An existential-internal analysis of locative resultative constructions in Mandarin

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Abstract: This paper proposes a new analysis of locative resultative constructions in Mandarin. Unlike previous analyses (e.g. Mulder & Sybesma 1992; Sybesma 1999; etc), this paper found different patterns of the definiteness effect in locative resultative constructions: the locative double object construction, but not the locative dative construction, exhibits strict definiteness effects. Our observation suggests that there are two basic types of structures in Mandarin locative resultatives, one consisting of an existential small clause without the existential marker you 'to have'; the other consisting of an empty you. When you C-commands the theme DP as in the locative double object construction, there are strict definiteness effects, similar to existentials where you also C-commands the following DP. This proposed analysis can provide a systematic account for definite effects in locative resultative constructions and existentials in Mandarin.

1 Introduction

This paper investigates the derivation of locative resultative constructions in Mandarin Chinese. In Mandarin, a locative phrase can be involved in the result or part of the result that the matrix verb leads to, when appearing in the following five patterns: 1) the locative ba-construction, 2) the locative topicalization, 3) the locative double object construction, 4) the locative dative construction and 5) the preverbal-locative resultative construction. I refer to such result-denoting constructions consisting of the locative phrase as the *locative resultative construction*. The basic linear word orders of these constructions are illustrated respectively in (1a–e):

(1) a. $D_P^A + ba + D_P^T + V + zai + D_P^L$ [the locative ba-construction]
   b. $D_P^T + D_P^A + V + zai + D_P^L$ [the locative topicalization]
   c. $D_P^A + V (+zai) + D_P^L + D_P^T$ [the locative double object construction]
   d. $D_P^A + V + D_P^T + zai + D_P^L$ [the locative dative construction]
   e. $D_P^A + zai + D_P^L + V + D_P^T$ [the preverbal-locative resultative construction]

All constructions in (1) consist of three determiner phrases (DP, see Abney 1987; Longobardi 1994; Ritter 1991, 1995; etc). In the above constructions, subscripts have the following meanings: “$A$” means “agent”, “$T$” means “theme” and “$L$” means “location”. Except for the locative topical construction in (1b), all other four constructions start with an agent DP, followed by the theme and locative DPs. In (1a–e) all locative DPs are preceded directly by a preposition $zai$ ‘at’ that is a locative marker. Among all above constructions, only in the locative double object construction the preposition $zai$ ‘at’ can be omitted. Examples of the above locative resultative constructions are given in (2) respectively.

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Locative resultatives in Mandarin exhibit some interesting features. For example, the matrix verb *fang* ‘put’ in all sentences in (2) represents a type of verbs that are specifically associated with the change of locations of the theme DP as a result of a movement or placement event, and thus were given a particular name, i.e. locative verbs as in Huang (1987), or placement verbs as in Li & Thompson (1981), or *fangzi dongci* ‘placement verbs’ or *weiyi dongci* ‘movement verbs’ as in Zhu (1982); Lu & Shen (2004) and so forth. The last two terms are primarily accepted and used in the Chinese domestic literature. Verbs such as *fang* ‘put’, *bai* ‘arrange’, *gua* ‘hang’, etc, are all argued to be of this kind\(^1\). Moreover, all the constructions in (1a–e) can be interpreted in a similar way, i.e. there was an agent carrying out an event that led to a result that the theme DP was eventually at a certain location represented by the locative DP. So the sentences in (2) have similar result-denoting meanings: a putting event resulted in a change of location, i.e. *zhe-ben shu* ‘this book’ or *yi-ben shu* ‘a book’ was eventually on the table as a result. The only difference between (2a–b) and (2c–e) is that sentences in (2a–b) consist of a definite theme *zhe-ben shu*, whereas those in (2c–e) consist of an indefinite theme *yi-ben shu*.

According to an early distinction of nominal definiteness vs. indefiniteness by Stockwell et al. (1973), DPs can be grouped based upon their referential properties\(^2\).

<table>
<thead>
<tr>
<th>Table 1 Nominal definiteness vs. indefiniteness</th>
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<tr>
<td><strong>Definite</strong></td>
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<td><strong>Indefinite</strong></td>
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\(^1\) See Section 4, Table 2 for more examples of verbs that can occur in Chinese locative resultatives.

\(^2\) In the early literature, the term NP was widely used to describe nominal constructions. Here the term DP is used just to keep consistency throughout this paper.

As shown in Table 1, according to Stockwell et al., DPs can be classified into definite and indefinite DPs in terms of their differences in definiteness\(^3\), and specific DPs are different from non-specific DPs.

In English, definite DPs are usually proper names or nouns preceded by a definite determiner, e.g. definite articles, demonstratives or possessives; whereas indefinite DPs are usually nouns preceded by indefinite articles or numerals.

(3) a. Definite DPs: Mr. Landon/The lawyer/Our lawyer is very smart.
    b. Specific DP: Mr. Landon wants to marry a lawyer. (And she is very talkative.)
    c. Non-specific DP: Mr. Landon wants to marry a lawyer. (Can you introduce one to him?)

The distinction between specificity vs. non-specificity is often not easy to judge purely based on morphological or syntactic differences. But the distinction between definiteness and indefiniteness can often be made by observing morphological or syntactic features of the DP. For example, in Mandarin Chinese definite DPs are usually proper names, pronouns and nouns preceded by demonstratives (Li 1992; Tsai, 2001; Hsin 2002; etc) such as the DPs following the preposition ba in (4a–c).

(4) a. Zhangsan ba “Xiyouji” fang-zai zhuozi-shang.
    Zhangsan BA “Journey.to.the.West” put-at table-top
    ‘Zhangsan put *Journey to the West* on the table.’

b. Zhangsan ba ta/tamen fang-zai zhuozi-shang.
    Zhangsan BA it/they put-at table-top
    ‘Zhangsan put it/them on the table.’

c. Zhangsan ba zhe-ben shu fang-zai zhuozi-shang.
    Zhangsan BA this-CL book put-at table-top
    ‘Zhangsan put this book on the table.’

Unlike definite DPs, Chinese indefinite DPs are usually bare nouns or quantifier phrases (Li 1992; Tsai 2001; Hsin 2002, etc)\(^4\), as in (2c–e) for example: *yi-ben shu* ‘a book’ has a QP structure

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\(^3\) Stockwell et al.’s work represents an early version of the distinction between nominal definiteness and indefiniteness. According to Stockwell et al. (1973), DPs can be grouped based upon their properties on either definiteness or reference. To avoid confusion, only the former criterion is introduced here (see Stockwell et al. 1973, for more details about the classification based on the other criterion).

\(^4\) Bare nouns are not always indefinite; they can be definite or generic as well. For example, in the following sentences, the bare noun *pingguo* ‘apple’ could be definite (i.e. having a referent in the discourse) as in (iia) or indefinite (i.e. not having a referent in the discourse) as in (iib) or generic (i.e. referring to a kind or class of individuals instead of a specific (set of) individual(s)) as in (iic).

(i) a. Zhangsan chi-wan-le pingguo.
    Zhangsan eat-finish-LE apple
    ‘Zhangsan finished eating the apple.’
realized as a string of “numeral + classifier + noun”, expressing the exact amount of the book. In addition, indefinite estimates can also appear in postverbal DP positions of locative resultative constructions as illustrated in (5).

(5) a. ta fang-le/-guo yi-xie yuwen keben zai zhuozi-shang.
he put-ASP/-ASP some language textbook at table-up
‘He put some language textbooks on the table.’

b. ta fang-le/-guo zhuozi-shang xu-duo yuwen keben.
he put-ASP/-ASP table-up many language textbook
‘He put many language textbooks on the table.’

c. ta zai zhuozi-shang fang-le/-guo shu-bu-qing-de yuwen keben.
he at table-up put-ASP/-ASP count-not-clear-DE language textbook
‘He put innumerable language textbooks on the table.’

It is noticed in the literature that certain locative resultative constructions have the definiteness effect (henceforth DE, as in Safir 1982; Huang 1987; etc.)5. For example, Mulder & Sybesma (1992) and Sybesma (1999) argue that the locative dative construction exhibits the DE, in the sense that in the sentence in (6a), the theme DP must be indefinite, but not definite, as contrasted in (6b).

(6) a. ta fang yi-ben shu zai zhuozi-shang.
he put one-CL book at table-top
‘He put a book on the table.’

b. *ta fang zhe-ben shu zai zhuozi-shang.
he put this-CL book at table-top

However, it is not always true that the locative dative construction is incompatible with the definite theme DP. There are cases when definite theme DPs can be accommodated by locative datives. For example,

b. Zhangsan qu na pingguo le.
Zhangsan go pick apple LE
‘Zhangsan went to pick up an apple/apples.’

c. pingguo you pi
apple have skin
‘Apples have skin.’

5 A broader definition of the DE also considers specificity effects, i.e. sensitivity to nominal specificity vs. non-specificity, rather than only showing the dichotomy between sensitivities to definiteness and indefiniteness. However, it is hard to identify specificity effects based only on morphological hints. Moreover, the difference between sensitivities to specificity is not in the focus of this paper’s discussion.
(7a) ta (zuotian) fang-le/-guo na-ben shu zai zhuozi-shang.
    he (yesterday) put-ASP/-ASP that-CL book at table-up
    ‘He put that book on the table (yesterday).’

b. ta (mingtian) yao fang na-ben shu zai zhuozi-shang.
    he (tomorrow) will put that-CL book at table-up
    ‘He will put that book on the table (tomorrow).’

Example (7a) contains the aspectual marker le’guo, and (7b) contains a modal verb yao ‘will’. Both sentences are acceptable, regardless of whether there is a proper temporal phrase in the sentence. This suggests that the contrast in (6a–b) does not apply to all situations. Moreover, the contrast in (6a) and (6b) is the only definiteness effect observed by Mulder & Sybesma (1992) and Sybesma (1999). Little is known about whether other locative resultative constructions also exhibit the definiteness effect and what the similarities and differences are regarding behaviors of the DE between different locative resultative constructions.

In this paper, I explore the derivation of all above-mentioned locative resultative constructions and related definiteness effects exhibited in these constructions. I argue that previous works have certain limitations not only on the correct definiteness effect pattern, but also on the derivation of all locative resultative constructions. I will discuss derivational issues in detail in the next section. In Section 3, I will provide a description on the DE pattern in Chinese locative resultative constructions. In Section 4, the event features of locative resultative constructions in Mandarin will be discussed. I argue that locative resultative constructions are not limited to locative/placement verbs. It is the telic feature of the event structure, but not the feature of verbs per se, that leads to the resultative interpretation of Mandarin locative resultative constructions. In Section 5, I propose a new analysis of locative resultatives, following the event structure hypothesis, and show evidence supporting it. Section 6 discusses our findings and concludes this paper.

2 Previous studies and limitations

To account for the contrast in (6a–b), Mulder & Sybesma (1992) hypothesized that the correct underlying structure of (6a) should be as in (8b), rather than (8a) (Sybesma 1999 has a similar analysis). The major difference between (8a) and (8b) is that (8a) has the same components with (6a), whereas in (8b) there is an empty there in the postverbal small clause (SC).

(8) a. ta [fang [SC yi-ben shu [zai zhuozi-shang]]]
    he put one-CL book at table-top

b. ta [fang [SC yi-ben shu [Øthere [zai zhuozi-shang]]]]
    he put one-CL book at table-top

According to Mulder’s & Sybesma’s analysis, the empty there has to raise to incorporate with the matrix verb fang ‘put’, since there is no tense in the small clause and thus it cannot be licensed therein.6 Mulder & Sybesma argue that the “definiteness effect” they observed is caused by the

6 The evidence in their analysis for such a movement comes from sentences where the secondary predicate is overt as illustrated in (iia). For example, the structure of the sentence in (iia) is as shown in (iib).
property of there, primarily because in English there mostly collocates well with indefinite subjects as shown in (9).

(9) a. there came a/*the lawyer.
    b. there came a/*the lawyer into the court.

This analysis has several problems. First of all, it is not convincing to analyze there as a verb in (9a–b). But in the structure in (8b), the empty there has to be a verb to be placed in the predicate position in the postverbal small clause, a location that can typically not be taken up by a nominal element or expletive. If there is indeed a verb in the small clause in (8b), it must be analyzed as something different from the expletive there in (9). One then can cast doubt on whether two different items can share the same definiteness effect properties.

Second, there is little evidence to show that this empty there hypothesis can apply to other constructions in Chinese. Mulder & Sybesma did not define whether the empty there is just an operator or a certain type of empty categories. Without further explanation, it is not natural to just postulate an English word taking up a position in a Chinese sentence, even though it is empty.

Third, their analysis may encounter problems when deriving the locative double object construction. Take the sentence in (2c) for example. In (2c) the locative marker zai ‘at’ occurs after the matrix verb fang ‘put’. However, the structure in (8b) assumes that the predicate in the small clause can only be the empty there, but not zai. So being within the complement position, zai has no motivation to move out of the small clause.

This suggests that there is no way for zai to incorporate with the matrix verb fang, and thus no double object construction can be derived from the structure in (8b) as a result. On the other hand, if there is no there, we will get a structure as in (8a), but it is also not a good one: If there is no empty predicate in the small clause, zai ‘at’ is the only candidate of the small clause. Since the derivation in the small clause theory relies heavily on the small clause predicate, the small clause has to have a predicate. If zai is the predicate of the small clause, it has to raise to incorporate into

(ii) a. Xiaozhang ti-sheng ta wei zhuren.
    principal raise-rise he as director
    ‘The principal promoted him to the director.’

b. Xiaozhang [sc ti sheng] [vp Othere [pp zai zhuozi-shang]]
   principal raise he rise as director

Example (iib) shows that the SC head sheng ‘rise’ raises to incorporate into the matrix verb ti ‘raise’. Mulder & Sybesma (1992) argue that because the PP wei zhuren ‘as the director’ is the adjunct, wei ‘as’ cannot raise to matrix level. The same process applies also to the movement in (8b).
the matrix verb. Not only is this structure unable to explain the position of zai in locative datives, it also generates an ungrammatical sentence as in (11).

\[(11) \quad *ta \ fang-zai \ yi-ben \ shu \ zhuozi-shang. \]
\[\text{he put-at one-CL book table-top} \]

Moreover, as we see above in (7a–b), there are cases where locative datives can accommodate definite theme DPs. All this suggests that the distribution of DE in locative resultatives needs to be further looked into, before we analyze the structures of locative resultatives.

3 Distribution of the DE in locative resultatives

Mulder & Sybesma (1992) and Sybesma (1999) only consider the definiteness effect in locative dative constructions. However, evidence shows that a different DE pattern exists.

Firstly, the locative ba-construction and the locative topic construction cannot accommodate an indefinite non-specific theme DP (e.g. numeral + classifier + noun, “one-CL watch” as in (12a-b). In contrast, definite theme DPs (e.g. demonstrative + classifier + noun, “that-CL watch”) and the bare noun theme arguments (e.g. “watch”) can occur in the position after the preposition ba or in the sentence-initial position as illustrated in (13a) and (13b) respectively.

\[(12) \quad a. \ *ta \ ba \ yi-zhi \ shoubiao \ fang-zai-le \ zhuozi-shang. \]
\[\text{he BA one-CL watch put-at-ASP table-up} \]
\[\text{Intended: ‘He put a watch on the table.’} \]

\[b. \ *yi-zhi \ shoubiao \ ta \ fang-zai-le \ zhuozi-shang. \]
\[\text{one-CL watch he put-at-ASP table-up} \]
\[\text{Intended: ‘A watch, he put on the table.’} \]

\[(13) \quad a. \ ta \ ba \ (na-zhi) \ shoubiao \ fang-zai-le \ zhuozi-shang. \]
\[\text{he BA (that-CL) watch put-at-ASP table-up} \]
\[‘\text{He put that watch/watches on the table.’} \]

\[b. \ (na-zhi) \ shoubiao \ ta \ fang-zai-le \ zhuozi-shang. \]
\[\text{(that-CL) watch he put-at-ASP table-up} \]
\[‘\text{That watch/watches, he put on the table.’} \]

In (12a-b), the theme DP can be realized as a “numeral + classifier + noun” string, but it can only be interpreted as a specific DP. When the bare noun occurs as a theme, it can be specific or generic in both (13a) and (13b).

Secondly, the other three locative constructions are all able to accommodate an indefinite theme DP, as shown in (14a–c). However, certain variations exist regarding their compatibility with definite DPs. The locative double object construction can only accommodate an indefinite theme DP, but not a definite DP, as in (15a). In contrast, locative datives and preverbal-locative resultatives constructions can accommodate both indefinite and definite DPs as shown in (15b–c).

\[(14) \quad a. \ ta\ fang-zai-le \ zhuozi-shang \ yi-zhi \ shoubiao. \]
\[\text{he put-at-ASP table-up one-CL watch} \]
\[‘\text{He put a watch on the table.’} \]
b. ta fang-le yi-zhi shoubiao zai zhuozi-shang.
   he put-ASP one-CL watch at table-up
   ‘He put a watch on the table.’

c. ta zai zhuozi-shang fang-le yi-zhi shoubiao.
   he at table-up put-ASP one-CL watch
   ‘He put a watch on the table.’

(15) a. *ta fang-zai-le zhuozi-shang (na-zhi) shoubiao.
   he put-at-ASP table-up (that-CL) watch
   Intended: ‘He put watches/that watch on the table.’

b. ta fang-le (na-zhi) shoubiao zai zhuozi-shang.
   he put-ASP (that-CL) watch at table-up
   ‘He put watches/that watch on the table.’

c. ta zai zhuozi-shang fang-le (na-zhi) shoubiao.
   he at table-up put-ASP (that-CL) watch
   ‘He put watches/that watch on the table.’

Sentences in (15a–c) suggest that the postverbal theme argument in the locative double object construction cannot be definite or be a bare noun, but the locative dative construction and the preverbal-locative resultative construction do not have such a constraint. The above DE properties are summarized as follows.

(16) In Mandarin locative resultative constructions, a) the locative ba-construction and the locative topic construction cannot accommodate an indefinite non-specific theme DP; b) the locative double object construction can only accommodate an indefinite theme DP that is overtly marked with a numeral and a classifier; c) there is no strict definiteness effect in locative dative constructions and preverbal-locative resultatives.

The contrast between the situations described in (16b) and (16c) is crucial – it suggests that there are differences between three similar locative resultative constructions though they all have similar interpretations of change of locations. The above rules in (16) not only apply to simple declarative main clauses, but also apply to complex sentential conditions. The following sets of data represent our examination on a variety of sentence formats with the locative resultative constructions occurring therein, i.e. adjunct clauses (17a–b; 18a–b; 19a–b), contrastive sentences/contexts (17c; 18c; 19c) and question forms (A-not-A questions in (17d; 18d; 19d); yes-or-no questions in (17e; 18e; 19e)), etc. In all circumstances we tested, the strict definiteness effect as described in (16b) is consistent in the locative double object construction as shown in (19), but not in the locative dative construction or the preverbal-locative resultative construction under the same conditions as in (17) and (18) respectively.

(17) a. zicong ta fang (zhe-ben) shu zai zhuozi-shang yihou, …
    since he put (this-CL) book at table-up after
    ‘After he started putting books/this book on the table, …’
b. ni zhiyou fang (zhe-ben) shu zai zhuozi-shang, …
you only.if put (this-CL) book at table-up
‘Only if you put books/this book on the table, …’

c. ni yinggai fang (zhe-ben) shu zai zhuozi-shang,
you should put (this-CL) book at table-up
   er bu-shi zai di-shang.
   but not-be at floor-up
‘You should put books/this book on the table, not the ground.’

d. ni gangcai you-mei-you fang (zhe-ben) shu zai zhuozi-shang?
you just.now have-not-have put (this-CL) book at table-up
‘Did you put books/this book on the table just now?’

e. ni yao fang (zhe-ben) shu zai zhuozi-shang ma?
you want put (this-CL) book at table-up PART
‘Do you want to put books/this book on the table?’

(18) a. zicong ta zai zhuozi-shang fang (zhe-ben) shu yihou, …
since he at table-up put (this-CL) book after
‘After he started putting books/this book on the table, …’

b. ni zhiyou zai zhuozi-shang fang (zhe-ben) shu,
you only.if at table-up put (this-CL) book
‘Only if you put books/this book on the table, …’

c. ni yinggai zai zhuozi-shang fang (zhe-ben) shu,
you should at table-up put (this-CL) book
   er bu-shi zai di-shang.
   but not-be at floor-up
‘You should put books/this book on the table, not the ground.’

d. ni gangcai you-mei-you zai zhuozi-shang fang (zhe-ben) shu?
you just.now have-not-have at table-up put book (this-CL) book
‘Did you put books/this book on the table just now?’

e. ni yao zai zhuozi-shang fang (zhe-ben) shu ma?
you want at table-up put (this-CL) book PART
‘Do you want to put books/this book on the table?’

(19) a. *zicong ta fang-zai zhuozi-shang (zhe-ben) shu yihou, …
since he put-at table-up (this-CL) book after
   Intended: ‘After he started putting books/this book on the table, …’

b. *ni zhiyou fang-zai zhuozi-shang (zhe-ben) shu,
you only.if put-at table-up (this-CL) book
   Intended: ‘Only if you put books/this book on the table, …’
c. *ni yinggai fang-zai zhuozi-shang (zhe-ben) shu,
you should put-at table-up (this-CL) book
   but not-be at floor-up
Intended: ‘You should put books/this book on the table, not the ground.’

d. *ni gangcai you-me-you fang-zai zhuozi-shang (zhe-ben) shu?
you just-now have-not-have put-at table-up (this-CL) book
Intended: ‘Did you put books/this book on the table just now?’

e. *ni yao fang-zai zhuozi-shang (zhe-ben) shu ma?
you want put-at table-up (this-CL) book PART
Intended: ‘Do you want to put books/this book on the table?’

As we can see in the above examples, it is OK for the bare noun shu ‘book’ and the definite DP zhe-ben shu ‘this book’ to occur in both locative datives and preverbal-locative resultatives across all conditions, but not OK to occur in locative double object constructions.

To sum up, even though the sentences the locative double object construction, the locative dative construction and the preverbal-locative resultative construction can have the same meaning as in (2c-e), they differ regarding their sensitivity to nominal definiteness. The locative double object construction in Mandarin exhibits definiteness effects—the theme DP must be indefinite and must be overtly marked with a numeral and a classifier. Not only is this true for single declarative sentences, but it is also true when it occurs in complex clauses and questions. In contrast, there is no strict definiteness effect in the locative dative construction and the preverbal-locative resultative construction.

4 Two-place predicates in locative resultative constructions

The minimal contrasts as we see above have not received enough attention in the literature, as in, for instance, Lu & Shen (2004) who fail to observe the contrasts (see Section 5 for discussion of their observations). Moreover, the verbs that can construct locative resultatives are not limited to the so-called placement verbs or locative verbs. A traditional point of view will exclude typical two-place predicates, such as xie ‘write’, hua ‘draw’, etc, from the category of placement verbs or locative verbs, since they do not have a default denotation of change of locations. Therefore different from typical placement verbs such as fang ‘put’, they are not necessarily associated with a locative argument. This is different from locative verbs like fang that cannot be used without a locative DP.

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7 The verb fang ‘put’ in (2a–e) is a three-place predicate unless it is used with directional verbs such as shang-lai ‘upward’, xia-qu ‘downward’, etc. The matrix verbs in the following sentences have different meanings from the three-place predicate fang, and thus should be treated as different words.

(iii) a. tian re le, baozi fang yi-tian jiu huai-le.
    weather hot LE, dumpling keep one-day then broken-LE
    ‘The weather is hot; the dumpling became rotten after being stored for a day.’
(20) a. ta zuotian xie-le (yi-feng) xin.  
   he yesterday write-LE (one-CL) letter  
   ‘He wrote a letter yesterday.’

b. *ta zuotian fang-le (yi-ben) shu  
   he yesterday put-LE (one-CL) book

Although typical two-place predicates such as xie ‘write’ do not have a default locative interpretation, we do observe that it can behave like placement verbs such as fang ‘put’ or bai ‘place’. The following set of data suggests that it can also be used in all aforementioned locative resultative constructions in (1a–e) when a location DP occurs therein; cf. (2a–e).

(21) a. ta ba zhe-ge zi xie-zai-le zuozi-shang.  
   he BA this-CL word write-at-LE table-up  
   ‘He wrote this word on the table.’

b. zhe-ge zi ta xie-zai-le zuozi-shang.  
   this-CL word he write-at-LE table-up  
   ‘This word, he wrote on the table.’

c. ta xie-zai-le zuozi-shang yi-ge zi.  
   he write-at-LE table-up one-CL word  
   ‘He wrote a word on the table.’

d. ta xie-le yi-ge zi zai zuozi-shang.  
   he write-LE one-CL word at table-up  
   ‘He wrote a word on the table.’

e. ta zai zuozi-shang xie-le yi-ge zi.  
   he at table-up write-LE one-CL word  
   ‘He wrote a word on the table.’

Moreover, similar to the DE patterns in different locative resultatives with fang ‘put’ as the matrix verb, locative resultatives consisting of xie ‘write’ exhibit similar DE patterns. The locative dative construction and the preverbal-locative resultative construction are compatible with postverbal bare nouns and definite theme DPs when used in adjunct clauses (e.g. 22a–b; 23a–b), contrastive contexts (e.g. 22c; 23c) or questions (e.g. 22d–e; 23d–e), but the locative double object construction is not in any circumstance as shown in (24a–e).

In (iiia) fang means to keep or to store. In (iiib) it means to add. Unlike these two usages, the locative verb fang has to do with the change of locations of the theme argument.
(22)  a. ta (zhiyou) xie (zhe-xie) zi zai zhuozi-shang
    he (only.if) write (this-CL) word at table-up
    cai neng kan-jian.
    only be.able look-see
    ‘Only if he writes words/this word on the table he can see them.’

    b. ta yinwei xie (zhe-xie) zi zai zhuozi-shang bei ma-le yi-dun.
    he because write (this-CL) word at table-up BEI scold-LE one-CL
    ‘He was blamed because of writing words/these words on the table.’

    c. ta yinggai xie (zhe-xie) zi zai zhi-shang,
    he should write (this-CL) word at paper-up
    er bu shi zai zhuozi-shang.
    but not be at table-up
    ‘He should write words/these words on the paper, but not on the table.’

    d. ta gangcai you-mei-you xie (zhe-xie) zi zai zhuozi-shang?
    he just.now have-not-have write (this-CL) word at table-up
    ‘Did he write words/these words on the table just now?’

    e. ta gangcai xie (zhe-xie) zi zai zhuozi-shang le ma?
    he just.now write (this-CL) word at table-up LE PART
    ‘Did he write words/these words on the table just now?’

(23)  a. ta (zhiyou) zai zhuozi-shang xie (zhe-xie) zi cai neng kan-jian.
    he (only.if) at table-up write (this-CL) word only be.able look-see
    ‘Only if he write words/this word on the table you can see them.’

    b. ta yinwei zai zhuozi-shang xie (zhe-xie) zi bei ma-le yi-dun.
    he because at table-up write (this-CL) word BEI scold-LE one-CL
    ‘He was blamed because of writing words/these words on the table.’

    c. ta yinggai zai zhi-shang xie (zhe-xie) zi,
    he should at paper-up write (this-CL) word
    er bu shi zai zhuozi-shang.
    but not be at table-up
    ‘He should write words/these words on the paper, but not on the table.’

    d. ta gangcai you-mei-you zai zhuozi-shang xie (zhe-xie) zi?
    he just.now have-not-have at table-up write (this-CL) word
    ‘Did he write words/these words on the table just now?’

    e. ta gangcai zai zhuozi-shang xie (zhe-xie) zi le ma?
    he just.now at table-up write (this-CL) word LE PART
    ‘Did he write words/these words on the table just now?’
   he (only.if) write-at table-up (this-CL) word only be.able look-see
   Intended: ‘Only if he writes this word on the table you can see them.’

      he because write-at table-up (this-CL) word BEI scold-LE one-CL.
      Intended: ‘He was blamed because of writing words/these words on the table.’

   c. *ta yinggai xie-zai zhi-shang (zhe-xie) zi,
      he should write-at paper-up (this-CL) word
      er bu shi zai zhuozi-shang.
      but not be at table-up
      Intended: ‘He should write words/these words on the paper, but not on the table.’

   d. *ta gangcai you-mei-you xie-zai zhuozi-shang (zhe-xie) zi?
      *he just.now have-not-have write-at table-up (this-CL) word
      Intended: ‘Did he write words/these words on the table just now?’

   e. *ta gangcai xie-zai zhuozi-shang (zhe-xie) zi le ma?
      he just.now write-at table-up (this-CL) word LE PART
      Intended: ‘Did he write words/these words on the table just now?’

The above data suggest that the definiteness effects found in locative resultatives in Mandarin are not only restricted to three-place predicates such as the placement verbs illustrated in Section 1. Our analysis should in general be able to accommodate verbs that can appear in the locative resultative constructions. Table 2 lists some of them.

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Verbs exhibiting similar DE properties in Mandarin locative resultatives</th>
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Verbs listed in Table 2 all have similar definiteness-effect patterns when occurring in Mandarin locative resultative constructions. This paper is thus to seek a systematic way to account for DES in all aforementioned locative resultatives. Moreover, there are certain aspectual constraints in Mandarin locative resultatives: perfective markers le and guo that indicate accomplishment or achievement of events are compatible with all locative resultatives as we can see in sentences in (2a–e) and also in some other examples in previous sections (e.g. 5a–c, 7a, and so forth). In contrast, the progressive marker zhe is not compatible with locative resultatives.

      he BA this-CL book put(-at)-ZHE table-up
      Intended: ‘He is putting those books on the table.’
b. *zhe-xie shu ta fang(-zai)-zhe zhuozi-shang.
   this-CL book he put(-at)-ZHE table-up
   Intended: ‘Those books, he is putting on the table.’

c. *ta fang(-zai)-zhe zhuozi-shang yi-xie shu.
   he put-at-ZHE table-up one-CL book
   Intended: ‘He is putting some books on the table.’

d. *ta fang-zhe yi-xie shu zai zhuozi-shang.
   he put-ZHE one-CL book at table-up
   Intended: ‘He is putting some books on the table.’

e. *ta zai zhuozi-shang fang-zhe yi-xie shu.\(^8\)
   he at table-up put-ZHE one-CL book
   Intended: ‘He is putting some books on the table.’

The sentences in (25a–e) show that none of the aforementioned locative resultative constructions can accommodate zhe, no matter whether the preposition zai ‘at’ occurs or not. This fact that the omission of zai does not influence the grammaticality of sentences in (25a–c) suggests that the ungrammaticality of these sentences may not be due to syllabic influences. It is argued in the literature, e.g. in Lin (2002), and many others, that zhe is compatible with atelic events, meaning that sentences containing zhe may only have a static or activity reading, which is a type of events different from accomplishment and achievement (i.e. telic events) that are usually the interpretation of locative resultatives. Therefore, the above set of data suggests that Mandarin locative resultatives all have a same accomplishment or achievement interpretation regarding the event type they represent, instead of having the static or activity interpretation. In this sense, all sentences in (2a–e) can be interpreted in a similar way: there was a putting action that leads to a result, being that there was a book on the table. The accommodation of non-placement two-place predicates in locative resultatives suggests that verb subcategorization does not play a strong role in the derivation of locative resultatives in Mandarin. The telic event type results in the interpretation of locative resultatives and gives rise to their corresponding derivations.

5 Derivation of locative resultatives

In this paper, I adopt the event structure hypothesis (Hale & Keyser 1993; Harley 1996; and subsequent work), treating resultatives as syntactically deconstructed into multiple layers in the tree structure to represent the components of events, i.e. a \textsc{causep} introducing the initiator of an event, a \textsc{xp} which is realized as a small clause (SC) introducing the delimitation of an event (i.e. the resultative state that the activity leads to) and a \textsc{becomep} connecting these two projections, letting the \textsc{causep} head take the \textsc{becomep} as complement and the \textsc{becomep} head take the \textsc{xp} as complement. Therefore, the sentence in (26a) should have a structure as in (26b).

\(^8\) Example (25e) can have a static/stative interpretation, i.e. \textit{he has/keeps some books on the table}, when the matrix verb \textit{fang} means \textit{to keep} or \textit{to store}, similar to (iiia) in Footnote 7. However, it can never have a progressive interpretation when \textit{fang} is an action verb meaning \textit{to put}. 
(26)  a. Joe faded the cloth gray.
    
    b. Joe [\textsc{causep} faded \[\textsc{become} the cloth, \textsc{become} \[\textsc{xp/sc} t_{t/\text{pro}}, \text{gray}] 

According to the event-structure hypothesis, the event structure of resultatives, i.e. being an accomplishment or achievement type of event, can be realized in syntax as a verb taking a postverbal functional projection as its complement (Kayne 1985; Carrier & Randall 1992; Levin & Rappaport Hovav 1994; Stowell 2001; etc), and this functional projection is a small clause. The core assumption of this small clause approach is that the matrix verb in resultatives always expresses a telic activity with an open end, which means that there is no built-in endpoint for the verb itself. The functional small clause expresses such an endpoint as delimitation of the telic event and renders a result-denoting reading. A small clause does not have tense features and this is why it is small, unlike a full clause that has a tense-projection.

Accordingly, in (26b) the \textsc{causep}, \textsc{becomep} and \textsc{xp/sc} represent three subsequent sub-events: 1) Joe did some activity, 2) the cloth was affected by this activity and had some change and 3) the cloth came to be in some state, i.e. being gray. These three components construct a complete event. Like their English counterparts, the resultative interpretations of Mandarin locative resultatives can also be explained as telic events, as we discussed in the previous section.

Interestingly, similar to the DE found in locative resultatives, Mandarin existentials also have definiteness effects: when the existential marker you `to have’ appears at the sentence-initial position in simple declarative sentences, the subsequent DP has to be indefinite and is very unnatural to be realized as a bare noun form.

(27)  a. you yi-ben shu zai zhuozi-shang.
        have one-\textsc{cl} book at table-up
   ‘There are two/some books on the table’

    b. *you na-ben shu zai zhuozi-shang.
        have that-\textsc{cl} book at table-up

    c. ??you shu zai zhuozi-shang.
        have book at table-up

The locative phrase in Mandarin existentials, e.g. the locative DP or the locative PP, can be moved to the sentence initial position as shown in (28a) and (29a). The structures of (28a) and (29a) are shown in (28b) and (29b) respectively.

(28)  a. zhuozi-shang you yi-ben shu zai.
        table-up have one-\textsc{cl} book at
   ‘On the table there are two books.’

    b. table-up, [have one-\textsc{cl} book at table-up.]

(29)  a. zai zhuozi-shang you yi-ben shu.
        at table-up have one-\textsc{cl} book
   ‘On the table there are two books.’

    b. at table-up, [have one-\textsc{cl} book at table-up.]
I argue that the above two types of movement can also happen during the derivation of Mandarin locative resultatives. I argue that there are only two basic types of structures of locative resultatives, both consisting of an existential small clause (SC). One type of structures does not contain the existential marker you ‘to have’ as shown in (30a–b), but the other contains an empty you as shown in (31a–b). When you does not occur as in (30), the specificity feature of the theme DP is required by ba or topicalization and the locative ba-construction and the locative topic construction are derived from the structures in (30a–b) respectively.

(30) [No you; Only the specific or bare noun theme DP]

a. Initiator \([_{\text{CAUSEP}} \text{CAUSE} \Bell_{\text{BECOME}} \ldots \text{V-}\text{at}\text{i} \text{DP} \text{L \ [\text{SC } \text{DP}_x \ [\text{XP } \text{at} \text{i } \text{DP} \text{L}]的一切]}]}\]

b. DP\text{T} Initiator \([_{\text{CAUSEP}} \text{CAUSE} \Bell_{\text{BECOME}} \ldots \text{V-}\text{at}\text{i} \text{DP} \text{L \ [\text{SC } \text{DP}_x \ [\text{XP } \text{at} \text{i } \text{DP} \text{L}]的一切]}]}\]

As shown in (30a–b), zai ‘at’ raises to incorporate with the matrix verb since the small clause does not have tense and thus as the predicate of the small clause, it cannot be licensed in its original position. Meanwhile, since the small clause is not a fully-fledged sentence, there is no IP or TP in it, and thus the theme DP as the subject of the SC has to move out of the SC to get Case. If the preposition ba is in the sentence it can move to the position after ba to be assigned Case and this generates the locative ba-construction, as in (30a). If the theme DP moves to the sentence initial position when there is no ba in the sentence, it will result in the locative topic construction, as in (30b).

The other type of structures has to do with the other three constructions. They all contain the existential marker you ‘to have’, but the derivations of these constructions slightly differ. When you underlyingly C-commands the theme DP (DP\text{T}) as shown in (31), there are strict definiteness effects, as found similarly in existentials where you also C-commands the following DP as in (27). Example (31) generates the locative double object construction. On the other hand, when you does not underlyingly C-command the theme DP as shown in (31b), there is no strict definiteness effect. Example (32a–b) generates the locative dative construction and the preverbal locative resultative construction respectively.

(31) [you underlyingly C-commanding the DP\text{T}; only the indefinite DP\text{L}]

Initiator \([_{\text{CAUSEP}} \text{CAUSE} \Bell_{\text{BECOME}} \ldots \text{V-}\text{O}\text{you-}\text{at}\text{i} \text{DP} \text{L \ [\text{SC } \text{O}_{\text{you-}}\text{at}\text{i} \text{DP} \text{T \ [\text{XP } \text{at} \text{i } \text{DP} \text{L}]的一切]}]}\]

(32) [you not underlyingly C-commanding the DP\text{T}; no strict DE]

a. Initiator \([_{\text{CAUSEP}} \text{CAUSE} \Bell_{\text{BECOME}} \ldots \text{V-}\text{O}\text{you} \text{DP} \text{T \ [\text{SC } \text{DP}_x \ [\text{XP } \text{O}_{\text{you}} \ [\text{PP at } \text{DP} \text{L}]的一切]}]}\]

b. Initiator at DP\text{L} \([_{\text{CAUSEP}} \text{CAUSE} \Bell_{\text{BECOME}} \ldots \text{V-}\text{O}\text{you} \text{DP} \text{T \ [\text{SC } \text{DP}_x \ [\text{XP } \text{O}_{\text{you}} \ [\text{PP at } \text{DP} \text{L}]的一切]}]}\]

In (31) zai ‘at’ raises to incorporate with the empty you first for the same reason sated above, and then they raise to incorporate with the matrix verb. The movement found in existentials as in (28b) supports the movement of the locative DP to the position before you in (31). This generates the locative double object construction. In (32) zai is not the predicate of the SC, so only you raises to incorporate with the matrix verb. If the locative PP (“at DP\text{L}”) does not move, it leads to the locative dative construction as in (32a); if the locative PP moves to the position after the initiator or to the sentence initial position, it will form the preverbal locative resultative construction. The movement in (29b) supports the raising movement of the locative PP in (32b).
The above-proposed analysis can help explain the ambiguity of the following sentence consisting of a non-locative verb.

(33) ta zai huoche-shang xie-le zi.
    he at train-up write-LE word
    ‘He wrote a word on the train.’

i. he was on the train, while the word he wrote was not.
ii. the word he wrote was on the train, while he was not.
iii. he and the word he wrote were both on the train. (Example from Lu & Shen 2004)

In the sentence in (33), either ta ‘he’ or zi ‘word’ or both entities can be on the train. Although this fact was discovered by Lu & Shen (2004), they yet fail to propose an account for it. I argue that the ambiguity involved in this sentence is caused by the dichotomy of structures of non-resultatives vs. resultatives. A more transparent contrast can be seen in locative intransitive constructions as illustrated below.

(34) a. Zhangsan zai niu-bei-shang tiao.
    Zhangsan at bull-back-up jump
    ‘Zhangsan is jumping on the back of the bull.’

    Zhangsan jump-at bull-back-up
    ‘Zhangsan jump onto the back of the bull.’

The different word orders in (34a–b) lead to different interpretations. The locative phrase in (34b) has a resultative interpretation, denoting the ending location or the direction of the action, i.e. the matrix verb tiao ‘jump’ leading to a result that Zhangsan is on the back of the bull. The locative phrase in (34a), on the other hand, does not have such a result interpretation and thus can only mean the location where the action takes place, i.e. Zhangsan being jumping on the back of the bull. The structures of (34a–b) are given in (35a–b) respectively in a simplified way.

(35) a. Zhangsan [vp zai niu-bei-shang tiao]
    Zhangsan at bull-back-up jump

b. Zhangsan [vp tiao [sc xp pro, zai niu-bei-shang]]
    Zhangsan jump at bull-back-up

The structure in (35a) shows how a prepositional phrase in a non-resultative construction, i.e. zai niu-bei-shang ‘on the back of the bull’ in this case, can be base-generated, unlike the resultative constructions. Note that in (35a) there is no resultative small clause after the matrix verb. Thus, the preposition zai ‘at’ does not move to incorporate with the matrix verb tiao ‘jump’.

Similarly, I argue that there are two types of possible structures for the sentence in (33), one consisting of a base-generated prepositional phrase as subject predication (ex. 36a) whereas the other consisting a raised prepositional phrase from within the postverbal small clause as object predication (ex. 36b), illustrated in the following simplified structures.
(36) a. he [at train-up [vp write word]]

b. he at train-up, [causep cause

[becomp ...write-Ø you word [sc word [xp Ø [pp at train-up]]]]]

In (36a) the prepositional phrase zai huoche-shang ‘on the train’ is base-generated at a position higher than the matrix verb. The prepositional phrase does not bear any causative or resultative meaning and it can only refer to the location of the subject during the event – it is not part of the result and thus the sentence does not have a resultative event structure. On the other hand, the prepositional phrase in (36b) is moved out of the postverbal small clause to the preverbal position and thus still carries the causative/resultative meaning through the chain. It refers to the direction of the movement of the theme DP zi ‘word’ and is part of the result of the telic event that the structure in (36b) indicates. The distinct structures behind the identical representations at the surface level thus lead to ambiguity involved in the sentence in (33).

6 Concluding remarks

In this paper, I show that Mandarin locative resultative constructions exhibit a pattern of definiteness effects. One of the findings important to our analysis is that unlike what is found in previous works, evidence shows that the locative double object construction exhibits definiteness effects but there is no strict definiteness effect in the locative dative construction or the preverbal-locative resultative construction. Following the small clause hypothesis, I argue that there are only two basic types of structures in locative resultatives. The locative double object construction, the locative dative construction and the preverbal-locative resultative construction have the existential marker you ‘to have’ as an empty predicate of the postverbal small clause. In the locative double object construction you C-commands the theme DP, similar to existentials where you also C-commends the DP after it, resulting in strict definiteness effects. In the locative dative construction and the preverbal-locative resultative construction, you does not C-command the theme DP, and thus there is no strict definiteness effect. On the other hand, the locative ba-construction and the locative topic construction do not contain the empty you. This study suggests a systematic way to account for definite effects in locative resultatives and existentials in Mandarin Chinese.

References


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