

The syntax of the Chinese excessive resultative construction

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This paper offers an affectedness-based analysis of the Chinese excessive resultative construction, which typically describes events of affectedness consisting of two participants, a theme participant and a scale participant measuring the degree of affectedness. In such an event, the theme participant is created or affected according to a beforehand prescribed value (e_1) on a scale, while the process of the event results in an actual value (e_2) on the same scale. The realized value may or may not be identical to the prescribed value. When the two values do not coincide ($e_2 > e_1$), the ‘more than expected’ excessive resultative interpretation arises. This analysis crucially hinges upon the assumption that there is a covert comparison between two values on the same scale. If such a comparison cannot be established within a resultative construction, the excessive meaning will not arise.

Keywords: affectedness, resultative, excessive, comparison

1. Introduction

Back in 1990, Lu (1990) observed that there is a special type of resultative construction in Mandarin Chinese, which is different from other types of Chinese resultatives in both form and meaning. The following illustrative examples are given in Lu (1990).

- | | | | | |
|--------|---|---------|-------|-----|
| (1) a. | qiang | qi | ai | le. |
| | wall | build | low | PFT |
| | ‘The wall was built lower than expected. | | | |
| b. | zhaopian | fang | xiao | le. |
| | photo | enlarge | small | PFT |
| | ‘The photo was enlarged less than expected. | | | |

They are special in three ways. First, the subject must be the patient of the verb, and the predicate is invariably in the form of a bare verb plus a bare adjective. Secondly, the sentence final perfective aspect marker *le* is obligatory. Thirdly, all the examples in (1) have a “more than expected” excessive meaning.

We will offer an affectedness-based analysis of the Chinese excessive resultative construction, trying to answer the following questions:

- (2) a. How does the ‘more than expected’ reading arise?
- b. Why do some excessive resultatives also have a normal resultative reading?
- c. Why is the *bi*-phrase (‘than expected’) not able to show up?
- d. Why is the sentence final *le* obligatory?

2. An affectedness-based analysis of the construction

2.1 Beavers’ (2011) theory of affectedness

Beavers (2011) proposed that change is an inherently relational concept involving both a theme participant that undergoes the change and a scale participant defining the process of the change over time (following Kennedy and Levin 2008). According to this scalar model of change, all types of change can be defined as a transition of a theme along a scale that defines the change. Beavers (2011) defined an operator *result*’ to capture this notion of affectedness:

- (3) For all dynamic predicates \emptyset , themes x , events e , states g , and scales s :
 $[[\emptyset(x,s,e) \wedge result'(x,s,g,e)] \longleftrightarrow [\emptyset(x,s,e) \wedge SOURCE(x,b_c,e) \wedge GOAL(x,g,e)]]$
 (This says for event e described by \emptyset , g is the target state of theme x on scale s iff x transitions to g by the end of e from a contextually determined state b_c at the beginning of e .) (Beavers 2011: 351)

Beavers then showed that this scalar model of change can offer a unified analysis of different types of affectedness such as motion, change-of-state, and creation/consumption:

- (4) John wiped the table clean. (scale of cleanliness of the table)

$\exists e \exists s [wipe'(john, s, table, e) \wedge result'(table, s, clean, e)]$

- $wipe'(john, s, table, e)$ says that this is a wiping event of the table by John along a scale of cleanliness;
- $result'(table, s, clean, e)$ says that the table transitions from some initial point of cleanliness to some subsequent degree **clean** on s .

(Beavers 2011: 351)

The most apparent advantage of this scalar model of change is that it manages to account for the double telicity effect. The following examples are given in Beavers (2011: 349) to show that the theme and the scale participants jointly determine the telicity of the sentence:

- (5) a. Bill dimmed the lights half dim in/?for five minutes.
 b. Bill dimmed lights half dim for/??in five minutes.
 c. Bill dimmed the lights dimmer and dimmer for/??in five minutes.

The theme and the scale participants in (5a) are both specific, so the sentence is telic; in (5b) the scale participant is specific, but the theme is not, so the sentence is atelic; in (5c) the theme is specific, but the scale participant is vague, so the sentence is atelic.

2.2 The meaning of the Chinese excessive resultative construction

Adopting Beavers' (2011) scalar model of affectedness, we can analyze the semantics of the Chinese excessive resultative construction as follows:

- (6) maoyi zhi da le.
 sweater knit large PFT
 'The sweater was knitted larger than expected.'

$\exists e \exists s [knit'(sweater, s, e) \wedge result'(sweater, s, more-than-expected, e)]$

- $knit'(sweater, s, e)$ says that there is a knitting event of the sweater along a scale of size;
- $result'(sweater, s, more-than-expected, e)$ says that the sweater's actual size on the scale exceeds an expected size.

There are two end points in the event described in (6). The first end point is the completion of the sweat knitting, and the second end point is the actual size of the sweater surpassing the expected size. The first end point is related to the theme participant, and the second point is related to the scale participant.

We have also noticed that the Chinese excessive resultative construction exemplifies a very special type of events of affectedness. First, the two values compared are not the initial

(SOURCE) state and the final (GOAL) state. Rather, what is compared is the final state and an expected or desired state. This can be best illustrated by the following ambiguous sentence.

- (7) shengzi jian duan le.
 rope cut short PFT
 a. ‘The rope was cut short.’
 b. ‘The rope was cut shorter than expected.’

There are two readings with (7). Relevant to the two readings are three values of the length of the rope: (i) the initial length of the rope before the cutting event; (ii) the final length of the rope after the cutting event; (iii) the desired length of the rope set by the agent before the cutting event. This example shows that what count in the excessive resultative construction are the final state and the expected state.

With these differences in mind, we are now able to summarize the complex event described by the excessive resultatives as follows:

- (8) A theme participant, serving as the grammatical subject, was affected by a covert (not phonetically realized) agent to such an extent that the degree associated with the final result has surpassed an expected degree which is set by the agent before the onset of the action. The dimension of the comparison and its direction are determined by the action denoted by the verb.

The description in (8) informs us of several significant points about the construction:

- (9) a. First, the subject of the construction must be a theme, which differentiates the excessive resultatives from other types of resultatives such as the passives and the BA-construction.
 b. Secondly, an expected value about the final state of the theme must have been set before the action.
 c. Thirdly, the prescribed value will be compared with the actual value associated with the final state of the affected theme at the end of the action. The resultative clause is in fact a comparative construction, although there is no degree morphology found in the construction.
 d. Fourthly, the initial state of the theme is irrelevant in this construction.

3. The reason for the potential ambiguity

With this in mind, we can come back to example (7) and explore why it is ambiguous. Take the following as another example:

- (10) toufa jian duan le.
 hair cut short PFT
 a. Her hair was cut short.
 b. Her hair was cut shorter.
 c. Her hair was cut shorter than expected.

This sentence could be uttered in the following two contexts:

- (11) a. Mary’s hair was originally 150 centimeters long. She wanted her hair to be 100 centimeters long. She went to a barber’s shop and had a haircut. After the haircut, her hair became 20 centimeters long.

- b. Mary's hair was originally 150 centimeters long. She wanted her hair to be 100 centimeters long. She went to a barber's shop and had a haircut. After the haircut, her hair became 120 centimeters long.

Example (10) can be uttered to describe either of the two scenarios, but (10) is ambiguous in three different ways. In the two scenarios, the truth value of (10) totally depends on which interpretation is intended. To determine the truth value of (10), we need to pay attention to four degrees: d_{initial} ; d_{final} ; d_{ideal} ; d_c .

- (12) a. d_{initial} : Mary's original hair length (150cm)
 b. d_{final} : May's final hair length (20cm in Scenario I/120cm in Scenario II)
 c. d_{ideal} : May's intended hair length (100cm)
 d. d_c : the hair length which is considered short by the general public (30cm)

Interpretations	Scenario I	Scenario II
a. $d_{\text{final}} < d_c$	T (20cm < 30cm)	F (120cm \nless 30cm)
b. $d_{\text{final}} < d_{\text{initial}}$	T (20cm < 150cm)	T (120cm < 150cm)
c. $d_{\text{final}} < d_{\text{ideal}}$	T (20cm < 100cm)	F (120cm \nless 100cm)

For interpretation (a), the adjective *short* refers to the property of the final state of the hair. Unless the final length of the hair is really considered to be short by the general public, (11) cannot be true. For example, In Scenario II, although the final length of Mary's hair is less than the original length, but the hair of the 120cm length is still far from short hair, according to the general assumption about short hair. Therefore, (11) cannot be true for Scenario II under the interpretation of (11a). For interpretation (b), (11) would sound most natural if a differential phrase such as *yidian* 'a little', *xuduo* 'much', *bushao* 'too much' is added at the sentence final position. For interpretation (c), as long as the final length of the hair is less than the expected length, (11) will be true. In Scenario II, 120cm is more than 100cm; therefore (17) is false under this reading. The correct way to describe this situation is (13).

- (13) toufa jian chang le.
 hair cut long PFT
 *a. Her hair was cut long.
 *b. Her hair was cut longer.
 c. Her hair was cut to an extent which is longer than expected.

Different from (11), example (13) has only one meaning, that is the excessive resultative interpretation. The reason for the lack of ambiguity in (13) is transparent. First, the cutting event will not lead to the result that the hair becomes long, so interpretation (a) is not available. Secondly, the hair cutting event determines the dimension of comparison (LENGTH) and its direction (SHORTNESS). Therefore, interpretation (b) is also not available. The only interpretation associated with *jian chang le* is the excessive resultative interpretation.

The 'more than expected' reading can be further highlighted by the use of the optional differential phrase. For example,

- (14) a. maoyi zhi chang le san limi.
 sweater knit long PFT three centimeter
 'The sweater was knitted three centimeters longer than expected.'
 b. maoyi xi chang le san limi.
 sweater wash long PFT three centimeter
 'The sweater was three centimeters longer than it had been after washing.'

The meaning of (21a) is that the actual final length of the sweater is three centimeters longer than the intended length set before the knitting event. Since the verb *zhi* ‘knit’ is a verb of creation. It does not make sense to talk about the original length of the sweater. This example is different from the hair cutting example. If we change the verb of creation *zhi* ‘knit’ to the verb of affection such as *xi* ‘wash’, then we will have the ‘longer than the original length’ reading rather than the “longer than expected” reading. This is due to the fact that before the washing event it is unusual for the agent to set an intended length of the sweater as the result of the washing event, so the “more than expected” reading is absent from (21b). The only standard of comparison to anchor the differential phrase *san limi* ‘three centimeters’ is the original length of the sweater.

The two examples in (21) give us a hint of what verbs can occur in the excessive resultative construction. Only those verbs which denote actions that can lead to an intended degree on a scale are able to occur in the excessive resultatives. The most typical, as Shen and Peng (2010) observed, is verbs of creation. Before creating something, the agent at least should have a plan in mind about the final state of the theme. Apart from verbs of creation, some ordinary affected verbs can also occur in the excessive resultatives. For example,

- (15) a. zhuozi tai gao le.
 table raise high PFT
 ‘The table was raised higher than expected.’
 b. denglong gua ai le.
 lantern hang low PFT
 ‘The lantern was hung lower than expected.’

4. The obligatory use of the sentence final perfective aspect marker

We have proposed that the sentence final *le* in the excessive resultative construction is a perfective aspect marker. In this section, we are going to defend this proposal from three aspects: the negative imperative sentence, the exclamatory sentence, and the availability of differential measure phrases.

Lu (2003: 182) pointed that there are two types of negative imperative sentences in Mandarin, differentiated by the verb class. For example,

- (16) a. bie he!
 don’t drink
 ‘Don’t drink!’
 b. [bie he] le!
 don’t drink SFP
 ‘Don’t drink any more!’
 *c. bie bing!
 don’t get.sick
 d. bie [bing le]!
 don’t sick PFT
 ‘Don’t get sick!’

The verb *he* ‘drink’ is a verb associated with an agent who can control the action of drinking, but the verb *bing* ‘get sick’ is a verb associated with an agent who cannot control the action leading to the result of getting sick.

- This difference reflects in the different behaviors of (16a) and (16c).
- By uttering (16a), the speaker can order the listener not to drink the liquid in sight, but nobody can be ordered not to get sick; therefore, (16c) is ungrammatical. However, (16c) will be saved if the sentence final *le* is added, as in (16d).
- By uttering (16b), the speaker can order the listener not to drink the liquid any more. The sentence final *le* indicates a change-of-state from the drinking state to the non-drinking state. The purpose of (16b) is to stop the continuation of the state of drinking.
- In contrast, (16d) aims at reminding the listener not to run into the undesirable state of getting sick.
- It is clear that what is negated in (16d) is the imagined state *bing le* ‘getting sick’. This does not apply to (16b), since *he le* ‘having drunk’ could not be the imagined state being negated. This is the reason why we choose to treat *le* as SFP in (16b), but PFT in (16d).

Looking back at the Chinese excessive resultative construction, we found that it follows the pattern of the verb *bing* ‘get sick’. For example,

- (17) a. *maoyi bie zhi da.
 sweater don’t knit large
 Intended meaning: ‘Don’t get the sweater knitted larger than expected.’
- b. maoyi bie zhi da le.
 sweater don’t knit large PFT
 ‘Don’t get the sweater knitted larger than expected.’

Similar to example (16d), (17b) aims at reminding the listener not to run into the undesirable state of getting the sweater larger than expected.

If we compare the negative imperative sentence with the declarative sentence, we can see more clearly that the sentence final *le* is a perfective aspect marker, which **marks** the completion of the surpassing event. In the declarative sentence *maoyi zhi da le*, definitely the action of knitting the sweater is completed, and the actual size turns out to be larger than expected. But in (17b), the completion of the knitting event is irrelevant, since the sentence can be uttered before or in the knitting process. In this case, the sentence final *le* scopes only over the surpassing event, but not over the knitting event.

We also find that the sentence final *le* in the excessive resultative construction shares similarities with the *le* in exclamatory sentences in the form of “NP+tai+A+le!” For example,

- (18) a. wan tai da!
 bowl too big
 ‘The bowl is too big.’
- b. wan tai da le!
 bowl too big PFT
 ‘The bowl is too much bigger than expected.’

Without the sentence final *le*, (18a) is a simple exclamatory sentence with a positive adjective *da* ‘big’. In contrast, the sentence final *le* turns (18b) into a comparative sentence, comparing the actual size of the bowl and a much smaller size expected before the speaker seeing the bowl in sight.

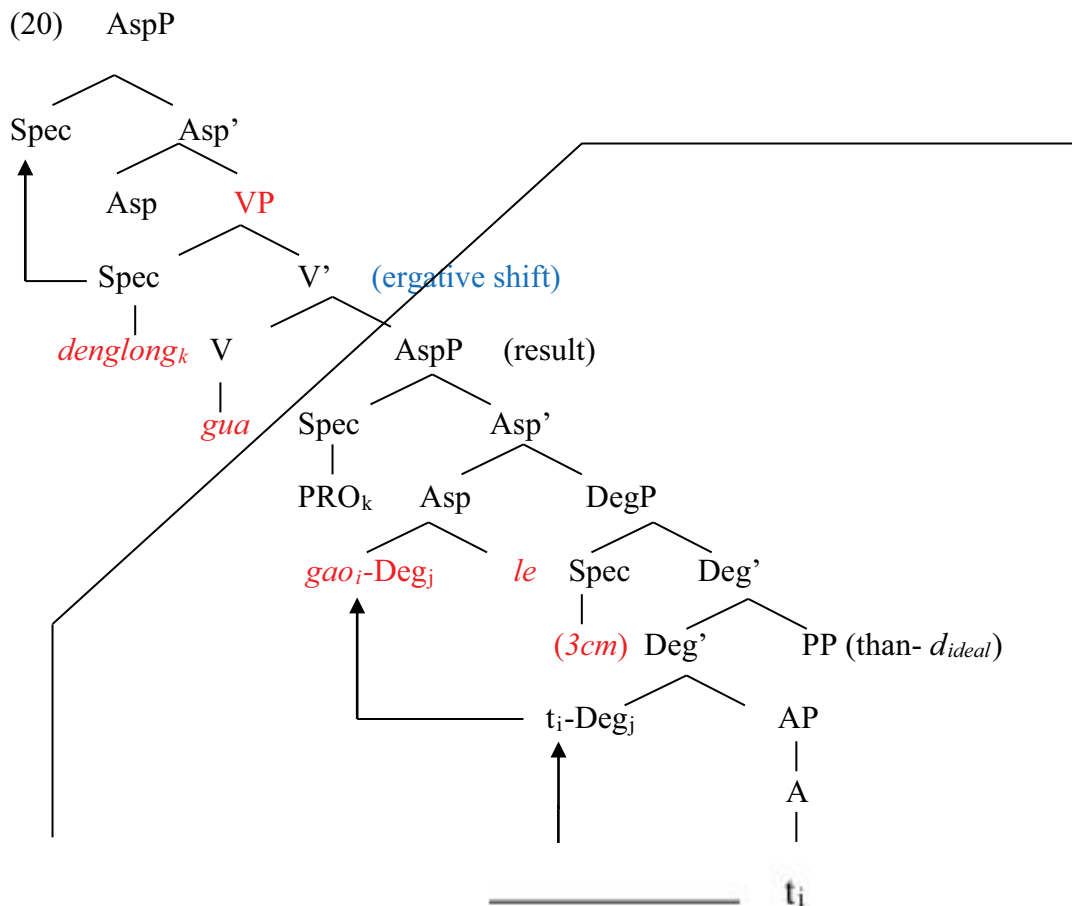
5. The syntactic derivation of the excessive resultative construction

Although the linear sequence of the excessive resultative construction is quite simple (in the form of NP+V+A+*le*), its syntax is quite complicated. We can use the following example to illustrate our syntactic analysis of the excessive resultative construction.

- (19) denglong gua gao le.
 lantern hang high PFT
 ‘The lantern was hung higher than expected.’

The verb *gua* ‘hang’ is a two-place predicate. In the excessive resultatives, the transitive verb has to undergo the ergative shift, turning the transitive verb into an unaccusative verb. The theme cannot be assigned the accusative case by the verb, so it has to move to the subject position to get the nominative case. We can diagram the syntax of (19) as follows:

The higher AspP encodes the hanging event, and the lower AspP encodes the result. SpecDegP hosts the differential measure phrase. We will temporarily assume that the standard of the comparison is a covert PP, serving as the adjunct of DegP. Now we need to think about SpecAspP, the position for the subject of the predicate *gao-le*. We would argue that SpecAspP is a PRO, controlled by the subject of the main clause, and the whole construction of (20) is a control construction. The aspect marker *le* in the resultative clause, similar to the English infinitive tense marker *to*, does not have the case assigning ability. This suggests that the perfective aspect marker *le*₁ occurring in the matrix clause has the ability to assign the nominative case, and the perfective aspect marker *le*₂ occurring in the embedded clause cannot assign case.



It remains a puzzle why the *than*-phrase in (20) cannot show up. We have observed that the *than*-phrase *bi wo qiwangde* can occur within the *de*-resultative clause. For example, in (21a), the *than*-phrase occurs after the resultative marker, but without this resultative marker, the *than*-phrase cannot occur, as in (21b).

- (21) a. toufa jian de bi wo qiwangde duan le liang limi.
 hair than RES than 1sg expect short PFT 2cm
 ‘My hair was cut two centimeters shorter than expected.’
- b. *toufa jian bi wo qiwangde duan le liang limi.
 hair than than 1sg expect short PFT 2cm
 Intended meaning ‘My hair was cut two centimeters shorter than expected.’

According to Gu & Guo (2015), *toufa* forms a comitative construction with *bi wo qiwangde*, and the comitative construction serves as the subject of the comparative construction. (21a) shows that *toufa* can be fronted and serves as the subject of the matrix clause. The movement can only be accounted for by taking *jiande* as a raising verb. The verb *jian* is originally a transitive verb, but with the resultative suffix *de*, it becomes a raising verb, taking a clause as its complement, similar to the syntactic behavior of the typical English raising verb *seem*. The raising is triggered by case, because the perfective aspect *le* in the embedded clause is argued to lack the case assigning ability, *toufa* has to be raised to the subject position of the matrix clause to get the nominative case. The nominalized phrase *wo qiwangde* gets the accusative case from the preposition *bi*. As argued in Gu & Guo (2015), the subject of the comparative construction is a comitative phrase. Since the perfective aspect marker does not have the case assigning ability, the comitative phrase cannot be case-marked; therefore, it has to be empty.

6. Conclusion

This paper offers an affectedness-based analysis of the Chinese excessive resultative construction. Such a construction typically describes events of affectedness consisting of two participants, a theme participant and a scale participant measuring the degree of affectedness. The sentence final perfective aspect marker *le* in this construction is to encode the completion of the action of an implicit comparison. This paper looks at comparative constructions being used as embedded resultatives. The analysis offered in this paper might not only expand our current understanding of the operations involved in the syntactic computation of Chinese comparative constructions, but also shed some new light on how different languages encode the comparative meaning in embedded resultative clauses.

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