



A Cartographic Analysis of the Syntactic Structure of Mandarin *Ba*

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Abstract

This paper analyzes the syntactic properties of the “*ba*-construction” or “disposal form” in Mandarin Chinese under new theoretical frameworks. By introducing the event-decomposition method proposed by Ramchand (2008), it argues that the *ba*-construction conveys the causativity and the resultativity of the event at the same time, which can be shown from the syntactic representation. Then, this paper tests the position of *ba*, assuming that it is a functional head, and the result of the test indicates that *ba* is a voice head in the hierarchy of functional projections proposed by Cinque (1999, 2006). The final word order of a *ba*-construction can be derived by the argument movement of the direct object and by a head movement of *ba* or by the merge of *ba* at the head position of the higher functional head of a split VoiceP.

Keywords

ba-construction, disposal form, cartography of syntax, functional heads

1. Introduction

In Modern Mandarin Chinese, *ba* (把) can be used as a prepositional-like functional word which always takes an NP immediately after it. Such a construction is called the “*ba*-construction” or more generally the “disposal form” in the literature. It has been a widely discussed issue for many decades from all linguistic research aspects.

If we call the NP introduced by *ba* the “*ba*-NP”, then the basic structural form of this construction can be simply generalized as (1):

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

Compared to the unmarked SVO word order in Modern Mandarin, the object NP is fronted to the left of the VP, immediately after *ba*. Almost every *ba*-sentence has a non-*ba* variant,¹ but the semantic difference between the two is subtle and difficult to show in the English translation.

- (2) a. Zhangsan *ba* na-ge pingguo chi-le.²
 Zhangsan *ba* that-CL apple eat-*le*³
- b. Zhangsan chi-le na-ge pingguo.
 Zhangsan eat-*le* that-CL apple
 ‘Zhangsan ate that apple.’

The *ba*-sentence in (2a) and its non-*ba* counterpart (2b) share the same English translation. But more strictly speaking, one can rhetorically translate the *ba*-sentence (2a) as ‘what Zhangsan did to that apple is that he ate it’, while the non-*ba* variant cannot convey this semantics.

The use of *ba* is subject to some constraints. First of all, there should be at least two arguments in the clause, which means that an intransitive stative predicate can never occur in a *ba*-construction.⁴ Furthermore, in the absence of a “disposal”

1 Except for the verbal compounds with *-cheng* or *-wei* (lit. ‘become’), which introduce a transformation of the *ba*-NP into a new (or renewed) entity, for example:

(i) Wo *ba* zhe-ben shu fanyi-cheng zhongwen.
 I *ba* this-CL book translate-into Chinese
 ‘I translated this book into Chinese.’

2 An anonymous reviewer indicates that the sentence may not be 100% acceptable, but 3 native speakers of Mandarin Chinese have confirmed its total acceptability, so I will not call it into question.

3 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 An anonymous reviewer points out that there are lots of ergative verbs in Chinese that could possibly be used as transitive or intransitive verbs, and she/he gives the following examples:

(i) Tang liang-le.
 Soup cool-*le*
 ‘The soup cooled down.’

meaning, psych verbs are not compatible with *ba*, even when the psych verb is transitive. A syntactic restriction for the *ba*-construction is that the predicate cannot be a bare verb but is always modified in some way.⁵ *Ba*-NP is also subject to restrictions. According to Li and Thompson (1981: 465), it is “generally definite or generic”. Even a bare noun must get a definite interpretation when it appears as the *ba*-NP, but this forced definiteness is not present in its non-*ba* counterpart. Liu (1997) claims that *ba*-NP is always specific in the sense of Liu (1990) and its specificity is related to the boundedness of the event. For space limitation, this paper will not go into details about this argument.

Owing to its peculiarity, the *ba*-construction has fascinated many linguists of Chinese. Previous works such as Wang (1945, 1954), Li and Thompson (1981), Peyraube (1985), Zou (1993), Liu (1997), Sybesma (1999), Li (2006), Chappell (2006, 2007), Huang et al. (2009), Kuo (2010), Paul (2015) and others not cited here have made a sound investigation on this argument, but there are still some points to be refined.

This paper adopts a cartographic approach and reviews the syntactic aspect of this argument under the frameworks that can better reflect its semantics in the formal syntactic representation as well as the constraints shown earlier. In the following discussion, Section 2 aims to provide a different event-structure decomposition with respect to the classic literature, building on Ramchand (2008) who suggests a triple-layered projection group (including *initP*, *procP* and *resP*) for the argument structure. I will show that this event-structure decomposition method can syntactically interpret the semantic restrictions for the event in a *ba*-construction. Section 3 investigates the syntactic position of the particle *ba* under the framework of Cinque’s (1999, 2006) proposal of the hierarchy of functional projections and a “localization” test is presented that suggests that *ba* is the head of a voice-like projection and its semantic value can also be associated with that of voice, and again this syntactic analysis can better interpret the semantics of the *ba*-construction that the previous syntactic analyses fail to capture (e.g., Sybesma [1999] proposes a CausP for *ba*, but the *ba*-construction is different from the common causative constructions; Huang et al. [2009] propose a *baP* for it, which cannot convey its semantics). Section 4 gives a thorough syntactic representation

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- (ii) Mama ba tang liang-le gei didi.
 Mum *ba* soup cool-*le* to younger.brother
 ‘Mum made the soup cool down for the younger brother.’

In (i) the verb is intransitive but still dynamic, which means ‘cool down’, so it is not “an intransitive stative predicate”, and is compatible with the *ba*-construction only when the ergative verb is in its transitive version, like in (ii).

5 The classification of the predicate types of the *ba*-construction varies among linguists. Generally speaking, the adjunction could be a verb complement, an NP complement, an aspectual marker (e.g., *-le*, *-zhe*), a resultative small clause, a prepositional phrase, a doubled verb, a duration/frequency of the main verb or a measure or a mereological part of the *ba*-NP.

of the *ba*-construction that combines the event structure proposed in Section 2 and the projection of *ba* proposed in Section 3 by means of syntactic movements.

2. A new event-decomposition method for *ba*

The verbal structure in *ba*-sentences is a frequently discussed argument. 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 syntactic representation of this requirement. 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. However, could there be a simpler solution?

In this section, I argue that a *ba*-event must be both initiative (causative) and resultative by using the event-decomposition method proposed by Ramchand (2008), which provides a set of more refined primitive event roles in the lexicon and their corresponding syntactic representation. In Section 2.1, I make a very brief overview of this analysis, and in Section 2.2, I use it to represent which types of predicate can be expressed by the *ba*-form. Section 2.3 gives an interim conclusion of the analyses.

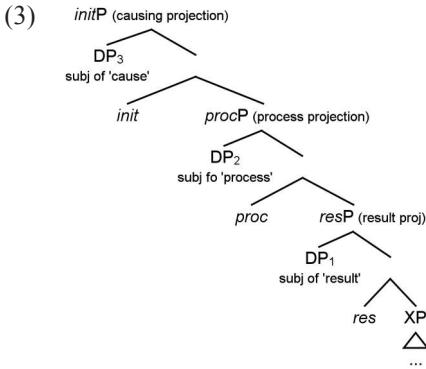
2.1 Event structures in Ramchand (2008)⁶

Briefly speaking, according to Ramchand (2008), an eventive predication can involve three types of predicational relations and three relative basic argument roles (and the stative verbs also have THEME, RHEME).

The first type of the predicational relations is Causation or Initiation. It is associated with the argument role of INITIATOR, “whose properties/behaviour are responsible for the eventuality coming into existence” (Ramchand 2008: 24). It coincides with the intuition of the “external argument”. The “internal argument” takes the role of UNDERGOER or RESULTEE. UNDERGOER is the entity that undergoes “some sort of identifiable change/transition” (Ramchand 2008: 28) but not necessarily attains a final state of the change/transition. It is related to the dynamic process of the event. If an object of the event does not just undergo some change but also ends up in a final state, directly related to the result state of the event, this object is claimed to be the holder of a final state, a RESULTEE, which attains a “criterial identifiable change of state” (Ramchand 2008: 32).

In this sense, an event can be decomposed maximally into three subevents, namely *initiation*, *process* and *result*. Each subevent has an individual projection in the whole event structure. Given this, a maximal event decomposition can be represented as the following structure:

⁶ This paper does not go against the major semantic theories (e.g., Davidson 1967, Higginbotham 2000). The choice of Ramchand (2008) as the framework is simply because of its clear syntactic representation that better supports the syntactic study of the *ba*-construction.



(Ramchand 2008: 39 (1))

In such a system, *process* is the core of a dynamic verb, while initiation and result exist only when the verb’s lexical-encyclopedic content includes them. Verbs can be classified according to their syntactic properties under this kind of event-decomposition system. For example, verbs like “drive” and “push” belong to the [*init*, *proc*] verb class, because their event (in the first-phase syntax) involves a causation and a dynamic process; while verbs like “throw”, “enter” and ditransitive verbs are classified as [*init*, *proc*, *res*] since they are supposed to contain all the three subevents.

Ramchand (2008) adopts the mechanism of merge and remerge and claims that if a lexical item carries a category feature⁷ (e.g., a [*res*] feature), then it can merge at the head position of that corresponding projection (the *res* head). Since a lexical item can contain 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”⁸ (Ramchand 2008: 59). She assumes that the “highest” position in the structure of this item is responsible for the spell-out of it (Ramchand 2008: 59, Footnote 6). In the representations below, the remerged items are marked as a copy of the merged ones by using the angle brackets “<>”.

2.2 Event structures of the *ba*-construction: complexity as causativity plus resultativity

2.2.1 Complexity of the *ba*-construction

As mentioned before, a *ba*-VP must be complex in some way. For example, Li and Thompson (1981) claim that the construction must satisfy the requirement of the “disposal notion” and Huang et al. (2009) mention that *ba*-constructions (and

7 In her view, the lexical item already possesses its syntactic information, and the category feature is the only syntactic encoding necessary on the lexical item (Ramchand 2008: 58).

8 Neither of the two has a privilege. For the reason that a particular item can have more than one feature, remerge simply creates “a new association line without going through the redundant step of making a copy” (Ramchand 2008: 59).

bei-constructions) “require complex verb phrases” (Huang et al. 2009: 156). In addition, Li (2006) states 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”. In the following discussion, I will show that these grammatical requirements are also reflected in the syntactic representation.

2.2.2 Event structures of *ba*-predicates

The additional elements attached to the main verb are of various categories, which increases the difficulty to make a unified generalization. I will try to insert the verbal structure of different types of *ba*-sentences into Ramchand’s (2008) argument structure. To get the unmarked word order, I will transform the selected *ba*-sentences into their non-*ba* variants. In what follows, sentence (a) is a *ba*-sentence, while sentence (b) is the non-*ba* counterpart of the sentence (a). The examples are taken from Liu’s (1997: 55–57) generalization, which classifies the *ba*-construction into 9 groups, as a reference.

(4) V + resultative verb complement

- | | | | | | |
|----|-----|---------|-------------|----------|--------------|
| a. | Ni | dei | ba | wenti | kan-qingchu. |
| | you | have.to | <i>ba</i> | 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.’

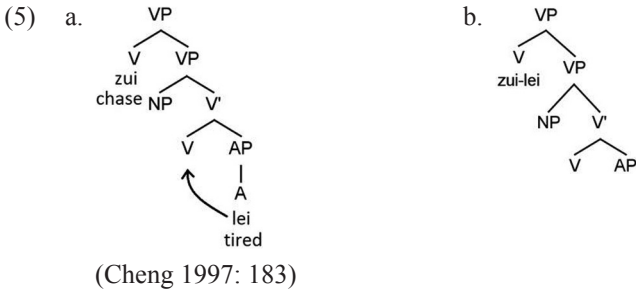
Here, we are dealing with two predicative elements: *kan* ‘read’ and *qingchu* ‘clear’. As illustrated earlier, the category features of the lexical items are linked with the projection of the corresponding subevents. In Ramchand’s (2008) system, the verb “read” has [*init*, *proc*] features and can take an INITIATOR and a PATH⁹ as its arguments (see Ramchand 2008: 108 (80)).

The second predicate “clear” seems to be an adjective, and the construction recalls English expressions like “hammer the metal flat” with an active-transitive verb and an adjectival resultative. Thus, it is rather straightforward to map “clear” into the *resP*. Combining with the verb “read”, now we have an event structure containing projections of all the three subevents, i.e., *initP*, *procP*, and *resP*. However, different from English, in Mandarin Chinese, the resultative adjective never follows the direct object. In the non-*ba*-sentence (4b), it precedes its RESULTEE “question”, forming a verbal complex with the main verb, and “clear” cannot be directly modified by an adverb.

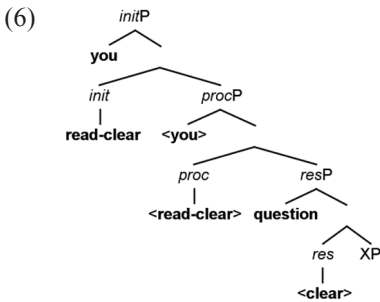
Cheng (1997) proposes that the “lexical compounding in Mandarin Chinese is similar to conflation in English”: the adjectival verb first incorporates into its head V

9 According to Ramchand (2008), PATH is another argument role related to the process. While UNDERGOER is the “subject of change”, PATH is the “material extent” or the “measuring scale” of the change, which keeps a homomorphic relationship with the event.

and 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 (5) shows:¹⁰



Since the observed verbal movements always involve the whole compound, I will simplify the representation of the final resultative verbal compounds in the *init* head position without specifying the structure of the compounds. However, at the same time, I also hypothesize that a resultative predicate like “clear” in (4) does merge as the *res* head and then remerges at *proc* and *init* to be finally united with the true [*init, proc*] verb “read”. Accordingly, (6) shows the syntactic representation of the event in (4).



What the structure illustrates is that this event is both “initiative”, for the presence of a “causer” and a causative subevent, and “resultative”, for the explicit result “questions being clear” directly conveyed by the predicate complex.

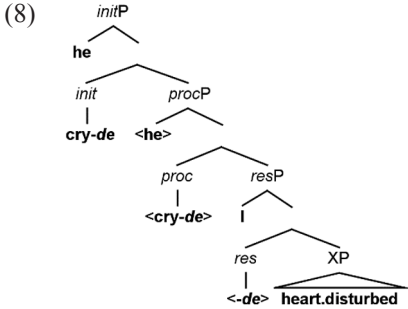
The next example is related to the resultative clause introduced by the resultative marker “-de”.

- (7) V + *de* (resultative)
- | | | | | | | |
|----|----|----|----|-----|----|-----------------|
| a. | Ta | ba | wo | ku | de | xinfan. |
| | he | ba | I | cry | de | heart.disturbed |

10 However, notice that it seems in contrast with 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 of 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 leftheaded, and Ramchand’s (2008) event-decomposition just confirms the left-headed interpretation.

- 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 here, I hypothesize that only when there is a former *proc* head can it merge at *res* and license an XP and a RESULTEE, and then, in a next step, it remerges to the higher heads to combine with the real verb, just as a V2 does in the V1-V2 compound.

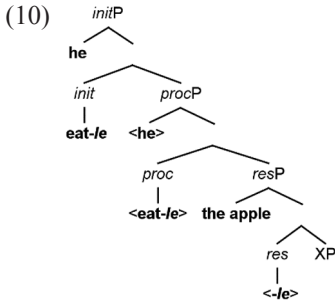


Another similar and very productive *res* head is the verb-*le*, which is considered to be an aspect particle.

- (9) V + perfective marker -*le*
- a. Ta ba pingguo chi-le.
 he *ba* apple eat-ASP
- b. Ta chi-le pingguo.
 he eat-ASP apple
 ‘He ate the apple.’

I call it “verb-*le*” to distinguish it from “sentence-*le*” following Li and Thompson (1981) and Sybesma (1999): verb-*le* behaves like a verbal suffix that immediately follows the verb and admits other phrases on its right; sentence-*le* appears only at the end of the whole sentence and the element preceding it is not limited to verbs. The non-*ba* variant in (9b) clearly shows that the “-*le*” involved here followed by the object NP is an instance of verb-*le*.

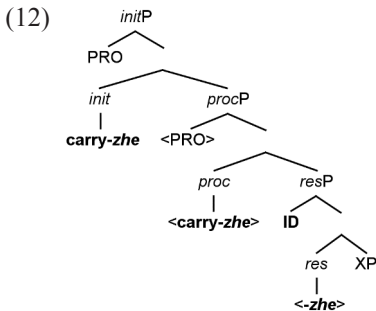
The verb-*le* is conventionally regarded as a perfective aspect marker, which “indicates that an event is being viewed in its entirety or as a whole” (Li and Thompson 1981: 185). However, Sybesma (1999) argues that the verb-*le* “occupies a position deeply embedded in the Mandarin VP” (Sybesma 1999: 59) and sits at the head position of an XP following the VP. The semantics of sentence (9b) implies the total consumption of the apple when *pingguo* ‘apple’ gets a definite interpretation as (9a) undoubtedly does, and the insertion of the verb-*le* in (9b) modifies the event from atelic to telic by adding a final state to the apple. Accordingly, I partially adopt Sybesma’s (1999) view and assume that the verb-*le* in *ba*-constructions merges as the *res* head and takes “the apple” as its complement.



A similar particle to verb-*le* is the durative aspect marker “-*zhe*”. Li and Thompson (1981: 236) describe “-*zhe*” as the marker of “an ongoing posture or state resulting from an activity”. In the light of this description, I assume that “-*zhe*” merges at *res* head and remerges to be attached to the verb, just like verb-*le* does:

- (11) V + durative marker -*zhe*
- a. Ba zhengjian dai-zhe.
 - ba* ID carry-*zhe*

 - b. Dai-zhe zhengjian.
 - carry-*zhe* ID
 - ‘Carry your ID (with you).’

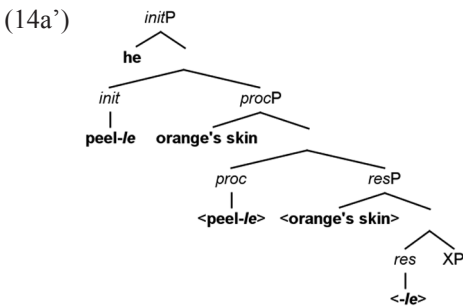
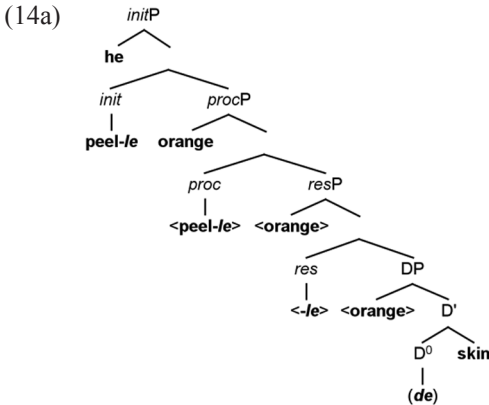


The next example contains a so-called “retained object” at the final position. According to the definition and the classification in Thompson (1973), this term can refer to all the post-verbal NPs in the *ba*-construction, including “NP-resultative *ba*-sentences”, “Inal.poss/part-whole *ba*-sentences”, and “Locative *ba*-NP *ba*-sentences”.

- (13) V + retained object
- a. Ta *ba* *juzi* *bo-le* *pi*.
 - he *ba* orange peel-*le* skin
 - a'. Ta *ba* *juzi* *pi* *bo-le*.
 - he *ba* orange skin peel-*le*
 - b. Ta *bo-le* *juzi* (*de*) *pi*.
 - he peel-*le* orange (*de*) skin
 - ‘He peeled the orange.’

In Paul (1988), the verbal phrase *bo pi* ‘to remove skin’ is analyzed as a verb-object phrase (VOP), which involves an inner object (*pi* ‘skin’) and an outer object (*juzi* ‘orange’). She argues that VOP has the underlying structure [_V [_V V Inner-object] Outer-object], and the surface structure of a case like (13a) is represented as [_V [_{PP} Coverb Outer-object] [_V V Inner-object]] (Paul 1988: 80, where *ba* is considered a coverb).

The verb “peel”, both in English and in Chinese, does not necessarily contain a final state of its object (i.e., “being without skin”) in the lexical meaning, so it is supposed to be a [*init, proc*] verb. In Mandarin, *bo* ‘peel’ can take either the fruit or the skin of the fruit as its direct object, which illustrates that the inner object is an optional argument of the event, but the skin does need the existence of the fruit as its integrate part. The marker “-*le*” delimits the event with a final state, which can be the loss of skin of the fruit (the supposed case of (13a), structure (14a)) or the disappearance of the skin itself (the supposed case of (13a’), structure (14a’)).

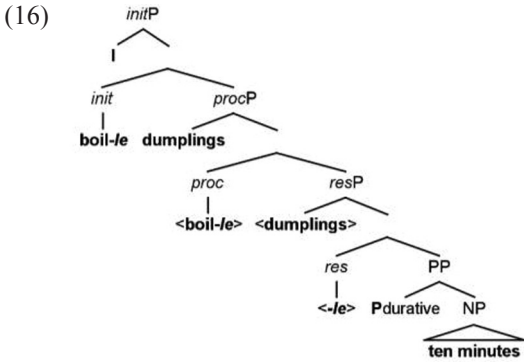


Then, the post-verbal element can also be a durative/frequentative quantified phrase. I propose that the basic event structure is almost the same as that of “V + *le*” *ba*-sentences, followed by an additional prepositional phrase.

(15) V + quantified phrase

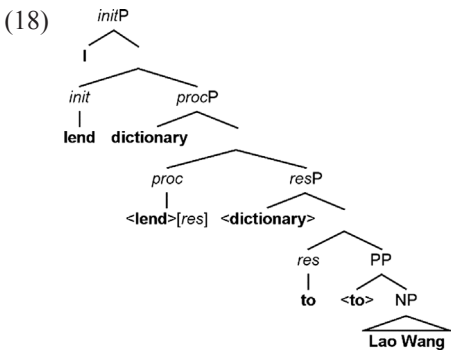
- a. Wo ba jiaozi zhu-le shi fengzhong.
 I ba dumplings boil-ASP ten minute

- b. Wo zhu-le shi fenzhong jiaozi.¹¹
 I boil-ASP ten minute dumplings
 ‘I boiled the dumplings for ten minutes.’



For other *ba*-constructions with PP complements, such as the double object construction, it could simply follow the structures proposed by Ramchand (2008: 102) for English:

- (17) V + PP (dative or locative)
- 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.’



¹¹ This sentence may also be expressed by a verb-copying way, namely:

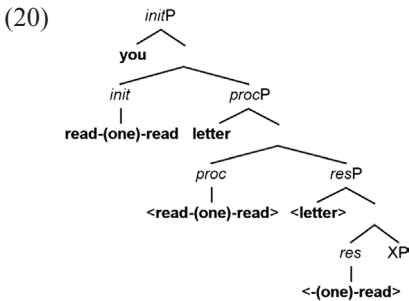
- (i) Wo zhu jiaozi zhu-le shi fenzhong.
 I boil dumplings boil-ASP ten minute
 ‘I boiled the dumplings for ten minutes.’

The verb “boil” is repeated twice to express both the direct object and the duration. It shares a formal likeness with the *ba*-construction, but the syntactic structure may be very different (see Paul 2002).

A particular construction in Chinese, which is compatible with *ba*, has the form “V + *yi* ‘one’ + V”, in which the same verb is duplicated. 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).

- (19) V + *yi* + V (the tentative construction)
- a. Qǐng ni ba xìn kàn-(yī)-kàn.
 please you *ba* letter read-one-read
- b. Qǐng ni kàn-(yī)-kàn xìn.
 please you read-one-read letter
 ‘Please read the letter (a little).’

From the English translation, it can be inferred that the event in (19) is modified by the particular construction from [-telic] to [+telic], delimited in a presupposed time unit. Based on this observation, it seems that the extra part following the verb merges in the *res* projection: the letter finishes at an abstract state of “being read a little”.



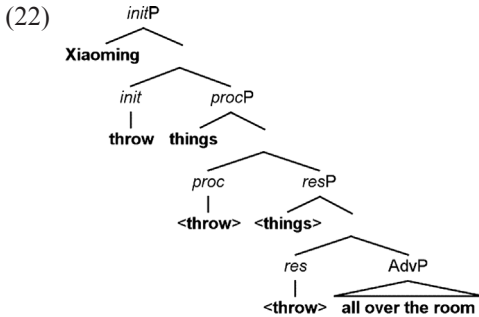
The last example is about a simple verb modified by a locative adverbial phrase.

- (21) Adv + V
- a. Xiaoming ba dongxi manwuzi reng.
 Xiaoming *ba* things whole.room throw
- b. Xiaoming manwuzi 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 class.¹² “All over the room” gives a final location of “things” due to the throwing action of the subject “Xiaoming”; thus, I assume that the

¹² 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.

verb licenses both a RESULTEE (“things”) and an adverbial phrase (“all over the room”).



2.3 Discussion of the event properties of *ba*-construction

From the syntactic representation of the event structures given in Section 2.2, we can identify some properties that are shared by these events.

First of all, these event structures are composed of three subeventual projections, i.e., *initP*, *procP* and *resP*. This analysis allows us to structurally represent the complexity of the semantics of the *ba*-construction, since the dynamic event includes both the initiative/causative subevent and the resultative one, which denotes the final state of the direct object, whether explicitly (with a predicative *res* head) or implicitly (with an aspect marker).

Furthermore, the *init* head and the *proc* head are always identical or at least partially congruent, while the *res* head is always different from them; the INITIATOR is always distinct from the RESULTEE. This relation between *initP* and *resP* excludes all the intransitive events and the transitive events without an affected direct object (e.g., psychological verbs).

In other words, this event-decomposition structure is able to reflect the grammatical descriptions of the *ba*-construction mentioned in Section 1. The event-decomposition method according to Ramchand (2008) better represents the event properties of the *ba*-construction in comparison to the traditional *vP* analyses. The projection of *ba* only attracts the RESULTEE to form the final *ba*-NP, while the INITIATOR (including a null argument) takes the position of the subject just as in other active-transitive events in Mandarin.

3. The syntactic position of *ba*: functional head of VoiceP

In the literature, there are diverse proposals about the syntactic structure of the *ba*-construction. Sybesma (1999) calls it “CAUSP” for the reason that *ba* is actually a causative marker; Huang et al. (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. The

particle *ba* could also be taken as follows: 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 Li 1990), and a verb, which differs from a typical verb but still shares several common properties (see Bender 2000) or a functional category element (see Zou 1993; Whitman and Paul 2005; Paul 2015). What is common in these analyses is that they all regard *ba* as a head in the structure. This paper takes the same standpoint, assuming that *ba* is the head of its projection and belongs to a functional category as proposed by Zou (1993), Whitman and Paul (2005), and Paul (2015).

In this section, I adopt the universal hierarchy of functional projections proposed by Cinque (1999, 2006) as the theoretical framework, according to which I show a word order test for the *ba*-construction, which suggests that *ba* is a functional head around the voice level. This syntactic analysis, which claims that *ba* is the head of VoiceP, can also get a semantic interpretation.

3.1 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 in the multiple specifiers of only one maximal projection. These AdvPs locate in various functional projections in a strict order and form a hierarchy of the corresponding functional heads, which is also a cross-linguistic phenomenon. 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.

Based on the above observations and examples from 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, and by testing the relative order of the adverbs, he proposes the following hierarchy:

- (23) [*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_{requestative(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_{requestative(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, while other verbs that also take infinite verbal phrase as complement cannot.¹³ These verbs constitute the group of restructuring verbs. When they co-occur, they present a fixed order just as the adverbs and other functional heads tested in Cinque (1999) do. For instance, in Italian, the verb *smettere* ‘stop’ cannot be preceded by *continuare* ‘continue’ (Cinque 2006: 84). 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:

- (24) Asp_{habitual} > Asp_{delayed (or ‘finally’)} > Asp_{prepositional} > 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, Cinque (1999, 2006) suggests that there exists a large functional area over the VP where different maximal functional projections follow a rigidly fixed hierarchy, which is present as a universal phenomenon across the languages. Each maximal functional projection is composed of 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 “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.

3.2 Hierarchy of Cinque (1999, 2006) and Chinese adverbs/functional heads

To test the position of *ba*, the first step is to approximate Chinese functional elements to the established and exemplified universal hierarchy of functional heads. For this reason, I gathered all the discussed functional elements in Italian and English, translated them into Chinese (if the counterparts exist) and then created Table 1. The order of the elements in the column of “Functional Projections” corresponds to that from the higher level to the lower level in Cinque’s (1999, 2006) hierarchy.

13 I will not go into details of the evidences offered by romance languages for this claim; for further materials, see Cinque (2006: Ch. 1).

Table 1 Hierarchy of functional projections¹⁴

	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>xingyun(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>	<i>solere</i> ‘use’	<i>xiguan</i>
11	Asp delayed (or “finally”)	finally		<i>finire</i> ‘finish’	
12	Asp predispositional			<i>tendere</i> ‘tend’	<i>qingxiang?</i>
13	Asp repetitive (I)	again	<i>you</i>	<i>tornare</i> ‘go/come back’	<i>fanfu?</i>
14	Asp frequentative (I)	often	<i>jingchang</i>		
15	Mod volitional	intentionally	<i>guyi</i>	<i>volere</i> ‘want’	<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> ¹⁵	<i>smettere</i> ‘stop’	<i>tingzhi</i>
19	Asp continuative	still	<i>rengran</i>	<i>continuare</i> ‘continue’	<i>jixu</i>

14 The validity of the hierarchy in Mandarin Chinese is already partially confirmed by Cinque (1999: 39–41). The adverbs in Mandarin not mentioned in his work can also be tested by their coordination in the same clause, but due to limits of space, I will not go into details. The question mark “?” is added when the word is ambiguous to be the candidate of the position. In Cinque’s (2006) work, the restructuring verbs are not tested with Mandarin Chinese, but according to this table, the functional heads in Mandarin Chinese mostly do follow the sequence. See the following sentence:

(i) You-xie shi ni xuyao xiguan fanfu changshi qu zuo.
 some thing you need get-used repeat try to do
 ‘For some thing, you need to get used to try to do it repeatedly.’

15 It could be suspicious because it is composed by a negator *bu* ‘not’ and an adverb *zai* ‘again’ and the two morphemes can be interrupted.

	Functional projections	Specifier (IT/EN)	Specifier (CH)	Head (IT/EN)	Head (CH)
20	Asp perfect	<i>sempre</i> 'always' ¹⁶	<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>yixiang</i>	<i>stare</i> 'be'	<i>zai</i>
25	Asp prospective	soon	<i>mashang</i>	<i>stare per</i> 'be going to'	<i>yao</i>
26	Asp inceptive			<i>cominciare</i> 'start'	<i>kaishi</i>
27	Mod obligation	obligatorily	<i>qiangzhi(de)</i>	<i>dovere</i> 'must'	<i>budebu</i>
28	Mod ability	clumsily		<i>potere</i> 'be able to'	<i>neng(gou)</i>
29	Asp frustrative/ success	successfully	<i>chenggong(de)</i>	<i>riuscire</i> 'manage'	<i>chenggong</i>
30	Mod permission			<i>potere</i> 'can'	<i>keyi</i>
31	Asp conative			<i>provare</i> 'try'	<i>changshi</i>
32	Asp SgCompletive (I)	completely	<i>wanquan</i>	<i>finire</i> 'finish'	
33	Asp PlCompletive	<i>tutto</i> 'all'	<i>dou?</i>		
34	Voice	well	<i>haohao</i>		
35	Asp celerative (II)	fast/early	<i>zao</i>		
36	Asp inceptive (II)			<i>iniziare</i> 'begin'	
37	Asp completive (II)	completely	<i>wanquan</i>		
38	Asp repetitive (II)	again	<i>you</i>	<i>tornare</i> 'go/ come back'	<i>fanfu?</i>
39	Asp frequentative (II)	often	<i>jingchang</i>		

16 For the relation between *sempre* 'always' and the perfective aspect, see Cinque (1999: 96).

3.3 Position test of *ba*

As mentioned before, this paper assumes that *ba* is a functional head like those proposed by Cinque (1999, 2006), and therefore, it should reside somewhere in the hierarchy. Its position in the hierarchy can be tested by making it co-occur with other functional words (both specifiers and heads) and then by changing the word order between the functional words to see the relative position of *ba* in comparison with those whose position is formerly fixed by Cinque.

Accordingly, the test consisted of 10 groups of *ba*-sentences in Chinese with the co-occurrence of *ba* and different functional elements. The grammaticality judgments came from two native speakers of Mandarin Chinese consulted separately. All the tested sentences have the same SVO basic sentence; only the functional area changes. The results are shown in Table 2,¹⁷ in which “H” stands for “head”; “S” stands for “specifier”, the number following them is the position in the hierarchy based on Table 1; “Ba” represents the combination of *ba* and *ba*-NP and the “>” sign means that the element on its left precedes that on its right.

Table 2 Test results¹⁸

Totally acceptable	Controversial	Unacceptable
H4>Ba	?*Ba>H4	*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		

¹⁷ For the testing sentences, see Appendix A.

¹⁸ As shown in Table 1, as far as I could figure out, there is no unambiguous functional head under Voice in Mandarin Chinese. The only case *fanfu* ‘repeat’ is doubted to be both adverb and verb. Even so, the test still holds when *fanfu* follows *ba*:

(i) Ta ba shu fanfu kan-le san bian.
 he ba book repeat/repeatedly read-le three time
 ‘He repeatedly read the book for three times.’

3.4 Discussion of the position test of *ba*

Owing to the absence of some adverbs/functional heads in Mandarin Chinese in the hierarchy, it would be difficult to examine all the possible combinations of functional elements. However, the results still show an interesting tendency for the position of *ba*. The totally acceptable cases are interpreted as unmarked word order, i.e., the natural hierarchical order of the functional elements. The controversial ones may be cases of derived order or pragmatically dubious, while the unacceptable sentences are regarded as ungrammatical. I assume that the other functional elements keep the same hierarchical relation as proposed by Cinque (1999, 2006). The following functional projection order is an approximation¹⁹ for the position of *ba* according to some of the results shown in Table 2:

- (25) Mod_{epistemic} > Mod_{possibility} > Asp_{repetitive(I)} > Mod_{volitional} > T(ANTERIOR) > Asp_{retrospective}
 > Asp_{prospective} > Asp_{frustrative/success} > Mod_{permission} > *BA > Asp_{conative} > ?BA > Voice
 (Spec.) > BA > Asp_{completive (II)} > Asp_{repetitive (II)}

The cluster *ba* + *ba*-NP naturally follows the specifier of VoiceP (no. 34 in Table 1). When it precedes the SpecVoice, the clause becomes controversial or even unacceptable. Combining the approximation in (25) and Table 1, the unmarked position of *ba* as a functional head resides around the following functional projections: voice, Asp_{celerative (II)} and Asp_{inceptive (II)}. Although the semantic description of the *ba*-construction varies according to different linguists, it is quite sure that *ba* is not relevant to the celerative or the inceptive aspect. The last candidate is therefore VoiceP. In the next paragraph, I show that the *ba*-construction is indeed related to the notion of voice.

3.5 *Ba*-construction and voice

Voice is often associated with the active/passive difference, but the notion is much broader than that. According to Crystal (2008: 515), voice “may alter the relationship between the subject and object of a verb, without changing the meaning of the sentence. The main distinction is between active and passive” and “there are several other types of construction whose role in language is related to that of voice, e.g. ‘reflexive’, causative, ‘impersonal’ constructions”.

In Section 2, I argued that a *ba*-event needs three subevents, among which the initiative-causative subevent and the resultative one are both projected in the structure at the same time. The subject of a *ba*-construction is the INITIATOR, while the *ba*-NP is the RESULTEE, which bears the final state. In other words, the event should be active and resultative at the same time, which also explains why the *ba*-construction can never be compatible with the passive *bei*-construction in Mandarin. Compared to a normal active clause, the subject does not change its

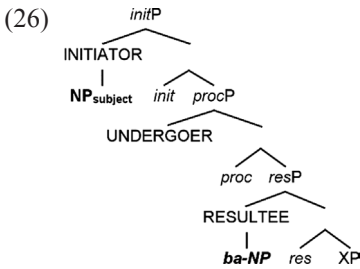
19 In the case where both the sequence “S9>S13/38>Ba” and “S9>Ba>S13/38” are totally acceptable to the informants, the repetitive adverb *you* ‘again’ is considered to have two positions as Cinque (1999) claims for English, with the higher one being S13 and the lower one being S38.

syntactic position and its high topicality, while the *ba*-NP is fronted to the left of the predicate and gets a pragmatic promotion, and as a consequence, the resultative subevent also becomes more salient. In this sense, the *ba*-construction can be seen as a realization of a marked active voice, which conveys a resultative semantic value by fronting the direct object (or the affected entity) with the pre-nominal marker *ba*.

To conclude, Section 3 argues that the *ba*-construction takes the head of VoiceP as a functional projection above *v*P and conveys the semantic value of resultative.

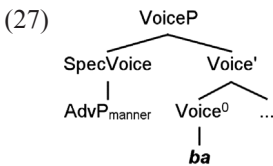
4. Entire structure of the *ba*-construction

The previous two sections discussed the syntactic structure of the *ba*-event and the functional area where the particle *ba* realizes. More specifically, in Section 2, I proposed that a *ba*-event has the following basic syntactic structure, which can substitute the traditional *v*P structure:



I argued that if an event can be used in the *ba*-construction, it must be both initiative (or causative) and resultative in its first-phase syntax, in terms of Ramchand (2008). The INITIATOR, who causes the event to happen, will be the subject, while the RESULTEE, who is the bearer of an explicit final state, will be the *ba*-NP preceded by *ba*.

In Section 3, I argued that the particle *ba* resides in the functional area. Based on the universal hierarchy of functional projections proposed by Cinque (1999), the position test of *ba* shows that it is a voice-like functional head that merges in Voice⁰ among the extended projections of V as other functional elements.



Now that we have seen where the functional elements sit, i.e., in the higher positions of the predicate structure, the combination of the initiative-resultative event structure and the VoiceP headed by *ba* may present us the whole syntactic picture of the *ba*-construction. However, the juxtaposition of the two structures is not enough to derive the right word order. The particle *ba* is not linked with its *ba*-NP, with the INITIATOR and the (compounding) verb in the middle. Actually, as we observed

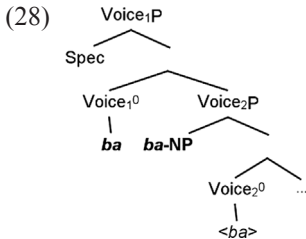
in Section 1, nothing can intervene between *ba* and *ba*-NP. A more fine-grained syntactic structure should be illustrated, as well as the related syntactic movements.

In the following discussion, I first propose a solution for this matter, by splitting the VoiceP in which the object marker *ba* first merges in the lower head and then raises to the higher one; then, I show the entire syntactic representation of a *ba*-construction, which unifies all the proposals made in the former sections.

4.1 Split VoiceP

Since *ba* encodes a resultative semantic value and it is not in conflict with the active voice, its VoiceP could be syntactically different from the canonical active/passive projection.²⁰ Suppose that there exist a lower VoiceP, named Voice₂P, which interprets the active/passive distinction and a higher one, named Voice₁P, which in this case conveys the resultative semantics. The particle *ba* would eventually reside in the head of Voice₁P to be the pronounced resultative-active marker. The manner adverb, which is claimed to be the specifier of VoiceP, remains in the higher projection, and the specifier of the lower one can hold the final *ba*-NP.

The particle *ba* can either merge in Voice₂P to get the active interpretation and then move to Voice₁P for the resultative feature or directly merge in the higher Voice₁P with the head of Voice₂P being silent.²¹



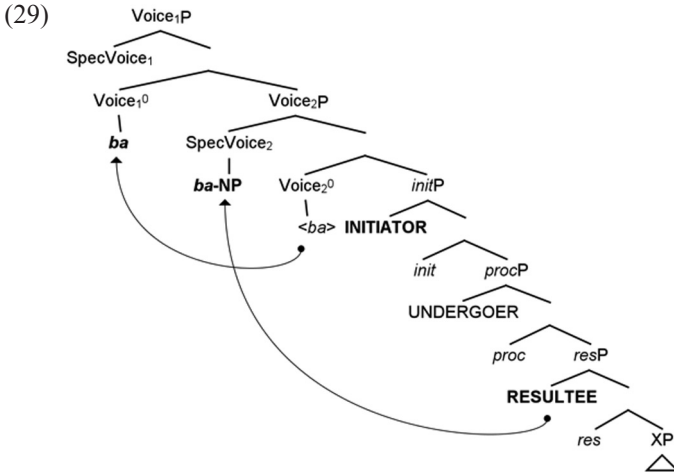
4.2 Syntactic representation of the *ba*-construction

Considering the former sections, one expects that *ba* would first merge at the head position of VoiceP, attracting the RESULTEE to the specifier, and then raise to the adjacent higher functional projection or *ba* as the head of VoiceP could be

20 Similar to Cinque (2017: 546–547) that mentions two separate perfect aspect projections.

21 One can draw a parallel between *ba* and the dative preposition “à” in French causatives, which is discussed by Kayne (2005). He proposes two methods to derive the clause *Jean a fait manger une tarte à Paul* ‘Jean has made eat a pie to Paul’ (Kayne 2005: 87). “à” either merges in the head position of functional projection immediately above the V and then raises to the higher head and attracts the indirect object to the specifier of the lower functional projection or it merges in the higher functional projection after the lower silent Agr-IO attracted the indirect object to its specifier. In this sense, the present Voice₂P can also be considered as an Agr-type projection in more traditional terms or as having an EPP feature in minimalist’s terms, which attracts the direct object or the affected object. However, I will leave this question open for a further discussion.

followed by another phonetically unrealized functional head.²² The INITIATOR, which becomes the subject of the clause, raises to a higher TP or CP position.



In (29),²³ the basic movements are illustrated by arrows. The particle *ba* merges as a head of VoiceP. It can either directly merge as the higher Voice₁⁰ or first merge at the lower Voice₂⁰ and then raise to Voice₁⁰, as discussed in Section 4.1. The RESULTEE is attracted to the SpecVoice₂, which is immediately below *ba*, to become the *ba*-NP.

In this way, the particle *ba* and the *ba*-NP form a constituent, which cannot be intervened by other elements. This analysis posits *ba* in the functional VoiceP as an extended projection outside the event structure (unlike e.g., Kuo [2010] who proposes that *ba* is a part of the *v*P), which allows more possibilities to do further derivations (e.g., the case discussed in footnote 19).

22 This derivation method allows *ba* and *ba*-NP to form a constituent. As suggested by an anonymous reviewer, the current analysis is able to represent the following derivation of the two variants (ia) and (ic), which have the same semantic meaning “he successfully finished reading the book” according to Kayne (2005):

- (i) a. He [successfully] [*ba* this-CL-book] read.finish-*le*
 b. He [successfully] [read.finish-*le*]_i [*ba* this-CL-book] _{t_i}
 c. He [[*ba* this-CL-book] _{t_i}]_i [successfully]_i [read.finish-*le*]_i _{t_i}

The reviewer also mentioned the sequence “he [successfully] [*ba* this-CL-book] [successfully] read.finish-*le*”, but the grammaticality is rather dubious. The two adverbs do not change the sentence meaning compared to (ia) and (ic), so it should not be a case of the same adverb with two different levels in the hierarchy of functional projections.

23 The INITIATOR and the raised RESULTEE in the structure seem to violate the Relativized Minimality principle. However, one can argue that the RESULTEE has at least one different feature compared to the INITIATOR (e.g., the RESULTEE is [+bounded] due to the bounded *ba*-event as argued by Liu [1997]), and it is a case of intersection that only creates a weak violation of the principle; see the discussion in Belletti et al. (2012).

5. Conclusions

This work introduces the event structure proposed by Ramchand (2008) and the hierarchy of functional projections proposed by Cinque (1999, 2006) to the argument of the *ba*-construction in Mandarin Chinese. The analyses under these viewpoints lead to the following conclusions:

- 1 The *ba*-construction always selects an event structure that contains three subevents, namely, an *initiation*, a *process* and a *result*. Thus, the *ba*-construction can be regarded as both “causative” and “resultative”.
- 2 The particle *ba* is a functional head that is located in a low position in the clausal structure, taking the head position of the projection of voice (under the hierarchy of functional projections proposed by Cinque [1999, 2006]).

Under this point of view, the semantics of the *ba*-construction is reflected in the syntactic structure. The event structure shows that the grammatical requirements of the *ba*-predicate are to satisfy the causative and resultative features of the event. The voice-reading of *ba* entails that the *ba*-construction conveys an active event with a high topicality on the direct object (without the demotion of the subject), which further gives rise to a resultative interpretation.

Furthermore, I propose that the VoiceP is 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 a silent voice head to encode the active value. This head then attracts the RESULTEE from the event structure to the specifier of Voice₂P, as shown in (29).

Acknowledgments

I would like to thank Linda Badan, Cecilia Poletto, Silvia Rossi, Emanuela Sanfelici and other colleagues at the University of Padua. I also benefited a lot from the audience of the 10th International Conference of the European Association of Chinese Linguistics (EACL-10) and the fifth edition of the *Study Days on Chinese Linguistics* promoted by the Italian Association of Chinese Linguistics (AILC). All remaining errors are mine.

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Appendix A

Table A1 is the collection of the sentences used for the location test and the result of their grammatical judgment, which is discussed in Section 2.3. The tested functional words are marked in italic format in the transcriptions. As mentioned earlier, all the sentences are variations of the same basic sentence (1)²⁴ with unmarked SVO word order.

Basic sentence:

- (1) ta ba dangao chi-diao-(le)
 he *ba* cake eat-finish-(*le*)
 ‘He finishes/finished the cake.’

²⁴ Note that here the verb *chi* ‘eat’ is modified by a morpheme *-diao* ‘finish’, which is not the same as in (2) of Section 1. This choice is made only to conciliate all test elements and the sentence meaning, because the judgement could fail when the sentence is meaningless.

Table A1 Sentences of the location test

Totally acceptable	Awkward/Controversial	Unacceptable
H4>Ba ta yinggai ba dangao chi-diao-le he should <i>ba</i> cake eat-finish- <i>le</i>	?*Ba>H4 ta ba dangao yinggai chi-diao-le he <i>ba</i> cake should eat-finish- <i>le</i>	*Ba>H15 ta ba dangao yuanyi chi-diao he <i>ba</i> cake be-willing eat-finish
H15>Ba ta yuanyi ba dangao chi-diao he be-willing <i>ba</i> cake eat-finish	?S4>Ba>S17 ta guji ba dangao yijing chi-diao-le he probably <i>ba</i> cake already eat-finish- <i>le</i>	*Ba>H30 ta ba dangao keyi chi-diao he <i>ba</i> cake can (permission) eat-finish
H30>Ba ta keyi ba dangao chi-diao he can (permission) <i>ba</i> cake eat-finish	?*S9>Ba>S25 ta keneng ba dangao mashang chi-diao he possibly <i>ba</i> cake soon eat-finish	*Ba>H31 ta ba dangao changshi chi-diao he <i>ba</i> cake try eat-finish
H31>Ba ta changshi ba dangao chi-diao he try <i>ba</i> cake eat-finish	?*S21>Ba>S29 ta ganggang ba dangao chenggong-de chi-diao-le he just <i>ba</i> cake successfully eat-finish- <i>le</i>	
S4>S17>Ba ta guji yijing ba dangao chi-diao-le he probably already <i>ba</i> cake eat-finish- <i>le</i>	?S29>Ba>S34 ta chenggong-de ba dangao haohao chi-diao-le he successfully <i>ba</i> cake well eat-finish- <i>le</i>	
S9>S25>Ba ta keneng mashang ba dangao chi-diao he possibly soon <i>ba</i> cake eat-finish	?S34>Ba>S29 ta haohao ba dangao chenggong-de chi-diao-le he well <i>ba</i> cake successfully eat-finish- <i>le</i>	
S21>S29>Ba ta ganggang chenggong-de ba dangao chi-diao-le he just successfully <i>ba</i> cake eat-finish- <i>le</i>	?H30>S32/37>Ba ta keyi wanquan ba dangao chi-diao he can completely <i>ba</i> cake eat-finish	

Totally acceptable	Awkward/Controversial	Unacceptable
S29>S34>Ba ta chenggong-de haohao ba dangao chi-diao-le he successfully well <i>ba</i> cake eat-finish- <i>le</i>	?Ba>H30>S32/37 ta ba dangao keyi wanquan chi-diao he <i>ba</i> cake can completely eat-finish	
S9>S13/38>Ba ta keneng you ba dangao chi-diao-le he possibly again <i>ba</i> cake eat-finish- <i>le</i>		
S9>Ba>S13/38 ta keneng ba dangao you chi-diao-le he possibly <i>ba</i> cake again eat-finish- <i>le</i>		
H30>Ba>S32/37 ta keyi ba dangao wanquan chi-diao he can <i>ba</i> cake completely eat-finish		

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 Received: May 30, 2018
 Accepted: November 22, 2018

製圖理論視角下的普通話“把字句”句法結構分析

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提要

文章以較新的理論框架從句法學角度對漢語普通話中的把字句進行了分析。利用 Ramchand (2008) 提出的事件分解方法，本文主張可以使用把字句的事件兼具致使性和結果性。處置標記“把”在文章中被看作是功能性中心語之一，位於 Cinque (1999, 2006) 提出的功能性投射層級中，詞序測試顯示其具體句法位置位於語態投射 VoiceP 的層次上。文章同時主張 VoiceP 應分裂成兩個投射，而把字句的最終語序則可通過賓語的論元移位和處置標記的中心語移位（或在更高一級的 VoiceP 中基礎生成）得出。

關鍵詞

把字句，處置式，製圖句法理論，功能性中心語