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A Cartographic Analysis of the Syntactic Structure of Mandarin Ba

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Introduction

In this chapter, we will first draw an outline of the subject of our study: Mandarin *ba*, then we will provide a summary of the whole constitution of this thesis, including the distribution of contents, theoretical frameworks and our main proposals.

General Descriptions of *Ba*

Current use of *ba*

In Modern Mandarin Chinese, “*ba*” (“把”) is a polysemous word: it could be a verb, meaning “to hold”, “to grasp” or “to control”; it could also be a noun, meaning “handle” or “bunch”; as an extension of the verbal and nominal meanings, it can also be used as a numeral classifier for the objects with handles or things to take hold of (e.g. chairs); and in addition it is used as a prepositional-like functional word that always takes an NP immediately after it. We will mainly discuss the last mentioned use of *ba* in this thesis.

The “*ba*-construction” (called “*baziju*” in Chinese) has been a widely discussed argument for many decades and from all linguistic research aspects. Another frequently used name for this construction is the “disposal form” (“*chuzhishi*”, first used in Wang 1945), which means that the construction describes how the object is arranged, handled and dealt with, or more formally speaking, what X does to, or deals with Y is Z, where X would be the subject NP, Y would be the post-*ba* NP, and Z would be the main verbal phrase in the realization of the *ba*-sentences.

Thus, the basic structural form of this construction can be simply generalized as (1).

$$(1) \text{ NP}_{\text{subject}} + ba + ba\text{-NP} + \text{VP}$$

Compared to the common SVO word order in Modern Mandarin, the object NP is inverted to the left of the VP immediately after *ba*. It is claimed that every *ba*-sentence has a non-*ba* variant (e.g. Sybesma 1999; A. Li 2006; Huang, Li and Li 2009), the semantic difference between the two, however, is subtle and rather difficult to show in English translation.

(2) Zhangsan *ba* na-ge pingguo chi-le

Zhangsan *ba* that-CL apple eat-*le*¹

“Zhangsan ate that apple.”

(3) Non-*ba* variant of (2):

Zhangsan chi-le na-ge pingguo

Zhangsan eat-*le* that-CL apple

“Zhangsan ate that apple.”

We can see that the *ba*-sentence (2) and its normal non-*ba* counterpart (3) share the same English translation. But more strictly speaking, one can rhetorically translate the *ba*-sentence (2) as “what Zhangsan did to that apple is that he ate it”, while the non-*ba* variant cannot convey this aspect. Formally, (2) contrasts to (3) in the word order: it seems that *ba* has the function to cause the inversion of the direct object to precede the predicate.

There are some syntactic restrictions of the use of *ba*. First of all, according to the semantic description above, there should be at least two arguments in the constructions, which means that an intransitive stative predicate can never occur in a *ba*-construction.

Furthermore, in the absence of a “disposal” meaning, psych-verbs are not compatible with *ba*, even when the psych-verb is transitive.

¹ Henceforth in the gloss, the italic “*ba*” stands for our main argument “*ba*”, while other italic elements stand for the Chinese particles that do not have an exact English counterpart for a one-to-one translation. “CL” is the abbreviation for “numeral classifier”.

- (4) Zhangsan xihuan Lisi

Zhangsan like Lisi

“Zhangsan likes Lisi.”

- (5) *Zhangsan ba Lisi xihuan

Zhangsan *ba* Lisi like

In the sense “Zhangsan likes Lisi”

Interestingly, the most particular restriction for the *ba*-construction is that the predicate cannot be a bare verb, there is always something adjunct to it. In the following example (6), sentence (6) has the canonical SVO word order and is grammatical with the bare verb; (6) should be the direct *ba*-sentence of (6) but is not allowed in Modern Mandarin; (6) is a grammatical *ba*-sentence and the only difference compared to (6) is the addition of the particle “-*le*” which is believed to be a perfective aspect marker in the literature (e.g. Wang 1954, Li and Thompson 1981).

- (6) a. mao chi yu

cat eat fish

“the cat eats/ate the fish.”

- b. *mao ba yu chi

cat *ba* fish eat

In the sense “the cat eats/ate the fish.”

- c. mao ba yu chi-le

cat *ba* fish eat-*le*

“the cat ate the fish.”

The peculiarity of the *ba*-construction is far more complicated than what we have described in this section. In Chapter 1, we will make a summary of some previous

works about the argument of *ba* and there we will see more restrictions and possible structures on the use of *ba*.

A brief history of *ba*

The “disposal forms” in Chinese languages are believed to have undergone a grammaticalization process from the corresponding real verbs.

In Modern Mandarin Chinese, *ba* and *jiang* (“将”) have almost the same function, while the latter is frequently used in written languages. However, Sun (1996) observes that the two seem to have been used interchangeably and the uses of *jiang* were even more numerous than those of *ba* (Sun 1996:60). In Old Chinese, *ba* was still a lexical verb meaning “to hold”, and the same for *jiang* which meant “to assist, guide” etc. According to Chappell and Peyraube (2011), in the Late Han Period (1st-3rd centuries) verbs of taking (including *ba*, *jiang* and other verbs meaning “to hold, grasp, take” etc.) in Chinese first began to present as typically deverbal prepositions based on the first verbal position in serial verb constructions. The following sentence (7) shows the early use of *ba* which is the first verb “take” in the serial verb construction “take the dogwood and look carefully”.

(7) *zui ba zhuyu zixi kan*

Drunk take dogwood carefully look

“Drunk, (he) took the dogwood (and) looked (at it) carefully.”

(*Jiu Yue Lan Tian Cui Shi Zhuang*, 8th-c. poem by Du Fu, from Chappell and Peyraube 2011)

Then, in some texts, *ba* and *jiang* can no longer be interpreted as verbs meaning “to take” in a concrete way and rather be a prepositional-like object marker:

(8) xian chang ba qin nong

Leisure often OM lute play²

“in (my) spare time (I) often played the lute”

(*ji du shi yi*, 8th-c, poem by Ren Hua, from Chappell and Peyraube 2011)

Other than the serial verb constructions, Sun (1996) also mentions the “purposive constructions” marked by “*lai*” (literally means “come”) and “*qu*” (literally means “go”). These constructions were compatible with *ba* and *jiang* in Middle Chinese (as shown in (9)) but it will be ungrammatical in Modern Mandarin.

(9) jiang shengqi qu jie ta

take alive-air *qu* receive him

“Take life to adjoin to him.”

(*Zhuzi yulei* 3/51, 13th century, from Sun 1996:72)

This brief introduction of the history of the *ba*-construction is aimed to convey the reason why this monosyllabic particle has developed so many particularities until now in Modern Mandarin, and why it has fascinated the linguists for a long time and still there is a large space for the future research. In this thesis we will mainly concentrate on the synchronic syntactic properties of the *ba*-construction in Modern Mandarin Chinese and leave the diachronic development for a future research.

Structure of the Thesis and Theoretical Frameworks

The research methods of the thesis are based on a “cartographic” view of syntax, which, according to Cinque and Rizzi (2009), “attempt(s) to draw maps as precise and detailed as possible of syntactic configurations”. To achieve such a purpose within our argument, we would like to learn from the previous works and endeavor to construct a more accurate syntactic structure of the *ba*-construction. We always believe that it is worth trying to build a universally applicable syntactic structure, thus the efforts of this thesis are also concentrated to find a position for *ba* and other relative elements without

² “OM” stands for “object marker”.

creating any *ad hoc* projection.

The main analysis part of this thesis is divided into 4 chapters.

Chapter 1 will make a brief summary for some of the previous works, which contribute much to our studies and proposals in various aspects. In the other following chapters we will repeatedly refer to some of their proposals and combine them with the new, or renewed views of this thesis.

Chapter 2 aims to provide a different event-structure decomposition with respect to the classic literature, which is built on the basis of the framework initiated by Ramchand (2008). We will argue that the traditional *vP/VP* representation for the predicate of a *ba*-construction is lack of precision to some extent, and the event-decomposition method of Ramchand (2008), which suggests a triple-layered projection group (including *initP*, *procP* and *resP*) for the argument structure, is more adapted to presenting the exact selectional restrictions of *ba*. In the further discussion, the position reserved to the verbal phrases will also be substituted by the event structure proposed by Ramchand (2008).

Chapter 3 dedicates to the discussion of the syntactic position of the particle *ba*. We will first introduce Cinque's (1999, 2006) proposal of a hierarchy of functional projections. He claims that all adverbs are actually "functional" and syntactically situate in the specifier of their unique functional projections. Other functional elements, like modal verbs or "reconstructed" verbs occupy the heads of the corresponding functional projections. Once the syntactic Spec-head relation between the adverbs and functional heads is established, he further argues that these functional projections are arranged in a rigid hierarchical sequence, for which there are evidences showing that it could be a cross-linguistic phenomenon. We agree with this proposal, thus we will attempt to practice it into Mandarin Chinese. Such a framework assuming that there is a hierarchy will help us to get a more precise "location" of the projection of *ba* in the entire "syntactic map" of a *ba*-sentence, for which we will not limit us to typical constructions, but enlarge the research materials to some more complex sentences, with a sequence of functional words in each of them. The location test results will be obtained through the grammatical judgement from two native speakers of Mandarin Chinese, which will guarantee the reliability of the data as well as respect the flexibility of the natural language.

Chapter 4 will relate the former two chapters and provide a complete syntactic representation under our analyses. We will borrow the proposal of Kayne (2005) about the syntactic structure of prepositions (or more precisely, the preposition *à* in French

causatives) and argue that *ba*-construction has a similar behavior and thus a similar structure. The variable word order will become interpretable under an analysis with dynamic syntactical movements. Therefore, some atypical but grammatical examples of the *ba*-construction, as well as the “disposal forms” in other Chinese languages, will be possibly represented in the frame of our structure.

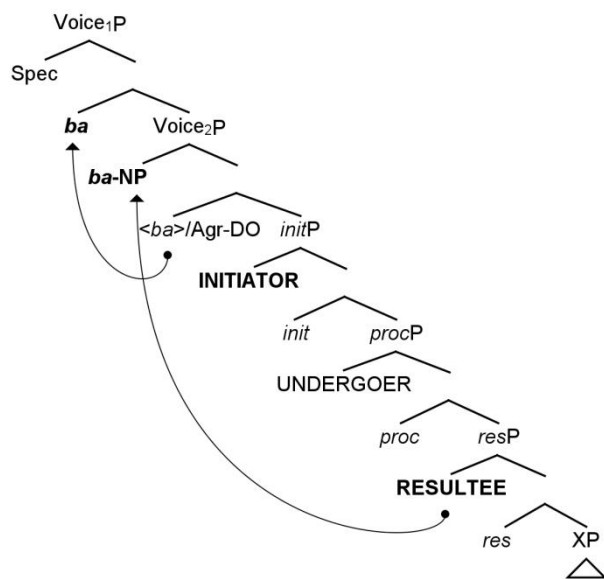
In the conclusive chapter, we will sum up our current proposals and list some unsolved problems due to the limit of this thesis for a further research.

Main Proposals of This Thesis

In this thesis, we will make the following proposals:

1. The *ba*-construction always selects an event structure that contains three subevents, namely an initiation, a process and a result subevent. Thus the *ba*-construction can be regarded as “resultative” to some extent;
2. The particle *ba* is a functional head which locates in a respectively lower position in the clausal structure, it probably takes the head position of the projection of Voice (under the hierarchy of functional projections proposed by Cinque (1999, 2006));
3. The functional *ba* presents a prepositional-like property similar to “à” in French causatives proposed by Kayne (2005) and its projection is probably split in two: the higher Voice₁P holds the final realized *ba* in the head position, while the lower Voice₂P holds a trace of the raised *ba* or an abstract Agr-DO, and this head attracts the RESLUTEE from the event structure to the specifier of Voice₂P, as shown in the following syntactic representation.

(1).



Chapter 1. Previous Works

For the peculiarity and uniqueness of *ba*, Chinese linguists have worked out many instructive researches on this argument over more than 60 years. Although there exist numerous works, due to the limited space, in this chapter we only summarize few of them which are systematical and inspiring to our proposal. In the following chapters, after the establishment of our revised structure, we will also attempt to explain and, if possible, resolve some of the problems left for discussion by the previous works.

L. Wang 1954

In L.Wang (1954), the *ba*-construction (as well as the written counterpart *jiang*) is called the “disposal form”, or the “execution form”. He describes that in this form, the object (*mudi-yu*, “target word”) is preposed before the predicate (*xushu-ci*, “descriptive word”). It bears more restrictions than normal active sentences. For instance a simple predication cannot be transformed into a disposal construction.

(1) a. wo ai ta

I love him

“I love him”

b. *wo ba ta ai

I *ba* him love

He summarizes that a well-formed *ba*-construction satisfies at least one of these five conditions (translated from L. Wang 1954:119-120):

1. there is a resultative complement after the main predicate;
2. there is a locative predication before or after the main predicate;
3. there is a relational position after the main predicate;
4. there is a quantitative complement after the main predicate;
5. there is an aspect marker in the disposal construction.

The disposal form cannot be totally equivalent to the normal active form, even more appropriate or obligatory in some cases. Furthermore, he notices that the disposal form can take a derivation to the “consecutive form” and expresses no longer a disposition but a result caused by another event. The difference between the two forms is that in the disposal one the result presents in the final complement, while in the executive form it is expressed by the predicate itself. Some of the consecutive sentences in Wang’s sense are quite rare in Modern Chinese, this thesis will not take them into consideration.

(2) ni he-bi wei wo ba zi-ji shi-le?

you why-should for me *ba* yourself lose-*le*

“Why should you lose yourself for me?”

(translated by Wang 1954:120)

Li and Thompson 1981

In Li and Thompson (1981), several problems regarding *ba*-NP are discussed in detail and the notion of “disposal” of L. Wang (1954) also gets a systematic explanation which is responsible for different acceptability of various uses of Ba.

Firstly, about the *ba*-NP (called the “*bǎ* noun phrase” in their work) Li and Thompson (1981:465) claim that it “is generally definite or generic”. An indefinite object, “even though it refers to a specific entity, it cannot occur in *bǎ* sentence” (p.466). They provide the following example (*ibid*, (13b)):

(3) *Ta ba yi-liang chezi mai-le

3sg *ba* one-CL car buy-PFV

“S/He bought a car.”

According to their analysis, it is exactly the “disposal notion” of *ba* that accounts for the grammaticality of its uses. They give six points for reference and explain them in a descriptive way:

1. verbs that never involve or imply anything happening to their direct objects

cannot be found with *Ba*;

2. The notion of disposal does not require purpose, thus the subject can be inanimate;

3. The notion of disposal does not imply a physical effect on the object, both the object and the affection can be abstract;

4. The disposal function of *ba* accounts for its common use in imperatives because a direct object known by the speaker and the hearer is involved;

5. A resultative verb compound with an affirmative or negative infix is not allowed in the *ba*-construction because it refers to the ability to achieve the result instead of the result;

6. In most of the negative cases the negative particle precedes *ba* instead of staying immediately before the verb, because if the scope of negation only covers the verb, the message will convey that “the *ba*-NP is dealt with as a result of the event which does not happen” and create an obvious inconsistency.

(adapted from Li and Thompson 1981:472-480)

They also mention the insertion of *gei*, which “has the effect of strengthening the disposal function of the *ba*-construction” (p.482). It is not obligatory but frequently occurs in the *ba*-construction.

Li and Thompson summarize that a *ba* sentence is appropriate when two conditions can be fulfilled: 1. “the *ba* noun phrase is definite, specific, or generic” (p.483), it may be either the direct object of the verb or the direct Affectee of the event; 2. “the message involves disposal” (*ibid*).

However, in addition to all these generalizations, they also make a consideration on the flexibility of this construction. The likelihood of using the *ba*-form is related to the prominence or the disposal of the object. They express this relation by means of a continuum, reproduced here:

(1).

<i>bǎ</i>	<i>bǎ</i>	<i>bǎ</i>	<i>bǎ</i>
impossible	unlikely	likely	obligatory
Indefinite or non-referential object		Definite and highly prominent object	
No disposal		Strong disposal	

Feng-Hsi Liu 1997

Liu (1997) gives us a more detailed discussion on the *ba* predicate and the *ba*-NP, arguing that the *ba*-predicate describes a bounded event and the *ba*-NP is always “specific” in the sense of Liu (1990) and, more importantly, the boundedness and the specificity are in fact closely related.

Based on the structural properties of the predicate in *ba*-sentences, she recognizes nine cases where *ba* can be used (p.55, examples from Liu 1997):

- a. V + resultative verb complement

(4) Ni dei ba wenti kan qingchu

you have-to *ba* question read clear

“You have to read the questions so that they are clear.”

- b. V + *de* (resultative)

(5) Ta ba wo ku de xinfan

he *ba* I cry DE heart-disturbed

“He cried so much that I got disturbed”

- c. V + retained object

(6) a. ta ba damen shang-le suo

he *ba* gate put-on-ASP lock

“He locked the gate.”

b. Ta ba juzi bo-le pi

he *ba* orange peel-ASP skin

“He peeled the orange.”

- d. V + perfective marker -le

(7) Ta ba pingguo chi-le

he *ba* apple eat-ASP

“He ate the apple.”

e. V + PP (dative or locative)

(8) a. Wo ba zidian jie gei Laowang

I *ba* dictionary lend to Laowang

“I lent the dictionary to Laowang.”

b. Ta ba didi song dao chezhan

he *ba* younger-brother take to station

“He took this younger brother to the station.”

f. V + quantified phrase

(9) Wo ba jiaozi zhu-le shi fengzhong

I *ba* dumplings boil-ASP ten minute

“I boiled the dumplings for ten minutes.”

g. V + *yi* + V (the tentative construction)

(10) Qing ni ba xin kan-(yi)-kan

please you *ba* letter read-one-read

“Please read the letter (a little).”

h. V + durative marker -zhe

(11) *ba zhengjian dai-zhe*

ba ID carry-ZHE

“Carry your ID (with you).”

i. Adv + V

(12) *Xiaoming ba dongxi man wuzi reng*

Xiaoming *ba* things whole room throw

“Xiaoming throws things all over the room.”

She first notices that the “disposal” notion cannot cover all the cases compatible with *ba*, then proposes that “*ba* occurs with predicates that denote bounded events” (p.64). She makes a distinction between “events” and “situations”, defining that the former term refers to denotations of predicates and the latter refers to denotations of uninflected predicates. The boundedness of an event or a situation is built “on the basis of whether the terminal point or resultative state is treated as part of the meaning of the predicate” (*ibid*), thus an event can be bounded either on the basis of the uninflected predicate or when it is presented in a certain aspect.

A special attention in this work is focused on the durative aspect marker “-*zhe*” in Chinese. She claims that a bounded situation is marked by the inability of the predicate to be marked by “-*zhe*” and “*ba* occurs with ‘-*zhe*’ only in an irrealis sentence” (p. 78).

About the *ba*-NPs she introduces Liu’s (1990) notion of “Generalized specificity (G-specificity)”, suggesting that *ba*-NPs are exactly “G-specific”. An NP with G-specific property is defined as “scope-independent in object position” (p.85), more precisely in Chinese “G-specific NPs are all and only the NPs that can be quantified by Dou ‘all’, the universal quantifier” (p. 86), therefore only decreasing NPs (e.g. “fewer than”) and NPs with modified numerical Dets (e.g. “about ten N”) are not allowed in the *ba*-construction.

Farther than these Liu proposes that there is a dependency between the specificity of the *ba*-NP and the boundedness of the *ba* predicate, the dependency is characterized in terms of “homomorphism”. In this case, the meaning of a *ba* predicate is a homomorphism that maps the *ba*-NP into the domain of events with the “all of” relation as the preserved structure. On the basis of this “all of” relation, she infers that “NP denotations and events not quantifiable cannot occur with *ba*” (p.91) and takes this correlation as a central property of the *ba*-construction.

Sybesma 1999

Sybesma (1999) looks into almost all types of *ba*-sentences and tries to generalize a unique syntactic structure of them. He separates *ba*-sentences into “causative *ba*-sentences” and “canonical *ba*-sentences”. In causative *ba*-sentences “the *ba*-NP is interpreted as the subject, not the object, of the VP” (p.133) and “the sentence subject is inanimate or interpreted as such” (*ibid*), like the following example:

(13) Zhei-jian shi ba Zhang San ku-lei-le

This-CL thing *ba* Zhang San cry-tired-*le*

“this case made Zhang San cry himself tired”

He classifies the *ba*-sentences into ten groups according to what kind of constituents occur post-verbally, as listed here (p.135-139):

1. Resultative *ba*-sentences (see (4))
2. Prepositional dative *ba*-sentences (see (8))
3. Dur/freq *ba*-sentences (see (9))
4. NP-resultative *ba*-sentences

(14) wo ba yifu bao-le yi-ge hen-xiao-de baofu

I *ba* clothes pack-*le* one-CL very-small-*de* bundle

“I packed the clothes into a very small bundle”

(Sybesma 1999:136)

5. Inal.poss/part-whole *ba*-sentences (see (6))
6. Bare *ba*-sentences with *-zhe* (see (11))
7. Bare *ba*-sentences with *-le* (see (7))
8. Preverbal adverb *ba*-sentences

(15) ta ba jiu *(yi) gan

he *ba* liquor once dry

“he finished his drink in one pull”

9. Unaccusative *ba*-sentences

(16) ba ge zei pao-le

ba CL thief escape-*le*

“a thief escaped/ they had a thief escape”

(Sybesma 1999:138)

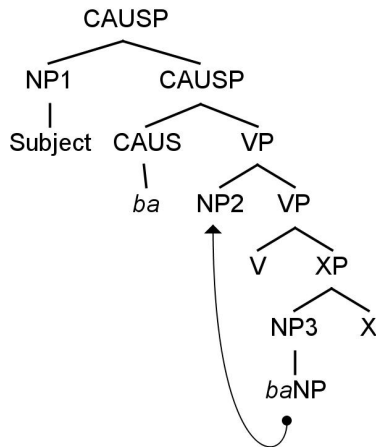
10. Locative *ba*-NP *ba*-sentences (see (6))

All of them, according to Sybesma (1999), involve an additional embedded clause, except for the main VP. The last three classes together are further grouped as the “Rest *ba*-sentences” for “they are mostly judged ‘highly awkward’ by part of the literature and my informants” (p.138).

About the *ba*-NP, in the descriptive part he claims that “the *ba*-NP tends to be interpretationally definite, and that it may also be formally indefinite in which case it is interpreted as specific or generic” (p.142), then in the analytical part he suggests that “the *ba*-NP only entertains a thematic relationship with the embedded clause not with the matrix V” (p.162), furthermore “the *ba*-NP is related to the empty category in the embedded clause by movement. The embedded empty category is an instance of NP-trace” (*ibid*).

Based on those observations he proposes, first for the causative *ba*-sentences, the following structure (p.169 (84)):

(2).



Then he extends this analysis to the canonical *ba*-sentences stating that all *ba*-sentences are causative in some abstract way and the only difference is “whether the subject of the sentence can be interpreted as the agent of the action denoted by the matrix verb or not” (p.176).

In this structure, the head CAUS is either filled with the raised VP complex, or with a dummy like *ba*. So more precisely speaking, in *ba*-sentences, NP1 is the subject, which bears a Causer interpretation; NP3 is the trace of NP2 through NP movement, from the subject position of the embedded small clause XP to the *ba*-NP position. The VP is “unaccusative, or a ‘process’: an activity involving termination but no initiator [...] The initiator is provided by the CAUS projection which dominates the VP” (p.180). The embedded small clause denotes a resulting state. The *ba*-NP is the subject of the small clause (the end point) as well as the theme that undergoes a change of state or location. According to Sybesma (1999), the semantic meaning of the *ba*-construction can be paraphrased as “the subject brings about (‘causes’) a new state of affairs characterizable as the result of the event denoted by the verb” (p.180). The structural distribution here partially conforms with the proposal of this thesis.

Turning to the definiteness of *ba*-NP, he concludes that, similar to Liu (1997), the definiteness is not directly related to the *ba*-construction, but due to the fact that the quantificationally closed predicate involved in a *ba*-sentences cannot take an NP with a non-closed interpretation.

Huang, Li and Li 2009

Huang, Li and Li (2009) adopt a generative analysis focusing on the structural characteristics of *ba*-construction.

They start with a systematical analysis of the relation between *ba* and *bei* and other elements under this argument. According to this work, *ba* and the passive construction morpheme *bei* have relatively different restrictions, although their construction's formal patterns look closely similar. First, *ba* selects a narrower range of verbs than *bei* (e.g. the perception verbs are not accepted in the *ba*-construction but compatible with the *bei* construction).

(17) a. ta-de mimi bei women faxian-le.

his secret *bei* us discover-*le*

“His secrets were discovered by us.”

b. *women ba ta-de mimi faxian-le.

we *ba* his secret discover-*le*

“We discovered his secret.”

(Huang, Li and Li 2009:158)

Then, another difference regards the directedness of affectedness. Briefly, the *ba*-NP is required to be directly affected by the action, while the subject of a passive sentence in Mandarin can be indirectly affected.

(18) a. *laoshi ba ta-de zhi-tiao kanjian-le.

teacher *ba* his scrip see-*le*

b. ta-de zhi-tiao bei laoshi kanjian-le.

his scrip *bei* teacher see-*le*

“His scrip was seen by the teacher.”

(Huang, Li and Li 2009:159)

For the same reason, an “outermost object” (Huang, Li and Li, 2009:147), which bears an Indirect Affectee theta-role, is allowed only in the passive construction.

(19) a. Linyi you bei Wangwu jichu-le yi-zhi quanleida.

Linyi again *bei* Wangwu hit-*le* one-cl home-run

“Linyi again had Wangwu hit a home run [on him].”

b. ??Wangwu you ba Linyi jichu-le yi-zhi quanleida.

Wangwu again *ba* Linyi hit-*le* one-cl home-run

“Wangwu again hit a home run on Linyi.”

(Huang, Li and Li 2009:159)

In addition, the authors argue that in some cases the *ba* sentences have multiple interpretive possibilities, while the counterparts in *bei* construction are univocal.

(20) a. xiaohai ba mama zhui-lei-le.

child *ba* mother chase-tired-*le*

i. “The child chased the mother and the mother became tired.”

ii. “The child got the mother tired from chasing him.”

b. mama bei xiaohai zhui-lei-le.

mother *bei* child chase-tired-*le*

i. “The child chased the mother and the mother became tired.”

ii. *“The child got the mother tired from chasing him.”

(Huang, Li and Li 2009:160)

Huang, Li and Li (2009) conclude that in Modern Mandarin Chinese, *bei* is still a verb or a modal, capable of assigning a thematic role to the subject; *ba* has become grammaticalized in the diachronic development thus no longer presents the verbal properties. Moreover, the passive construction with an overt agent (the “long passive”) involves an operator movement which is absent in *ba*-construction.

Turning to the *ba*-construction, the authors note that *ba* must be closely followed by an NP and claim that this requirement can be explained by the Case assignment function of *ba*. However, as noticed before, *ba* is not a verb and does not assign a theta-role either to the subject or to the post *ba*-NP, which is simply captured by the fact that for every *ba* sentence, there is always a non-*ba* counterpart with the same interpretation.

Through the coordination and topicalization tests, they argue that in a “causative *ba* sentence”, the *ba*-NP and the VP form a constituent, while in a “canonical *ba* sentence”, the *ba*-NP can either combine with the VP or with *ba* to form a unit. Therefore, *ba* and the post *ba*-NP are not necessarily united as a constituent.

Coordination:

(21) wo ba rou qie-le, cai xi-le

I *ba* meat cut-*le*, vegetable wash-*le*

“I cut the meat and washed the vegetable”

Topicalization:

(22) a. ni xian ba zhe-kuai rou qie-qie ba!

you first *ba* this-cl meat cut-cut sfp

“Cut the meat first.”

b. [ba zhe-kuai rou], ni xian qie-qie ba!

ba this-cl meat you first cut-cut sfp

“Cut the meat first.”

(Huang, Li and Li 2009:167)

(23) a. zhe-ping jiu ba ta zui-dao-le.

this-bottle wine *ba* him drunk-fall-*le*

“This bottle of wine made him very drunk.”

b. *ba ta, zhe-ping jiu zui-dao-le.

ba him this-bottle wine drunk-fall-*le*

(Huang, Li and Li 2009:166, footnote 21)

Then they show that a manner adverb can occur both before and after *ba*. Due to the assumption that *ba* is a dummy head and as a consequence it cannot license a manner adverb, the *ba* projection must land higher than *vP* instead of taking the *v'* head.

(24) a. wo xiaoxin-de ba beizi na-gei-ta.

I carefully *ba* cup take-to-him

“I gave the cup to him carefully.”

b. wo ba beizi xiaoxin-de na-gei-ta.

I *ba* cup carefully take-to-him

“I gave the cup to him carefully.”

(Huang, Li and Li 2009:177)

Unlike Liu (1997), they use the “totalizing marker” *dou* to test the subject’s position. It is believed that *dou* is licensed by the NP at the left in the domain and even when the NP moves higher, *dou* can still be licensed by its trace. However, the subject NP and *dou* cannot be interrupted by *ba* and *ba*-NP. This seems to suggest that the subject should not be generated lower than *ba*, outside the licensing domain of *Dou*.

(25) a. tamen dou ba Linyi da-le yixia.

they all *ba* Linyi hit-*le* once

“They all hit Linyi once.”

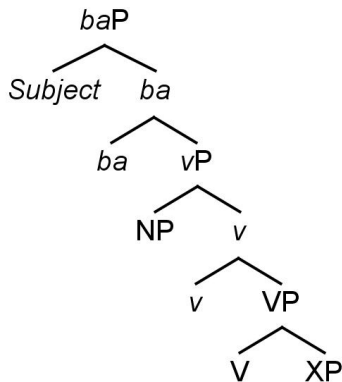
b. *tamen ba Linyi dou da-le yixia.

they *ba* Linyi all hit-*le* once

(Huang, Li and Li, 2009:181)

To sum up, they propose the syntactic structure of *ba* as followed:

(3). [_{baP} Subject [_{ba} *ba* [_{vP} NP [_v *v* [_{VP} V XP]]]]]

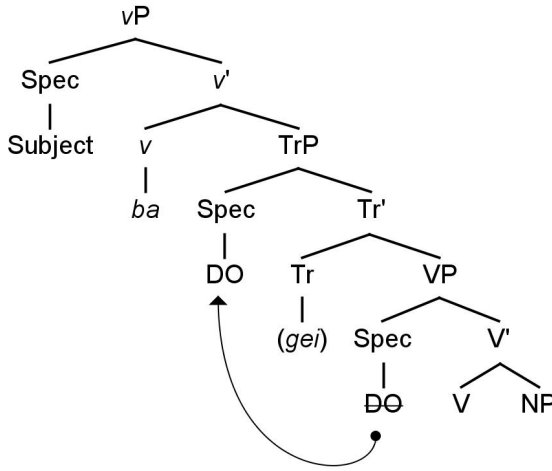


Here in this structure, “*baP*” independently adjoins the *vP*, close to the *vP*-internal NP, the Subject merges from Spec, *baP*. The authors suggest that since *ba* assigns Cases but cannot assign theta-roles, it is more likely a kind of light verbs. In the Footnote 28 (p.175), they also propose the possibility to classify *ba* as a functional category, but what functional categories exist still unclear in UG. This thesis will try to review this “disposal construction” under the idea of the last proposal.

Kuo 2010

Kuo (2010) proposes to adopt Bowers’ (2002) “Transitivity Projection” for the *ba*-construction. She especially concentrates on the location of *ba*-NP, arguing that it is necessary for an XP above VP to host the *ba*-NP, then claims that the best candidate for this XP is the Transitivity Projection. Generally speaking, Bowers proposes that a transitive verb may have an optional TrP in the middle of the *vP* and the VP, “the traditional functions of the light verb *v* have been split into two: the new *v* head assigns the Agent theta-role but specifies no accusative Case, and the Tr head assigns no theta-role but specifies the accusative Case” (from Kuo, 2010). Kuo naturally takes this structure into Chinese *ba*-construction because most of the *ba* sentences regard transitive verbs. In this approach, *ba* fills the head of *v*’ as a dummy verb with a subcategorization requirement selecting only NP categories; the direct object in the VP raises to the Spec of TrP to satisfy its EPP feature, right under the *ba* head; since *ba* overtly fills the *v*, there is no more verb raising from VP to *vP*, V remains *in situ*.

(4).



In the following example made by Kuo (2010, (20)) the structure of (26) is shown in (26):

(26) a. Geruisen ba Sara da-shang-le.

Grissom *ba* Sara hit-hurt-ASP

“Grissom hurt Sara.”

b. [_{VP} Grissom *ba* [_{TrP} Sara_j Tr [_{VP} hit-hurt-ASP t_j]]]

According to Kuo, two types of evidence prove that the *ba*-NP is located above the VP. One is the possibility for a manner adverbial to be at a post-*ba* position, the other is the optional insertion of *gei* under the *ba*-NP but above the VP.

She compares Huang, Li and Li’s (2009) assumption (which proposes a basic structure like “[_{BaP} Grissom *ba* [_{VP} Sara_j [_{v'} hit-hurt-ASP_j [_{VP} t_j t_j]]]]” for the former example) with the Transitivity Projection, arguing that using TrP has several advantages. Firstly, Kuo’s structure preserves the subject merged at Spec, *vP* rather than Spec, *baP*, since the latter creates a theta-role-assignment problem (according to their tests, the *ba* head is not responsible for assigning any theta-role); secondly, a TrP provides an additional head to host the optional *gei*, which has no position in Huang, Li and Li’s structure; thirdly, given that *gei* can be followed by a manner adverbial, Kuo argues that there should not be an obligatory verb raising, only in this way can a manner adverbial adjoin either to *gei* (Tr’) or to V’.

Comparison and Potential Problems

A structural comparison

In the last three literatures discussed above (i.e. Sybesma 1999, Huang, Li and Li 2009 and Kuo 2010), the authors structurally analyze the *ba*-construction, presenting some similarities as well as differences.

(27) a. [_{CausP} Subject [_{Caus} *ba* [_{VP} NP [_{VP} V [_{XP} *e_i* X]]]]]

(Sybesma 1999)

b. [_{baP} Subject [_{ba} *ba* [_{vP} NP [_v *v* [_{VP} V XP]]]]]

(Huang, Li and Li 2009)

c. [_{vP} Subject [_{v'} *ba* [_{TrP} NP_i [_{Tr'} (*gei*) [_{VP} _i [_{v'} V NP]]]]]]]

(Kuo 2010)

What gathers all of them is the assumption that the projection of *ba* lands higher than the basic VP. Considering the well-formed non-*ba* counterparts, it is reasonable to regard *ba* as an aspectual modifier of the event which precedes the verbal complex.

With regard to the structural differences, there are three main sides.

First of all, Sybesma (1999) and Huang, Li and Li (2009) agree about the “external” property of *ba*, that is to say, *ba* heads the *ba*-projection, adjoined higher than the raised verb. The subject merges at the Spec position in the projection which hosts *ba* as the external argument to the event. Thus, the subject can also be inanimate, which causes the event to occur without being directly involved in it. As a contrast, Kuo (2010) proposes that *ba* actually fills the *v* head of *vP*, but for a transitive predicate, this *vP* is split in two, a *TrP* immediately follows it and conveys the transitivity. From this point of view, a *ba*-sentence does not differ from its non-*ba* counterpart in the argument structure, the only difference resides in the verb-raising process: in *ba*-constructions, *ba* fills the head of *vP* and the predicate V remains still; while in non-*ba* active sentences, the predicate obligatorily raises from V head to *v* head. Moreover, the optional insertion of *gei* is also attributed to the spell-out of the *Tr* head, which is another *vP*-internal head.

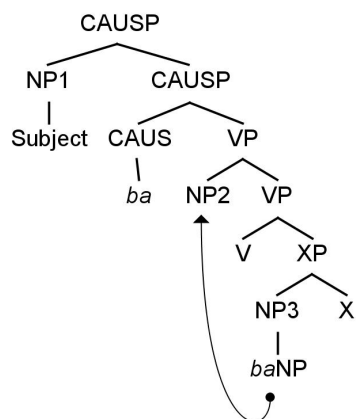
Then, about the *ba*-NP Kuo (2010) aligns with Sybesma (1999) holding that the *ba*-NP first merges from a lower position, then raises to the specifier immediately under Ba; while in Huang, Li and Li (2009) it is supposed to be generated as the specifier of *vP* and stays still, keeping an inseparable relation with *ba* for the adjacency condition of the Case-assignment. Sybesma (1999) is accordant with Huang, Li and Li (2009) in the Case-maker-role of *ba*, he argues that there is an empty category at the subject position in the small clause XP, which is proved to be a trace of *ba*-NP instead of a Pro C-commanded by it, in other words, *ba*-NP merges from the small clause XP then moves to CAUSP. Kuo (2010) inherits Bowers' (2002) proposal, arguing that the TrP has the EPP feature, can attract the closest NP of the transitive event to Spec, TrP and assigns it an accusative case via agree. Huang, Li and Li (2009) regard *ba* as a part of the verbal complex, where the subject of the sentence does not merge from Spec, *vP* but from Spec, *baP*, the *ba*-NP takes the Specifier of *vP*.

Thirdly, Kuo (2010) and Huang, Li and Li (2009) put little emphasis on the additional “small clause”, though accepting the complexity of the post-*ba* verbal complex. Sybesma (1999), however, sets an obligatory XP as the resultative constituent of VP, corresponding to the causative role of *ba*-construction, even for the “canonical *ba*-sentences” that according to him are causative in some abstract sense.

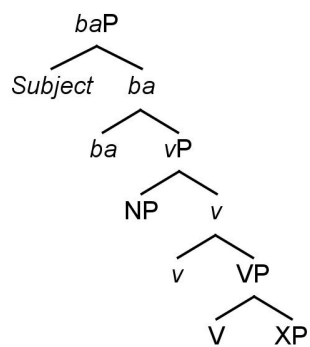
Potential problems of the structures

The *ba*-construction has a very wide use in Mandarin, some cases are not quite canonical but curiously acceptable and interpretable. Therefore, it is not easy to completely capture its very essence in the syntactic structure, even the three convincing works mentioned above may meet difficulties in various ways. The three graphic representations are repeated here for convenience.

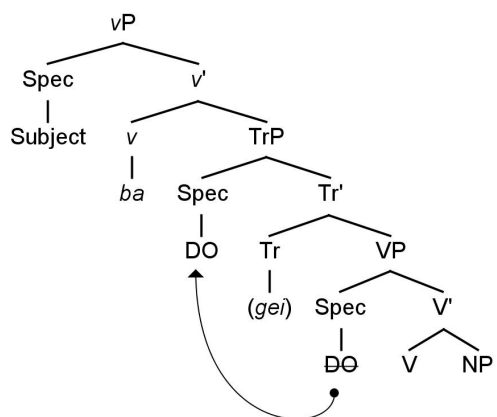
(5). Sybesma 1999



(6). Huang, Li and Li 2009



(7). Kuo 2010



A fundamental and much discussed problem concerns the *ba*-projection itself. As shown in the above structures, it could be a Causative Phrase (Sybesma 1999), a unique phrase (Huang, Li and Li 2009) or simply the *v*P with the *v* head spelled-out (Kuo 2010).

It is not unreasonable to nominate *ba* as a causative head, since it expresses an affectedness aspect of the event. But what about the “real” causative verbs, namely “*shi*”, “*rang*” (which literally mean “let”) in Mandarin?

(28) a. Zhangsan rang Lisi ba yan na-lai

Zhangsan let Lisi *ba* salt bring-come

“Zhangsan let Lisi bring him the salt”

b. *Zhangsan ba yan rang Lisi na-lai

Zhangsan *ba* salt let Lisi bring-come

As we see in (28), causative “*rang*” can co-occur with *ba* and obligatorily precedes it. These explain that the *ba*-construction is at least different from the real causative projections, thus the mark “CAUSP” is not quite proper to describe *ba* as Sybesma (1999) proposes.

Then we can take a consideration on the little *v* reading of Kuo (2010). In such a structure, the use of *ba* is dependent on the Transitivity Phrase, which in turn is dependent on the transitivity of the main verb. But remember that in the so-called “causative *ba*-sentences”, the main predicate can be intransitive.

(29) a. Zhe-jian shi ba Zhangsan xiao-de duzi tong

This-CL thing *ba* Zhangsan laugh-*de* abdomen hurt

b. Zhe-jian shi xiao-de Zhangsan duzi tong

This-CL thing laugh-*de* Zhangsan abdomen hurt

“This thing made Zhangsan laugh till his sides hurt”

In (29) the predicate “laugh” is intransitive; “Zhangsan” is the experiencer of “laugh” and the possessor of “abdomen”, which is the subject of the resultative small

clause [abdomen hurts]; “this thing” is the external causer of the laughing event. In the event structure there should not be a TrP split from the *v*P thus it should have not been proper to use *ba*. An alternation is to argue that *ba* may fill the *v* head as well even if there is no TrP and in this way we still have the right order: [_{vP} this thing [_v *ba* [_{vP} Zhangsan [_v laugh [_{XP} *de* [_{X'} abdomen hurt]]]]]]. Nevertheless, the sentence is also grammatical with the insertion of *gei*:

(30) Zhe-jian shi ba Zhangsan gei xiao-de duzi tong

This-CL thing *ba* Zhangsan *gei* laugh-*de* abdomen hurt

“This thing made Zhangsan laugh till his sides hurt”

In this case *gei* seems to be suspended without a legitimate projection to host it.

Huang, Li and Li (2009) build their structure on the basis of the adverbial tests and the test with “*dou*” (“all”), demonstrating that the projection of *ba* must higher than the finally raised verb and the subject should generate at the specifier of *ba* Phrase. Even though their analyses are basically plausible, cross-linguistically it is difficult to analogue such a structure to any other verbal structures.

Furthermore, as figured out in Kuo (2010), if *ba* does not assign any theta-role, how can the subject base-generated at Spec, *ba*P get an agent theta-role? Kuo (2010) also points out that there is no position for the *gei*-insertion.

Generally speaking, one of the toughest syntactic problems of this construction relates to the *ba*-and-*ba*-NP chunk. As discussed before, nothing can intervene between *ba* and *ba*-NP. It is also possible to topicalize the chunk.

(31) a. ni xian ba zhe-kuai rou qie-qie ba!

you first *ba* this-cl meat cut-cut sfp³

“Cut the meat first.”

b. [ba zhe-kuai rou], ni xian qie-qie ba!

ba this-cl meat you first cut-cut sfp

“Cut the meat first.”

(Huang, Li and Li 2009:167)

The presence of *ba* necessitates the following *ba*-NP or a pronoun referring to it, similar to the behaviour of a preposition in the topicalized position.

(32) zhe-kuai rou, ni ba *(ta) xian qie-qie ba!

this-cl meat you *ba* *(it) first cut-cut sfp

Compare:

(33) a. To John, I gave the gift.

b. John, I gave the gift to *(him).

According to the above three works, *ba* and *ba*-NP do not form a constituent, they are bound together only for the case-assignment reason (Sybesma 1999, Huang, Li and Li 2009) or for the nature of the projection (Kuo 2010).

More interestingly, it seems that the topicalization test cannot be applied to all *ba*-sentences. Huang, Li and Li (2009) notice that in the causative *ba*-sentences the *ba*-and-*ba*-NP unit cannot be topicalized.

³ “sfp” stands for “sentence-final particle”.

(34) a. zhe-ping jiu ba ta zui-dao-le.

this-bottle wine *ba* him drunk-fall-*le*

“This bottle of wine made him very drunk.”

b. *ba ta, zhe-ping jiu zui-dao-le.

ba him this-bottle wine drunk-fall-*le*

(Huang, Li and Li 2009:166, Footnote 21)

For this reason, the authors claim that *ba* and *ba*-NP form a constituent only in canonical *ba*-sentences, while in causative *ba*-sentences, *ba*-NP forms a constituent with the verbal phrase. However, they do not provide a structural explanation to this divergence.

Chapter 2. Proposal of a New Event-Decomposition

Method for *Ba*

The verbal structure in *ba*-sentences is a frequently discussed argument in the previous literature (see Chapter 1, generalizations of Liu (1997) and Sybesma (1999)). Generally speaking, it is said to be “complex” in the sense that a bare verb or a pure stative predicate can never be the *ba*-predicate. Most of the works only deem it a precondition to use *ba* without giving a syntactical representation of this request. Sybesma (1999) proposes an obligatory resultative small clause after the main VP, whose subject raises to be the final *ba*-NP, which to some extent explains the complexity of the *ba*-predication.

In this thesis we would like to explicitly present the structural properties of the “complex” verbal projection in *ba*-sentences. For this aim, it is worth trying a new approach of decomposition of the event-structure. In a *ba*-sentence, the complex predication presents a decomposable nature.

(1) Zhangsan ba Lisi da-si-le

Zhangsan ba Lisi hit-die-le

“Zhangsan beat Lisi to death”

In (1), the verbal complex is not an inseparable multisyllabic compound, the expression “beat... to death” is composed by a bivalent verb “*da*” (“hit, beat”), an unaccusative verb “*si*” (“die, dead”) and a final aspect particle (in terms of Li and Thompson (1981)) “*-le*”. More specifically, Zhangsan is the agent of a beating event, which caused the result of Lisi’s death. Although there are lots of types of complex *ba*-predicate, we will show that it is always a combination of a main verb (not necessarily transitive) and some resultative elements of different lexical categories.

Using VP, or eventually *v*P with a V-to-*v* raising process to describe the verbal complex seems difficult to present the internal relation between every verbal elements, like the cause-effect relation between “beat” and “dead” in (1).

Ramchand (2008) takes a different view on the basic argument relations, which provides a set of more refined primitive event roles in the lexicon and its corresponding syntactic representation. In the next section we will make a very brief overview of this analysis and try to make use of it to describe which types of predicate can be expressed by the *ba*-form.

Event Structures in Ramchand (2008)

Primitive role types

According to Ramchand (2008), an eventive predication can involve three types of predication relations and three relative basic argument roles (and with the stative verbs there are also THEME, RHEME as their arguments which seem not interested to this thesis and here we would not talk about).⁴

INITIATOR and Causation/initiation

“An initiator is an entity whose properties/behaviour are responsible for the eventuality coming into existence” (p.24). It coincides with the intuition of “external argument”, which can be volitional agents, instrumentals and abstract causes/sources (*ibid*).

(2) Karena drove the car.

(p.52, (24b))

In (2), “Karena” is the INITIATOR which causes the event coming into being.

UNDERGOER and Dynamic process

The internal argument which undergoes “some sort of identifiable change/transition” (p.28), but not necessarily attains a final state of the change/transition is called an UNDERGOER. This change/transition can be its state, its location or its ullage⁵. Another relative notion of the UNDERGOER is PATH. While the UNDERGOER is the “subject of change”, PATH is the “material extent” or the “measuring scale” of the change, which keeps a homomorphic relation with the event. By using the class of creation/consumption verbs, the created/consumed DP argument does not undergo the path of change, but actually defines it (p.30).

⁴ In this chapter all the citations from Ramchand (2008) will only be marked in page numbers without repeating the work.

⁵ This term originally used by Ramchand (2008) which means “the amount that a container (as a wine bottle or tank) lacks of being full”.

(3) Ariel ate the mango.

(Ramchand 2008: 52, (26b))

The difference can be seen from the comparison between (2) and (3) above. In (2), “the car” is the UNDERGOER which undergoes the transition of the “drive” event. As a contrast, in (3), “the mango” here measures the change of the “eat” event, its consumption defines the completion of the event, therefore it is the PATH of the predication.

RESULTEE and Result

If an object of the event does not just undergo some change but also ends up in a final state, this object is claimed to be the holder of a final state, a RESULTEE, which attains a “critical identifiable change of state”. The boundedness of the event actually depends on the presence, whether implicit or explicit, of the final state, but a final state is not incompatible with the iteration of the event. For this reason, “RESULTEEs can also occur in unbounded events, if the unboundedness is created by external modification, as a part of external aspect” (p.32, Footnote 10). Analogically to the UNDERGOER-PATH relation, there can be a GROUND in a resultative event, which describes the result state with its “inherent nongradable property” (p.52).

(4) Katherine ran her shoes ragged.

(Ramchand 2008: 52, (27a))

(5) Kayleigh arrived at the station.

(Ramchand 2008: 52, (28b))

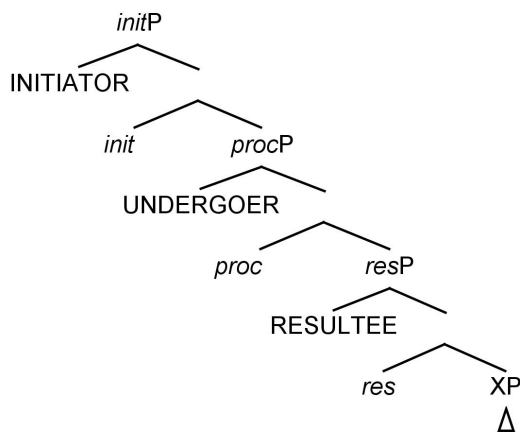
In these two sentences above, “her shoes” in (4) and “at the station” in (5) respectively hold the RESULTEE and GROUND role. In the former event, “her shoes” is the “subject” of the final state “ragged” which is caused by the running of Katherine; while in the latter, “at the station” describes the final state, i.e. the location where Kayleigh finishes due to the arriving event.

Syntactic representation

Given the generalizations above, Ramchand (2008) argues that the predictable and systematic aspect of the verbal meaning can be represented in a first-phase syntax. Based on those primitives, a maximal dynamic verbal decomposition structure is composed by (text adapted and imagine reproduced from p.39-p.40):

- An initiation phrase (*initP*), which “introduces the causation event and licenses the external argument”;
- A process phrase (*procP*), which “specifies the nature of the change or process and licenses the entity undergoing change or process”;
- A result phrase (*resP*), which “gives the ‘telos’ or ‘result state’ of the event and licenses the entity that comes to hold the result state”;
- INITIATOR, the “subject” of *initP*;
- UNDERGOER, the “subject” of *procP*;
- RESULTEE, the “subject” of *resP*.

(1).



(adapted from p.39 (1))⁶

In the light of this predication system, that an event can be decomposed into at most three subevents. For example, the event “eat” can be decomposed into two subevents, where e_1 is the causing or instigating force and e_2 is the subevent of something being consumed (p.44). A causing relation links the initiational subevent e_1 and the process e_2 (e_1 leads to e_2). Similarly, a process can lead to a resultative subevent. Within the same event, an argument may hold one or more argument roles, which depends on its participation to the event. The core of every dynamic events is the transition process, thus it is assumed that all dynamic verbs contain a *procP*. Later we will present it more concretely with several examples.

Another important assumption to this first-phase syntax is the mechanism of

⁶ Although the PATH and GROUND mentioned previously are also presupposed primitives in the event structure, they are not marked in Ramchand’s (2008) representation of the basic event decomposition due to their “rhematic” but not “thematic” property.

Merge and Rmerge. Ramchand (2008) claims that if a lexical item carries a category feature (e.g. a [*res*] feature), then it can Merge at the head position of that corresponding projection (e.g. the *res* head). Since a particular lexical item possibly contains more than one feature, one element can take more than one position in the structure. It may “Merge and project and then Rmerge in the sense of Starke (2001) at a later stage of the derivation” (p.59). As regards the linearization issues, she simply assumes that the “highest” position in the structure of this item is responsible of the spell-out of it (p.59, Footnote 6). In the representations, the Rmerged items are marked as a copy of the Merged one.

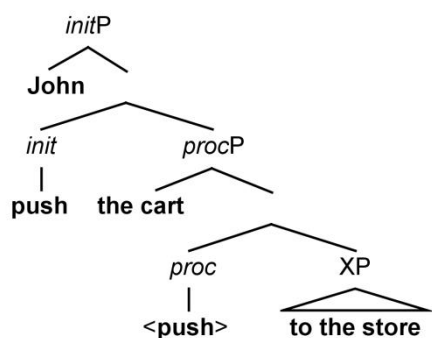
Natural verb classes

Ramchand (2008) further argues that a classification of different verb types (at least in English on which she provides a comprehensive analysis in this work) can be derived on the basis of this system, and in the meantime such a representation allows us to describe the flexibility of the verb’s syntactic behavior in the natural language. Here we will repeat some of her examples to present the core of her event decomposition structure but skip some discussions temporarily irrelevant for the argument about the syntactic properties of Chinese *ba*-construction.

Initiation-process verbs

(6) John pushed the cart to the store.

(2).



(P.68 (8a)-(9))

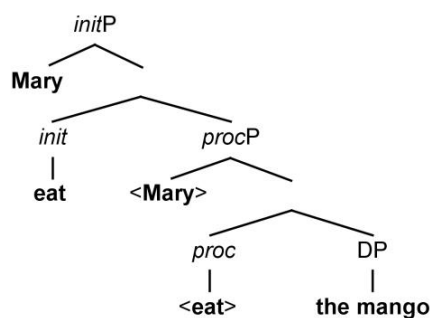
Ramchand (2008) claims that when a PP co-occurs with the direct object, the direct object is the UNDERGOER and the PP is the path travelled by the UNDERGOER (p.67). As we can see in (2) (the syntactic representation of sentence (6)), the verb “push” contains [*init*] and [*proc*] features and merges in the two heads,

taking “John” as the INITIATOR and “the cart” as the UNDERGOER. “To the store” describes the PATH of the pushing process.

However, from another point of view, if the PP “to the store” describes the final location of the UNDERGOER, the PP would not be a trajectory of the *proc* event anymore, but embedded in the *res* projection (see p.67, Footnote 1).

(7) Mary ate the mango.

(3).

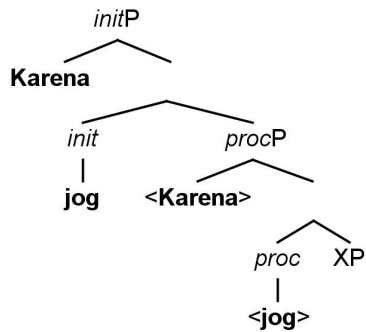


(P.66 (3b)-(4))

The representation (3) is different from (2) in the way that the verb “eat” is a classical verb of consumption, what we called the “direct object”, i.e. “the mango”, holds a homomorphic relation with the whole event, whose material extent measures the process of the event, hence it assumes the PATH role while “Mary” herself undergoes the eating process.

(8) Karena jogged.

(4).



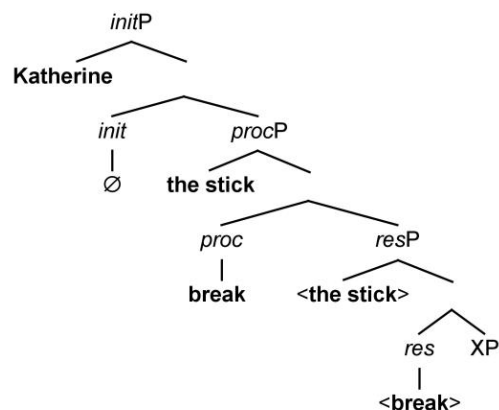
(P.71 (20e)-(21))

Many of the motion verbs in English are supposed to be [*init, proc*] verbs, whose only DP argument undergoes the change as well as initiates the event. They do not have a transitive version and it is impossible for them to take a PATH object as “eat” in (7) does.

Initiation-process-result verbs

(9) Katherine broke the stick.

(5).



(P.87 (48))

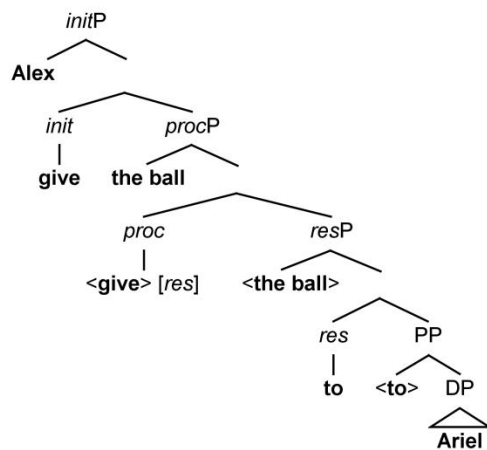
In (5) the peculiar *init* head is filled by a null causative suffix. Ramchand (2008) assumes that in English, the verbs that have a transitive alternation, like “tear” and “break”, are actually [*proc*, *res*] verbs, as shown in sentence (10) below.

(10) The stick broke.

However, they also have the transitive versions, hence she suggests that in this case the verb contains a null *init* head with the causative semantics. Back to (9), Ramchand (2008) claims that the *proc* head “break” can associate with the null causative suffix so that there could be an INITIATOR which causes the event coming into existence.

(11) Alex gave the ball to Ariel.

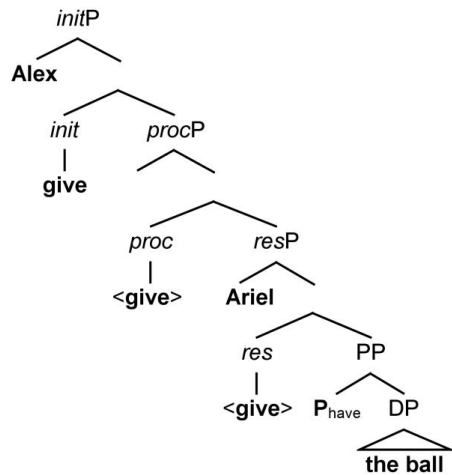
(6).



(P.102 (73))

(12) Alex gave Ariel the ball.

(7).



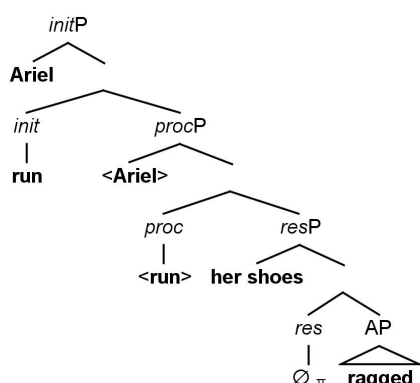
(P.103 (74))

(11) and (12) are two variations of the same double object construction in English. In (11), it is assumed that the verb “give” identifies a *res* head and obligatorily takes a stative prepositional phrase. The element “to” merges at *res* for its bearing the [*res*] feature, with the direct object “the ball” being its RESULTEE. Differently in (12), the indirect object “Ariel” bears the RESULTEE role, while “the ball” stays in the final PP as the complement of an abstract possessive head. The existence of the UNDERGOER, as noticed in the structure (7), is still under discussion, that if exists a notional UNDERGOER, it would have to be “the ball” but the particular relation is not directly represented in the structure (p.103, Footnote 15).

AP Resultatives

(13) Ariel ran her shoes ragged.

(8).



(P.124 (35))

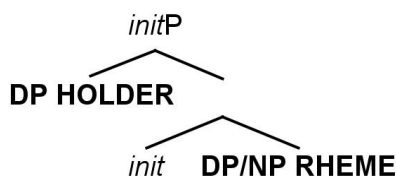
It is not rare in English to see a similar construction as (13) shows, which contains a resultative adjective phrase adjoined to the main sentence. It is argued that here exists a null res head “ \emptyset_{π} ” which has very general semantics of “property possession” and license a RESULTEE and its property described by the AP in the complement position (p.124). In the structure (8), “her shoes” merges directly as the RESULTEE and its property of being “ragged” caused by the event of Ariel’s running merges at the complement of the abstract res head.

Stative Verbs⁷

Recall that the *procP* in this system is essential for “dynamic process”, but for a stative predicate, e.g. “fear”, “love”, “know” etc., there is no change or transition in the first-phase syntax. Therefore, Ramchand (2008) proposes that the stative verbs project only an *initP*, the subject is directly interpreted as the holder of the state while the rhematic material fills the complement position.

⁷ The term “stative verbs” used in Ramchand (2008) contains both psych-verbs, like “fear”, “love”, and other non-dynamic verbs like “be”, “remain” etc.

(9).



Event Structures of the *Ba*-construction: Complexity as Resultativity

In this section, we will put aside the syntactic status of *ba* itself for a moment and concentrate on the pure event structure of *ba*-sentences, then we will propose that the widely discussed “complexity” of the *ba*-predication mentioned above is in fact due to the obligatory presence of a *res* projection in the event structure in the sense of Ramchand (2008).

Complex Ba-VP

It is a well known phenomenon that a *ba*-VP must be “complex” in some ways. Among the authors mentioned in Chapter 1, L. Wang (1954) proposes five conditions for a well-formed *ba*-construction; Li and Thompson (1981) claim that the construction must satisfy the requirement of the “disposal notion”; Liu (1997) generalizes nine cases of *ba*-predicates while Sybesma (1999) recognizes ten groups of them; Huang (2009) mentions that *ba*-constructions (and *bei*-constructions) “require complex verb phrases” (Huang 2009:156). In addition, Yen-hui Audrey Li (2006) describes that “there is always an X preceding or following the V in a *ba* sentence. A bare verb is not acceptable” and summarizes eight classes of these “X factors”.

The additional elements attached to the main verb are of various categories which increases the difficulty to make a unified generalization. We will take the generalizations of Liu (1997) and Sybesma (1999) as a representation of the complexity and go into details of the examples given under their generalizations in Chapter 1, trying to insert them into Ramchand’s (2008) argument structure. Considering the convenience for an analysis of the event structure, we will transform these *ba*-sentences into their non-*ba* variants (if possible).

Event Structures of Ba-predicates

Before we apply the structure to Chinese, there are several decisions to make. The first one is about the verbal chunk, as shown at first in sentence (1): should the different VP-elements merge as one combined head or separately according to their own lexical properties?

In the following part, sentence (a) would be the original *ba*-sentence already presented in Chapter 1, while sentence (b) would be the non-*ba* counterpart of sentence (a).

(14) a. Ni dei ba wenti kan qingchu

you have-to *ba* question read clear

b. Ni dei kan qingchu wenti

you have-to read clear question

“You have to read the questions so that they are clear.”

Here we are dealing with two predicative elements: “*kan*” (“read”) and “*qingchu*” (“clear”). The first predicate is the verb “read”, which in Ramchand’s (2008) system has [*init, proc*] features and can take an INITIATOR and a PATH as its arguments (see Ramchand 2008:108, (80)), and there is no doubt that if the sentence were in English, “you” would be the INITIATOR and “the questions” would be the PATH. The second predicate “clear” seems to be an AP result, but in the sentence (14) it irreversibly precedes its RESULTEE “question”, forms an inseparable verbal complex with the main verb and cannot be directly modified by an adverb, otherwise the clause would be ungrammatical, as sentence (14’c) and sentence (14’d) show.

(14) c. *Ni dei kan wenti qingchu

You have-to read question clear

d. *Ni dei kan hen qingchu wenti

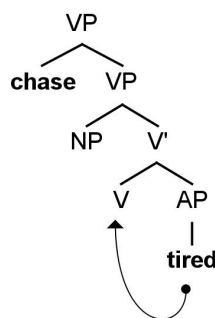
You have-to read very clear question

In the same sense as (14)

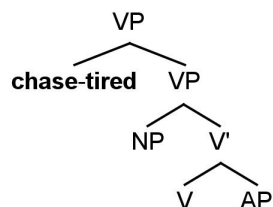
Cheng (1997) proposes that “lexical compounding in Mandarin Chinese is similar to conflation in English”: the adjectival verb first incorporates into its head V, then the combined V+A complex moves to the higher verbal head. She exemplifies

the process with the lexical compound “*zhui-lei*” (“chase-tired”) as follows:

(10).



(11).



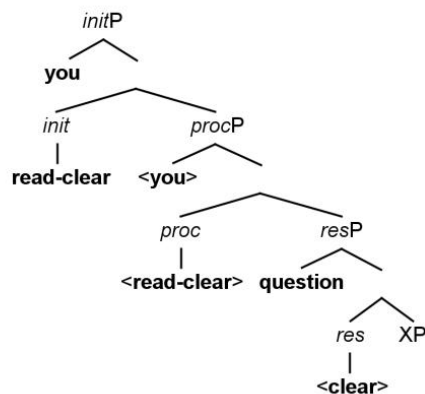
(structures adapted from Cheng 1997)

But notice that it seems partially contrast to the proposal of Kayne (1994) that the adjunction always realizes leftwards. Cheng and Huang (1994) argue that in Mandarin Chinese a resultative verb compound composed by a V1 and a V2 takes V1 as the head of the whole compound. They propose that in Mandarin Chinese the “resultative compounds have an underlying complex event structure in which the event denoted by V1 takes the event denoted by V2 as its complement” (Cheng and Huang 1994:197-198). Basciano (2010) agrees with them, claiming that resultative compounds in Chinese is left-headed and Ramchand’s (2008) event-decomposition just confirms the left-headed interpretation.

Thus, combining the former discussions, the resultative compound of “chase-tired” type in Mandarin Chinese may have a more complex structure than the simple V head, so that the final word order V1>V2 could be satisfied. Since the observed verbal movements always involve the whole compound, for the convenience to present our current analyses we will simplify the representation of the final resultative verbal compounds in the *init* head position without specifying the structure of the compounds, but at the same time we also hypothesize that a resultative V2 like

“clear” in (14) does merge as the *res* head, then Remerges at *proc* and *init* to be finally united with the true [*init*, *proc*] verb “read”.

(12).



The second decision is about the post-verbal functional particles: which position can they take? The next example relates to the resultative clause introduced by the resultative marker “-*de*”.

(15) a. Ta ba wo ku de xinfan

he *ba* I cry *de* heart-disturbed

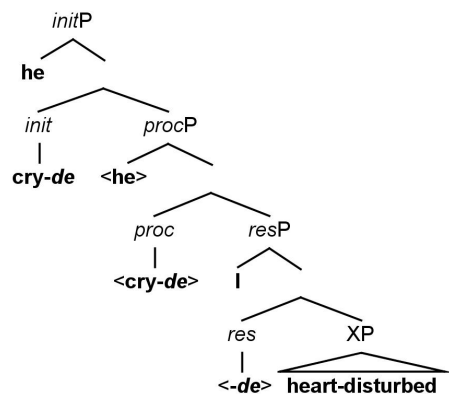
b. Ta ku de wo xinfan

he cry *de* I heart-disturbed

“He cried so much that I got disturbed”

The resultative “-*de*” must attach to the main verb and nothing can occur between them, thus we hypothesize that only when there is a former *proc* head can it merge at *res*, license an XP and a RESULTEE, then in a next step Remerges to the higher heads to combine with the real verb, just as a V2 does in the V1-V2 compound.

(13).



Another similar and very productive *res* head is the verb-*le*, which is considered to be an aspect particle as mentioned before.

(16) a. Ta ba pingguo chi-le

he *ba* apple eat-ASP

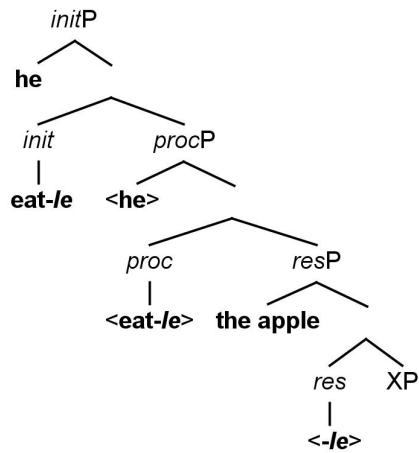
b. Ta chi-le pingguo

he eat-ASP apple

“He ate the apple.”

We call it “verb-*le*” to distinguish it from the “sentence-*le*” (see discussions in Li and Thompson 1981, Sybesma 1999): verb-*le* behaves like a verbal suffix which immediately follows the verb and admits other phrases to exist after it; sentence-*le* appears only at last of the whole sentence and the element preceding it is not limited to verbs. Though this is hard to see apparently in *ba*-constructions like (16), their non-*ba* variants clearly show that “-*le*” does not conclude the sentence, there is the object NP following it. Li and Thompson (1981) regard the verb-*le* as a “perfective aspect marker”, which “indicates that an event is being viewed in its entirety or as a whole” (Li and Thompson 1981: 185). The sentence (16) undoubtedly expresses the total consumption of the apple, so we assume that *Le* indicates a final state of the apple, i.e. “-*le*” merges as the *res* head and takes “the apple” as its complement.

(14).



A similar particle to verb-*le* is the durative aspect marker “-*zhe*”. Li and Thompson (1981) describe “-*zhe*” as the marker of “an ongoing posture or state resulting from an activity”. In the light of this description, we assume that “-*zhe*” merges at res head and Remerges to attach the real verb, just like verb-*le* does:

(17) a. *ba zhengjian dai-zhe*

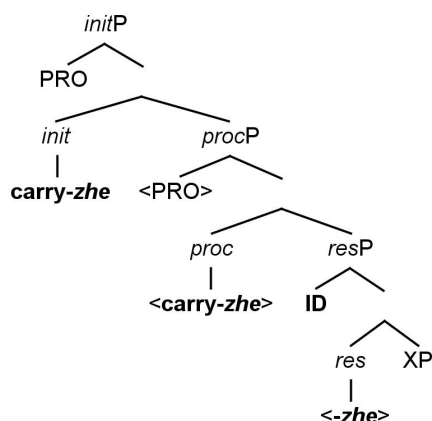
Ba ID carry-*zhe*

b. *Dai-zhe Zhengjian*

Carry-*zhe* ID

“Carry your ID (with you).”

(15).



The next examples contain a so called “retained object” at the final position. According to the definition and the classification in Thompson (1973), this term can refer to all the post-verbal NPs in the *ba*-construction, actually includes “NP-resultative *ba*-sentences”, “Inal.poss/part-whole *ba*-sentences” and “Locative *ba*-NP *ba*-sentences” in Sybesma’s (1999) classification (see Chapter 1).

(18) a. Ta ba juzi bo-le pi

he *ba* orange peel-*le* skin

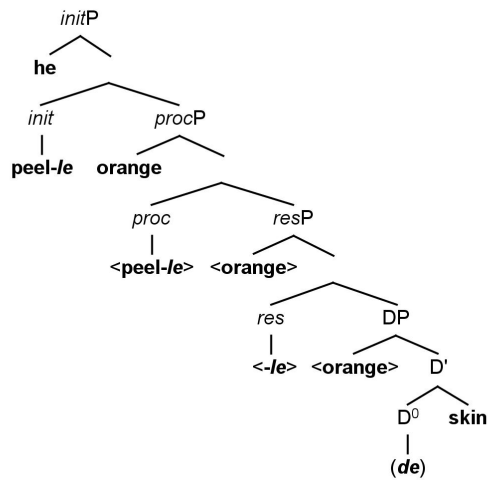
b. Ta bo-le juzi (de) pi

he peel-*le* orange (*de*) skin

“He peeled the orange.”

It is proper to consider the verb “peel”, both in English and in Chinese, does not necessitate a final state of its object (that becomes “being without skin”) in the lexical meaning, for this reason we assume that it belongs to the I group of Ramchand’s generalization (Ramchand 2008: 108, (80)): a transitive verb that contains [*init*, *proc*] features, takes an INITIATOR and an UNDERGOER or a PATH. In Chinese the corresponding verb “*bo*” can take either the fruit or the skin of the fruit as its direct object. The “skin” of the orange can be seen as a physical part of the orange, thus we assume that they hold a Possessor-Possessee relation. The aspect marker “-*le*” may delimit the event with a final state, which can be the loss of skin of the fruit or the disappearance of the skin itself. Given these analyses, we propose the following structure:

(16).



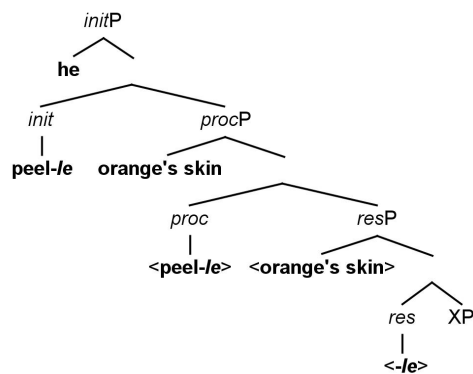
The flexibility here consists in the fact that the UNDERGORE/RESULTEE could be the “orange” which attains the final state of “being without its skin”, as we show in the representation (16); alternatively it is also reasonable to consider that the “skin” itself undergoes the change and arrives at the final state of “disappeared” due to the peeling event. It is proved by the possibility of the *ba*-sentence (18), the alternative event structure would be like (16):

(18) Ta ba juzi pi bo-le

he *ba* orange skin peel-*le*

“He peeled the orange.”

(16).



In other cases, the retained object may be a new creation as a consequence of the

event:

(19) a. wo ba yifu bao-le yi-ge hen-xiao-de baofu

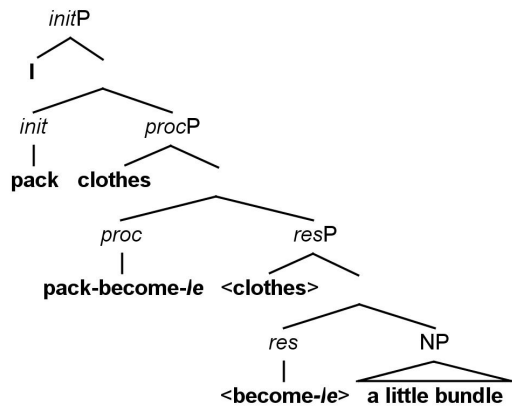
I *ba* clothes pack-*le* one-CL very-small-*de* bundle

b. wo bao yifu bao-cheng-le yi-ge hen-xiao-de baofu

I pack clothes pack-become-*le* one-CL very-small-*de* bundle

“I packed the clothes into a very small bundle”

(17).



Notice that the non-*ba* variant in (19) contains a “verb-copying” structure: the verb “pack” is spelled-out twice, but we will not go into details of this argument. The main difference of the proposed structure in (17), compared to the former structures, is the presence of a supposed [*proc*, *res*] verb “become”. It is neither a particle, like “-*le*” and “-*de*” in (15) and (16), nor a stative resultative predicate, like “clear” in (14). Therefore, we predict that “become” will not be able to Rmerge finally at the *init* head.

Then the post-verbal element can also be durative/frequentative. We argue that the basic event-structure is almost the same as that of “V+*le*” *ba*-sentences, followed by an additional prepositional phrase.

(20) a. Wo ba jiaozi zhu-le shi fengzhong

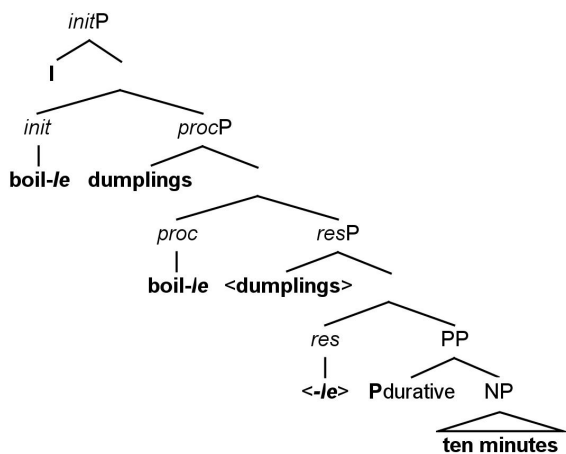
I *ba* dumplings boil-ASP ten minute

b. Wo zhu-le shi fenzhong jiaozi

I boil-ASP ten minute dumplings

“I boiled the dumplings for ten minutes.”

(18).



For the double object constructions, we could simply follow the structures (6) and (7) proposed by Ramchand (2008) for English:

(21) a. Wo ba zidian jie gei Laowang

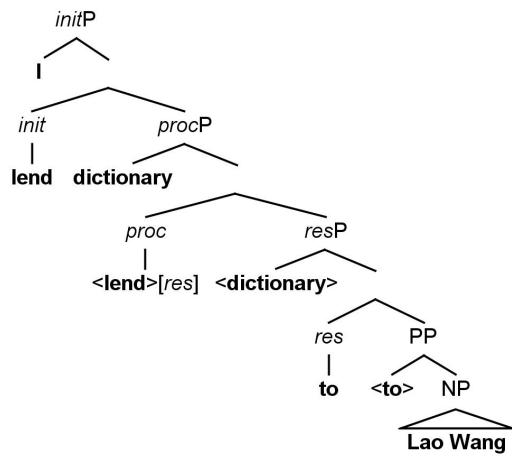
I *ba* dictionary lend to Laowang

b. Wo jie zidian gei Laowang

I lend dictionary to Laowang

“I lent the dictionary to Laowang.”

(19).



A particular construction in Chinese which is compatible with *ba* has the form “V+*yi* (“one”)+V”, in which the same verb is duplicated (see (22)). Liu (1997) calls it “the tentative construction”, in Li and Thompson (1981) it is grouped as “the delimitative aspect” which means “doing an action ‘a little bit’, or for a short period of time” (Li and Thompson 1981: 232). The formally analogous group is the “preverbal adverb *ba*-sentence” of Sybesma (1999) (see (23)).

(22) a. Qing ni ba xin kan-(yi)-kan

please you *ba* letter read-one-read

b. Qing ni kan-(yi)-kan xin

Please you read-one-read letter

“Please read the letter (a little).”

(Liu 1997:56)

(23) a. ta ba jiu *(yi) gan

he *ba* liquor once dry

b. ?ta yi gan jiu

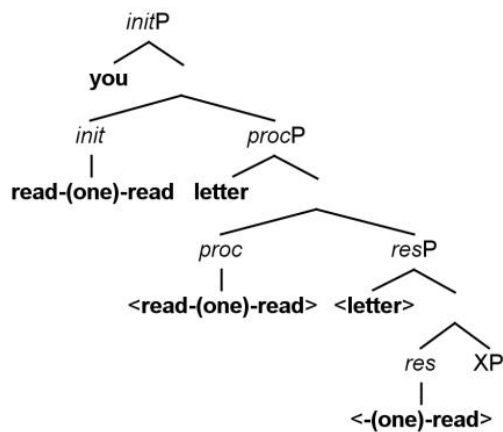
he once dry liquor

“he finished his drink in one pull”

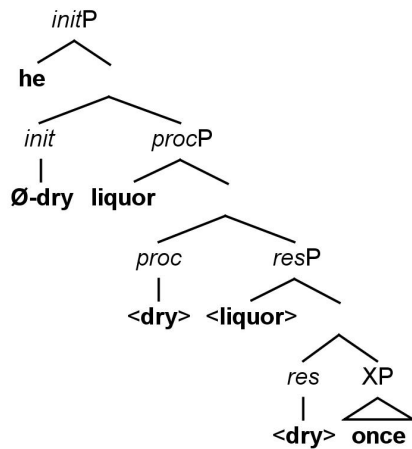
(Sybesma 1999:138)

From the English translation it can be inferred that the event in (22) is modified by the particular construction from [-telic] to [+telic], delimited in a presupposed time unit. The sentence (23) contains the causativized [*proc, res*] verb “dry” (means “drink up”) and the preverbal adverb “once” denotes the frequency. Based on these observations we argue that the extra part following the verb merges from the *res* projection: the letter finishes at an abstract state of “read a little”; the liquor is dried in one pull.

(20).



(21).



The last example is about a simple verb modified by a locative adverbial phrase.

(24) a. Xiaoming ba dongxi man wuzi reng

Xiaoming *ba* things whole room throw

b. Xiaoming man wuzi reng dongxi

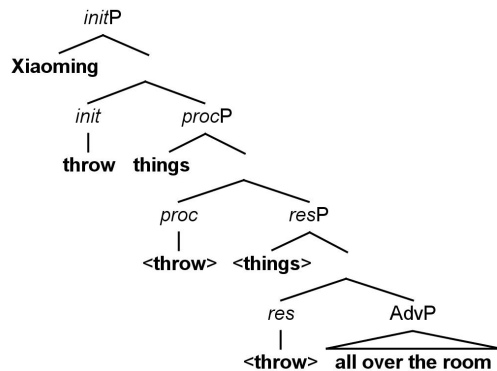
Xiaoming whole room throw things

“Xiaoming throws things all over the room.”

According to the classification of Ramchand (2008), “throw” belongs to the [*init*, *proc*, *res*] verb class⁸. “All over the room” presents a final location of “things” due to the throwing action of the subject “Xiaoming”, thus we assume that the verb licenses both a RESULTEE (“things”) and an adverbial phrase (“all over the room”).

⁸ It is possible that the verb “*reng*” in Chinese corresponds to the meaning of “leave” in this context which may not lexically necessitate a result of the UNDERGOER. As a consequence, the adverbial adjunct will be licensed by a null *res* head as proposed by Ramchand (2008) for the APs in English.

(22).



Event Properties of Ba-Construction

Given the representation of various types of *ba*-constructions, we could now provide a generalization of their structural properties in common.

A. The event structure is always composed by three subevental projections, i.e. *initP*, *procP* and *resP*;

B. The *init* head and the *proc* head are always identical or at least partially congruent, while the *res* head is always different from them;

C. The INITIATOR and the UNDERGOER may be occupied by a null argument (PRO/*pro*), while the RESULTEE cannot;

D. The INITIATOR is always different from the RESULTEE, the UNDERGOER is always the same as either of them;

E. The subject of the *ba*-sentence is always the same as the INITIATOR while the *ba*-NP is always the same as the RESULTEE;

F. The *ba*-predicate is always the final compounded verb spelled-out in the *init* head (or the *proc* head but only in the case of verb copying).

These common properties helps to syntactically represent some of the descriptions for the *ba*-predicates in the previous works.

Chang (2003) in his study on the resultative verb constructions (RVCs) in Chinese also mentions about Ba. He introduces Croft's (1998) identification of three primitive event roles: Initiator, Target of activity and Locus of affect, respectively similar to Ramchand's (2008) INITIATOR, UNDERGOER and RESULTEE. He further proposes four linking rules for RVCs in Chinese which relate the event roles to syntax. His third linking rule concerns the *ba*-construction:

- (25) **Linking Rule 3:** the NP argument with the Locus of affect role is linked to the position immediately following the word *ba*.

(Chang 2003 (47a))

Following this linking rule he concludes that under this analysis “the word *ba* is used to mark the displaced NP argument denoting the endpoint of the event (i.e., the Locus of affect NP)” (Chang 2003).

We believe that the syntactic representation of the event structure in *ba*-sentences could help us to decode more than that. Property A implies the existence of all of the three basic event roles, Property B, Property C and Property D to some extent mark the prominence of the *resP*, in other words, the resultative subevent almost forms an “independent” unit composed by its own subject and predicate, but at the same time it is still “internal” to the whole event, that is to say, it is directly caused by the process, as Ramchand’s (2008) definition of the relation between *procP* and *resP* shows. From this point of view, *ba*-sentences tend to be “resultative” in terms of the presence of a *resP* in the event structure.

Not only the prominence of *resP* marks a *ba*-sentence to a great extent, the presence of a *initP* and a *procP* also contributes to identify the application range of *Ba*. On one hand, the stative verbs, for example, in absence of the dynamicity, involve an only *initP* in their event structure, thus they should have no chance to be expressed in *ba*-constructions. On the other hand, due to the possibility of setting a null causative *init* head, an inanimate argument could be able to cause the event to exist and finally bring about a result as well.

The coexistence of the first four properties is mainly responsible for the “complexity” of *ba*-constructions. Recall that in Chapter 1 we mentioned Wang’s (1954) five conditions for the well-formed *ba*-sentences: it is requested at least one of the following extra constructions in the structure: a resultative complement, a locative predication, a relational position, a quantitative complement or an aspect marker. According to our proposals in the last section, all of these elements merge at the *resP*, either at the head position or at the complement. Therefore, following the current discussion, we consider those conditions as a refined description of the obligatory presence of the *resP*. Liu (1997) proposes that the *ba*-predicates are always bounded, we think that even this is related to the presence of the *resP*, which according to Ramchand (2008) gives “telos” or the result state of the event.

Property E and Property F are extended from the pure event structure to the realization of the *ba*-sentence. Sybesma (1999) claims that all types of the *ba*-constructions involve an embedded small clause and the subject of the embedded clause plays the *ba*-NP role. This assumption accords with the *resP* in our system: the whole *resP* is analogous to his small clause; the RESULTEE is the “subject” of the

resultative projection and finally becomes *ba*-NP, similar to the subject of the small clause. Furthermore, under the system of Ramchand (2008), the *resP* is bound by the internal natural logic of the event structure, which may delimit the resultative part of *ba*-construction in a more accurate way, such as the possible categories of the predicative head (e.g. intransitive verbs and aspect markers) and the obligatory combination with the former heads to form the compound.

In the next section, we will provide several examples that do not present some properties among the first four and then we will test their compatibility with Ba, in order to confirm the correlation between the properties we have observed and the restrictions of using *ba*-construction.

Counter-examples

Stative verbs

Ramchand (2008) argues that a stative verb does not have the [*proc*] feature because of the absence of a change or a transition process, thus their syntactic representation contains an only *initP* with a DP Holder at the specifier and a RHEME at the complement position (see structure (9)). Take the verb “*ai*” (“love”) in Mandarin for example:

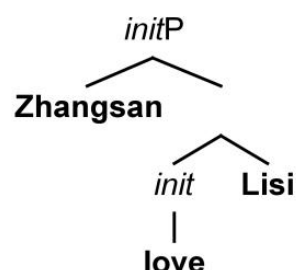
(26) Zhangsan ai Lisi

Zhangsan love Lisi

“Zhangsan loves Lisi”

It is supposed to have the following structure:

(23).



The representation clearly shows that the verb “love” does not have any of the properties discussed above, and indeed, though in the sentence (26) the predicate is

transitive, it cannot be transformed into *ba*-construction:

(27) *Zhangsan *ba* Lisi ai

Zhangsan *ba* Lisi love

In the sense “Zhangsan loves Lisi”

Bare dynamic transitive simple verbs

A bare dynamic transitive verb in Mandarin Chinese, without any modifier or not in a compound (e.g. “*da-si*” (“hit-die”) in (1)), would only present [*init*, *proc*] features.

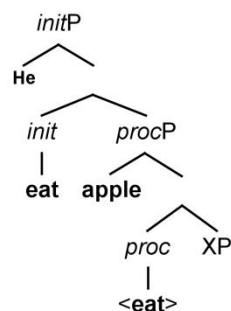
(28) Ta chi pingguo

He eat apple

“He eats apples”

Both sentence (16) and (28) take a bare nominal “*pingguo*” (“apple”) as the direct object, but in (16) it is obligatorily interpreted in a definite sense “the apple”, while in (28) it is preferred the interpretation “apples” as a kind-referring generic nominal. For this reason in the event structure we assume that for (28) the NP “apple”, whose material extension does not measure the event, merges as UNDERGOER instead of PATH.

(24).



The sentence (28) cannot be transformed into *ba*-construction:

(29) *ta ba pingguo chi

He *ba* apple eat

In the sense “he eats apples”

[*init*, *proc*, *res*] verbs with identical INITIATOR, UNDERGOER and RESULTEE

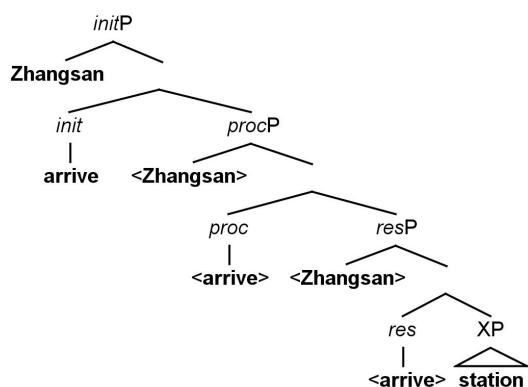
In Ramchand’s (2008) classification, some intransitive verbs can present all of the three [*init*, *proc*, *res*] features as well, like the verbs “arrive”, “jump” etc. In the event structures of these verbs, the INITIATOR, UNDERGOER and RESULTEE are identical, corresponding to the subject of the sentence. We assume that their counterpart in Mandarin Chinese has the same formation.

(30) Zhangsan dao chezhan

Zhangsan arrive station

“Zhangsan arrived at the station”

(25).



The verb “arrive” takes only one argument at all the specifiers in the event structure, although there is an NP “station” at the post-verbal position in the final realized sentence, is not possible to construct a *ba*-sentence based on 60(30):

(31) *Zhangsan ba chezhan dao

Zhangsan *ba* station arrive

In the sense “Zhangsan arrived at the station”

RESULTEE occupied by a null argument

In Mandarin Chinese it is also possible to omit the direct object when it is the discourse topic known by both interlocutors. Example (32) is a possible answer to the question in brackets:

(Where is the apple that was on the table just now?)

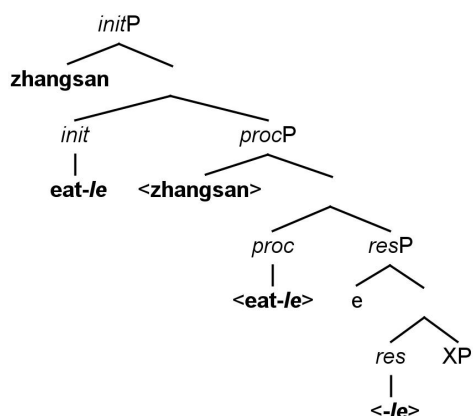
(32) Zhangsan chi-le

Zhangsan eat-*le*

“Zhangsan ate it.”

Here we would not argue whether the null object is governed by a null operator or just a PRO (see Huang’s (1989) discussion on the Pro-drop identification of Chinese), in the structure the omitted argument will be signed as an “*e*”.

(26).



Again, the sentence (32) which does not present the Property C cannot be expressed as a *ba*-sentence:

(33) *Zhangsan ba chi-le

Zhangsan *ba-e* eat-*le*

In the sense “Zhangsan ate it”

Conclusions: the Event Structure Principles for the Well-formed *Ba*-constructions

Based on the previous observations, we could inductively establish the following basic principles for the *ba*-construction:

- a. There should be three subevents in the event structure: *initP*, *procP* and *resP*;
- b. There should be a RESULTEE different from the INITIATOR and spelled-out in the structure;
- c. The *res* head should not be the same as the *init* head.

We assume that a well-formed *ba*-sentence must satisfy all of the three principles on the event-structure level.

In the next chapters, we will use the [*init*, *proc*, *res*] system to show the verb phrase when we apply these rules in the whole representation of the *ba*-construction.

Chapter 3. the Syntactic Position of *Ba*: Functional Head of VoiceP

As we see in Chapter 1, due to the difficulties in the classification of *ba*, the projection that holds it still does not have a consentient name among the linguists. As we have seen, Sybesma (1999) calls it “CAUSP” for the reason that *ba* is actually a causative marker; Huang, Li and Li (2009) name it in a more direct way, “*baP*”, for which they do not provide a categorical interpretation; Kuo (2010) classifies it as the spell-out of the head of *vP*, with an extensive projection *TrP* following it. We also demonstrated that there may be some flaws in each of the interpretations.

Apart from the cited analyses, there are various hypotheses about the category of *ba*. It could be taken as: a Case marker, which attaches to the NP (see Huang 1992); a preposition, which forms a PP with the base-generated NP after it (see A. Li 1990); a verb, which has lost its typicalness but still shares several properties with the other verbs (see Bender 2000) or a functional category element (see Zou 1993, Whitman and Paul 2005, Paul 2015 and the last three works cited in Chapter 1).

Nevertheless, no matter what the projection is named, *ba* is always at the head position. Synchronically speaking, as we have seen in the examples, *ba* has the capacity to take an NP and maybe also assigns a case to it, similar to the function of a preposition or the passive marker *bei*. Diachronically, the disposal constructions in many Sinitic languages (*ba* and other analogous object markers) are mostly grammaticalized from verbs or comitatives (Chappell 2007, 2013), which undoubtedly occupy a head position in their original uses. This thesis will take the same standpoint, assuming that *ba* is the head of its projection.

In the previous chapter we have argued that a *ba*-construction must take a full-fledged event structure with a complete set of arguments and subevents. Therefore, it seems no more plausible to hold that *ba* is still a verb or a prepositional-like marker which licenses a base-generated NP argument. Hence, the best choice for the categorical type of *ba* so far should be the functional category.

In the following discussion, we will adopt Cinque’s (1999, 2006) speculations on the fixed hierarchy of different classes of AdvPs and functional heads as our theoretical basis, focusing on the syntactic status of *ba* and proposing that it is supposed to be the head of its own functional projection, namely VoiceP, above the entire event structure (equivalent to *vP* in terms of the recent readings) discussed in Chapter 2. In this way, we could set apart the discussion about the problematic grammatical category of *ba*, and shift our concentration on the syntactic property of this functional head.

Framework: Hierarchy of Functional Projections

According to Cinque's (1999) assumption, the adverb phrases are base-generated in the unique specifiers of distinct functional maximal projections rather than multiple specifiers of only one maximal projection. Those AdvPs locate in various functional projections in a strict order and form a hierarchy of the corresponding functional heads, which also presents as a cross-linguistic phenomenon. This hierarchical property can be tested by the adverb test in different languages, like the following examples in Italian and French, with the adverbs *sempre/toujours* which means "always" and *completamente/complètement* that means "completely"(Cinque 1999:7):

(1) a. Gianni ha *sempre completamente* perso la testa per lei.

"G. has always completely lost his mind for her."

b. *Gianni ha *completamente sempre* perso la testa per lei.

"G. has completely always lost his mind for her."

(2) a. Jean a *toujours complètement* perdu la tête pour elle.

b. *Jean a *complètement toujours* perdu la tête pour elle.

From the same ungrammaticality of the (b) sentence in the two examples, one could conclude that both in Italian and in French the adverb "always" necessarily precedes "completely". By repeating this kind of test, a sequence of AdvPs can be built.

Further he notices that in Italian and French, the relative position of a AdvP and the inflected verb in the clause can be different according to the different class of the AdvP. The "higher" (sentence) AdvPs, like pragmatic adverbs (*sincerely, frankly*), evaluative adverbs (*fortunately, luckily*) and temporal adverbs etc., could precede the "subject-oriented" (*intelligently, clumsily*) AdvPs. Respectively, the "lower" AdvPs, like the above-mentioned *completely, always*. Being focused, in Italian, these lower adverbs can even follow the verb or its complement, and when a sequence of lower adverbs appears in the post-complement space, the AdvPs still obey their relative order.

(3) a. Gianni non vince le sue partite *già più sempre BENE*.

“G. does not win his matches already any longer always well.”

b. *Gianni non vince le sue partite *già sempre più BENE*.

c. *Gianni non vince le sue partite *già bene più SEMPRE*.

d. *Gianni non vince le sue partite *sempre già più BENE*.

e. *Gianni non vince le sue partite *già più bene SEMPRE*.

(Cinque 1999:14)

The “lower” AdvPs are also subject to movement. However, only an A-bar operator movement (to a *wh*- or a focus position) allows the subversion of the strict sequence of base-generated AdvPs, otherwise the relative order remains unchanged. Even though the overt order seems to be altered, it is alternatively possible to be explained as a movement of the whole constituent of the AdvP and the VP. The following example (4) in Italian with *completamente* (“always”) and *già* (“already”) shows this kind of subversion that according to the hierarchy, *già* should precede *completamente*. The following (5) is a representation of Cinque’s (1999) assumption.

(4) a. A Natale, credo che avesse *completamente* perso la testa di *GIÀ*.

“At Christmas, I think he had completely lost his mind already.”

b. *A Natale, credo *completamente*_i che avesse t_i perso la testa di *GIÀ*.

“At Christmas, I think completely that he had lost his mind already.”

(Cinque 1999:21)

(5) A Natale, credo che avesse di già [completamente perso la testa]

A Natale, credo che avesse [completamente perso la testa] di già
[completamente perso la testa] ————— ↑

The supposed universal hierarchy is also partially confirmed in Cinque (1999) by the tests of adverbs in more other languages, including Mandarin Chinese.

Then Cinque (1999) argues that the rigidly fixed relative order of AdvPs supports

the hypothesis that the AdvPs are actually situated at the specifier of their own unique functional projection and thus it becomes reasonable to regard that AdvPs follows the strict relative order of their heads through the general Spec/head agreement (Cinque 1999:44).

Furthermore, he shows that in Italian there are multiple possibilities for an active past participle to locate in a sequence of adverbs. In (6) “*rimesso*” is the past participle and it can appear in more positions among the adverbs “*di solito*”, “*mica*”, “*più*”, “*sempre*”, “*completamente*” and “*tutto*”:

- (6) a. Da allora, non hanno *rimesso* di solito mica più sempre completamente tutto bene in ordine.
 b. Da allora, non hanno di solito *rimesso* mica più sempre completamente tutto bene in ordine.
 c. Da allora, non hanno di solito mica *rimesso* più sempre completamente tutto bene in ordine.
 d. Da allora, non hanno di solito mica più *rimesso* sempre completamente tutto bene in ordine.
 e. Da allora, non hanno di solito mica più sempre *rimesso* completamente tutto bene in ordine.
 f. Da allora, non hanno di solito mica più sempre completamente *rimesso* tutto bene in ordine.

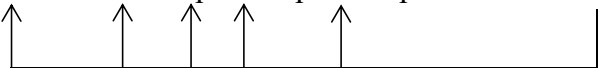
“Since then, they haven't usually not any longer always put everything well in order.”

(Cinque 1999:45)⁹

This could legitimately suggest that the verb can move to distinct head positions between different AdvPs, which consists with the hypothesis that each AdvPs takes the specifier of its unique maximal projection and denies, to a large extent, the assumption that more AdvPs adjoin to one maximal projection.

(1).

hanno di solito mica più sempre completamente *rimesso* tutto bene in ordine



⁹ The gloss is absent in the original test.

Except for the AdvPs, the functional heads, such as suffixes, auxiliaries, functional particles and their mixed cases, give evidence for a strict hierarchy as well. Generally, the functional heads are categorized into: Moods (hereafter abbreviated as Mood), Modals (Mod), Aspects (Asp), Tenses (T) and a Voice (Voice).

More importantly, as Cinque (1999) observes, there exists a correspondent relation between the AdvPs and the functional heads in the sequence. The adverbs could be divided into different classes based on their clausal function and the functions are supposed to be closely related to those of the functional heads. For example, the so-called “speaker-oriented”, or “epistemic” adverb “*probably*” has a similar epistemic use as the modal “*should*”, and they share the same restrictions and positional relations to the other functional adverbs/heads (Cinque 1999:86-87). Though it may be difficult to recognize an one-to-one correspondence between the adverbs and the functional heads in a single language, cross-linguistic studies, from another point of view, give evidence for the parallel hierarchical restrictions and relative positions. It is much comprehensible that, for example, the same clausal function in one language may be expressed by a suffix while in another language by an adverb, a preposition or a verb. The only difference between them is that the adverb situates at the specifier while the others at the head of the same functional projection. Manner adverbs (e.g. “*well*”), whose clausal function is not much apparent compared to some other adverbs, are assumed by Cinque (1999) to be correlated with the Voice head, for their having different behaviors respectively in active and passive contests. Moreover, certain functional classes of adverbs are revealed to be able to appear at two distinct positions in the clause. So far, the current analysis supposes the following adverb classes to present in multiple positions: completives, celeratives, repetitives and frequentatives.

On the basis of the above observations and testimonies in various languages, Cinque (1999) proposes that the AdvPs and functional heads hold a Spec/head relation, all of them can be matched in a one-to-one pattern in the hierarchy. Given this, Cinque (1999) summarizes an approximated universal functional-structure order (with the representative AdvPs in English or in Italian):

[*frankly* Mood_{speech act} [*fortunately* Mood_{evaluative} [*allegedly* Mood_{evidential} [*probably* Mod_{epistemic} [*once* T(Past) [*then* T(Future) [*perhaps* Mood_{irrealis} [*necessarily* Mod_{necessity} [*possibly* Mod_{possibility} [*usually* Asp_{habitual} [*again* Asp_{repetitive(I)} [*often* Asp_{frequentative(I)} [*intentionally* Mod_{volitional} [*quickly* Asp_{celerative(I)} [*already* T(Anterior) [*no longer* Asp_{terminative} [*still* Asp_{continuative} [*always* Asp_{perfect(?)} [*just* Asp_{retrospective} [*soon* Asp_{proximative} [*briefly* Asp_{durative} [*characteristically(?)* Asp_{generic/progressive} [*almost* Asp_{prospective} [*completely* Asp_{SgCompletive(I)} [*tutto* Asp_{PlCompletive} [*well* Voice [*fast/early* Asp_{celerative(II)} [*again* Asp_{repetitive(II)} [*often* Asp_{frequentative(II)} [*completely* Asp_{SgCompletive(II)}

(Cinque 1999:106)

As an extension to the analyses of adverbs and functional heads, Cinque (2006) takes “restructuring” verbs into consideration. In Italian, the modal, aspectual and motion verbs may take non-finite verbal complement in a monoclausal structure, in such a condition they show some particularities compared to the other lexical verbs, for instance, they allow Clitic Climbing in which the clitics across them to the left, while other verbs that also take infinite verbal phrase as complement cannot¹⁰. These verbs constitute the group of restructuring verbs. For this particular class, Cinque (2006) makes an investigation to the following verbs (and their clausal functions) in Italian: *solere* (“use”, Asp_{habitual}), *tendere* (“tend”, Asp_{predispositional}), *tornare* (“(lit.) go/come back”, Asp_{repetitive}), *volere* (“want”, Mod_{volition}), *smettere* (“stop”, Asp_{terminative}), *continuare* (“continue”, Asp_{continuative}), *stare* (“be doing”, progressive use, Asp_{progressive}), *stare per* (“be about”, prospective use, Asp_{prospective}), *cominciare* (“begin”, Asp_{inceptive}), *iniziare* (“begin”, Asp_{inceptive} (II)), *dovere* (“must”, Mod_{obligation}), *riuscire* (“manage”, Asp_{frustrative/success}), *potere* (“can”, Mod_{permission}), *provare* (“try”, Asp_{conative}) and *finire* (“finish”, Asp_{completive}). When co-occur, they present a fixed order just as the adverbs and other functional heads tested in Cinque (1999) do. Based on the relative order of these restructuring verbs and the hierarchy established in Cinque (1999), the new refined (part of the) universal hierarchy of functional heads is concluded as:

. . . Asp_{habitual} > Asp_{delayed} (or ‘finally’) > Asp_{predispositional} > Asp_{repetitive} (I) > Asp_{frequentative} (I) > Mod_{volition} > Asp_{celerative} (I) > Asp_{terminative} > Asp_{continuative} > Asp_{perfect} > Asp_{retrospective} > Asp_{proximative} > Asp_{durative} > Asp_{progressive} > Asp_{prospective} > Asp_{inceptive} > Mod_{obligation} > Mod_{ability} > Asp_{frustrative/success} > Mod_{permission} > Asp_{conative} > Asp_{completive} (I) > Voice > Asp_{celerative} (II) > Asp_{inceptive} (II) > Asp_{completive} (II) > Asp_{repetitive} (II) > Asp_{frequentative} (II) . . .

(Cinque 2006:93)

To sum up, based on all these observations (and some other observations that we did not mention in the thesis), Cinque (1999, 2006) holds the idea that there exists a large functional area over the VP where the diverse maximal functional projections follow a rigidly fixed hierarchy which presents as a universal phenomenon across the languages; each maximal functional projection is composed by a specifier which can be filled by an adverb and a head position which can be occupied by clausal-functional suffixes, auxiliaries, particles or even “restructuring” verbs; the adverbs are not the “adjuncts” to VP (vP) or V’(v’) anymore, but real specifiers of specific maximal functional projections and thus follow a relative order just as their heads do.

In the next discussion we will take this framework, including the conclusions and

¹⁰ We will not go into details of the evidences offered by Romance languages for this claim, for further materials see Cinque 2006, Chapter 1.

the test method, for reference, regardless of some disputable problems in the examination to various languages, and tentatively argue that *ba* does belong to the functional category and takes the head position of VoiceP.

Functional Projections in Chinese

As for Mandarin Chinese, the likely candidates for functional categories could be (though maybe not exhaustive): adverbs, auxiliary verbs (a term adopted by Li and Thompson (1981)), the equivalent verbs of the previously discussed “restructuring” verbs and some sentence-final particles. Here we will not attempt to make a clear distinction between “auxiliaries” and “restructuring verbs”, instead we would generalize them as “functional heads”.

Adverbs in Mandarin Chinese

According to the description offered by Li and Thompson (1981), adverbs in Mandarin typically occur after the subject or the topic if there is no subject (Li and Thompson 1981:319). They categorize the adverbs (but not adverbials) in Mandarin into two basic types: movable adverbs, which contain time adverbs and attitude adverbs, and non-movable adverbs, which include manner adverbs and non-manner adverbs. The movable adverbs are sentential adverbs (see (7)), they can appear either before or after the topic/subject, while the non-movable adverbs can only occur immediately after the topic/subject of the clause (see (8)). This distinction coincides with the description of Cinque (1999) about the “higher” and “lower” adverbs in Italian. The “movable” ones can be dislocated to the left of the subject and act as the “frame” of the clause, while the “non-movable” ones themselves cannot act as a focus or a topic to the left of the subject and are always situated between the subject/topic and the verb. The term “manner adverb” here has a broader sense than the definition of Cinque (1999, 2006), that covers all the adverbs that modify the verb phrase by signaling the manner in which the action is carried out (Li and Thompson 1981:322). The rest of the non-movable adverbs is called “non-manner adverbs”, includes adverbs like “often”, “also”, “early” etc.

(7) “Movable” adverb: *xianran* (“obviously”)

a. *Xianran Zhangsan bu gaoxing*

Obviously Zhangsan not happy

b. *Zhangsan xianran bu gaoxing*

Zhangsan obviously not happy

“Obviously, Zhangsan is not happy”

(Li and Thompson 1981:321-322)

(8) “non-movable” manner adverb: *yanli-de* (“sternly”)

a. *Wo yanli-de zebei ta*

I sternly reproach 3sg

(Li and Thompson 1981:323)

b. **Yanli-de wo zebei ta*

Sternly I reproach 3sg

“I sternly reproached him/her”

Some manner adverbs interact with the passive *bei*-construction. In Mandarin Chinese, the *bei*-construction generally presents in the following form:

(9) NP1 *bei* NP2 VP

In a sequence like (9), NP1 is typically the direct object and NP2 is the agent. Agent-oriented non-movable manner adverbs must be placed after NP2 following *bei*, while some non-agent-oriented non-movable manner adverbs can occur either after NP1 or after NP2 but the interpretation of the adverb is always oriented to the NP immediately preceding it. As a contrast, movable adverbs cannot reach the position after *bei* and only appear immediately before or after NP1 (this point is not explicated in Li and Thompson (1981) but can be clearly judged by native speakers).

Functional heads in Mandarin Chinese

The functional heads we take into consideration for our purpose are the so-called “auxiliaries” (Sun 2006), “auxiliary verbs” (Li and Thompson 1981) and few of the “coverbs” (Li and Thompson 1981).

As Sun (2006) describes, auxiliaries in Mandarin Chinese occur in front of the verbs and are not movable to precede the subject. The corresponding words of “can”, “dare”, “be willing” etc. in Chinese are included in this category (Sun 2006:155, Li and Thompson 1981:182-183). They also mention that Chinese auxiliaries can occur by itself to answer the question (see (10)) and allow A-not-A question (see (11)).

(as the answer of: “He can speak fluent Chinese, can you?”)

(10) neng / wo ye neng

can / 1st also can

“(Yes, I) can.” or “(Yes) I can too.”

(Sun 2006:155)

(11) wo neng-bu-neng qu

1st can-NEG-can go

“Can I go?”

Most of the “coverbs” defined by Li and Thompson (1981) may not enter into our discussion of functional heads, for their being able to introduce a noun phrase instead of a verb phrase. However, following this categorization, the passive marker *bei* and our argument *ba* (as well as its literal version *jiang*) are listed in, these two elements stand out from the other coverbs (see the list of coverbs/prepositions in Li and Thompson 1981:368-369) and supposed to be related to the VoiceP in the hierarchy of functional projections.

Surely that the rough presentation here cannot exhaust all the candidates for functional heads in Mandarin Chinese, nevertheless it is already more than enough to let us proceed with the proposal of *ba*.

Hierarchy of Cinque (1999, 2006) and Chinese Adverbs/Functional Heads

Given the brief introductions to the universal hierarchy of functional heads and functional elements in Chinese, it is worth trying to embed the Chinese adverbs and our supposed functional heads into the structure. As mentioned before, this thesis makes the hypothesis that *ba* takes the head position of VoiceP in terms of Cinque (1999) and we would make use of the similar test methods originally used by Cinque (1999, 2006).

Therefore, the first step is to approximate Chinese functional elements to the established and exemplified universal hierarchy of functional heads. For this reason, we gathered all the discussed functional elements in Italian and English, then translated them into Chinese (if the counterparts exists) and created the following Table (2). It synthesizes the referenced two works of Cinque (1999, 2006) and the corresponding elements in Mandarin Chinese, partially adapted from the test in Chinese already presented (Cinque 1999:39). The hierarchical level of the functional projections is numerated to facilitate the analysis but it does not represent their absolute position in the clause. For now we would not attempt to explore all the potential functional elements in Chinese, thus it is limited to those more reliable and faithful to the original examples.

In Table (2), the order from the top down in the column of “Functional Projections” corresponds to the hierarchy from left to right (i.e. from left to right in a clause).

(2).

	Functional Projections	Specifier (IT/EN)	Specifier (CH)	Head (IT/EN)	Head (CH)
1	Mood speech act	frankly	<i>laoshishuo</i>		
2	Mood evaluative	fortunately	<i>buxing(de)</i>		
3	Mood evidential	allegedly	<i>xianran</i>		
4	Mod epistemic	probably	<i>guji</i>	should	<i>yinggai</i>
5	T(PAST)	once	<i>cengjing</i>		
6	T(FUTURE)	then	<i>nashi</i>		

7	Mood irrealis	perhaps	<i>yexu</i>		
8	Mod necessity	necessarily	<i>biran</i>		<i>xuyao</i>
9	Mod possibility	possibly	<i>keneng</i>		<i>keyi</i>
10	Asp habitual	usually	<i>tongchang</i>	solere	<i>xiguan</i>
11	Asp delayed (or “finally”)	finally		finire (per)	
12	Asp predispositional			tendere	<i>Qingxiang?</i>
13	Asp repetitive (I)	again	<i>you</i>	tornare	<i>fanfu</i>
14	Asp frequentative (I)	often	<i>jingchang</i>		
15	Mod volitional	intentionally	<i>guyi</i>	volere	<i>yuanyi</i>
16	Asp celerative (I)	quickly	<i>gankuai</i>		
17	T(ANTERIOR)	already	<i>yijing</i>		
18	Asp terminative	no longer	<i>buzai</i>	smettere	<i>tingzhi</i>
19	Asp continuative	still	<i>rengran</i>	continuare	<i>jixu</i>
20	Asp perfect	sempre?	<i>zongshi?</i>		
21	Asp retrospective	just	<i>ganggang</i>		
22	Asp proximative	soon	<i>jijiang</i>		
23	Asp durative	briefly	<i>duanzan(de)</i>		
24	Asp generic/progressive	typically	<i>tiansheng</i>	stare	<i>zai</i>
25	Asp prospective	soon	<i>mashang</i>	stare per	<i>yao</i>
26	Asp inceptive			cominciare	<i>kaishi</i>
27	Mod obligation	obligatorily	<i>qiangzhi(de)</i>	dovere	<i>budebu</i>
28	Mod ability	clumsily		potere	<i>neng(gou)</i>
29	Asp frustrative/success	successfully	<i>chenggongde</i>	riuscire	<i>chenggong</i>

30	Mod permission			potere	<i>keyi</i>
31	Asp conative			provare	<i>changshi</i>
32	Asp SgCompletive (I)	completely	<i>wanquan</i>	finire	
33	Asp PlCompletive	tutto	<i>dou?</i>		
34	Voice	well	<i>haohao</i>		
35	Asp celerative (II)	fast/early	<i>zao</i>		
36	Asp inceptive (II)			iniziare	
37	Asp completive (II)	completely	<i>wanquan</i>		
38	Asp repetitive (II)	again	<i>you</i>		
39	Asp frequentative (II)	often	<i>jingchang</i>		

Position Test of *Ba*

This thesis presupposes the universal validity of Cinque's (1999, 2006) conclusions, thus if *ba* is a functional category element (more precisely, a head of a functional projection), it will find its right, or at least a nearest location, in the grid. We argue that Voice is the best landing site.

In a linguistic dictionary, the term “Voice” is defined as:

A CATEGORY used in the GRAMMATICAL description of sentence or clause structure, primarily with reference to VERBS, to express the way sentences may alter the relationship between the SUBJECT and OBJECT of a verb, without changing the meaning of the sentence.

(Crystal 2008:515)

In the previous sections we introduced that the *ba*-construction is used to be called a “disposal” construction which conveys that the subject acts on the object and brings about a resultant state. The description seems relevant to the definition of “Voice”, which may imply that although the function of *ba* is not as typical as that of the passive *bei*, there is still the possibility to claim that *ba* is a kind of particular “Active Voice”.

Huang, Li and Li (2009) mention about the relative order of *ba* and the manner adverbs. They hold that a manner adverb can either precede or follow *ba* and *ba*-NP, thus it can syntactically attach to V' or some node higher than *ba*.

(12) a. wo *xiaoxin-de* ba beizi na-gei-ta.

I carefully *ba* cup take-to-him

“I gave the cup to him carefully.”

b. wo ba beizi *xiaoxin-de* na-gei-ta.

I *ba* cup carefully take-to-him

“I gave the cup to him carefully.”

(Huang, Li and Li 2009:177)

This observation is basically true, but since we already take the adverbs as functional heads that present a fixed hierarchical order, there could be more types of adverbs as well as functional heads that may take part in the interaction with *ba*.

Based on Table (2), *ba* is supposed to take the head position of Voice, the 34th line. What we expect is that a grammatical clause with *ba*-construction would satisfy the following predictions:

1. The heads higher than Line 34 necessarily precede *ba*;
2. The specifiers higher than Line 34, hierarchically linearized, are totally acceptable when they occur in a pre-*ba* position and it is difficult to insert *ba* in the middle of them;
3. The specifier in Line 34 presents special reactions when it co-occurs with *ba*;
4. The specifiers lower than Line 34 are acceptable when occur in a post-*ba* position.

We would use a unified basic sentence (13) for the test.

(13) Ta ba dangao chi-diao-(le)

He *ba* cake eat-finish-(le)

“He finishes/finished the cake.”

Hereafter, for expressive convenience, “head” will be abbreviated as “H” and

“specifier” as “S”, the number following them indicates their rank in Table (2). In the co-occurrence tests with two adverbs in sequence, we will not consider the case where *ba* precedes both of them to avoid a further complication of the topicalization of *ba*-phrase. The grammaticality judgment comes from two native speakers of Mandarin Chinese who are consulted separately.

(14) a. H5>Ba

Ta *yinggai* ba dangao chi-diao-le

He should *ba* cake eat-finish-*le*

b. ?*Ba>H5

?*Ta ba dangao *yinggai* chi-diao-le

He *ba* cake should eat-finish-*le*

“he should have finished the cake.”

(15) a. H15>Ba

Ta *yuanyi* ba dangao chi-diao

He be-willing *ba* cake eat-finish

b. *Ba>H15

*Ta ba dangao *yuanyi* chi-diao

He *ba* cake be-willing eat-finish

“he is willing to finish the cake.”

(16) a. H30>Ba

Ta *keyi* ba dangao chi-diao

He can (permission) *ba* cake eat-finish

b. *Ba>H30

*Ta ba dangao *keyi* chi-diao

He *ba* cake can (permission) eat-finish

“he is permitted to finish the cake.”

(17) a. H31>Ba

Ta *changshi* ba dangao chi-diao

He try *ba* cake eat-finish

b. *Ba>H31

*Ta ba dangao *changshi* chi-diao

He *ba* cake try eat-finish

“he tried to finish the cake.”

So far the result for the first prediction is quite clear: none of the heads higher than *ba* can occur after *ba*. If the assumption of *ba*-as-functional-head is valid, then *ba* must be lower than the 31st line in the grid.

(18) a. S4>S17>Ba

Ta *guji yijing* ba dangao chi-diao-le

He probably already *ba* cake eat-finish-*le*

b. ?S4>Ba>S17

?ta *guji* ba dangao *yijing* chi-diao-le¹¹

He probably *ba* cake already eat-finish-*le*

“probably he has already finished the cake.”

(19) a. S9>S25>Ba

Ta *keneng mashang* ba dangao chi-diao

He possibly soon *ba* cake eat-finish

b. ?*S9>Ba>S25

?*Ta *keneng* ba dangao *mashang* chi-diao

He possibly *ba* cake soon eat-finish

“he will possibly finish the cake soon.”

(20) a. S21>S29>Ba

Ta *ganggang chenggong-de* ba dangao chi-diao-le

He just successfully *ba* cake eat-finish-*le*

b. ?*S21>Ba>S29

?*Ta *ganggang* ba dangao *chenggong-de* chi-diao-le

He just *ba* cake successfully eat-finish-*le*

¹¹ One of the informant described that it will be acceptable in spoken language if the adverb “*guji*” (“probably”) is “pronounced first, then the whole sentence is completed afterwards”.

“he just successfully finished the cake.”

(21) a. S29>S34>Ba

Ta *chenggong-de haohao* ba dangao chi-diao-le

He successfully well *ba* cake eat-finish-*le*

b. ?S29>Ba>S34

?ta *chenggong-de* ba dangao *haohao* chi-diao-le

He successfully *ba* cake well eat-finish-*le*

c. ?S34>Ba>S29

?ta *haohao* ba dangao *chenggong-de* chi-diao-le¹²

He well *ba* cake successfully eat-finish-*le*

“he successfully finished the cake well.”

This part of adverb tests shows that it is natural to co-ordinate the higher adverbs in front of *ba* while the intervention of *ba*-phrase between the two adverbs is not quite satisfactory. The results mostly confirm our second prediction.

Notice in (21) when the supposed 34th adverb “*haohao*” (“well”) co-occurs with *ba*, the situation becomes complicated and “well” along with the *ba*-phrase are even preferred to precede “successfully”. Moreover, both of the informants expressed that the adverb “well” in a *ba*-construction is a kind of “redundant” and may be used only to emphasize the right manner of the action. Therefore, the third prediction concerning the particularity of the adverb at the same level of *ba* seems not wrong.

In the hierarchy of Cinque (1999), the adverbs allowed to occur lower than Voice have their higher versions. Ideally, in Chinese we expect the same phenomenon, that is to say, the adverbs lower than Voice are acceptable when they follow *ba*-phrase and their higher versions are also acceptable when they precede *ba*-phrase.

¹² This order is proposed by one of the informant but judged as “awkward” by another.

(22) a. S9>S13/38>Ba

Ta *keneng you* ba dangao chi-diao-le

He possibly again *ba* cake eat-finish-*le*

b. S9>Ba>S13/38

Ta *keneng* ba dangao *you* chi-diao-le

He possibly *ba* cake again eat-finish-*le*

“he possibly finished the cake again.”

Both of the orders are judged as “normal” by the speakers. However, when a higher head and a lower adverbs participate together in a *ba*-construction, the preference could be different:

(23) a. ?H30>S32/37>Ba

?Ta *keyi wanquan* ba dangao chi-diao

He can completely *ba* cake eat-finish

b. H30>Ba>S32/37

Ta *keyi* ba dangao *wanquan* chi-diao

He can *ba* cake completely eat-finish

c. ?Ba>H30>S32/37

?Ta ba dangao *keyi wanquan* chi-diao

He *ba* cake can completely eat-finish

“he is permitted to completely finish the cake.”

(3). Synthetic summary of the test data:

Totally Acceptable	Awkward or Controversial	Unacceptable
H5>Ba	?*Ba>H5	*Ba>H15
H15>Ba	?S4>Ba>S17	*Ba>H30
H30>Ba	?*S9>Ba>S25	*Ba>H31
H31>Ba	?*S21>Ba>S29	
S4>S17>Ba	?S29>Ba>S34	
S9>S25>Ba	?S34>Ba>S29	
S21>S29>Ba	?H30>S32/37>Ba	
S29>S34>Ba	?Ba>H30>S32/37	
S9>S13/38>Ba		
S9>Ba>S13/38		
H30>Ba>S32/37		

Conclusion for the Position Test of *Ba*

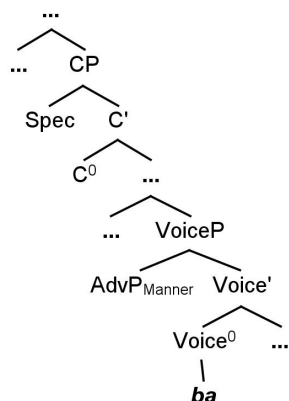
Due to the absence of some adverbs/functional heads in Mandarin Chinese in the hierarchy, as far as we could figure out, it will be difficult to exam all the possible combinations of functional elements. Even so, the former tests has confirmed, to a great extent, the reasonability of our assumption that *ba* takes the head position of VoiceP. Especially the most natural choice made by the speakers for every example demonstrates a clear and strict order among the functional words, including *ba*.

Since *ba*-phrase can also be subjected to undergo a topicalization process, sometimes the various orders lead to a difficult situation for the judgement. In the next chapter, we will propose the whole syntactic structure of *ba*-construction, expecting to resolve some puzzles through possible dynamic syntactic processes.

Chapter 4 Entire Structure of *Ba*-construction

In the last chapter we argued that *ba* may occupy the head of VoiceP. Therefore, the most direct syntactic representation is expected as (1) shows.

(1).



However, this would become problematic if we suggest, at the same time, an event structure as the one discussed in Chapter 2. Under the current analyses, the proposed event structure should replace the position of ν P or VP in the syntactic representation, the “agent”, or the subject of a *ba*-sentence, is fixed as the INITIATOR, while the *ba*-NP is supposed to be the RESULTEE. That is to say, in order to get the right word order, the RESULTEE should be attracted to go through a movement and reach at the specifier position immediately under *ba*. But in (1) there is no empty place for *ba* to satisfy this property.

In this chapter we will argue that the behavior of *ba* is functionally similar to the dative preposition “à” preceding subjects in French causatives proposed by Kayne (2005), so that his syntactic proposal for the French “à” could also be utilized by us for the *ba*-construction. Then the entire syntactic structure could be established and we will attempt to face some atypical problematic cases for the purpose of testing its general validity.

“Prepositions as probes” and “*ba* as probe”

Kayne (2005) proposes that the dative preposition “à” in French causatives (and probably the dative prepositions and postpositions in other languages) belongs to the matrix, acts as a probe in a way that ν and T do. He adopts Collins and Thráinsson’s

(1993) hypothesis of two Agr-O positions above VP, claiming that the French *à* induces the movement of the indirect object as a probe just like the higher Agr-O (called Agr-IO) does. The aim of this section is to argue that *ba* functionally acts in the same fashion as *à* in French and therefore the proposal of Kayne (2005) would be a good syntactic solution for getting the right word order of *ba*-construction.

He first proves that in French the causative *à* looks like a preposition in the following six aspects:

1. The extraction of *à*+DP and that of P+DP from within adjuncts are both unacceptable, while the extraction of a DP is marginally acceptable;
2. The relative position of *à*+DP is similar to ordinary P+DP;
3. The subject-related causative *à*+DP acts like P+DP in the subextraction of *en* (“of-them”) or *combien* (“how-many”) in French;
4. The clitic placement is not obligatory for an overt direct object quantifier phrase in *à*+DP and P+DP but obligatory in other conditions;
5. The subject-related *à*+DP of causatives does not require a clitic when the DP is topicalized, similar to a P+DP;
6. In French relatives, floating or stranded quantifiers may be linked to a relativized direct object but never to a prepositional object or the DP preceded by the *à* in question.

Some of them cannot be verified with *ba*. For example, in the third point, “*en*” does not have its Chinese counterpart and as a language of *wh*-in-situ, subextraction of “*combien*” in French cannot be applied in Mandarin Chinese. Likewise, the forth and the fifth points are related to object clitics, that are not present in Chinese. However, for the rest three aspects we can find that *ba* and *ba*-NP act in a parallel way as french *à*+DP and P+DP do (although we do not discuss in this thesis whether *ba* is a preposition or not). The tests are carried out in an analogous style to those made by Kayne (2005):

1. Extraction from within adjuncts:

The extraction is allowed with simple DP but forbidden with *ba*-construction.

(1) Simple DP:

- a. Ta ting-le na-jie-ke zhihou jiu shuizhao-le

He listen-*le* that-CL-class after then asleep-*le*

“After attending the class, he fell asleep.”

- b. Ta ting-le zhihou jiu shuizhao-le de na-jie-ke

He listen-*le* after then asleep-*le de* that-CL-class

“the class that he fell asleep after attending it”

(2) *ba*:

- a. Ta ba na-jie-ke ting-wan zhihou jiu shuizhao-le

He *ba* that-CL-class listen-finish after then asleep-*le*

“He fell asleep after finished the class.”

- b. *Ta ba (ta) ting-wan zhihou jiu shuizhao-le de na-jie-ke

He *ba* (it) listen-finish after then asleep-*le de* that-CL-class

In the meaning “the class that he fell asleep after he finished it”

2. Relative positions:

The simple direct object DP follows the predicate while Ba+*ba*-NP must precede it.

(3) Simple DP:

Ta chi-le dangao

He eat-*le* cake

(4) *ba*:

a. Ta ba dangao chi-le

He *ba* cake eat-*le*

b. *ta chi-le ba dangao

He eat-*le ba* cake

6. Floating or stranded quantifiers:

If there is a co-indexed resumptive pronoun (“*naxie*” (“those”) in the sentences 0 and (6)) in the relative clause¹³, a floating quantifier is allowed in the form of a simple DP but it is forbidden when the quantifier is extracted from the *ba*-NP.

(5) Simple DP:

Naxie nanhai, wo dou hui yaoqing de naxie

Those boy, I all will invite *de* those

“those boys, whom I all invited”

¹³ The resumptive pronoun is added to satisfy the restriction of *ba*-construction that *ba* cannot occur without an NP after it.

(6) *ba*:

*Naxie nanhai, wo *ba* naxie dou yaoqing lai de

Those boy, I *ba* those all invite come De

In the meaning “Those boys, whom I all invited to come”

Then Kayne (2005) argues that the DP following *à* is not a matrix controller but an argument of the embedded infinitive verb. As A. Li (1990) figures out, *ba*-NP cannot be the antecedent of a reflexive and there is no evidence showing that *ba*-NP can c-command outside the *ba*-phrase.

(7) *wo *ba* ta_i qiang-le ziji_i de qian

I *ba* him rob-ASP self’s *de* money

In the meaning “I robbed him of his money.”

(A. Li 1990:189)

As a conclusion of the above behaviors of the dative *à* in French causatives, Kayne (2005) claims that the *à* itself is in the matrix and the DP following it is an instance of raising (p.92).

If it also analogously holds for *ba*, we should claim that: *ba* is merged outside the main argument structure, just as the previous chapter argued, and the *ba*-NP raises to the position immediately following *ba* from the argument structure. These two assumptions partially consist with the three proposals that we analyzed in Chapter 1. Sybesma (1999) and Huang, Li and Li (2009) argue that the *ba*-projection is merged outside the basic verbal phrase, and Sybesma (1999) and Kuo (2010) consider the *ba*-NP as a raising argument in the argument structure. But in order to resolve the problem of the final word order, namely the sequence of Subj>Ba>*ba*-NP, all of them suppose that the subject is merged in a specifier higher than Ba. This solution successfully keeps the right word order, meanwhile, however, one has to make some compromises: either to accept that the subject merges outside the verbal structure (Sybesma (1999) and Huang, Li and Li (2009)), or to insert *ba* into the verbal structure (Kuo (2010)).

Now consider the case of Kayne (2005) for the supposed functional head *à*. Take the sentence (8) in French as an example.

(8) Jean a fait manger une tarte à Paul.

Jean has made eat a pie to Paul

(Kayne 2005:87)

Following Kayne's (1999) proposal for the prepositional complementizers, he assumes that there are three steps of movements.

Starting from:

(9) fait Paul manger une tarte

First, *à* induces the movement of the embedded subject "Paul":

(10) Paul_i à fait t_i manger une tarte

Then *à* itself raises to the higher functional head (labeled "W" by Kayne (1999, 2005)):

(11) *à*_j+W Paul_i t_j fait t_i manger une tarte

Finally, the VP raises:

(12) [fait t_i manger une tarte]_k *à*_j+W Paul_i t_j t_k

Taking the same initial point as (9) but in terms of Collins and Thráinsson's (1993) "Agr-O" mentioned before, an alternative derivation could be like (13) and (14).

Agr-IO attracts "Paul" as a probe:

(13) Paul_i Agr-IO fait t_i manger une tarte

Then *à* merges in the next head and acts as a probe, inducing the movement of the causative VP:

(14) [fait t_i manger une tarte]_j *à* Paul_i Agr-IO t_j

(Kayne 2005:97-98)

This kind of movement process, whether with or without using Agr-O, maintains the desired word order as well as the causative subject's generating at the subject position. If so, it should be also applicable to the *ba*-construction since we argued its similarity with the dative *à* in French causatives. In consideration of the assumption that *ba*-NP is generated as the RESULTEE, if we use the relative terms of Agr-O as

the latter alternative, the head which fits for *ba* should better be the lower one for the direct object, namely Agr-DO. In our case, imitating the former representations, the starting point could be the non-*ba* counterpart:

(15) Zhangsan chi-wan-le na-kuai-dangao

Zhangsan eat-finish-*le* that-CL-cake

“Zhangsan finished that piece of cake.”

It is worth trying both derivations. The non-Agr-O version is shown in (16).

(16) a. [na-kuai-dangao]_i *ba* Zhangsan chi-wan-le *t_i*

b. *ba_j*+W [na-kuai-dangao]_i *t_j* Zhangsan chi-wan-le *t_i*

c. [Zhangsan]_k *ba_j*+W [na-kuai-dangao]_i *t_j* *t_k* chi-wan-le *t_i*

Different from the case in French with *à*, the subject “Zhangsan” here, however, could raise to Spec, CP independently from the existence of *ba*, that is to say, *ba* may be only a probe for the RESULTEE in the sentence and after that *ba* raised to the higher head, it may not be responsible for attracting the VP as the preposition *à* in French causatives does.

The movement steps are essentially the same in terms of Agr-O.

(17) a. [na-kuai-dangao]_i Agr-DO Zhangsan chi-wan-le *t_i*

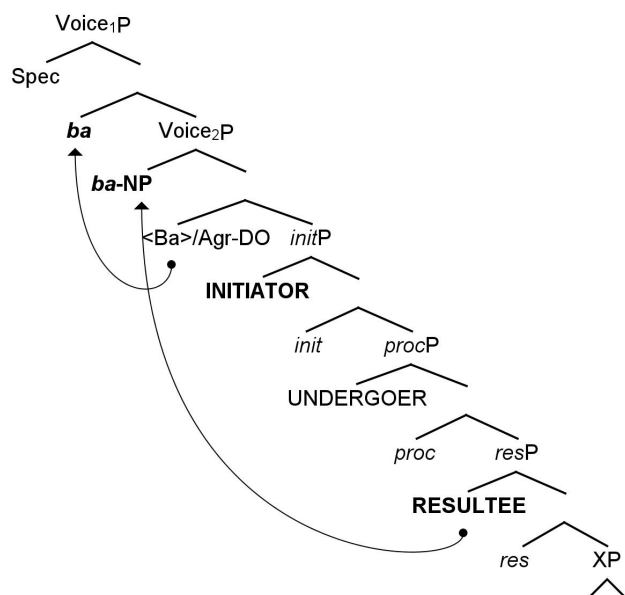
b. *ba* [na-kuai-dangao]_i Agr-DO Zhangsan chi-wan-le *t_i*

c. [Zhangsan]_j *ba* [na-kuai-dangao]_i Agr-DO *t_j* chi-wan-le *t_i*

Again, *ba* in (17) is not the probe of the subject, nor is it the probe of the direct object. It merges as a functional head with the direct object attracted by Agr-DO immediately below it. This would lead to the necessary restriction that the projection of Agr-DO must be located immediately under the projection headed by *ba*, for the reason that nothing can intervene between *ba* and *ba*-NP.

Combined with the former chapter, we expect that *ba* first merges at the head position of VoiceP, attracts the RESULTEE to the specifier, then raises to the adjacent higher functional projection. Alternatively, on the contrary, *ba* as the head of VoiceP is followed by another phonetically unrealized functional head which is identical or similar to Agr-O. To unify the two hypothesis, in this thesis we would temporarily mark the twin projections as Voice₁P and Voice₂P.

(2).



In the revised structure (2), the basic movements are illustrated by arrows. Since for now we have no evidence to decide between the two derivations proposed by Kayne (1999, 2005) which one is more adapted, the interim representation of Voice₂P, as shown in (2), is marked by both of the two heads, among which if *ba* takes the head of Voice₂P then it must raise to the head position of Voice₁P.

Advantages of the Structure

The new-established structure (2) is much more complicated compared to other proposals, but we believe that there are some good reasons to propose it.

The first advantage regards the universality of the *ba*-projection. *ba* is now narrowed down to the functional categories and inserted into the frame of the hierarchy of functional heads proposed by Cinque (1999), which is cross-linguistically tested to some extent. Further we suppose that it is a special Voice which interprets not only an active relation between the subject and the direct object (or more strictly speaking, the RESULTEE argument which is the subject of the final state created by the event), but also highlights the result state including in the whole event.

This also leads to the second advantage. We directly carry the event structure proposed by Ramchand (2008) into the syntactic representation of the whole construction. According to our assumptions, the obligatory presence of the *resP*

excludes the expressions which are not compatible with *ba*, while the traditional VP-shells analyses could difficultly identify this particularity, since they could not explicitly distinguish UNDERGOER, PATH and RESULTEE in the structure.

The third advantage concerns the adverb-placement. It would be a great difference if we accepted the idea that all adverbs generate outside the verbal phrase, instead of adjoining to VP/*v*P or V'/*v*' at random. We tested various types of adverbs in a much detailed way, not limited only to the manner adverbs. The result shows that *ba* has different sensitivities to different classes of adverbs, which further confirms the correctness of Cinque's (1999) hypothesis and our proposal that *ba* could be the head of VoiceP.

Another structural convenience similar to the last one is about the constituency problem of *ba*-phrase (*ba* and *ba*-NP). Huang, Li and Li (2009) show that in the "canonical *ba*-sentences", *ba*-NP can form a constituent both either with the VP or with *ba*, while in "causative *ba*-sentences", *ba*-NP can only be a unit with the VP (Huang, Li and Li 2009:166). Paul (2015) disagrees with them, claiming that *ba* and *ba*-NP cannot be topicalized as a constituent (Paul 2015:32). Kayne (2005) mentions the same constituency problem of *à*+DP that strictly speaking they belong to two separate projections, but when topicalized or *wh*-moved, they act in a pied-piping mode. He argues that *à*, DP and Agr-IO form a constituent, in the cases where *à*+DP is preposed, it could involve the movement of the remnant constituent, and the similar process occurs also for the *wh*-movement cases. We may adopt the same strategy to explain the behavior of *Ba*+*ba*-NP.

The structure is also able to represent other "disposal forms" in some Chinese dialects and ancient Chinese, which would be slightly different from the *ba*-construction of Mandarin Chinese. In the next section we will attempt to illustrate the last three points with more details.

Structural Exemplifications

In this section we will analyze some specific cases for three problems regarding *ba*-constructions: adverb-placement, constituency problem and other forms of the "disposal construction" in Chinese dialects.

Adverb placement

Recall the example (21) in Chapter 3, repeat here in (21).

(18) a. S29>S34>Ba

Ta chenggong-de haohao ba dangao chi-diao-le

He successfully well *ba* cake eat-finish-*le*

b. ?S29>Ba>S34

?ta chenggong-de ba dangao haohao chi-diao-le

He successfully *ba* cake well eat-finish-*le*

c. ?S34>Ba>S29

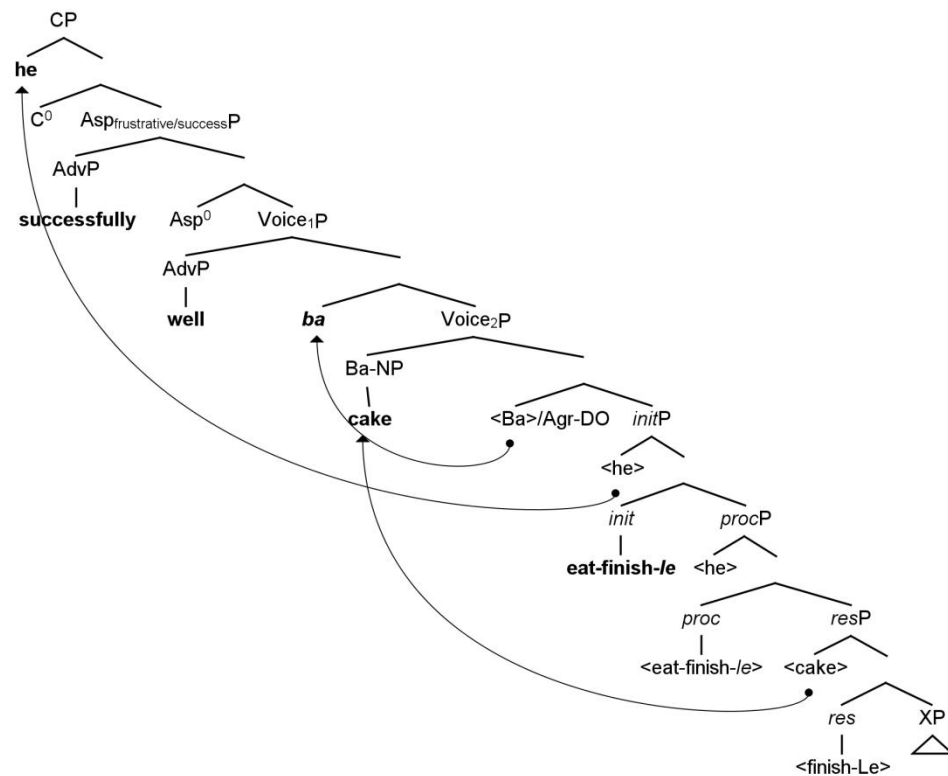
?ta haohao ba dangao chenggong-de chi-diao-le

He well *ba* cake successfully eat-finish-*le*

“he successfully finished the cake well.”

According to the current analyses and the assumptions of Cinque (1999), the structural representation is expected to be as follows.

(3).



Through the basic movements, we successfully attain the uncontroversial word order: S29>S34>Ba.

For the other two less natural options, namely “S29>Ba>S34” and “S34>Ba>S29”, the final word orders could possibly be derived in three steps involving pied-piping, as shown in (19) and (20). Since we have mentioned that the lower “non-movable” adverbs cannot be dislocated to the left of the subject, thus we assume that once the subject “he” has moved to the leftmost of the structure, it would not participate in the further movements.

(19) S29>Ba>S34

- a. (he) successfully well *ba* cake eat-finish-*le*
- b. (he) well_i successfully t_i *ba* cake eat-finish-*le*
- c. (he) well_i eat-finish-*le*_j he successfully t_i *ba* cake t_j
- d. (he) [successfully t_i *ba*-cake t_j] well_i eat-finish-*le*_j t_k

(20) S34>Ba>S29

- a. (he) successfully well *ba* cake eat-finish-*le*
- b. (he) successfully_i t_i well *ba* cake eat-finish-*le*
- c. (he) successfully_i eat-finish-*le*_j t_i well *ba* cake t_j
- d. (he) [t_i well *ba* cake t_j]_k successfully_i eat-finish-*le*_j t_k

Basically speaking, the core steps involve the movement of one of the adverbs and the argument structure to the higher specifiers. The speakers reported that in “S29>Ba>S34” order, there is an “emphatic effect” on the adverb “well” (S34), while in “S34>Ba>S29”, the emphatic part is the adverb “successfully” (S29). This could be a hint telling us that the moved adverb may raise to an internal focus position¹⁴. For this reason we assumed (20) to be necessary even though the surface order is not changed. The argument structure (but not only the *init* head in the argument structure which is supposed to be blocked by the Voice head) is also required to move, probably for the reason that in Chinese the internal-focalized adverb must take the scope in its own domain (e.g. the internal left periphery). Then the remnant part of the clause, including the other adverb and *ba*-phrase, moves to the internal topic position immediately after the subject.

The supposed movements seem feasible but quite demanding, which might be the reason for the awkwardness of the grammatical judgement.

Accordingly, if there is only one manner adverb, as Huang, Li and Li’s (2009:177) example that we mentioned in Chapter 3, sentence (12), repeated here in (21), the word order in (21b) that the manner adverb follows *ba* may be derived by the similar movements, represented in (22):

¹⁴ See Tsai’s (2015) discussion about the two peripheries in Mandarin Chinese and Badan and Del Gobbo’s (2015) discussion about the sentence-internal focus.

(21) a. wo xiaoxin-de ba beizi na-gei-ta.

I carefully *ba* cup take-to-him

“I gave the cup to him carefully.”

b. wo ba beizi xiaoxin-de na-gei-ta.

I *ba* cup carefully take-to-him

“I gave the cup to him carefully.”

(22) a. (I) carefully *ba* cup take-to-him

b. (I) [carefully]_i t_i *ba* cup take-to-him

c. (I) [carefully]_i [take-to-him]_j t_i *ba* cup t_j

d. (I) [*ba* cup t_j]_k [carefully]_i [take-to-him]_j t_i t_k

Constituency problem

In our current proposal, *ba* and *ba*-NP are not located in the same projection, but somehow form a constituent as the French *à* and the following DP do. They would move together in a pied-piping mode when they need to undergo a movement. This suggests that the topicalization of *ba* and *ba*-NP should not be syntactically impossible.

Then, if *ba* and *ba*-NP are located in separate projections, especially if we accept that the head of Voice₂P is occupied by Agr-DO instead of the originally merged *ba*, there is the possibility to construct a coordination structure of all the rest parts under Voice₁P as well.

Huang, Li and Li (2009) notice that the topicalization of *ba*-phrase is allowed in “canonical *ba*-sentences” but in “causative *ba*-sentences” it will be ungrammatical :

(23) “canonical *ba*-sentence”:

a. *nǐ xiān ba zhè kuài ròu qiē-qie ba!*

you first *ba* this-CL meat cut-cut sfp

“Cut the meat first.”

b. [*ba zhè kuài ròu*], *nǐ xiān qiē-qie ba!*

ba this-CL meat you first cut-cut sfp

“Cut the meat first.”

(Huang, Li and Li 2009:167)

(24) “causative *ba*-sentence”:

a. *zhè píng jiǔ ba tā zuì dào le.*

this-bottle wine *ba* him drunk-fall-*le*

“This bottle of wine made him very drunk.”

b. **ba tā, zhè píng jiǔ zuì dào le.*

ba him this-bottle wine drunk-fall-*le*

(Huang, Li and Li 2009:166)

Similar to the previous analysis of the cases in (19) and (20) that *ba* is between two higher adverbs, the topicalization process is supposed to undergo a process presented in (25). We assume that the *ba*-phrase is permitted to raise to the sentential topic area in the left periphery higher than the subject, which is different from the lower functional adverbs in Mandarin Chinese. There are two options for the movement steps. Take the same sentence in (23) as an example. One of the option only involves the movement of the verbal structure under *ba* to a specifier lower than the adverb “first”:

(25) a. you first *ba* this-CL meat cut-cut

b. you first [cut-cut]_i *ba* this-CL meat t_i

c. [*ba* this-CL meat t_i]_j you first cut-cut_i t_j

The problem of (25) is that we do not know exactly which head could attract the verbal phrase to its specifier. Another option is to move both the remnant argument structure and the adverb “first” to the lower periphery under the subject, then move the *ba*-phrase to the outer topic zone:

(26) a. you first *ba* this-CL meat cut-cut

b. you [cut-cut]_i first *ba* this-CL meat t_i

d. you [first]_j [cut-cut]_i t_j *ba* this-CL meat t_i

c. [*ba* this-CL meat]_k you [first]_j [cut-cut]_i t_j t_k t_i

Again, the pragmatically marked movements may be responsible for the rare use or even the unacceptable use of the topicalization of *ba*-phrase reported in the previous works (e.g. Paul 2015).

Apart from the topicalization, Huang, Li and Li (2009) also notice that the post-*ba* NP and the VP can form a constituent and can be coordinated:

(27) ni *ba* [zhe-kuai rou qie-qie], [naxie cai xixi] *ba*!

you *ba* this-CL meat cut-cut those vegetable wash sfp

“You cut the meat and wash the vegetable.”

(Huang, Li and Li 2009:167)

Huang, Li and Li explain that the possibility to prepose *ba* and *ba*-NP as well as to coordinate *ba*-NP and the VP means that in the “canonical *ba*-sentences”, *ba*-NP can form a constituent both with *ba* and with the VP, while a “causative *ba*-sentence” only allows the constituent of *ba*-NP and the VP.

They also mention that in the coordination cases, *ba* is optionally allowed to occur in the second adjunct. However, they do not discuss that we can also extend the distinction between “canonical” and “causative” here: “causative *ba*-sentences” do not allow the coordination of *ba*-NP and VP without the presence of *ba* in the second adjunct, as the ungrammatical sentence (28) shows.

(28) *Zhe-ping jiu ba [ta zui-dao-le], [wo he-kun-le].

this-bottle wine *ba* him drunk-fall-*le* me drink-sleepy-*le*

In the sense “this bottle of wine made him very drunk and made me very sleepy (by drinking it).”

If *ba*-NP and the VP can really form a constituent in a “causative *ba*-sentence”, as claimed by Huang, Li and Li (2009), how can we explain the impossible coordination in (28)? This suggests that the difference might not be a real instance of constituency problem.

The same restriction presents even in the topicalization of the object to the left of the subject in the non-*ba*-sentences, like the contrast between the object-topicalized version of (23) and (24), respectively shown in (29) and (29):

(29) a. zhe-kuai-rou, ni xian qie-qie ba!

This-CL-meat you first cut-cut sfp

“The meat, you cut it first!”

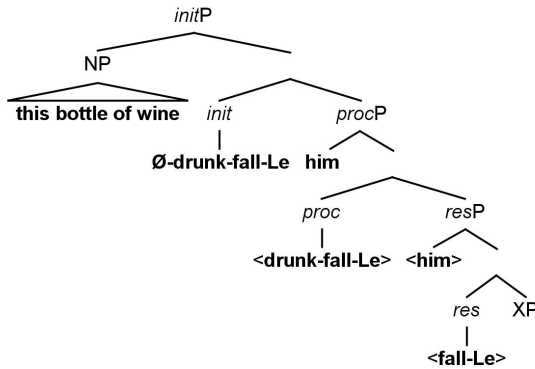
b. *Ta, zhe-ping jiu zui-dao-le

Him this-bottle wine drunk-fall-*le*

In the sense “This bottle of wine made him very drunk.”

We argued in Chapter 2 that a sentence like (24a) has the argument structure where the *init* head is filled by a null causative suffix, in this way the [*proc*, *res*] verb (“drunk-fall”) becomes causativized.

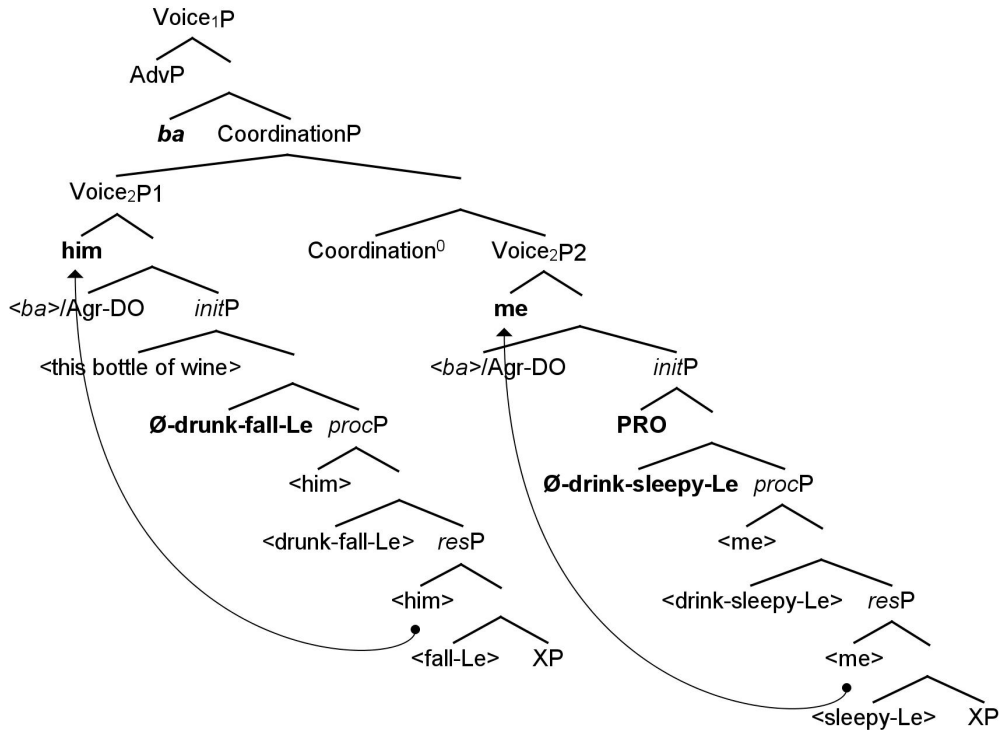
(4).



The extraction of “him” to the left periphery over the subject NP “this bottle of wine” will cause the null causative element in the *init* head to be uninterpretable. Instead, in the event structure of (23a), the *init* head is independently interpreted by the INITIATOR “you”, the extraction of the RESULTEE “this meat” will not alter the interpretation of the verbal compound, thus the topicalization process is allowed. That is to say, the divergences between “canonical *ba*-sentences” and the “causative *ba*-sentences” in front of the object-extraction is created by the different event-structure properties instead of a different constituency condition of *ba*-NP.

The coordination test follows the same rule. If the coordinated part starts from Voice₂P, i.e. the “constituent” composed by *ba*-NP and VP in terms of Huang, Li and Li (2009), the INITIATOR in the argument structure of the second adjunct is actually occupied by a pronominal anaphor “PRO” instead of a trace of the raised subject as the first adjunct has. Therefore, the attraction of the RESULTEE from the head of Voice₂P (Agr-DO⁰ or a silent Ba⁰) will give rise to the order that the UNDERGOER (which is the same as the RESULTEE in all “causative *ba*-sentences”) precedes the INITIATOR, which would cause the failure in the interpretation of the null element in the *init* head.

(5).



As shown in the structure (5), “me” is attracted to the specifier of Voice₂P₂ by the head, across the subject PRO of the non-finite verbal phrase.

However, when *ba* is present in the second adjunct, even a “causative *ba*-sentence” allows the coordination.

(30) Zhe-ping jiu [ba ta zui-dao-le], [ba wo he-kun-le].

this-bottle wine *ba* him drunk-fall-*le* *ba* me drink-sleepy-*le*

“this bottle of wine made him very drunk and made me very sleepy (by drinking it).”

This could be possibly explained that except for the event structure, the coordinated part of the clause includes not only the “Voice twins”, but also all the CP area of the clause. That is to say that the second “conjunct” is actually a full CP with the pro-drop phenomenon. Thus, the raised *ba*-NP would not go across the subject to its left and the *init* head would be still interpretable. An evidence for this hypothesis could be offered by the acceptability to freely attach adverbs to the two adjuncts:

(31) Zhe-ping jiu cengjing ba ta zui-dao-le, xianzai you ba wo

this-bottle wine once *ba* him drunk-fall-*le* now again *ba* me

he-kun-*le*.

drink-sleepy-*le*

“this bottle of wine once made him very drunk and now in turn it makes me very sleepy (by drinking it).”

In short, we argue that the current analysis regards *ba* and *ba*-NP as two elements separated in two functional projections, namely Voice₁P and Voice₂P. In a pied-piping mode, the two have the chance to move together and to be topicalized as a unit. At the same time, Voice₂P as an independent projection is available to be coordinated with another functionally identical projection. The reason why there exists the difference between the so-called “canonical *ba*-sentences” and “causative *ba*-sentences” in topicalization and coordination cases does not consist in the constituency problem of *ba*-construction, but simply lies in the argument structure where the interpretation of the null causative suffix “Ø” in the *init* head depends on the relative position between the INITIATOR and the UNDERGOER.

“Disposal constructions” in other Chinese languages

The current structure is established on the basis of some universal hypothesis, thus if our generation about *ba* is valid, it should be able to represent other functionally similar “disposal constructions” as well.

Generally speaking, in Chinese languages, the canonical word order is SVO, but it is not rare to see that the object is marked by a prepositional-like marker and precedes the main verb. Chappell (2006) analyzes at least four types of “disposal constructions” in Sinitic languages. Her structural configurations are reproduced here as follows.

(i) (NP_{SUBJECT})–[MARKER_{ACC} + NP_{DIRECT OBJECT}]_(i)–VERB PHRASE

(ii) (NP_{SUBJECT})–[MARKER_{ACC} + NP_{DIRECT OBJECT(i)}] VERB₁–(VERB₂)–PRONOUN_(i)

(iii) NP_{DIRECT OBJECT(i)}–[MARKER_{ACC} + PRONOUN_(i)]_(i)–VERB PHRASE

(iv) (NP_{SUBJECT})–[CHIONG_{ACC}–NP_{DIRECT OBJECT(i)}]_(i)–KĀ_{ACC}–PRONOUN_(i)–VERB PHRASE

(Chappell 2006)

The *ba*-construction (and its literal counterpart *jiang*) in Mandarin Chinese represents the (i) type which we have discussed previously. We will try to illustrate the other three types with corresponding examples in terms of our syntactic assumptions.¹⁵

(ii) (NP_{SUBJECT})–[MARKER_{ACC} + NP_{DIRECT OBJECT(i)}] VERB₁–(VERB₂)–PRONOUN_(i)

In certain Sinitic languages (such as Hakka and Cantonese), a resumptive or anaphoric pronouns is allowed to present post-verbally.

(32) *tsiōng lì tchâc kē nā-loi chīt-p'êt kî*

ACC this-CLF chicken bring eat-COMP **3SG**¹⁶

“Eat up all this chicken.”

(partially cited from Chappell 2006, (17))

In (32), the “disposal” marker is *tsiōng*. Apart from the basic “disposal construction” in Mandarin Chinese *ba*-construction, in this Chinese language the direct object NP *kē* (“chicken”) is repeated by an anaphor pronoun *kî* (“it”) at the final place of the clause. Such a construction probably supports our movement hypothesis: the RESULTEE, in this example “chicken”, is attracted by the head of Voice₂P to its specifier. The final resumptive pronoun could be regarded as a pronominal realization of the trace of the moved NP. A base-generation hypothesis (like Huang, Li and Li 2009), however, would forbid a pronominal repetition because there should not be an extra argument position for a pronoun co-indexed with *ba*-NP in the post-verbal area. The same syntactic structure is also recorded in medieval Chinese during the Tang

¹⁵ As regards the examples taken from Chappell (2006), since she use various transcription systems, the texts in Chinese is also repeated together.

¹⁶ Bold in the original text. “ACC” stands for “accusative marker”.

Dynasty:

(33) *Chuán-zhě nǎi jiāng cǐ chán yǐ yóu áo zhī*

boat-AGT then takeACC this toad with oil fry 3SG

“Then the boatman took the toad and fried it.”

(original text from Lu Xun, *Zhi Guai*, example taken from Peyraube 1985 and English translation from Chappell 2006, (7))

The final pronoun *zhī* (it) exclusively refers to the direct object *cǐ chán* (“this toad”) which is marked by the object marker *jiāng*. It supports our idea that the event structure of a “disposal construction” is not different from its canonical counterpart. The inversion of the so-called “direct object” of the clause to a pre-verbal position is caused by the syntactic movement.

(iii) NP_{DIRECT OBJECT(i)}–[MARKER_{ACC} + PRONOUN_(i)]–VERB PHRASE

Chappell (2006) claims that in certain Min and Wu dialects the object-marking construction contains a clause-initial direct object and a resumptive pronoun follows the object marker.

(34) *beŋ³¹ku³⁵ dei¹¹ gei³¹ ts^ht³¹³ huɔ⁰*

apple ACC 3SG eat PRT

“Eat up the apple!” [more literally: apple, take it and eat it]

(Chappell 2006,(31))

In the example (34), registered from Wenzhou dialect, the direct object NP *beŋ³¹ku³⁵* (“apple”) precedes the object marker *dei¹¹*, and the pronoun *gei³¹* which refers to “apple” follows the object marker. We could construct such a word order by topicalizing the direct object which is already attracted by the head of Voice₂P. Then the trace of it is substituted by a pronoun. The possibility to topicalize the direct object without its marker may prove that the “disposal” marker does not form a strict constituent with the NP like a preposition in Chinese languages does (and maybe the term “accusative marker” used in Chappell (2006) is also less appropriate since the topicalized accusative NP is not necessarily marked by it).

(iv) (NP_{SUBJECT})–[CHIONG_{ACC}–NP_{DIRECT OBJECT(i)}]_i–KĀ_{ACC}–PRONOUN_(i)–VERB PHRASE

According to Chappell (2006), this rare “hybrid” type of object-marking construction is only found in Southern Min. As shown in the configuration of the structure, there are two object markers, the former one (“CHIONG”) is followed by the direct object NP and the latter (“KĀ”) is followed by a resumptive pronoun of the direct object.

(35) *chiong mng kā yī kuin khi-lâi*

ACC₁ door ACC₂ 3SG close INCH

“Close the door.”

[more literally: take the door, take it and close]

(Chappell 2006, (11))

Huang, Li and Li (2009) also mention *ka* in Taiwanese. They claim that though it is structurally similar to *ba* in Mandarin, a *ka*-sentence is acceptable as long as there is an “affected” interpretation (p.183).

(36) *li-e syaNim na ka gua se-ka bolang thiaN-u, gua tio ka li si thaolo.*

you voice if *ka* me small-extent nobody hear-have I will *ka* you fire job

“If your voice is so small that nobody can hear you (at my cost), I will fire you.”

(Huang, Li and Li 2009:183)

Notice that in (36), the first post-*ka* NP *gua* (“me”) is an external argument that does not come from the event structure in which the main predicate is an intransitive stative verb, and semantically it is closer to the ethical dative constructions than to a “disposal construction” of the *ba*-type, while the second *ka* is more analogous to *ba* in Mandarin. This suggests that *ka* in Taiwanese may have a wider function than “*ba*”, as discussed in Chappell et al. (2011).

Thus, regardless of the lack of precise and abundant data, we may only tentatively argue that the case of (35) could be a mixed use of the real “disposal” marker *chiong* (which syntactically corresponds to our proposal of Mandarin *ba*) and a mistaken use of *kā* which occupies the head of a lower functional projection in the structure. If we still follow Kayne (2005), *kā* would construct a prepositional-like structure of doubled projections, similar to French causative “*à*” and Mandarin *ba*.

The post-*ka* NP *mâng* (“door”) in (35) might base-generate both in the argument structure as the RESULTEE, and in the projections of the second object marker, namely *ka*-projections as an external affected argument, which has a lower syntactic position and is c-commanded by the raised post-*chiong* NP, thus it is substituted by a pronoun *yī* (literally “it”) for the co-reference effect.

All in all, we believe that our current proposal of the syntactic structure of *ba*-construction in Mandarin Chinese could provide a more sound flexibility for the variations of word order, both intra-linguistically and cross-linguistically. But naturally it could not be a perfect interpretation for the complex syntax of the “disposal constructions”, relative further problems will be discussed in the next chapter together with a synthetic conclusion of all the new proposals in this thesis.

Conclusions

Main Proposals

In this thesis, we have analyzed the syntactic structure of the *ba*-construction in Mandarin Chinese.

For the research on the argument structure, we adopted the event-decomposition method proposed by Ramchand (2008), who claims that an event maximally contains three subevents, namely Initiation, Process and Result. We have proved that a *ba*-construction can be grammatical in Mandarin Chinese only when three subevents are all realized in the event structure. We claimed that this kind of event-decomposition interpretation is able to derive some of the restrictions of the *ba*-construction in the previous literature. The widely used name “disposal form” and other refined descriptions extended from this term are syntactically interpreted as the properties of “active” and “resultative” of the selected event structure, i.e. the co-existence of the *initP* and the *resP*. The “subject” of the *initP*, the INITIATOR, finally becomes the subject of the *ba*-sentence, while the “subject” of the *resP*, the RESULTEE, is realized as the *ba*-NP.

Then we have tried to “locate” the so-called “*baP*”, namely the projection which holds *ba*, in a more large range between the CP and the verbal phrase. We first argued that it is more reasonable to regard *ba* as a functional element, from which it is enough to get a syntactic analysis without indicating its lexical category. The “location” instrument we used is the hypothesis of the universal hierarchy of functional projections proposed by Cinque (1999, 2006). Following this hypothesis, which assumes that the functional projections (composed by a specifier filled by the corresponding adverb and a head filled by other functional element) are universally linearized in a fixed sequence, we ran the test based on the co-occurrence of *ba* and other functional elements in the supposed hierarchy, including both specifiers and heads. The result shows evidence that *ba* may be at the level of VoiceP and occupies its head.

At last we combined the two proposed structures and argued that an only Voice projection is not sufficient to derive the right word order “NP_{subject} > *ba* > *ba*-NP > VP”. Therefore, we introduced Kayne's (2005) proposal for the preposition *à* in French causative constructions, which supposes two functional projections to finally satisfy the word order. We proved that *ba* is structurally similar to a preposition just like the French “*à*” discussed by Kayne (2005) does. The *ba*-construction, then, is assumed to have two adjacent projections, which is named “Voice₁P” and “Voice₂P” in this thesis.

The head of Voice₂P is filled by the Agr-DO or a trace of *ba*, while the head of Voice₁P holds the spelled-out *ba*. Voice₂P first attracts the RESULTEE from the obligatory [*init, proc, res*] argument structure to its specifier, then *ba* merges in Voice₁P or moves to Voice₁P from Voice₂P. In this way, we could construct a “constituent” of *ba* and *ba*-NP in a loose sense, they legitimately move together when there is a need to invert the natural word order, like the cases of topicalization or focalization of some elements, but the process will be quite demanding and we claimed that this might be the reason of the scarcity of such constructions in the literature and in the spoken language.

Further Discussions

Among the works focused on *ba*, there are some other arguments which we did not discussed in this thesis due to the limited space. The problems left by some works may (or may not) be interpret under the current proposed syntactic structure, thus we list some of them for the further research.

Case assignment

Ramchand (2008) has left the relation between argument structure and Case as an open question (p.203). In her argument structure, different verbs have different lexical entries and combinations, therefore the function of the traditional vP-VP projection in Case assignment seems unclear to be adopted here.

Sybesma (1999) claims that the *ba*-VPs are “unaccusative in the sense that they do not project an external argument” (p.164), “the unaccusative verb has no objective Case, all that is available is the Case for the subject (whichever head in the structure assigns it). In the causative (and transitive) *ba*-sentences, the head of CAUSP is responsible for the availability of the objective case” (p.167). Similarly, Huang, Li and Li (2009) prove that *ba* is lack of theta-assigning capability but does assign a Case to the post-*ba* NP.

Whether the Case of the *ba*-NP is assigned *in situ* or by the movement to Voice₂P is suspended here for a future study.

The passive construction

We have given the name of Voice₁P and Voice₂P for the necessity of a double-projection to derive the right word order, but in this way we should affirm that in Mandarin Chinese the undoubted Voice head, namely the passive head *bei* is also assisted by another projection immediately following it.

In the literature, Huang, Li and Li (2009) and Huang (2013) distinguish “the long passive” and “the short passive”, depending on whether they contain the agent phrase or not. In a long passive construction, the semi-lexical verb *bei* is complemented by a null operator construction predicated on the subject. The passive subject is a base-generated argument of *bei* in a long passive construction but not comes as a result of movement from the VP structure. *Bei* c-commands a null operator (NOP) filled by the moved object from the VP which is a null pronoun, the subject predicates on the NOP thus they can get the same reference. The NOP here may coincide with our Voice₂P.

It will be worth trying to apply the current proposal to the passive construction in Mandarin Chinese.

The “boundedness” of the *ba*-construction and the “definiteness” of the *ba*-NP

As we mentioned in Chapter 1, Liu (1997) claims that the *ba*-predicates denote “bounded” events and the *ba*-NP is “definite” or “specific”. Furthermore, she points out that the boundedness of the event and the specificity of the NP hold a homomorphic relation. Li and Thompson (1981) also mention that the *ba*-NP must be definite, specific or generic. Sybesma (1999) has the similar idea (see Chapter 1).

It may be interpreted by the restrictions of the event structure: Ramchand (2008) claims that the result phrase gives the “telos” or “result state” of the event, thus the obligatory presence of the *res*P may be responsible for the “boundedness” of the event. And the identity of RESULTEE of the raised *ba*-NP under our analyses may give rise to the “definite” reading for the reason that the bearer of the result state could not be too generic, but this requires a more fine-grained aspectual analysis as an extension to the event structure of Ramchand (2008).

The uniqueness of *ba*

At the beginning we briefly introduced the historical grammatical change of the particle *ba*, this leads us to think that it is possible to draw a syntactical change route of the grammaticalization process of *ba* and other “disposal forms” in Chinese languages. Our efforts in this thesis are concentrated on finding a universally relevant position for this construction, but we did not discuss about its uniqueness from a cross-linguistic point of view.

According to the record of Heine and Kuteva (2004), in world languages, verbs meaning “to take, to seize” are subject to many forms of grammaticalization (see Heine and Kuteva 2004:286-291, the entries of “TAKE”), some of them has a similar use to the Mandarin *ba* (e.g. *de* in Twi) and thus in this sense it is not strictly “unique” among languages. However, it is still worth an in-depth study to discuss why the same

process does not occur in most of the languages and why the “disposal forms” are widespread and productive in Chinese languages.

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