment test would be (2.74), where \(le\) is the Actual Aspect marker signifying that an eventuality is actualized:

\begin{align*}
(2.73) & \quad \text{Yuehan zai xie zuoye.} \\
& \quad \text{John PROG write homework} \\
& \quad \text{‘John is writing the homework.’} \\
(2.74) & \quad \text{Yuehan xie le zuoye ma?} \\
& \quad \text{John write ACTL homework INT} \\
& \quad \text{‘Has John written the homework?’}
\end{align*}

In English, the answer to (2.74) would be no, whereas in Mandarin, the answer to (2.74) is yes. If we want to stress that John has not finished his homework, we can add partial negation after the affirmative answer:

\begin{align*}
(2.75) & \quad \text{Xie le, keshi hai meiyou xie wan.} \\
& \quad \text{write ACTL but yet NEG write finish} \\
& \quad \text{‘Yes, but (he) has not finished writing (it).’}
\end{align*}

Xiao and McEnery (2004: 46) think that the reason why the entailment does not work is because the negative particle \(mei\) or \(meiyou\) negates the realization and not the completion of the eventuality. However, without the partial negation in (2.75), the sentence in (2.76) can still be the answer to the diagnostic question (2.74):

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Hence, I think that the reason why the entailment test does not work in Mandarin is not related to the scope of negation of *mei* or *meiyou*. Instead, I think that the reason is because the Actual Aspect in Mandarin, which will be introduced later, and the Perfect Aspect in English are not equivalent. The Actual Aspect in Mandarin does not guarantee the completion of an eventuality. Hence, although the eventuality *write the homework* is not completed in (2.75), it is still compatible with the Actual Aspect in Mandarin. This is supported by the observation in Klein (2000) that the assertion time of verbs marked by -le includes a time period before the source phase, in this case *xie* ‘write’, of the eventuality *xie zuoye* ‘write the homework’ and a time period of part of the source phase. Since the assertion time of verbs marked by -le includes the starting time point of the source phase in (2.74), because John has started the source phase of the eventuality, i.e. *xie* ‘write’, the answer to (2.74) is an affirmative yes as in (2.75) even though he has not finished the whole eventuality, i.e. *xie zuoye* ‘write the homework’.

Besides the entailment test, there is still the duration adverbial/time span adverbial test, i.e. the for/in test for the telicity of eventualities. According to Xiao and McEnery (2004: 47), the duration adverbial/time span adverbial test functions well in Mandarin. A [+telic] eventuality can take a time span adverbial such as *in an hour*, while a [-telic] eventuality can take a duration adverbial such as *for an hour* (Xiao & McEnery 2004: 46). The converse of both propositions entails that an eventuality which cannot take a time span adverbial is not a [+telic] eventuality and that an eventuality which cannot take a duration adverbial is not a [-telic] eventuality. For example, for the [+telic] eventuality *find the book* and the [-telic] eventuality *stand*, we have the following sentences:

(2.77)  John found the book in an hour.

(2.78)  *John found the book for an hour.

(2.79)  *John stood in an hour.

(2.80)  John stood for an hour.
The equivalents of $V for T$ and $V in T$ in Mandarin, where $T$ stands for a period of time, are $VT$ and $(zaizi) T nei/zhinei V$, respectively. Hence, the equivalent sentences of (2.77) – (2.80) in Mandarin are:

(2.81) Yuehan zai yi ge xiaoshi nei zhao dao na ben shu.
John be one CL hour inside search arrive that CL book
‘John found the book in an hour.’

(2.82) * Yuehan zhao dao na ben shu yi ge xiaoshi.
John search arrive that CL book one CL hour
‘John found the book for an hour.’

(2.83) * Yuehan zai yi ge xiaoshi nei zhan.
John be one CL hour inside stand
‘John laughed in an hour.’

(2.84) Yuehan zhan yi ge xiaoshi.
John stand one CL hour
‘John stood for an hour.’

As we have mentioned earlier, both [± telic] and [± bnd] are aspect features for eventualities delimited by endpoints. The difference between [± telic] and [± bnd] is that [+ telic] eventualities are delimited by spatial endpoints, while [+ bnd] eventualities are delimited by temporal endpoints. Although spatial endpoints and temporal endpoints seem to be two kinds of distinctive endpoints, it is not always easy to distinguish them. What makes the situation more complicated is that spatial delimitedness can be expressed temporally and vice versa. In the following example, suppose John is a carpenter who makes his living by selling the items he makes rather than by being paid for the time he works. In one morning, he made two chairs and sold them for 100 dollars. We may still say:

(2.85) That morning’s work earned John 100 dollars.

What earned John 100 dollars in (2.85) are the items John made, and they are spatially delimited in quantity: two chairs. In general, because what is temporally delimited can be
expressed with spatial delimitedness and vice versa, the boundary between the two is not always clear.

Xiao and McEnery (2004: 51) notice that, [+ telic] always implies [+ bnd], while a [-telic] eventuality may be [+ bnd] or [- bnd]. This relation can be simply expressed as:

\[(2.86) \quad [+ \text{telic}] \Rightarrow [+ \text{bnd}]\]

Hence, in the model of Xiao and McEnery (2004), what is spatially delimited is also temporally delimited, but the opposite is not true. However, as shown in (2.85), spatial delimitedness can be expressed temporally and vice versa. I think that there are some possible interpretations for this apparent contradiction. It is possible that human beings prefer to express delimitedness spatially than temporally. It is also possible that human beings convert temporal delimitedness to spatial more frequently or more easily than converting spatial delimitedness to temporal. I think that whether the asymmetry suggested by (2.86) is universal needs more study.

Xiao and McEnery (2004: 54) argue that since semelfactives have readings of both a single occurrence and a series of multiple occurrences, they are [- telic] and [± bnd]. When a semelfactive eventuality has a single occurrence reading, it is [+ bnd]. When a semelfactive eventuality has a multiple occurrence reading, it is [- bnd]. In other words, in the model of Xiao and McEnery (2004), semelfactives are not spatially delimited. As for their temporal delimitedness, it depends on whether they have single occurrence readings or multiple occurrence readings. Figure 2.7 and Figure 2.8 can help us understand the duality of semelfactives.

Whether they have iterative readings or not, semelfactives are [- telic], i.e. they are not spatially delimited. It would be strange to say that either the iterative reading or the non-iterative reading of (2.87) is not spatially delimited, since it is clear that the eventuality in (2.87), iterative nor not, takes place spatially in a limited area reasonably close to a door:

\[(2.87) \quad \text{John knocked at the door.}\]

There is no concrete a priori test independent of syntactic behavior for the feature [± telic] in the model of Xiao and McEnery (2004), and there is no concrete evidence which can prove that spatial delimitedness is the decisive factor for the syntactically behavioral
differences between predicates which are described as [+ telic] and [- telic] in their model.

The claim that a [+ telic] eventuality can take a time span adverbial and a [- telic] eventuality can take a duration adverbial, combined with the fact that [+ telic] and [- telic] are mutually incompatible, leads to the conclusion that an eventuality which can take a time span adverbial cannot take a duration adverbial, but this is clearly not the case in (2.88):

(2.88) John built two cabins for three weeks.

The eventuality of (2.88) is an accomplishment, which is [+ telic] and supposed to be incompatible with a duration adverbial. I think that Krifka (1989a) has a better explanation for the relation between eventualities and time span/duration adverbials, which has to do with the countability and the definiteness of the nominal arguments in clauses. For completeness, I will first finish the review of the model of Xiao and McEnery (2004), and then I will provide a brief review of Krifka (1989a) in Chapter 3 when I discuss the compatibility of monoclausal RVCs and the Progressive Aspect.

Next, I briefly introduce the feature [+ result]. An eventuality with [+ result] is an eventuality which inherently encodes the occurrence of the state of its endpoint (Xiao & McEnery 2004: 48). This aspect feature is best illustrated by the difference between accomplishments and achievements. For example, it is well known that many accomplishments have two readings like make two chairs, one being in the process of making two chairs and the other indicating that two chairs have been made. Although make two chairs has an endpoint, the occurrence of the state of its endpoint, i.e. two chairs are made, is not necessarily included in the eventuality itself make two chairs. It is exactly because accomplishments do not necessarily include the occurrences of the states of their endpoints which makes this Aktionsart have two readings. However, it does not mean that the occurrences of the states of their endpoints must be excluded from accomplishments. When the occurrences are not included, we have sentences such as:

(2.89) John has been making two chairs since this morning.

(2.89) does not mean that the state of two chairs are made occurs. When the occurrence is included, we have sentences such as:
(2.90) John made two chairs this morning.

(2.90) has the meaning that the state of *two chairs are made* occurred. However, for achievements, the occurrences of the states of the endpoints are usually included. For example, sentence (2.91) would be strange, while sentence (2.92) is fine:

(2.91) * John has been finding the book since this morning.

(2.92) John found the book this morning.

Since [+ result] is an aspect feature for eventualities with inherent occurrences of the states of their endpoints, from the discussion above, we can say that achievements are [+ result] and accomplishments are [- result] as endpoints do not necessarily have to be included in accomplishments. In fact, in the model of Xiao and McEnery (2004), achievement is the only one of the six Aktionsarten with the aspect feature [+ result]. It is understandable, since the remaining Aktionsarten are either without endpoints or inherent occurrences of the states of their endpoints.

As stated, in the model of Xiao and McEnery (2004), six Aktionsarten are identified. To recap, these are: individual-level states (ILSs), stage-level states (SLSs), activities (ACTs), semelfactives (SEMs), accomplishments (ACCs), and achievements (ACHs). Xiao and McEnery (2004) have also identified five aspect features, i.e. [± dynamic (dyn)], [± durative (dur)], [± bounded (bnd)], [± telic], and [± result]. The six Aktionsarten can be expressed as unique combinations of the five aspect features. The combinations of the component aspect features of the six Aktionsarten are summarized in Table 2.1.

Two special notes should be taken from 0. Firstly, SLSs have the feature [± dyn]. When SLSs have [- dyn] readings, their aspect feature combination is the same as that of ILSs, and when SLSs have [+ dyn] readings, their aspect feature combination is the same as that of ACTs. We can say that SLSs are an Aktionsart with a duality of states: eventualities with the feature [- dyn] and events that are eventualities with the feature [+ dyn] (Xiao and McEnery 2004: 58). Second, SEMs have the feature [± bnd]. When SEMs are [- bnd], they are ACT-like and have iterative readings. When SEMs are [+ bnd], they have single occurrence readings.
2.6.3 Sentential Level

In the previous sections, I introduced the analysis of aspect features at the lexical level in the Two-Component Two-Level Model. As implied by the name, there is another level on which the model is applied, besides the lexical level. In the following, I look at how the Two-Component Two-Level Model extends its analysis of aspect features to the supralexical level.

It has long been noted that properties of arguments interact with Aktionsarten and influence their behavior. For example, Dowty (1979: 62) notes that definiteness and the number of arguments influence the behavior of accomplishments. (2.93) and (2.94) are modified examples based on the examples given by Dowty (1979: 62) to illustrate how arguments influence the behavior of accomplishments:

(2.93)  John made that chair in a day.

(2.94)  * John made chairs in a day.

Dowty (1979: 62) explains that when direct objects of accomplishments are indefinite plural, the accomplishments behave like activities. Hence, *made chairs is incompatible with the adverbial in a day, just like activities such as:

(2.95)  * John ran in a day.

Comrie (1976: 45) also notes that arguments influence the behavior of eventualities. The following examples (2.96) and (2.97) are modified from examples given by Comrie (1976: 45):

(2.96)  John is writing.

(2.97)  John is writing a letter.

Comrie points out that (2.96) is an atelic eventuality and (2.97) is a telic eventuality with a terminal point, i.e. when John finishes writing the letter. (2.96) and (2.97) are a good pair of examples to illustrate that arguments can change the aspect features of eventualities.
Xiao and McEnery (2004) divide clause-level analyses into three layers: the nucleus, the core, and the clause, as illustrated in the following example:

(2.98) Yuehan kan le kan na zhang yizi.

John look ACTL look that CL chair
‘John took a brief look at that chair.’

The verb in (2.98) is kan ‘look’. The verb undergoes reduplication and forms a syntactic unit kan le kan, termed the nucleus by Xiao and McEnery (2004). The external argument Yuehan ‘John’ together with the nucleus kan le kan are the core (Xiao & McEnery 2004). Finally, with the rest of the sentence comes the clause. These three layers are illustrated in Figure 2.9. The terms nucleus and core are also used in Role and Reference Grammar but with different usage. In the model of Xiao and McEnery (2004), nucleus refers to the predicate, and core refers to the nucleus plus its internal argument. However, in Role and Reference Grammar, nucleus refers to the predicate, and core refers to the nucleus plus both its internal and external arguments (van Valin 2001: 26).

![Diagram of nucleus, core, and clause]

Figure 2.9. Nucleus, core, and clause in the model of Xiao and McEnery (2004).

Now, aspect features at the clause level can be discussed at three layers: the aspect features of the nucleus, those of the core, and those of the clause. Xiao and McEnery (2004) further propose several rules concerning changes to aspect features at these three layers. The two rules which apply at the nucleus layer are given in (2.99) and (2.100) below (from Xiao & McEnery 2004: 60):
(2.99) Rule N1: verb\([-\text{telic}, \pm \text{bnd}]\) + RVC component ⇒ derived predicate\([+\text{telic}, +\text{result}]\)

An example for (2.99) is the verb *du* ‘read’, which is a \([-\text{telic}, -\text{bnd}, -\text{result}]\) verb. After adding an RVC component, for example, *wan* ‘finish’, it becomes an RVC *du wan* ‘finish reading’, which is a \([+\text{telic}, +\text{bnd}, +\text{result}]\) derived predicate.

(2.100) Rule N2: verb\([-\text{telic}, \pm \text{bnd}]\) + reduplicant ⇒ derived predicate\([-\text{telic}, +\text{bnd}]\)

An example for (2.100) is the verb *kan* ‘look’, which is a \([-\text{telic}, -\text{bnd}, -\text{result}]\) verb. After reduplication, it becomes a derived verb *kan kan* ‘take a brief look’, with the aspect features \([-\text{telic}, +\text{bnd}]\). In addition to the two rules N1 and N2, I propose that it is better to use N0 to denote a rule deriving a nucleus which contains a bare verb from the verb itself, since the entity discussed at the nucleus level is \([V \emptyset]\), not V itself.

The three rules which work at the core layer are given in (2.101), (2.102), and (2.103) (from Xiao & McEnery 2004: 64):

(2.101) Rule C1: NP + verb\([+\text{telic}/-\text{telic}]\) ⇒ core\([+\text{telic}/-\text{telic}]\)

The NP in (2.101) can be countable, i.e. \([+\text{count}]\), or uncountable, i.e. \([-\text{count}]\), therefore (2.101) just states that the countability of an external argument does not affect the telicity of the core which it forms (Xiao & McEnery 2004: 63), and I think that this rule is made explicit by Xiao and McEnery (2004) because nouns in Mandarin are not marked in number.

(2.102) Rule C2: NP + verb\([-\text{telic}]\) + NP ⇒ core\([-\text{telic}]\)

The two NPs in (2.102) can be countable or uncountable. Rule C2 (2.102) states that, for a \([-\text{telic}]\) verb, an NP argument, be it external or internal, does not change the telicity of the core which it forms.

(2.103) Rule C3: NP + verb\([+\text{telic}]\) + NP\([+\text{count}/-\text{count}]\) ⇒ core\([+\text{telic}/-\text{telic}]\)

Finally, the six rules which work at the clause layer are set out below (from Xiao & McEnery 2004: 72):

(2.104) Rule CL1: core\([-\text{bnd}]\) + for-PP/from... to ⇒ clause\([+\text{bnd}]\)
(2.104) states that a [- bnd] core with a duration adverbial, for example, a temporal for-adverbial such as for three minutes or with a temporal from... to-adverbial such as from last night to this morning, forms a [+ bnd] clause.

(2.105) Rule CL2: core [+ telic] + for-PP/from... to ⇒ clause [- telic]

(2.105) states that a [+ telic] core with a temporal for-adverbial or with a temporal from... to-adverbial, forms a [- telic] clause.

(2.106) Rule CL3: core [± bnd] + verbal classifier phrase ⇒ clause [+ bnd]

Verbal classifier phrases like yi xia ‘once’ are associated with counting, just like noun classifier phrases. Like numerals, verbal classifier phrases count the quantities of eventualities. Examples of verbal classifiers given by Xiao and McEnery (2004) include yi xia ‘once’ and san ci ‘three times’. Because of the syntactic specifications of Mandarin, direct NP-arguments and verbal classifier phrases sometimes have a similar structure and occur at the same place in a sentence. The following is a pair of such examples:

(2.107) Yuehan du le ji ye.
John read ACTL several page
‘John read several pages.’

(2.108) Yuehan du le ji ci.
John read ACTL several time
‘John read several times but did not finished.’

Ye ‘page’ in (2.107) and ci ‘time’ in (2.108) are both nouns, and the phrases ji ye ‘several pages’ in (2.107) and ji ci ‘several times’ both occur at the same places in their own sentences. However, ji ye ‘several pages’ in (2.107) is a direct NP-argument, whereas ji ci ‘several times’ in (2.108) is a verbal classifier phrase. At the clause layer, both (2.107) and (2.108) have the aspect feature [+ telic], but they also have the aspect feature [+ telic] for different reasons. (2.107) is [+ telic] because ji ye ‘several pages’ is a countable noun, while (2.108) is [+ telic] because yi ci ‘several times’ is a verbal classifier phrase.

(2.109) Rule CL4: core [+ telic] + Progressive ⇒ clause [- telic]

An example for (2.109) is:
Yuehan gai yi dong fangzi ‘John builds a house’ is a [+ telic] core according to (2.103), and the Progressive Aspect makes it a [- telic] clause according to Rule CL 4 (2.109). However, according to Xiao and McEnery (2004), a [- telic] eventuality can take a duration adverbial, but the Progressive aspect is not compatible with duration adverbials (Xiao & McEnery 2004: 214). Hence, a sentence like (2.111) should be grammatical since it is [- telic] according to (2.109) but is ungrammatical since it is in the Progressive aspect.

(2.111) * Yuehan zhengzai gai yi dong fangzi wu ge yue.  
John PROG build one CL house five CL month  
‘John is building a house for five months.’


Before introducing Rule CL5, I have to talk about the so-called de-constructions or complex state constructions. Mandarin has a special de-construction which can express resultative or manner complex eventualities. (2.112) is an example:

(2.112) Yuehan chang ge chang de hao.  
John sing song sing CSC good  
‘John sings well.’

Sentences like (2.112) with de-constructions are called complex state constructions (CSCs) in Li and Thompson (1981: 623) and have the structure:

(2.113) [clause de] [stative clause or stative verb phrase]

Li and Thompson (1981) recognize two functions of complex state constructions, that is, stative clauses or stative verb phrases can describe the manner or the extent of the first clauses. In addition, Li and Thompson also observe (1981: 628) that when the first clause contains a transitive verb and a direct object, the verb must be repeated in the form

(2.114) … + V + D.O. + … + V + de…

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I propose that the stative verb phrase in (2.113) is actually a stative clause with an abstract subject PRO, hence complex state constructions are actually composed of two clauses. For example, the syntactic structure of (2.112) is

\[(2.115) \quad [\text{Yuehan chang ge chang de}]_{\text{Clause 1}, i} \quad [\text{PRO}_i \ hao]_{\text{Clause 2}}\]

John sing song sing CSC well

‘John sings well.’

\(Hao\) ‘well’ in (2.115) describes the manner of \(\text{Yuehan chang ge} ‘John sings (songs)’\).

However, \(hao\) ‘well’ can also describe the extent of \(\text{Yuehan chang ge} ‘John sings (songs)’\) as in:

\[(2.116) \quad [\text{Yuehan suibian chang ge ye chang de}]_{\text{Clause 1}, i} \quad [\text{PRO}_i \ h\text{en hao}]_{\text{Clause 2}}\]

John casually sing song also sing CSC very well

‘Even (though) John sings casually, he still sings very well.’

In (2.116), \(\text{suibian} ‘casual’\) is the manner of \(\text{Yuehan chang ge} ‘John sings (songs)’\), and \(\text{hen hao} ‘very well’\) is the extent. In addition to the functions listed in Li and Thompson (1981), I think the second clause can also describe the result of the first clause and makes the CSC a resultative-like construction. For example, in (2.117), \(\text{zhan bu qilai} ‘cannot stand up’\) can describe the result of \(\text{Yuehan lei} ‘John is tired’\) besides the extent and manner:

\[(2.117) \quad [\text{Yuehani lei de}]_{\text{Clause 1}} \quad [\text{PRO}_i \ zhan bu qi lai}]_{\text{Clause 2}}\]

John tired CSC stand NEG up come

‘John is so tired that he cannot stand up.’

In short, the second clause in an CSC have at least three functions: to describe the manner, extent, or result of the first clause.

Now we are in a position to have a look at rule CL5, which has to do with the complex state construction.

\[(2.118) \quad \text{Rule CL5: core}[-\text{result}] + \text{complex state construction} \Rightarrow \text{clause}[+\text{result}]\]
Since the second clause in a complex state construction expresses the manner, extent, or result of the first clause, it is understandable that the second clause delimits the whole eventuality and turns it into a [+ result] and (cf. 0) a [+ telic] eventuality. It is understandable that when the second clause in a complex state construction describes the extent or the result of the first clause, the state represented by the second clause is the result state of the whole eventuality and hence the whole eventuality is [+ result]. This is probably because the second clause of a complex state construction specifies the extent of the core, hence it gives the result state of the core.

Before introducing Rule CL6, I will briefly talk about the ba-construction and bei-construction. In Mandarin, besides being placed after a transitive verb, direct objects can be marked by *ba* and come before the verb (Li & Thompson 1981: 463). *Ba* has a full verb meaning of ‘hold’. It is easy to understand the structure of the *ba*-construction when we recognize it as a polyclausal serial verb constructions with *ba* being a semantically bleached light verb. For example, the direct object *na ben shu* ‘that book’ in (2.119) can be moved to the front of the verb *kan wan* ‘read finish’ as in (2.120):

(2.119) Yuehan kan wan le na ben shu.
John read finish ATCL that CL book
‘John finished reading that book.’

(2.120) Yuehan ba na ben shu kan wan le.
John hold that CL book read finish ACTL
‘John finished reading that book.’

The syntactic structure of (2.120) is:

(2.121) [[Yuehan, ba na ben shu]clause 1 [PRO, kan wan le]clause 2]s
John hold that CL book read finish ACTL
‘John finished reading that book.’

*Ba* in (2.121) is actually a semantically bleached light verb functioning as a preposition and a direct object marker. The *ba*-construction is usually used in sentences which state how the direct object is handled or dealt with (Li & Thompson 1981: 468). When the direct object is not marked by *ba* and the indirect object is not marked by *gei*, the position of direct and indirect objects is (2.122).
(2.122) \( V + \text{indirect object} + \text{direct object} \)

When the indirect object is marked by \( gei \), the positions in clauses where bleached \( gei \) can occur are varied and depend on the identity of the main verb (Li & Thompson 1981) and the thematic roles of the indirect and direct objects. Sometimes clauses containing bleached \( gei \) can even appear within other clauses. In addition, whether \( gei \) is employed as the indirect object marker also depends on the main verb. For example, when the main verb is \( xie \) ‘write’, \( gei \)-construction must be used (hence (2.123) below is ungrammatical), and \([gei + \text{indirect object}]\) can appear before the main verb as in (2.125) or before the main verb as in (2.124):

\[
(2.123) \quad \ast [\text{Yuehan xie le Mali yi feng xin}]_S
\]

\[
\begin{array}{c}
\text{John write ACTL Mary one CL letter} \\
\text{‘John wrote a letter to Mary.’}
\end{array}
\]

\[
(2.124) \quad [[\text{Yuehan, xie le yi feng xin}]_{\text{Clause1}} [\text{PRO, gei Mali}]_{\text{Clause2}}]_S
\]

\[
\begin{array}{c}
\text{John write ACTL one CL letter GEI Mary} \\
\text{‘John wrote a letter to Mary.’}
\end{array}
\]

\[
(2.125) \quad [[\text{Yuehan, gei Mali}]_{\text{Clause1}} [\text{PROi xie le yi feng xin}]_{\text{Clause2}}]_S
\]

\[
\begin{array}{c}
\text{John GEI Mary write ACTL one CL letter} \\
\text{‘John wrote a letter to Mary.’}
\end{array}
\]

When the main verb is \( jie \) ‘lend’, \( gei \)-construction does not have to be used (2.127), \([gei + \text{indirect}]\) cannot appear before the main verb (2.129) and should appear after the main verb (2.128) and (2.130):

\[
(2.126) \quad [[\text{Yuehan, xie [PRO, gei Mali]}_{\text{Clause1}} \text{ le yi feng xin}]_{\text{Clause2}}]_S
\]

\[
\begin{array}{c}
\text{John write GEI Mary ACTL one CL letter} \\
\text{‘John wrote a letter to Mary.’}
\end{array}
\]

\[
(2.127) \quad [\text{Yuehan jie le Mali yibai yuan}]_S
\]

\[
\begin{array}{c}
\text{John lend ACTL Mary one.hundred dollar} \\
\text{‘John lent a hundred dollars to Mary.’}
\end{array}
\]

\[
(2.128) \quad [[\text{Yuehan, jie le yibai yuan}]_{\text{Clause1}} [\text{PRO, gei Mali}]_{\text{Clause2}}]_S
\]

\[
\begin{array}{c}
\text{John lend ACTL one.hundred dollar GEI Mary} \\
\text{‘John lent a hundred dollars to Mary.’}
\end{array}
\]
From the examples in (2.123) – (2.130), we can observe that the appearance of gei and the position of gei in the clause are conditioned by whether the full verb is xie ‘write’ or jie ‘lend’. Similar to the ba-construction, the gei-construction is also a kind of polyclausal serial verb construction, where gei is semantically bleached and functions as an indirect object marker.

Having presented the ba-construction and the gei-construction, let us move on to the bei-construction. The bei-construction is actually another kind of polyclausal serial verb construction (Yin 2004). Bei historically had the full verb meaning of ‘cover’ (Yin 2004), however, it is now seldom used alone as a full verb with such a meaning. In a bei-construction, bei is used as a semantically bleached light verb and functions as an AGENT marker in the passive voice. In bei-constructions, the PATIENT or THEME is mapped onto the place of the subject, while the AGENT is mapped onto the place of the object of bei:

(2.131) Mali bei Yuehan ma le.
Mary cover John scold ACTL
‘Mary was scolded by John.’

The syntactic structure of (2.131) is:

(2.132) [[Mali bei Yuehan]clause1 [PROi ma le]clause2]s
Mary cover John scold ACTL
‘Mary was scolded by John.’

There is a possibility that (2.131) is analyzed as

(2.133) [Mali bei [Yuehan ma le].]
However, if we consider (2.135) and (2.136), both of which have the surface form of (2.134), we will find that the syntactic structures of (2.135) and (2.136) are different, and that the syntactic structures of bei-constructions should be analyzed as chained clauses.

(2.134)  \[NP_1 \ V_1 \ NP_2 \ V_2 \ NP_3\]
(2.135)  \[W_{NP_1} \ zhida_\text{V}_1 \ Yuehan_{NP_2} \ [mai \ le]_{V_2} \ [na \ dong \ fangzi]_{NP_3}\]
         I know John sell ACTL that CL house
         ‘I know that John sold that house.’
(2.136)  \[Mali_{NP_1} \ bei_{V_2} \ Yuehan_{NP_2} \ [mai \ le]_{V_2} \ [na \ dong \ fangzi]_{NP_3}\]
         Mary cover John sell ACTL that CL house
         ‘That house of Mary’s was sold by John.’

The syntactic structure of (2.135) is

(2.137)  \[W_{\text{SUBJ}} \ zhida_\text{V} \ [Yuehan_{\text{SUBJ}} \ [mai \ le]_{V} \ [na \ dong \ fangzi]_{\text{OBJ}}_{S_2, \text{OBJ}}}_{S_1}\]

The OBJ of S_2, [\text{na dong fangzi}], can be topicalized and put in front of the SUBJ of S_2, Yuehan:

(2.138)  \[W_{\text{SUBJ}} \ zhida_\text{V} \ [[\text{na dong fangzi}]_{\text{Top}ic, i} \ [Yuehan_{\text{SUBJ}} \ [mai \ le]_{V} \ pro_{\text{OBJ}, i}]_{\text{Comment, S_3}}}_{S_2, \text{OBJ}}}_{S_1}\]

However, [\text{na dong fangzi}] in (2.136) cannot go through the same process:

(2.139)  \[*[\text{Mali}_{\text{SUBJ}} \ bei_{V} \ [[\text{na dong fangzi}]_{\text{Top}ic, i} \ [Yuehan_{\text{SUBJ}} \ [mai \ le]_{V} \ pro_{\text{OBJ}, i}]_{\text{Comment, S_3}}}_{S_2, \text{OBJ}}}_{S_1}\]

The contrast between (2.138) and (2.139) reveals that (2.135) and (2.136) have different syntactic structures in spite of the same surface form (2.134), and a syntactic analysis like (2.140) for bei-constructions such as (2.136) would be more plausible:

(2.140)  \[[\text{Mali}_{\text{SUBJ}} \ bei_{V} \ Yuehan_{\text{OBJ},i}]_{S_1} \ [PRO_{\text{SUBJ},i} \ [mai \ le]_{V} \ [na \ dong \ fangzi]_{\text{OBJ}}}_{S_2}\]

The analysis of (2.132) follows the same token of (2.140). It should be noted that when the subject of S_2 is coindexed with the object of S_1 and is omitted in chained S_1 and S_2, which is traditionally termed a pivotal construction, the object of S_2 usually cannot be put in front of the unsurfaced subject of S_2. (2.141) is an example of pivotal constructions:
(2.141) \[[\text{Mali}_{\text{SUBJ}} \text{jiao}_{\text{V}} \text{Yuehan}_{\text{OBJ},1}]_{S1} \left[\text{PRO}_{\text{SUBJ},1} \text{mai}_{\text{le}} \text{V} \right]_{\text{ACTL}} \text{that}

\text{dong fangzi}_{\text{OBJ},2}\right]_{S2}\]

‘Mary told John to sell that house.’

\textit{[Na dong fangzi]} cannot be topicalized and put in front of PRO as

(2.142) *\[[\text{Mali}_{\text{SUBJ}} \text{jiao}_{\text{V}} \text{Yuehan}_{\text{OBJ},1}]_{S1} \left[\text{na dong fangzi}_{\text{Topic},j} \right. \text{that}\right.\text{CL} \text{house}

\left[\text{PRO}_{\text{SUBJ},1} \text{mai}_{\text{le}} \text{V} \text{pro}_{\text{OBJ},j}\right]_{\text{Comment}}\right.\text{S2}\]

\text{sell ACTL}

‘Mary told John to sell that house.’

\textit{[Na dong fangzi]} in (2.140) cannot undergo the same process as that of (2.142):

(2.143) *\[[\text{Mali}_{\text{SUBJ}} \text{bei}_{\text{V}} \text{Yuehan}_{\text{OBJ},1}]_{S1} \left[\text{na dong fangzi}_{\text{Topic},j} \right. \text{that}\right.\text{CL} \text{house}

\left[\text{PRO}_{\text{SUBJ},1} \text{mai}_{\text{le}} \text{V} \text{pro}_{\text{OBJ},j}\right]_{\text{Comment}}\right.\text{S2}\]

\text{sell ACTL}

‘That house of Mary’s was sold by John.’

The AGENT in a \textit{bei}-construction can be left unspecified (Li & Thompson 1981: 492):

(2.144) \text{Mali} \text{bei} \text{ma le.}

\text{Mary cover scold ACTL}

‘Mary was scolded’

I propose that the syntactic structure of (2.144) is:

(2.145) \[[\text{Mali}_{\text{V}} \text{bei}_{\text{V}} \text{pro}_{\text{J,Clause1}}]_{\text{PRO}_{\text{J, Clause1}}} \text{ma le} \text{PRO}_{\text{J, Clause2}}\]

\text{Mary cover scold ACTL}

‘Mary was scolded.’
Bei-constructions are used as the standard passive construction in Mandarin. However, not all sentences can be converted back and forth between active and passive in Mandarin. In Mandarin, passive constructions were originally usually used in adverse, unfortunate, or pejorative situations (Li & Thompson 1981: 494), but cases of non-adverse usage of passive constructions in Mandarin have been increasing due to the influence of translated Indo-European languages (Li & Thompson 1981: 496, Chao 1968). Not all non-adverse situations are compatible with the passive construction in Mandarin, however. For example, the following examples are still incompatible with passive:

(2.146) * Tianwangxing bei Weilian Hexie’er faxian le.
Uranus cover William Herschel discover ACTL
‘Uranus was discovered by William Herschel.’

(2.147) ? Na feng xin bei ji le.
that CL letter cover send ACTL
‘That letter was sent.’

For (2.146), an active subject-verb-object construction is more natural:

(2.148) Weilian Hexie’er faxian le tianwangxing.
William Herschel discover ACTL Uranus
‘William Herschel discovered Uranus.’

For (2.147), it is more natural when bei is just not used:

(2.149) Na feng xin ji le.
that CL letter send ACTL
‘That letter was sent.’

However, na feng xin ‘that letter’ in (2.149) is not the subject of ji ‘send’. Rather, na feng xin ‘that letter’ is the object of ji ‘send’ and is moved to the front as the topic. Hence, (2.149) is of a topic-comment structure.

(2.150) [[Na feng xin,]Topic [pro, SUBJ ji le pro, OBJ, Comment,]S that CL letter send ACTL
‘That letter was sent.’
In some cases, the semantically bleached *gei* ‘give’ can also be employed as an AGENT marker in the passive voice (Yin 2004), and in this case *gei*-constructions are also polyclausal serial verb constructions.

(2.151) Fangzi gei feng chui dao le.
house give wind blow fall ACTL
‘The house was blown down by the wind.’

In (2.151), *chui dao* ‘blow fall’ is a monoclausal complex predicate. I propose that the syntactic structure of (2.151) is:

(2.152) \[
\begin{array}{c}
\text{Fangzi gei fengj} \\
\text{Clause1} & \text{[PROj chui dao le proj Clause2.]} & \text{S} \\
\text{house give wind blow fall ACTL} \\
\end{array}
\]
‘The house was blown down by the wind.’

However, Yin (2004) notes that, as passive markers, *bei* and *gei* are not equivalent. Although the adversity of passives in Mandarin has been neutralized to some degree, Yin (2004) finds statistically that *gei*-passives occur in adverse situations more frequently than *bei*-passives. It is possible that we are witnessing the development of two semantically different passive markers.

After this review of passives of Mandarin, we can now look at Rule CL6 of Xiao and McEnery (2004):

(2.153) Rule CL6: core[-result] + balbei-construction ⇒ clause[+ result]

Xiao and McEnery (2004) do not mention *gei*-constructions where *gei* serves either as an indirect object marker or as a passive marker. However, they propose that the final result of a [+ result] eventuality cannot be canceled by an additional clause, as in (2.154):

(2.154) Yuehan ba na feng xin xie le. (* keshi mei xie cheng).
John hold that CL letter write ACTL but NEG write succeed ‘John wrote that letter (* but did not succeed).’

Using the same method to test *gei*-constructions, we have the following examples:

(2.155) Yuehan gei Mali xie le na feng xin. (* keshi mei xie
John give Mary write ACTL that CL letter but NEG write
‘John wrote that letter to Mary (* but did not succeed).’

(2.156) Fangzi gei feng chui dao le, (* keshi mei chui dao cheng).
        house GEI wind blow fall ACTL but NEG blow fall succeed
        ‘The house was blown down by the wind, (* but the wind did not succeed
        (in blowing down the house)).’

*Gei* is an indirect object marker in (2.155) and a passive marker in (2.156). In both cases
the result of the eventuality cannot be canceled. Hence, I propose that Rule CL6 in
(2.153) also holds for indirect object or passive *gei*-constructions:

(2.157) Rule CL6a: core[-result] + balbei[indirect object or passive *gei*-construction] → clause[+ result]

We have reviewed the way in which aspect features interact with non-verbal components
at the supra-lexical level proposed by Xiao and McEnery (2004). In the model of Xiao
and McEnery (2004), the supra-lexical level can be further divided into three layers: the
nucleus layer, the core layer, and the clause layer. Xiao and McEnery (2004) propose
rules describing the interactions between aspect features and non-verbal components at
these three layers. With the conclusion of presenting aspect features at the supra-lexical
level, we have reviewed the aspect feature component at the sentential level of the Two-
Component Two-level Model of Xiao and McEnery (2004). In the next section, I briefly
present the aspect system in Mandarin in the model of Xiao and McEnery (2004).

2.6.4 Aspect

As mentioned earlier, cross-linguistically, categories of aspect can be divided into
perfective and imperfective aspect, and this dichotomy has its origin in the studies of
Slavic languages. In the following I will give a brief review of the aspect categories in
Mandarin identified by Xiao and McEnery (2004) since our study of the interaction
between monoclausal RVCs and the Progressive Aspect in Mandarin is based on the
aspect system of Xiao and McEnery (2004). I will first introduce the categories of
perfective aspect in 2.6.4.1 and then the categories of imperfective aspect in 2.6.4.2.
2.6.4.1 Categories of Perfective Aspect

The perfective aspect expresses viewpoints by which speakers present eventualities from without. Eventualities with categories of perfective aspect are seen as temporally indecomposable entities, i.e. the internal temporal structures of eventualities are not the foci when categories of perfective aspect are used.

Xiao and McEnery (2004) identify four categories of perfective aspect in Mandarin: Actual Aspect, Experiential Aspect, Delimitative Aspect, and Completive Aspect. Generally speaking, aspect markers and verb reduplication are used as the means to make the aspect explicit in surface forms. However, in this regard, the Completive Aspect is very different from the other categories of perfective aspect in Mandarin. A more detailed account of the Completive Aspect is given in section 2.6.4.1.4.

2.6.4.1.1 Actual Aspect: The Aspect Marker -le

The Actual Aspect marker in Mandarin is -le. However, there is another sentence-final particle which signifies change of state (COS) and is also realized as -le. In this section, first I introduce the Actual Aspect marker -le. Then, I briefly talk about the difference between the actual -le and change of state (COS) -le.

The Actual Aspect is related to the actualization of eventualities with respect to another reference time (Xiao & McEnery 2004: 91). However, by the word actualization, it does not mean that eventualities in the Actual Aspect must happen in the actual world. What is more relevant is that the eventualities are presented as actualized in the mental world of speakers. It is similar to languages where the perfect aspect may appear in an irrealis mood. The perfect aspect and an irrealis mood are compatible because an eventuality, although not necessarily taking place in the real world, may still be perceived as completed in the mental world of speakers.

Since eventualities do not have to be actualized in the real world, the Actual Aspect is compatible with eventualities in the past, present, or future. It is easy to understand the actualization of past or present eventualities, so I will give an example of an eventuality in the future:
Mingnian xiatian biye le yihou, Yuehan xiang dang ACTL afterwards John want be laoshi.

‘John wants to be a teacher after he graduates next summer.’

The subeventuality mingnian xiatian (Yuehan) biye le yihou ‘after (John) graduates next summer’ is in the Actual Aspect, however, it is not actualized in the real world. In the subeventuality of mingtian xiatian biye le yihou ‘after (John) graduates next summer’, the subeventuality time $t_e$ is in the future, and the reference time $t_r$ is in a farther future, i.e. $t_r > t_e$, and the speech time $t_s$ is at some point before $t_e$, i.e. $t_e > t_s$. The scenario of mingnian xiatian biye le yihou in the mental world of the speaker is that it has been actualized with respect to another subeventuality yuehan xiang dang laoshi ‘John wants to be a teacher’, and the subeventuality mingnian xiatian biye le yihou ‘after (John) graduates next summer’ is presented by the speaker as an eventuality of which the inner temporal structure is not the focus. Hence, although mingnian xiatian biye le yihou ‘after (John) graduates next summer’ is not actualized in the real world, it can still be presented as a future eventuality in the Actual Aspect, since it can be taken by speakers as actualized in a (not necessarily real) world of which the reference time is in the future with respect to the time at which the utterance is made. The relations among $t_s$, $t_e$, and $t_r$ in the subeventuality mingnian xiatian biye le yihou ‘after (John) graduates next summer’ are illustrated in Figure 2.10, with the dot at $t_e$ being the subeventuality biye ‘graduate’.

\[
\text{Figure 2.10. } t_s, t_e, \text{ and } t_r \text{ in (2.158).}
\]

Mood is not marked in Mandarin. Hence, Mandarin does not distinguish the indicative, conditional, and subjunctive moods in the sense of morphosyntax. Conditional and subjunctive meanings are mainly decided by the context or expressed by adverbials or special sentence structures like zao zhidao (...) jiu… (lit. ‘early know (...) then…’) as in (2.159):
(2.159) Zao zhidao tianqi hao wo jiu qu wan le.
early know weather good I then go.to play COS
‘Had I known that the weather would have been good, I would have gone to play.’

Although the Actual Aspect is related to the realization of eventualities (Xiao & McEnery 2004: 91), it is still compatible with sentences with conditional or subjunctive meanings. Here is an example:

(2.160) Ruguo Yuehan de baba gei le Yuehan yibaiwan, Yuehan
if John GEN dad give ACTL John one.million John
jiu bu hui name nuli gongzuo, ye bu hui zai ta hai
then NEG will that hard work also NEG will be.at he still
nianqing de shihou cai san nian jiu mai le liang dong
young GEN moment just three year then buy ACTL two CL
fangzi.
house

‘If John’s dad had given him a million (dollars), John would not work so hard, and he would not have bought two houses in just three years when he was still young, either.’

The first clause of (2.160) has a subjunctive meaning, and the second clause of (2.160) has a conditional meaning. This could be made clearer in a language with a morphosyntactically more distinguished system for conditionals and subjunctives such as Spanish:
(2.161) Si su papa le hubiera dado a Juan un millón de dólares, Juan no habría trabajado tanto ni habría podido comprar dos casas en tres años cuando todavía era joven.

‘If John’s dad had given him a million (dollars), John would not work so hard, and he would not have been able to buy two houses in just three years when he was still young, either.

(2.161) is just the Spanish equivalent of (2.160) in which hubiera dado is the past subjunctive of dar ‘to give’, habría trabajado is the past conditional of trabajar ‘to work’, and habría podido is the past conditional of poder ‘to be able’. By comparing (2.160) and (2.161), we can observe more clearly that the first clause of (2.160) has a conditional meaning and the second clause of (2.160) has a subjunctive meaning.

Actual Aspect is a category of perfective aspect, and it should be noted that eventualities within the categories of perfective aspect are not internally without temporal structure. It is just that the speakers present the eventualities from without, and the foci are not on the internal temporal structures of those eventualities. For example, san nian jiu mai le liang dong fangzi ‘have bought two houses in just three years’ in (2.160) is a subeventuality with an internal temporal structure. Although it is not specified whether John bought two houses at once or one at a time, there is a preparation process, i.e. John’s working hard and saving money, and a culmination, i.e. John’s purchase of his second house. However, the subeventuality is presented by the speaker from without as an actualized subeventuality with respect to the reference time \( t_r \), i.e. some time when John became somewhat older than he had been when he bought the two houses, and the focus is not on the internal temporal structure of san nian jiu mai le liang dong fangzi ‘have bought two houses in just three years’. The relations among \( t_s \), \( t_e \), and \( t_r \) in the subeventuality san nian jiu mai le liang dong fangzi ‘have bought two houses in just three years’ are illustrated in Figure 2.11. I use a short solid bar instead of a dot to represent the subeventuality here because it has an internal temporal structure but this is not the focus.
However, it has long been observed that, besides actual -le, there is another kind -le, a particle that is placed in sentence-final position and has different functions. Different terms are also employed to describe sentence-final -le.

Sentence-final -le is termed Currently Relative State (CRS) -le by Li and Thompson (1981) who list five distinct usages of sentence-final -le (Li & Thompson 1981: 244):

(2.162)  (i) Change of state;
         (ii) Correcting a wrong assumption;
         (iii) Reporting progress;
         (iv) Giving a hint that something is going to happen;
         (v) Closing a discourse.

The common characteristic of sentence-final -le, pointed out by Li and Thompson (1981: 290), is that the state of the sentence to which the CRS -le is attached is currently relevant to the hearer(s).

In Yip and Rimmington (2014), sentences with final -le are called le-expository sentences. Yip and Rimmington (2014: 361) state that sentence-final -le can be added to any kind of statement, and they give examples of le-expository sentences which would be originally expository sentences, narrative sentences, descriptive sentences, and evaluative sentences if sentence-final -le were not added. I think that taking sentence-final -le as a locutionary force marker for declarations is in accordance with the observation of Yip and Rimmington (2014).

Xiao and McEnery (2004) call sentence-final -le a change-of-state (COS) marker. Xiao and McEnery (2004: 133) also note that many previously identified functions of COS -le have to do with change of state or status. I would like to add a word to the observation of Xiao and McEnery, which will make the function of COS -le more obvious: the functions of COS -le have to do with declaring a change of state or status, hence COS -le is actually
a locutionary force marker for declarations. It is true that one of the functions of COS -le is command:

(2.163) Ba dianshi guan le.
hold television turn.off COS
‘Turn off the television.’

But I think that this is a mismatch between form and function. Although (2.163) is functionally a command, it is formally still a declaration. The same mismatch can also be observed in other languages, for example in French:

(2.164) Ici, on ne crie pas.
here one NEG yell NEG
‘People do not yell here.’

Although the form of (2.164) is a declarative sentence, just like (2.163), its function may be a command asking the hearer(s) not to yell. The sentence-final -le has long been observed to have the function of expressing a change of state. This is one of the functions of declaration: to declare the state of change. The change of state is often observed to be relevant to a specific referent time point. Hence, it can report or narrate eventualities, which is also the job of the declarative locutionary force. However, not all sentences in the declarative locutionary force is achieved by adding -le, just as not all declarations are declarations of a change of state. To discuss sentence-final -le with concretely, we need a well-established model of locutionary forces for Mandarin, which still needs further studies.

The Actual Aspect marker -le and COS -le can appear in the same sentence, for example:

(2.165) Yuehan guan le dianshi le.
John turn.off ACTL television COS
‘John has turned off the television.’

When both Actual -le and COS -le appear in sentence-final position, only one -le will be realized. Consequently, it is sometimes difficult to decide whether a sentence-final -le is an Aspect marker or COS -le, or both. Xiao and McEnery (2004: 131) agree with Jin (1998) that COS -le is a weakened version of the particle -la. Hence, Xiao and McEnery
(2004: 132) propose a test: if a sentence-final -le can be replaced by -la, it is a COS -le.

For example, -le in (2.163) can be replaced by -la in (2.166):

(2.166)  Badian shi guan la!
hold television turn.off LA
‘Turn off the television!’

As to whether COS -le is also an Actual -le, I think this depends on whether the
eventuality is presented as actualized or. If it is, then the sentence-final -le is also an
Actual -le.

While various terms have been used to describe sentence-final -le, I will follow the
convention of Xiao and McEnery (2004) and call a sentence-final declarative locutionary
force markers COS -le and a sentence-final Actual Aspect marker Actual -le.

The duality of sentence-final -le sometimes makes a sentence laden with nuances. This is
especially the case when the sentence has a directional predicate. The following examples
are adopted from Xiao and McEnery (2004: 114), where I change the predicates from
simple directionals to complex directionals (with a short context added), so that the
examples are more relevant to our study:

(2.167)  Songhuoyuan: Qing lai na baoguo.
delivery.man please come take package
‘Delivery man: Please come to collect your package.’

Yuehan: Wo xia lai le.
John I down come COS
‘John: I am coming down.’

(2.168) Yuehan: Wo xia lai le. Ni deng yixia!
John I down come COS/ACTL you wait a.little
‘John: I have come down./I am here. Wait a moment!’ (When John came
down he just saw the delivery man leaving.)
(2.169) Yuehan: Songhuoyuan jiao wo lai na baoguo. Wo xia lai
John delivery.man call I come take package I down come
le. Keshi ta meiyou deng wo lai jiu zou le.
ACTL but he NEG wait I come then go COS/ACTL

‘John: The delivery man told me to come down to collect my package. I
came down. But he did not wait until I came and just left.’ (John tried to
explain what happened to one of his neighbors which stood in the lobby of
the apartment building.)

The sentence-final -le is a COS marker in (2.167), both a COS and an Actual Aspect
marker in (2.168), an Actual Aspect marker in the first -le in (2.169), and both a COS and
an Actual Aspect marker in the second -le in (2.169). We can observe its function of
declaration in (2.167), (2.168), and (2.169) and its function of marking the actualization
of eventualities in (2.168) and the second instance in (2.169). As shown in examples
(2.167) – (2.169), with different roles, sentence-final -le can bring different meanings to
the sentence wo xia lai le ‘I come down le’.

After having introduced the two different -le, now we can discuss the Actual Aspect in
Mandarin. Xiao and McEnery (2004) observe that Actual -le has to do with actuality,
holisticity, and dynamicity. As we have discussed, eventualities in the Actual Aspect can
be actualized in the physical world or the mental world. Hence, Actual -le can appear in
the past, in the present, or even in the future. However, when an eventuality takes place in
the future, it needs a reference time which should be no earlier than the eventuality time
in order to have a sense of having been actualized.

(2.170) Yuehan zuotian qu le xuexiao.
John yesterday go.to ACTL school
‘John went to school yesterday.’

(2.171) Yuehan xianzai yijing qu le xuexiao le.
John now already go.to ACTL school COS
‘John has gone to school.’
When an eventuality is presented by a speaker in the Actual Aspect, the eventuality is viewed by the speaker from without. The eventuality, whether with an internal temporal structure or not, is thus viewed holistically and is temporally indecomposable. The holisticity of the Actual Aspect can be best illustrated by the fact that a subeventuality in the Actual Aspect cannot serve as a background in a discourse (Xiao & McEnery 2004: 127) even if the subeventuality is [+ dur], since the durativity is eclipsed by the holisticity brought by the Actual Aspect:

(2.174) Yuehan zhengzai chi wucan de shihou, Mali lai le.
John PROG eat lunch GEN moment Mary come ACTL
‘When John was having his lunch, Mary came.’

In (2.175) and (2.176), when we want to say that John has started his lunch, we use the monoclausal complex predicate kaishi chi ‘start eat’ and the conjunction (yi) V₁ jiu V₂ ‘(once) V₁ then V₂’ i.e. ‘V₂ as soon as V₁’:

(2.177) Yuehan (yi) kaishi chi wucan le, Mali jiu lai le.
John once start eat lunch ACTL Mary then come ACTL
‘As soon as John started having his lunch, Mary came.’
The syntactic structure of (2.177) is:

\[
(2.178) \quad \text{[Yuehan (yi) kaishi chi wucan le]}_S^1, \text{ [Mali jiu lai le]}_S^2, \text{S} \\
\quad \text{John once start eat lunch ACTL Mary then come ACTL} \\
\quad \text{‘As soon as John started having his lunch, Mary came.’}
\]

In (2.178), (yi...) jiu... ‘as soon as’ is the conjunction connecting S\(_1\) and S\(_2\), where S\(_1\) contains the monoclausal complex predicate kaishi chi ‘start eat’. In (2.175) and (2.176), when we want to say that John has finished his lunch, we use the monoclausal complex predicate chi wan ‘eat finish’ and the conjunction (yi) V\(_1\) jiu V\(_2\) ‘V\(_2\) as soon as V\(_1\)’:

\[
(2.179) \quad \text{Yuehan (yi) chi wan wucan le, Mali jiu lai le.} \\
\quad \text{John once eat finish lunch ACTL Mary then come ACTL} \\
\quad \text{‘As soon as John finished having his lunch, Mary came.’}
\]

The syntactic structure of (2.179) is:

\[
(2.180) \quad \text{[Yuehan (yi) chi wan wucan le]}_S^1, \text{ [Mali jiu lai le]}_S^2, \text{S} \\
\quad \text{John once eat finish lunch ACTL Mary then come ACTL} \\
\quad \text{‘As soon as John finished having his lunch, Mary came.’}
\]

Dynamicity signifies change, and the Actual Aspect gives eventualities dynamicity (Xiao and McEnery 2004: 128). Hence, it is logical that the Actual Aspect and Aktionsarten of [+ dyn] are compatible. However, the Actual Aspect can also cooccur with Aktionsarten of [- dyn]. Xiao and McEnery (2004: 129) observe that the Actual Aspect coerces a [- bnd] stative eventuality, i.e. an ILS or an ILS-like SLS into an ACT with ingressive dynamicity at the clausal level. There is an example of this coercion:

\[
(2.181) \quad \text{Yuehan gao le.} \\
\quad \text{John tall ACTL} \\
\quad \text{‘John became tall.’}
\]

_Gao_ ‘tall’ is originally an ILS, and it is [- dyn]. According to Xiao and McEnery (2004), since _gao_ ‘tall’ is in Actual Aspect, it is coerced into a [+ dyn] ACT at the clausal level with ingressive dynamicity, i.e. with the meaning of becoming tall. However, I do not find the account of Xiao and McEnery (2004) very satisfying.
According to the account of Xiao and McEnery (2004), the source of the [+ dyn] coercion of (2.181) is the Actual Aspect. Hence, an ILS or an ILS-like SLS, when in Actual Aspect, should behave just like an ACT at the clausal level. But this is not necessarily the case. Consider the following pair of examples, which illustrates an ILS and an ACT at the predicate level:

(2.182) * Yuehan gao le san nian.
       John tall ACTL three year
       ‘John became tall for three years.’

(2.183) Yuehan zou le san tian.
       John walk ACTL three day
       ‘John walked for three days.’

According to the account of Xiao and McEnery (2004), (2.182) should be coerced into an ACT at the clausal level. If this was the case, then (2.182) should behave like an ACT as (2.183). But this is not the case, as we can clearly observe that (2.182) cannot take the duration adverbial *san nian* ‘(for) three years’ while (2.183) can. I propose that there is a coercion through which (2.182) becomes an ACT-like eventuality at the clausal level. However, the source of the coercion comes from the meanings provided by the context instead of the Actual Aspect. Let me use the following example to illustrate the difference:
(2.184) Yuehan bi tongxue zaoshou, liu nianji yijing you
John compare classmate precocious six grade already have
Yibaiqishi gongfen le. Keshi Yuehan cai gao one.hundred.and.seventy centimeter ACTL but John just tall
le mei liang san nian jiu bei qita de tongxue chaoguo ACTL NEG two three year then cover other ASSOC classmate surpass
le.
ACTL
‘John was more precocious than his classmates, and he was already 170 cm tall in sixth grade. But no more than two or three years after John had become (that) tall he was overtaken by (some) other classmates.’

We can observe that in the second sentence of example (2.184), in contrast to (2.182), gao ‘tall’ in Actual Aspect is compatible with the duration adverbial mei liang san nian ‘(for) no (more than) two (or) three years’.

If it were the Actual Aspect which had turned an ILS into an ACT, any ILS in the Actual Aspect should have behaved like an ACT and been compatible with a duration adverbial, but from (2.182) and (2.184) we know that this is not the case. The compatibility of a duration adverbial in (2.184) should come from something other than the usage of the Actual Aspect, and the source of the compatibility should lie in something which is absent in (2.182). In (2.182), the tallness of John is not compared to the height of anyone else, and it is difficult to imagine that, in normal situation, a person would become significantly short after he grew tall. In (2.184), the tallness of John is compared to the height of his classmates, so the meaning which (2.184) tries to convey is that John had been relatively taller than his classmates for no more than two or three years before he was overtaken by them. I propose that it is the very context which coerces (2.184) into an ACT-like eventuality at the clausal level and makes it compatible with a duration adverbial. Hence, despite being in the Actual Aspect, (2.182) is essentially still an ILS eventuality at the clausal level and not compatible with the duration adverbial.
As a consequence of comparing (2.182) and (2.184), I conclude that the source of turning ILSs and ILS-like SLSs into ACT-like eventualities is not the Actual Aspect as claimed by Xiao and McEnery (2004). Rather, the source of syntactical behavior (such as compatibility with duration adverbials) often lies in the meaning, whether constructional or conventional. When the meaning in question is constructional, the syntactic behavior of that eventuality is generally considered typical and the default. When the meaning in question is conventional, the surface syntactic behavior of that eventuality is more often considered atypical and caused by coercion.

Xiao and McEnery (2004) think that the source of the ACT-like behaviors of ILSs and ILS-like SLSs is the Actual Aspect surfaced in the syntactic forms rather than the meaning. Hence, their account cannot explain and predict the syntactic behavior in (2.182) and (2.184). We can observe that the very basis of syntactic behavior often lies in meaning. Hence, rules which describe syntactic behavior based on syntactic forms without considering the meaning conveyed by the forms are often only results of observations and hence based on inductive reasoning. The rule stating that the Actual Aspect turns ILSs and ILS-like SLSs into ACTs based on syntactic forms (the appearance of the Actual Aspect) is such a rule, but it fails to explain the phenomena in (2.182) and (2.184), which may not have been included in the observations on which the rule is based. Following the same line of thought, I am afraid that the rules at the nucleus, core, and clausal level proposed by Xiao and McEnery (2004) and listed in (2.99) – (2.106), (2.109), (2.118), and (2.153) are probably of the same inductive nature. These rules are of value for reference, but they are not fundamental enough to explain and predict the syntactic behavior of some marginal cases. In short, these rules are not fundamental and do not hold in all cases. We can refer to these rules, but we cannot always count on them.

In this section, we have briefly reviewed -le in Mandarin. There are two kinds of -le in Mandarin: one which marks change of state (COS), and one which marks the Actual Aspect. COS -le always occurs in sentence-final position, while the Actual Aspect marker -le occurs after verbal predicates. When COS -le and the Actual Aspect marker -le occur in sentence-final position at the same time, only one -le will be realized.

Actual Aspect is a category of perfective aspect. When a speaker presents an eventuality in the Actual Aspect, the speaker views the eventuality from without as an
indecomposable whole. The Actual Aspect is compatible with all the six Aktionsarten listed in Xiao and McEnery (2004). Eventualities in Actual Aspect are marked by actuality, holistica and dynamicity (Xiao and McEnery 2004). However, in this discussion we have demonstrated that it is the meaning, whether constructional or conventional, rather than the syntactic form of the Actual Aspect that makes a [- dyn] eventuality behave syntactically like a [+ dyn] eventuality.

2.6.4.1.2 Experiential Aspect: The Aspect Marker -guo

In Mandarin, there is a category of Aspect in Mandarin that provides speakers with a means to focus on the experience, hence it is called Experiential Aspect. Experiential Aspect is marked by the particle -guo syntactically. When an eventuality is presented in Experiential Aspect, the focus of the speaker is on some entity that has experienced the eventuality.

The Experiential marker -guo has developed from the full verb guo, which means ‘pass’. Guo is currently undergoing semantic bleaching to different degrees, and many types of guo coexist in current Mandarin. According to Xiao and McEnery (2004: 140), the different varieties of guo in current Mandarin, from semantically least bleached to most bleached, are as follows: the full verb guo, the directional verb complement guo, the RVC guo, and the Experiential marker -guo. The different types of guo are illustrated in the following:

(2.185) Guo le na tiao jie jiu shi baihuogongsi le.
pass ACTL that CL street then be department.store COS
‘Cross the street and the department store is there.’

(2.186) Zhe yi zhang keyi tiao guo.
this one chapter can jump pass
‘This chapter can be skipped.’

(2.187) Yuehan zuan guo le renqun.
John squeeze pass ACTL crowd
‘John squeezed through the crowd.’
(2.188) Yuehan kan guo na ben shu.

John read EXP that CL book

‘John has read that book.’

In (2.185), guo is a full verb. In (2.186), guo gives tiao ‘jump’ a direction, i.e. ‘pass over’ something, and hence is a directional verb complement. In (2.187), guo ‘pass’ is the final result of zuan ‘squeeze’ and hence forms a RVC with zuan. In (2.188), guo is semantically bleached and functions as the Experiential marker signifying that John has the experience of reading that book. Hence, not every guo which is not a full verb is an Experiential marker, and to study Experiential Aspect we have to exclude those instances of non-Experiential -guo carefully.

From the corpus-based study of Xiao and McEnery (2004: 143), it is found that the Experiential marker -guo can interact and cooccur with all Aktionsarten. However, Xiao and McEnery (2004: 143) also find that the occurrence of the Experiential marker -guo is not equal among all Aktionsarten. Hence, the Experiential Aspect may not be very selective of, but still sensitive to a certain degree to, the aspect features of Aktionsarten.

Eventualities in the Experiential Aspect are presented with experientiality, holisticity, and dynamicity. We have seen the experientiality brought by the Experiential Aspect in example (2.188) compared with (2.185) – (2.187). The holisticity of the Experiential Aspect can be illustrated by the fact that a subeventuality in the Experiential Aspect cannot serve as a background in a discourse (Xiao and McEnery 2004: 148). If we take example (2.175) and change the Actual Aspect to the Experiential Aspect, it is still unacceptable:

(2.189) * Yuehan chi guo wucan de shihou, Mali lai le.

John eat EXP lunch GEN moment Mary come ACTL

‘When John has had his lunch, Mary came.’

The dynamicity conveyed by the Experiential Aspect is egressive, i.e. involving change to a status of not being in some state or doing something (Xiao and McEnery 2004: 149). Compare the following pair of examples:
(2.190) Yuehan xiangxin guo Mali.
    John believe EXP Mary
    ‘John has believed in Mary.’

(2.191) Yuehan xiangxin le Mali.
    John believe ACTL Mary
    ‘John believed in Mary.’

(2.190) has the implicature that John does not believe in Mary right now, while (2.191) does not.

2.6.4.1.3 Delimitative Aspect: Verb Reduplication

In this section I briefly introduce the Delimitative Aspect. The Delimitative Aspect in Mandarin is a perfective aspect. Semantically, the Delimitative Aspect downgrades the intensity of eventualities in that it shortens the duration of [+ dur] eventualities and lowers the frequency of iterative [- dur] eventualities (Xiao and McEnery 2004: 149-150). Hence, we can say that the Delimitative Aspect changes the intensity of eventualities by manipulating the way of presenting eventualities on the temporal axis.

Syntactically, the Delimitative Aspect is formed by verb reduplication rather than by some specific aspect marker. There are several related structures in Mandarin that can convey the sense of \( V \) a little bit, for example, \( VV \) in (2.192), \( V \ yi \ xia \) ‘\( V \) once’ in (2.193) and \( V \ yi \ V \) ‘\( V \) one \( V \)’ in (2.194):

(2.192) Yuehan jintian wanshang xiang kan kan shu.
    John today night want read read book
    ‘John wants to read a little bit tonight.’

(2.193) Yuehan jintian wanshang xiang kan yi xia shu.
    John today night want read one time book
    ‘John wants to read a little bit tonight.’

(2.194) Yuehan jintian wanshang xiang kan yi kan shu.
    John today night want read one read book
    ‘John wants to read a little bit tonight.’
There is currently no consensus over which of the forms illustrated in (2.192) – (2.194) should be included in the Delimitative Aspect (Xiao & McEnery 2004), however. I would like to follow Li and Thompson (1981: 232-236) to take V V and V yi V as the Delimitative Aspect and treat V yi xia ‘V once’ as verbal classifier phrases (Xiao and McEnery 2004: 151) rather than a form of Delimitative Aspect. This is different from the stand taken by Xiao and McEnery (2004: 151) that only V V is in the Delimitative aspect. The evidence is that there is still a nuance which sets V V and V yi V apart from V yi xia semantically. For example:

(2.195) * Mali gaoxing le gaoxing.
    Mary happy ACTL happy
    ‘Mary felt a ray of happiness.’

(2.196) Mali gaoxing le yi xia.
    Mary happy ACTL one time
    ‘Mary felt a ray of happiness.’

(2.197) * Mali gaoxing le yi gaoxing.
    Mary happy ACTL one happy
    ‘Mary felt a ray of happiness.’

It has been observed that the Delimitative Aspect is not compatible with ILSs and ILS-like SLSs (Xiao & McEnery 2004: 150; Li & Thompson 1981: 234). Hence, it is reasonable to argue that gaoxing ‘(be) happy’ in (2.196) is actually not in the Delimitative Aspect. However, Li and Thompson (1981: 197) also find that yi V ‘one V’ in V yi V has the function of a quantity adverbial. I propose that V yi V has the characteristics of the Delimitative Aspect and a verbal classifier phrase at the same time while V yi xia is only a verbal classifier phrase and not a form of the Delimitative Aspect.

The Delimitative Aspect is a viewpoint of delimitativeness, holisticity, and dynamicity. The delimitativeness brought about by the Delimitative Aspect can be observed by comparing (2.198), which is not in the Delimitative aspect, and (2.192), which is in the Delimitative aspect:

It has been observed that the Delimitative Aspect is not compatible with ILSs and ILS-like SLSs (Xiao & McEnery 2004: 150; Li & Thompson 1981: 234). Hence, it is reasonable to argue that gaoxing ‘(be) happy’ in (2.196) is actually not in the Delimitative Aspect. However, Li and Thompson (1981: 197) also find that yi V ‘one V’ in V yi V has the function of a quantity adverbial. I propose that V yi V has the characteristics of the Delimitative Aspect and a verbal classifier phrase at the same time while V yi xia is only a verbal classifier phrase and not a form of the Delimitative Aspect.

The Delimitative Aspect is a viewpoint of delimitativeness, holisticity, and dynamicity. The delimitativeness brought about by the Delimitative Aspect can be observed by comparing (2.198), which is not in the Delimitative aspect, and (2.192), which is in the Delimitative aspect:
(2.198) Yuehan jintian wanshang xiang kan shu.
    John today night want read book
    ‘John wants to read tonight.’

Eventualities in the Delimitative Aspect are holistic and cannot serve as backgrounds in discourses. Hence, (2.199) is not acceptable:

(2.199) * Yuehan kan kan shu de shihou, Mali lai le.
           John read read book NOM moment Mary come ACTL
           ‘When John read a little bit, Mary came.’

Xiao and McEnery (2004: 150) and Li and Thompson (1981: 234) comment that the Delimitative Aspect is only compatible with dynamic eventualities. Some stative eventualities are compatible with the Delimitative Aspect, but in those cases the stative eventualities are actually [+ dyn] and essentially ACT-like SLSs. For example, le ‘happy’, an SLS, in (1.184) is actually [+ dyn] and hence ACT-like:

(2.200) Yuehan shuo xiaohua rang Mali le yi le.
           John tell joke let Mary happy one happy
           ‘John tells a joke to make Mary happy.’

The dynamicity of le ‘happy’ can also be observed from the ingressive implicature in (2.200), i.e. Mary may not be happy (but not necessarily sad) before John tells the joke.

As for the interactions between the Delimitative Aspect and Aktionsarten, previous studies have noticed that ILSs and ILS-like SLSs are not compatible with the Delimitative Aspect (Li & Thompson 1981: 234; Xiao & McEnery 2004: 150). Xiao and McEnery (2004: 155) also note that achievements and accomplishments are not compatible with the Delimitative Aspect. Hence, the only remaining Aktionsarten that can cooccur felicitously with the Delimitative Aspect are activities.

In summary, the Delimitative Aspect in Mandarin is a category of perfective aspect, which presents an eventuality as a whole from without. Syntactically, verbal predicates in Delimitative Aspect can take the form of \( V^* V \) or \( V^i V \), while \( V^i xia \) is a semantically related form but not a Delimitative form. Semantically, the Delimitative Aspect gives the
eventualities delimitativeness, holisticity, and dynamicity. Actionsarten which can cooccur with the Delimitative Aspect are ACT-like SLSs and activities.

2.6.4.1.4 **Completive Aspect: Monoclausal Resultative Complex Verb Constructions**

One of the most attention-drawing analyses of Xiao and McEnery (2004) regarding categories of aspect in Mandarin is the Completive Aspect. Xiao and McEnery admit that the Completive Aspect is not one of the better established categories of Aspect in Mandarin and has often been overlooked in previous studies (Xiao and McEnery 2004: 159). I think the stance taken by Xiao and McEnery (2004) is problematic. In this section, I briefly review the analysis of Xiao and McEnery (2004) of the Completive Aspect and then give my reasons why I think the analysis is problematic.

In the analysis of Xiao and McEnery (2004), just like the other better established categories of aspect such as Actual, Experiential, Progressive, etc., the Completive Aspect is treated as a distinct aspect category. The Completive Aspect is a category of perfective aspect, which is a viewpoint which presents an eventuality as a whole from without. That is, although an eventuality may have an internal temporal structure, the temporal structure is not the focus and in fact is disregarded if the eventuality is presented in the Completive Aspect.

The Completive Aspect is different from the Actual Aspect. The Completive Aspect is characterized by the completiveness (Xiao & McEnery 2004). For example, dong ‘move’ in (2.201) is marked in the Actual Aspect but not in the Completive Aspect. What (2.201) expresses is just that the movement has been actualized, but it does not have the implicature that the movement is completed and John returns to the still state. In fact, in (2.201), John may or may not be still moving.

(2.201) Yuehan dong le.
John move ACTL
‘John moved / has moved.’

Xiao and McEnery (2004) count some monoclausal directionals as resultatives and claim that the Completive Aspect is expressed by monoclausal RVCs. Hence, syntactically, the Completive Aspect is expressed by monoclausal resultative and directional complex verb constructions according to the definitions in this study. Xiao and McEnery (2004: 161-
164) adopt the classification of Smith (1997) and divide monoclausal RVCs into three groups: completive RVCs, e.g. *chi wan* ‘eat finish’ (i.e. ‘finish eating’), result-state RVCs, e.g. *chi bao* ‘eat full’ (i.e. ‘full from eating’), and directional RVCs, e.g. *tiao [xia lai]* ‘jump [down come]’ (i.e. ‘jump down’).

In Xiao and McEnery (2004), all three types of RVC entail completion and resultant states. Morphosyntactically, *V₂* in completive RVCs *V₁ V₂* form a closed set (Xiao & McEnery 2004: 162). Semantically, completive RVCs emphasize completion, resultant states are implied as results of the completion, and the *V₂* in completive RVCs expresses more abstract changes and can be less loyal to their concrete lexical meanings (Xiao & McEnery 2004: 162). Morphosyntactically, the *V₂* of result-state RVCs forms an open set (Xiao & McEnery 2004: 164). Semantically, result-state RVCs emphasize resultant states in which completion is implied (because they are resultant states), and the *V₂* in result-state RVCs is literally “more loyal” (Xiao & McEnery 2004: 163). The following three examples illustrate the differences between completive and result-state RVCs in the analysis of Xiao and McEnery (2004):

(2.202) Yuehan xie hao gongke le.
John write good homework ACTL
‘John finished his homework.’

(2.203) Xie gongke de shihou bu neng kan dianshi, cai neng
write homework NOM moment NEG can watch television only can
ba gongke xie hao.
hold homework write good

‘You can only do your homework well if you do not watch television when you do it.’

(2.204) Yuehan ba zhuozi ca gan.
John hold table wipe dry
‘John wiped the table dry.’

*Xie hao* ‘write good’ in (2.202) is a completive RVC, while *xie hao* ‘write good’ in (2.203) and *ca gan* ‘wipe dry’ in (2.204) are result-state RVCs. *Hao* ‘good’ in (2.202)
does not retain its literal meaning and conveys an eggressive meaning instead, while *hao* ‘good’ in (2.203) and *gan* ‘dry’ in (2.204) retain their literal meanings. It should also be noted that the same V2 can occur in different RVCs, for example, *hao* ‘good’ can be the V2 in completive and result-state RVCs as shown in (2.202) and (2.203).

Xiao and McEnery (2004) include some directionals in RCVs. Morphosyntactically, V2 in directional RVCs form a closed set, either simple, e.g. *lai* ‘come’, *qu* ‘go’, etc., or compound, e.g. *shang lai* ‘up come’, *shang qu* ‘up go’, *xia lai* ‘down come’, *xia qu* ‘down go’, etc. Semantically, when V1 is a motion verb, the V2 adds a direction to the motion and is loyal to its lexical meaning; when V1 is not a motion verb, the V2 is not loyal to its lexical meaning and adds a meaning of completion similar to V2 in completive RVCs, or adds emphasis on resultant states as in result-state RVCs (Xiao & McEnery 2004: 165):

(2.205) Yuehan cong zhuozi shang tiao xia lai.
John from desk top jump down come
‘John jumped down from the top of the desk.’

(2.206) Yuehan jingjue guo lai, Mali shengqi le.
John be.alerted pass come Mary angry ACTL/COS
‘John became alerted that Mary was angry.’

In (2.205), *tiao* ‘jump’ is a motion verb, and *xia lai* ‘down come’ gives the motion a direction. In (2.206), *jingjue* ‘be alerted’ is not a motion verb, and the compound V2 *guo lai* ‘pass come’ emphasizes the resultant state of being alerted. Because the resultant state of being alerted is emphasized, there is an implicature that it is a result of another different state, hence, the completion of the change is implied. This can be seen in (2.206), in which John became alerted that Mary was angry is the proper translation instead of John was alerted that Mary was angry. The completeness of directional RVCs when V1 is a motion verb can be observed in that V2 cannot be canceled (Xiao & McEnery 2004: 166), for example, (2.207) is ungrammatical:
However, I question that the resultant parts cannot be canceled for all types of RVCs as it is stated in Xiao and McEnery (2004: 166) and contra the results of our survey, in which there are sentence examples where the resultant parts were canceled. This will be discussed in Chapter 3.

It should also be noted that two compound V\textsubscript{2} in RVCs, qi lai ‘up come’ and xia qu ‘down go’, can also serve as distinct Aspect markers in the analysis of Xiao and McEnery (2004). In those cases, -qilai marks the Inceptive Aspect while -xiaqu marks the Continuative Aspect (Xiao & McEnery 2004: 164), and they are not V\textsubscript{2} of RVCs anymore. We discuss these two Aspect categories later.

The Completive Aspect is a viewpoint of completion, holismcity, and dynamicity (Xiao & McEnery 2004: 159). According to the classification of Xiao and McEnery (2004), RVCs are carriers of the Completive Aspect and entail completion. An eventuality presented in the Completive Aspect is seen as a holistic and indecomposable entity, and its internal temporal structure is neglected. However, the claims of Xiao and McEnery (2004) that RVCs are carriers of the Completive Aspect and that the Completive Aspect is a perfective and holistic category of aspect leads to a problematic proposition, that is, that RVCs are seen as indecomposable wholes. Xiao and McEnery (2004: 169), based on the proposed holismcity of the Completive Aspect, claim that the Completive Aspect is incompatible with the Durative Aspect, which is marked by -zhe, and the Progressive Aspect, which is marked by zai- or zhengzai-, and that both aspect categories require eventualities to be internally temporally decomposable. Finally, RVCs contain a process and a result, and the dynamicity is brought about by the changing points between the process and the result (Xiao & McEnery 2004: 171).

However, the analysis of Xiao and McEnery (2004) regarding the compatibility of Mandarin RVCs and the Progressive Aspect is self-contradictory. First, RVCs by the
classification of Xiao and McEnery (2004) are carriers of the Completive Aspect and entail completion. Second, as mentioned in the paragraph above, Xiao and McEnery (2004: 169), based on the proposed holisticity of the Completive Aspect, claim that the Completive Aspect is incompatible with the Durative Aspect and the Progressive Aspect. Then, in a footnote, Xiao and McEnery (2004: 180) state that certain types of RVCs may be excluded from the claim that the Completive Aspect and the Progressive Aspect are incompatible. This contradictory statement is repeated in Xiao and McEnery (2004: 213) where they claim that completive RVCs are strictly incompatible with the Progressive Aspect, but result-state RVCs and directional RVCs show some tolerance with the Progressive Aspect. Nevertheless, Xiao and McEnery (2004) do not exclude those RVCs compatible with the Progressive Aspect from Completive Aspect carriers. Hence, this claim is a contradiction.

When talking about the interaction between the Completive Aspect and Aktionsarten, we have to bear in mind that the carriers of the Completive Aspect are RVCs. Xiao and McEnery (2004: 166-167, 169) observe that V₁ of RVCs can be all kinds of Aktionsarten except achievements and V₂ are usually action or quality verbs, and all the resulting RVCs are achievements. Hence, we can say that, according to the analysis of Xiao and McEnery (2004), the Completive Aspect only cooccurs with achievements. It should also be noted that V₂ changes the aspect features of V₁ at the nucleus level. As per (2.99), the resulting RVC after V₂ is added has the aspect features [+ telic] [+ result]. In Table 2.1, the only Aktionsart which is [+ telic] [+ result] is achievement.

Xiao and McEnery (2004) claim that monoclausal RVCs in Mandarin form an Aspect on their own, namely the Completive Aspect. I find that this claim is not very convincing. In this section I explain the reasoning of my questioning about the Completive Aspect as an Aspect on its own.

Morphologically, the Completive Aspect, if there were indeed such an Aspect, is very different from other Aspect categories in Mandarin. While the others are marked by fixed, if not unique, markers or by verb reduplication, the Completive Aspect does not have such a feature. For example, the Actual Aspect is marked by -le, the Progressive Aspect is marked by the related, although not unique, markers zai- or zhengzai-, the Delimitative Aspect is marked by verb reduplication, etc. In this regard, the Completive Aspect is very different: it is shown by monoclausal RVCs, and there are innumerable verbs that can
serve as the V₂ in these clauses. In other words, the Completive Aspect, if such an Aspect existed, is morphologically not well-established in Mandarin.

Semantically, the Completive Aspect is also different from other aspect categories in Mandarin. While the other aspect categories might have more than one marker, for example, zai- and zhengzai- for the Progressive Aspect, there is no difference in the meaning, for example, zai bian chu and zhengzai bian chu both mean ‘conjuring up’. This is not the case for the Completive Aspect, however. Bian chu ‘change out’, i.e. ‘conjure up’, bian cheng ‘change success’, i.e. ‘become’, and bian bai ‘change white’, i.e. ‘become white’ are all bian-derived forms in the Completive Aspect, but they all have a different meaning. We can say that there is no morphologically visible but semantically transparent element which only changes the aspect value of bian ‘change’ to Completive Aspect without altering the meaning of the lexical item, and there also lacks such an element by removing which the aspect value of bian chu ‘conjure up’ can be neutralized from Completive to non-Completive without the meaning of the lexical item being altered.

Hence, one may say there is a common aspect value between bian chu ‘change out’ (‘conjure up’), bian cheng ‘change success’ (‘become’), and bian bai ‘change white’ (‘become white’), etc., argue that the aspect value is presenting an eventuality which emphasizes its completion and resultant state, name that aspect value as Completive, and claim that that aspect value is just a by-product of the RVC constructions. However, one still has to explain the distribution of the Completive, as I have discussed above, and why it is so different from the other aspect categories. I propose that, at most, there exists an aspect value that is completive semantically as a by-product of RVCs, and it may be cross-linguistic, but the Completive Aspect is not syntactically well-established in Mandarin. It is important to be careful about the differences between cross-linguistic categories of aspect marked with a lower-case letter a and language-specific categories of aspect marked with a majuscule letter A when talking about Aktionsarten, aspect, and Aspect.

As noted above, the analysis of Xiao and McEnery (2004) concerning the compatibility of RVCs and the Progressive Aspect is problematic. For example, according to Rule CL4 in (2.109), a [+ telic] core, once marked in the Progressive Aspect, becomes a [- telic] clause. However, the rule cannot predict whether a [+ telic] RVC core can be marked in
the Progressive. I discuss monoclausal RVCs in more detail in Chapter 3 focusing on whether the Completive Aspect cannot cooccur with the Durative and Progressive Aspect, as claimed by Xiao and McEnery (2004), and whether the Completive Aspect is a syntactically distinct Aspect in Mandarin. I will propose different viewpoints from those of Xiao and McEnery (2004).

In 2.6.4.1, we have reviewed the four categories of perfective aspect in Mandarin in the model of Xiao and McEnery (2004). I will discuss monoclausal RVCs, the carrier of the Completive Aspect proposed by Xiao and McEnery (2004), in more detail in Chapter 3, since they are a kind of complex predicate, the focus of our study. Next, I briefly introduce the categories of imperfective aspect in Mandarin.

2.6.4.2 Imperfective Aspect

The imperfective aspect expresses viewpoints with which speakers present eventualities from within. Eventualities within imperfective aspect categories are seen as temporally decomposable entities. That is, the focus may be put at some specific stage of the internal temporal structure of an eventuality when the imperfective aspect is used.

Xiao and McEnery (2004) identified four categories of imperfective aspect in Mandarin: Durative Aspect, Progressive Aspect, Inceptive Aspect, and Continuative Aspect. All four categories of aspect are marked by Aspect markers in the surface forms. In this regard, they are morphologically well-established, unlike the Completive Aspect.

2.6.4.2.1 Durative Aspect: The Aspect Marker -zhe

In Mandarin, there is an Aspect category that gives speakers a means to focus on the durativity of an eventuality, i.e. the Durative Aspect. The Durative Aspect is marked by the particle -zhe morphologically. When an eventuality is presented in the Durative Aspect, the eventuality is viewed from within as temporally decomposable, and there is an implicature that the eventuality has a duration.

There is no consensus about the functions of the Durative Aspect. Xiao and McEnery (2004: 182) identify three major functions, namely:

(2.208) To focus on the durativity of an eventuality.
(2.209) To indicate the background eventualities in temporarily overlapping eventualities.

(2.210) To provide information about location and existence.

I will briefly introduce the three functions.

To focus on the durativity of an eventuality is easy to be understood as one of the major functions of the Durative Aspect. (2.211) is an actual example:

(2.211) 就這麼一直走著，然後持續走下去吧！
Jiu zheme yizhi zou zhe, ranhou chixu zou xiaqu ba!
just so always go DUR then keep go CONT SA
‘(I have been going like this, and (let me) keep going (this way))’

(http://mypaper.pchome.com.tw/8y388253/post/1308835570)

In (2.211), -xiaqu marks the Continuative Aspect, discussed later, and ba is a particle expressing the solicitation of approval or agreement from the hearer (Li & Thompson 1981: 308). In (2.211), zou ‘go’ is marked by the Durative marker -zhe, and the durativity of zou ‘go’ is highlighted.

The Durative Aspect is often used in eventualities where there are two or more overlapping subeventualities:

(2.212) Dang Yuehan kan zhe shu de shihou, Mali jin men le.
when John read DUR book NOM moment Mary enter door ACTL
‘When John was reading, Mary came in (through the door).’ (John’s reading is the background and Mary’s coming in is the foreground.)

However, if we accept that in a structure such as when $E_1$, $E_2$, $E_1$ is the background and $E_2$ is the foreground, then providing background information stated in (2.209) is probably just a by-product of the phenomenon that -zhe marks the durative subeventuality in overlapping eventualities, as background subeventualities are often durative. However, background subeventualities do not have to be durative, and we can observe that -zhe cannot be used in the background in such cases. Compare (2.213) and (2.214):
When the background and foreground subeventualities are durative, -zhe can be attached to both:

(2.214) * Dang Mali jin zhe men de shihou, Yuehan zhengzai kan when Mary enter DUR door NOM moment John PROG read shu.

book

‘When Mary came in (through the door), John was reading.’ (Mary’s coming in is the background and John’s reading is the foreground.)

In (2.215), zai ‘exist’ is a bleached verb serving as a preposition in zai canting ‘in (a) restaurant’, and gen ‘follow’ is a bleached verb serving as a proposition in gen pengyou ‘with friends’. Both the background subeventuality and the foreground subeventuality are marked by -zhe. Hence, it is highly possible that the Durative Aspect marks the durative subeventuality in an eventuality where there are two or more overlapping subeventualities, and providing background information is just a by-product of the phenomenon that background subeventualities are often durative. Of course we can state that for two overlapping subeventualities, the durative one is the background regardless of its position in the structure when $E_1$, $E_2$, but it is circular to say that the Durative Aspect marks the background subeventuality with this definition of background subeventualities.
In addition, such a definition cannot help us decide which subeventuality is the background if both overlapping subeventualities are durative as in (2.215).

The third function of the Durative Aspect is to provide information about location and existence. However, this usage brings a flavor of introducing an existence, for example, “there stands a statue in the park” rather than directly indicating the location or the existence of an entity, for example, “a statue stands in the park” (Xiao & McEnery 2004: 183):

(2.216) Gongyuan li li zhe yi zuo Gelunbu de diaoxiang.
    park inside stant DUR one CL Columbus GEN statue
    ‘There stands a statue of Columbus in the park.’

(2.217) Shijie shang you zhe ge zhong qiguaide chuanshuo.
    world upside have DUR each kind strange legend
    ‘There are all kinds of strange legends in the world.’

(2.216) and (2.217) illustrate a syntactic feature of this kind of location- or existence-introducing sentence in which the relation between thematic roles and the syntactic structure is:

(2.218)  LOCATIVE  V zhe  THEME

It is understandable that the Durative Aspect has the function of providing information of location or existence, since be located in and exist are durative.

The Durative Aspect highlights the durativity of eventualities. Xiao and McEnery (2004: 194-195) claim that expressing the durativity of eventualities is a defining feature of the Durative Aspect, and that compatibility with the Durative Aspect is a diagnostic test for the durativity of an eventuality. According to the analysis of Xiao and McEnery (2004) in Table 2.1, semelfactives and achievements should be incompatible with the Durative Aspect, since both Aktionsarten are [-dur]. However, Xiao and McEnery (2004: 183) also state that achievements cannot cooccur with the Durative Aspect “felicitously”, that is, they do not claim that their cooccurrences are impossible, and they also state that semelfactives in the Durative Aspect have an iterative reading. While I agree that semelfactives in the Durative Aspect are of multiple occurrence readings, the
complementary comments of Xiao and McEnery (2004) concerning the interactions of the Durative Aspect and semelfactives and achievements are difficult to reconcile with their analysis that semelfactives and achievements are [-dur] and their claim that the Durative Aspect is a diagnostic test for the durativity of an eventuality. So I find that the analysis of Xiao and McEnery (2004) problematic in regard to the compatibility of the Durative Aspect and different Aktionsarten.

A holistic eventuality is taken to be a temporally indecomposable whole. Since eventualities presented in the Durative Aspect are viewed from within as temporally decomposable, it follows that non-holisticity is a feature of the Durative Aspect. When the Durative Aspect is used, the focus is not the whole eventuality from start to finish, but some specific stage of the eventuality.

The Durative Aspect can be used in both stative and dynamic eventualities. For example, you zhe ‘have DUR’, when used as ‘there is/there are’, is stative, and pao zhe ‘run DUR’ is dynamic. It is interesting to note that sometimes posture verbs in the Durative Aspect show a duality of stativity and dynamicity (Xiao & McEnery 2004: 199):

(2.219) Gongyuan li li zhe yi zuo Gelunbu de diaoxiang.
park inside stand DUR one CL Columbus GEN statue
‘There stands a statue of Columbus in the park.’

(2.220) Gongren zhengzai li zhe dianxiangan.
worker PROG stand DUR utility.pole
‘The workers are erecting a utility pole.’

The difference between li in (2.219) and (2.220) is that in (2.219) it is *remain standing* while in (2.220) it is *make something stand*. Cross-linguistically, this difference is sometimes shown morphologically or lexically, for example, the German equivalent of li would be *stehen* in (2.219) and *stellen* in (2.220).

As for the interactions between the Durative Aspect and Aktionsarten, Xiao and McEnery (2004: 188) claim that the Durative Aspect generally only cooccurs with eventualities that are [+dur] [-result]. Hence, according to Table 2.1, semelfactives and achievements do not generally take the Durative Aspect according to the model of Xiao and McEnery (2004). However, Xiao and McEnery (2004) also make further comments that
semelfactives in the Durative Aspect are of iterative readings. In addition, we have observed that some RVCs that are supposed to be achievement-like according to the analysis of Xiao and McEnery (2004) can undergo continuumization, either because of overlapping or iterative subeventualities, and take the Durative Aspect. Hence, besides the surface form, the way in which an eventuality is conceived by the speaker is also a decisive factor for its compatibility with the Durative Aspect.

2.6.4.2.2 Progressive Aspect: The Aspect Markers zai- and zhengzai-

The Progressive Aspect in Mandarin indicates that an eventuality is happening and in progress. In Mandarin, the Progressive Aspect is marked by zai- or zhengzai-. When an eventuality is presented in the Progressive Aspect, the eventuality is viewed from within as temporally decomposable, and what is focused is that the eventuality is evolving.

Since the eventuality is in a stage of evolving, Xiao and McEnery (2004) observe that the Progressive Aspect is not compatible with stative eventualities. Although stative eventualities can be said to be happening, it is difficult to conceive them as being in the process of evolving. This feature sets the Progressive Aspect apart from another often used category of imperfective aspect, the Durative.

The Durative and the Progressive in Mandarin often correspond roughly to the gerund or the present participle V-ing in English:

(2.221) Yuehan ting zhe yinyue chi mianbao.
     John listen DUR music eat bread
     ‘John ate bread listening to music.’

(2.222) Yuehan zhengzai ting yinyue chi mianbao.
     John PROG listen music eat bread
     ‘John was listening to music and eating bread.’

Although chi mianbao ‘eat bread’ is not marked by zhengzai-, I suggest that ting yinyue ‘listen music’ and chi mianbao ‘eat bread’ in (2.222) are coordinately linked, as shown in (2.223):
The unacceptability of (2.223) is perhaps due to the repetition of zhengzai-. (2.221) can also be put in the Progressive Aspect as (2.224) with the syntactic structure of (2.225) or as (2.226) with the syntactic structure of (2.227):

(2.224) Yuehan zhengzai ting zhe yinyue chi mianbao.
John PROG listen DUR music eat bread
‘John was listening to music and eating bread.’

(2.225) [YuehanSUBJ zhengzaiPROG [tingV zheDUR yinyueOBJ] VP functions as AdvP chi
John PROG listen DUR music eat
mianbaoOBJ ]VP, PROGRESSIVE ]s
bread
‘John was listening to music and eating bread.’

(2.226) Yuehan ting zhe yinyue zhengzai chi mianbao.
John listen DUR music PROG eat bread
‘John was eating bread listening to music.’

(2.227) [YuehanSUBJ [tingV zheDUR yinyueOBJ] VP functions as AdvP zhengzaiPROG chi
John listen DUR music PROG eat
mianbaoOBJ ]VP, PROGRESSIVE ]s
bread
‘John was eating bread listening to music.’

It is interesting to note that (2.228), which is similar to both (2.224) and may have the syntactic structure of (2.229), which is different from the syntactic structure of (2.225):

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(2.228) Yuehan zhengzai ting zhe yinyue chi zhe mianbao.
John PROG listen DUR music eat DUR bread
‘John was listening to music and eating bread.’

(2.229) [YuehanSUBJ [zhengzauPROG [tingV zheDUR yinyueOBJ]vp, DURATIVE [Ø]CONJ
John PROG listen DUR music
[chiv zheDUR mianbaoOBJ ]vp, DURATIVE ]vp, DURATIVE, PROGRESSIVE ]S
eat DUR bread
‘John was listening to music and eating bread.’

The syntactic structure of (2.228) is actually closer to that of (2.222), although some people might find that the surface form of (2.228) is closer to those of (2.224) and (2.226). The difference between (2.223) and (2.229) is that *ting yinyue* ‘listen music’ and *chi mianbao* ‘eat bread’ are in the Progressive Aspect in (2.223) but in the Durative Aspect and the Progressive Aspect in (2.229). Hence, the foci of the two subeventualities in (2.223) are that both are in the process of evolving while the foci of the two subeventualities in (2.229) are that both are durative and in the process of evolving. Another interesting issue is that, in (2.225), (2.227), and (2.229), the Durative Aspect markers seem to be embedded deeper than the Progressive Aspect markers. Whether it is always the case and whether there exists a category of aspect which is always syntactically embedded deeper than some other category of aspect needs further study.

A holistic eventuality is taken to be a temporally indecomposable whole. Since eventualities presented in the Progressive Aspect are viewed from within as temporally decomposable, it follows that non-holisticity is a feature of the Progressive Aspect. When the Progressive Aspect is used, the focus is not the whole eventuality from the start to finish but some specific evolving stage of the eventuality.

Xiao and McEnery (2004: 214) think that the incompatibility of the Progressive Aspect and the duration adverbial *for-* is a reflection of the non-holisticity of the Progressive Aspect, since the duration adverbial *for-* adds endpoints to eventualities. Rather, I think that the incompatibility of the Progressive Aspect and the duration adverbial *for-* is caused by the fact that the focus is on a slice of an evolving stage of an eventuality, which
is not durative. One piece of evidence is that the Durative Aspect is also non-holistic, but it is compatible with duration adverbials:

(2.230) Yuehan kan zhe jingzi san fenzhong.
John look DUR mirror three minute
‘John has been looking in the mirror for three minutes.’

It is interesting to note that although the Progressive Aspect and the Durative Aspect can cooccur, it seems that the result is not compatible with duration adverbials:

(2.231) * Yuehan zai kan zhe jingzi san fenzhong.
John PROG look DUR mirror three minute
‘John was/has been looking in the mirror for three minutes.’

If the Durative Aspect is also semantically embedded deeper than the Progressive Aspect, than the ungrammaticality might be explained as follows: zai V zhe is semantically zai [V zhe], which is still a slice of an evolving eventuality, and it is just that the eventuality is expected to be durative in its scope, i.e. V zhe.

Dynamicity is another feature of the Progressive Aspect. When an eventuality is presented in the Progressive Aspect, the focus is a slice of an evolving stage. According to Xiao and McEnery (2004: 215), compatibility with the Progressive Aspect can be used as a test for the [± dyn] feature of eventualities.

Since the Progressive Aspect is incompatible with [- dyn] eventualities, it is incompatible with ILSs, for example:

(2.232) * Yuehan zai gao.
John PROG tall
‘John is being tall.’

However, as SLSs have the aspect feature of [± dyn], some SLSs are compatible with the Progressive Aspect when they are of [+ dyn]. There is an actual example:
...大家正在高兴，林华兵跑来送上了一份调令...

…(while) everyone was being happy, Lin Huabing came running to send a transfer order…'

Xiao and McEnery (2004) claim that RVCs do not cooccur with the Progressive Aspect felicitously, and that completive RVCs are strictly incompatible with the Progressive Aspect. However, as we see in sentence (3.139) in Chapter 3, the completive RVC chi wan ‘eat finish’ does occur with the Progressive Aspect. Hence, although it may be correct to say that RVCs do not cooccur with the Progressive Aspect felicitously, all three kinds of RVC according to the classification of Xiao and McEnery (2004), i.e. completive RVCs, directional RVCs, and result-state RVCs, show some limited compatibility with the Progressive Aspect. Among the six Aktionsarten in the model of Xiao and McEnery (2004), only ILSs are strictly incompatible with the Progressive Aspect, and there are recorded cases of cooccurrence of the other five Aktionsarten and the Progressive Aspect in their corpus-based study (Xiao & McEnery 2004: 213).

2.6.4.2.3 Inceptive Aspect: The Aspect Marker -qilai

The Inceptive Aspect in Mandarin indicates that an eventuality is in inception (Xiao & McEnery 2004: 216). In Mandarin, the Inceptive Aspect is marked by -qilai. It should be noted that qi lai in V₁ qi lai ‘V₁ come up’ can also be the V₂ in a V₁ V₂ complex predicate (Xiao & McEnery 2004: 218), and -qilai is the Inceptive Aspect marker when it conveys the meaning of inception. When an eventuality is presented in the Inceptive Aspect, the eventuality is viewed from within as temporally decomposable, and what is focused is that the eventuality has started and will continue for a period of time (Xiao & McEnery 2004: 219).
Besides marking the Inceptive Aspect, -qilai can also be the V₂ in a monoclusal complex predicate. However, -qilai only serves as the marker of the Inceptive Aspect when it conveys the meaning of inception, for example:

(2.234) Yuehan cong di shang zhan qi lai.
John from ground upside stand up come
‘John stands up from the ground.’

(2.235) Yuehan yi ting dao Mali shuo hua jiu xiao qilai.
John one hear arrive Mary say word then laugh INC
‘As soon as John heard Mary talking, he started laughing.’

Qi lai ‘up come’ in (2.234) is the V₂ in the V₁ V₂ complex predicate zhan qi lai ‘stand up come’, not an Inceptive Aspect marker, while -qilai in (2.235) is an Inceptive Aspect marker. It has been noted that when the verb is transitive, there is a tendency that the object NP is put between qi and lai, and the word order becomes V qi NPOBJ lai (Xiao & McEnery 2004: 218):

(2.236) Yuehan shuo qi gushi lai jiu wang le shangke.
John say INC story INC then forget ACTL lecture
‘As long as John started telling stories, he forgot to give lectures.’

It is understandable that one of the functions of the Inceptive Aspect is to indicate the inception of an eventuality (Xiao & McEnery 2004: 223). It should be noted that the continuation of the eventuality is also implied. Non-holisticity (Xiao & McEnery 2004: 224) is also a characteristic of the Inceptive Aspect, since it is an imperfective aspect category which views an eventuality as temporarily decomposable with a focus on its inception and assumed continuation. Since the Inceptive Aspect indicates the inception of an eventuality, dynamicity is also a feature of the Inceptive Aspect (Xiao & McEnery 2004: 225-226). Although stative eventualities are not [+ dyn], they can occur with the Inceptive Aspect, and a meaning of intensification may be conveyed in such cases, for example:

(2.237) Fengye hong qilai le.
maple.leaf red INC COS
‘The maple leaves started turning red.’
Xiao and McEnery (2004: 225) observe that the Inceptive Aspect marker -qilai coerces stative eventualities into dynamic eventualities at the clause level.

The Inceptive Aspect and the Actual Aspect can cooccur in an eventuality, for example,

(2.238) Fengye hong le qilai.
maple.leaf red ACTL INC
‘The maple leaves have started turning red.’

It is interesting to note that Xiao and McEnery (2004: 222) suggest that the Inceptive Aspect and the Actual Aspect are hierarchically composed in such cases. Xiao and McEnery (2004: 222) suggest that eventualities such as (2.238) are first presented in the Inceptive Aspect signifying that the eventualities have started and will continue, and then the eventualities in the Inceptive Aspect as a unit are presented in the Actual Aspect, signifying that the eventualities that have started and will continue are actualized. If the observation of Xiao and McEnery (2004: 222) is correct, our assumption that the Progressive Aspect and the Durative Aspect are also hierarchically composed, at least in some cases, as discussed in section 2.6.4.2.2, is also possible.

2.6.4.2.4 Continuative Aspect: The Aspect Marker -xiaqu

The Continuative Aspect in Mandarin indicates that an eventuality has a preceding initiation and will continue for a period of time (Xiao & McEnery 2004: 216). In Mandarin, the Continuative Aspect is marked by -xiaqu. It should be noted that xia qu in V1 xia qu ‘V1 down go’ can also be the V2 in a V1 V2 complex predicate (Xiao & McEnery 2004: 227), and only -xiaqu in cases where it signifies temporal continuance serves as the Continuative Aspect marker. For example, xia qu in (2.239) is not a Continuative Aspect marker but the V2 of the complex predicate diao xia qu ‘fall down go’:

(2.239) Shitou diao xia qu le.
stone fall down go COS
‘A stone falls down.’

When an eventuality is presented in the Continuative Aspect, the eventuality is viewed from within as temporally decomposable, and what is focused by the Continuative Aspect
is rather special among the imperfective Aspect categories, as is illustrated in Figure 2.12 adopted from Xiao and McEnery (2004: 181). In Figure 2.12, \( t_1 \) is the assumed initiation of the eventuality, while \( t_2 \) is the eventuality time \( t_e \). The focus of the Continuative Aspect is that the eventuality has a preceding initiation \( t_1 \) and will continue from \( t_2 \) for a period of time. The interval between \( t_1 \) and \( t_2 \) is not the focus, hence, the eventuality may occur or not occur in the interval between \( t_1 \) and \( t_2 \). Hence, the eventuality may be continuous or resumptive during the interval between \( t_1 \) and \( t_2 \) or resumptive at \( t_2 \) (Xiao & McEnery 2004: 227).

![Figure 2.12. \( t_1 \) and \( t_2 \) in the Continuative Aspect.](image-url)

That the interval between \( t_1 \) and \( t_2 \) in Figure 2.13 is not focused by the Continuative Aspect can be illustrated by the examples in (2.240) and (2.241):

(2.240) Tianqi yi tian tian leng xiaqu.
weather one day day cold
‘The weather is getting colder day by day.’

(2.241) Ruguo Yuehan jixu zhe yang chi xiaqu, yiding hui pang.
if John continuous this kind eat
absolutely can fat
‘If John goes on eating like this, he will absolutely get fat.’

(2.240) is continuous on a daily basis if we do not include temperature variations during a day, since the weather is getting colder day by day. (2.241) can have a resumptive reading, since John may not have been eating all the time between the initial point of his current eating habit and the eventuality time \( t_e \) at which the warning of (2.240) is made. The point is that the person making the warning of (2.241) notes John’s bad eating habits at \( t_e \) and warns about the consequence should they continue for a period of time.

Non-holisticity (Xiao & McEnery 2004: 234) is a feature of the Continuative Aspect, since it is an imperfective aspect category which views an eventuality as temporally
decomposable. Continuation is an important feature of the Continuative Aspect (Xiao & McEnery 2004: 234). Although an eventuality presented in the Continuative Aspect might be continual or interrupted during the assumed preceding initiation $t_1$ and the eventuality time $t_2$ as shown in Figure 2.12, the eventuality presented in the Continuative Aspect is expected to continue for a period of time by the speaker. Dynamicity is also an important feature of the Continuative Aspect (Xiao & McEnery 2004: 235), which is understandable since an assumed preceding initiation and the continuance or the resumption of an eventuality are brought into view by the Continuative Aspect, and the change behind the preceding initiation and the evolution in the continuance or the change in the resumption are implied. Xiao and McEnery (2004: 235) note that the Continuative Aspect coerces stative eventualities into dynamic eventualities. This coercion can be observed in example (2.240), since leng ‘cold’ is stative, but leng xiaqu ‘cold CONT’ becomes dynamic and means ‘become colder’.

### 2.6.4.3 Zero Aspect Marking

In sections 2.6.4.1 and 2.6.4.2, I have presented the categories of aspect in Mandarin, which belong to one of two groups, perfective and imperfective. However, aspect marking is not always obligatory in Mandarin, and the Aspectual values of verbal predicates can sometimes be provided pragmatically without Aspect markers. Hence, it is also important to talk about the cases where verbal predicates are not overtly marked for aspect.

In Mandarin, not all sentences are marked by Aspect markers in their surface forms. Smith (1997: 77-81) claims that they are Aspectually neutral and vague. Xiao and McEnery (2004: 236-240) disagree and claim that there is no neutral Aspect in Mandarin. In addition, clauses which are not marked by Aspect markers explicitly in their surface forms are numerous, but the underlying phenomena may be more complicated than the simple absence of Aspect markers on the surface. Consequently, I find it necessary to briefly discuss these sentences with zero Aspect marking.

Xiao and McEnery (2004: 239-240) suggest that there are three cases where sentences are not marked for Aspect explicitly: either they are stative eventualities, which Xiao and McEnery (2004: 239) consider do not have to belong to any category of aspect, or they are irrealis imperfective dynamic eventualities, or they are perfective dynamic.
eventualities with no surface Aspect markers. Let us consider the first case of stative eventualities with the following example:

(2.242) Na zuo shan hen gao.
that CL mountain very high
‘That mountain is high.’

Hen ‘very’ in (2.242) occurs with the scalar adjective gao ‘high’, and hen ‘very’ in this case can be semantically bleached, the possibility of which renders (2.242) with two readings (Li & Thompson 1981: 143): that mountain is high and that mountain is very high. I take the reading of that mountain is high, since I will let (2.242) appear in the Delimitative Aspect, and it would be strange to say that that mountain is a little bit very high. Gao ‘high’ in (2.242) is an ILS which is typically [-dyn], unlike SLSs which are [+dyn]. There is no Aspect marker in (2.242). Let us try to put (2.242) in the various categories of Aspect mentioned above except for the Completive Aspect (i.e. RVCs) in which the meaning of (2.242) will obviously be altered because of the compounding of another predicate:

(2.243) Na zuo shan gao le.
that CL mountain high ACTL
‘That mountain became high.’

(Imagine that after an earthquake, a new measurement revealed that the height of the mountain had increased by one meter.)

(2.244) ? Na zuo shan gao guo.
that CL mountain high EXP
‘That mountain had been high.’

(2.245) * Na zuo shan gao gao.
that CL mountain high high
‘That mountain is a little bit high./That mountain gets a little bit higher.’

(2.246) * Na zuo shan gao zhe.
that CL mountain high DUR
‘That mountain is being high.’
(2.247) * Na zuo shan zhengzai gao.  
that CL mountain PROG high  
‘That mountain is being high./That mountain is becoming high.’

(2.248) * Na zuo shan zhengzai gao zhe.  
that CL mountain PROG high DUR  
‘That mountain is becoming high.’

(2.249) Na zuo shan gao qilai le.  
that CL mountain high INC ACTL/COS  
‘That mountain has started getting high.’

(2.250) * Na zuo shan gao xiaqu.  
that CL mountain high CONT  
‘That mountain keeps being high./That mountain keeps getting high.’

With the condition that no additional predicate but only Aspect markers and locutionary force particles may be added to the predicate gao ‘high’, my aim is to make the sentence na zuo shan gao ‘that CL mountain high’, i.e. ‘that mountain is high’, as acceptable in different categories of Aspect as is possible, hence -le is added in (2.249), or the mere sentence na zuo shan gao qilai would sound strange. We observe that (2.243) is perfective, and (2.249) is also perfective due to the addition of ACTL/COS -le.

Furthermore, Gao ‘high’ in (2.243) and (2.249) has a [+ dyn] reading. Also in (2.249), -qilai ‘up come’ can be interpreted as V2 in the complex predicate gao qi lai ‘high up come’, i.e. ‘get higher’, which is also [+ dyn]. Both cases of gao ‘become high/get high’ in (2.243) and (2.249) are coerced into [+ dyn] readings, which is different from the original gao ‘high’ in (2.242). Hence, examples (2.242) – (2.250) are in accordance with the suggestion of Xiao and McEnery (2004: 239) in that they do not have to be marked Aspectually, since the original, uncoerced gao ‘high’ does not appear in any aspect category in (2.243) – (2.250).

Now, let us try an SLS hong, which is [± dyn] and can mean red ([− dyn]) or become red/get red ([+ dyn]):
Let us put (2.251) in different categories of aspect and make it as acceptable as possible:

(2.252) Fengye hong le.
maple.leaf red ACTL
‘The maple leaves became red./The maple leaves have become red.’

(2.253) Fengye hong guo.
maple.leaf red EXP
‘The maple leaves had been red (but not now)./The maple leaves had become red.’

(2.254) * Fengye hong hong.
maple.leaf red red
‘The maple leaves are somewhat red.’

(2.255) Fengye hong zhe.
maple.leaf red DUR
‘The maple leaves are being red (with an implicature that the maple leaves normally may not always be so)./The maple leaves are becoming red.’

(2.256) Fengye zai hong.
maple.leaf PROG red
‘The maple leaves are becoming red.’

(2.257) Fengye zai hong zhe.
maple.leaf PROG red DUR
‘The maple leaves are being red (with an implicature that the maple leaves normally may not always be so)./The maple leaves are becoming red.’

(2.258) Fengye hong qilai le.
maple.leaf red INC ACTL/COS
‘The maple leaves have started getting red.’
(2.259)  * Fengye hong xiaqu.
        maple.leaf red CONT
        ‘The maple leaves keep being red./The maple leaves keep getting red.’

We can observe that (2.252), (2.253), and (2.255) – (2.258) all involve [+ dyn] readings. Hence, examples (2.251) – (2.259) are in accordance with the suggestion of Xiao and McEnery (2004: 239) that they do not have to be marked Aspectually since the original, uncoerced hong ‘red’ does not appear in any category of aspect shown in (2.251) – (2.259). It should be noted that (2.254) sounds acceptable if the nominalizer de is added:

(2.260)  Fengye hong hong de.
        maple.leaf red red NOM
        ‘The maple leaves are somewhat red.’

In (2.260), hong ‘red’ in (2.260) does not have the [+ dyn] meaning of ‘becoming red’. However, I argue that in (2.260) hong hong ‘red red’ is nominalized by the particle de, so hong hong ‘red red’ is not a verbal predicate but an attributive adjective. Hence, hong ‘red’ in (2.260) is not in the range of our discussion.

The second cases of sentences with zero Aspect markers mentioned by Xiao and McEnery (2004: 239-240) are irrealis imperfective dynamic eventualities. For example,

(2.261)  Ruguo Mali mai mianbao, Yuehan wancan jiu chi mianbao.
        if Mary buy bread John dinner then eat bread
        ‘If Mary buys bread, John will/would eat bread for dinner.’

However, this is not to say that irrealis dynamic eventualities cannot cooccur with the perfective Aspect, and we have seen the cooccurrence of an irrealis predicate and the Actual Aspect in (2.160). Another example based on (2.261) is:
(2.262) Ruguo Yuehan shi Mali de xuesheng, ta jiu hui ting guo
if John be Mary GEN student he then can hear EXP
Mali changchang jiang de na ge xiaohua.
Mary often say NOM that CL joke

‘If John was/were/had been Mary’s student, he would have heard the joke
which Mary often told.’

The clause ruguo Yuehan shi Mali de xuesheng ‘if John be Mary GEN student’, i.e. ‘if
John is Mary’s student’, in (2.262) can be indicative or subjunctive in English. If it is
indicative, the speaker does not know whether John was Mary’s student or not. If it is
subjunctive, the speaker knows that it is contrary to the truth. In either case, ting ‘hear’ is
irrealis but can still appear in the Experiential Aspect, which is a perfective Aspect.
Hence, irrealis dynamic eventualities can cooccur with perfective aspect categories.

However, if ting ‘hear’ in (2.262) can appear in a category of perfective aspect, there
seems to be no reason to assume that chi ‘eat’ in (2.261) is in a category of imperfective
aspect just because it is not marked as a category of perfective aspect, unless we assume
that irrealis predicates are by default imperfective. In fact, it has been observed that there
is a strong relation between irrealis and the imperfective (Smith 1997: 90). If we accept
that irrealis predicates are mostly imperfective, there are two suggestions to accommodate
the cooccurrence of irrealis and the perfective in (2.262). The first suggestion is that an
irrealis predicate is imperfective by default, and therefore the appearance of a category of
perfective aspect marker such as that in (2.262) makes it perfective. The second
suggestion is that ting ‘hear’ in (2.262) is hierarchically compounded by a category of the
imperfective aspect and the perfective Aspect. From the viewpoint at time of reference,
ting ‘hear’ is presented in the Experiential Aspect, however, the whole eventuality is
presented as irrealis at the time of speaking. Hence, perhaps in this case we can say that
the perfective aspect is semantically embedded deeper than the imperfective aspect, since
the second subeventuality ting ‘hear’ in (2.262) is first presented in the Experiential
Aspect then in irrealis. This suggestion is possible, since we have discussed the possible
hierarchical compositions of the Durative and Progressive Aspect and the Actual and
Inceptive Aspect (Xiao & McEnery 2004: 222). There might also be other possibilities to
explain the cooccurrence of the irrealis predicate and the perfective aspect in (2.262), and I think that to give a satisfying explanation needs further study.

The third cases of sentences with zero Aspect markers mentioned by Xiao and McEnery (2004: 239-240) are perfective dynamic eventualities with no surface Aspect markers. The perfectivity may still be recognizable in the discourse. In these cases, the perfectivity is provided by the context, for example:

(2.263) 全国耕地面积比顺治年间增加了三分之一，已达到六百余万顷。人口

Quan guo gengdi mianji bi Shunzhi nianjian zengjia whole country arable.land area compare Shunzhi era increase

也达到 3 亿。

le sanfenzhiyi, yi da dao liubaiyuwan qing, ACTL one.third already reach arrive more.than.six.million qing

renkou ye da dao sanyi.

population also reach arrive three.hundred.million

‘The area of arable land in the whole country increased by more than a third of that during the Shunzhi era and reached more than six million qing. The population also reached three hundred million.’

(http://lishi.zhuixue.net/renwu/qianlong/50743.html)

In (2.263), Shunzhi is the era name of an emperor of the Qing dynasty, and qing is a unit of area. In the discourse of (2.263), only the first clause quan guo gengdi mianji bi Shunzhi nianjian zengjia le sanfenzhiyi ‘the area of arable land in the whole country increased by more than a third of that during the Shunzhi era’ is marked by the Actual Aspect, and there are no Aspect markers in the following two clauses. However, we can still deduce from the context that these two clauses should also be in the Actual Aspect. In fact, it is acceptable if we mark all three clauses in (2.263) with the Actual marker -le.

Combinations of stative eventualities and different aspect categories have been given in this section. We find that all acceptable or partially acceptable combinations of stative eventualities and aspect categories shown in examples (2.243), (2.244), (2.249), (2.252),

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(2.253), and (2.255) – (2.258) involve [+ dyn] readings. Hence, the suggestion of Xiao and McEnery (2004: 239) that stative eventualities do not have to be marked Aspectually is correct. Furthermore, it seems that orthodox stative eventualities with [- dyn] readings do not interact with either perfective or imperfective aspect categories.

As for dynamic eventualities or stative eventualities with [+ dyn] readings, opinions differ as to the categories of aspect in clauses with zero Aspect markers in previous studies. As we have seen, Smith (1997: 77-81) claims that these clauses are Aspectually neutral and vague, while Xiao and McEnery (2004: 236-240) claim they do have aspect values and that there is no neutral Aspect in Mandarin. I think that the claims of Smith (1997) and Xiao and McEnery (2004) are both partially correct.

On the other hand, the claim of Xiao and McEnery (2004) is correct in that some clauses, while possessing no Aspect markers, do carry categories of aspect, and their exact aspect values can be deduced by the context as shown in example (2.263). However, the exact aspect values of (2.261) cannot be deduced from the context, and all we know is that both clauses in (2.261) are in the imperfective. Therefore Smith (1997) is correct in saying that sentences like (2.261) are vague in their aspect values.

Based on these observations, if Xiao and McEnery (2004) are correct, we can only say that there is no neutral Aspect in Mandarin. However, the aspect value of every sentence which is not overtly Aspectually marked can only be traced to the distinction between perfective and imperfective at best. That is, we can at best classify each not overtly Aspectually marked sentence as perfective or imperfective, but we cannot retrieve from the context the exact aspect value of every such sentence.

My suggestion is that there are two kinds of eventualities in Mandarin with respect to their interactions with categories of aspect. Stative eventualities with [- dyn] readings do not interact with any category of aspect, and they may be perfectly or imperfectly neutral. In contrast, dynamic eventualities or stative eventualities with [+ dyn] readings interact with categories of aspect, and they are either perfective or imperfective, even if they are not overtly Aspectually marked. We need further studies to decide whether there are two neutral categories of aspect, one perfective and one imperfective, whether those not overtly Aspectually marked imperfective or perfective clauses are vague in their exact aspect values, or there may be other possibilities.
2.7 Summary

In this chapter, I presented the theoretical frameworks on which this study is based. First, we adopt Simpler Syntax of Culicover and Jackendoff (2005) as our theoretical framework to analyze the interactions between form, meaning, and context. I also introduced the Lexical Conceptual Structure (LCS) of Jackendoff (1990) and the event structure templates of Rappaport-Hovav and Levin (1998). In so doing, I showed that some eventualities are composed of subeventualities in which the relations cannot be clearly expressed by the original version of LCS (Jackendoff 1990), and I argued the need for introducing conjunctive functions in LCSs to account for these complex eventualities.

Second, we adopt the Two-Component Two-Level Model of Xiao and McEnery (2004) as our theoretical framework to analyze the interaction between predicates and aspect. The advantage of the model of Xiao and McEnery (2004) is that it is compositional, comprehensive, and systematic. However, some of their explanations concerning interactions between some types of predicate and aspect are still unsatisfactory.

In the next two chapters, I will discuss complex predicates in Mandarin. Chapter 3 deals with monoclausal complex predicates, and Chapter 4 deals with polyclausal complex predicates. I will discuss the unsatisfactory explanation of Xiao and McEnery (2004) about the interaction between monoclausal RVCs and some categories of aspect, for example, Progressive Aspect, in the next chapter. In addition, I will propose a new explanation about the sources of compatibility between monoclausal RVCs and the Progressive Aspect.
Chapter 3: Monoclausal Complex Predicates

3.1 Introduction

In a monoclausal complex predicate, there can be only one set of grammatical relations. A monoclausal complex predicate is usually composed of two constituent verbs. The clause containing a monoclausal complex predicate can be seen as a fusion of clauses of the two constituent verbs. The subject and the object in a monoclausal complex predicate can be the subject or the object of the \( V_1 \) clause or the \( V_2 \) clause before the fusion.

In Mandarin, such mappings of grammatical relations before and after fusions vary greatly. Sometimes an argument of a monoclausal complex predicate is just an adjunct of a constituent verb before the fusion. The mappings of grammatical relations before and after fusions can be used to classify monoclausal complex predicates.

There are many subtypes of monoclausal complex predicates in the form \( V_1 V_2 \) in Mandarin. In resultatives, the subeventuality predicated by \( V_1 \) causes the subeventuality predicated by \( V_2 \). In descriptives and excessives, one subeventuality is a manner property describing the other subeventuality. In aspectuals, one of \( V_1 \) and \( V_2 \) is used to describe the aspect of the whole eventuality, yet the component verb that describes the aspect of the whole eventuality has not fully become a well-established aspect particle and not very syntactically productive. In this chapter, we will discuss depictives, excessives, and aspectuals first. I discuss monoclausal directionals and polyclausal directional together in Chapter 4. In section 3.2.5, I discuss resultatives, which are the focus of this chapter.

3.2 Monoclausal Complex Predicates in Mandarin

3.2.1 Depictives

In this section I discuss monoclausal depictive complex predicates. In a depictive complex predicate, a component verb describes the manner of the other component verb such as \textit{sheng} ‘raw’ in (3.1) describes the manner of \textit{chi} ‘eat’:

\begin{equation}
\text{(3.1) Yuehan } \text{sheng chi} \text{ shucai.}
\end{equation}

John raw eat vegetable

‘John eats vegetables raw.’
My analysis of depictives like *sheng chi* involves a conjunction of two subeventualities, using the conjunctive function WHILE described in section 2.4. Hence the LCS of (3.1) has the structure of (3.2):

(3.2) \[\text{WHILE([SUBEVENTUALITY 1], [SUBEVENTUALITY 2])}\]

[SUBEVENTUALITY 1] in (3.2) is (3.3), and [SUBEVENTUALITY 2] in (3.2) is (3.4):

(3.3) \[\text{CAUSE([JOHN], [MOVE([VEGETABLES], [TO([STOMACH-OF-JOHN])])])}\]

(3.4) \[\text{BE([VEGETABLES], [IN([RAW-NESS])])}\]

The morphosyntactic structures of monoclausal resultatives, which we will discuss in detail in section 3.2.5, and monoclausal depictives are quite different. In monoclausal resultatives, the Aktionsarten of \(V_2\) tend to be more limited, mostly state and action, while the Aktionsarten of \(V_1\) can be more varied. However, in monoclausal depictives, the Aktionsarten of \(V_2\) can be more varied, while the Aktionsarten of \(V_1\) tend to be more limited, mostly state and action.

Like monoclausal resultatives, clauses containing monoclausal depictives can also be seen as the result of predicate fusion. In addition, as with monoclausal resultatives, the shared arguments in monoclausal depictives also have different patterns of predicate fusion:

(3.5) \[\text{NP}_1 [V_1 \text{ NP}_j \text{VP}_1] + \text{NP}_j [V_2 \text{VP}_2] \rightarrow \text{NP}_1 [[[V_1 V_2] \text{ NP}_j \text{VP}]]\]

\(\text{ta chi shucai shucai sheng ta sheng chi shucai}
\) he eat vegetable vegetable raw he raw eat vegetable ‘John eats vegetables raw.’

(3.6) \[\text{NP}_1 [V_1 \text{VP}_1] + \text{NP}_1 [V_2 \text{ NP}_j \text{VP}_1] \rightarrow \text{NP}_1 [[[V_1 V_2] \text{ NP}_j \text{VP}]]\]

\(\text{ta xiao ta kan shijie ta xiao kan shijie}
\) he laugh he watch world he laugh watch world ‘He watches the world, laughing.’

(3.5) and (3.6) may not exhaustively list all monoclausal depictives, and there may be other patterns.
3.2.2 Excessives

There is a kind of monoclausal complex predicate in Mandarin which can be employed to convey the sense of excessiveness. These excessive complex predicates have the general structure \( V_1 V_2 \) and the meaning \( V_1 \) in a way of being excessively/too \( V_2 \). *Chi duo* ‘eat much’ with the meaning of ‘eat too much’ in (3.7) is an example of an excessive complex predicate:

\[
(3.7) \quad \text{Yuehan fan \textbf{chi duo} le.} \\
\quad \text{John rice eat much ACTL/COS} \\
\quad \text{‘John ate too much (rice).’}
\]

The excessives have some interesting properties. First, the meaning of *excessively/too* of excessives is not provided by any of the lexical components. For example, neither *chi* ‘eat’ nor *duo* ‘much’ in (3.7) provides the meaning of *too* for the excessive *chi duo* ‘eat too much’. The meaning of *excessively/too* of *chi duo* ‘eat too much’ actually comes from the structure \( V_1 V_2 \). In this regard, the meaning *excessively/too* of excessives is a constructional meaning. This observation gives us an opportunity to explore another source of the meaning of *excessively/too* in excessives.

Monoclausal resultatives also have the structure \( V_1 V_2 \). An example is *zhang gao* ‘grow tall’ in:

\[
(3.8) \quad \text{Shu zhang gao le rongyi bei feng chui dao.} \\
\quad \text{tree grow tall ACTL easy cover wind blow fall} \\
\quad \text{‘When a tree has grown tall, it is easy to be blown down by the winds.’}
\]

However, (3.8) has another reading:

\[
(3.9) \quad \text{Shu zhang gao le rongyi bei feng chui dao.} \\
\quad \text{tree grow tall ACTL easy cover wind blow fall} \\
\quad \text{‘When a tree has grown too tall, it is easy to be blown down by the winds.’}
\]

Since both monoclausal resultatives and excessives have the structure \( V_1 V_2 \), it is possible for *zhang gao* to have two readings, i.e. ‘grow tall’ as in (3.8) and ‘grow too tall’ as in (3.9). Whether the sentence is to be understood as (3.8) or (3.9) is decided by the context.

In this regard, the meaning *excessively/too* of excessives is a conventional meaning.
Hence, there are at least two sources for the meaning of *excessively/too* in monoclausal excessives, one is the structure of $V_1 V_2$, and the other is the context. The meaning of *excessively/too* in monoclausal excessives may be both constructional and conventional.

Second, the direct objects of excessives are usually topicalized and moved to the front. For example, the syntactic structure of (3.7) is

\[(3.10) \quad [[\text{Yuehan}_i]_{\text{Topic}} [[\text{fan}_j]_{\text{Topic}} [\text{PRO}_i \text{ chi duo pro}_j \text{ le}]_{\text{Comment}}]_{\text{Comment}}]_s \]

John rice eat much ACTL/COS

‘John ate too much (rice).’

However, there are also naturally occurring examples where the direct objects are not topicalized and left in their original position as in (3.11). In (3.11), *fan ‘rice’* is not topicalized and remains *in situ* at the position corresponding to pro$_j$ in *chi duo pro$_j$* (3.10).

\[(3.11) \quad \text{听} \text{说} \text{吃} \text{多} \text{饭} \text{了} \text{会} \text{发} \text{胖} \text{的}, \ldots \]

ting shuo chi duo fan le hui fapang de,…

‘(I) have heard that people would get fat by eating too much rice,…’

(https://zhidao.baidu.com/question/137390944.html)

There is also a naturally occurring example, which has a similar surface form:

\[(3.12) \quad \text{…吃饭多了会疼,} \text{吃饭少了会疼,} \ldots \]

chi fan duo le hui teng, chi fan shao le hui teng,…

eat rice much ACTL will ache eat rice less ACTL will ache

‘…(when I) ate too much, (my stomach) would ache, (when I) ate too little,

(my stomach) would ache, …’

(http://k.sina.com.cn/article_6300778023_1778e3e2700100thg2.html)

However, the syntactic form of (3.13) which appears in (3.12) is not (3.14) but rather (3.13):

\[(3.13) \quad \text{chi} \text{ fan duo le} \]

eat rice much ACTL
Since *chi duo* ‘eat much’ in (3.12) is not monoclausal as shown in (3.15), (3.12) is not an example of a monoclausal excessive.

Third, as observed by Fan (2016: 197), excessives express a deviation from a standard, and that standard is determined by the context. For example, in (3.7), we only know that John ate too much rice. But how much is too much depends on the context. There can be many scenarios:

(3.16) John ate more rice than he usually did.

(3.17) John ate less rice than he usually did before, but he ate more than the upper limit which his doctor suggested yesterday.

(3.18) John ate only two spoonfuls of rice, which was very little, but it was during a famine, and he left the others only less than a spoonful of rice to eat.

The meanings of *eat too much* compared with certain standards in scenarios (3.16) – (3.18) can all be encoded in the monoclausal excessive *chi duo* ‘eat much’, but the standards depend on the context. Hence, the most general meaning of excessives is *excessively/too*, which is constructional and which can be conventional. More specific meanings such as *too V₂ than what usually happens* or *too V₂ than it should happen* depend on the context and are conventional.

### 3.2.3 Aspectuals

There are other types of monoclausal complex predicates which we have not discussed up to this moment but which are important to the completeness of this study. One such type of monoclausal complex predicates has to do with the inception, completion, or success of an action. I would like to call them aspectual complex predicates for the time being. Kai ma ‘open scold’ in (3.19) is an aspectual complex predicate.

(3.19) **Yuehan kai ma le.**

John open scold COS

‘John started to scold.’
Complex predicates of the type *kai* *V* mark the inception of *V*. However, not all verbs are compatible with *kai*:

\[(3.20)\] * Yuehan *kai* *xiao* le.
  John open laugh COS
  ‘John started to laugh.’

The valency of *kai* *V* may be different from that of a bare *V*. For example, *ma* ‘scold’ in (3.21) can take an object, but *kai ma* ‘open scold’ in (3.22) cannot take an object:

\[(3.21)\] Yuehan *ma* Mali le.
  John scold Mary COS
  ‘John scolded Mary.’

\[(3.22)\] * Yuehan *kai* *ma* Mali le.
  John open scold Mary COS
  ‘John started to scold Mary.’

A semantically bleached verb *dui*, of which the full verb meaning is *to face*, can be used as a dative-like marker in this case:

\[(3.23)\] Yuehan *dui* Mali *kai* *ma* le.
  John face Mary open scold COS
  ‘John started to scold Mary.’

Nevertheless, (3.23) requires clause chaining, and *dui* ... *kai ma* as a whole is a polyclausal complex predicate. (3.23) has the syntactic structure:

\[(3.24)\] [[Yuehan, *dui* Mali]_{S1} [PRO, *kai* *ma*]_{S2} le]_{S}.
  John face Mary open scold ACTL
  ‘John started to scold Mary.’

However, there are other factors that influence the valency:

\[(3.25)\] Tieluju tian tian *mai* huoche piao.
  railway.bureau day day sell train.ticket
  ‘The railway bureau sells tickets every day.’
(3.26) Tieluju tian tian mai piao.
railway.bureau day day sell ticket
‘The railway bureau sells tickets every day.’

(3.27) Tieluju jitian kai mai guonian de huoche piao.
railway.bureau today open sell new.year GEN train.ticket
‘The railway bureau starts to sell tickets for the new year today.’

(3.28) Tieluju jitian kai mai guonian de piao.
railway.bureau today open sell new.year GEN ticket
‘The railway bureau starts to sell tickets for the new year today.’

(3.29) Tieluju jintian jiang kai mai huoche piao.
railway.bureau today will open sell train.ticket
‘The railway bureau will start to sell tickets today.’

(3.30) * Tieluju jintian jiang kai mai piao.
railway.bureau today will open sell ticket
‘The railway bureau will start to sell tickets today.’

The ungrammaticality of (3.30), compared with (3.25) – (3.29), suggests that the number
of syllables may play a role in the grammaticality.

Dao ‘arrive’ can be attached to a verb to form a monoclausal complex predicate meaning
success in completion of an action. V dao can also be considered a type of monoclausal
RVC. Sometimes V and V dao are encoded in two different lexical items in English. I
suspect that this is why Jackendoff (1990) does not treat this contrast systematically: V
and V dao are usually treated as unrelated lexical items because that is sometimes the case
in English. The following are some pairs of examples. In such pairs, V is often a
volitional action, and V dao is often a non-volitional action. (3.31) –(3.38) are examples
of four pairs of V and V dao which are encoded in different lexical items in English.

(3.31) Yuehan kan shu.
John look book
‘John reads books.’
There are also V and V dao pairs which are realized in the same lexical items in English, for example:

(3.32) Yuehan kan dao shu le.
John look arrive book ACTL/COS
‘John saw the book.’

(3.33) Yuehan ting yinyue.
John hear music
‘John listens to the music.’

(3.34) Yuehan ting dao yinyue.
John hear arrive music
‘John heard the music.’

(3.35) Yuehan zhao na ben shu.
John search that CL book
‘John looks for that book.’

(3.36) Yuehan zhao dao na ben shu le.
John search arrive that CL book ATCL/COS
‘John found that book.’

(3.37) Yuehan xiang, ‘Mali jintian hui lai.’
John think Mary today will come
‘John thinks that Mary will come today.’

(3.38) Yuehan xiang dao, ‘Mali jintian hui lai.’
John think arrive Mary today will come
‘It occurs to John that Mary will come today.’

(3.39) Yuehan ti qiu.
John kick ball
‘John kicks the ball./John is kicking the ball.’
(3.40) Yuehan ti dao qiu le.
John kick arrive ball ACTL/COS
‘John kicked the ball.’

V and V dao usually belong to different Aktionsarten and hence may have different degrees of compatibility with different aspects. Kan ‘look’ in (3.41) is an activity, while kan dao ‘look arrive’ in (3.42) is an achievement.

(3.41) Yuehan zhengzai kan shu.
John PROG look book
‘John is reading a book.’

(3.42) * Yuehan zhengzai kan dao shu.
John PROG look arrive book
‘John is seeing a book.’

As aforementioned, in a V/V dao pair, V may be volitional while V dao may be non-volitional. The difference is reflected in imperative sentences:

(3.43) Bu yao ting yaoyan!
NEG want hear rumor
‘Don’t listen to the rumors!’

(3.44) * Bu yao ting dao yaoyan!
NEG want hear arrive rumor
‘Don’t hear the rumors!’

The ungrammaticality of (3.44) is understandable since, while one has control over what one listens to, one does not have control over what one hears.

V may (at least partly) entail V dao, since (3.45) is marked but not totally unacceptable:

(3.45) ? Yuehan ti qiu, danshi mei ti dao.
John kick ball but NEG kick arrive
‘John tried to kick the ball but he missed it.’
(3.46) Yuehan yao ti qiu, danshi mei ti dao.
    John want kick ball but NEG kick arrive
    ‘John wanted to kick the ball but he missed it.’

More data are needed to evaluate the grammaticality of other V dao constructions like (3.45). I will leave this to further research.

Although we will discuss V wan ‘finished V-ing’ in monoclusal RVCs, V wan can actually be taken as another type of aspectual. Wan means to finish and to complete. V wan also contains the meaning of the completion of V. It might be their involvement in aspectual meanings that set completive RVCs apart from other types of RVCs in the categorization of Xiao and McEnery (2004). The difference between V dao and V wan is that the former has the meaning of succeed in completing V while the later does not.

There is a pair of examples for V dao and V wan:

(3.47) Yuehan chi dao wancan le.
    John eat arrive dinner COS
    ‘John succeeded in having a dinner.’

(3.48) Yuehan chi wan wancan le.
    John eat finish dinner COS
    ‘John finished his dinner.’

(3.47) has the undertone that John had tried to have a dinner without success before he finally got his dinner; however, (3.48) does not have the same implication. Dao and wan cannot both be attached to the same V:

(3.49) * Yuehan chi dao wan wancan le.
    John eat arrive finish dinner COS
    ‘John succeeded in finishing his dinner.’

(3.50) * Yuehan chi wan dao wancan le.
    John eat finish arrive dinner COS
    ‘John succeeded in finishing his dinner.’

There are at least two factors, i.e. inception and completion, which have to do with whether an action is ongoing. It should also be noted that inception and completion may
not be two polarities of the same feature [± inceptive] but rather positive polarities of two different features, i.e. [+ inceptive] and [+ completive]. One piece of evidence comes from examples where we negate the complex predicate kai pai ‘start to shoot’, as in (3.51). In (3.51), pai ‘shoot’ is [- completive], but can be [+ inceptive].

(3.51) Tamen mei **pai wan** na bu dianying.
they NEG shoot finish that CL film
‘They did not finish shooting that film.’

Many constituent verbs which offer the aspectual part in monoclausal aspectual complex predicates are semantically bleached and not linked to any subeventualities. For example, the syntactic analysis of sentence (3.52) is shown in Figure 3.1:

(3.52) Tamen kai pai na bu dianying.
they open shoot that CL film
‘They start to shoot that film.’

In Figure 3.1, I use BU in the CS tier as a referential feature of dianying ‘film’ to signify that dianying requires a classifier bu:

![Figure 3.1. Analysis of ‘They start to shoot that film’ (3.52) in Simpler Syntax.](image)

We can observe that the constituent verb pai ‘shoot’ is coindexed with the subeventuality [BE([FILM]), [IN([SHOOTING)])]], while the constituent verb kai ‘open’ is not coindexed with any subeventuality but with the referential feature INC. The coindexation between the aspectual constituent verb in the syntactic tier and an aspectual referential feature rather than a subeventuality in the CS tier is a feature of monoclausal aspectual complex predicates.
3.2.4 Directionals

Directional verb constructions (DVCs) are a kind of complex predicate. Directionals may be monoclausal or polyclausal in Mandarin. (3.53) is an example of monoclausal directional complex predicate:

(3.53) Yuehan na lai yi ben shu.

John take come one CL book

‘John brings a book (here).’

I will leave the discussion of directionals to section 4.4 for a better overview.

3.2.5 Resultatives

Monoclausal resultative verb constructions (RVCs) are an important subtype of monoclausal complex predicates in Mandarin and are very productive. Hence, we will dedicate most of this chapter to the discussion of monoclausal RVCs. We will first describe their syntactic forms. Then we will use LCSs to describe their semantic structure. We will then give a brief overview of the Aspect system in Mandarin and talk about the interactions between RVCs and Aspects.

3.2.5.1 Syntactic and Semantic Structure of Monoclausal RVCs

Many resultative verb constructions (RVCs) in Mandarin are monoclausal. Such RVCs are composed of two verbs, V₁ and V₂, where the subeventualities predicated by V₂ are results of the subeventualities predicated by V₁. We list some common types of monoclausal complex predicates in the following:

(3.54) [NP₁[V₁]VP₁] + [NP₁[V₂]VP₂] → [NP₁[V₁ V₂]VP]

ta chi ta bao ta chi bao
he eat he full he eat full

‘He is full from eating.’

The shared argument in (3.54) is the subject of V₁ and V₂, which is the subject of the resultative.
The shared argument in (3.55) is the subject of \( V_1 \) and \( V_2 \), which is the subject of the resultative. The object of \( V_1 \) is the direct object of the resultative.

(3.56) \[ [NP_i [V_1 [NP_j]_{VP_1}]] + [NP_j [V_2]_{VP_2}] \rightarrow [NP_i [[V_1 V_2] NP_j]_{VP}] \]

\( \text{ta xiao yao wan ta xiao wan yao} \)

he laugh waist bent he laugh bent waist

‘He laughs so much/in such a way that his waist bends.’

There is no shared argument for \( V_1 \) and \( V_2 \) in (3.56). The subject of \( V_1 \) is the subject of the resultative, and the subject of \( V_2 \) becomes the object of the resultative.

(3.57) \[ [NP_i [V_1 [NP_j]_{VP_1}]] + [NP_j [V_2]_{VP_2}] \rightarrow [NP_i [[V_1 V_2] NP_j]_{VP}] \]

\( \text{ta da wan wan po ta da po wan} \)

he hit bowl bowl broken he hit broken bowl

‘He breaks the bowl.’

The shared argument in (3.57) is the object of \( V_1 \) and the subject of \( V_2 \), which is the object of the resultative. The subject of \( V_1 \) is the subject of the resultative.

(3.58) \[ [NP_i [V_1 [NP_j]_{VP_1}]] + [NP_j [V_2]_{VP_2}] \rightarrow [NP_j [[V_1 V_2] NP_i]_{VP}] \]

\( \text{ni fan wo wo si wo fan si ni} \)

you annoy I I die I annoy die you

‘You annoy me so much/in such a way that I die.’

(Another reading ‘I annoy you so much/in such a way that you die’ also exists. In such a case it belongs to sentence template (3.57).)

The shared argument in (3.58) is the object of \( V_1 \) and the subject of \( V_2 \), which is the subject of the resultative. The subject of \( V_1 \) becomes the object of the resultative.
There is no shared argument for $V_1$ and $V_2$ in (3.59). However, the complement of $V_1$ is identical to the subject of $V_2$ and becomes the object of the resultative. The subject of $V_1$ is the subject of the resultative.

(3.60) \[ [\text{NP}_i [V_1 \text{ NP}_j (\text{complement})]_{VP_1}] + [\text{NP}_i [V_2]_{VP_2}] \rightarrow [\text{NP}_j [[V_1 V_2] \text{ NP}_j]_{VP}] \]

\[ \text{ta jiang Yuehan Yuehan fan} \text{ ta jiangfan Yuehan} \]

he talk John John annoy he talk annoy John

‘He talks to John so much/in such a way that John is annoyed.’

The shared argument in (3.60) is the subjects of $V_1$ and $V_2$, which is the object of the resultative. The object of $V_1$ becomes the subject of the resultative.

(3.61) \[ [\text{NP}_i [V_1 \text{ NP}_j]_{VP_1}] + [\text{NP}_k [V_2]_{VP_2}] \rightarrow [\text{NP}_j [[V_1 V_2] \text{ NP}_k]_{VP}] \]

\[ \text{ta du shu} \text{ ta sha shu du sha} \text{ ta} \]

he read book he silly book read silly he

‘He studies so much/in such a way that he becomes silly.’

There is no shared argument for $V_1$ and $V_2$ in (3.61). The object of $V_1$ is the subject of the resultative, and the subject of $V_2$ becomes the object of the resultative.

In can be noted from examples (3.54) – (3.61) that, in Mandarin, it is a common pattern that the subject of a resultative is the subject of $V_1$, and the object of the resultative is the subject of $V_2$ as in (3.54), (3.55), (3.56), (3.57), and (3.59), i.e. the common pattern is that the subject of $V_1$ is the subject of the overall resultative. However, in (3.60), the subject of $V_1$ becomes the object of the resultative, and the objects of $V_1$ in (3.58), (3.60) and (3.61) become the subjects of the resultatives, i.e. there are cases where the subject of $V_1$ is not the subject of the overall resultative.

From the perspective of thematic roles, in a sentence, the AGENT normally corresponds to the subject, and the PATIENT normally corresponds to the object. Sentences (3.54) – (3.57) and (3.59) are in accordance with this common relation between grammatical
functions and thematic roles. However, we have seen that, in (3.58), (3.60), and (3.61), it is the PATIENT or THEME which becomes the subject of the resultative.

In addition, the sentence (3.62) taken from (Xu 2005) may have the reading of (3.63) as pattern (3.57) and the reading (3.64) as pattern (3.58).

(3.62) Wo fan si ni.
I annoy die you

(3.63) I annoy you so much/in such a way that you die.

(3.64) You annoy me so much/in such a way that I die.

Mandarin is a language without case markers for nouns and pronouns, and grammatical functions rely heavily on word order. However, speakers can still decipher the meaning of sentence (3.62) with the correct reading, even if what is meant to be said is the reading of (3.64), where there seems to be a reversal of subject and object. Hence, speakers seem to rely on context to express and decipher the intended meaning of sentences such as (3.62). Xu’s (2005) study suggests that many resultatives in which $V_1$ is a psychological verb and $V_2$ is si ‘dead’ exhibit two-way interpretations as (3.62) does. This is a remarkable and interesting example of the interaction between pragmatics, syntax, and semantics.

I would like to briefly talk about constructional meaning and conventional meaning with respect to (3.63) and (3.64). The meanings carried by syntactic constructions are called constructional meanings, while the meanings provided by the context and different from the literal meanings are called conventional meanings. We will find that sometimes a meaning can be both constructional and conventional. For example, the meanings of (3.63) and (3.64) are both constructional and conventional. They are constructional because the possible readings of (3.62) are limited to (3.63) and (3.64), which is decided by the form of (3.62); and they are conventional because whether the actual reading of (3.62) is (3.63) or (3.64) is not decided by the form of (3.62) but rather by the context.

In fact, in a study by Zhang (2012), it is shown that the inversion of what would normally be the subject and object is not limited to resultatives, and the triggers of such inversion are not limited to psychological verbs. Besides, the mismatch is not just limited to inversion. For example, in (3.61), should there be an inversion of subject and object
involved, *naozi* ‘brain’ would be the AGENT and the subject of the resultative *du huai* ‘read bad’ if the inversion is triggered, but this is clearly not the case. Hence, we know that inversion of subject and object is not involved in the mismatch of grammatical relations and thematic roles in (3.61).

Dowty (1991) discusses the correspondence between arguments and thematic roles in detail and recognizes that certain thematic roles tend to be selected as subjects or objects. Different thematic roles have different tendencies to occupy certain grammatical functions in a sentence, and the hierarchy of such tendencies forms the Linking Hierarchy (Dowty 1991, Jackendoff 1990, Nishigauchi 1984). It is possible that the mismatch between the grammatical functions and the thematic roles has to do with the Linking Hierarchy. The Linking Hierarchy is also adopted in the LCS approach of Jackendoff (1990: 268). Next, we are going to show how the Linking Hierarchy can help us analyze a simple example of monoclausal resultatives.

The semantic structure of RVCs can be expressed by LCSs. For a resultative complex predicate $V_1V_2$, the Aktionsart of $V_2$ is often a state or an activity. For example, sentence (3.65) has the meaning (3.66) in the LCS or (3.67) in plain language:

(3.65) Yuehan chi bao le fan le.
    John eat full ACTL rice COS
    ‘John was full by eating rice.’

(3.66) CAUSE ([CAUSE ([John], [GO ([RICE], [TO ([IN ([OF ([MOUTH], [JOHN]])])]]), [[BECOME([JOHN], [BE ([JOHN], [IN ([FULL-NESS)])])]]])]

(3.67) [[That John ate rice] caused [that John became full]].

It is important to note that the first primitive predicate CAUSE in (3.66) does not come from either *chi* ‘eat’ or *bao* ‘full’ but from the structure of *chi bao* ‘eat full’. This is different from cases where CAUSE is encoded in a transitive verb like *chi* ‘eat’ in (3.68), of which the LCS is (3.69):

(3.68) Yuehan chi fan le.
    John eat rice COS
    ‘John ate rice.’

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By comparing (3.66) and (3.69), we can find that there are two primitive predicates CAUSE in (3.66), and the additional primitive predicate CAUSE, which lies at an outer and higher level, does not come from *chi* ‘eat’ but from the syntactic structure *chi bao* ‘eat full’. Another example is (3.70), where the verb is intransitive without CAUSE in the LCS like (3.71):

(3.70)  pao
        run
        ‘run’

(3.71)  [RUN([X])]  

However, the LCS of (3.72), a derived RVC of *pao* ‘run’, is (3.73):

(3.72)  pao lei
        run tired
        ‘tired because of running’

(3.73)  [CAUSE([RUN([X])], [BE([X], [IN([TIRED-NESS)])])])]

The LCS of (3.74) is (3.75):

(3.74)  lei
        tired
        ‘tired’

(3.75)  [BE([X], [IN([TIRED-NESS)])])]

Neither the LCS of *pao* in (3.71) nor the LCS of *lei* in (3.75) contains a primitive predicate CAUSE. By comparing (3.70) – (3.75), we find that CAUSE in (3.73) does not come from either *pao* ‘run’ or *lei* ‘tired’ but rather from the syntactic structure of *pao lei*.

Take the resultative *du huai* ‘read bad’ in (3.61) as an example. Let us assume that the argument structure template for *du huai* ‘read bad’ is (3.76) where SLOT 1 and SLOT 2 are to be occupied by NPs.
SLOT 1 in (3.76) is the subject, while SLOT 2 is the object. In (3.61), we have three NP tokens which can be inserted into the slots in (3.76): ta ‘he’, shu ‘book’, and naozi ‘brain’.

The underlying idea for (3.61) is (3.77), which is in the pattern of (3.78) in LCS:

(3.77) That he reads books causes that his brain is damaged.

(3.78) \([\text{CAUSE([EVENTUALITY 1], [EVENTUALITY 2])}]\)

Since [EVENTUALITY 1] causes [EVENTUALITY 2], we can say that [EVENTUALITY 1] is the AGENT and [EVENTUALITY 2] is the THEME of the overall causation event. I would like to propose that the thematic roles of the three tokens can be expressed at two layers. Ta ‘he’ is the AGENT in [EVENTUALITY 1], and [EVENTUALITY 1] is again an AGENT in the overall eventuality [CAUSE([EVENTUALITY 1], [EVENTUALITY 2])], so the token ta ‘he’ has a compound thematic role of AGENT [AGENT]. I use brackets for the second AGENT to imply that it is the thematic role of [EVENTUALITY 1], which is embedded in the overall event. The token shu ‘book’ is the THEME in [EVENTUALITY 1], and [EVENTUALITY 1] is an AGENT in the overall eventuality [CAUSE([EVENTUALITY 1], [EVENTUALITY 2])], hence it has a thematic role of AGENT [THEME]. The token naozi ‘brain’ is the THEME of [EVENTUALITY 2], and [EVENTUALITY 2] is the THEME of the overall eventuality [CAUSE([EVENTUALITY 1], [EVENTUALITY 2])], hence naozi ‘brain’ has a thematic role of THEME [THEME].

In (3.76), we have three different tokens for two different slots. If there were no linking hierarchy, there would be six possible combinations. However, since a predicate tends to select an AGENT to be its subject, in this case we have a linking hierarchy (where ‘x > y’ indicates that ‘x’ outranks ‘y’ on the hierarchy) for the occupation for the subject slot, that is, SLOT 1.

(3.79) AGENT > THEME

This leaves us only three possible choices:
(3.80)  _Ta ‘he’ du huai shu ‘book’_.

(3.81)  _Ta ‘he’ du huai naozi ‘brain’_.

(3.82)  _Shu ‘book’ du huai naozi ‘brain’_.

The order of thematic roles in (3.80) is AGENT [AGENT] > THEME [THEME], in (3.81) AGENT [AGENT] > THEME [THEME], in (3.82) AGENT [THEME] > THEME [THEME], all of which are in accordance with the linking hierarchy (3.79).

The linking hierarchy of (3.79) predicts the existence of (3.80) and (3.81), which are not listed in the resultative sentence templates (3.54) – (3.61). However, I have found examples of this construction, as in the naturally occurring sentences (3.83) and (3.84). (3.83) is in the form of (3.81), and (3.84) is in the form of (3.80):

(3.83)  Hao Shuai yi tan shuang shou, dao: “jiran nimen dou bu zhidao Hao Shuai one spread both hand say since you.pl both NEG know
da’an, na hen xianran, nimen liangge dou [du huai] le naozi answer then very apparent you.pl two CL both read bad ACTL brain
‘Hao Shuai spread his hands, saying, “Since neither of you know the answer, then very apparently, both of you have studied yourself brain-damaged.’

(http://www.17k.com/chapter/16531/8962100.html)

(3.84)  Zheyang de ren, chule shuo ta [du huai] shu, [shao huai] n ao this.kind GEN people besides say he read bad book burn bad brain
zhiwai, hai ruhe xingrong qi yaxing?
outside still how describe his behavior
‘Besides saying that this kind of people have studied in such a way that they became damaged and their brains were burned bad, how else can we describe his behavior?’

(http://paper.wenweipo.com/2014/10/20/PL1410200003.htm)
In (3.83), the embedded sentence between the quotes is a compound sentence connected by a pair of conjunctives [[jiran ‘since’...], S1 [na ‘then’...], S2]. The independent clause starting with na ‘then’ is in the form:


Hence, we have (3.86), which is in the form of sentence template (3.81):

(3.86)  _nimen liang ge ‘both of you’ (dou) du huai (le) _naozi ‘brain’

In (3.84), it is a topic-comment sentence with the form:

(3.87)  [Zheyang de ren]Topic, [chule... yanzing?]Comment

The comment part of (3.87) is a compound sentence connected by a pair of conjunctives [[chule ‘besides’... zhiwai ‘outside’], S1 [hai ‘else’...], S2]. S1 contains two conjunctively arranged VPs, i.e. ta du huai shu and (ta) shao huai nao. The VP ta du huai shu is in the form:

(3.88)  _ta ‘he’_ du huai _shu ‘book’

which is exactly the same as sentence template (3.80). Hence, the Linking Hierarchy (3.79) has successfully predicted the existence of (3.80) and (3.81).

However, there are cases which cannot be explained by the Linking Hierarchy (3.79). Sentence (3.89) (Xu 2005) and its two readings, which we have seen earlier, exemplify this problem:

(3.89)  Wo fan si ni.

I annoy dead/die you

(3.89) has the sentence template (3.90) and may have two readings (3.91) and (3.92):

(3.90)  _(SLOT 1) fan si _(SLOT 2)

(3.91)  I annoy you so much/in such a way that you die.

(3.92)  You annoy me so much/in such a way that I die.
Hence, in (3.89) with reading (3.91), the thematic role of wo ‘I’ is AGENT [AGENT/STIMULUS], and the thematic role of ni ‘you.sg’ is THEME [THEME/EXPERIENCER]. Therefore, in (3.90), SLOT 1 has a thematic role of AGENT [AGENT/STIMULUS], and SLOT 2 has a thematic role of THEME [THEME/EXPERIENCER], and hence (3.89) with reading (3.91) is in accordance with Linking Hierarchy (3.79).

However, in (3.89) with reading (3.92), the underlying idea is:

(3.93) That you annoy me causes that I die.

Hence, in (3.89) with reading (3.92), the thematic role of wo ‘I’ is THEME [THEME/EXPERIENCER], and the thematic role of ni ‘you.sg’ is AGENT [AGENT/STIMULUS]. Had the linking hierarchy (3.79) worked here, under no circumstances would ni ‘you’ appear in SLOT 2. Hence, the inversion of subject and object and the mismatches of the examples of du huai ‘read bad’ and xia si ‘scare die’ discussed above appear to have resulted from different mechanisms. It is possible that STIMULUS and EXPERIENCER also play important roles in such an inversion.

The peculiar alignment between STIMULUS and EXPERIENCER and their grammatical relations have long been noticed in other languages. For example, the EXPERIENCER of (3.94) is in the dative case and not aligned with the subject:

(3.94) A Juan le gusta leer periódicos.
  to John he.DAT please read.INF newspaper
  ‘John likes reading newspapers.’

Juan in (3.94) is sometimes called the underlying dative subject (Vázquez Rozas 2006: 93). The peculiar alignment between STIMULUS and EXPERIENCER and their grammatical relations are called FLIP transformation in Lakoff (1970: 126) and PSYCH MOVEMENT in Postal (1970). It is interesting to note that some psychological predicates come in semantically related pairs like like and please, which are related to the example (3.94). In such a pair of psychological predicates, one predicate takes EXPERIENCER as the subject and STIMULUS as the object, while the other predicate takes STIMULUS as the subject and EXPERIENCER as the object. (3.95) and (3.96) illustrate such a psychological predicate pair:
(3.95) X likes Y

(3.96) Y pleases X

The meanings of (3.95) and (3.96) are similar, however, the predicate of (3.95) takes EXPERIENCER as the subject and STIMULUS as the object, whereas the predicate of (3.96) takes STIMULUS as the subject and EXPERIENCER as the object. Dowty (1991) uses thematic proto-roles to explain the grammatical relation selection in (3.95) and (3.96) by arguing that arguments with stronger PROTO-AGENT characteristics tend to be subjects and arguments with stronger PROTO-PATIENT characteristics tend to be objects. The argument of Dowty (1991) is supported by Croft (1993), who notes that EXPERIENCER-subject mental verbs are stative, and EXPERIENCER-object mental verbs are causative. Causative verbs can entail a change of state, while stative verbs cannot, and change of state is one of the characteristics of PROTO-PATIENT according to Dowty (1991). Hence, EXPERIENCER in an EXPERIENCER-object mental verb is more PATIENT-like than in an EXPERIENCER-subject mental verb. Croft (1993) also notes the existence of bidirectional mental verbs, where EXPERIENCER may be either the subject or the object of the same predicate. (3.90) with readings of (3.91) and (3.92) is such an example. Similar complex predicates with bidirectional readings in Mandarin include hen si ‘hate dead/hate die’, qi si ‘angry dead/angry die’, xiang si ‘miss (long for) dead/miss (long for) die’, etc. Croft (1993: 68) doubts that such bidirectionality has to do with the interpretation of the subject of si ‘die’ without giving a precise explanation.

However, the doubt of Croft (1993: 68) cannot explain why Mandarin is willing to take such a risk to encode so many pairs of contrary meanings, i.e. STIMULUS V si EXPERIENCER and EXPERIENCER V si STIMULUS into the same surface form V si. A possible suggestion is that context in such cases also participates in the mapping between the grammatical functions and the argument structures. I think the mechanism of the bidirectionality of (3.92) is still not clear, and I leave it to further study.

Monoclausal complex predicates in Mandarin have many peculiar alignments between grammatical relations and thematic roles. The complexity of mismatches between grammatical relations and thematic roles shows that there may be other types of templates for complex predicates. I would like to point out that the nine major types identified in (3.54) – (3.61) by no means form an exhaustive list.
In one form, monoclausal RVCs can express potential to complete an action, which is termed “potential form” in Li and Thompson (1981: 56). For a $V_1 V_2$, RVC, the potential form is $V_1 \text{de} V_2$, where de is originally a verb with the meaning ‘obtain’. For $\text{zhao dao}$ ‘search arrive’ with the meaning ‘find’, the potential form is:

(3.97) \begin{align*}
\text{zhao} & \quad \text{de} & \quad \text{dao} \\
\text{search} & \quad \text{obtain} & \quad \text{arrive} \\
\text{‘can find’}
\end{align*}

The negative potential form of $V_1 V_2$ is $V_1 \text{bu} V_2$, hence (3.98) is the negative potential form of $\text{zhao dao}$ ‘search arrive’:

(3.98) \begin{align*}
\text{zhao} & \quad \text{bu} & \quad \text{dao} \\
\text{search} & \quad \text{NEG} & \quad \text{arrive} \\
\text{‘cannot find’}
\end{align*}

De and bu in positive and negative potential forms of monoclausal RVCs are treated as infixes by Li and Thompson (1981: 38-39). The difference between a negative potential form and other negative forms of RVCs can be observed in (3.99) and (3.100):

(3.99) \begin{align*}
\text{Mei} & \quad \text{xie} & \quad \text{wan} & \quad \text{bu} & \quad \text{daibiao} & \quad \text{xie} & \quad \text{bu} & \quad \text{wan}. \\
\text{NEG} & \quad \text{write} & \quad \text{finish} & \quad \text{NEG} & \quad \text{represent} & \quad \text{write} & \quad \text{NEG} & \quad \text{finish} \\
\text{‘Not having finished writing (it) does not represent not being able to finish writing (it).’}
\end{align*}

(3.100) \begin{align*}
\text{Bu} & \quad \text{xie} & \quad \text{wan} & \quad \text{bu} & \quad \text{daibiao} & \quad \text{xie} & \quad \text{bu} & \quad \text{wan}. \\
\text{NEG} & \quad \text{write} & \quad \text{finish} & \quad \text{NEG} & \quad \text{represent} & \quad \text{write} & \quad \text{NEG} & \quad \text{finish} \\
\text{‘Not finishing writing (it purposely) does not represent not being able to finish writing (it).’}
\end{align*}

In (3.99) and (3.100), three negative forms of the RVC $\text{xie wan}$ ‘write finish’ appear. $\text{xie bu wan}$ ‘write NEG finish’ in (3.99) is in the negative potential form of $V_1 \text{bu} V_2$ as aforementioned and means ‘not being able to finish writing’. $\text{Mei xie wan}$ ‘NEG write finish’ is a negative form which negates the completion of the action and means ‘not having finished writing’. $\text{Bu xie wan}$ ‘NEG write finish’ is a negative form which usually has the meaning of purposely not performing an action, where the action in this case is
‘finish writing’. Although most RVCs in Mandarin are monoclausal, there exist some polyclausal RVCs. For example, *du... du huai* ‘read... read bad’ in (3.101) is a polyclausal RVC:

(3.101) Ta *du* shu *du* huai naozi.

he read book read bad brain

‘He studies so much/in such a way that his brain is damaged.’

The syntactic structure of (3.101) is:

(3.102) [Ta, *du* shu] [PRO, *du* huai naozi].

We will leave the discussion of polyclausal RVCs to Chapter 4.

### 3.2.5.2 Interactions Between RVCs and Categories of Imperfective Aspect

We reviewed the Aspect system of Mandarin in Chapter 2. There are four categories of imperfective aspect in Mandarin. According to Xiao and McEnery (2004), Durative, Inceptive, and Continuative Aspect are in principle not compatible with Aktionsarten with [-dur], and the Progressive Aspect is in principle not compatible with Aktionsarten with [-dyn]. This claim encounters problems in explaining cases of interactions between RVCs and imperfective aspect.

First, let us look at some examples of interactions between RVCs and the Durative, the Inceptive, and the Continuative Aspect. According to Xiao and McEnery (2004), a verb *V*₁ and a resultative component *V*₂ form a [+telic], [+result] core. RVCs are classified by Xiao and McEnery (2004: 69, 167) as derived achievements. As shown in Table 2.1, simple achievements are [-dur], but Xiao and McEnery do not mention whether derived achievements can be [+dur] if the original *V*₁ is [+dur]. However, whether derived achievements can be [+dur] if the original *V*₁ is [+dur] is not be a problem in predicting the incompatibility between RVCs of which *V*₁ are [-dur] and the Durative, the Inceptive, and the Continuative Aspects. Yet, there are some naturally occurring sentences which seem to be counterexamples to this prediction. (3.103) – (3.105) are all naturally occurring sentences containing the RVC *da po* ‘hit break’, i.e. ‘break’, where *V*₁ *da* ‘hit’ is [-dur] and its derived RVCs should also be [-dur] and not compatible with the Durative, the Inceptive, and the Continuative aspect categories:
(3.103)... 因此他一直打破著瓶頸，打破著四大宗門定下的規矩，打破著蕭家的規矩。

… yin ci ta yizhi da po zhe pingjing, da po zhe si jing, de gong ju de
di ngju, 

because this he always hit break DUR bottleneck hit break DUR four

规矩。

zongmen ding xia de guiju, da po zhe Xiao jia de
school set down NOM rule hit broken DUR
XIAO family GEN rule’…

‘… hence he is always breaking bottlenecks, breaking the rules set by the four great schools, and breaking the rules of the family of Xiao.’

(http://www.quanben5.com/n/yijiezhizhizunyaoshi/29442.html)

(3.104)... 人类思维这东西打破起来是超难的。

… ren lei si wei zhe dong xi da po qilai shi chao nan de.

human though this thing hit break INC be super difficult NOM
‘... the thing known as human thought is super difficult to get broken.’

(http://www.jianshu.com/p/a577ddcedefc)

(3.105) 考虑到他的年龄和踢法，这个记录将会由他自己一次次打破下去。

kaoli dao ta de nian ling he tifa, 

consider arrive he GEN age and kicking.method this CL record will
hui you ta ziji yi ci ci da po xiau.

can by he self one time time hit break INC

‘Considering his age and kicking methods, this record will be broken by himself once after another.’

(https://voice.hupu.com/hushi/soccer/3072.html)

It should also be noted that da po ‘hit break’, i.e. ‘break’, is treated as an achievement of instantaneous change of state in Smith (1997) and is incompatible with the Durative Aspect, which cannot explain (3.103).

Next, let us look at an example of the interaction between RVCs and the Progressive
In Chapter 2 we briefly reviewed Xiao and McEnery’s (2004) description of this interaction. Xiao and McEnery (2004: 180) claim that there is a type of RVC, the Completive RVC, which is strictly incompatible with the Progressive Aspect. RVCs of which V2 is wan ‘finish’ are Completive RVCs (Xiao & McEnery 2004: 162). Hence, it follows that RVCs of the form V1 wan are not compatible with the Progressive Aspect according to Xiao and McEnery (2004). Tai (1984: 292) also makes a similar observation and claims that Mandarin resultatives cannot take the Progressive Aspect. However, we can find naturally occurring sentences where the RVC is chi wan ‘eat finish’, i.e. ‘finish eating’, and where the RVC is in the Progressive Aspect marked by zhengzai-:

(3.106) 到秦家的时候，一大家人正在吃完饭...

Dao Qin jia de shihou, yi da jia ren zhengzai chi
arrive Qin family NOM moment one big family person PROG eat
wan fan…
finish rice

‘When (they) arrived at Qing’s home, many of the Qing’s family were finishing eating their meals…’


According to the analysis of Xiao and McEnery (2004), (3.103) – (3.105) should have been ungrammatical. Hence, the naturally occurring sentences (3.103) – (3.105) pose problems for the analysis of Xiao and McEnery (2004) concerning the interaction between RVCs and some categories of imperfective aspect. I propose that the source of grammaticality in (3.103) – (3.105) is the iterative occurrence of da po ‘break’. A single occurrence of da po ‘break’ is instantaneous and [-dur]. However, when there are multiple occurrences of da po ‘break’ spread over a period of time, it becomes [+ dur] hence compatible with the Durative, the Inceptive, and the Continuative Aspect. A monoclausal RVC is composed of a process part and a result part. I propose that the source of grammaticality of (3.105) is the focus on the process part of chi wan ‘finish eating’, i.e. chi ‘eat’. Chi ‘eat’ in this example constitutes the background for the moment when (they) arrived at Qin’s home, which is the foreground. In that case, chi wan is no longer conceived of as instantaneous, and is therefore compatible with the Progressive Aspect. In
this way, RVCs having multiple occurrence readings can also be conceived of as not instantaneous. Hence, multiple occurrence readings, in addition to the focus on the process part, also provide for grammatical readings for cooccurrence of RVCs with the Progressive Aspect.

In this section, I will focus on two issues, that is, the compatibility between the Compleitive Aspect and the Durative Aspect, marked by -zhe, and the compatibility between the Compleitive Aspect and the Progressive Aspect, marked by zai- or zhengzai-. I will explain in more detail my proposed sources of compatibility between RVCs and the Durative and Progressive Aspect mentioned in the previous paragraph.

As mentioned in Chapter 2, Xiao and McEnery (2004) claim that the Compleitive Aspect, expressed by RVCs, is not compatible with the Durative Aspect, marked by -zhe, or with the Progressive Aspect, marked by zai- or zhengzai-, although they also recognize the compatibility between the Progressive Aspect and certain types of RVCs. The reason is that the Durative and Progressive are both imperfective Aspect and require eventualities to be temporally decomposable, and this requirement contradicts the characteristics of the Compleitive Aspect, which is a perfective Aspect and makes eventualities internally temporally non-decomposable. Since RVCs are associated with the Compleitive Aspect, we can examine the claim of Xiao and McEnery (2004) by discussing the compatibility of RVCs with the Durative Aspect and the Progressive Aspect.

Under the conditions where the speaker’s focus is arguably on the process component of an RVC, an RVC can take the Progressive Aspect or the Durative Aspect as shown in example (3.107), where we see the RVC bian hong ‘become red’ occurring with the Progressive Aspect marker zhengzai-. Similarly, in example (3.108), the RVC bian bai ‘become white’ occurs with the Durative Aspect marker -zhe.
(3.107) ...people discovered that the Dead Sea continually became red...

...furthermore, people discovered that the Dead Sea continually became red...

(http://blog.sciencenet.cn/blog-533560-740037.html)

(3.108) ...his hair was just turning white with a speed perceivable by naked eyes...

...his hair was just turning white with a speed perceivable by naked eyes...


However, not all RVCs take the Progressive or the Durative aspect categories felicitiously. This is especially true for ungradable eventualities. For example, we can have *bian de geng hong* ‘become DE more red’, i.e. ‘become redder’ in (3.107) and *bian de geng bai* ‘become DE more white’, i.e. ‘become whiter’ in (3.108), but we do not have *dou de geng xiao* ‘tease DE more laugh’, i.e. ‘more laughing by teasing’. Hence, *dou xiao* ‘tease laugh’ is an ungradable eventuality and cannot take the Progressive or the Durative aspect categories felicitiously as in (3.109)-(3.111).

(3.109) ?Yuehan *zai* *dou xiao* *Mali.*

John PROG tease laugh Mary

‘John is making Mary laugh by teasing her.’

(3.110) * Yuehan *dou xiao zhe* *Mali.*

John tease laugh DUR Mary

‘John is making Mary laugh by teasing her.’
(3.111)* Yuehan zai dou xiao zhe Mali.
John PROG tease laugh DUR Mary
‘John is making Mary laugh by teasing her.’

If the causing process dou ‘tease’ is to be emphasized, an RVC is not used:

(3.112) Yuehan zai dou Mali, rang Mali xiao.
John PROG tease Mary let Mary laugh
‘John is teasing Mary and lets Mary laugh.’

(3.113) Yuehan dou zhe Mali, rang Mali xiao.
John tease DUR Mary let Mary laugh
‘John is teasing Mary and lets Mary laugh.’

(3.114) Yuehan zai dou zhe Mali, rang Mali xiao.
John PROG tease DUR Mary let Mary laugh
‘John is teasing Mary and lets Mary laugh.’

It is understandable that the verb rang ‘let’, which expresses an intention, is used in the subeventuality xiao ‘laugh’, since what is focused is dou ‘tease’; xiao ‘laugh’ is not in the scope of the focus, and the mere action of dou ‘tease’ does not guarantee that xiao ‘laugh’ happens.

Under conditions where the speaker’s focus is arguably on the result component of an RVC, the RVC is usually not expressed in the Progressive Aspect or the Durative Aspect. This is probably because when an RVC is expressed in the Progressive or the Durative Aspect, the V₁ component is under the scope of the Progressive or Durative Aspect, however, this is incompatible with an interpretation whereby the V₁ component must be carried out so that the resultant state represented by V₂ can be focused on, and hence there is a contradiction in the V₁ component. Actually, there are many other mechanisms which can be employed for focusing on the resultant states. For example, dou xiao ‘tease laugh’ is an RVC, in which the V2 component, xiao ‘laugh’, is an action verb. If we want to focusing the resultant state in (3.115), we can separate it into two sentences, saying that John teased Mary as the first sentence and then describing the resultant states as (3.116)-(3.119) in the second sentence without mentioning the cause, i.e. that John teased Mary.
(3.115) Yuehan dou xiao Mali.
    John tease laugh Mary
    ‘John makes Mary laugh by teasing her.’

(3.116) Mali xiao le.
    Mary laugh ACTL
    ‘Mary laughed.’

(3.117) Mali zai xiao.
    Mary PROG laugh
    ‘Mary is laughing.’

(3.118) Mali xiao zhe.
    Mary laugh DUR
    ‘Mary is laughing.’

(3.119) Mali zai xiao zhe.
    Mary PROG laugh DUR
    ‘Mary is laughing.’

(3.116) is in the Actual Aspect, (3.117) is in the Progressive Aspect, (3.118) is in the Durative Aspect, and (3.119) is in both the Progressive and the Durative Aspect. The reason that the Actual Aspect in (3.116), despite being a perfective Aspect, can be used to focus the resultant state is because the Actual Aspect presents an actualized eventuality, that is, it entails that the eventuality has been actualized. For example, the inceptive part of (3.116) cannot negated as in (3.120).

(3.120) Mali xiao le, danshi mei xiao qilai.
    Mary laugh ACTL but NEG laugh INC
    ‘Mary laughed, but she did not start laughing.’

In (3.116) together with the context of (3.115), what is actualized is the change point between John’s teasing Mary and Mary’s bursting into laughter. Hence, if the actualization is entailed, the Actual Aspect of (3.116) brings the narrative across the change point, and the focus rests on the component after the change point, that is, the resultant state. If we would like to mention the causing process, we can use:
The reason that the Actual Aspect is used is similar to that of (3.116), i.e. the Actual Aspect presents an actualized eventuality, and what is actualized is the change point of Mary’s bursting into laughter. The Actual Aspect in (3.121) brings the narrative across the change point, and the focus rests on the component after the change point, that is, the resultant state:

(3.122) Yuehan **xi** huai yifu.

John wash bad cloth

‘John damages the cloths by washing them.’

*Xi huai* ‘wash bad’ is an RVC, in which the *V₂* component, *huai* ‘bad’, is a quality and stative verb. When we want to focus on the resultant state without mentioning the causing process, the following are examples parallel to (3.116) – (3.119):

(3.123) Yifu **huai le**.

cloth bad ACTL

‘The clothes are damaged.’

(3.124)* Yifu zai **huai**.

cloth PROG bad

‘The clothes are (being) damaged.’

(3.125)* Yifu **huai zhe**.

cloth bad DUR

‘The clothes are being damaged.’

(3.126)* Yifu zai **huai zhe**.

cloth PROG bad DUR

‘The clothes are (being) damaged.’

We can observe that, among the examples (3.123) – (3.126), only the Actual Aspect can be employed. *Huai* ‘bad’ in (3.124) and (3.126) is incompatible with the Progressive Aspect because what is focused on is the resultant state of being damaged without the
change point, hence they are [- dyn]. *Huai* ‘bad’ in (3.125) and (3.126) is incompatible with the Durative Aspect because it is a quality verb, which usually cannot cooccur with the Durative Aspect (Xiao & McEnery 2004: 189). If we want to mention the causing process, we can use:

(3.127) Yuehan * xi huai le yifu.
John wash bad ACTL clothes
‘John damaged the clothes by washing them.’

The Actual Aspect in (3.127) brings the narrative across the change point, and the focus rests on the component after the change point, that is, the resultant state. Examples (3.115) –(3.121), and examples (3.122) – (3.127) provide an obvious contrast. They show that the V₂ components of RVCs can belong to different Aktionsarten.

I would also like to point out that the Spanish equivalent of (3.123) is:

(3.128) Las ropas están dañadas.
the clothes be damaged
‘The clothes are damaged.’

Sentence (3.128), which has the same meaning as (3.123), employs the copula which is often used in changeable and impermanent states. It is interesting to note that we can say that *huai* ‘bad’ in (3.123) becomes [+ dyn] in the context. However, as mentioned in section 2.6.2, the Spanish copula test for [± dyn] is just a general guide, not a law.

We have discussed the compatibility between RVCs and the Progressive and Durative Aspects when the focused component of the RVC is either the process or the resultant states. Now, I would like to explore the compatibility between RVCs and these two categories of aspect when the focused component of the RVC is the change point between the process and the resultant state. In these cases the interaction between RVCs and these two categories of aspect involves different factors from the cases in which the focused component is the process or the resultant state.

A change point is instantaneous. Since it is instantaneous, it is supposed to be internally temporally structureless and non-decomposable. A change point is just like a point on the temporal axis, hence it would be strange to apply the Progressive or the Durative Aspect
to a change point because the Progressive or the Durative Aspect is not compatible to an instantaneous eventuality like a point on the temporal axis:

(3.129)* Yuehan zai da po yi ge beizi.
John PROG hit broken one CL cup
‘John is breaking a cup.’

(3.130)* Yuehan da po zhe yi ge beizi.
John hit broken DUR one CL cup
‘John is breaking a cup.’

(3.131)* Yuehan zai da po zhe yi ge beizi.
John PROG hit broken DUR one CL cup
‘John is breaking a cup.’

However, when many change points are included in an eventuality, and when the quantity of the change points is enough to be conceived of as a continuously unfolding eventuality, the eventuality starts to behave like an iterative reading. In this case, the change points are not discrete points on the temporal axis any longer, but rather, they form a continuum on the temporal axis.

Once change points in an eventuality are continuumized, they become compatible with the Progressive Aspect and the Durative Aspect, as shown in (3.132) and (3.133), which are two naturally occurring sentences:

(3.132)...世界各地也有許多人在打破這個價值觀...
...shijie ge di ye you xuduo ren zai da po zhe ge
world each place also exist many person PROG hit broken this CL
jiazhiguan…
values

‘...there are also many people around the world breaking these values...’

(http://tube.chinatimes.com/20170929001864-261411)
... because this he always hit break DUR bottleneck hit break DUR four

zongmen ding xia de guiju, da po zhe Xiao jia de
guiju. schoolset down NOM rule hit break DUR XIAO
family GEN rule

‘… hence he is always breaking bottlenecks, breaking the rules set by the four
great schools, and breaking the rules of the family of Xiao.’

The RVC da po ‘hit break’ is in the Progressive Aspect in (3.132) and in the Durative
Aspect in (3.133). In (3.132), the subject argument is xuduo ren ‘many people’ and the
object is jiazhiguan ‘values’. It should be noted that although the equivalent of jiazhiguan
‘values’ in English is plural, it is not conceived as plural in Mandarin as it appears in the
singular DP zhe (yi) ge jiazhiguan ‘this (one) CL values’ with yi ‘one’ being omitted. The
change points in (3.132) are multiple in that many subjects (plural subject) break a similar
thing (single object) and make the change points happen multiple times. That the number
of arguments is related to the transformations of Aktionsarten from punctual to durative
has been observed in Dowty (1979). In (3.133), the subject argument is ta ‘he’, and the
objects are many pingjing ‘bottleneck’ and many guiju ‘rule’. The change points in
(3.133) are multiple in that a single person (single subject) breaks many things (plural
object) and makes the change points happen for multiple times. Of course the multiplicity
of the change points can also be caused by many people (plural subject) breaking many
things (plural object):

Aoyunhui shang, xuanshou men da po zhe xuduo jilu.
Olympics top athlete PL hit broken DUR many record
‘Athletes are breaking many records in the Olympics.’

Hence, we can observe that the number of arguments (singular or plural) has an influence
on the compatibility of the verbal predicates and imperfective aspect. However, I propose
that the number of arguments is not the fundamental factor. What is fundamental is
whether the eventuality is conceived as quantized or continuous by the speaker.

In order to explain the effect of being a quantized or a continuous eventuality on the compatibility with imperfective aspect, I will briefly discuss nominal reference and the “temporal constitution” of eventualities (Krifka 1989a, 1989b). The arguments of a verbal predicate can be of different qualities, for example, singular, plural, definite, indefinite, generic, and particular, and these qualities together constitute what is called “nominal reference” in Krifka (1989a, 1989b). An eventuality can be of different qualities (e.g. telic, atelic), and these qualities together constitute what is called ‘temporal constitution’ in Krifka (1989a, 1989b). Krifka (1989a, 1989b) notices that there is a connection between nominal reference and the temporal constitution of an eventuality.

The key distinction in nominal reference, in order to understand its effect on temporal constitution, is the distinction between cumulative and quantized reference. To put it simply, when we add two nouns that are formally the same, if the result is formally the same noun, then this noun is of the type cumulative reference. In contrast, if the result is not formally the same noun, then the original noun is of the type quantized reference. Krifka (1989a) illustrates these two concepts with the nouns ‘apple’, ‘apples’, and ‘apple sauce’. If we add ‘apples;i’ to ‘apples;j’, what we get formally is still ‘apples;k’, hence ‘apples;i/j/k’ is of the type cumulative reference. If we add ‘apple sauce;i’ to ‘apple sauce;j’, what we get formally is still ‘apple sauce;k’, hence ‘apple sauce;i/j/k’ is cumulative reference. If we put ‘an apple;i’ (not generic reading) and ‘an apple;j’ together, we will get ‘two apples’, which is formally distinct from ‘an apple;’, hence ‘an apple;i’ is quantized reference. If we put ‘two apples;i’ and ‘two apples;j’ together, we will get ‘four apples’, which is formally distinct from ‘two apples;i’, hence ‘two apples;i’ is of quantized reference. If we put ‘a kilogram of apple sauce;i’ and ‘a kilogram of apple sauce;j’ together, what we get formally is ‘two kilograms of apple sauce’, hence ‘a kilogram of apple sauce;i’ is of quantized reference. Hence, the distinction between cumulative reference and quantized reference does not completely align with the distinction between mass nouns and count nouns. A mass noun can be of quantized reference in some circumstances, e.g. with a measurement such as a kilogram of, and a count noun can also be of cumulative reference in some circumstances, e.g. in bare plurals.

Besides the bottom-up perspective, nominal reference can also be explained from a top-down perspective. Krifka (1989a) defines the concept of “part” and uses it to explain
nominal reference from a top-down perspective: If and only if a noun \( x \) and a noun \( y \) together give formally again the noun \( y \), then \( x \) is a part of \( y \) (Krifka 1989a: 229). An example is that ‘apple sauce’ is a part of ‘apple sauce’ in the paragraph above. It should be noted that an entity is also a part of itself. When \( x \) is a part of \( y \) and is semantically and referentially (not formally) different from \( y \), i.e. \( x \) and \( y \) do not refer to the same entity, we say that \( x \) is a proper part of \( y \). Using ‘apple’, ‘apples’, and ‘apple sauce’ as examples, ‘an apple’ is not a part of ‘two apples’. If we have seven apples A, B, C, D, E, F, G, we can say that ‘apples’ (referring to apple A, B, C) is a proper part of ‘apples’ (referring to apple A, B, C, D, E, F, G). ‘The apple’, when referring to apple A, is a part, but not a proper part of ‘the apple’ referring to apple A. ‘An apple’ has no specific reference in the non-generic reading and therefore when ‘an apple’ and ‘an apple’ are put together, it is hard for them to refer to the same apple, or ‘the apple’ will be employed. ‘An apple’ and ‘an apple’ when put together are ‘two apples’ in the non-generic reading, hence, ‘an apple’ is not a part of ‘an apple’ in this case. If we add ‘apple sauce’ (referentially marked as apple sauce A but formally unmarked) and ‘apple sauce’ (referentially marked as apple sauce B but formally unmarked) together, again we have ‘apple sauce’ (referentially the sum of apple sauce A and apple sauce B but formally unmarked). Hence, the ‘apple sauce’ which is referentially marked as apple sauce A but formally unmarked is a proper part of ‘apple sauce’ which is referentially marked as the sum of apple sauce A and apple sauce B but formally unmarked. According to Krifka (1989a), when a nominal predicate is a part of another nominal predicate, the former nominal predicate is of cumulative reference, and when a nominal predicate has no proper part, the nominal predicate is of quantized reference.

Krifka (1989a) refers to the concepts of being telic or atelic as temporal constitution. The concept of telicity is often related to endpoints and the distinction between moment and duration, goal, and changes of state (Dowty 1979, Krifka 1989a). Krifka (1989a) also agrees that compatibility with duration adverbials and time span adverbials can be used as a test for telicity. As we have discussed in section 2.6.2 concerning the aspect feature \([\pm \text{telic}]\), a telic eventuality can take a time span adverbial like \textit{in three hours}, while an atelic eventuality can take a duration adverbial like \textit{for three hours}.

Krifka (1989a: 236) observes that there are similarities between telic eventualities and quantized nominal reference and between atelic eventualities and cumulative nominal
reference. He therefore proposes that nominal reference and temporal constitution are actually connected by a mapping. This mapping is illustrated in Figure 3.2, which is taken from Krifka (1989a: 240).

Figure 3.2. Diagrammed nominal reference and temporal constitution in Krifka (1989a).

In Figure 3.2, \( s \) is the spatial axis, and \( t \) is the temporal axis. The curve \( l \) represents the trace of an eventuality in space and time. The progression of an eventuality can be sometimes fast and sometimes slow, hence, the curve \( l \) can be sometimes steep and sometimes flat.

In the \( s-t \) diagram, \( x \) represents the interval of the eventuality in space. For example, in the eventuality *John ate apples*, \( x \) represents the apples that John ate. \( e \) represents the interval of the eventuality in time. If John ate apples from 10:00 to 10:30, \( e \) represents the temporal interval between 10:00 to 10:30. *Apples* have cumulative reference, and \( x' \), a proper part of \( x \), also denotes *apples*. \( x' \) corresponds to the mapping of a portion of the eventuality curve, say \( l' \), on the spatial axis, and the mapping of \( l' \) on the temporal axis is \( e' \). From a bottom-up perspective, within \( x \), the spatial representation of the eventuality, there is always an interval that is longer than \( x' \) and of which \( x' \) is a proper part, hence *apples* is strictly cumulative. In this case, the endpoints of the corresponding temporal interval \( e' \) are not endpoints of the eventuality *John ate apples*, since within \( e \), there
always exists a moment which is outside $e'$ and which is still within the temporal mapping of the eventuality *John ate apples*. To put it in another way, any temporal interval within $e$ is a temporal mapping of the event *John ate apples*. Hence, the eventuality *John ate apples* is atelic. As for the eventuality curve, both $l'$ and $l$ can be *John ate apples*.

Now, let us consider the eventuality *John ate three apples*. In this case, $x'$ is not a proper part of $x$, and only $l$, not $l'$, can represent *John ate three apples*. The temporal mapping of the eventuality is $e$ and has endpoints. Hence, the eventuality *John ate three apples* is telic.

With the s-t diagram, Krifka (1989a) provides a model for the connection between nominal reference and temporal constitution. In most cases, strictly cumulative reference is bound together with atelic temporal constitution, while non-strictly cumulative reference is bound together with telic temporal constitution. The temporal adverbial tests can be applied to test the relations:

(3.135) John ate apples for 30 minutes.

(3.136) * John ate apples in 30 minutes.

(3.137) * John ate three apples for 30 minutes.

(3.138) John ate three apples in 30 minutes.

The reason why I stress “in most cases” is because what is meant is often not only represented by the form: Implicatures provided by the context and omitted in the form and the ways in which eventualities are conceived of in the minds of speakers also decide the telicity of eventualities. For example, since *the apple* refers to only one entity, i.e. *the apple* itself, *the apple* is cumulative, but not strictly cumulative. We could expect that *John ate the apple* is telic:

(3.139) John ate the apple in 30 minutes.

If this is the case, it should not be able to take a duration adverbial. However, examples with duration adverbials exist, and (3.140) is an actual example taken from Piñón (2008):

(3.140) Rebecca ate the apple for five minutes (before dropping it on the floor).
However, (3.140) is not quite unmarked. The sentence (3.140) comes with words in parentheses which provide the context, and it shows that Piñón (2008) does not feel comfortable with the sentence unless the context is provided. Hence, it is the context which makes (3.140) acceptable. Comparing the examples (3.135) – (3.140), we can find that what is fundamental is not the surface forms, for example, the countability and the definiteness of arguments, although they are often closely related to how an eventuality is conceived by the speaker. What is more fundamental is how an eventuality is conceived by the speaker, which may be fleeting, full of nuances, not always consistent, sensitive to the context, not always conforming to the surface form, prone to the subjective judgements of both speakers and receivers, and may not be universal in all languages.

The words in parentheses in (3.140), serving as the context and absent from the surface form, actually turns *Rebecca ate the apple* from a telic eventuality to a process (which itself may be atelic) of another larger eventuality, i.e. *Rebecca ate the apple and then dropped it on the floor*. In the latter case, *Rebecca ate the apple* is understood to be an unfinished process because there has to be a portion of the apple remaining which enables Rebecca to drop it on the floor. Hence, ‘apple’ loses its quantized nature in the context, becomes strictly cumulative, and allows Piñón (2008) to felicitously add a duration adverbial to the sentence in (3.140).

Xiao and McEnery (2004: 166-167) claim that RVCs in Mandarin are achievements with results. However, this is not always the case, and the whole picture may be more complicated. The behaviors of RVCs may also be decided by other factors, for example, information provided by the context just as we observed in (3.135) – (3.140). (3.141) is an actual example, where the RVC piao luo ‘float fall’, which is an achievement according to Xiao and McEnery (2004), can take a duration adverbial yi zhenzi ‘for a while’:
The RVC piao luo ‘float fall’ in (3.141) clearly behaves more like the process before the change point luo dao wo de mian qian ‘fall arrive I GEN face front’, i.e. ‘fall down in front of me’, than an achievement. The evidence is that piao luo ‘fall down’ can take a duration adverbial yizhenzi ‘(for) a while’, which is unlikely for an orthodox achievement. In (3.141), the change point is explicitly provided by luo dao wo de mian qian ‘fall arrive I GEN face front’, i.e. ‘fall down in front of me’. In addition, both V1 and V2 in the RVC piao luo ‘floating fall’ are themselves durative verbs (considering piao san fen zhong ‘floating for three minutes’ and luo xia san fengzhong ‘falling for three minutes’, where luo in the sense of ‘fall’ is seldom used alone colloquially), which makes piao luo ‘floating fall’ easier to be conceived as a durative process. I propose that, because of the two factors, i.e. the context and the qualities of component verbs, the RVC piao luo ‘floating fall’ behaves like a durative process rather than an orthodox achievement. Hence, RVCs in Mandarin do not always behave like achievements as claimed by Xiao and McEnery (2004). Furthermore, the example (3.141) again shows that the picture in the mind of the speaker is more fundamental than the surface form of an eventuality and is responsible for some seemingly eccentric behavior, which is just a reflection of mismatches between form and meaning which happen more rarely and are less observed and analyzed.

That the picture in the mind of a speaker is more fundamental than the surface form can also be used to account for some seemingly eccentric behaviors of the Durative Aspect in Mandarin. Xiao and McEnery (2004: 188) observe that the Durative Aspect is sensitive to...
the aspect features [± dur] and [± result] and is in principle only compatible with [+ dur] and [- result]. According to Table 2.1, this means that the Durative Aspect is in principle not compatible with semelfactives and achievements. This observation is in general correct, since the study of Xiao and McEnery (2004) is based on a corpus, and the proportion of cooccurrences of semelfactives and achievements among the six Aktionsarten with the Durative Aspect is only 1.68% and 0.84% respectively (Xiao & McEnery 2004: 188). However, how can we explain these seemingly eccentric behaviors? I believe that the pictures in the minds of speakers are an important factor. Semelfactives without multiple occurrence readings and achievements are [- dur], that is, they are conceived of as instantaneous. However, achievements with iterative readings are like semelfactives with multiple occurrence readings, and both Aktionsarten of multiple occurrence or iterative readings can be conceived of as continuous and durative and become compatible with the Durative Aspect, as shown in (3.142), which is a semelfactive with a multiple occurrence reading, and (3.133), which is an achievement with an iterative reading and repeated as (3.143):

(3.142) Yuehan butingde qiao zhe men.
John unstoppingly knock DUR door
‘John is knocking the door unstoppingly.’

(3.143) 因此他一直打破著瓶頸，打破著四大宗門定下的規矩，打破著蕭家的規...
yin ci ta yizhi da po zhe pingjing, da po zhe si
because this he always hit break DUR bottleneck hit break DUR four

zongmen ding xia de guiju, da po zhe Xiao jia de
guiju. schoolset down NOM rule hit break DUR XIAO
family GEN rule

‘… hence he is always breaking bottlenecks, breaking the rules set by the four great schools, and breaking the rules of the family of Xiao.’

(http://www.quanben5.com/n/yijiezhizhizunyaoshi/29442.html)

However, while semelfactives with iterative readings become atelic, achievements with iterative readings still seem to be telic. This is probably because achievements still encode
resultant states even when they have iterative readings: Tell us what each of these examples shows

(3.144) ...敲门两分钟也没有人开门。

...qiao men liang fenzhong ye mei you ren kai men.
knock door two minute also NEG exist person open door
‘...nobody opened the door even though the door had been knocked for two minutes.’

(http://news.china.com/news100/11038989/20170806/31043445_all.html)

(3.145) *...因此他一直打破瓶頸兩年。

... yin ci ta yizhi da po pingjing liang nian.
because this he always hit broken bottleneck two year
‘… hence he always breaks bottlenecks for two years.’

(3.146) *...因此他一直打破著瓶頸兩年。

...yin ci ta yizhi da po zhe pingjing liang nian.
because this he always hit broken DUR bottleneck two year
‘… hence he is always breaking bottlenecks for two years.’

Qiao ‘knock’ in (3.144) is a semelfactive with a multiple occurrence reading, and it can take the duration adverbial liang fenzhong ‘(for) two minutes’, which is a sign of its atelicity. (3.145) is adapted from (3.133) with the RVC being realised in the same environment (i.e. with no Durative marker) as the verb in (3.144). However, although da po ‘hit break’ in (3.145) is an achievement with an iterative reading, (3.145) is still unacceptable with the durative adverbial liang nian ‘(for) two years’, which is a sign of its telicity. (3.146) is (3.145) with the Durative marker -zhe, which makes it closer to the original version in (3.133), and (3.145) is still unacceptable with the durative adverbial liang nian ‘(for) two years’.

The s-t diagram of Krifka (1989a) shown in Figure 3.2 facilitates the explication of how an eventuality is conceived of in the mind of a speaker. For example, for John and three apples to be the subject argument and the object argument respectively, there might be many possible situations, each of which shows different syntactic behavior, as illustrated in Figures 3.3 and 3.4.
In Figure 3.3, the protagonist, John, is eating three apples. He takes a bite of the first apple, does not finish it, takes a bite of the second apple, does not finish it, takes a bite of the third apple, does not finish it, and then goes back to take another bite of the first apple, and so on. Suppose John started his first bite of the first apple at 8:00 and finished his last bite of the last apple at 8:30. Suppose that $l_1$ represents the subeventuality of John’s eating the first apple, $l_2$ the second apple, and $l_3$ the third apple, exactly as represented in the diagram in Figure 3.5 with overlapping time. In this case, the three eventualities are likely to be conceived of as a durative eventuality represented by $l$ and should easily take the Progressive:

\[(3.147) \text{John is eating three apples.}\]

The same is true in Mandarin:

\[(3.148) \text{Yuehan zhengzai chi san ge pingguo.}\]

\[
\begin{align*}
\text{John} & \quad \text{PROG} \quad \text{eat} \quad \text{three} \quad \text{CL} \quad \text{apple} \\
\text{‘John is eating three apples.’}
\end{align*}
\]
Figure 3.5. Diagrammed overlapping subeventualities.

(3.148) is in the Progressive Aspect. The judgement would probably be better if the adverb yi ci ‘one time’, i.e. ‘(at) once’, was added:

(3.149) Yuehan yi ci zhengzai chi san ge pingguo.
John one time PROG eat three CL apple
‘John is eating three apples at once.’

The Durative Aspect can also be used:

(3.150) Yuehan chi zhe san ge pingguo.
John eat DUR three CL apple
‘John is eating three apples.’

The Progressive Aspect and Durative Aspect can also be used at the same time:

(3.151) Yuehan zhengzai chi zhe san ge pingguo.
John PROG eat DUR three CL apple
‘John is eating three apples.’

In Figure 3.4, the protagonist, John, is eating only one apple at a time. Suppose John ate an apple from 8:00 to 8:10, another one from 12:00 to 12:10, and yet another one from
20:00 to 20:10. The event of John’s eating three apples in this case can be represented by the s-t diagram shown in Figure 3.6. I propose that the following are the major differences between Figures 3.5 and 3.6 which may influence the syntactic behavior of an utterance describing John’s eating of three apples:

![Diagram](image)

**Figure 3.6.** Diagrammed separate subeventualities.

(3.152) $l_1$, $l_2$, and $l_3$ are overlapping in Figure 3.5, which makes it easier to conceive of them together as a single eventuality, while $l_1$, $l_2$, and $l_3$ in Figure 3.6 are not overlapping, which makes it harder to be conceived as a single eventuality.

(3.153) $l_1$, $l_2$, and $l_3$ are in a smaller time scale (less than an hour) in Figure 3.5, which makes the arrangement of the curves look more intensive, $l_1$, $l_2$, and $l_3$ are in a larger time scale (about a day) in Figure 3.6, which makes the curves look shorter, and since they are not overlapped, they look more like three discrete and distantly separated dots. This has another affect, that is, they are not like intensively happening iterative subeventualities, which make the whole eventuality easier to be conceived as [+ dur].

(3.152) makes the claim that an utterance such as *John is eating three apples* can be
naturally represented by Figure 3.5 but does not seem appropriate as a description of the state of affairs depicted in Figure 3.6. For example, if Mary saw John eating his last apple at 20:05, even though she knew that it was John’s third apple in that day, it would be strange for Mary to make the comment *John is eating three apples*. It would be more acceptable to say *John is eating an apple* during the happening of $l_1$, $l_2$, and $l_3$. (3.152) and (3.153) are together responsible for the difficulty of accepting a speaker saying *John is eating three apples* during the temporal intervals shown in Figure 3.6 where the three short curves are not continuous. The same is true in Mandarin. In the scenario of Figure 3.6, it would be strange to say:

(3.154) * Yuehan zhengzai chi san ge pingguo.  
John PROG eat three CL apple  
‘John is eating three apples.’

in the Progressive Aspect. Nor can the Durative Aspect be used:

(3.155) * Yuehan chi zhe san ge pingguo.  
John eat DUR three CL apple  
‘John is eating three apples.’

### 3.2.5.3 Sources of the Compatibility Between RVCs and the Progressive Aspect

Having discussed examples with the simple verb *chi* ‘eat’, let us turn to RVCs. Xiao and McEnery (2004: 166-167) claim that RVCs in Mandarin are achievements with results, but we have seen that this is not always the case, as shown in (3.141). Just as in the case of the simple verb *chi* ‘eat’, the syntactic behavior of RVCs in Mandarin is also conditioned not only by the surface forms but also by their context and how they are conceived of in the minds of speakers. Moreover, many RVCs inherently contain at least two subeventualities, i.e. those predicated by $V_1$ and those predicated by $V_2$, and are structurally more complicated than simple achievements. Hence, it is understandable that RVCs would exhibit atypical syntactic behavior distinct from simple achievements. The observed compatibility between RVCs that are not simple achievements, and the Progressive Aspect, which is generally not compatible with simple achievements (Xiao & McEnery 2004: 212), reflects the complexity of RVCs. Below I discuss the compatibility between RVCs and the Progressive Aspect in more detail.
Xiao and McEnery (2004: 160) divide RVCs into three categories according to their V₂ components: completive RVCs, result-state RVCs, and directional RVCs. Completive RVCs signify the completion of an eventuality (Xiao & McEnery 2004: 161), for example, *chi wan* ‘eat up’, literally ‘eat finish’, where V₂ *wan* means ‘finish’. Result-state RVCs signify the result-state of an eventuality, for example, *da po* ‘break’, literally ‘hit broken’, where V₂ *po* means ‘broken’, which is the result-state of the eventuality.

Directional RVCs are a little bit more complicated. When V₁ is a motion verb, the derived directional RVC indicates the direction of the motion (Xiao & McEnery 2004: 165), for example, *zou lai* ‘come (by walking)’, literally ‘walk come’. When V₁ is not a motion verb, the derived directional RVC has an idiomatic reading with the completion or result-state of an eventuality (Xiao & McEnery 2004: 165), for example, *kan shang* ‘take a liking to’, literally ‘see up’.

Xiao and McEnery (2004: 166) argue that RVCs indicate completion regardless of their type. Completive RVCs focus on the completion of eventualities, and since there is a result state for a completed eventuality, the result-states of eventualities are implied in completive RVCs. In their view, result-state RVCs and directional RVCs focus on the resultant states of eventualities, and since an eventuality has to be completed to have a resultant state, the completion of eventualities is implied in result-state RVCs and directional RVCs.

There are some problems with this argument. First, there are two subtypes of directional RVCs: one with actual directional readings and one with idiomatic readings. While it may be argued that directional RVCs with idiomatic readings such as *kan shang* ‘take a liking to’ do have a resultant state (i.e. ‘like something’), RVCs with actual directional readings do not necessarily have to have a resultant state. For example, a person may be in the process of coming to a certain place by walking but does not arrive. This problem is more salient when directional RVCs with actual directional readings are marked in the Progressive Aspect.

The second problem is that in many cases it is hard to tell whether it is the completion of an eventuality that is focused and the resultant state that is implied, or it is the resultant state of an eventuality that is focused and the completion that is implied. For example, Xiao and McEnery (2004: 162) propose that RVCs with *wan* ‘finish’ as the V₂ are completive RVCs, that is, their completions are focused, and their resultant states are
implied. However, it can also be argued that in these RVCs it is the resultant state of being finished that is focused, and what is implied is its completion, i.e. the subeventuality of finishing. Similarly, it can also be argued that, in *da po* ‘hit broken’, which is seen as a result-state RVC by Xiao and McEnery (2004: 164), what is focused is the instantaneous subeventuality of breaking, and the resultant state of being broken is just implied.

The difficulty and arbitrariness of deciding what is focused and what is implied in monoclausal RVCs and their further subcategorization into completive RVCs and result-state RVCs accordingly makes analyzing RVCs problematic. For example, Xiao and McEnery (2004: 212-213) claim that completive RVCs in Mandarin are not compatible with the Progressive Aspect because their completions, i.e. final endpoints, are focused. On the other hand, result-state and directional RVCs, although not felicitously because their completions are also implied, can cooccur with the Progressive Aspect, if their process components are also focused. This analysis, combined with the criteria used for the subcategorization of completive, result-state, and directional RVCs, contains a circular reasoning. That is, certain type of RVCs are strictly not compatible with the Progressive Aspect because their completions are focused not implied, and RVCs in which the completions are focused not implied are not compatible with the Progressive Aspect; certain type of RVCs are marginally compatible with the Progressive Aspect because their completions are implied not focused, and RVCs in which the completions are implied not focused are marginally compatible with the Progressive Aspect.

The proposition that I put forward may perhaps avoid the circular reasoning. That is, I will avoid the subcategorization of completive, result-state, and directional RVCs as the basis for and explanation of the compatibility between different RVCs and the Progressive Aspect. I propose that there are at least two sources of compatibility between RVCs and the Progressive Aspect: (1) focus on the process component of RVCs and (2) iterative readings of RVCs. I do admit that different RVCs may differ in their susceptibility to having their process component focused and to enabling iterative readings. Then we may observe that what are called completive RVCs might just be those RVCs which lie at the more difficult end of the continuum of compatibility with the Progressive Aspect or at the rarer end of those cases where RVCs cooccur with the Progressive Aspect. It is also possible that the two possibilities are interrelated, since the
difficulty of cooccurrence may result in infrequency, which in turn makes it difficult for those rare cases to be sampled in the corpora used in Xiao and McEnery (2004). The difference that our proposition brings about may not be so trivial as it seems, since first, it decouples the circular reasoning, and second, it identifies another potential source of compatibility between RVCs and Progressive Aspect besides focus on the process component, that is, iterative readings.

Now, I will explain my proposed source of the compatibility between RVCs and the Progressive Aspect in more detail. Let us start with the following example. In the story of Aladdin, the lamp genie serves whoever holds the magic oil-lamp. Suppose that Aladdin was holding the magic oil-lamp and asked the genie to conjure up three hundred houses. In this case we have

\[(3.156)\] Alading yao jingling bian chu sanbai dong fangzi.

\[\text{Aladdin wants genie change out three hundred CL house}\]

\[\text{‘Aladdin asks the genie(s) to conjure up three hundred houses.’}\]

Now let us now consider how different construals of jingling bian chu sanbai dong fangzi ‘genie(s) conjure up three hundred houses’ might affect its compatibility with aspect marking.

A typical simple achievement in Mandarin is not compatible with the Progressive Aspect in Mandarin (Xiao & McEnery 2004: 213). However, this is not necessarily the case for the RVC bian chu ‘change out’, i.e. ‘conjure up’. Note that jingling ‘genie(s)’, without context, can be singular or plural, as number is not overtly marked in Mandarin. There might be many scenarios in which the genie(s) conjure up three hundred houses. Some of the scenarios are illustrated in the following pictures.
Figures 3.7 to 3.10 show different scenarios of *jingling bian chu sanbai dong fangzi* ‘genie(s) conjure up three hundred houses’. In Figure 3.7, one genie conjures up three hundred houses instantaneously, as a group. In Figure 3.8, one genie conjures up each house instantaneously, but he conjures the houses one by one and at the point in time depicted in Figure 3.8, he has just conjured up the 24th house. In Figure 3.9, one genie conjures up three hundred houses at once but not instantaneously; in this world or scenario, the genie has had to go through a process of chanting a spell for several seconds to raise a sandstorm, and those three hundred houses have gradually taken shape in the sandstorm. In Figure 3.10, there are six genies taking turns to conjure up three hundred houses; they have all conjured up each house instantaneously, and some genies have conjured up at least one house while some have not conjured up any houses at all yet.

Now, consider the sentence, which crucially contains the Progressive aspect marker *zhengzai*: 
The grammaticality of (3.157) depends on the scenario. In the scenario depicted by Figure 3.7, (3.157) would be unacceptable, since the genie conjured up all three hundred houses instantaneously, and there is no process but just a change point in this eventuality. In this scenario, the eventuality is instantaneous and thus incompatible with the Progressive Aspect. In this case, the eventuality is therefore achievement-like. In Figure 3.8, (3.157) would be acceptable. In Figure 3.8, although each subeventuality of a house being conjured up is instantaneous, the whole eventuality of three hundred houses is iterative within a short period of time. As a result, the eventuality becomes durative and compatible with the Progressive Aspect. For the scenario depicted in Figure 3.9, (3.157) is acceptable. Since there is a culmination in this scenario, i.e. the conjuring up of the 300th house, the eventuality is also accomplishment-like. In Figure 3.9, the eventuality is composed of processes of chanting a spell and three hundred houses gradually taking shape in the sandstorm and a change point of three hundred houses finally coming into existence completely and solidly. The processes are durative, and the eventuality is therefore compatible with the Progressive Aspect.

For Figure 3.10, (3.157) is acceptable; the instantaneous subeventualities of a house being conjured up are iterative within a short period of time, hence, the whole eventuality becomes durative and is compatible with the Progressive Aspect. Since there is a culmination in this scenario, i.e. the conjuring up of the 300th house, the eventuality is also accomplishment-like. But it is different from the scenario in Figure 3.8. The repeated subeventuality in Figure 3.8 is that the genie conjures up a house, while the repeated subeventuality in Figure 3.10 is just a house is conjured up (by probably different genies). Figures 3.7 to 3.9 can be schematized by the s-t diagrams shown in Figure 3.11 to Figure 3.13.
The eventuality in the scenario of Figure 3.7 occurs instantaneously, represented by the dot c in Figure 3.11, which is achievement-like. The eventualities in the scenarios of Figure 3.8 and Figure 3.10 are composed of many rapid and successive subeventualities and are conceived as iterative eventualities, represented by e in Figure 3.12. Each dot in Figure 3.12 is a subeventuality: the subeventuality of *the genie conjures up a house* in the scenario of Figure 3.8 or *a house is conjured up* in that of Figure 3.10. The eventuality in the scenario of Figure 3.9 has a process part, presented by the line p, and a change point, represented by the dot c in Figure 3.12. The eventualities are achievement-like in Figure 3.11, iterative in Figure 3.12, and accomplishment-like in Figure 3.13 and have different syntactic behaviors, although they may have the same surface form, for example:

\[(3.158)\] Jingling bian chu le sanbai dong fangzi.

genie change out ACTL three.hundred CL house

‘The genie/genies conjured up three hundred houses.’

In (3.158), how the genie/genies conjured up those three hundred houses is not focused and the eventuality is presented in the Actual Aspect as actualized whole. It should be noted that since *three hundred houses* appears in the surface form, there is a culmination in the scenarios of Figure 3.8 and Figure 3.10. However, not all scenarios which can be schematized as Figure 3.12 have conclusions and are accomplishment-like. For example, (3.134) is composed of many times of breaking a record, which may be schematized as Figure 3.12, but (3.134) has no conclusion and is not accomplishment-like.

Although rapidly repeated instantaneous subeventualities can undergo the process of
iteration, there might still be differences that set them apart from true semelfactives. One example is the duration adverbial test in examples (3.144) – (3.146). Consider examples (3.159), which is adopted from (3.144), and the syntactically similar (3.160). Qiao ‘knock’ in (3.159) is a true semelfactive in iterative reading and is compatible with the duration adverbial san fenzhong ‘(for) three minutes’. (3.160) is just an RVC with iterative reading, which does not occur with the duration adverbial san fenzhong ‘(for) three minutes’ felicitously.

(3.159) Yuehan qiao men san fenzhong ye mei you ren han ting. John knock door three minute also NEG exist person yell stop
‘Nobody told John to stop even though John had knocked on the door for three minutes.’

(3.160) * Jingling bian chu fangzi san fenzhong ye mei you ren han genie change out house three minute also NEG exist person yell stop
‘Nobody told the genie to stop even though the genie had conjured up houses for three minutes.’

However, there are other methods of expressing duration, although not as orthodox as V san fenzhong ‘V (for) three minutes’ in (3.159) and (3.160), for example: As above

(3.161) Yuehan qiao men qiao le san fenzhong ye mei you ren han John knock door knock ACTL three minute also NEG exist person ting.
yell stop
‘Nobody told John to stop even though John had knocked the door for three for three minutes.’

The syntactic structure of (3.161) is:
In (3.162) the whole sentence S is composed of a topic, S₁, and the comment, S₆. S₂ ye S₅ ‘S₅ even though S₂’, are conjoined clauses which form the comment S₆. S₃ ‘(John) stop’ is embedded in S₄ ‘(nobody) yell (that...)’, and S₄ is embedded in S₅ and becomes ‘(there) existed nobody (who) told (John) (to) stop’. The duration adverbial san fenzhong ‘(for) three minutes’ in (3.162) actually measures qiao ‘knock’ in S₂. For me, (3.162) sounds better than (3.159), although (3.159) is also acceptable. Now, the same way of measuring duration can be also applied in (3.160):

(3.163)  ? Jingling bian chu fangzi bian le san fenzhong ye mei genie change out house change ACTL three minute also NEG you ren han ting. exist person yell stop

‘Nobody told the genie to stop even though the genie had conjured up houses for three minutes.’
(iterative reading of scenario in Figure 3.8)

(3.164) Jingling bian fangzi bian le san fenzhong ye mei you genie change house change ACTL three minute also NEG exist ren han ting. person yell stop

‘Nobody told the genie to stop even though the genie had conjured up houses for three minutes.’
(iterative reading of scenario in Figure 3.8)
Nobody told the genie to stop even though the genie had conjured up houses for three minutes.

(iterative reading of scenario in Figure 3.8)

Nobody told the genie to stop even though the genie had conjured up houses for three minutes.

(iterative reading of scenario in Figure 3.8)

The syntactic structure of (3.163) – (3.166), which are similar to that of (3.162), is:

By comparing (3.163) – (3.167), we find that, although syntactically bian chu ‘change out’, i.e. ‘conjure up’, is not compatible with the duration adverbial san fenzhong ‘(for)
three minutes’, even in an iterative eventuality, its duration can still be measured by
unorthodox ways as shown in (3.163) and (3.164), where the duration measured is bian
‘change’, a process. By comparing (3.163) and (3.164), we can also find that, if the
eventuality is “underexpressed” as a process in the topic, i.e. bian ‘change’ in (3.164)
instead of bian chu in (3.163), the judgement is better, since in this case the eventuality is
syntactically less achievement-like, although in the same context both (3.163) and (3.164)
can refer to the scenario of Figure 3.8. Hence, it is correct to say that RVCs are
syntactically like achievements in that they are not compatible with orthodox duration
adverbials; however, when their process components are the foci, RVCs are still
compatible with some unorthodox duration-measuring structures.

A comparison of (3.132), (3.133), (3.142) – (3.146), (3.159), and (3.160) also gives us an
interesting observation. True semelfactives, and some iterative RVCs that according to
Xiao and McEnery (2004) are achievements, are compatible with the Durative and
Progressive Aspect. However, true semelfactives and iterative RVCs still exhibit different
compatibilities with orthodox duration adverbials and other unorthodox duration-
measuring adverbials. This shows that compatibility with duration adverbials is decided
not only by the meaning but also by the form, for example, an iterative RVC is closer to
an iterative semelfactive in the frequency of occurrence but still an achievement in form
and is still incompatible with an orthodox duration adverbial, unlike a true semelfactive
which is semelfactive in both meaning and form. This also shows that different duration-
measuring structures may have different sources or conditions of grammaticality, for
example, both true semelfactives and iterative RVCs are compatible with the duration-
measuring structures shown in example (3.159) and (3.164).

The observation that when the process part of bian chu ‘change out’ (i.e. ‘conjure up’ in
the scenario of Figure 3.9) is focused, the RVC bian chu is compatible with the
Progressive Aspect, is in accordance with the comment of Xiao and McEnery (2004: 212-
213) that when the process components of RVCs are focused, some RVCs are compatible
with the Progressive Aspect. However, Xiao and McEnery (2004: 212-213) claim that
completive RVCs are strictly incompatible with the Progress Aspect; but this is not the
case, as the completive RVC chi wan ‘eat finish’ can also take the Progressive Aspect in
the following real example (3.168):
The residents in the area of Chaihe Town, who were finishing their meals, felt that it was like being caught in a car in emergency braking when the earthquake happened – their bodies flickered and rocked...


Hence, for all three kinds of RVCs according to the classification of Xiao and McEnery (2004), i.e. completive RVCs, result-state RVCs, and directional RVCs, there are instances where they are compatible with the Progressive Aspect. The claims that the Completive Aspect, associated with RVCs, are not compatible with the Progressive Aspect (Xiao & McEnery 2004: 169) and that completive RVCs are strictly not compatible with the Progressive Aspect (Xiao & McEnery 2004: 212-213) are dubious.

3.2.5.4 Survey

In order to further investigate the compatibility between monoclausal RVCs and the Progressive Aspect for native speakers, a survey was conducted. In the survey, a 6-point Likert scale was used for participants to evaluate the acceptability of several monoclausal RVCs in the Progressive Aspect. The results of the survey show that even completive RVCs in the classification of Xiao and McEnery (2004) show some degree of compatibility with the Progressive Aspect.

3.2.5.4.1 Description of Survey

The survey was conducted online. Participants are invited through a post on the Facebook page of Chinese Institute of European Languages (CIEL), which is a language school located in Taipei, Taiwan. Participants could link to the questionnaire page through the
post, and the questionnaire page is hosted at the platform provided by SurveyMoney, an online survey service company. There were 43 participants who finished the survey.

In the survey, participants were asked to evaluate the grammaticality of five different monoclausal RVCs on a Likert scale from 0 to 5, where 0 denotes sentences that sound totally unacceptable, and six denotes sentences which sound totally acceptable. Since a Likert scale usually runs from 1, the results in the analysis are adjusted accordingly, for example, 0 is adjusted to 1, 1 to 2, 2 to 3, etc. There were five test RVCs in this survey. Each RVC was marked by the Progressive Aspect marker zhengzai- and appeared in three different contexts: \( V_1 V_2 \) (positive and unmarked), \( V_1 bu V_2 \) ‘couldn’t V’, and \( mei V_1 V_2 \) ‘didn’t V’. Each RVC in each context appeared in two different test sentences. Hence, there were 15 combinations of test RVCs and contexts (5 RVCs X 3 contexts), and these combinations were given in 30 test sentences (X 2 sentences for each RVC X context condition), for a total of 30 stimulus items. In addition to the 30 test sentences, there are 31 unrelated filler sentences. Sentences were presented in a randomized order.

RVCs in negative contexts appear in the Progressive Aspect and with positive polarity in the first clause and then in negative polarity (with no aspect marking) in the second clause, in the forms (3.169) and (3.170):

(3.169) \( \ldots zhengzai V_1 V_2 \ldots, \ldots V_1 bu V_2. \)

(3.170) \( \ldots zhengzai V_1 V_2 \ldots, \ldots mei V_1 V_2. \)

So for the test predicate zhao chu ‘find out’, we have (3.171), (3.172), and (3.173) as test sentences.

(3.171) 约翰正在从书堆里找出从前用过的法语课本。

约翰正在從書堆裡找出從前用過的法語課本。

Yuehan zhengzai cong shudui li zhao chu congqian

John PROG from book.stack inside search out before

yong guo de Fayu keben.

use EXP NOM French textbook

‘John was picking up the French textbook he had used before from a stack of books.’
John was originally picking up the French textbook he had used before from a stack of books, but because there were really too many books, he did not pick it up at last.

‘John was originally picking up the French textbook he had used before from a stack of books, but because there were really too many books, he did not pick it up at last.’
A list of all test sentences can be found in the Appendix.

As aforementioned, several naturally occurring sentences containing RVCs in the Progressive Aspect are collected. I propose that the compatibility between RVCs and the Progressive Aspect has two sources: the focus on the process parts of the RVCs and the iterative reading of the RVCs. In this survey, the hypothesis to be tested is that the focus on the process parts of the RVCs is one of the sources for the compatibility between RVCs and the Progressive Aspect.

A monoclausal RVC is composed of two parts: the process and the result. Different RVCs do show different degrees of compatibilities with the Progressive Aspect as observed by Xiao and McEnery (2004). However, the classification of RVCs into directionals, result-states, and completives cannot explain the compatibility well. I propose that some RVCs are inherently more process-prominent, some RVCs are inherently more result-prominent, and process-prominent, and some RVCs are somewhere in between. I expose a test RVC in three contexts, one positive and two negative. In the positive context like zhao chu ‘find out’ in (3.171), the result part of the test predicate is not negated. In the positive context like (3.171), a more process-prominent RVC will show a better compatibility with the Progressive Aspect. In the two negative context like zhao chu ‘find out’ in (3.172) and (3.173), the result part of the test predicate is negated. In the two negative contexts like (3.172) and (3.173), a more result-prominent RVC will show a better compatibility with the Progressive Aspect. For RVCs where there is no significant difference between the prominence of the process parts and the result parts, no significant difference between positive and negative contexts in the compatibility between those RVCs and the Progressive Aspect would appear. The reason for the inclusion of two different negative contexts is to check whether the two different negative forms $V_1 \text{ \textit{bu}} V_2$ ‘couldn’t $V_1 V_2$’ and $mei \ V_1 V_2$ ‘didn’t $V_1 V_2$’ have influence on the compatibility between RVCs and the Progressive Aspect.

In this section, I have described the method of the survey. A list of all test sentences can be found in the Appendix. What follows is a description of the test RVCs, test contexts, results, and analysis.

3.2.5.4.2 Results and Analysis

Table 3.1 lists the combinations of the RVCs, denoted by A, B, C, D, and E, and the
contexts, denoted by 1, 2, and 3.

Table 3.1
Test RVCs and Contexts

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>zhao</td>
<td>chu</td>
</tr>
<tr>
<td>A1</td>
<td>null-negation (was V-ing)</td>
</tr>
<tr>
<td>A2</td>
<td>couldn’t (was V-ing… but couldn’t)</td>
</tr>
<tr>
<td>A3</td>
<td>didn’t (was V-ing… but didn’t)</td>
</tr>
<tr>
<td>chui</td>
<td>luo</td>
</tr>
<tr>
<td>B1</td>
<td>null-negation (was V-ing)</td>
</tr>
<tr>
<td>B2</td>
<td>couldn’t (was V-ing… but couldn’t)</td>
</tr>
<tr>
<td>B3</td>
<td>didn’t (was V-ing… but didn’t)</td>
</tr>
<tr>
<td>chi</td>
<td>wan</td>
</tr>
<tr>
<td>C1</td>
<td>null-negation (was V-ing)</td>
</tr>
<tr>
<td>C2</td>
<td>couldn’t (was V-ing… but couldn’t)</td>
</tr>
<tr>
<td>C3</td>
<td>didn’t (was V-ing… but didn’t)</td>
</tr>
<tr>
<td>zhao</td>
<td>dao</td>
</tr>
<tr>
<td>D1</td>
<td>null-negation (was V-ing)</td>
</tr>
<tr>
<td>D2</td>
<td>couldn’t (was V-ing… but couldn’t)</td>
</tr>
<tr>
<td>D3</td>
<td>didn’t (was V-ing… but didn’t)</td>
</tr>
</tbody>
</table>
43 participants were tested. All were native speakers of Mandarin. The following is a screenshot from one of the test items:

20.

约翰正在从书堆裡找出从前用过的法语课本。

约翰正在从书堆裡找出从前用过的法语课本。

Figure 3.14. A screenshot of a test item in the survey.

As aforementioned, since a Likert scale usually runs from 1, the results in the analysis are adjusted accordingly, for example, 0 is adjusted to 1, 1 to 2, 2 to 3, etc. The adjusted scores given by 43 participants for the 30 test sentences are shown in Figure 3.15.
A two-way ANOVA was conducted to identify the overall effects of the independent variables (Predicate and Context) and their interaction (Predicate*Context). The results are shown in Table 3.2.

Figure 3.15. Scores of test predicates in test contexts.
The overall effects of the independent variables (Predicate and Context) and their interaction (Predicate*Context) are all significant. The partial $\eta^2$ for Predicate, Context, and Predicate*Context are 0.098, 0.024, and 0.035, respectively. Hence, Predicate has a medium effect on the dependent variable, i.e. the scores, while Context and Predicate*Context have smaller effects (Abbott 2017).

Table 3.3 shows the post-hoc test with Tukey test for pairs of predicates. Among the test RVCs, predicate $zhao chu$ ‘pick up/find out’ is the most distinctive RVC and shows a statistically significant contrast with every other RVC. The pair of B/E also shows a significant difference. In addition, the contrast between the pair B/C almost reaches statistical significance with the CI being almost 95%. The contrasts among RVCs are shown in Table 3.3.
Table 3.4 shows the post-hoc test with Tukey test for contexts. Among the test contexts, the contrasts between the positive context, i.e. context 1, and the two negative contexts, i.e. contexts 2 and 3, are also statistically significant. However, the two negative contexts show no statistically significant mean difference with each other. Overall, the positive context receives higher scores than the negative contexts. The contrasts among the contexts are shown in Table 3.4. The $t$ test for the positive context and the negative context is shown in Table 3.5.
Table 3.4
Post hoc test for context

<table>
<thead>
<tr>
<th>means</th>
<th>2 (couldn’t V)</th>
<th>3 (didn’t V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (positive)</td>
<td>4.19</td>
<td>3.72</td>
</tr>
<tr>
<td>2</td>
<td>3.73</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

p of mean difference between contexts

<table>
<thead>
<tr>
<th></th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.000*</td>
<td>0.000*</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>0.992</td>
</tr>
</tbody>
</table>

Table 3.5

\( t \) test for positive and negative contexts

<table>
<thead>
<tr>
<th>means</th>
<th>negative (couldn’t and didn’t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>positive</td>
<td>4.19</td>
</tr>
<tr>
<td>negative</td>
<td>3.73</td>
</tr>
</tbody>
</table>

p of \( t \) test

<table>
<thead>
<tr>
<th></th>
<th>negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>positive</td>
<td>0.000*</td>
</tr>
</tbody>
</table>

Individual predicates show different behavior in positive and negative contexts. Each predicate underwent a one-way ANOVA for a comparison among the three different contexts for each predicate, and a \( t \) test for the comparison between the positive and the negative contexts. The results are presented below.

For Predicate A *zhao chu* ‘pick up/find out’, a one-way ANOVA was conducted to compare the effect of context on grammaticality in positive, couldn’t V, and didn’t V conditions. There was a significant effect of context on grammaticality at the \( p < 0.05 \) level for the three contexts [F(2, 255) = 21.470, \( p = 0.000 \)]. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the positive condition (\( M = 5.44, SD = 1.154 \)) was significantly different than the couldn’t V condition (\( M = 4.48, SD = 1.326 \)) and the didn’t V condition (\( M = 4.30, SD = 1.199 \)). However, the couldn’t V
condition did not significantly differ from the didn’t V condition. A t test was conducted for the comparison between the positive and the negative contexts as shown in Table 3.6.

Table 3.6

\[ t \text{ test for predicate A in positive and negative contexts} \]

<table>
<thead>
<tr>
<th>Predicate A</th>
<th>Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>A positive</td>
<td>5.44</td>
</tr>
<tr>
<td>A negative (couldn’t V and didn’t V)</td>
<td>4.39</td>
</tr>
<tr>
<td>( p ) of ( t ) test</td>
<td>A negative</td>
</tr>
<tr>
<td>A positive</td>
<td>0.000*</td>
</tr>
</tbody>
</table>

For Predicate B chui loo ‘blow off/blow down’, a one-way ANOVA was conducted to compare the effect of context on grammaticality in positive, couldn’t V, and didn’t V conditions. There was a significant effect of context on grammaticality at the \( p < 0.05 \) level for the three contexts \([F(2, 255) = 17.158, \ p = 0.000]\). Post hoc comparisons using the Tukey HSD test indicated that the mean score for the positive condition \((M = 4.63, SD = 1.389)\) was significantly different from the couldn’t V condition \((M = 3.45, SD = 1.280)\) and didn’t V condition \((M = 3.76, SD = 1.422)\). However, the couldn’t V condition did not significantly differ from the didn’t V condition. A t test was conducted for the comparison between the positive and the negative contexts as shown in Table 3.7.
Table 3.7

t test for predicate B in positive and negative contexts

<table>
<thead>
<tr>
<th>Predicate B</th>
<th>Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>B positive</td>
<td>B negative (couldn’t and didn’t)</td>
</tr>
<tr>
<td>4.63</td>
<td>3.60</td>
</tr>
</tbody>
</table>

*p of t test*

| B positive | 0.000* |

For Predicate C *chi wan* ‘eat up’, a one-way ANOVA was conducted to compare the effect of context on grammaticality in positive, *couldn’t* V, and *didn’t* V conditions. Overall, no significant effect of context on grammaticality at the $p < 0.05$ level for the three contexts was detected [$F(2, 255) = 2.803, p = 0.063$]. However, the $p$ value is close to 0.05. It should be noted that the one-way ANOVA compared the three contexts together. I also conducted $t$ tests to see whether the mean differences between the C1/C2, C1/C3, C2/C3, and C positive/C negative pairs was statistically significant. The $t$ tests for the four pairs show that the mean differences between the C1/C2 and C positive/C negative pairs was statistically significant. The results of the $t$ tests between the C1/C2 and C positive/C negative pairs are shown in Table 3.8 and Table 3.9. They show that C1 (positive) received significantly lower scores than C2 (*didn’t* V), and C positive context received significantly lower scores than C negative context overall.

Table 3.8

t test for predicate C in the positive context and the ‘couldn’t’ context

<table>
<thead>
<tr>
<th>Predicate C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Means</td>
</tr>
<tr>
<td>C1</td>
</tr>
<tr>
<td>3.35</td>
</tr>
</tbody>
</table>

*p of t test*  

<table>
<thead>
<tr>
<th>C2</th>
<th>C1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.021*</td>
</tr>
</tbody>
</table>
Table 3.9

*t* test for predicate B in positive and negative contexts

<table>
<thead>
<tr>
<th>Predicate C</th>
<th>Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>C positive</td>
<td>C negative (couldn’t and didn’t)</td>
</tr>
<tr>
<td>3.35</td>
<td>3.74</td>
</tr>
<tr>
<td><em>p</em> of <em>t</em> test</td>
<td></td>
</tr>
<tr>
<td>C negative</td>
<td></td>
</tr>
<tr>
<td>C positive</td>
<td>0.043*</td>
</tr>
</tbody>
</table>

For Predicate D *zhao dao* ‘find’, a one-way ANOVA was conducted to compare the effect of context on grammaticality in positive, *couldn’t* *V*, and *didn’t* *V* conditions. No significant effect of context on grammaticality at the *p < 0.05* level for the three contexts was detected \[F(2, 255) = 1.361, p = 0.258\].

For Predicate E *gai hao* ‘build well/finished building’, a one-way ANOVA was conducted to compare the effect of context on grammaticality in positive, *couldn’t* *V*, and *didn’t* *V* conditions. No significant effect of context on grammaticality at the *p < 0.05* level for the three contexts was detected \[F(2, 255) = 1.218, p = 0.298\].

From Table 3.4 and Table 3.5, we can find that there is a significant distinction between positive and negative contexts. However, we cannot attribute this distinction to the compatibility between RVCs and partial positive polarity, i.e. it is not true that RVCs cannot be partially negated. Were RVCs not able to be partially negated, the test RVCs in the positive context should have uniformly received higher scores than the test RVCs in the negative contexts. However, this is not the case. From the aforementioned results of one-way ANOVA and *t* tests for predicates A and B shown in Table 3.6 and Table 3.7, we found that A1 received higher scores than either A2 or A3, B1 received higher scores than either B2 or B3, A positive received higher scores than A negative, and B positive received higher scores than B negative. However, Table 3.8 and Table 3.9 show that C1 received lower scores than C2, and C positive received lower scores than C negative. Hence, negative polarity is by no means a less friendly environment for RVCs than positive polarity, and the distinction between positive and negative contexts cannot be
attributed to the untrue assumption that RVCs are less compatible with partially negative polarity. As for Predicates D and E, no significant distinction between positive and negative contexts can be observed.

From the aforementioned results of the one-way ANOVA and $t$ tests for individual predicates, we can classify the test RVCs into three groups according to their behavior in positive and negative contexts. I shall call them positive-friendly, negative-friendly, and polarity-neutral groups. Table 3.10 shows these three groups.

\textit{Table 3.10}

Positive-friendly, negative-friendly, and polarity-neutral groups

<table>
<thead>
<tr>
<th>predicate</th>
</tr>
</thead>
<tbody>
<tr>
<td>positive-friendly group</td>
</tr>
<tr>
<td>A, B</td>
</tr>
<tr>
<td>negative-friendly group</td>
</tr>
<tr>
<td>C</td>
</tr>
<tr>
<td>polarity-neutral group</td>
</tr>
<tr>
<td>D, E</td>
</tr>
</tbody>
</table>

I would like to examine whether the grouping in Table 3.10 is related to their scores. First, Table 3.3 shows the overall scores for each predicate where positive and negative contexts are all included. The order of the scores of predicates from high to low is A, B, D, C, and E. Although the positive-friendly predicates are the two predicates with the highest overall scores, in Table 3.3, B is not significantly higher than D. Hence, from the results of this survey, we do not find that the overall score of a predicate can predict whether that predicate is positive-friendly, negative-friendly, or polarity-neutral.

Second, I would like to examine whether the grouping in Table 3.10 is related to the scores of the predicates in the positive, i.e. unmarked, context, alone. To do this, I carried out a one-way ANOVA on different predicates in the positive context to see whether their mean differences are significant. The results of the one-way ANOVA are listed in Table 3.11.
From the results shown in Table 3.11, we can infer that there is a hierarchy of groups with significant differences in the positive context:

\[(3.174) \quad \{A1\} > \{B1\} > \{C1, D1, E1\}\]

C1, D1, and E1 do not show significant differences between each other. Predicates A and B also belong to the positive-friendly group. Since our survey contains only five different predicates, I cannot say that a high score in the positive context can predict that a predicate belongs to the positive-friendly group. That is, I cannot say that a high score in the positive context can predict that a predicate in positive polarity gets a statistically significant higher score than in negative polarity. Whether a higher score in the positive context can predict that a predicate belongs to the positive-friendly group needs further study. In addition, although C1 gets the lowest score among A1, B1, C1, D1, and E1, C1’s score is not statistically significantly lower than D1 and E1. Hence, it cannot be said that a low score in the positive context can predict that a predicate belongs to the negative-friendly group. But this makes it sound like you don’t have any independent way of classifying predicates as ‘positive-friendly’, ‘negative-friendly’ or neutral.

Now let us examine whether the grouping in Table 3.10 is related to the classification of RVCs of Xiao and McEnery (2004). Xiao and McEnery (2004) list three types of RVCs according to their $V_2$: completive RVCs, result-state RVCs, and directional RVCs.
should be noted that Xiao and McEnery point out that *V hao* has both a completive RVC reading ‘finish V-ing’ and a result-state RVC reading ‘V well’ (Xiao & McEnery 2004: 162). The classification of the five test predicates is listed in Table 3.12.

**Table 3.12**

Classification of the five test predicates according to Xiao and McEnery (2004)

<table>
<thead>
<tr>
<th>type of RVC in Xiao and McEnery (2004)</th>
<th>test predicate</th>
</tr>
</thead>
<tbody>
<tr>
<td>completive RVC</td>
<td>C (<em>chi wan</em> ‘finish eating’), E (<em>gai hao</em> ‘finish building’)</td>
</tr>
<tr>
<td>result-state RVC</td>
<td>B (<em>chui luo</em> ‘blow off/blow down’), D (<em>zhao dao</em> ‘find’), E (<em>gai hao</em> ‘build well?’)</td>
</tr>
<tr>
<td>directional RVC</td>
<td>A (<em>zhao chu</em> ‘pick up/find out’)</td>
</tr>
</tbody>
</table>

Comparing Table 3.10 and Table 3.12, we can find that the grouping in Table 3.10 and the classification of Xiao and McEnery (2004) do not align. Hence, the classification of Xiao and McEnery (2004) cannot predict whether a predicate is positive-friendly, negative-friendly, or polarity-neutral.

Xiao and McEnery (2004: 212-213) claim that completive RVCs are strictly incompatible with the Progressive Aspect, while directional RVCs and result-state RVCs are acceptable with the Progressive Aspect when their process parts are focused. Hence, according to Xiao and McEnery (2004: 212-213), we would expect that the grammaticality judgement score of C, i.e. a completive RVC, would be not only the lowest among the five test RVCs but also close to the lowest available score. However, in Table 3.3, C still shows an average score of 3.61. Besides, the mere fact that predicate C has a significantly higher tolerance with the Progressive Aspect in the negative context of ‘couldn’t’ over the positive context, as shown in Table 3.8, and a significantly higher tolerance with the Progressive Aspect in the two negative contexts over the positive context, as shown in Table 3.9, shows that predicate C is not strictly incompatible with the Progressive Aspect. It is just that such a compatibility is not apparent in the unmarked, positive context.
Comparing Table 3.3, Table 3.11, and Table 3.12, we find that predicate A, classified as a directional RVC by Xiao and McEnery (2004), gets the highest overall average score and the highest score in the positive context (A1). However, as we have only one directional RVC in our survey, we cannot say that directional RVCs have the highest compatibility overall with the Progressive Aspect, and further studies are needed to support this claim. Completive RVCs and result-state RVCs show no clear patterns in their compatibilities with the Progressive Aspect in that completive RVCs show no higher or lower scores than result-state RVCs. Excepting the directional RVCs, which need further study, the classification of Xiao and McEnery (2004) in Table 3.12 is therefore not very helpful in explaining the interaction between RVCs and the Progressive Aspect.

I propose, rather, that the grouping in Table 3.10 can be explained by the idea that one of the sources of compatibility between RVCs and the Progressive Aspect is the relative prominence of the process and result parts of RVCs. As mentioned earlier in this section, RVCs are composed of a process part and a result part. Some RVCs are inherently more process-prominent. If the process part of an RVC is relatively more prominent than its result part, it will clearly show a significantly higher compatibility with the Progressive Aspect in a positive context than in a negative context. If the result part of an RVC is relatively more prominent than its process part, it will show a significantly higher compatibility with the Progressive Aspect in a negative context than in a positive context. If neither part is relatively prominent enough, no clear contrasts will be observed between the positive and the negative contexts, and this is what we observed in the case of polarity-neutral group.

Finally, I propose that some RVCs are inherently more process-prominent and some are inherently more result-prominent in the sense that this prominence cannot be predicted by its absolute compatibility with the Progressive Aspect. I do not exclude the possibility that there exists an RVC which is of an absolutely high compatibility with the Progressive Aspect but a relatively low compatibility with the Progressive Aspect in some specific context. An RVC may be highly compatible with the Progressive Aspect compared with other RVCs in a positive context, but that RVC may show still higher compatibility with the Progressive Aspect in a negative context. In such a case, that RVC is of an absolutely high compatibility but a relatively low compatibility with the Progressive Aspect in a positive context. For example, suppose we have another five predicates, F, G, H, I, and J.
with average scores of 5.0, 4.0, 3.7, 3.3, and 3.0 in a positive context. F positive in this case has the absolutely highest score among the five predicates in a positive context. However, the absolutely high score of F1 does not exclude the possibility that F2, F3, or F negative has a higher average score than 5.0 (say, 5.5), and the low average score of J1 does not exclude the possibility that J2, J3, or J negative has a lower average score than 3.0 (say, 2.5). To understand the relation between absolute compatibility and relative compatibility requires further research.

3.3 Summary

In this Chapter, first, in section 3.1, I gave a brief introduction to monoclusal complex predicates. In section 3.2, I presented several types of monoclusal complex predicates in Mandarin. In addition to the well-known monoclusal resultatives and directionals, there are also monoclusal depictives in Mandarin. I also presented aspectuals, which contain subtypes such as inceptives and completives. I move the introduction of monoclusal directionals to Chapter 4 in order to discuss them together with polyclausal directionals. Finally, I would also like to point out that the classification in 3.2 is not exhaustive, and other types and subtypes of monoclusal complex predicates may be recognized in further study.
Chapter 4: Polyclausal Complex Predicates

In this chapter I discuss polyclausal complex predicates. First, I describe a type of polyclausal complex predicate characterized by a phenomenon I term “bleached serialization”. Second, I discuss polyclausal depictives and other polyclausal complex predicates. Last, I talk about monoclausal and polyclausal directionals to give a comprehensive overview of directionals.

4.1 Polyclausality

Durie (1997: 307) points out that there are two major syntactic patterns for verb serialization: serialized verbs are either contiguous or non-contiguous. For an SVO language, the contiguous and the non-contiguous patterns are represented by (4.1) and (4.2), respectively.

\[
\begin{align*}
(4.1) & \quad S \ V \ldots \ V \ (O) \\
(4.2) & \quad S \ V \ (O) \ V \ (O)\ldots
\end{align*}
\]

Monoclausal complex predicates in Mandarin, which are discussed in Chapter 3, are in the form of (4.1). Polyclausal complex predicates in Mandarin, which are discussed in this chapter, are in the form of (4.2).

A non-contiguous complex predicate in Mandarin has a string of \([V \ (O)]\) cells like \([V \ (O)] \ldots [V \ (O)]\). Several syntactic behaviors of the \([V \ (O)]\) strings manifest that these \([V \ (O)]\) cells are closer to clauses than VPs. First, each constituent \(V\) in a \([V \ (O)] \ldots [V \ (O)]\) string does not have to have the same aspect value. Take sentence (4.3) as an example. The constituent verbs \(na\) ‘take’ and \(ma\) ‘scold’ do not have to have the same aspect value as shown in (4.4)-(4.6).

\[
\begin{align*}
(4.3) & \quad \text{Yuehan } [\text{na}_V \ [\text{na} \ \text{jian} \ \text{shi}_{\text{OBJ}}] \ [\text{ma}_V \ \text{Mali}_{\text{OBJ}}]. \\
& \quad \text{John take that CL thing scold Mary} \\
& \quad '\text{John scolded Mary because of that incident.}'
\end{align*}
\]

\[
\begin{align*}
(4.4) & \quad \text{Yuehan } \text{na \ le \ na \ jian \ shi \ ma \ Mali.} \\
& \quad \text{John take ACTL that CL thing scold Mary} \\
& \quad '\text{John scolded Mary because of that incident.}'
\end{align*}
\]
(4.5) Yuehan  na  na  jian  shi  ma  le  Mali.
    John  take  that  CL  thing  scold  ACTL  Mary
    ‘John scolded Mary because of that incident.’

(4.6) Yuehan  na  le  na  jian  shi  ma  le  Mali.
    John  take  ACTL  that  CL  thing  scold  ACTL  Mary
    ‘John scolded Mary because of that incident.’

Hence, the syntactic structure of (4.3) is better described as multiple clauses linked within an umbrella clause via clause chaining as shown in (4.7) than a string of VPs.

(4.7) [[YuehanSUBJ, i  na  jian  shi][OBJ]S1 [PROSUBJ, i  ma][OBJ]S2].
    John  take  that  CL  thing  scold  Mary
    ‘John scolded Mary because of that incident.’

Second, each constituent V in a [V (O)] (...) [V (O)] string does not have to have the same polarity value. (4.8) is a naturally occurring example, where bang ‘help’ is in the positive polarity and fang ‘put’ is in the negative polarity.

(4.8)  … (服務人員)可以幫我們不放豌豆。
    service personnel can help us NEG put pea
    … the employees (of the restaurant) can not add peas (in the dish) for us.

Clause chaining is a phenomenon which can be found cross-linguistically. (4.9) is an example in Tauya:

(4.9) ne  fofe-a-te  ya-ni  wate  tu-e-ʔa
    3SG  come-3SG-DR  1SG-ERG  NEG  give-1/2SG-DECL
    ‘He didn’t come and I didn’t give it to him.’

(Foley (2010: 42)
In the notation of Foley (2010) in (4.9), 1 stands for first person, 2 second person, 3 third person, SG singular number, DR different referent or subjects, ERG ergative case, NEG negative, and DECL declarative. (4.9) is analyzed as Figure 1 by Foley (2010: 42), where IPs stand for inflection phrases which may dominate sentences.

![Figure 4.1. Syntactic structure of (4.9) in Foley (2010).](image)

We can observe that there are two clauses linked by clause chaining in Figure 1, and there is no subordinate or coordinate relations between the two clauses in Figure 1. Similarly, (4.6) can be analyzed as Figure 4.2.

![Figure 4.2. Syntactic structure of (4.6).](image)

[Yuehan na le na jian shi] and [ma le Mali] are two clauses linked by clause chaining in Figure 4.2, and there is no subordinate or coordinate relations between the two clauses in Figure 4.2.

In this section, I discussed clause chaining. I presented evidence which makes a polyclausal analysis with clause chaining reasonable for sentences like (4.3). In the next section, I will discuss polyclausal depictive complex predicates in Mandarin.

### 4.2 Polyclausal Depictive Complex Predicates

Many depictive complex predicates are realized as polyclausal complex predicates in
Mandarin. The describing component of such a polyclausal depictive usually carries the Durative Aspect marker *zhe* followed by the described component. It has been noted that the Durative Aspect can be used to present an accompanying situation and to provide background information (Xiao and McEnery 2004; Zhang 1995: 135). For example, (4.10) would roughly correspond to (4.11) in Mandarin:

(4.10)  John is sitting drunk.

(4.11)  Yuehan zuo zhe hezui.
        John  sit DUR drunk
    ‘John is sitting drunk.’

The syntactic structure of (4.11) is:

(4.12)  [[Yuehan, zuo zhe] [PRO, hezui]].

The describing subeventuality in a polyclausal depictive describes an entity in the whole eventuality just as in a monoclausal depictive. Hence, the diagnostic questions for depictives also work for polyclausal depictives. For example, (4.13) is a more appropriate to the question in (4.14) than (4.15):

(4.13)  John is sitting.

(4.14)  How is John when he is drunk?

(4.15)  What does John do when he is drunk?

Figure 4.3 shows the analysis of (4.11) in Simpler Syntax.
4.3 Monoclausal and Polyclausal Directional Complex Predicates

Directional verb constructions (DVCs) can be either monoclausal or polyclausal in Mandarin. However, the choice is not always free, as illustrated in (4.16) and (4.17):

(4.16) Yuehan na lai le yi ben shu.
John take come ACTL one CL book
‘John took a book and came.’

(4.17) Yuehan na le yi ben shu lai.
John take ACTL one CL book come
‘John took a book and came.’

The syntactic structure of (4.16) and (4.17) is (4.18) and (4.19), respectively:

(4.18) \[\text{Yuehan}_\text{NP} \ [\text{na}_V \text{lai}_V]_V \text{le}_{\text{ACTL}} \text{yi}_{\text{NUM}} \text{ben}_{\text{CL}} \text{shu}_{\text{NP}}]_S\]

(4.19) \[\[\text{Yuehan}_i, \text{NP} \text{na}_V \text{le}_{\text{ACTL}} \text{yi}_{\text{NUM}} \text{ben}_{\text{CL}} \text{shu}_{\text{NP}}]_S [\text{PRO}_i, \text{NP} \text{lai}_V]_S\]

While the sentences in (4.16) and (4.17) are both grammatical, this is not the case for the pair in (4.20) and (4.21), where (4.20) is ungrammatical:

(4.20) * Yuehan na lai le wo jia yi ben shu.
John take come ACTL I home one CL book
‘John took a book and came to my home.’
(4.21) Yuehan na le yi ben shu lai wo jia.
John take ACTL one CL book come I home
‘John took a book and came to my home.’

Even if the LOCATION is not specified, as in (4.16) and (4.17), the choice between monoclausality and polyclausality is not always free either:

(4.22) Yuehan fang xia le yi ben shu.
John put down ACLT one CL book
‘John put a book down.’

(4.23) * Yuehan fang le yi ben shu xia.
John put ACTL one CL book down
‘John put a book down.’

Directionals are iconic in temporal order:

(4.24) Yuehan na yi ben shu lai wo jia.
John take one CL book come I home
‘John takes a book and comes to my home.’

(4.25) Yuehan lai wo jia na yi ben shu.
John come I home take one CL book
‘John comes to my home and takes a book./John comes to my home to take a book.’

The ungrammaticality of (4.20) shows that the constituent verbs in a Mandarin directional are not optionally separable as Chang (2001) suggests. Mandarin directionals can be monoclausal, as in (4.18), or polyclausal, as in (4.19). It is the coexistence of (4.18) and (4.19) which gives rise to the illusion that Mandarin directionals are optionally separable. However, in my analysis, (4.18) and (4.19) are actually the surface forms of two different types of directional complex predicates, where (4.18) is monoclausal and (4.19) is polyclausal.
4.4 Modificational Complex Predicates

Modificational complex predicates are polyclausal formed by clause chaining. The chained clauses in the back usually modify the chained clauses in the front, as shown in (4.26). The modification can be a specification of a manner, a qualification, etc.

Let us start with example (4.26), which is termed a “pivotal construction” by Li and Thompson (1981: 607):

(4.26) Yuehan jiao Mali xuexi.
       John call Mary study
       ‘John orders Mary to study.’

According to Li and Thompson (1981: 607), the structure of (4.26) is as shown in Figure 4.4.

![Figure 4.4. Analysis of (4.26) according to Li and Thompson (1981).](image)

However, I propose that (4.26) is actually formed by object control clause chaining, as shown in (4.27):

(4.27) [[Yuehan$_{SUBJ}$ jiao Mali$_{OBJ}$] [PRO$_{SUBJ}$ xuexi]]

I propose to call these structures modificational complex predicates for two reasons. The first reason is that they are not always pivotal. For example, (4.28) cannot be expressed as a pivotal construction like Figure 4.4 as shown in Figure 4.5.

(4.28) Yuehan you zige huode jiangli.
       John have qualification acquire reward
       ‘John is entitled to acquire the rewards.’
As the clause chains get longer, there are more possible patterns, as shown in (4.29) and (4.30):

(4.29) Yuehan jiao Mali yinyou Bide mai fangzi.
John call Mary seduce Peter buy house
‘John orders Mary to seduce Peter to buy the house.’

(4.30) Yuehan you jihui dabai duishou dangxuan zongtong.
John have chance defeat rival be.elected.as president
‘John has the chance to defeat the rivals and becomes the president.’

It would be easier and clearer to analyze the structures of these long clause chains in terms the concept of control, so that the structure of (4.29) and (4.30) would be (4.31) and (4.32) respectively:

(4.31) [[Yuehan_{SUBJ} jiao Mali_{OBJ}] [PRO_{i,SUBJ} yinyou Bide_{OBJ}] [PRO_{i,OBJ} mai fangzio_{OBJ}]]

(4.32) [[Yuehan_{i, SUBJ} you jihui_{OBJ}] [PRO_{i,SUBJ} dabai duishou_{OBJ}] [PRO_{i, SUBJ} dangxuan zongtong_{OBJ}]]

In (4.31), the second clause is controlled by the object of the first clause, and the third clause is controlled by the object of the second clause. In (4.32), by contrast, the second clause is controlled by the subject of the first clause, and the third clause is controlled by the subject of the second clause.

The second reason why I propose to call these clauses modificational complex predicates is because of their semantic application. While the describing constituent verb in a
depictive describes the status of an entity and the describing constituent verb in a manner serialized complex predicate describes a subeventuality, the semantic application in modificational complex predicates is more varied. These complex predicates are polyclausal and usually correspond to infinitive clauses in English, as in (4.33) and (4.34):

(4.33) Yuehan you qian mai fangzi.
John have money buy house
‘John has money to buy a house.’

(4.34) Yuehan jiao Mali xuexi.
John call Mary study
‘John orders Mary to study.’

However, the clause mai fangzi ‘buy house’ in (4.33) specifies the purpose of the object of the first clause, i.e. qian ‘money’, while the clause xuexi ‘study’ specifies the content of the order given by John to Mary. In (4.34), Yuehan jiao Mali... ’John orders Mary...’ can be conceived as (4.35), in which there is an implicit entity [ORDER] incorporated in jiao ‘order’:

(4.35) [CAUSE([JOHN], [MOVE([ORDER], [FROM-TO([JOHN], [MARY]))]))]

Both of the describing constituent subeventualities in (4.33) and (4.34) describe an entity in the whole eventuality. In (4.33), the described entity is [MONEY] and is explicit, while in (4.34) the described entity is [ORDER] and is implicit and incorporated into the verb jiao ‘order’. However, explicit or not, their describing nature is obvious, and we can clearly observe that the semantic functions of the describing constituent subeventualities are not manners. They do not describe either the status of the described entities or the manner of the described eventualities. Hence, they are distinct from both depictives and manner serialized complex predicates. However, their modificational nature is clear; for example, (4.34) is close to the LCS of a modificational complex predicate and has the meaning:

(4.36) [CAUSE([JOHN], [STUDY(MARY)]); MANNER([CAUSE([JOHN], [MOVE([ORDER], [FROM-TO([JOHN], [MARY]))]))])]

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The semantic application of modificational complex predicates varies. However, it is not clear yet how to put the describing subeventualities in the LCSs of the whole eventualities. The describing subeventualities might be taken as arguments of functions or added in as referential features. It is also possible that new functions and referential features are required to accommodate these modificational complex predicates. The best solution at this stage might be to suggest that there are many subcategories of modificational complex predicates, and that “modificational complex predicate” is a portmanteau category. Complex predicates in this category need further study.

To summarize, modificational complex predicates are polyclausal constructions that correspond in general to infinitive clauses in English, whereby the chained clauses in the back can be controlled either by subjects or objects of clauses in the front. Semantically, I showed that although modificationals are descriptive in nature, they are distinct from depictives and manner serialized complex predicates. The semantic application of modificationals is more varied, and there may be many subcategories of modificational complex predicates yet to be identified.

4.5 Parallel Complex Predicates

A component clause in a polyclausal complex predicate does not always contain a subeventuality. An example is bei NP$_{OBJ}$ in a passive bei-construction. However, generally speaking, when the component sentences in a polyclausal complex predicate other than depictive polyclausal complex predicates contain their own subeventualities, those subeventualities are iconically temporal in the order of their corresponding component sentences.

For example, in the full verb reading for na in (4.37), the subeventuality of na dao ‘take knife’ and qie xigua ‘cut watermelon’ are iconically temporal in the order of the corresponding component sentences na dao and qie xigua.

(4.37) Yuehan na dao qie xigua.

John take knife cut watermelon

‘John takes a knife to cut the watermelon.’/’John cuts the watermelon with a knife.’

As we have seen in section 4.3, directionals are also iconically temporal. However, this is
not necessarily the case for depictive complex predicates. For example, in (4.38), *zuo zhe* describes the entity John as discussed in section 4.2:

(4.38) Yuehan zuo zhe chi fan.
John sit DUR eat rice
‘John is sitting eating (his meal).’

The diagnostic question for (4.38) should be (4.39) rather than (4.40).

(4.39) How is John eating his meal?
(4.40) What does John do when he is eating?

The syntactic structure of (4.37) is:

(4.41) \[
[[\text{Yuehan}_\text{SUBJ}, i \text{zuo}_\text{V} \text{zhe}_\text{DUR}]_\text{S1} [\text{PRO}_\text{SUBJ, i} \text{chi}_\text{V} \text{fan}_\text{OBJ}]_\text{S2}]_\text{S}
\]

The subeventualities introduced by S_1 and S_2 in (4.38) are not iconically temporal, as S_1 describes how John is when he is doing S_2 as per (4.39), which makes the two subeventualities simultaneous.

Besides depictive polyclausal complex predicates, parallel polyclausal complex predicates are not iconically temporal either. Consider the example in (4.42), where the reduplicated *chi chi* ‘eat eat’ and *he he* ‘drink drink’ are in the Delimitative Aspect expressing the meaning of *a little bit*:

(4.42) Yuehan chi chi he he guo le yi tian.
John eat eat drink drink pass ACTL one day
‘John passed a day eating and drinking.’

The syntactic structure of (4.43) is:

(4.43) \[
[[\text{Yuehan}_\text{SUBJ, i} \text{chi}_\text{V} \text{chi}_\text{V}]_\text{S1} [\text{PRO}_\text{SUBJ, i} \text{heV}_\text{heV}]_\text{S2} [\text{PRO}_\text{SUBJ, i} \text{guoV}_\text{le}_\text{ACTL} \text{yi}_\text{NUM} \text{tian}_\text{OBJ}]_\text{S3}]_\text{S}
\]

The subeventualities introduced by S_1 and S_2 provide manner adjuncts for the manner of S_3. However, the relationship between the subeventualities introduced by S_1 and S_2 is parallel. (4.43) does not mean that John ate and then drank. Actually, it can mean that John ate a little bit, then drank a little bit, then ate a little bit, and then drank a little bit,
etc. Neither *chi* ‘eat’ nor *he* ‘drank’ is semantically bleached. The answer to the diagnostic question for depictive polyclausal complex predicates in (4.44) is not (4.45):

(4.44) How was John when he was drinking?

(4.45) ?? John was eating when he was drinking.

Neither of the subeventualities introduced by $S_1$ and $S_2$ is the manner of the other. Their relationship is parallel and non-iconically temporal. They do not necessarily take place at the same time as the two subeventualities in (4.38) do. I propose the semantic conjunction AND to link the two subeventualities:


Hence, the meaning of (4.42) can be formalized as:


In plain language, (4.47) means *John passed a day in the manner of eating a little bit and drinking a little bit.*

### 4.6 Successive Complex Predicates

There is another type of polyclausal complex predicates, in which not only the subeventualities are iconically temporal, but what is stressed in this type of polyclausal complex predicates is the successive occurrence of the subeventualities. (4.48) is an example:

(4.48) Yuehan xi shou chi fan.

John wash hand eat rice

‘John washed his hands and had his meal.’

The syntactic structure of (4.48) is:

(4.49) $[\text{Yuehan}_{\text{SUBJ},i} \ xi \ shou_{\text{OBJ},j}]_{S_1} [\text{PRO}_{\text{SUBJ},i} \ chi \ fan_{\text{OBJ},j}]_{S_2}$

The relationship between the subeventualities in (4.49) is different from what we have discussed in previous sections. There is no bleached verb in (4.49) and (4.48) is not an example of a depictive polyclausal complex predicate since the question in (4.50) is not
appropriate in this context:

\[(4.50) \quad \text{How was John when he was eating?}\]

In the reading of *John washed his hands and had his meal* instead of *John washed his hands in order to have his meal* in (4.48), it would be strange to say that the subeventuality *chi fan* ‘eat rice’ modifies the subeventuality *xi shou* ‘wash hand’ and to analyze the reading as:

\[(4.51) \quad * [[JOHN-EAT-MEAL]; MANNER [JOHN-WASH-HAND]]\]

I propose the semantic conjunction *AFTER TIME* to link the two subeventualities in (4.48) in the reading of ‘John washed his hands and had his meal’, which can be written as:

\[(4.52) \quad [AFTER TIME ([JOHN-EAT-MEAL], [JOHN-WASH-HAND])]\]

By introducing the semantic conjunction *AFTER TIME*, we can also formalize the third reading of (4.37) in addition to the bleached *na* ‘take’ reading and the full verb but non-successive *na* ‘take’ reading:

\[(4.53) \quad [AFTER TIME ([JOHN-TAKE-KNIFE], [JOHN-CUT-WATERMELON])]\]

We can observe that the relationships between subeventualities introduced by component clauses in polyclausal complex predicates are various. A sentence with the same surface form may have many different readings. I propose that, with the introduction of proper semantic conjunctions, it will be easier to describe those readings with nuances of meaning.

4.7 *De-Construction and Polyclausal Resultatives*

There is also a type of resultative complex predicate which is polyclausal. Some sentences with *de*-construction, discussed in section 2.6.3, may be considered polyclausal resultatives. Huang (1992: 140) comments that *de* is a suffix or a clitic depending on the analysis, and *de* is historically developed from the full verb *de* ‘obtain’. Huang (1992) includes *de*-constructions in complex predicates, and our study also adopts this viewpoint. I will briefly discuss polyclausal resultatives in this section.

\[(4.54) \quad \text{is an example of *de*-construction:}\]
As discussed in section 2.6.3, sentences like (4.54) with de-construction are called complex state constructions (CSCs) in Li and Thompson (1981: 623) and have the structure in (4.55):

\[(4.55) \quad \text{[clause de]}_{S1} \text{[stative clause or stative verb phrase]}_{S2}\]

Li and Thompson (1981) recognize two functions of CSCs whereby stative clauses or stative verb phrases can describe the manner or the extent of the first clause. We can observe that the syntactic structure of (4.54), written as (4.56), is in accordance with (4.55):

\[(4.56) \quad \left[\begin{array}{c}
\text{[Yuehan} \text{SUBJ, } i \text{zou V de CSC]}_{S1} \\
\text{[PRO} \text{SUBJ, } i \text{shuo V } \text{bu V NEG } \text{chu V hua OBJ]}_{S2}
\end{array}\right]_{S}
\]

However, we also have de-construction sentences like (4.57), with the syntactic structure of (4.58):

\[(4.57) \quad \text{Yuehan xiao de shuo bu chu hua.} \quad \text{‘John laughed so much that he could not speak out any word.’}\]

\[(4.58) \quad \left[\begin{array}{c}
\text{[Yuehan} \text{SUBJ, } i \text{xiao V de CSC]}_{S1} \\
\text{[PRO} \text{SUBJ, } i \text{shuo V bu NEG chu V hua OBJ]}_{S2}
\end{array}\right]_{S}
\]

In $S_2$ of (4.58), there is a monoclusal complex predicate shuo chu ‘speak out’, which is negated in the form $V_1 \text{bu } V_2 \text{ ‘cannot } V_1 V_2\text{’}$. (4.58) is similar to, but not in accordance with, the structure of (4.55) proposed by Li and Thompson (1981) in that $S_2$ of (4.57) is not a stative clause or a stative verb phrase, since shuo chu ‘speak out’ is not a stative verb. Hence, I think that what can be taken as $S_2$ in a de-construction is not limited to stative clauses or stative verb phrases as suggested by Li and Thompson (1981).

Li and Thompson (1981) point out that subeventualities represented by $S_2$ in de-constructions may be the manner or the extent of the subeventualities of $S_1$. The extent termed by Li and Thompson (1981) can also be understood as the result of the
subeventualities of \( S_1 \). For example, in (4.54), *jiao tong* ‘foot ache’ can be understood as the extent of *Yuehan zou* ‘John walk’ and also the result of *Yuehan zou* ‘John walk’. In (4.57), *shuo bu chu hua* ‘speak NEG out words’ can be understood as the extent of *Yuehan xiao* ‘John laugh’ and also the result of *Yuehan xiao* ‘John laugh’. Hence, for *de*-construction sentences where \( S_2 \) describes the extent of \( S_1 \), we can analyze them as resultatives as:

\[
(4.59) \quad \text{[CAUSE([SUBEVENTUALITY 1]), ([SUBEVENTUALITY 2])]} 
\]

However, not every *de*-construction sentence is a polyclausal resultative, where the subeventuality of \( S_2 \) is the extent and result of \( S_1 \). For *de*-construction sentences where \( S_2 \) describes the manner of \( S_1 \), we can analyze them as in (4.60), where \( F \) is the main function of the LCS of the subeventuality represented by \( S_1 \):

\[
(4.60) \quad \text{[F(…); MANNER([SUBEVENTUALITY 2])]} 
\]

For example, in (4.61), we cannot say that that John’s laughing causes him to be happy. That John is happy is just the manner of John’s laughing. Hence, (4.61), in spite of being a *de*-construction, is not a polyclausal RVC, and it should be analyzed in the form of (4.60), i.e. (4.62):

\[
(4.61) \quad \text{Yuehan xiao de hen gaoxing.} \\
\quad \text{John laugh CSC very happy} \\
\quad \text{‘John laughs very happily.’} 
\]

\[
(4.62) \quad \text{[LAUGH([JOHN]); MANNER([BE([JOHN], [IN([HAPPY-NESS)])])])]} 
\]

It should be noted that the chained clause after *de* does not require a shared argument with the other clause in the *de*-construction. (4.63) is an example modified from (4.57):

\[
(4.63) \quad \text{Yuehan xiao de zhouweide ren dou jing xialai le.} \\
\quad \text{John laugh CSC surrounding person all silent INC} \\
\quad \text{ACTL/COS ‘John laughed so much that the surrounding people quieted down.’} 
\]

The syntactic structure of (4.63) is:
We can observe that $S_1$ and $S_2$ in (4.64) have no shared argument.

It should also be noted that not all polyclausal resultatives use the de-construction. For example, (4.65) is a polyclausal RVC:

(4.65) Ta du shu du huai naozi.

he read book read bad brain

‘He studies so much/in such a way that his brain is damaged.’

The syntactic structure of (4.65) is:

(4.66) [Ta_i du shu]$_{S1}$ [PRO$_i$ du huai naozi]$_{S2}$.

I suggest that (4.62) actually has a topic-comment syntactic structure, illustrated in (4.67), in which the comment describes the resultant state and the extent of the topic:

(4.67) [Ta$_i$ du shu]$_{S1}$, Topic [PRO$_i$ du huai naozi]$_{S2}$, Comment.

Hence (4.65) can express causality without using the de-construction. It should be noted that Li (1990) suggests that du ‘read’ in (4.45) is a reduplication. However, I do not think that du in (4.45) is a reduplication, since we can also have (4.68) in a resultative reading, where du ‘read’ is not duplicated.

(4.68) Ta du shu gao huai naozi.

he read book do bad brain

‘He studies so much/in such a way that his brain is damaged.’

The syntactic structure of (4.68) can be analyzed as (4.69) in a similar way in which (4.65) is analyzed as (4.67):

(4.69) [Ta$_i$ du shu]$_{S1}$, Topic [PRO$_i$ gao huai naozi]$_{S2}$, Comment.

Hence, (4.68) suggests that du ‘read’ in (4.45) is not simply a reduplication.
4.8 Bleached Serialized Complex Predicates

4.8.1 Introduction

One type of polyclausal complex predicate in Mandarin is composed of several chained clauses, of which at least one of the predicative components is semantically bleached. I call such complex predicates ‘bleached serialized complex predicates’. In Mandarin, they usually have the form:

\[(4.70) [\ldots V_{\text{bleached}} N_1]_{S_1} (\ldots) [\ldots V_{\text{full}} (N_2)]_{S_2}\]

\(V_{\text{bleached}}\) is semantically bleached and functions as a preposition-like thematic role marker or a case marker of \(N_1\), for example:

\[(4.71) \text{Yuehan gei Mali xie xin.} \]
\[
\text{John give Mary write letter}\]
\[
\text{‘John wrote a letter to Mary.’}
\]

The syntactic structure of (4.71) is:

\[(4.72) [[\text{Yuehan} \text{ gei Mali}]_{S_1} [\text{PRO} \text{ xie xin}]_{S_2}]_S\]
\[
\text{John give Mary write letter}\]
\[
\text{‘John wrote a letter to Mary.’}
\]

\(S_1\) then functions as an adverbial in the whole sentence, much like a PP in English. In the example of (4.72), \(\text{gei}\) is semantically bleached as a RECIPIENT marker, and \(S_1\) is like a \(to-\)PP introducing the RECEIVER in English. The S containing the full verb usually comes after the adverbial S containing the bleached verb. However, there are a small number of cases where the adverbial S comes after the S containing the full verb with the naturally occurring sentence (4.73) as an example. In (4.73), \(\text{xiaanding ‘limit and specify’}\) is a full verb, and \(\text{yu ‘relate’}\) is a bleached verb which follows the full verb and functions as a LOCATION marker.
(4.73) …並限定研究範圍於工業廢水的管制:…

...bing **xianding** yanzhu fanwei **yu** gongye feishui \( \text{de} \)
and **limit.** and specify research range **relate** industry wastewater \( \text{ASSOC} \)
guanzhi:…

‘…and limit and specify the research area in the control of the industrial wastewater:…’


Li (1980: 276) notices that \textit{yu} ‘relate’ is special in its postverbal position. However, the clause containing bleached \textit{yu} ‘relate’ can also be put before the clause containing the full verb as in

(4.74) **Yuehan** \textit{yu} quanlian xiatian \textit{biye}.

John relate last.year summer graduate

‘John was graduated last summer.’

If the subjects of the chained clauses \( S_1 \) and \( S_2 \) are the same, \( S_1 \) and \( S_2 \) would look like VPs:

(4.75) \( [N_{\text{SUBJ}} [V_{\text{bleached}} N_{\text{OBJ1}}]_{\text{VP1}} (\ldots) [V_{\text{full}} (N_{\text{OBJ2}})]_{\text{VP2}} ]_{\text{s}} \)

For example, the syntactic structure of the sentence in (4.76) may appear as in (4.77):

(4.76) **Yuehan** \textit{na} dao qie xigua.

John take knife cut watermelon

‘John took a knife and chopped the watermelon.’/’John chopped the watermelon with a knife.’
(4.77) [YuehanSUBJ NaV1 daoOBJ1]VP1 [qieV2 xiguaOBJ2]VP2 ]S

John take knife chop watermelon
‘John took a knife and chopped the watermelon.’/’John chopped the watermelon with a knife.’

However, I propose that the syntactic structure of (4.75) is actually (4.78):

(4.78) [Nsubj1, i Vbleached Nobj1]S1 (…) [Prosubj2, i Vfull (Nobj2)]S2

There are two reasons to support this proposition. The first reason is that there are polyclausal serial verb constructions with bleached verbs and different subjects in S1 and S2, for example:

(4.79) Yuehan bei Mali da le.

John cover Mary hit COS
‘John was hit by Mary.’

Bei is historically a full verb with the meaning of ‘cover’ (Yin 2004), however, it is now seldom used alone as a full verb with such a meaning. In bei-constructions, bei is used as a semantically bleached light verb and functions as an AGENT marker in the passive voice. The syntactic structure of (4.79) is:

(4.80) [[YuehanSUBJ bei MaliOBJ1, i]S1 [ProSUBJ2, i da le]S2 ]S

John cover Mary hit COS
‘John was hit by Mary.’

The second reason is that S1 and S2 in (4.70) may take aspect markers, for example:

(4.81) Yuehan na na jian shi ma Mali.

John take that CL thing scold Mary
‘John scolded Mary because of that incident.’

Na na jian shi ‘use that incident’ and ma Mali ‘scold Mary’ may take their own aspect markers as in (4.82) – (4.84):

(4.82) Yuehan na le na jian shi ma Mali.

John take ACTL that CL thing scold Mary
‘John scolded Mary because of that incident.’
(4.83) Yuehan na na jian shi ma le Mali.
John take that CL thing scold ACTL Mary
‘John scolded Mary because of that incident.’

(4.84) Yuehan na le na jian shi ma le Mali.
John take ACTL that CL thing scold ACTL Mary
‘John scolded Mary because of that incident.’

That na na jian shi ‘use that incident’ (lit. ‘take that incident’) and ma Mali ‘scold Mary’ may have their own TAM marker (the Actual Aspect marker le in the above examples) makes them closer to a clause than a VP. The syntactic structure of (4.81) is hence better represented by (4.85), which is closer to the structure of (4.78) than to (4.75):

(4.85) [[Yuehan, nav na jian shi]s1 [PRO, maV Mali]s2 ]s

Furthermore, the fact that na jian shi ‘that incident’ is an abstract NP shows that na does not have its original meaning of ‘take (by hand)’ in (4.81) but rather is somewhat bleached and has the flavor of an INSTRUMENT marker.

Na... qie in (4.85) is also an example of a bleached serialized complex predicate:

(4.86) Yuehan na dao qie xigua.
John take knife cut watermelon
‘John takes a knife to cut the watermelon.’/’John cuts the watermelon with a knife.’

There are two clauses in (4.86): Yuehan na dao and (Yuehan) qie xigua. Both dao ‘knife’ and xigua ‘watermelon’ are OJBs, however, the status of OBJ is assigned to dao ‘knife’ by na ‘take’, while the status of OBJ is assigned to xigua ‘watermelon’ by qie ‘cut’. We have two sets of grammatical relations in (4.86), hence (4.86) is polyclausal according to the criteria proposed in Chapter 1. However, there is only one set of grammatical relations in (4.86) as a whole: Yuehan ‘John’ is the AGENT, dao ‘knife’ is the INSTRUMENT, and xigua ‘watermelon’ is the THEME. Hence, (4.86) is an eventuality in accordance with our criteria in Chapter 1. Hence, (4.86) is a semantic projection of some predicate, and that predicate is na...qie. The clause chaining of (4.86) is shown in Figure 4.6, where I stands for inflection and IP for inflectional phrase.
It is noteworthy that the verb *na* in (4.86) functions as a marker of INSTRUMENT. As mentioned in Chapter 1, cross-linguistically, there are other examples in which a verb-like word straddles the border of an eventuality-encoding verb and a thematic-role-indicating adposition. In Chapter 1 I presented examples in Puluwat (Durie 1988: 7), repeated as (4.87), and in Jabêm (Durie 1988: 12), repeated as (4.88):

(4.87) yi pwe yatipa ngan-I laayif
    I future slice give-TR knife
    ‘I will slice (it) with a knife.’

(4.88) ja-sôm bing ê-nđêng lau
    1sg-speak word 3sg-to people
    ‘I address word(s) to the people.’ (I speak a word and it goes to the people)

*Ngan* ‘give’ in (4.87) is a constituent verb in a serial verb construction and behaves similarly to *na* ‘take’ in Mandarin both syntactically and semantically. The constituent verb *(n)đêng* ‘towards’ in the serial verb construction in (4.88) functions like a GOAL marker (Durie 1988: 12).

In this section, I introduced bleached verbs in serialized complex predicates functioning as adpositions or thematic role markers. First, I gave some examples in Mandarin and talked about their polycausality. Then, I presented some examples to show that they also exist cross-linguistically. In the next section, I will discuss some examples of bleached verbs in serialized complex predicates in longer sentences in Mandarin.
4.8.2 Thematic Roles in Bleached Serialized Complex Predicates

In the last section, I presented some simple examples of bleached verbs in serialized complex predicates functioning as adpositions or thematic role markers in Mandarin. As a sentence gets longer, it may contain more than one bleached verb. I will present and discuss some of these examples in this section.

In Chapter 1, I discussed the difference between clauses and eventualities. A clause contains a set of grammatical relations, while an eventuality contains a set of thematic roles. We propose that the more central thematic roles such as AGENT are unique in an eventuality, although the more peripheral thematic roles such as BENEFICIARY need not be.

The repetition of thematic roles can be observed in sentences with long clause chains. Let us start with sentences with shorter clause chains. For example, gei ‘give’ is associated with GOAL, RECEIVER, and BENEFICIARY, and bang ‘help’ and ti ‘change’ are associated with BENEFICIARY, for example:

(4.89) Mali gei xiaoaizi zuo fan.
Mary give child do rice
‘Mary prepares food for the child.’

(4.90) Mali ti xiaoaizi zuo dan.
Mary change child do rice
‘Mary prepares food for the child.’

(4.91) Mali bang xiaoaizi zuo fan.
Mary help child do rice
‘María prepares food for the child.’

In (4.89) – (4.91), xiaoaizi ‘child’ has the same thematic role: it can be analyzed either as BENEFICIARY or GOAL. However, as the number of arguments increases, the differences in the thematic roles that the arguments take become more fine-grained, and nuances among gei, bang, and ti start to appear. Suppose John is the boss of Mary, and John hired Mary to cook for his child, (4.92) – (4.96) are some of the examples using gei, bang, and ti as BENEFICIARY or GOAL markers.
(4.92) *Mali gei Yuehan gei xiaohaizi zuo fan.  
Mary give John give child do rice  
‘Mary prepares food for the child on behalf of John.’

(4.93) ?Mali gei Yuehan ti xiaohaizi zuo fan.  
Mary give John change child do rice  
‘Mary prepares food for the child on behalf of John.’

(4.94) Mali ti Yuehan gei xiaohaizi zuo fan.  
Mary change John give child do rice  
‘Mary prepares food for the child on behalf of John.’

(4.95) Mali gei Yuehan bang xiaohaizi zuo fan.  
Mary give John help child do rice  
‘Mary prepares food for the child on behalf of John.’

(4.96) Mali bang Yuehan gei xiaohaizi zuo fan.  
Mary help John give child do rice  
‘Mary prepares food for the child on behalf of John.’

(4.92) – (4.96) show that gei is more closely associated with GOAL than ti. This is because (i) xiaohaizi ‘child’, although also a BENEFICIARY, receives the action of zuo fan ‘prepare food’ more directly than Yuehan ‘John’ does and is more GOAL-like than Yuehan ‘John’ is, and (ii) gei is more compatible with xiaohaizi ‘child’ than ti is in the condition that gei is not repeatedly used as in (4.92). Thus, serial verb constructions using bleached verbs as thematic role markers as (4.92) – (4.96) seem to have the order

(4.97) AGENT V₁ BENEFICIARY V₂ GOAL V₃ THEME

Peripheral thematic roles (Goal-theta in LFG terminology) appear to have a specified order in Mandarin, associated with particular bleached verbs, even though in isolation these verbs can have variable interpretations.

Clause chains with BENEFICIARY- or GOAL-like roles can be even longer in Mandarin. Suppose John is the boss of Mary, and John hired Mary to cook for his child, but Mary is sick, so she sends her daughter Anna to do her job, i.e. to cook for John’s child. Then the eventuality can be expressed in Mandarin as (4.98):
(4.98) Anna ti Mali bang Yuehan gei xiaohaizi zuo fan.  
Anna change Mary help John give child do rice  
‘Anna prepares food for the child on behalf of John (which is supposed to be the job of Mary).’

If we change the order, as in (4.99), then in a similar context it would be understood that Mary is the boss of John, that cooking for Mary’s child is John’s job, and that Anna does John’s job for some reason:

(4.99) Anna ti Yuehan bang Mali gei xiaohaizi zuo fan.  
Anna change John help Mary give child do rice  
‘Anna prepares food for the child on behalf of Mary (which is supposed to be the job of John).’

(4.98) and (4.99) show that there seem to be two types of BENEFICIARY, one more direct and the other more indirect, instead of just two repeated BENEFICIARIES. In addition, the more direct BENEFICIARY (Mali in (4.98) and Yuehan in (4.99)) must precede the more indirect BENEFICIARY (Yuehan in (4.98) and Mali in (4.99)). Hence, we have at least two explanations for this phenomenon: either peripheral thematic roles are not unique in eventualities in Mandarin, or the role of BENEFICIARY can be further divided into more fine-grained thematic roles. The fact that the ordering affects the meaning in (4.98) and (4.99) suggests an explanation in favor of more fine-grained thematic roles.

There are many other verbs which can be used as adpositions. For example, the verb zai ‘exist’, when used as a bleached verb, is a LOCATION marker:

(4.100) Yuehan zai gongyuan wan.  
John exist park play  
‘John plays in the park.’

(4.101) Yuehan zai shudian mai shu.  
John exist bookstore buy book  
‘John buys books in bookstores.’
4.8.3 Enlargement of the Thematic Role Repertoire

The repertoire of the commonly used thematic roles is rather limited. Kroeger (2005) recognizes the following thematic roles: AGENT, EXPERIENCER, RECIPIENT, BENEFICIARY, INSTRUMENT, THEME, PATIENT, STIMULUS, LOCATION (with subtypes SOURCE, GOAL, PATH), and COMITATIVE. Of course there is no publicly recognized standard list of thematic roles, but the need for an enlarged thematic role repertoire has been observed by many researchers.

For example, Cruse (1973) proposes four kinds of AGENT, each of which is characterized further with one of the following four features: VOLATIVE, EFFECTIVE, INITIATIVE, and AGENTIVE. Cruse (1973) proposes that an AGENT has the feature VOLATIVE in an act of will, the feature EFFECTIVE when exerting a force not because of internal energy but because of its position, motion, and so forth (e.g. a ceiling-supporting column, a window-breaking flying stone, etc.), the feature INITIATIVE when triggering an action by giving a command, and the feature AGENTIVE when carrying out an action by using its own energy. Jackendoff (1990: 126-130) proposes the thematic role ACTOR. In addition, since ACTOR is a concept on the action tier and THEME is a concept on the thematic tier, ACTOR and THEME are not mutually exclusive, i.e. an entity can be an ACTOR and a THEME at the same time.

In sentences (4.98) and (4.99), there are two BENEFICIARIES. One possible solution to the “multiple BENEFICIARIES problem” is to simply abandon the application of uniqueness of role-bearer on more peripheral thematic roles. However, in doing so, we have to explain why some predicates would select two entities with the same thematic role but put them in different argument/adjunct slots. Another possible solution is to adopt a more fine-grained repertoire of thematic roles so that two entities seemingly bearing the same thematic role in a clause might turn out to have different thematic roles. More finely divided thematic roles have been discussed in Dowty (1991). However, Dowty (1991) warns that the identification of new thematic roles should be well motivated. For example, he argues that we should avoid identifying new thematic roles based on purely syntactic or pragmatic phenomena.

I propose that we should include additional thematic roles such as CONCESSIVE and TEMPORAL to better accommodate relational arguments. For example, rain in (4.102) is CONCESSIVE, since it is an entity that should have impeded the eventuality taking
place, even though the eventuality took place nevertheless, a situation where concessives such as *despite*, *in spite of*, *although* would normally be used, and *sojourn* in (4.103) is a type of TEMPORAL relation, and both are expressed in PPs:

(4.102) John went to the park despite the rain.

(4.103) John had purchased a castle during his sojourn in France.

In Mandarin, *zai* ‘exist’ in the polyclausal complex predicate *zai... daoda* ‘exist... arrive’ can also be used to mark TEMPORAL:

(4.104) Yuehan zai zuotian daoda Niuyue.

John exist yesterday arrive New.York

‘John arrived in New York yesterday.’

I would like to describe these newly proposed thematic roles, together with old thematic roles such as LOCATION, as more peripheral than some of the other more traditional thematic roles such as AGENT, PATIENT, and THEME. We can note that there seems to be a parallelism between the semantic content of these peripheral thematic roles and the semantic classification of adverbial clauses in that, while we have the thematic roles of LOCATION, CONCESSION, and TEMPORAL, we also have locative, concessive, and temporal adverbial clauses. This is not surprising, since adjuncts with these more peripheral meanings (i.e. location, concession, and temporal) often appear as NPs, PPs, and adverbials. When they appear as NPs and PPs, they get peripheral thematic roles. When they appear as adverbial clauses, they are classified as locative, concessive, and temporal adverbial clauses. The difference roughly corresponds to, as a preliminary analysis, whether an entity with locative, concessive, or temporal semantic content is conceived as a THING or an EVENT in Jackendoff’s (1990) LCS approach. If such an entity is conceived as a THING, it may be more likely to be realized as an NP or a PP, or in cases where the language in question offers such a mechanism, a clause headed by a bleached verb with a peripheral thematic role. If such an entity is conceived as an EVENT, it may be more likely to be realized as an adverbial clause headed by a full verb.

### 4.8.4 Summary

In section 4.8, I introduced bleached serialized complex predicates. A bleached serialized complex predicate contains at least one clause with a bleached verb which functions as a
preposition-like thematic role marker or a case marker. The clause containing a bleached verb precedes the clause with a full verb in the clause chain of the bleached serialized complex predicate.

Bleached serialized complex predicates are not limited to Mandarin, and they can be found in other languages. In section 4.8.1, firstly I gave an example of bleached serialized complex predicates in Mandarin together with a syntactic analysis, and then I presented some cross-linguistic examples. In section 4.8.2, I presented examples to illustrate that bleached verbs in bleached serialized complex predicates function as thematic role markers, arguing that BENEFICIARY-like thematic roles may not be unique to an eventuality in Mandarin and that we may need to adopt a thematic role repertoire with more fine-grained thematic roles to solve this problem. Similarly, in section 4.8.3, I proposed some new thematic roles and pointed out the relation between thematic roles, adverbials, adverbial clauses, THING-like entities, and EVENT-like entities.

4.9 Meaning Alternations in Serialized Complex Predicates

In section 4.8, I introduced complex predicates containing bleached verbs, in which the meaning of these bleached verbs is different from their corresponding full verbs. However, in some cases these bleached verbs seem to partially retain their full verb meaning. In this section I further investigate the meaning alternations of these bleached verbs.

Although the construction of meaning in languages is largely compositional, there are some cases where meaning is not expressed by lexical items, for example:

(4.105) Were I you, I would tell the truth.

The meaning “If I were you, I would tell the truth” in (4.105) is understood, even though there is no if in the sentence. The meaning of if in (4.105) is expressed by the construction of subject-verb inversion and the use of the subjunctive mood. Another example is the “ham sandwich” example in Nunberg (1979: 149):

(4.106) (A restaurant waiter:) The ham sandwich is sitting at table 20.

Ham sandwich in (4.106) represents the customer who ordered a ham sandwich, and this meaning is to be understood through context.
In Mandarin, bleached verbs are often used in polyclausal serial verb constructions, where they are bleached of their full meaning and function as thematic role markers. The meaning conveyed by these bleached verbs is different from the meaning of the full verb. In this section, I investigate whether the meaning alternations are due to the lexical item itself, the construction, or the context.

4.9.1 Pragmatic Application of Simpler Syntax

It is a significant achievement that Simpler Syntax includes pragmatic effects in its theory. In the following sections, I discuss the application of Simpler Syntax in three pragmatics-related phenomena: bare argument ellipsis (BAE), coercion, and metonymy. Utterances of this type require pragmatic background and/or world knowledge for interpretation.

4.9.1.1 Bare Argument Ellipsis (BAE)

The following short discourse (4.107) and (4.108) is an example of BAE taken from Culicover and Jackendoff (2005: 239):

(4.107) A: I hear Harriet’s been drinking again.

(4.108) B: Yeah, Scotch.

The meaning of (4.108) is not composed only of the meanings of yeah and Scotch but also includes the contextual background, i.e. what B means in (4.108) is:

(4.109) Yeah, Harriet’s been drinking scotch.

Simpler Syntax explains the licensing of (4.109) despite the mismatch between (4.108) and (4.109) by the rule in (4.110), which is taken from Culicover and Jackendoff (2005: 265) with minor changes:

(4.110) Syntax: [XP]i ↔ Semantics: [F (X_i)]

F is a function which is to be interpreted with reference to the antecedent ‘Harriet’s been drinking’ (Culicover & Jackendoff 2005: 239). The rule (4.110) enables us to use a new formalism to treat contextual meaning; however, before giving an example, some preliminary developments for the new formalism are needed. The success of the communication between A and B in (4.106) and (4.108) can be described from two
perspectives: production and interpretation. (For simplicity, *yeah* is omitted from this discussion.)

Chronologically, the communication of (4.106) starts from B’s intention to convert his thought into an utterance. A simplified flowchart for the production of (4.106) is set out in Figure 4.7:

![Figure 4.7. Production of (4.106).](image)

A simplified flowchart for the interpretation of (4.106) is proposed in Figure 4.8:

![Figure 4.8. Interpretation of (4.106).](image)

In Figure 4.7, I denote the function which maps the thought from semantics to the corresponding syntactic form P (for production). The licensing of the production part of (4.106) is shown in (4.111), which can be formally written as (4.112):

\[
\text{(4.111) Syntax: } [\text{ham sandwich}_i] \equiv \text{Semantics: } P ([\text{HAM-SANDWICH}_i] = [\text{PERSON;} \text{DEF; } [\text{Property } \lambda [\text{Situation ORDER([α], [HAM-SANDWICH])]}]])
\]
In Figure 4.8, I denote the function which maps the thought from the syntactic form to the corresponding semantics I (for interpretation). The licensing of the interpretation part of (4.106) is shown in Figure 4.8, which can be formally written as (4.113):

\[
\text{(4.113) Syntax: } [\text{ham sandwich}_i] \Rightarrow \text{Semantics: } I ([\text{HAM-SANDWICH}_i]) = [\text{PERSON; DEF; } [\text{Property } \lambda^{\alpha}[\text{Situation ORDER([\alpha], [\text{HAM-SANDWICH}_i])}]])
\]

\[
\text{(4.114) } I ([X_i]) = [\text{PERSON; DEF; } [\text{Property } \lambda^{\alpha}[\text{Situation ORDER([\alpha], [\text{HAM-SANDWICH}_i])}]])
\]

A communication in BAE with the syntactic form \([X_i]\) is successful only when:

\[
\text{(4.115) } P ([X_i]) = I ([X_i])
\]

This formalism can be used for simple discourse analysis not only in Mandarin but cross-linguistically. I show how this works in English, then I give an example in Mandarin. The dialogue in (4.116) – (4.120) is taken from the script of *The Golden Girls*, Season 5, Episode 5, a television show from the 1980s. (The script can be found at www.springfieldspringfield.co.uk/view_episode_scripts.php?tv-show=the-golden-girls-1985&episode=s05e05 and the corresponding part of the episode can be watched via www.youtube.com/watch?v=hBbvUFJOUZ8 at 1:36.)

(4.116) Blanche: Rose, I was just telling Sophia what a wonderful day we had.

(4.117) Rose: Wonderful, my foot. Blanche, you saw that dolphin. All tangled up in that tuna boat’s net. Thousands of them die that way each year. We have to do something.

(4.118) Blanche: You are absolutely right. From this moment on, no more tuna fish.

(4.119) Rose: Blanche, you hate tuna fish.

(4.120) Blanche: All right. Then no more tuna fishermen.

Audiences familiar with *The Golden Girls* know that Rose is a character with great
naivety, which allows many punchlines. Imagine that after having heard (4.120), Rose’s response was:

\[(4.121)\] Rose: Blanche, we’re not cannibals.

In this scenario, the communication between Blanche and Rose in (4.120) would be a failed one. From (4.118), there is a production function on \textit{tuna fish} (4.122), which can be formally written as (4.123):

\[(4.122)\] Syntax: [XP] \iff Semantics: P \(_1\) ([X\(_i\)]) = [CAUSE([BLANCHE], (MOVE([X\(_i\)], [TO([STOMACH-OF-BLANCHE])])))]

\[(4.123)\] Syntax: [tuna fish] \iff Semantic: P \(_1\) ([TUNA-FISH]) = [EAT([BLANCHE], (MOVE([TUNA-FISH], [TO ([STOMACH-OF-BLANCHE])])))]

Because the communication of (4.118) is successful, we can infer that the interpretation function on \textit{tuna fish} in (4.118) is the following:

\[(4.124)\] Syntax: [XP] \implies Semantics: I \(_1\) ([X\(_i\)]) = [CAUSE([BLANCHE], (MOVE([X\(_i\)], [TO([STOMACH-OF-BLANCHE])])))]

\[(4.125)\] Syntax: [tuna fish] \implies Semantic: I \(_1\) ([TUNA-FISH]) = [EAT([BLANCHE], (MOVE([TUNA-FISH], [TO ([STOMACH-OF-BLANCHE])])))]

Since P \(_1\) ([X\(_i\)]) = I \(_1\) ([X\(_i\)]), I denote

\[(4.126)\] P \(_1\) ([X\(_i\)]) = I \(_1\) ([X\(_i\)]) = C \(_1\) ([X\(_i\)])

where C \(_1\) is a function of context.

Now, let us examine the communication failure of (4.120). Audiences familiar with \textit{The Golden Girls} know that Blanche is a character who is sexually open and always looking for romance. What Blanche wants to say in (4.120) by \textit{tuna fishermen} is “no more romances with tuna fishermen”. The production function in (4.120) is:
(4.127) Syntax: [XP], ⇐ Semantics: P₂ ([Xᵢ]) = [HAVE([BLANCHE], [ROMANCE], [WITH([Xᵢ]))]]

(4.127) can be formally written as (4.128), which shows that Blanche will have no more romances with tuna fishermen:

(4.128) Syntax: [tuna fishermen] ⇐ Semantics: P₂ ([TUNA-FISHERMEN])
= [HAVE([BLANCHE], [ROMANCE], [WITH([TUNA-FISHERMEN]))]]

Rose is very naïve, however. She does not realize that Blanche is manipulating the words, and the context has changed. So she keeps using the same context function, and her interpretation of (4.120) is actually (4.129) and (4.130), i.e. that Blanche will eat no more tuna fishermen, because in this case the communication between Blanche and Rose in (4.49) has failed:

(4.129) Syntax: [tuna fishermen] ⇒ Semantic: I₂ ([TUNA-FISHERMEN])
= C₁ ([TUNA-FISHERMEN])
= [EAT([BLANCHE], [TUNA-FISHERMEN])])

(4.130) P₂ ([Xᵢ]) ≠ I₂ ([Xᵢ]) = C₁ ([Xᵢ])

Referring to the discussion of BAE in section 4.9.1.1, in BAE, only part of an utterance (e.g. no more tuna fishermen) is realized phonologically instead of the whole utterance (e.g. I will have no more romances with tuna fishermen). The complete meaning of an utterance with BAE must be inferred from the context. I have shown how to deal with BAE by using the formalism of Simpler Syntax. I have also demonstrated that the formalism can be used to analyze, at least in some cases, communication failures due to BAE. In the next section, I will discuss coercion, another pragmatics-related phenomenon.

4.9.1.2 Coercion

There is no syntactic ellipsis in coercion. However, the successful interpretation of coercion also relies on additional information provided by the context. One of the most famous examples of coercion is the “ham sandwich” example of Nunberg (1979: 149),

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which is also mentioned in Culicover and Jackendoff (2005: 365). The original example from Nunberg (1979: 149) is repeated as (4.131):

(4.131) (A restaurant waiter:) The ham sandwich is sitting at table 20.

In a normal, non-anthropomorphizing scenario, a ham sandwich can be put on a table, but it cannot sit at a table. The interpretation of (4.131) relies on contextual information, i.e. what the waiter means by *the ham sandwich* is the person who ordered the ham sandwich. Culicover and Jackendoff (2005: 381) treat the coercion in (4.131) by writing the LCS of *ham sandwich* as:

(4.132) [PERSON ASSOC-W[HAM SANDWICH]]

However, I would like to make a minor change so that the LCS for *the person who orders ham sandwich* is more specific:

(4.133) [PERSON; DEF; [Property λα[Situation ORDER([α], [HAM-SANDWICH])]]]

c.f. Culicover and Jackendoff (2005: 322) for their treatments of relatives. We can also assign a function to express the coercion in the ham sandwich example:

(4.134) [PERSON; DEF; [Property λα[Situation ORDER([α], [HAM-SANDWICH])]] = C₁ ([HAM-SANDWICH])

where C₁ is a function for coercion. Hence, the coercion function for *ham sandwich* in (4.132) is:

(4.135) [PERSON; DEF; [Property λα[Situation ORDER([α], [X₁])]] = C₁ ([X₁])

The syntactic-semantic relation in (4.131) can be expressed as:

(4.136) Syntax: [s[NP The ham sandwich] [VP is sitting at table 20.]]
⇔ Semantics: C₁ ([HAM-SANDWICH])

Pragmatics-related functions can be compositional. For example, imagine the following dialogue between two waiters in a restaurant:

(4.137) A: Who is the coffee for?

(4.138) B: The gentlemen at table 20.
(4.139) A: Which one at table 20?

(4.140) B: The ham sandwich.

Both (4.138) and (4.140) are examples of BAE; additionally, (4.140) is a combination of coercion and BAE. Let $C_1$ be the function dealing with the semantic part of the bare argument ellipsis and $C_2$ be the function dealing with the coercion in (4.140), we have

(4.141) Syntax: [s The ham sandwich.]
\begin{align*}
\iff & \text{ Semantics: } C_1 \left( C_2 \left( \text{HAM-SANDWICH} \right) \right) \\
& = C_1 \left( \text{PERSON; DEF; } \lambda \alpha \left[ \text{Situation ORDER}([\alpha], \text{HAM-SANDWICH}) \right] \right) \\
& = \text{BE ([COFFEE], [FOR ([PERSON; DEF; \lambda \alpha [\text{Situation ORDER}([\alpha], \text{HAM-SANDWICH})]])])} \text{ (i.e. “The coffee is for the person who ordered the ham sandwich.”)}
\end{align*}

where

(4.142) $C_2 \left( [X_i] \right) = \text{PERSON; DEF; } \lambda \alpha \left[ \text{Situation ORDER}([\alpha], [X_i]) \right]$

and

(4.143) $C_1 \left( [X_i] \right) = \text{BE ([COFFEE], [FOR ([X_i])])}$

It should be noted that $C_1$ and $C_2$ together license (4.140). The licensing can be written as:

(4.144) Syntax: $[XP]_i \iff \text{ Semantics: } C_1 \left( C_2 \left( [X_i] \right) \right)$

where $C_1$ and $C_2$ are per (4.143) and (4.142), respectively. We can write $C_1 \left( C_2 \left( [X_i] \right) \right)$ as a single function, say, $C \left( [X_i] \right)$, and we have

(4.145) Syntax: $[XP]_i \iff \text{ Semantics: } C \left( [X_i] \right) = C_1 \left( C_2 \left( [X_i] \right) \right)$

Two observations can be made in (4.145). First, the licensing of an utterance that needs pragmatic help for its interpretation may be compositional. For example, the licensing of (4.145) is composed of two functions, $C_1$ and $C_2$. Its grammaticality may have more than one pragmatic source. Second, (4.145) suggests that at least in the case of (4.140) there is an order in the application of pragmatic help for such an utterance. From the start, the dialogue in (4.137) – (4.140) is about who the coffee is for. Hence information related to
who the coffee is for, i.e. C₁, serves as the “background of the background”. The request for information about “which person” at table 20 comes relatively late in the dialogue, hence the information related to which one at table 20, i.e. C₂, serves as the “foreground of the background” and is embedded in an already established “background of the background” context. Thus, it is no coincidence that in the formalism of (4.145), C₂ is embedded in C₁, since the C₂-related context is also established on the basis of the C₁-related context.

4.9.1.3 Metonymy

(4.131) is also an example of metonymy in that ham sandwich, which is associated with the man who ordered the ham sandwich, is used to represent the man. The models in Figures 4.7 and 4.8 can also be used to formalize metonymy. With the formalism which we propose, we find that, just like in (4.145), an instance of metonymy may be composed of more than one “sub-metonymy”, as illustrated in (4.146) with the reading of (4.147):

(4.146) The minister coveted the scepter of the president.

(4.147) The minister coveted the power of the president.

In (4.146) and (4.147), we have an instance of metonymy in which the word scepter represents power. However, this metonymy is composed of two “sub-metonymies”, with one being the person who owns the scepter and the other being the power which the person has. Together, we have a composed overall metonymy in which scepter represents the power which the person who owns the scepter has. This composition is represented in (4.148):

(4.148) Syntax: [scepter]

\[\Leftrightarrow\text{Semantics: } M_1 (M_2 ([\text{SCEPTER}]))\]

\[= M_1 ([\text{PERSON; DEF; } [\text{Property } \lambda^a[Situation \text{ HAVE}([\alpha], [\text{SCEPTER}])]]]) (\text{i.e. } C_1 ([\text{THE-PERSON-WHO-OWNS-THE-SCEPTER}]))\]

\[= ([\text{POWER; DEF; } [\text{Property } \lambda^b[Situation \text{ HAVE}([\text{PERSON; DEF; } [\text{Property } \lambda^a[Situation \text{ HAVE}([\alpha], [\text{SCEPTER}])]], [\beta]]])]) (\text{i.e. } [\text{THE-POWER-WHICH-THE-PERSON-WHO-OWNS-THE-SCEPTER-HAS}])\]

In (4.148), M₁ and M₂ are two functions for the metonymy. M₂ represents the sub-metonymy from scepter to the person who owns the scepter and M₁ represents the sub-
metonymy from the person who owns the scepter to the power which the person who owns the scepter has. The argument-neutral form of M₂ is shown in (4.149), the argument-neutral form of M₁ is given in (4.150), and the overall metonymy function M is given in (4.151):

\[(4.149)\] \[M_2([X_i]) = [\text{PERSON}; \\text{DEF}; [\text{Property}\lambda\alpha [\text{Situation} \text{HAVE}([\alpha], [X_i])]]]\]

\[(4.150)\] \[M_1([X_i]) = [\text{POWER}; \\text{DEF}; [\text{Property}\lambda\beta [\text{Situation} \text{HAVE}([X_i], [\beta])]]]\]

\[(4.151)\] Syntax: \([XP] \iff \text{Semantics}: M([X_i]) = M_1(M_2([X_i]))]\]

In section 4.9.1, I discussed three pragmatics-related phenomena: BAE, coercion, and metonymy. In BAE, section 4.9.1.1, a part of an utterance undergoes syntactic ellipsis, such as meaning no more tuna fishermen by saying I will have no more romances with tuna fishermen. In coercion, section 4.9.1.2, the semantic content of a lexical item must be altered so that it can be interpreted correctly, for example, so that ham sandwich actually refers to the person who ordered the ham sandwich; and in section 4.9.1.3, I used scepter to illustrate how the word can be used to represent the power which the person who owns the scepter has through metonymy. BAE, coercion, and metonymy need additional contextual information or world knowledge. I showed how the formalism provided by Simpler Syntax can be used to deal with BAE, coercion, and metonymy, and I also gave examples to demonstrate how to use the formalism provided by Simpler Syntax to analyze cases with these phenomena. I will now extend these proposals to the analysis of na ‘take’ in serial verb constructions in Mandarin.

4.9.2 Propositional Meanings and Pragmatic Polysemy

4.9.2.1 Introduction

Meaning may be conveyed explicitly by lexical items or not. For example, in (4.152) there is no hypothetical if, but the sentence has the same meaning as (4.153):

\[(4.152)\] Were I you, I would tell the truth.

\[(4.153)\] If I were you, I would tell the truth.

The meaning of if in (4.152) is conveyed explicitly by the word if, but the meaning of if in (4.152) is conveyed implicitly by the subject-verb inversion in the first clause. However,
the subject-verb inversion together with the use of *be* in the subjective mood in (4.153) is an established rule to express the meaning of *if* irrespective of its context. That is, the meaning of *if* is established in the proposition (4.153), although it is conveyed by the subject-verb inversion construction. Hence, the meaning of *if* is part of the propositional meaning in (4.152) and (4.153).

Another example of implicit conveyance of meaning is the “ham sandwich” example in Nunberg (1979: 149) in (4.106). The meaning of *the customer who ordered...* is not explicitly conveyed by (4.106) but is implicitly conveyed by the context. However, the meaning of *the customer who ordered...* is not established in the proposition in (4.106) but is provided by the context. Hence, the meaning of *the customer who ordered...* in (4.106) can be taken as an example of pragmatic polysemy.

### 4.9.2.2 The Coexistence of Propositional Meanings and Pragmatic Polysemies

Traugott and König (1991) examine semantic-pragmatic processes in the early stages of grammaticalization. They claim that at a given stage a form may have propositional meanings and pragmatic polysemies (Traugott & König 1991: 192-193). In this section, I will discuss the coexistence of propositional meanings and pragmatic polysemies taking *na* ‘take’ as an example.

In Simpler Syntax, there is no clear boundary between the grammar and the lexicon (Culicover & Jackendoff 2005: 25-26). Simpler Syntax acknowledges the existence of a core part and a peripheral part of the grammar. The peripheral part of the grammar has the character of the lexicon. There are many irregularities in peripheral grammar rules, and speakers learn those rules like lexical items. Complex predicates may be seen as more peripheral than simple predicates. For example, the complex predicate in (4.154) is *eat*... *green*:

(4.154) John ate the bananas green.

There is a series of *eat*... *Adj* complex predicates in English, for example:

(4.155) John ate the bananas yellow.

(4.156) John ate the noodles hot.

From (4.154) – (4.156), *NP1 eat NP2 Adj* in English has the meaning of (4.157):
We can treat the construction as a lexical item, i.e.:

\[ (4.157) \quad \text{[CAUSE ([NP_1], [MOVE ([NP_2], [TO ([STOMACH-OF-NP_1]]))]); MANNER[BE([NP_2], [IN([ADJ-NESS])])])]} \]

However, there are anomalies; for example, it would be strange to say:

\[ (4.159) \quad ? \text{John ate the noodles Vietnamese.} \]

The examples in (4.160) – (4.163) parallel those in (4.154) – (4.156) and (4.159) but are simple predicates:

\[ (4.160) \quad \text{John ate green bananas.} \]
\[ (4.161) \quad \text{John ate yellow bananas.} \]
\[ (4.162) \quad \text{John ate hot noodles.} \]
\[ (4.163) \quad \text{John ate Vietnamese noodles.} \]

Therefore, we see that the complex predicate eat... Adj construction is less productive and more peripheral than the simple predicate eat in the grammar. In this sense, the eat... Adj construction appears to be like a lexical item, as indicated in (4.158), and speakers have to learn its specific compatibility and collocation with other lexical items. Hence, eat... Adj behaves more like a mixture of a traditional grammar rule and a lexical item than a pure grammar rule.
Adj, but with different a meaning. For example, (4.164) has the meaning of (4.165):

(4.164) John ate the bananas nude.

(4.165) [WHILE([CAUSE([JOHN], [MOVE([BANANAS]), [STOMACH-OF-JOHN]]), [BE([JOHN], [IN([NUDE-NESS])])])

Hence, eat... Adj in (4.154) has a different meaning:

(4.166) [WHILE([CAUSE([NP_1], [MOVE([NP_2]), [STOMACH-OF-NP_1]]), [BE([NP_2], [IN([ADJ-NESS])])])

I term the complex predicates in (4.154) – (4.156) object-oriented depictives and the complex predicate in (4.164) a subject-oriented depictive.

Complex predicates with similar constructions can also be causative. For example, (4.167) has the meaning of (4.168) or (4.169):

(4.167) John painted the house red.

(4.168) [CAUSE([PAINT([JOHN], [HOUSE])], [BE([HOUSE], [IN([RED-NESS])]); INC])]

(4.169) [That John painted the house] caused [that the house became red].

A complex predicate such as that in (4.167) has the LCS:

(4.170) [CAUSE([PAINT([NP_1], [NP_2])], [BE([NP_2], [IN([RED-NESS])]); INC])]

I call such complex predicates object-oriented causatives.

There is a type of construction in English which seems like a subject-oriented causative, for example:

(4.171) John ate himself sick.

However, I think that this type belongs to a different lexical item, i.e. [V oneself Adj], rather than [V NP Adj]. In summary, the lexical item [V NP Adj] in English has at least three meanings: object-oriented depictive, subject-oriented depictive, and object-oriented causative.
If we accept this proposal, i.e. that lexical items with the structure [V NP Adj] have the meaning of object-oriented depictive, subject-oriented depictive, or object-oriented causative, then all three of these meanings are propositional. Now, let us consider the following example:

(4.172) The nanny fed the baby sick.

(4.172) contains the complex predicate *fed... sick*, and the lexical item [V NP Adj] is the template for the complex predicate. (4.172) has a subject-oriented descriptive reading and an object-oriented causative reading:

(4.173) subject-oriented depictive reading:
[The nanny fed the baby in the manner [that the nanny became sick]].

(4.174) object-oriented causative reading:
[[That the nanny fed the baby] caused [that the baby was sick]].

Both (4.173) and (4.174) are propositional meanings of *fed... sick* because both meanings are conveyed by the construction [V NP Adj].

Let us consider the following dialogue:

(4.175) A: What happened to the nanny?

(4.176) B: Oh, she’s got a cold.

(4.177) A: Let her have a day off then. I don’t think the nanny feeding the baby sick is a good idea, since the baby could get sick, too.

*Feed... sick* has two possible readings, a subject-oriented depictive reading and an object-oriented causative reading. In the dialogue (4.175) – (4.177), the established background information in this context is that the nanny is sick. In addition, A in (4.177) explains why letting the nanny feed the baby sick is not a good idea by saying *since the baby could get sick, too*. If A means *feed... sick* with an object-oriented causative reading, what A explains will become (4.178) in plain language:

(4.178) [[That the nanny feeds the baby] causes [that the baby is sick]] is not a good idea because [the baby can be sick].
The explanation is strange. The strangeness is more obvious if we make (4.178) more abstract:

(4.179) That eventuality\(_1\) causes eventuality\(_2\) is not a good idea because eventuality\(_2\) can happen.

That \textit{eventuality}_2 can happen is not an ideal explanation for “\textit{eventuality}_1 causes \textit{eventuality}_2 is not a good idea” because \textit{eventuality}_1 causes \textit{eventuality}_2 already presupposes the happening of \textit{eventuality}_2. The following is a pair of examples:

(4.180) Bashing people is not good because people can die.

(4.181) ? Bashing people to death is not good because people can die.

\textit{People can die} is a sensible explanation in (4.180) but odd in (4.181) because \textit{bashing people to death} presupposes that the bashed people die. Hence, compared with the object-oriented causative reading in (4.178), a subject-oriented descriptive reading would be more plausible since the subject-oriented descriptive reading \textit{the nanny feed the baby in the manner that the nanny is sick} does not presuppose the happening of the explanation \textit{the baby is sick}:

(4.182) [That the nanny feeds the baby in the manner [that the nanny is sick]] is not a good idea because [the baby can be sick].

In summary, the subject-oriented descriptive reading for \textit{feed... sick} has two advantages over the object-oriented causative reading. First, that the nanny is sick is established by the context in (4.176), and second, the subjective-oriented descriptive reading is more compatible with the additional explanation given by A in (4.177). The subject-oriented descriptive reading is therefore the preferred reading.

The subject-oriented descriptive reading for \textit{feed... sick} in (4.176) is a propositional meaning, because the subject-oriented descriptive reading is conveyed by the construction \textit{V... Adj}. It is interesting to note that the construction \textit{V... Adj} is polysemous in that it can have a subject-oriented descriptive reading and an object-oriented reading, and in the case of (4.176) the context eliminates the alternative reading. This is a different process from pragmatic polysemy, where the context provides more readings.
I now turn to a discussion of propositional meaning and pragmatic polysemy in SVCs, focusing on SVCs with *na* ‘take’. Normally ‘take’ is an action executed by the hands rather than by the mouth or foot. However, in (4.183), *na* is in a SVC where it functions as an INSTRUMENT marker:

(4.183) … na NP_{INSTRUMENT} V…

In the examples below, the verb ‘take’ is semantically bleached, since NP_{INSTRUMENT} can be both concrete, as in (4.184), and abstract, as in (4.185):

(4.184) Yuehan na dao qie xigua.
John take knife cut watermelon
‘John takes a knife to cut the watermelon.’/’John cuts the watermelon with a knife.’

(4.185) Yuehan na na jian shi ma Mali.
John take that CL thing scold Mary
‘John scolded Mary because of that incident.’

Although being semantically bleached, *na* as an INSTRUMENT marker behaves slightly differently with concrete and abstract objects:

(4.186) Yuehan benlai yao na dao qie xigua, danshi ta mei na.
John originally want take knife cut watermelon but he NEG take
‘Originally John wanted to take a knife to cut the watermelon, but he did not.’

(4.187) * Yuehan benlai yao na na jian shi ma Mali, danshi ta mei na
John originally want take that CL thing scold Mary but he NEG take
‘Originally John wanted to scold Mary because of that incident, but he did not.’

(4.187) can be negated as:
Yuehan benlai yao na na jian shi ma Mali, danshi ta mei John originally want take that CL thing scold Mary but he NEG ma.

scold

‘Originally, John wanted to scold Mary because of that incident, but he did not scold.’

The negation test in (4.186) and (4.187) shows that even when it is semantically bleached, the behavior of na is still influenced by its full verb meaning—that is, the full verb meaning of na is not totally bleached even when it is functioning as a bleached verb in a serial verb construction.

For the purpose of examining the behavior of na in SVCs, I collected a small corpus of texts with na in a SVC in the context of mouth and foot painting. Two instances of na in this context are shown in (4.189) and (4.190):

(4.189) …他開始用嘴拿筆寫字、畫畫，… ¹²
… ta kaishi yong zui na bi xie zi huahua…
he begin use mouth take pen write word paint painting
‘…he began to use his mouth to hold pens to write and brushes to paint…’

(https://www.ym.edu.tw/ymnews/193/a3_7.html)

¹ In Mandarin, the punctuation mark • functions as a coordinate conjunction; thus, the structure of the serial verb construction in (4.189) is [[taNV kaishiV] [naNV biN] [xieV ziN] [• CONJ] [huaNV huaN]].

² Bi can stand for both a pen and a brush (for painting); thus, in (4.189), we have [naNV biN] … [huaNV huaN]. If further specification is needed, huabi ‘painting-pen’ can be used to denote a brush for painting.
(... in addition, she invited a teacher and a child to the front of the stage to fold orizurus with their feet together with her and to practice writing their own names with pens.)

It is noteworthy that *yong zui* ‘using mouth’ in (4.189) and *yong jiao* ‘using feet’ in (4.190) appear explicitly in sentences with *na bi*. However, this does not mean that *na* and body parts other than the hands are totally incompatible, for example, in (4.191), where *DUR* is a durative aspect marker and *NOM* a nominalization marker. This example is taken from an article introducing an exhibition of works by mouth- and foot painting-artists, and in this context *na zhe huabi* ‘holding brushes’ is not done with the hand:

(...behind these pieces of work, all people holding the brushes have their touching past,...)
Na in (4.191) is not in a SVC; however, the sentence can be modified slightly to create a SVC, as in (4.192):

(4.192) …每幅作品的背後，那個拿著畫筆畫畫的人個個都有令人動容的過去，…

…mei fu zuopin de beihou, na ge na zhe huabi hua hua
every CL work GEN behind that CL take DUR brush paint painting
de ren ge ge dou you lingrendongrongde guoqu,…
NOM person CL CL all have touching past

‘…behind these pieces of work, all people painting with the brushes have their touching past, …’

All the examples of na in (4.189), (4.190), and (4.192) are in SVCs, and in each case na appears in the form:

(4.193) [(NP_{SUBJECT}) na NP_{INSTRUMENT}]_{S1} S_{2}.

I propose that the INSTRUMENTAL marker na in a serial verb construction such as (4.193) is only partially semantically bleached, and the degree of bleaching is conditioned by NP_{INSTRUMENT}, S_{2}, and other elements relevant to the context. We have already seen the different behavior of na when NP_{INSTRUMENT} is abstract or concrete in (4.186) – (4.188). The relative bleaching of na can vary according to whether the NP_{INSTRUMENT} is abstract or concrete. For example, consider the following pair of examples, again in the context of mouth and foot painting:

(4.194) Ta keyi na bi zhuang qian.
he can take brush earn money
‘He can use brushes to earn money.’

(4.195) Ta keyi na bi hua hua.
he can take brush paint painting
‘He can use brushes to paint.’

The corresponding subeventuality of S_{2} in (4.194) is ‘earn money’, the NP_{INSTRUMENT} bi is understood as the instrument of VP_{2}, and na is understood as the INSTRUMENT marker. This would be a normal scenario. However, in (4.195), the corresponding subeventuality
of $S_2$ is ‘paint’, which in normal circumstances is an eventuality carried out by hand. We can compare it with ‘earn money’: The implicature of using hands in ‘earn money’ is much weaker than in ‘paint’. Hence, in the context of (4.195), the implicature of using hands is prompted by hua hua ‘paint (paintings)’; this in turn promotes the remaining full verb meaning in the partially bleached verb na ‘take’ which in normal circumstances is also carried out by hand. In short, the bleaching of na in an SVC is also influenced by the subeventualities introduced by the other verb(s) in the SVC.

In order to ease the tension between the implicatures of “by hand” and “not by hand”, i.e. the tension between a full verb reading and a bleached verb reading, another S can be added to the SVC in (4.189) to add the implicature of “not by hand” and to suppress the implicature of “by hand”. Hence, the serial verb construction in (4.189) becomes (4.196), where yong ‘use’ is another INSTRUMENT marker:

\[
\text{(4.196) yong zui na bi xie zi} \\
\text{use mouth take pen write word}
\]

There might be an objection, saying that na in (4.196) is not a bleached verb in this context but a full verb and that it is yong which is the bleached verb in (4.196), not na. While I do not deny that na may retain some degree of a full verb interpretation, it should be noted that two INSTRUMENTS in a single sentence in Mandarin are possible, for example, in (4.197), the object of na ‘take’ is abstract, and both yong and na must be interpreted as semantically bleached verbs functioning as INSTRUMENT markers:

\[
\text{(4.197) Yuehan yong yanlide ciyu na na jian shi ma Mali.} \\
\text{John use harsh word take that CL thing cold Mary} \\
\text{‘John scolded Mary because of that incident with harsh words.’}
\]

Hence, na in (4.196) may still have some degree of bleached verb interpretation. It should also be noted that there might be fine differences between the two INSTRUMENTS in (4.197) similar to the cases of multiple BENEFICIARIES which we discuss in section 4.8.2.

As for (4.190), another serial verb construction with zhe ‘fold’ is also possible in this context:
(4.198) yong jiao zhe zhihe
use foot fold orizuru

However, the serial verb construction of *na* remains in the form of (4.193) instead of:

(4.199) yong NP<sub>INSTRUMENT1</sub> na NP<sub>INSTRUMENT2</sub> S<sub>3</sub>

As in (4.196), the “not by hand” implicature is still enhanced by the antecedent in (4.199). Hence, the tension between a full verb reading and a bleached verb reading in (4.190) is also eased.

The serial verb construction in (4.198) provides an opportunity to discuss a kind of coercion, although (4.198) is not an example of it. The verb *zhe* ‘fold’, unlike *na* ‘take’, does not function as a bleached verb; and by default, the action of *zhe* ‘fold’ is carried out using hands. In normal circumstances, we would express the LCS of *Yuehan zhe zhihe* ‘John folds orizuru’ in (4.200) as (4.201) instead of (4.202) because BY([HAND]) is the default of FOLD and is assumed. Hence, (4.202) can be taken as the default of (4.201):

(4.200) Yuehan zhe zhihe.
John fold orizuru
‘John folds orizuru.’

(4.201) [FOLD([JOHN], [ORIZURU])]

(4.202) [FOLD([JOHN], [ORIZURU], [BY([HAND])])]

However, we would express the LCS of *Yuehan yong jiao zhe zhihe* ‘John folds orizuru with his feet’ in (4.203) as (4.204):

(4.203) Yuehan yong jiao zhe zhihe
John use foot fold orizuru
‘John folds orizuru with his feet.’

(4.204) [FOLD([JOHN], [ORIZURU], [BY([FOOT])])]

The body part which executes *zhe* ‘fold’ is the foot, which is different from the default, the hand. Hence, the non-default body part *jiao* ‘foot’ is expressed overtly in (4.203) and semantically in (4.204) and is expressed explicitly, ‘with his feet’, instead of implicitly
by the context.

Now, let us return to (4.190). First, I would like to simplify the serial verb construction by removing the reflexive in (4.205) to (4.206) to avoid the treatment of the reflexive, which is irrelevant to the main point of our discussion here:

(4.205) na bi xie ziji mingzi
take pen write self name

(4.206) na bi xie mingzi
take pen write name

Then (4.190) would become:

(4.207) …還邀請一位老師及一位小朋友到台前與她一起用腳折紙鶴, 並練習拿筆
…hai yaoqing yi wei laoshi ji yi wei xiaopenyou dao
in.addition invite one CL teacher and one CL child arrive

寫名字。
tai qian yu ta yiqi yong jiao zhe zhihe, bing lianxi na state front and she together use foot fold orizuru and practice take

bi xie mingzi.
pen write name

‘… in addition, she invited a teacher and a child to the front of the stage to fold orizurus with their feet together with her and to practice writing names with pens.’

I propose to use MANNER as a referential feature for the manner of the eventuality xie ‘write’. A depictive complex predicate and a serialized clause expressing manner in an LCS are treated differently, as they are semantically different. For a depictive complex predicate, we use WHILE as a conjunctional function to connect the two subeventualities in an LCS. In a manner serialized complex predicate, the subeventuality describing the manner corresponds to the referential feature MANNER attached to the main eventuality.
Depictive complex predicates and manner serialized complex predicates are similar, but they are still different in meaning (Himmelmann & Schultze-Berndt 2005). The subeventuality which serves as the descriptive part of a depictive complex predicate describes the status of an entity in the LCS of the complex predicate, while the manner part of a manner serialized complex predicate modifies the whole subeventuality in the LCS.

Now, having introduced the referential feature MANNER, let us turn back to (4.206). For a full verb reading for na, we would express the LCS of (4.206) as (4.208) instead of (4.209), which is by default (4.210):

\[(4.208) \quad \text{[WRITE([X], [NAME]); MANNER(TAKE([X], [PEN], [BY([FOOT])]))]}\]

\[(4.209) \quad \text{[WRITE([X], [NAME]); MANNER([TAKE([X], [PEN]))]}\]

\[(4.210) \quad \text{[WRITE([X], [NAME]); MANNER([TAKE([X], [PEN], [BY([HAND])])])]}\]

In the formalism of Simpler Syntax, there is a coercion function for the full verb reading in (4.206) such that

\[(4.211) \quad \text{Syntax: [na bi xie mingzi]} \equiv \text{Semantics: [WRITE([X], [NAME]); MANNER([TAKE([X], [PEN], [BY([FOOT])])])]} = C ([WRITE([X], [NAME]); MANNER([TAKE([X], [PEN], [BY([HAND])])])])\]

where \(C\) is a coercion function, which we introduced in (4.134). In a more general form, \(C\) in \(na\ Y\ V\ Z\) with a contextual meaning of 'by foot' and a full verb reading of \(na\), where \(Y\) and \(Z\) are things and \(V\) is a transitive verb, can be written as

\[(4.212) \quad \text{C([F_v([X], [Z]); MANNER([TAKE([X], [Y], [BY([HAND])])])])} = [F_v([X], [Z]); MANNER([TAKE([X], [Y], [BY([HAND])]), BY([FOOT])])]) = [F_v([X], [Z]); MANNER([TAKE([X], [Y], [BY([FOOT])])])]]\]

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where $F_V$ is an function of two arguments for its AGENT and PATIENT/THEME. The coercion function here is different from the coercion function in the ham sandwich case in that the coercion function in (4.212) replaces $[\text{BY([FOOT])}]$ with $[\text{BY([HAND])}]$ in the LCS instead of preserving the original LCS intact and adding something new. I call the kind of coercion that replaces some part of the original LCS with something else “substitutive coercion” and that which adds something new to the original LCS “additive coercion”.

It should be noted that the deletion of $[\text{BY([HAND])}]$ and the addition of $[\text{BY([FOOT])}]$ is done through coercion. Hence, there will be a tension between $[\text{BY([HAND])}]$ and $[\text{BY([FOOT])}]$. Speakers who feel that the coercion implicitly provided by the context is not strong enough to delete $[\text{BY([HAND])}]$ and add $[\text{BY([FOOT])}]$ may feel uncomfortable and prefer to add *yong jiao* ‘by feet’ explicitly to enforce the deletion of $[\text{BY([HAND])}]$ and the addition of $[\text{BY([FOOT])}]$, as in (4.189) and (4.190).

As for the fully bleached verb reading of *na*, it is just an INSTRUMENT marker without the implicature of ‘by hand’. Therefore, the LCS of (4.206) in the bleached verb reading is:

\[
(4.213) \quad [\text{WRITE([X], [NAME], [BY([PEN])]})]
\]

In this instance there is no conflict with the context. Where the meaning of ‘by foot’ is added to (4.213) through the coercion function $C$, the mechanism of the coercion can be written as:

\[
(4.214) \quad \text{Syntax: [na bi xie mingzi]} \\
\quad \iff \text{Semantics: [WRITE([X], [NAME], [BY([PEN])]), BY([FOOT])]} \\
\quad = C ([\text{WRITE([X], [NAME], [BY([PEN])])}])
\]

where $F_V$ is an eventuality function of two arguments for its AGENT and PATIENT/THEME. In a more general form, $C$ in *na* $Y$ $V$ $Z$ with a contextual meaning of ‘by foot’ and a bleached verb reading of *na*, where $Y$ and $Z$ are things and $V$ is a transitive verb, can be written as:

\[
(4.215) \quad C([F_V([X], [Z], [BY([Y])]})]) \\
\quad = F_V([X], [Z], [BY([Y])], \text{BY([FOOT])})
\]
We can observe that the coercion function $C$ in (4.214) is not substitutive, as in (4.215), but additive. Even if yong jiao ‘use feet’ is added such that (4.206) becomes:

\[
(4.216) \quad \text{yong jiao na bi xie mingzi}
\]

\[
\text{use foot take pen write name}
\]

The LCS of the full verb reading of (4.216), undergoing substitutive coercion with $C$, would become:

\[
(4.217) \quad \text{[WRITE([X], [NAME], [BY([FOOT])]); MANNER(TAKE([X], [PEN], [BY([FOOT])]))]} \]

\[
= C \left( \text{[WRITE([X], [NAME], [BY([FOOT])]); MANNER(TAKE([X], [PEN], [BY([HAND])]))]} \right)
\]

The bleached verb reading of (4.216) is:

\[
(4.218) \quad \text{[WRITE([X], [NAME], [BY([PEN]), [BY([FOOT])])]} \]

There are no conflicts between the full verb reading and the bleached verb reading in (4.217) and (4.218). However, there is still a semantic difference between (4.217) and (4.218), and this difference will result in full verb readings, similar to that in (4.217), being inapplicable in some cases. Consider the following naturally occurring sentence:
Buying things with cash has an advantage; that is, when you cannot get a deal by talking with your mouth, you can get it done with cash.

(4.219) Na in na zuiba ‘take mouth’ in (4.219) has to be understood in the light verb reading ‘by/with the mouth’ in normal situations. Meanwhile, the full verb reading of na with substitutive coercion, regardless of any body part, is inadequate for a successful communication. Therefore, it is still necessary to maintain the distinction between (4.217) and (4.218) and to treat them as different but non-conflicting. (4.220) is another naturally occurring example similar to (4.219):

(4.220) …拿脚踢他。

…na jiao ti ta.

take foot kick he

‘…kick him by foot.’

In normal situations, people do not take their feet in their hands to carry out the action of kicking. Na in (4.220) in normal situations has to be understood in the light verb reading ‘by/with foot’ just like na in (4.219).

By observing the full verb reading and the bleached verb reading of (4.206), we may find that a successful communication may involve different types of coercion and the
interaction between coercion and verb bleaching. In addition, verb bleaching is not a mere process of deleting meaning. To illustrate, recall that to the bleached verb *bei* in (4.79), besides the deletion of its original meaning ‘cover’, a new meaning of AGENT marker in the passive voice is added. Thus, the verb bleaching process may also be semantically additive in that it may add new meanings that the full verb meaning does not contain.

That *yong zui* ‘use mouth’ is explicitly expressed in (4.189) may suggest that *na* retains some degree of its full verb meaning, even when it is a semantically bleached verb in a serial verb construction functioning as an INSTRUMENT marker, because even when it is used as an INSTRUMENT marker, the speaker still feel the need to express the body part explicitly when the body part is not the default one, i.e. ‘hand’. *Bi* ‘pen’ is doubtless the INSTRUMENT of the eventuality of writing one’s name with a pen. For some speakers, the competition between the full verb reading and the bleached verb reading in their minds makes them feel that the contextual meaning of ‘by foot’ is not strong enough to check the meaning of ‘by hand’ brought by the full verb reading of *na*, which results in their need to make *yong zui* ‘use mouth’ explicit to enhance the coercion.

Because both the full verb reading and the bleached verb reading are established in and conveyed by serial verb constructions, both the full verb reading and the bleached verb reading of *na* are propositional. When the object of *na* in a serial verb construction 

\[(NP\_SUBJ) \text{na NP}\_\text{INSTRUMENT } S1 […] S2\]

is abstract, the full verb reading of *na* is suppressed, and the bleached verb reading of *na* is assumed. Therefore, the bleached verb reading of *na* is propositional, in the sense that it is established in and provided by the serial verb construction, and it is also decided by the context, in the sense that its competing reading (i.e., the full verb reading) is suppressed by the context (the abstractness of the object of *na*).

When the object of *na* is a concrete tool, as in (4.184), (4.189), and (4.190), the full verb reading of *na* is not as suppressed as when the object of *na* is abstract. In such cases, if the context does not conflict with the full verb reading, both the full verb reading and the bleached verb reading are compatible with the context, and there is no need to syntactically stress either reading. This is what happens in (4.184): *na* has a full verb reading and a bleached verb reading, and both readings are propositional.

However, in (4.189) and (4.190), the context is in conflict with the full verb reading of *na*. 
Hence, *yong zui* ‘use mouth’ and *yong jiao* ‘use feet’ have been added. In (4.189), *yong zui* ‘use mouth’ is added directly to the serial verb construction, while in (4.190), *yong jiao* ‘use feet’ is not added to the serial verb construction but in the context as an antecedent. The expressions *yong zui* ‘use mouth’ and *yong jiao* ‘use feet’ are intended to stress the bleached verb reading and suppress the full verb reading so that *na* is compatible with the context. In the cases of (4.189) and (4.190), *na* has a bleached verb reading. The bleached verb reading is propositional in the sense that it is established in and conveyed by the serial verb construction, and it is also decided by the context in the sense that the preference for it over the full verb reading is provided by the context.

It should be noted that not every speaker has the same judgment on the relative weights of the full verb reading and the bleached verb reading. In the cases of (4.189) – (4.191), some speakers may feel that the weight of the full verb reading is so much that it cannot be ignored, and would therefore be uneasy if they did not stress by adding an overt instrument in that context, as is the case in (4.189) and (4.190). However, some speakers do not feel that the full verb reading weighs as much and that the context naturally suppresses the full verb reading without the need for an additional *S* containing another full verb, as is the case in (4.191). The difference between (4.191) and (4.192) is that, although *na* in both (4.191) and (4.192) has a different meaning from its full verb reading, *na* in (4.191) is a main verb depicting the eventuality of *holding the brushes*, while *na* in (4.192) is an INSTRUMENT marker introducing the INSTRUMENT into the eventuality of *painting*. In this regard, (4.191) is more like a coerced main verb than a canonical bleached verb, serving as a preposition-like thematic marker, as in (4.189), (4.190), and (4.192). This variation among speakers also shows that this kind of competition between a full verb reading and a bleached verb reading (as well as the techniques used to enhance either one) are in the so-called periphery of the grammar in Simpler Syntax in that the variation does not show a regularity as deep as that found in the core grammar (Culicover & Jackendoff 2005: 25).

The role of real-world knowledge in language is also important to note. For example, the default executive body part of a verb can have an influence on how the verb is employed in a particular language, as in the case of *na* in Mandarin, for example. These details are usually discovered by examining contrasts such as verb actions by default and non-default body parts. Simpler Syntax is structuralist in this respect in that it needs to determine
contrasts in collected data to make explanations a posteriori. Without these data, it would be hard for us to discover the existence of the default body part of *na* and to predict that the behavior of *na* in utterances would be affected by its default body part.

In this section I have briefly discussed propositional meaning and pragmatic polysemy and shown that they may coexist in an utterance, with examples from English and Mandarin. A focus was given to examples in Mandarin with the verb *na* ‘take’. I have also shown that the formalism provided by Simpler Syntax can be used to analyze meaning provided by the context.

### 4.10 Multiple Interpretations with Negative Particles

In the previous sections I talked about different types of poly-clausal complex predicate. In some SVCs, verbs function as adpositions and thematic role markers. In this section, I examine the behavior of SVCs with negative particles.

Total negation and partial negation in longer clause chains exhibit more complex behaviors than in shorter clauses. For example, in a sentence like (4.221)

\[(4.221)\] Mali ti Yuehan gei xiaohaizi zuo fan.

Mary change John give child do rice

‘Mary prepares food for the child on behalf of John.’

the most natural place to put the negative particle is after the subject and before the verb like (4.222), except for certain auxiliary verbs (Li & Thompson 1981: 417-421).

\[(4.222)\] Mali bu ti Yuehan gei xiaohaizi zuo fan.

Mary NEG change John give child do rice

‘Mary prepares food for the child on behalf of John.’

However, the position of the negative particle *bu*, which is used to negate an eventuality, and *mei* or *meiyou*, which are used to negate the completion of an eventuality (Li & Thompson 1981: 421) have a complex interaction with semantics and pragmatics. Let us start with sentence (4.222).

What is negated in (4.222) is the eventuality, and (4.222) is a complex eventuality composed of three clauses: *Mali (bu) ti Yuehan, gei xiaohaizi*, and *zuo fan*. Consider the following scenarios:
(4.223) John is poor, but John’s wife, Beatrice, is rich. Mary is hired by Beatrice to cook for John and Beatrice’s child. Someone asked, “Does Mary cook for the child on behalf of John?”

(4.224) John is rich and hired Mary to cook for his old parents. Someone asked, “Does Mary cook for John’s child?”

(4.225) John is rich and hired Mary as a home tutor for his child. Someone saw Mary working in John’s house and asks, “Does Mary cook for John’s child?”

(4.226) Mary is a friend of John, who is very rich. Someone saw Mary walk into John’s house and remembered that John had talked about his new cook, thought that Mary was the new cook, and asked, “Does Mary cook for John’s child?”

(4.222) provides the answer to the questions in (4.223) – (4.226). However, the negated elements in (4.223) – (4.226) are different. In (4.223), what is negated is ti Yuehan ‘for John/on behalf of John’. In (4.224), what is negated is gei xiaohaizi ‘for the child’. In (4.225), what is negated is zuo fan ‘prepare food/cook’. In (4.226), what is negated is the whole eventuality ti Yuehan gei xiaohaizi zuo fan ‘cook for the child on behalf of John/cook for John’s child’. Hence the interpretation of (4.222) is influenced by the context.

Another issue here is that since the bleached verbs ti and gei function as BENEFICIARY or GOAL markers, (Mali) ti Yuehan and (Mali) gei xiaohaizi are not Mary helps John and Mary gives (something) to the child but rather Mary (does something) for John and Mary (does something) for the child. (Mali) ti Yuehan and (Mali) gei xiaohaizi are no longer subeventualities but two clauses void of eventualities. However, since bu is a negative particle negating eventualities, in (4.222) the only eventuality that can be negated is the overall eventuality (since there are no subeventualities). Hence, we have to admit that bu has the ability to partially negate an eventuality, and therefore (4.222) can have different interpretations.

When the negation in a clause is stressed, bu can be placed at the front of that clause, although it is not as natural and as common as (4.222), for example:
(4.227) … (服務人員)可以幫我們不放豌豆。
…(fuwu renyuan) keyi bang women bu fang wandou.
  service personnel can help us NEG put pea
… the employees (of the restaurant) can not add peas (in the dish) for us.

(http://doublecandfun.pixnet.net/blog/post/189045548-%5B2013%E5%8F%B0% E5%8C%97%5D- cp%E5%80%BC%E7%A0%B4%E8%A1%A8%E6%B8%AF%E5%BC%8F%E9%A3%B2%E8%8C%B6%E3%80%81%E9%BB%9E%E5%83@%E5%84%B7%E5%AE%B4%E6%9C%83%E9%A4%A8-)

I propose that, because *bu* negates (partially or totally) an eventuality, its position in a polyclausal complex predicate will be influenced by the structure of the subeventualities in that predicate. For example, when a two-clause complex predicate contains a subeventuality in each clause, as in (4.228), what is negated in sentence (4.229) can be either (4.230) or (4.231), but (4.232) is problematic:

(4.228) Ta chu men mai shu.
  he go.out door buy book
  ‘He goes out and buys books./He goes out to buy books.’

(4.229) Ta bu chu men mai shu.
  he NEG go.out door buy book
  ‘He does not go out and buy any book./He does not go out to buy books.’

(4.230) He does not go out and buy any book.

(4.231) He does not go out to buy books. (He only buys books online.)

(4.232) ? He goes out not to buy books (but to buy food).

The way to express (4.232) is to put *bu* in front of the subeventuality which is to be negated, as in (4.233), or by using an overt contrastive phrase, as in (4.234):

(4.233) Ta chu men bu mai shu.
  he go.out door NEG buy book
  ‘He does not go out to buy books.’
(4.234) Ta bu chu men mai shu, ta chu men mai chi de.
he NEG go.out door buy book he go.out door buy eat NOM
‘He does not go out to buy books but to buy food.’

In (4.234), NOM is a nominalization marker used as a relativizer which nominalizes chi ‘eat’ to chi de ‘what to eat’, i.e. food.

I propose that in partial negation, it is more difficult for clauses without eventualities to be syntactically singled out and left un-negated even though semantically they are not negated. Hence, sentences like (4.234) are more common and more natural than sentences like (4.227). However, this observation still requires further investigation to be confirmed.

In this section, I have examined the behavior of some polyclausal complex predicates with negative particles. Examples of predicative components which function as bleached verbs and without subeventualities, and predicative components which function as full verbs and constitute subeventualities, were both considered. I proposed that the negative particle bu tends to negate eventualities, thus in partial negation, component VPs which constitute subeventualities in polyclausal complex predicates are syntactically easier to be singled out and combined with the negative particle bu.

4.11 Adverbs

In the previous section, I examined the behaviors of polyclausal complex predicates with negative particles. In this section, I examine the behavior of polyclausal complex predicates with adverbs, looking at examples both with and without bleached verbs.

It seems that the position of adverbs is less conditioned by the bleaching of the verb than negative particles. For example, the adverb suibian ‘carelessly’ in (4.235) can modify ti Yuehan ‘on behalf of John’, gei xiaohaizi ‘for the child’, zuo fan ‘prepares food’, or the whole eventuality ti Yuehan gei xiaohaizi zuofan ‘prepares food for the child on behalf of John’:

(4.235) Mali suibian ti Yuehan gei xiaohaizi zuo fan.
Mary carelessly change John give child do rice
‘Mary carelessly prepares food for the child on behalf of John.’

When the modification of a certain component clause is stressed, the adverb can be put in
front of that clause as in (4.236) and (4.237), which both sound natural in appropriate contexts:

(4.236) Mali ti Yuehan suibian gei xiaohaizi zuo fan.  
Mary change John carelessly give child do rice  
‘Mary carelessly prepares food for the child on behalf of John.’

*(carelessly for the child stressed)*

(4.237) Mali ti Yuehan gei xiaohaizi suibian zuo fan.  
Mary change John give child carelessly do rice  
‘Mary carelessly prepares food for the child on behalf of John.’

*(carelessly prepares food stressed)*

The position of adverbs is also elastic in non-initial clauses without bleached verbs in polyclausal complex predicates. For example, (4.238) can have multiple interpretations in different contexts, as is evident in (4.239) – (4.241):

(4.238) Ta guyi chu men mai shu.  
he purposely go.out door buy book  
‘He purposely goes out ‘

(4.239) He did not go out often and did not buy books often. However, he purposely goes out and purposely buys books today. *(guyi modifies chu men mai shu)*

(4.240) He usually buys books online. However, he purposely goes out to buy books today. *(guyi modifies chu men)*

(4.241) He goes out only for a walk after dinner every day, but he decides to go out and buy books purposely today somehow. *(guyi modifies mai shu)*

When the modification of a non-initial clause is stressed, the adverb can be put in front of that clause:
The interaction between verb bleaching, context, and the position of adverbs still needs further investigation. The observed positions of adverbs in polyclausal complex predicates described here also needs to be confirmed in further studies. In addition, no matter whether the verb is bleached or not bleached, the examples in this section clearly show that there is a complex interaction between syntax, semantics, and pragmatics in polyclausal complex predicates in Mandarin.

4.12 Summary

Complex predicates can have various syntactic structures and serve many semantic purposes. In this chapter, I started with a discussion about polyclausality in Mandarin and some cross-linguistic examples. I discussed polyclausal depictives, and then I moved to directional complex predicates, where the non-arbitrary congruency of the component verbs can be explained by monoclausality, polyclausality, and the omittance of arguments. Modificational, parallel, and successive complex predicates are also introduced. There are also polyclausal causatives, where the subeventualities predicated by the first clause cause the subeventualities predicated by the following clause. The clitic de is often attached to the end of the first clause, which is often called de-construction. I also showed that not all polyclausal causatives employ de-construction.

In sections 4.8 and 4.9, first I introduced bleached serialized complex predicates, where the bleached verbs function as preposition-like verbs or thematic role markers. Then I discussed pragmatic interference in meaning and interpretation. I presented naturally occurring sentences with na ‘take’ in a context where the executive body part is not ‘hand’, the default body part of na ‘take’, to show that there is a complex interaction between verb bleaching and context, and that propositional meaning and pragmatic polysemy coexist in these example sentences with na ‘take’.

Finally, in sections 4.10 and 4.11, I discussed negation and adverbs in polyclausal complex predicates. In clause chains, clauses predicking subeventualities are easier to be
singled out and negated by the negative particle *bu* than clauses led by bleached verbs, without subeventualities, and function like PPs. The position of adverbs seems less conditioned by verb bleaching in clause chains. The position of adverbs is generally freer than the position of the negative particle *bu* in clause chains.
Chapter 5: Conclusion

5.1 Conclusion

Complex predicates are abundant in Mandarin. Besides their large number, they are also rich in types. We presented examples of adjacent complex predicates and some non-adjacent complex predicates in Chapter 1. However, the structure of complex predicates is still not very well known generally. In consequence, complex predicates pose a problem to the analysis of Mandarin, both syntactically and semantically. This study proposes an analysis that is based on and balanced in syntax and semantics, which it is hoped will contribute to the understanding of complex predicates both in Mandarin and generally.

One of the sources of the difficulties in the study of complex predicates is the mismatch between the number of clauses and the number of eventualities projected by predicational elements in many sentences containing complex predicates. This is evidenced by the various definitions of complex predicates or serial verb constructions given by Aikhenvald (2006), Alsina, Bresnan, and Sells (1997), Baker and Harvey (2010), Butt (2010), Fan (2016), Li & Thompson (1981), and Zhai (2009), in which the definitions are based on the number of predicational elements or both the number of predicational elements and the number of projected eventualities.

In Chapter 1, several examples and counterexamples were given in order to discuss these different definitions. After the discussion, a definition of complex predicates in this study was suggested in which a complex predicate is:

(5.1) monoclausal, or polyclausal with clause chaining; and

(5.2) predicates a single eventuality

The advantage of this definition is that it takes the mismatch between the number of clauses and the number of eventualities into account. Since this definition is based on both syntax and semantics, a theoretical framework incorporating both syntax and semantics as a tool for our analysis was needed.
Simpler Syntax developed by Culicover and Jackendoff (2005) is compositionally and covers both the syntactic level and semantic level of sentences. In Chapter 2, first I presented the Lexical Conceptual Structure (LCS) approach developed by Jackendoff (1990). Then, I presented Simpler Syntax, which incorporates LCSs in its analysis at the semantic level. I also presented some examples together with their LCSs to illustrate that the semantic structure of sentences may be more complex than what has been proposed in previous studies (Baker & Harvey 2010; Rappaport-Hovav & Levin 1998). For examples, a conjunction function, such as WHILE in (5.3), is proposed to be incorporated into the LCS to deal with those semantically more complex sentences:

\[(5.3)\]  
\[\text{WHILE}}([\text{EVENTUALITY 1}], [\text{EVENTUALITY 2}])\]

For example, the LCS of (5.4) with WHILE would be analyzed as (5.5):

\[(5.4)\]  
\[X \text{ xiao zhe zou}\]  
\[\text{laugh DUR walk}\]  
\[\text{‘X walk/walks laughing’}\]

\[(5.5)\]  
\[\text{Event WHILE}}([\text{Event LAUGH}}([\text{Thing X}]), [\text{Event GO}}([\text{Thing X}]))]\]

The conjunction function WHILE is used in the analysis of depictive complex predicates in Chapter 3.

By our definition of complex predicates given in (5.1), i.e. monoclausal, or polyclausal with clause chaining, we take both \textit{chi bao ‘eat full’} in (5.6) and \textit{na …qie… ‘take… chop…’} in (5.7) as complex predicates:

\[(5.6)\]  
\[\text{Yuehan chi bao fan le.}\]  
\[\text{John eat full rice ACTL}\]  
\[\text{‘John was full from eating rice.’}\]

\[(5.7)\]  
\[\text{Yuehan na dao qie xigua.}\]  
\[\text{John take knife chop watermelon}\]  
\[\text{‘John chops the watermelon with a knife.’}\]

The proposed syntactic structure of (5.6) is:
(5.8) [YuehanSUBJ [chiV1 baoV2]V fanOBJ le]s
      John      eat   full   rice   ACTL
      ‘John was full from eating rice.’

The proposed syntactic structure of (5.7) is:

(5.9) [[YuehanSUBJ,1 nav daoOBJ]S1 [PROSUBJ,1 qieV xiguaOBJ]S2]S
      John       take   knife    chop     watermelon
      ‘John chops the watermelon with a knife.’

We can observe that chi bao ‘eat full’ is a monoclausal complex predicate while na…qie… ‘take…chop…’ is a polyclausal complex predicate. As these examples show, the monoclausal/polyclausal contrast is syntactic.

I presented monoclausal complex predicates in Chapter 3. Monoclausal resultative, depictive, excessive, and aspectual complex predicates were presented in their own sections in Chapter 3. Monoclausal directionals were presented together with polyclausal directionals in Chapter 4 for the reason of giving a better overview of directionals.

The interaction of monoclausal resultative verb constructions (RVCs) and the Progressive Aspect has been a special focus of this study. In order to give some background, I presented in Chapter 2 an overview of the aspect system in Mandarin in the framework of Xiao and McEnery (2004). Xiao and McEnery (2004) claim that there are three types of RVC: directional, result-state, and completive, and while directional and result-state RVCs tolerate the Progressive Aspect to a certain degree, completive RVCs are strictly incompatible with the Progressive Aspect. However, as I showed in Chapter 3, there are some naturally occurring counterexamples where completive RVCs do in fact cooccur with the Progressive Aspect.

In Chapter 3, I propose two possible sources of the compatibility between monoclausal RVCs and the Progressive Aspect. One source is the iterative reading of RVCs, and the other source is the focus on the process parts of RVCs. I presented many naturally occurring sentences in which RVCs with iterative readings are marked in the Progressive Aspect. I also wanted to test the validity of the proposition that a focus on the process parts of RVCs promotes compatibility between monoclausal RVCs and the Progressive Aspect. Many sentences involving interactions between monoclausal RVCs and the
Progressive Aspect are on the borderline of being grammatical, hence, it is desirable to use an empirical investigation in this case. A survey was designed for this purpose, and native Mandarin speakers were invited to join this survey. Participants in the survey were asked to evaluate the grammaticality of test RVCs marked in the Progressive Aspect on a 6-point Likert scale, with 0 being totally unacceptable and 5 being totally acceptable. The points 0, 1,… 5 given by participants were later adjusted to 1, 2,…6, since a typical Likert scale starts from 1. Each test RVC marked in the Progressive Aspect was presented in three contexts, as shown in (5.10) – (5.12):

(5.10) … zhengzai  V₁  V₂…
    PROG
    ‘…V-ing…’

(5.11) … zhengzai  V₁  V₂…,  … V₁  bu  V₂.
    PROG  NEG
    ‘…V-ing, … couldn’t V…’

(5.12) … zhengzai  V₁  V₂…,  … mei  V₁  V₂.
    PROG  NEG
    ‘…V-ing, … didn’t V…’

An analysis of the results of the survey was presented in Chapter 3. When all test RVCs are taken into account, it shows that overall there is no significant difference in the grammaticality of the two negative contexts. However, there is an overall significant difference in grammaticality between the positive and the negative contexts. In addition, a test RVC that is completive according to the classification of Xiao and McEnery (2004) can take the Progressive Aspect, and was found to be significantly more compatible with the Progressive Aspect in negative contexts than in a positive context. Two other test RVCs showed significantly higher compatibility with the Progressive Aspect in the positive context rather than in the negative contexts, however.

The survey shows that completive RVCs can take the Progressive Aspect, therefore. In addition, if we assume that a focus on the process part of RVCs is one source of the compatibility between RVCs and the Progressive Aspect, and that some RVCs are inherently more process-prominent while others are inherently more result-prominent, the phenomenon that some RVCs are more compatible with the Progressive Aspect in
positive contexts and some RVCs are more compatible with the Progressive in negative contexts can be explained. In a negative context, the process part of a process-prominent RVC is less prominent and the result part is foregrounded, hence, it is less compatible with the Progressive Aspect. In contrast, in a negative context, the result part of a result-prominent RVC is less prominent and the process part is foregrounded, hence, it is more compatible with the Progressive Aspect. If an RVC is not especially process-prominent or result-prominent, it is predicted that no significant contrast in its compatibility with the Progressive Aspect in either positive or negative contexts would be observed.

I presented polyclausal complex predicates in Chapter 4. Clause chains containing semantically bleached verbs are an important type of polyclausal complex predicate. Bleached verbs are an important means in Mandarin to introduce adverbials or entities with various semantic roles into eventualities. These semantically bleached verbs function like adpositions. I also presented other types of polyclausal complex predicates in Chapter 4, for example, polyclausal depictive, modificational, parallel, successive, and resultative complex predicates. As aforementioned, monoclausal and polyclausal directional complex predicates were presented together in Chapter 4.

Clause chains containing semantically bleached verbs was a special focus of Chapter 4. First, I discussed pragmatic factors that influence meaning, such as bare argument ellipsis, coercion, and metonymy. Second, I proposed a function for LCS, which works at the semantic level of Simpler Syntax, as a tool to aid the analysis of pragmatic interference on meaning and to account for successful communication with such interference. Last, I analyzed the effect of context on meaning in some naturally occurring sentences in a corpus of articles relating to mouth and foot painting artists.

For example, na has a full verb meaning of ‘take’, and the default body part of na is ‘hand’. When na is used as a bleached verb, it functions as an INSTRUMENT marker. Sometimes a sentence with na can have a full verb reading and a bleached verb reading. For example, in (5.7), na dao can be understood as ‘take knife’ in the full verb reading and ‘INSTRUMENT knife’ in the bleached verb reading. However, in the context of mouth and foot painting, the executive body part of na is the mouth or a foot. With a pragmatic function working on the semantic level, the coercion of the full verb reading of na in X na Y V Z, where Y and Z are things and V is a transitive verb, and with a context where the executive body part is the foot, can be expressed as:
(5.13) \[ C([Fv([X], [Z])); \text{MANNER}([\text{TAKE}([X], [Y], [BY([\text{HAND}])]))])] \\
= [Fv([X], [Z]); \text{MANNER}([\text{TAKE}([X], [Y], [BY([\text{HAND}]), \\
BY([\text{FOOT}])]))]] \\
= [Fv([X], [Z]); \text{MANNER}([\text{TAKE}([X], [Y], [BY([\text{FOOT}])]))])]

C is a function which introduces the coercion into the eventuality. The coercion of the
bleached verb reading of \( na \) in \( X \ na \ Y \ V \ Z \), where \( Y \) and \( Z \) are things and \( V \) is a transitive
verb, and with a context where the executive body part is the foot, can be expressed as:

(5.14) \[ C([Fv([X], [Z], [BY([Y])]))] \\
= Fv([X], [Z], [BY([Y])], [BY([\text{FOOT}])])

The context is in conflict with the full verb reading of \( na \). In some sentences, \( yong \ zui \) ‘use mouth’ and \( yong \ jiao \) ‘use feet’ are added explicitly. In those sentences, the usage of
\( yong \ zui \) ‘use mouth’ and \( yong \ jiao \) ‘use feet’ is intended to stress the bleached verb
reading and/or support the coercion to suppress the default body part of the full verb
reading so that \( na \) is compatible with the context.

It can be observed that not every speaker has the same judgment on the relative weight of
the full verb reading versus the bleached verb reading. Some speakers may find it easy to
accept a bleached verb reading of \( na \) and do not explicitly add \( yong \ zui \) ‘use mouth’ or
\( yong \ jiao \) ‘use feet’ while other speakers do not find it so easy. This variation among
speakers shows that this kind of competition between a full verb reading and a bleached
verb reading, as well as the techniques used to enhance any one of them, falls into the so-
called periphery of grammar in Simpler Syntax in that it does not show a regularity as
deep as that found in the core grammar (Culicover & Jackendoff 2005: 25). We can
observe that meaning and form interact with each other and that both influenced by
pragmatics, semantics, and syntax. It is necessary to take pragmatic, semantic, and
syntactic factors into account in order to give a more thorough analysis.

5.2 Some Words on the Classification of Complex Predicates

In the previous section, I presented a brief overview and conclusion to this study. In this
section, I would like to explain the structural arrangement of Chapters 3 and 4. The
explanation can serve as a response to one of our research questions—that is, given such a
large variety of complex predicates, we would like to see if there exists a systematic classification which can better describe the varied behaviors of complex predicates.

By (5.1) and (5.2), our research subject has been defined with respect to form and meaning. We have observed interactions between form and meaning throughout this study. The omnipresent evidence of such interactions provides a hint that a systematic classification of complex predicates must take both form and meaning into account. Hence, in this study, I proposed a two-dimensional classification for complex predicates with form and meaning being the two axes. I presented complex predicates on these lines. One of the strongest characteristics of complex predicates in Mandarin is the contrast between monoclausality and polyclausality. This is the reason why I presented monoclausal and polyclausal complex predicates in their own chapters. In addition, complex predicates are used systematically to express various meanings, therefore, complex predicates with different meanings, such as resultatives, depictives, directionals, etc. were also discussed in their separate sections.

The two dimensions of our proposed classification are expressed through the organisational structure of Chapters 3 and 4. The dimension of form is expressed by the division of chapters, and the dimension of meaning is expressed by the division of sections. A complex predicate may be systematically classified as, for example, a monoclausal resultative, a monoclausal depictive, a polyclausal resultative, a polyclausal depictive, a polyclausal clause chain with a semantically bleached verb as an adposition, etc. I think that such a classification can describe the behaviors of complex predicates better, since it takes both form and meaning into account. I also think that such a classification simplifies and systematizes the analysis of complex predicates in Mandarin and makes the whole picture of complex predicates in Mandarin easier to grasp.

Finally, I should point out that complex predicates are used to convey many different meanings in Mandarin. In addition, the meaning of an utterance can be altered by many factors and classified from many different perspectives. The classification of the many dimensions of meaning which we have presented here is not exhaustive. Other types of complex predicate or improved classifications may be recognized in further study. The interaction between form and meaning in complex predicates is still not well understood. However, it is always fascinating to observe the complexity of human
languages and exciting to discover their new dimensions. Complex predicates are definitely an area of study that needs further exploration and will reward us with new knowledge about human language.
Appendix

6.1 The Survey

In this study, a survey was conducted to evaluate the grammaticality of sentences containing interactions between monoclausal RVCs and the Progressive Aspect. There were five test RVCs in the survey. Each RVC is marked by the Progressive Aspect marker *zhengzai-* and appears in three different contexts: $V_1 V_2$ (positive and unmarked), $V_1 bu V_2$ ‘couldn’t V’, and *mei $V_1 V_2$ ‘didn’t V’, as illustrated in (6.1) – (3.170):

(6.1) … zhengzai $V_1 V_2$…
(6.2) … zhengzai $V_1 V_2$…, …$V_1 bu V_2$
(6.3) …zhengzai $V_1 V_2$…, …*mei $V_1 V_2$

Each RVC in each context appears in two different test sentences. Hence, there are 15 combinations of test RVCs and contexts, making 30 test sentences. Table 6.1 shows the combinations of the test RVCs and the contexts.

*Table 6.1*

Combinations of test RVCs and contexts

<table>
<thead>
<tr>
<th>Verb</th>
<th>Sentence Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>找出</td>
<td></td>
</tr>
<tr>
<td>zhao</td>
<td>A1 positive (was V-ing)</td>
</tr>
<tr>
<td>chu</td>
<td>A2 couldn’t (was V-ing… but couldn’t)</td>
</tr>
<tr>
<td>search</td>
<td>A3 didn’t (was V-ing… but didn’t)</td>
</tr>
<tr>
<td>out</td>
<td>‘pick up / find out’</td>
</tr>
<tr>
<td>吹落</td>
<td></td>
</tr>
<tr>
<td>chui</td>
<td>B1 positive (was V-ing)</td>
</tr>
<tr>
<td>luo</td>
<td>B2 couldn’t (was V-ing… but couldn’t)</td>
</tr>
<tr>
<td>blow</td>
<td>B3 didn’t (was V-ing… but didn’t)</td>
</tr>
<tr>
<td>fall</td>
<td>‘blow off / blow down’</td>
</tr>
</tbody>
</table>
The results of the survey are discussed in Chapter 3.

6.2 The Test Sentences

(6.4) 約翰正在從書堆裡找出从前用过的法語課本。

約翰正在從書堆裡找出從前用過的法語課本。

Yuehan zhengzai cong shudui li zhao chu congqian
John PROG from book.stack inside search out before
yong guo de Fayu keben.
use EXP NOM French textbook
‘John was picking up the French textbook he had used before from a stack of
books.’
(6.5) 公司的主管正在从名单中找出适合的合作厂商。
公司的主管正在從名單中找出適合的合作廠商。

Gongsi de zhuguan zhengzai cong mingdan zhong zhao chu
company ASOSC chief PROG from list inside search out
suitable cooperate manufacturer

‘The chiefs of the company are picking up suitable suppliers from the list.’

(6.6) 警方本来正在从画面中找出可疑目标，但是因为画面太模糊，最后找不出。
警方本來正在從畫面中找出可疑目標，但是因為畫面太模糊，最後找不出。

Jingfang benlai zhengzai cong huamian zhong zhao chu keyi
police originally PROG from image inside search out suspicious
mubiao, danshi yinwei huamian tai mohu, zuihou zhao bu chu.
target but because image too blurred last search NEG out

‘The police were originally picking up the suspicious object from the images, but
because the images were too blurred, they could not pick it up at last.’

(6.7) 约翰本来正在从书堆裡找出从前用过的法语课本，但是因为书实在太多，
約翰本來正在從書堆裡找出從前用過的法語課本，但是因為書實在太多，

Yuehan benlai zhengzai cong shugui li zhao chu congqian
John originally PROG from book.stack inside search out before

zuihou zhao bu chu.
last search NEG out

‘John was originally picking up the French textbook he had used before from a
stack of books, but because there were really too many books, he could not pick it
up at last.’
(6.8) John originally PROG from book.stack inside search out before last NEG search out

‘John was originally picking up the French textbook he had used before from a it up at last.’

(6.9) Police were originally picking up the suspicious object from the images, but because the images were too blurred, they did not pick it up at last.

‘The police were originally picking up the suspicious object from the images, but because the images were too blurred, they did not pick it up at last.’

(6.10) The wind is blowing down the leaves dropping on the window sill.

‘The wind is blowing down the leaves dropping on the window sill.’
(6.11) 约翰正在吹落停在衣服上的飞蛾。  
约翰正在吹落停在衣服上的飛蛾。  
Yuehan zhengzai chui luo ting zai yifu shang de fei’e.  
John PROG blow fall stop exist cloth upside NOM moth  
‘John was blowing off the moth stopping on his clothes.’  

(6.12) 刚才的风本来正在吹落那片枯叶，但是因为风忽然停了，最后吹不落。  
刚才的風本來正在吹落那片枯葉，但是因為風忽然停了，最後吹不落。  
Gangcai de feng benlai zhengzai chui luo na pian kuye,  
just.now ASSOC wind originally PROG blow fall that CL dry.leaf  
danshi yinwei feng ting le, zuihou chui bu luo.  
but because wind stop ACTL last blow NEG fall  
‘The wind just now was originally blowing down that dry leaf, but because the wind suddenly stopped, it could not blow down the dry leaf.’  

(6.13) 约翰正在吹落停在衣服上的飞蛾，但是飞蛾贴得太紧，最后吹不落。  
約翰正在吹落停在衣服上的飛蛾，但是飛蛾貼得太緊，最後吹不落。  
Yuehan zhengzai chui luo ting zai yifu shang de fei’e, danshi  
John PROG blow fall stop exist cloth upside NOM moth but  
fei’e tie de tai jin, zuihou chui bu luo.  
moth stick CSC too tight last blow NEG fall  
‘John was blowing off the moth stopping on his clothes, but the moth stuck to the clothes such that he could not blow it off at last.’  

(6.14) 刚才的风本来正在吹落那片枯叶，但是因为风忽然停了，最后没吹落。  
刚才的風本來正在吹落那片枯葉，但是因為風忽然停了，最後沒吹落。  
Gangcai de feng benlai zhengzai chui luo na pian kuye,  
just.now ASSOC wind originally PROG blow fall that CL dry.leaf  
danshi yinwei feng ting le, zuihou mei chui luo.  
but because wind stop ACTL last NEG blow fall  
‘The wind just now was originally blowing down that dry leaf, but because the wind suddenly stopped, it did not blow down the dry leaf.’  

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(6.15) 约翰正在吹落停在衣服上的飞蛾，但是飞蛾贴得太紧，最后没吹落。
约翰正在吹落停在衣服上的飛蛾，但是飛蛾貼得太緊，最後沒吹落。
Yuehan zhengzai chui luo ting zai yifu shang de fei’e, danshi fei’e tie de tai jin, zuihou mei chui luo.
moth stick CSC too tight last NEG blow fall
‘John was blowing off the moth stopping on his clothes, but the moth stuck to the clothes such that he did not blow it off at last.’

(6.16) 约翰正在吃完一整条法国面包。
約翰正在吃完一整條法國麵包。
Yuehan zhengzai chi wan yi zheng tiao Faguo mianbao.
John PROG eat finish one whole CL France bread
‘John was eating up a whole baguette.’

(6.17) 玛莉正在吃完昨天剩下的那包饼干。
瑪莉正在吃完昨天剩下的那包餅乾。
Mali zhengzai chi wan zuotian shengxia de na bao binggan.
Mary PROG eat finish yesterday be.left.over NOM that CL cookie
‘Mary is eating up the packet of cookies left over yesterday.’

(6.18) 约翰本来正在吃完一整条法国面包，但是因为分量实在太大，最后吃不完。
約翰本來正在吃完一整條法國麵包，但是因為分量實在太大，最後吃不完。
Yuehan benlai zhengzai chi wan yi zheng tiao Faguo mianbao, John originally PROG eat finish one whole CL France bread danshi yinwei fenliang shizai tai da, zuihou chi bu wan.
because portion really too big last eat NEG finish
‘John was originally eating up a whole baguette, but because the baguette was really too large, he could not eat it up at last.’
John was originally eating up a whole big plate of stir-fried noodles, but because he had to hurry to pick up Mary, he could not eat it up.'

‘John was originally eating up a whole baguette, but because the baguette was really too large, he did not eat it up at last.’

‘John was originally eating up a whole big plate of stir-fried noodles, but because he had to hurry to pick up Mary, he did not eat it up.’
(6.22) 迪亚士的船队正在找到通往印度的航路。
Diyashi de chuandui zhengzai zhao dao tong wang Yindu
dery fleet PROG search arrive connect toward India
de hanglu.
NOM route
‘Dias’ fleet was finding the route to India.’

(6.23) 欧洲正在找到整合的新方向。
Ouzhou zhengzai zhao dao zhenghe de xin fangxiang.
Europe PROG search arrive integrate ASSOC new direction
‘Europe is finding a new direction of integration.’

(6.24) 迪亚士的船队本来正在找到通往印度的航路，但是因为船员要求回头，最
Diyashi de chuandui benlai zhengzai zhao dao tong wang
dery fleet originally PROG search arrive connect toward
后找不到。
Yindu de hanglu, danshi yinwei chuanyuan yaoqiu huitou,
India NOM route but because crew.member ask.for return
zuihou zhao bu dao.
last search NEG arrive
‘Dias’ fleet was originally finding the route to India, but because the crew
members asked to return, it could not find the route at last.’
(6.25) 科特迪瓦本来正在找到一条发展经济的道路，可惜三十年后仍然找不到。

Ketediwa benlai zhengzai zhao dao yi tiao fazhan
Côte.d’Ivoire originally PROG search arrive one CL develop
jingji de daolu, kexi sanshi nian hou renran zhao
economy NOM way unfortunately thirty year after still search
bu dao.
NEG arrive
‘Côte d’Ivoire originally was finding a way to develop its economy, but
unfortunately it still could not find it after thirty years.’

(6.26) 迪亚士的船队本来正在找到通往印度的航路，但是因为船员要求回头，最

Diyashi de chuandui benlai zhengzai zhao dao tong wang
Dias GEN fleet originally PROG search arrive connect toward
后没找到。

Yindu de hangul, danshi yinwei chuanyuan yaoqi huitou,
India NOM route but because crew.member ask.for return
zuihou mei zhao dao.
last NEG search arrive
‘Dias’ fleet was originally finding the route to India, but because the crew
members asked to return, it did not find the route at last.’
(6.27) 科特迪瓦本来正在找到一条发展经济的道路，可惜三十年后仍然没找到。
科特迪瓦本來正在找到一條發展經濟的道路，可惜三十年後仍然沒找到。
Ketediwa benlai zhengzai zha dao yi tiao fazhan
Côte.d'Ivoire originally PROG search arrive one CL develop
jingji de daolu, kexi sanshi nian hou rengnan mei
economy NOM way unfortunately thirty year after still NEG
zhao arrive
search arrive
‘Côte d’Ivoire originally was finding a way to develop its economy, but
unfortunately it still could not find it after thirty years.’

(6.28) 政府正在盖好一座垃圾填埋场以处理更多垃圾。
政府正在蓋好一座垃圾填埋場以處理更多垃圾。
Zhengfu zhengzai gai hao yi zuo laji tianmaichang yi chuli
government PROG build good one CL waste landfill with process
geng duo laji.
more many waste
‘The government was building a landfill in order to process more waste.’

(6.29) 政府正在盖好通往香港的高铁。
政府正在蓋好通往香港的高鐵。
Zhengfu zhengzai gai hao tong wang Xianggang de
government PROG build good connect toward Hong.Kong NOM
gaotie.
high-speed.rail
‘The government is building the high-speed rail leading to Hong Kong.’
(6.30) 政府本来正在盖好一座垃圾填埋场以处理更多垃圾，但是因为附近居民抗
议，最后盖不好。

The government was building a landfill in order to process more waste, but
because the residents nearby protested, at last it could not build it.

(6.31) 建筑公司本来正在一次盖好一整个社区的房子，但是因为资金的问题，最
后盖不好。

The construction company was originally building the houses of a whole
community at once, but because of the problem of capital, it could not build
them at last.
(6.32) 政府本来正在盖好一座垃圾填埋场以处理更多垃圾，但是因为附近居民抗
议，最后没盖好。

yi chuli geng duo laji, danshi yinwei fujin jumin kangyi, with process more many waste but because nearby resident protest zuihou mei gai hao.
last NEG build good ‘The government was building a landfill in order to process more wastes, but because the residents nearby protested, at last it did not build it.’

(6.33) 建筑公司本来正在一次盖好一整个社区的房子，但是因为资金的问题，最
后没盖好。

gi shequ de fangzi, danshi yinwei zijin de wenti, CL community ASSOC house but because capital ASSOC problem zuihou mei gai hao.
last NEG build good ‘The construction company was originally building the houses of a whole community at once, but because of the problem of capital, it did not build them at last’
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