Aspect and/or T(ense) in Mandarin Chinese: the case of negative sentences

Nan Li, Cornell University
nl294@cornell.edu
Cornell Workshop on Aspect, Cornell University, Oct. 3-4, 2015

1 Introduction

- Verbs in Mandarin do not inflect for tense or agreement, but some particles can attach to them either before or after. These particles are 了 (le), 过 (guò), 正 在 (zhèngzài), and 着 (zhe), which are traditionally called aspectual markers (Chao 1968, Li & Thompson 1981). Specifically, le and guò are often assumed to mark perfective aspect, and, zhèngzài and zhe imperfective aspect (Smith 1994, a.o.)

(1) 张三 买了 书。
Zhāngsān mǎi le shū.
‘Zhangsan bought books.’

(2) 张三 买过 书。
Zhāngsān mǎi guò shū.
‘Zhangsan bought books before.’

(3) 张三 正在 唱歌。
Zhāngsān zhèngzài chànggē.
‘Zhangsan is singing.’

(4) 墙上 挂着 一张 照片。
qiáng shàng guà zhe yī zhāng zhàopiān.
‘There is a picture hanging on the wall.’

\(^1\)In the following, I will follow the tradition to gloss le as a perfective aspectual marker without theoretical commitment to it. Its real function is of course the topic of this talk.

\(^2\)Glosses: AM: aspectual marker; CL: classifier; DUR: durative; EXP: experiential; IR: irrealis; PRT: particles; PERF: perfective; PROG: progressive; POSS: possessive; R: realis.
• Two theories on structural T(ense) projection in Mandarin:
  
i. **null T**: Mandarin has a phonologically null functional T(ense) head (or an INFL head in works during the 80s-90s): see Huang 1998/1982; Li 1990; Simpson & Wu 2002; Lin 2003; Sybesma 2007; Sun 2014;
  

• In this talk, I will
  
  – illustrate challenges to the aspect-as-tense theory posed by negative sentences (§2);
  
  – show that the negation marker *méiyǒu* is not under NegP (§3);
  
  – argue that *méiyǒu* is under T(ense) (§4);
  
  – propose a new structural analysis of non-future episodic eventive sentences in Mandarin (§5).

2 **Negative sentences in Mandarin: a challenge to Lin 2006**

2.1 **The aspect-as-tense theory (Lin 2006)**

• Sentences without particles have different temporal interpretations:

  (5) 张三很忙。
  
  Zhāngsān hěn máng.
  
  ‘Zhangsan is very busy.’ (Lin 2006: ex.2a)

  (6) 张三打破一个花瓶。
  
  Zhāngsān dǎpū yī gè huāpíng.
  
  ‘Zhangsan broke a vase.’ (Lin 2006: ex.3a)3

• Analyses:

  – aspectual values under AspP are determined by *telicity* of predicates (Bohnemeyer & Swift 2004):

<table>
<thead>
<tr>
<th>V-∅</th>
<th>imperfective</th>
<th>perfective</th>
</tr>
</thead>
<tbody>
<tr>
<td>atelic predicates (5)</td>
<td>telic predicates (6)</td>
<td></td>
</tr>
</tbody>
</table>

  – Kratzer’s (1998) formalization of Kleinian aspect:

  (7) i. Perfective aspect: \( \lambda P_{<i,t>} \lambda t_{\text{Top}} \exists t [t \subseteq t_{\text{Top}} \land P(t)] \)

  ii. Imperfective aspect: \( \lambda P_{<i,t>} \lambda t_{\text{Top}} \exists t [t_{\text{Top}} \subseteq t \land P(t)] \)

3For many native speakers of Mandarin, including the current author, (6) without the perfective aspectual marker le sounds odd, when uttered out of the blue. See also Sun 2014 for similar judgement.
tense as relations between times (Klein 1994):
(5): \( TT \subseteq TSit \rightarrow \text{impereffective; } TU (= S^*) = TT \rightarrow \text{present; } \)
(6): \( TSit \subseteq TT \rightarrow \text{perfective; } TU (= S^*) = TT \rightarrow \emptyset, \) because the speech time, which is a moment of time, cannot include a durative event time.

Lin 2006 on perfective aspect in Mandarin:
(8) Perfective aspect = \( \lambda P < i, t > \lambda t_{\text{Top}} \lambda t_0 \exists t \subseteq t_{\text{Top}} \land P(t) \land t_{\text{Top}} < t_0 \)

- Perfective aspectual markers \textit{le} and \textit{guò} encode past tense.

<table>
<thead>
<tr>
<th>V-\emptyset</th>
<th>imperfective [-tense]</th>
<th>perfective [+past tense]</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-AM zhèngzài, zhe</td>
<td>atelic predicates</td>
<td>telic predicates</td>
</tr>
<tr>
<td>le, guò</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- the clause structure of a sentence in Mandarin has a functional Asp(ect) head, instead of T: \([\text{CP... } [\text{IP... } [\text{ModalP... } [\text{AspP[Asp le/guò/zhèngzài/zhe ]... } [\text{VP... }]]]]] \]

2.2 Negative sentences: a challenge

If Lin (2006) is right, we would expect temporal interpretation of negative sentences to be located under AspP, too. The sentences in (9)-(12) are negated sentences in (1)-(4), respectively. As is shown, \textit{le} does not co-occur with \textit{mèiyōu} (‘not.R’), but the other aspectual markers do.

(9) 张三 没有 买 (*了) 书。
    Zhangsan not.R buy (*PERF) book
    ‘Zhangsan did not buy books.’

(10) 张三 没有 买 过 书。
      Zhangsan not.R buy EXP book
      ‘Zhangsan did not buy books before.’

(11) 张三 没有 (正)在 唱歌。
      Zhangsan not.R PROG sing
      ‘Zhangsan is not singing.’

(12) 墙 上 没有 挂 着 一 张 照片。
      wall on not.R hang DUR one CL picture
      ‘There is not a picture hanging on the wall.’

- One common proposal: \textit{le} and \textit{mèiyōu} are in complementary distribution (Wang 1965, Chao 1968: 439, a.o.);
- However, this cannot be right.
– Semantically, méiyǒu ≠ past tense: (11) and (12) have present interpretation;

– Structurally, it would predict that le appears in affirmative counterparts of sentences with méiyǒu such as (10)-(12), a predication that is not borne out (Teng 1973). For example, it would predict that the affirmative counterpart of (11) should be (13) instead of (3).

(13) *张三正在唱歌le.

Zhàngsān zhèngzài chānggē le.

PROG sing PERF

‘Intended: Zhangsan is singing.’

– Therefore, le and méiyǒu do not have the same structural position.

– Note that méiyǒu co-occur with the other aspectual markers, which suggests that it occupies a position that is higher than AspP.

3 méiyǒu is not under NegP

3.1 Positions of NegP across languages

• Crosslinguistically, Neg head is proposed to be either above or below T head, as illustrated in (14) (e.g., Laka 1990; Ouhalla 1991); and, a negation marker is either a Neg head or a specifier of a Neg head (15) (e.g., Haegeman 1995; Haegeman & Zanuttini 1996).

(14)

\[
\text{NegP} \quad \text{TP} \\
\quad \text{T} \quad \text{NegP} \\
\quad \text{T} \quad \text{Neg}
\]

(15)

\[
\text{NegP} \\
\quad \text{SPEC} \quad \text{Neg'} \\
\quad \text{(NM}_1\text{)} \quad \text{Neg} \\
\quad \text{(NM}_2\text{)}
\]

• Crucially, in the languages that are argued to have NegP, negation markers under NegP can occur in nonfinite constructions:

(16) John did not have a fever. (English)
(17) He tried not to laugh. (English)

(18) Jean (n’) aime pas Marie. (French)
   John (not) likes not Mary
   ‘John does not like Mary.’ (Pollock (1989: ex.2b))

(19) Ne pas regarder la télévision consolide l’esprit critique. (French)
   not not to-watch the television strengthens the-mind critical
   ‘Not to watch television strengthens one’s independence.’ (Pollock (1989: ex.16e))

(20) etxea ez da erori. (Basque)
   house-the no has fallen (Laka (1990: 25))
   ‘The house didn’t fall down.’

(21) mila bider agindu dizut ez ardorik edateko. (Basque)
   thousand times ordered I-have-you no wine-PART drink-to (Laka (1990: 72))
   ‘I have told you one thousand times not to drink wine.’

(22) Milan ne poznaje Mariju. (Serbo-Croatian)
   Milan not knows Mary (Progovac (1994: 35))
   ‘Milan does not know Mary.’

(23) Ne jesti provrče nije preporučljivo. (Serbo-Croatian)
   not eat vegetables not-is advisable
   ‘Not to eat vegetables is not advisable.’ (Miloje Despić, p.c.)

3.2 méiyōu is not under NegP

If méiyōu is under NegP, we would expect them to be able to appear in constructions that would correspond to nonfinite constructions in languages such as English. The prediction, however, is not borne out.

- verb complements: (cf. Huang 1998/1982; Li 1990)

(24) 张三 准备 春节 不(*没有) 回家。
    Zhāngsān zhǔnbèi chūnjié bù(*méiyōu) huíjiā.
    ‘Zhangsan plans not to go home during the Spring Festival’.

---

4 The glosses are mine; the translation is from Pollock 1989.
5 Examples such as (24) and (25) have been used to argue for a finite/nonfinite distinction in Mandarin (Huang 1998/1982; Li 1990). But, these examples are disputed in Xu 1985-1986 whose arguments are adopted by Hu et al. 2001. For Xu 1985-1986, the ungrammaticality of méiyōu or būhuì in (24) is lexical-semantic not syntactic. Xu argues that the verb 准备/zhǔnbèi/ (‘to prepare’) selects “a planned event” as its complement, but the word huì denoting “possibility and uncertainty” and the word méiyōu is used to “negate a previous action or state”, neither of which is semantically compatible with “a planned event”. However, semantic incompatibility does not seem to be able to account for (26).
(25) 我设法不(*没有)哭。

\[ wǒ shèfǎ bù/(*méiyǒu) kū. \]

I try not.R/*not.R) cry

‘I tried not to cry.’

\section*{part of subject:}

(26) 不(*没有)忘这段历史，在今天是颇有现实意义的。

\[ bù/(*méiyǒu) wànɡ zhè duàn lǐshǐ, zài jīntiān shì pō yǒu xiànrì yìyì de. \]

not.R/*not.R) forget this CL history, at today be very have realistic meaning of.

(Xiao & Jin 2013)

meaning PRT

‘Not to forget this period of history has a significant contemporary meaning.’

\section*{purpose clauses:}

(27) 为了不(*没有)伤父亲的心，她反而去安慰父亲。

\[ wèile bù/(*méiyǒu) shānɡ fūqín de xīn, tā fànré qù ānwèi fūqín. \]

in-order-to not.R/*not.R) hurt father POSS heart, she in-turn go comfort father.

(Tao & Xiao 2012)

father

‘In order not to hurt her father, she in turn went to comfort her father.’

\section*{raising constructions: (cf. Li 1990; Teng 1975)}

(28) 韩国当时很难不(*没有)做出派兵决定。

\[ Hánɡuó dānɡshí hěn nán bù/(*méiyǒu) zuòchū paibīng juédìng. \]

South Korea then very difficult not.R/*not.R) make send-troops decision.

(PKU 2009)

decision

‘It was very difficult for South Korean not to make the decision of sending troops at the time.’

\section*{Therefore, méiyǒu in Mandarin cannot be under NegP.}

\section*{4 méiyǒu in Mandarin is under TP}

\section*{sentences with méiyǒu have non-future interpretation (9-12):}

- Incompatible with future denoting adverbials:
(29) *张三 明天 没有 买书。
Zhāngsān míngtiān méiyǒu mǎi shū.
‘Intended: Zhangsan will not buy books tomorrow.’

- the position of two repetitive adverbs 又/yòu/ (‘again.R’) and 再/zài/ (‘again.IR’) w.r.t. méiyǒu:

  - sentences with yòu denote a realized repetition, whereas sentences with zài denote an unrealized repetition (Lü 1980):

    (30) 张三 又/yòu/（再/zài）批评 了 李四。
Zhāngsān yòu（zài）pīpíng le Lǐsì。
‘Zhangsan criticized Lisi again. (*In fact, he did not criticize him.)’

    (31) 再/zài）批评 了 李四。
Zhāngsān zài pīpíng le Lǐsì。
‘Zhangsan will criticize Lisi again tomorrow.’

- Enc 1987: T in a matrix clause relates the reference time to the utterance time and thus anchors an event;

  (30): yòu merges above T, thus scopes over T: a repetition of a realized event;
  (31): zài merges below T, thus scopes under T: a repetition of an unrealized event.

- yòu and zài in a negative sentence with méiyǒu:

    (32) 张三 又/yòu/ 没有 méiyǒu（再/zài）批评 了 李四。
Zhāngsān yòu méiyǒu（zài）pīpíng le Lǐsì。
‘Once again, Zhangsan did not criticize Lisi.’

    (33) 张三 再/zài）批评 了 李四。
Zhāngsān zài pīpíng le Lǐsì。
‘Zhangsan did not criticize Lisi again.’

- two readings of 怎么/zěnme/ (‘how’): manner-how vs. reason-how (Tsai 2008):

    (34) 他 要 怎么(yàng) 擦 干净 这 辆 车?
 tā yào zěnme(yàng) cā gānjìng zhè liàng chē?
‘How will he clean the car?’
5 The structure of non-future episodic eventive sentences in Mandarin

- sentences with le or méiyǒu are episodic non-future: not compatible with frequency adverbs.

   (39) *张三 经常 买了 书。
   Zhāngsān jīngcháng mǎi le shū.
   ‘Intended: Zhangsan often bought books.’

   (40) *张三 经常 没有 买书。
   Zhāngsān jīngcháng méiyǒu mǎi shū.
   ‘Intended: Zhangsan often didn’t buy books.’

- morphological makeup of méiyǒu: méi + yǒu; méi is a negation marker that is only used in front of the verb yǒu.

- Yǒu is used either as a possessive verb meaning ‘to have’ (41) or as an existential quantifier (42).

---

6 To get the intended question, zēnme(yàng) in (37) needs to be emphasized. Otherwise, zēnme(yàng) gets an indefinite reading with the sentence meaning that Bill didn’t/won’t answer the question in a special way. This behavior of zēnme(yàng) within the scope of negation is on a par with indefinite use of 什么/shénme (‘what’) or 谁/shéi (‘who’) in Chinese. With emphasis on zēnme(yàng), the intended question only makes sense when uttered in a context where there are contextual-given options of limited number. In that case, zēnme(yàng) is interpreted out of the scope of negation, and the sentence in (37) can be paraphrased as: in which of the contextual-given ways that Bill didn’t answer the question.
(41) 他有三个孩子。
    tā yǒu sān gè háizi.  
    He has three children.

(42) *有 一本书在桌子上。
    yǒu yī běn shū zài zhuōzǐ shàng.  
    There is a book on the desk.

- we assume a phonologically null yǒu, i.e., ∅yǒu, under T in affirmative non-future episodic sentences (43).

(43)

```
TP
   ...
   T'
     T   AspP
     ∅yǒu / méi yǒu
```

- a feature-checking account on the incompatibility of le and méiyǒu.
  - Pesetsky & Torrego 2007: interpretable and valued features ([iF, +val]), interpretable and unvalued features ([iF, -val]), uninterpretable and valued features ([uF, +val]), and, uninterpretable and unvalued features ([uF, -val]);
  - le has an [uT, -val] tense feature which denotes existence/realization in a non-future context and an [uAsp, -val] perfective aspectual feature that needs to agree with ∅PERF;
  - perfective aspect is phonologically null in Mandarin and has [iAsp, +val] feature (∅PERF);

(44) 张三会打破一个花瓶。
    Zhāngsān huì dǎpuò yī gè huāpíng.  
    Zhangsan will break a vase.

- Elements under T have [iT, +val] features. Specifically, ∅yǒu/méiyǒu has an [iT, +val] feature that denotes (non-)existence/(non-)realization.
- affirmative sentences with le: an example

(45) 张三打破了一个花瓶。
    Zhāngsān dǎpuò le yī gè huāpíng.  
    Zhangsan break PERF one CL vase

‘Zhangsan broke a vase.’
6 Conclusion

I have shown that negative sentences pose questions to the aspect-as-tense theory as proposed in Lin 2006 among others, and the negation marker *méiyǒu* in Mandarin cannot be under NegP. I have argued that it is under TP given some language-internal diagnostics. Finally, I have attempted a feature checking account on the non-co-occurrence of *le* and *méiyǒu*.
References


