

Perfective Aspect and Transition in Mandarin Chinese: An Analysis of Double *-le* Sentences

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1. Introduction

The Mandarin Chinese particle *-le* may appear immediately after the verb as shown in (1a), or at the end of the sentence as in (1b), or in both positions simultaneously as shown in (1c).

- (1) a. Women daoda le shan-ding.
we reach LE mountain-top
'We reached the top of the mountain.'
- b. Women daoda shan-ding le.
we reach mountain-top LE
'We have reached the top of the mountain.'
- c. Women daoda le shan-ding le.
we reach LE mountain-top LE
'We have reached the top of the mountain.'

We refer to the *-le* that occurs immediately after the verb as verbal *-le*, and the one at the end of the sentence as sentential *-le*. Sentences with both verbal *-le* and sentential *-le* are referred to as double *-le* sentences. Because verbal *-le* and sentential *-le* have the same form and sometimes appear to contribute the same meaning to the sentence, there have been attempts to treat verbal *-le* and sentential *-le* as instances of the same morpheme (e.g., Shi 1990, Huang and Davis 1989). In our previous work, we proposed that verbal *-le* and sentential *-le* are distinct morphemes. We claim that verbal *-le* is a perfective aspect marker (Soh and Gao, to appear), while sentential *-le* is a transition marker that triggers a presupposition about an immediate past situation that is in opposition to the one described by the sentence (Soh and Gao 2004). Our analysis accounts for when sentences with verbal *-le* and sentential *-le* appear to share the same interpretation and when they do not. In this paper, we extend our analysis to double *-le* sentences. We show that the readings associated with double *-le* sentences follow from the combination of the individual semantic contributions of verbal *-le* and sentential *-le*, once we assume that sentential *-le* has scope over verbal *-le*. We claim that sentential *-le* takes scope below the yes-no question particle *ma* and the auxiliary *shi* 'be' and above auxiliaries like *hui* 'will' and *neng* 'can', while verbal *-le* takes scope below *shi* 'be', but above the pre-verbal negation. We propose an analysis of a well-known restriction on the co-occurrence of verbal *-le* and negation, which supports the claim that negative sentences denote states (De Swart and Molendijk 1999).

* We would like to thank David Beaver, Bridget Copley, Kai von Fintel, Jeanette Gundel, Nancy Hedberg, Irene Heim, Michael Kac, Jimmy Lin, Jo-wang Lin, Ted Pedersen, Norvin Richards, Susan Rothstein, Christina Schmitt, Carlota Smith, Shiao-Wei Tham and Ron Zacharski for discussions at various stages of this paper. We also thank the participants at the 8th Texas Linguistic Society Conference for questions and comments. All errors are ours. This research was funded by a grant from the Chiang Ching-Kuo Foundation for International Scholarly Exchange and a University of Minnesota Single Semester Leave, both awarded to Hooi Ling Soh. Their support is gratefully acknowledged.

2. Verbal *-le*

2.1 Achievements

In Soh and Gao (to appear), we show that when the sentence denotes an achievement, verbal *-le* indicates that the inherent end point of the achievement event is reached, i.e., the event is completed.¹ An example is given below.

- (2) a. Tamen ganggang daoda shan-ding.
 they just reach mountain-top
 ‘They just reached the top of the mountain.’
 b. Tamen ganggang daoda le shan-ding.
 they just reach LE mountain-top
 ‘They just reached the top of the mountain.’

Although the sentences with and without verbal *-le* seem to have the same interpretation in (2), we argue that the completive reading in (2a) is a default reading, while the one in (2b) is due to verbal *-le*. This is because the completive reading in sentences without verbal *-le* is not always available, in contrast to sentences with verbal *-le*. As (3) shows, a sentence with verbal *-le* may not describe a future event, while the one without verbal *-le* may.

- (3) a. Tamen mingtian hui daoda shan-ding.
 they tomorrow will reach mountain-top
 ‘They will reach the top of the mountain tomorrow.’
 b. *Tamen mingtian hui daoda le shan-ding.
 they tomorrow will reach LE mountain-top

2.2 Activities

With activities, we show in Soh and Gao (to appear) that verbal *-le* indicates that the event has terminated. An arbitrary end point of the event is assigned. A terminative reading is not necessary in sentences without verbal *-le*, unlike those with verbal *-le*, as shown in (4).²

- (4) a. Ta you yong. Wo pao bu.
 he swim swim I run step
 ‘He swims. I run.’
 b. Ta you le yong. Wo pao le bu.
 he swim LE swim I run LE step
 ‘He swam. I ran.’

This difference in reading can be brought out with a progressive marker *zai* and a habitual adverb such as *mei-tian* ‘every day’. As shown below, sentences without verbal *-le* may appear with *zai* and *mei-tian*, while those with verbal *-le* may not.

- (5) a. Ta mei-tian you yong.
 he every day swim swim
 ‘He swims every day.’

¹ It should be noted that whether Mandarin Chinese has achievement verbs or accomplishment verbs remains controversial (see Tai 1984, Sybesma 1997, 1999, Soh and Kuo 2005, J. Lin 2004, Soh and Gao, to appear). We follow Soh and Kuo (2005) and Soh and Gao (to appear) in assuming that Mandarin Chinese has achievement and accomplishment verbs.

² It has been pointed out that a sentence that denotes an activity sounds incomplete with verbal *-le* (Jo-wang Lin, personal communication, J.S. Wu 2005). While we agree with the intuition, we find the relevant sentences fairly acceptable and our judgments are in agreement with those of Q. Zhang’s (1997).

- b. *Ta mei-tian you le yong.
he every day swim LE swim
- (6) a. Ta zai you yong.³
he Prog swim swim
'He is swimming.'
- b. *Ta zai you le yong.
he Prog swim LE swim

2.3 Accomplishments

The situation with accomplishment events is more complicated. It is widely noted that verbal *-le* sometimes indicates the mere termination of the event and sometimes the completion of the event (Chu 1976, Tai 1984, Smith 1994, 1997, Sybesma 1997, 1999, Klein et. al 2000, Soh and Kuo 2005, Soh and Gao, to appear). (7) shows that in contrast to the event described by the sentence with verbal *-le*, the event described by the sentence without verbal *-le* does not need to be terminated or completed.

- (7) a. Ta xie yi-feng xin. Wo xie liang-feng xin.
he write one-Cl letter I write two-Cl letter
'He writes a letter. I write two letters.'
- b. Ta xie le yi-feng xin. Wo xie le liang-feng xin.
he write LE one-Cl letter I write LE two-Cl letter
'He wrote a letter. I wrote two letters.'

In (8), we see that the presence of verbal *-le* in an accomplishment sentence in Mandarin does not necessarily indicate completion. The event can be terminated without having reached the inherent end point. This is shown by the fact that it is not contradictory to conjoin the first sentence in (8) with an assertion that the event is not complete (Tai 1984).⁴

- (8) Wo zuotian xie le yi-feng xin, keshi mei xie-wan.
I yesterday write LE one-Cl letter but not write-finish
'I started writing a letter yesterday, but I didn't finish writing it.'

However, when a completive marker such as *wan* 'finish' follows the verb, verbal *-le* must indicate that the event is completed, and not merely terminated (Tai 1984, Smith 1994, 1997).⁵ This is shown by the fact that an accomplishment sentence with a completive marker and verbal *-le* cannot be followed by an assertion that the event is incomplete.

³ The following abbreviations are used in this paper: Cl=classifier, Poss=possessive, Prog=progressive.

⁴ Given that completion is not necessary, one may wonder if *xie* 'write' should be considered an activity predicate (e.g., Tai 1984, J. Lin 2004) rather than an accomplishment predicate. There is reason to maintain that *xie* 'write' is an accomplishment predicate. Soh and Kuo (2005) show that completion is required with some created objects, namely those that cannot be considered an instance of the object until the creation process has reached its inherent end point. There is a contrast between the created object *yi-feng xin* 'a letter' and *yi-ge zi* 'a character'.

(i) Ta xie le yi-feng xin/ #yi-ge zi, keshi mei xie-wan.
he write LE one-Cl letter/one-Cl character but not write-finish
'He wrote a letter/a character, but he didn't finish writing it.'

Unlike a character, a partially written letter can be considered an instance of a letter. Soh and Kuo (2005) propose that in creation events, *-le* indicates the completion of the event leading to the creation of an object that qualifies as the relevant object.

⁵ It is possible that sentences with a completive marker *wan* 'finish' denote achievements, rather than accomplishments. In fact, there is reason to believe that this is the case given the progressive test.

(i) *Ta zai xie-wan yi-feng xin.
he Prog write-finish one-Cl letter

However, we include them under accomplishments for ease of discussion.

- (9) #Wo zuotian xie-wan le yi-feng xin, keshi mei xie-wan.⁶
 I yesterday write-finish LE one-Cl letter but not write-finish
 ‘I wrote a letter yesterday, but I didn’t finish writing it.’

Like accomplishment sentences with a completive marker, accomplishment sentences with a numeral object must also be completed when verbal *-le* is present (Soh and Kuo 2005). Soh and Kuo (2005) suggest that *yi* ‘a/one’ is ambiguous between a numeral and an indefinite determiner in Mandarin. Because of this, the effect of a numeral object is not easily detected with the numeral *yi* ‘one’. The numeral object *liang-ge dangao* ‘two cakes’ is contrasted with a definite noun phrase object in (10). As shown below, verbal *-le* adds a completive reading to the sentence that contains a numeral object, but only a terminative reading to the sentence without a numeral object.

- (10)a. Ta chi le na-ge dangao, keshi mei chi-wan.
 he eat LE that-Cl cake but not eat-finish
 ‘He started eating that cake, but he did not finish eating it.’
 b. #Ta chi le liang-ge dangao, keshi mei chi-wan.
 he eat LE two-Cl cake but not eat-finish
 ‘He ate two cakes, but he did not finish eating them.’

2.4 States

There is much disagreement in the literature about whether verbal *-le* can appear in stative sentences (Huang and Davis 1989, Shi 1990, Li and Thompson 1981, Ross 1995, Sybesma 1997, J.W. Lin 2000). In Soh and Gao (to appear), we claim, along with Kang (1999: 83) and Z. Wu (2000: 467), that verbal *-le* may not appear in stative sentences in general, except in sentences that denote bounded states. Examples are given in (11).

- (11)a. Wo danxin ni.
 I worry you
 ‘I worry about you.’
 b. *Wo danxin le ni.
 I worry LE you
 c. Wo danxin le ni liang tian.
 I worry LE you two day
 ‘I worried about you for two days.’

(11b) involves a stative sentence that is not bounded, and verbal *-le* may not appear there. When the state is bounded by a duration phrase as in (11c), verbal *-le* may appear, with a completive reading.

2.5 Summary

Verbal *-le* indicates termination when the sentence denotes an atelic situation and completion when the situation is telic (Smith 1997). It does not occur in sentences that describe stative situations, except when the situations are bounded. The semantic contributions of verbal *-le* are summarized in Table 1.

⁶ # here indicates that the conjunction is unacceptable, though each conjunct is acceptable on its own.

Table 1 The semantic contributions of verbal *-le*

| Situation Type | Contribution of Verbal <i>-le</i> |
|---|-----------------------------------|
| States (unbounded) | Not Allowed |
| States (bounded) | Completion |
| Activities | Termination |
| Achievements | Completion |
| Accomplishments (with completive marker or numeral object) | Completion |
| Accomplishments (without completive marker or numeral object) | Termination |

It should be noted that besides the readings presented in Table 1, verbal *-le* has been claimed to provide an inchoative or a present continuative reading. For example, Sybesma (1997) claims that verbal *-le* may give rise to an inchoative reading when the sentence denotes a state; while J.W. Lin (2003) claims that it allows (but does not force) a present continuative reading when the sentence denotes an atelic event. Because of the claim that verbal *-le* does not always provide a terminative/completive reading, it is argued that verbal *-le* is a realization marker, and not a perfective aspect marker (Liu 1988, Sybesma 1997, 1999, J.W. Lin 2003). In Soh and Gao (to appear), we argue against this alternative view of verbal *-le*. We show that the inchoative or the present continuative reading associated with verbal *-le* is not entailed by verbal *-le*, but rather may be due to sentential *-le* or implicated by the use of verbal *-le* in achievement events (cf. J.S. Wu 2005). Given the readings associated with verbal *-le*, we assume that verbal *-le* is a perfective aspect marker, following Li and Thompson (1981), Smith (1997).

3. Sentential *-le*

3.1 States

In Soh and Gao (2004), we show that unlike verbal *-le*, sentential *-le* appears freely in stative sentences. Sentential *-le* provides a change of state/inchoative reading in these sentences.

- (12)a. Ta danxin ta de anquan.
 he worry he Poss safety
 'He worries about his safety.'
- b. Ta danxin ta de anquan le.
 he worry he Poss safety LE
 'He worries about his safety, (which he did not before).'

3.2 Achievements

When sentential *-le* occurs with an achievement, it has the same effect on the meaning of the sentence as verbal *-le*, contributing a completive reading (Soh and Gao 2004).

- (13)a. Women daoda le shan-ding.
 we reach LE mountain-top
 'We reached the top of the mountain.'
- b. Women daoda shan-ding le.
 we reach mountain-top LE
 'We have reached the top of the mountain.'

3.3 Accomplishments

In accomplishment sentences that have an explicit completive marker, or ones that contain a numeral object, there does not appear to be any difference between verbal *-le* and sentential *-le*. Both give rise to the completive reading.

- (14)a. Ta zuo wan le gongke.
he do finish LE homework
'He finished his homework.'
- b. Ta zuo wan gongke le.
he do finish homework LE
'He has finished his homework.'
- (15)a. Ta hua le san-ge quanquan.
he draw LE three-CI circle
'He drew three circles.'
- b. Ta hua san-ge quanquan le.
he draw three CI circle LE
'He has drawn three circles.'

With other accomplishment sentences, verbal *-le* and sentential *-le* do not provide the same meaning. Verbal *-le* indicates that the event is terminated (Smith 1994, 1997, Soh and Kuo 2005, Soh and Gao, to appear), while sentential *-le* indicates that the event has started (Soh and Gao 2004). Whether the event has terminated or not is left open.

- (16)a. Ta xie le na-feng xin.
he write LE that-CI letter
'He wrote the letter.'
- b. Ta xie na-feng xin le.
he write that-CI letter LE
'He has started writing the letter.'

The difference between verbal *-le* and sentential *-le* can be brought out by a sentence that explicitly indicates the non-termination of the event. For example, in (17a), the sentence with verbal *-le* cannot be followed by an assertion that the event of letter writing is not terminated. This is in contrast to (17b) with sentential *-le*, which can be followed by an assertion that the event is not terminated.

- (17)a. #Ta jintian zaoshang xie le na-feng xin. Xie dao xianzai hai bu ken ting.
he today morning write LE that-CI letter write till now still not willing stop
'He wrote the letter this morning. He has been writing till now and is still unwilling to stop.'
- b. Ta jintian zaoshang xie na-feng xin le. Xie dao xianzai hai bu ken ting.
he today morning write that-CI letter LE write till now still not willing stop
'He started writing the letter this morning. He has been writing till now and is still unwilling to stop.'

3.4 Activities

With activities, unlike verbal *-le*, which indicates that the event is terminated, sentential *-le* expresses the idea that the event has started and may or may not be terminated.

- (18)a. Ta you le yong.
he swim LE swim
'He swam.'
- b. Ta you yong le.
he swim swim LE
'He started swimming.'

Again, the difference in meaning can be brought out by a sentence that explicitly expresses the non-termination of the event. The sentences with verbal *-le* have entailments that contradict an assertion that the event has not terminated, those with sentential *-le* do not.

- (19) a. #Ta you le yong. Cong zaoshang you dao xianzai hai zai you.
 he swim LE swim from morning swim till now still Prog swim
 ‘He swam. Starting from this morning till now, he is still swimming.’
 b. Ta you yong le. Cong zaoshang you dao xianzai hai zai you.
 he swim swim LE from morning swim till now still Prog swim
 ‘He started swimming. Starting from this morning till now, he is still swimming.’

3.5 Summary

As summarized in Table 2, sentential *-le* gives rise to a completive reading when the sentence denotes a telic situation, and an inchoative reading when the situation is atelic.

Table 2: The semantic contributions of sentential *-le*

| Situation Type | Contribution of Sentential <i>-le</i> |
|---|---------------------------------------|
| States | Inchoative |
| Activities | Inchoative |
| Achievements | Completion |
| Accomplishments (with complete marker or numeral object) | Completion |
| Accomplishments (without complete marker or numeral object) | Inchoative |

In Soh and Gao (2004), we propose that sentential *-le* is a transition marker and it triggers a presupposition about an immediate past event or state that is in opposition to the one described by the sentence.⁷ We note this transition as $\neg E \rightarrow E$ (Dowty 1979, Pustejovsky 1991, cf. Huang and Davis 1989, Sybesma 1999). Our proposal utilizes the basic intuition that sentential *-le* marks change of state (Li and Thompson 1981, Ross 1995, Sybesma 1999, J.W. Lin 2003), and clarifies the function of sentential *-le* as a change of state marker in terms of the presupposition that it triggers. We claim that when the situation is atelic, the point that the transition makes reference to is the beginning point; and when the situation is telic, the point that the transition makes reference to is the end point. For example, when the sentence that sentential *-le* occurs in expresses a state as in (20a), sentential *-le* triggers a presupposition about an immediate past state that is in opposition to the current state. The presupposition triggered by sentential *-le* in this case is that there is an immediate past state in which the speaker does not like papaya. This is represented in (20b).

- (20) a. Wo xihuan mugua le.
 I like papaya LE
 ‘I now like papaya (which I did not before).’
 b. Past Present
 \neg [I like papaya] \rightarrow [I like papaya]

Sentential *-le* marks a transition from this past state to the current state in which the speaker likes papaya. The transition point is the beginning of the event and this is what gives rise to the inchoative

⁷ We assume that the presupposition is part of the lexical meaning of sentential *-le*, though we are aware that this assumption raises questions about how presupposition is distinguished from assertion in the lexical entry (Levinson 1983).

reading. The same is true with sentences that denote an activity or an accomplishment without a completive marker or a numeral object. In case of an accomplishment with a completive marker as in (21), sentential *-le* triggers a presupposition about an immediate past event that is in opposition to the current one, which is [he has not finished his homework]. This is represented in (21b).

- (21)a. Ta zuo wan gongke le.
 he do finish homework LE
 ‘He has finished his homework.’
- b. Past Present
 -[he finish his homework] → [he finish his homework]

Sentential *-le* marks a transition from this past event to the current event in which [he has finished his homework]. The transition point is the end point of the event and this is what gives rise to the completive reading. The same explanation can be extended to sentences that denote an achievement or an accomplishment with a numeral object.

4. Double *-le*

4.1 States

As in the case with verbal *-le*, double *-le* cannot appear in sentences that denote unbounded states as shown in (22c).

- (22)a. *Wo danxin le ni.
 I worry LE you
- b. Wo danxin ni le.
 I worry you LE
 ‘I worry about you, (which I did not before).’
- c. *Wo danxin le ni le.
 I worry LE you LE

However, sentences that denote bounded states allow double *-le*, and these sentences have a completive reading, as shown in (23c). The presence of double *-le* does not seem to provide any additional meaning to the sentence compared to sentences with only verbal *-le* or sentential *-le*.

- (23)a. Wo danxin le ni liang tian.
 I worry LE you two day
 ‘I worried about you for two days.’
- b. Wo danxin ni liang tian le.
 I worry you two day LE
 ‘I have worried about you for two days.’
- c. Wo danxin le ni liang tian le.
 I worry LE you two day LE
 ‘I have worried about you for two days.’

4.2 Achievements

With a sentence that denotes an achievement, the presence of double *-le* also does not seem to provide any additional meaning to the sentence, compared to sentences with only verbal *-le* or sentential *-le*. The completion of the event is expressed.

- (24)a. Women daoda le shan-ding.
 we reach LE mountain-top
 ‘We reached the top of the mountain.’

- b. Women daoda shan-ding le.
we reach mountain-top LE
'We have reached the top of the mountain.'
- c. Women daoda le shan-ding le.
we reach LE mountain-top LE
'We have reached the top of the mountain.'

4.3 Accomplishments

In accomplishment sentences with a completive marker or a numeral object, the presence of double *-le* also indicates completion. This is shown in (25) and (26).

- (25) a. Ta zuo wan le gongke.
he do finish LE homework
'He finished his homework.'
- b. Ta zuo wan gongke le.
he do finish homework LE
'He has finished his homework.'
- c. Ta zuo wan le gongke le.
he do finish LE homework LE
'He has finished his homework.'
- (26) a. Ta hua le san-ge quanquan.
he draw LE three-CI circle
'He drew three circles.'
- b. Ta hua san-ge quanquan le.
he draw three CI circle LE
'He has drawn three circles.'
- c. Ta hua le san-ge quanquan le.
he draw LE three-CI circle LE
'He has drawn three circles.'

With accomplishment sentences where verbal *-le* indicates termination and sentential *-le* indicates the beginning of an event, sentences with double *-le* give rise to a terminative reading, and not an inchoative reading. Examples are given in (27).

- (27) a. Ta xie le na-feng xin.
he write LE that-CI letter
'He wrote the letter.'
- b. Ta xie na-feng xin le.
he write that-CI letter LE
'He has started writing the letter.'
- c. Ta xie le na-feng xin le.
he write LE that-CI letter LE
'He has written the letter.' Not 'He has started writing the letter.'

4.4 Activities

With sentences denoting activities, double *-le* sentences are interpreted as terminated, patterning with sentences with verbal *-le*, and unlike those with sentential *-le*, as shown in (28).

- (28) a. Ta chou le yan.
he smoke LE
'He smoked.'

- b. Ta chou yan le.
 he smoke LE
 ‘He has started smoking.’
- c. Ta chou le yan le.
 he smoke LE LE
 ‘He has smoked.’ Not ‘He has started smoking.’

4.5 Summary

Double *-le* sentences pattern like sentences with verbal *-le*, and unlike sentences with sentential *-le* in their interpretation. Double *-le* sentences provide a completive reading to telic events (achievements, accomplishments with a completive marker or a numeral object), and a terminative reading to atelic events (activities, accomplishments without a completive marker or a numeral object). The semantic contributions of double *-le* are summarized in Table 3.

Table 3: The semantic contributions of double *-le*:

| Situation Type | Contribution of Double <i>-le</i> |
|---|-----------------------------------|
| States (unbounded) | Not Allowed |
| States (bounded) | Completion |
| Activities | Termination |
| Achievements | Completion |
| Accomplishments (with completive marker or numeral object) | Completion |
| Accomplishments (without completive marker or numeral object) | Termination |

5. Analysis of Double *-le* Sentences

5.1 The relative scope of verbal *-le* and sentential *-le*

In this section, we show that the distribution and the interpretations of double *-le* sentences follow from the combination of the individual semantic contributions of verbal *-le* and sentential *-le*. We claim that sentential *-le* scopes over verbal *-le* despite the fact that double *-le* sentences have readings similar to sentences with verbal *-le* rather than those with sentential *-le* (cf. Q. Zhang 1997).

Consider first sentences that denote unbounded states. As shown in (22c), these sentences do not allow double *-le*. This is not surprising given that double *-le* sentences include verbal *-le* and verbal *-le* is independently prohibited from occurring in sentences that describe unbounded states.

With sentences that denote bounded states, achievements and accomplishments with a completive marker or a numeral object, double *-le* does not provide any additional meaning compared to sentences with only verbal *-le* or sentential *-le*. The completion of the event is indicated as shown in (23c), (24c), (25c) and (26c). This reading is expected given that both verbal *-le* and sentential *-le* each individually provide a completive reading to the sentence. It is unclear in these cases whether verbal *-le* has scope over sentential *-le* or vice-versa.

With sentences that describe an activity and accomplishments without a completive marker or a numeral object, it is possible to determine the scope interaction between verbal *-le* and sentential *-le* since verbal *-le* and sentential *-le* provide different readings to the sentence. In these cases, like verbal *-le* and unlike sentential *-le*, double *-le* indicates termination and not inchoativity as shown in (27c) and (28c). We propose that the particular reading found in double *-le* sentences arises because sentential *-le* has scope over verbal *-le*. Verbal *-le* operates on the sentence first, giving rise to the terminative reading. The application of verbal *-le* on the sentence essentially adds a boundary (arbitrary end point) to the sentence. Sentential *-le* then operates on this event description with an end point and makes reference to this end point when determining the transition. Because sentential *-le* applies to an event with an end point in this case, it gives rise to a terminative reading and not an

inchoative reading. Our analysis implies that termination adds a boundary to the event that can be picked up by sentential *-le*.

A question arises if the same reading in double *-le* sentences could be derived by having the opposite scope relation between verbal *-le* and sentential *-le*. The answer seems to be no given that if sentential *-le* operates on the event description first, it would give rise to an inchoative reading. Sentence (27c) and (28c) would have an intermediate reading of ‘he began writing the letter’ and ‘he began smoking’, respectively. Further application of verbal *-le* on the event description would produce a final reading of ‘he terminated the beginning of writing the letter’ and ‘he terminated the beginning of smoking’, respectively. These readings do not seem to accurately reflect the readings in (27c) and (28c). We thus conclude that verbal *-le* does not scope over sentential *-le* in double *-le* sentences.

5.2 The scope of verbal *-le* and sentential *-le*

5.2.1 The scope of sentential *-le*

There is evidence that sentential *-le* takes scope below the yes-no question marker *ma*, and the auxiliary *shi* ‘be’, but above auxiliaries such as *hui* ‘will’ and *neng* ‘can’. N. Zhang (2000) observes a contrast in the distribution of sentential *-le* between two types of yes-no questions in Mandarin: *ma* questions and A-not-A questions.⁸ While sentential *-le* may appear in the *ma* question, it may not appear in the A-not-A question formed by the reduplication of the verb as shown in (29) and (30).

- (29)a. Akiu xi na-jian dayi ma?
Akiu wash that-Cl coat Q
‘Will Akiu wash that coat?’
b. Akiu xi na-jian dayi le ma?
Akiu wash that-Cl coat LE Q
‘Has Akiu washed that coat?’
- (30)a. Akiu xi-bu-xi na-jian dayi?
Akiu wash-not-wash that-Cl coat
‘Will Akiu wash that coat?’
b. *Akiu xi-bu-xi na-jian dayi le?
Akiu wash-not-wash that-Cl coat LE
c. *Akiu xi-mei-xi na-jian dayi le?
Akiu wash-not-wash that-Cl coat LE

We propose that the contrast can be explained if sentential *-le* may not have a question feature within its scope. This requirement follows from the fact that sentential *-le* marks a transition between eventualities; and in order to mark a transition, it is necessary to know the eventuality described. We follow the general assumption in the literature that the question marker *ma* is in the CP domain, and it has scope over TP. We assume following Huang (1982) that an A-not-A question contains a [+Q] feature that raises at LF to C. However, unlike Huang (1982), we assume following Soh (2004) that the [+Q] feature is generated in the same position where the A-not-A form is found (cf. Ernst 1994, J.W. Lin 1992, see McCawley 1994), and that the scope of the yes/no question is the node immediately dominating the A-not-A form (cf. Huang 1988). We propose that (30b) and (30c) are unacceptable because the scope of the A-not-A question is within the scope of sentential *-le*. The fact that (29b) is acceptable suggests that the scope position of sentential *-le* must be lower than the question particle *ma*. The contrast between (29b) versus (30b) and (30c) does not indicate a fundamental distinction between *ma* questions and A-not-A questions since sentential *-le* can occur with an A-not-A question formed by reduplicating the auxiliary *shi* ‘be’ as shown in (31a) and (31b). *Shi* following the subject in (31a) is generally assumed to be in T, while *shi* before the subject in (31b) is generally assumed to be

⁸ A-not-A questions are formed by the reduplication of a verbal element and the insertion of a negative morpheme *bu* (or *mei*) between the reduplicated form.

in C (e.g., Soh 2005). These examples are in contrast to (31c) where the verb (occupying *v* under standard assumptions) appears in the A-not-A form.

- (31) a. Ta shi-bu-shi bu ai wo le?
 he be-not-be not love I LE
 ‘Is it the case that he does not love me now, (which he did before)?’
 b. Shi-bu-shi ta bu ai wo le?
 be-not-be he not love I LE
 ‘Is it the case that he does not love me now, (which he did before)?’
 c. *Ta ai-bu-ai wo le?
 he love-not-love I LE

The fact that sentential *-le* may appear with *shi-bu-shi* in (31a) and (31b) suggests that sentential *-le* must take scope below *shi-bu-shi* in both C and T. Sentential *-le* however does not take scope below all auxiliaries that are assumed to occupy T. For example, sentential *-le* seems to scope over auxiliaries like *neng* ‘can’ and *hui* ‘will’ as the A-not-A form of these auxiliaries do not sound natural with sentential *-le* as shown in (32) and (33). This means that not all elements in T exhibit surface scope. While *neng* ‘can’ and *hui* ‘will’ have surface scope, *shi* ‘be’ does not.

- (32) a. Ni neng-bu-neng bang wo?
 you can-not-can help I
 ‘Can you help me?’
 b. ?*Ni neng-bu-neng bang wo le?
 you can-not-can help I LE
 (33) a. Ni hui-bu-hui bang wo?
 you will-not will help I
 ‘Will you help me?’
 b. ?*Ni hui-bu-hui bang wo le?⁹
 you will-not-will help I LE

Support for the above analysis can be found in the interaction between negation and sentential *-le*. Mandarin negation is a clitic that can attach to a verb or an auxiliary as shown in (34).¹⁰

- (34) a. Ta bu xiang jia.
 he not miss home
 ‘He does not miss home.’
 b. Ta bu-neng bang wo.
 he not-can help I
 ‘He cannot help me.’
 c. Ta bu-shi xiang jia.
 he not-be miss home
 ‘It is not the case that he misses home.’

There is evidence that when negation is attached to the verb or the auxiliary *neng* ‘can’, it scopes below sentential *-le*. This is in contrast to the situation where negation is attached to the auxiliary *shi* ‘be’. In that case, negation scopes over sentential *-le*. The scope relation between negation and sentential *-le* can be determined by the nature of the presupposition triggered by sentential *-le*. If

⁹ The auxiliary *hui* can also indicate ability. The sentence seems acceptable with *hui* indicating ability as in (i).

(i) Ni hui-bu-hui kaiche le?
 you can-not-can drive LE
 ‘Can you drive now?’

¹⁰ According to Ernst (1995), negation appears in Spec, AuxP in (34a), but in Spec, vP in (34b) and (34c).

negation is within the scope of sentential *-le*, the presupposition should be in the positive, given that sentential *-le* triggers a presupposition that an opposite situation held in the past. On the other hand, if negation is not within the scope of sentential *-le*, the presupposition should be in the negative. The presuppositions are indicated in brackets in (35). As shown in (35a) and (35b), the presuppositions are in the positive, indicating that negation is within the scope of sentential *-le*, when it precedes the verb or the auxiliary *neng* ‘can’. This is in contrast to (35c) where the presupposition is in the negative, indicating that negation is not within the scope of sentential *-le* when it precedes *shi* ‘be’.

- (35)a. Ta bu xiang jia le.
he not miss home LE
‘He does not miss home now, (which he did before).’
- b. Ta bu-neng bang wo le.
he not-can help I LE
‘He cannot help me now, (which he was able to before).’
- c. Ta bu-shi xiang jia le.
he not-be miss home LE
‘It is not the case that he misses home now, (while he did not miss home before).’

5.2.2 The scope of verbal *-le*

Given our claim that verbal *-le* scopes below sentential *-le*, we expect it to scope below the question particle *ma*, *shi-bu-shi* ‘be-not-be’ and *bushi* ‘not-be’. As shown in (36), this predication is borne out as the scope of the question and negation includes the perfective event.

- (36)a. Ta kan le na-ben shu ma?
he read LE that-Cl book Q
‘Did he read that book?’
- b. Ta shi-bu-shi kan le na-ben shu?
he be-not-be read LE that-Cl book
‘Is it the case that he read the book?’
- c. Shi-bu-shi ta kan le na-ben shu.
be-not-be he read LE that-Cl book
‘Is it the case that he read the book?’
- d. Ta bushi kan le na-ben shu.
he not-be read LE that-Cl book
‘It is not the case that he read the book.’

The next question is whether verbal *-le* has scope over the negation preceding an auxiliary like *neng* ‘can’ and *hui* ‘will’, and the negation preceding the verb. Consider first the scope relation between verbal *-le* and the preverbal negation. It has been pointed out that verbal *-le* cannot occur with the pre-verbal negative *bu*, though they may co-occur if *bu* precedes an auxiliary like *shi* ‘be’ or *keneng* ‘may’ (Huang 1988, Ernst 1995, J.W. Lin 2003, but see Lee and Pan 2001).¹¹ Examples are given below.

¹¹ Lee and Pan (2001) question the accuracy of the generalization that verbal *-le* cannot occur with the pre-verbal negative *bu*. The following examples are given to support their claim that verbal *-le* can occur with *bu* when there is a focus in the sentence,

- (i) Zhangsan guyi bu ba suoyou de lanpingguo dou reng le, weile re ni shengqi.
Zhangsan deliberately not BA all DE rotten-apple all throw LE for make you angry
‘Zhangsan deliberately did not throw away ALL rotten apples, so as to make you angry.’
- (ii) Ta guyi bu chi le na wan fan, weile re ni shengqi.
he deliberately not eat LE that bowl rice for make you angry
‘He intentionally does not finish that bowl of rice to make you angry.’

- (37)a. Ta bu qu Beijing.
 he not go Beijing
 ‘He does not go to Beijing.’
- b. *Ta bu qu le Beijing.
 he not go LE Beijing
- (38)a. Ta bu-shi qu le Beijing.
 he not-be go LE Beijing
 ‘It is not the case that he went to Beijing.’
- b. Ta bu keneng qu-le Beijing.
 he not may go-LE Beijing
 ‘It is not possible that he has gone to Beijing.’

There are several explanations in the literature for the restriction in (37b). For example, in Ernst (1995), the sentence is ruled out because of the incompatibility between *bu*, which is claimed to require unbounded aspectual situations, and perfective aspect, which is bounded. Under Ernst’s (1995) analysis, *bu* takes scope over verbal *-le* as the perfective marker applies first to the eventuality, and the result of the application is incompatible with *bu*’s requirement. In a similar vein, J.W. Lin (2003) argues that the negative marker *bu* is incompatible with verbal *-le* because *bu* aspectually selects a state, whereas verbal *-le* selects an event as its complement. (37b) is ruled out because the aspectual requirements of these two elements are in conflict with each other. J.W. Lin (2003) is not explicit about the scope relation between *bu* and verbal *-le*. His analysis seems to work with either scope, assuming that *bu* and verbal *-le* do not change the situation type of the event description. Both Ernst’s (1995) and J.W. Lin’s (2003) analysis may lead us to expect that a different negative marker *mei* may occur with verbal *-le*, given that *mei* aspectually selects an event (J.W. Lin 2003) or a bounded situation (Ernst 1995). However, as with *bu*, *mei* also may not occur with verbal *-le* as shown in (39).

- (39) *Ta mei qu le Beijing.
 he not go LE Beijing

J.W. Lin (2003: 438) is aware of examples like (39) and argues that *mei* is “the negation marker of nonexistence or nonrealization of an event”, and that it is “the negative counterpart of the perfective marker *le*”. Sentences like (39) would be ruled out because *mei* and *-le* bring contradictory meanings to the sentence.

We propose an alternative account for the restriction in (37b) which does not assume that *mei* is the negative counterpart of verbal *-le*. We assume following De Swart and Molendijk (1999) that negation changes the description of the sentence from an event to a state. We claim that verbal *-le* takes scope below *bu-shi* ‘not-be’ and *bu-keneng* ‘not possible’, but above the negation preceding the verb (cf. Lin 2000, Lee and Pan 2001). Because verbal *-le* scopes over the pre-verbal negation, and negation changes an event to a state, verbal *-le* may not occur with the pre-verbal negation, since it cannot occur in a stative sentence.

We disagree with their generalization. It has been pointed out that there are two verbal *-les* (Shi 1988, Sybesma 1999, Wu 2000). One is a perfective aspect marker, while the other is a phase complement like *diao* ‘off’ or *shang* ‘up’. The phase complement *-le* can only combine with a restricted set of verbs, while the perfective aspect *-le* is not lexically restricted (see Soh and Gao (to appear) for other differences between the perfective *-le* and the phase complement *-le*). We think that the examples above involve not perfective *-le*, but phase complement *-le*. Both *reng* ‘throw’ and *chi* ‘eat’ are verbs that allow phase complement *-le*. When the sentence in (ii) for example is modified to include verbs like *qu* ‘go’ which does not allow the phase complement *-le*, the sentence is unacceptable.

- (iii) *Ta guyi bu qu-le na ge difang, weile re ni shengqi.
 he deliberately not go LE that-CL rice f or make you angry

As to whether verbal *-le* scopes over the negation preceding an auxiliary like *neng* ‘can’ and *hui* ‘will’, the answer is not readily available as *neng* ‘can’ and *hui* ‘will’ may not appear with verbal *-le* regardless of the presence of negation as shown in (40).¹² We thus leave this question open.

- (40) a. *Ta (bu) neng qu le Beijing.
 he not can go LE Beijing
 b. *Ta (bu) hui qu le Beijing.
 he not will go LE Beijing

6. Conclusions

In this paper, we have proposed an account of the readings of double *-le* sentences that follow from the individual semantic contributions of verbal *-le* and sentential *-le*. We claim that sentential *-le* has scope over verbal *-le*. We further claim that sentential *-le* takes scope below the yes-no question particle *ma*, and *shi* ‘be’, but above auxiliaries like *hui* ‘will’ and *neng* ‘can’, while verbal *-le* takes scope below *shi* ‘be’, and above the preverbal negation. Our proposal accounts for a well-known restriction between verbal *-le* and negation and provides support to the claim that negative sentences denote states (De Swart and Molendijk 1999).

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¹² While (i) is acceptable, we think that it involves phase complement *-le* and not perfective *-le*.

(i) Ta buneng/buhui wang le wo de mingzi.
 he not-can/not-will forget LE I DE name
 ‘He cannot/will not forget my name.’

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Proceedings of the 2004 Texas Linguistics Society Conference: Issues at the Semantics–Pragmatics Interface

edited by Pascal Denis, Eric McCready, Alexis Palmer, and Brian Reese

Cascadilla Proceedings Project Somerville, MA 2006

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Soh, Hooi Ling and Meijia Gao. 2006. Perfective Aspect and Transition in Mandarin Chinese: An Analysis of Double *-le* Sentences. In *Proceedings of the 2004 Texas Linguistics Society Conference*, ed. Pascal Denis et al., 107-122. Somerville, MA: Cascadilla Proceedings Project.

or:

Soh, Hooi Ling and Meijia Gao. 2006. Perfective Aspect and Transition in Mandarin Chinese: An Analysis of Double *-le* Sentences. In *Proceedings of the 2004 Texas Linguistics Society Conference*, ed. Pascal Denis et al., 107-122. Somerville, MA: Cascadilla Proceedings Project. www.lingref.com, document #1510.