

New Cartographic Evidence for Clause-Medial Position of Low Sentence-Final Aspect Particles in Mandarin Chinese

Haoming Li

University of Chicago

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Thesis

The Chinese low sentence-final aspect particle *le* is clause-medial, located below the subject and tense and above root modals, in accordance with Erlewine (2017) but against Pan (2018), who represents the traditional view that *le* is a C.

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Low sentence-final particle *le*

- (1) Given a proposition p :
Asserts: p is true; and
Presupposes: there is an immediate past event where p is false.
- (2) Wo xihuan mugua **le**.
I like papaya LE
Asserts: 'I (now) like papaya.'
Presupposes: 'I did not like papaya in the immediate past.'
Soh and Gao (2006)

Structural proposals of *le*

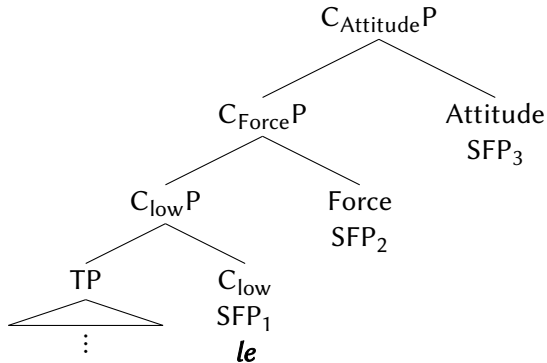
Traditional wisdom locates *le* at C.

(3) [CP [TP ...] [C **le**]]

(4)

Pan (2018)

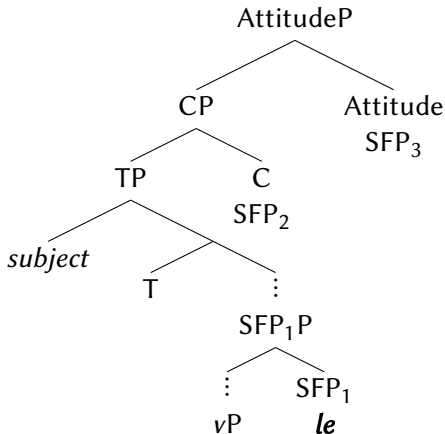
Paul (2014, 2015)



Erlewine (2017)

(5) [CP [TP T [SFP_{asp}P [vP ...] [SFP_{asp} **le**]]] C]

(6)



Erlewine (2017) – assumptions on scope

- (7) If low SFPs are clause medial,
- a. $[_{CP} [_{SFP_1P} [\dots Op \dots] SFP_1]] \rightarrow SFP_1 > Op, *Op > SFP_1$
 - b. $[_{CP} \dots Op \dots [_{SFP_1P} \dots SFP_1]] \rightarrow *SFP_1 > Op, Op > SFP_1$

Negation

Erlewine identifies two different NEG heads, *bu* and *bushi* with different scopal behavior in regards to *le*.

(8) *le* scopes above *bu* but below *bushi*

a. Wo **bu** xiang jia **le**.

I NEG miss home LE

Asserts: 'I do not miss home now.'

Presupposes: 'I did miss home before.'

LE > NEG, *NEG > LE

b. Wo **bushi** xiang jia **le**.

I NEG miss home LE

Asserts: 'I do not miss home now.'

Presupposes: 'I did not miss home before.'

*LE > NEG, NEG > LE

Modals

Le scopes above the dynamic modal *neng* ‘can’ but below the epistemic modal *keneng* ‘may.’

(9) Zhangsan **neng** qu Taipei **le**.

Zhangsan CAN go Taipei LE

I. ‘It has become the case that Zhangsan can go to Taipei’

II. *‘Zhangsan can have gone to Taipei.’

LE > CAN, *CAN > LE

(10) Zhangsan **keneng** qu Taipei **le**.

Zhangsan MAY go Taipei LE

I. *‘It has become the case that Zhangsan may go to Taipei’

II. ‘Zhangsan may have gone to Taipei.’

*LE > MAY, MAY > LE

Pan (2018)

Pan attempts to re-derive the scopal relations under the C assumption of *le*.

- *Bushi* and epistemic modals take CP complements
- These elements should surface sentence-initially by default
- Sentence-initial subjects, seen above, are derived through topicalization

Negation

- (11) a. [TP₁ **Bu shi** [CP [TP₂ Zhangsan shengbing] le]]]]
 NEG be Zhangsan be.sick LE
 ‘It is not the case that Zhangsan becomes sick.’
- b. [TopP Zhangsan_j [TP₁ **bu shi** [CP [TP₂ *pro*_j shengbing]
 Zhangsan NEG be be.sick
 le]]]]]
 LE
 ‘As for Zhangsan, it is not the case that he becomes sick.’

Modals

- (12) [_{TopP} *Ta_j* [_{TP1} **keneng** [_{CP} [_{TP2} *pro_j* *xiang jia*] *le*]]]
he MAY miss home LE
'As for him, it cannot be the case that he feels homesick.'
- (13) [_{TP1} **keneng** [_{CP} [_{TP2} *ta* *xiang jia*] *le*]]]
MAY be he miss homesick LE
'It cannot be the case that he feels homesick.'

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Against Pan (2018)

In this study, we attempt to invalidate Pan's counterargument by presenting new evidence in support of the clause-medial analysis of *le*.

- Impossibility of topicalization
 - Obligatory clause-medial modals
 - Obligatory emptiness of *pro*
 - Restrictions on topicalization
 - Untenable biclausality
- *Le* & time adverbials
- Cartography and head movement

Not TOP – obligatory clause-medial modals

There are high modals that simply cannot have a sentence-initial base position.

- (14) a. Wo mingtian **yao** qu Chengdu le.
I WILL tomorrow go Chengdu LE
‘Tomorrow, I will be going to Chengdu [as a new state].’
- b. ***Yao** [wo mingtian qu Chengdu le].
WILL I tomorrow go Chengdu LE
‘Tomorrow, I will be going to Chengdu [as a new state].’

Not TOP – obligatory emptiness of *pro*

Topicalization usually accepts resumptive pronouns (overt *pro*) for both subjects and objects:

- (15) a. Juzi₁, wo xihuan **ta₁/pro₁**.
orange I like it
'Oranges, I like (them).'
- b. Zhangsan₁, **ta₁/pro₁** xihuan juzi.
Zhangsan he like orange
'As for Zhangsan, he likes oranges.'

Not TOP – obligatory emptiness of *pro*

However, sentences argued by Pan to involve dislocation topicalization cannot admit resumptive pronouns:

- (16) [_{TopP} Zhangsan_j; [_{TP1} **keneng** [_{S.AspP=CP} [_{TP2} (***ta_j**)
Zhangsan MAY he
shengbing] le]]]]
be.sick LE

Intended: ‘As for Zhangsan, it is possible that he becomes sick.’

Not TOP – restrictions on topicalization

In Chinese, *meiyou ren* ‘no one’ usually cannot be topicalized:

(17) ***Meiyou ren**₁ ne, xihuan Zhangsan.

no person NE like Zhangsan

Intended: ‘As for no one_(x), x likes Zhangsan.’

However, the topicalization structure proposed by Pan seems to be exempt from this restriction:

(18) [_{TopP} **Meiyou ren**_j yinggai [_{S.AspP=CP} *pro*_j yijing chi-wan
 no person SHOULD already eat-end

fan le]]

meal LE

‘No one should have already finished their meal.’

Not TOP – untenable biclausality I: prohibition of conflicting time adverbials

A truly biclausal structure should have two TP projections and therefore can admit two conflicting time adverbials:

- (19) Zhangsan **zuotian** gaosu wo [_{CP} ta **jintian** chufa].
Zhangsan yesterday tell me he today leave
'Zhangsan yesterday told me that he would leave today.'

Not TOP – untenable biclausality I: prohibition of conflicting time adverbials

However, conflicting time adverbials cannot be used, either in the proposed original sentence or the topicalized sentence.

- (20) a. * $[_{TP}$ **jintian** yinggai $[_{CP}$ $[_{TP}$ Zhangsan **zuotian** chufa] $[_C$ le]]
 today SHOULD Zhangsan yesterday leave

LE

Intended: ‘Today, it should be the case that Zhangsan left yesterday.’

- b. *Zhangsan_j $[_{TP}$ **jintian** yinggai $[_{CP}$ $[_{TP}$ *pro*_j **zuotian** chufa] $[_C$ le]]

leave LE

Intended: ‘Today, it should be the case that Zhangsan left yesterday.’

Not TOP – untenable biclausality II: Grano’s test for monoclausality

pull The focalization construction *lian ...dou* can only focalize DPs from within the same clause.

- (21) a. Zhangsan **lian gourou dou** chi-wan le.
 Zhangsan FOC dog.meat even eat.deplete LE
 ‘Zhangsan has even eaten all of the dog meat.’
- b. *Zhangsan **lian gourou₁ dou gaosu** Lisi [_{CP} ta
 Zhangsan FOC dog.meat even tell Lisi he
 chi-wan —₁ le].
 eat.deplete LE
 ‘Zhangsan told Lisi that he had even eaten all of the dog meat.’

Not TOP – untenable biclausality II: Grano's test for monoclausality

The supposedly biclausal construction, however, passes the monoclausality test:

- (22) Zhangsan **lian gourou₁ dou keneng** chi-wan —₁ le.
Zhangsan FOC dog.meat even MAY eat.deplete LE
'Zhangsan may have eaten even all of the dog meat.'

Le & time adverbials

Le always scopes below time adverbials, which are supposedly TP adjoined.

- (23) Wo **zuotian zhe-ge shihou** chi-le fan **le**.
I yesterday this-CL time eat-PERF meal LE
I. ‘Yesterday at this time, I ate a meal [as a new state].’
II. *‘I (ate a meal yesterday at this time) [as a new state].’

Cartography and head movement

We further argue that sentence-initial modals are derived through head movement, and the effects of this movement can be detected from the cartographic interactions.

- Default word order has epistemic modals situated below the subject within the same clausal projection
- Modals are heads (Tsai, 2015; Lin, 2011)
- Sentence-initial modals trigger interference with higher heads in the cartography
- When multiple modals are present, their interactions are subject to the Head Movement Constraint

Cartography

In the spirit of Cinque (1999) and Tsai (2015),

(24) **speech act/clause type** (SpAP, C in (6))

➤ **subject**

➤ **epistemic** ($M_{\text{epis}}P$, *should/may* as in ‘it should/may be the case that ...’)

➤ **tense** (TP)

➤ **aspect** ($SFP_{\text{asp}}P$, *le*)

➤ **deontic** ($M_{\text{deon}}P$, *ought to, must*)

➤ **dynamic** ($M_{\text{dyn}}P$, *be able to*)

Head movement interference – English

Head movement, such as T-to-C movement, often results in a change of the clause type/speech act type of the clause, which is seen in English, among others:

- (25) a. Did John eat a burger?
b. *Did John eat a burger.
c. John ate a burger.
d. John ate a burger?

T-to-C movement bans declarative reading, as in (25-b). We make the following generalization:

- (26) If there is movement to a higher head, the the information it encodes becomes restricted.

M_{epis} interfering with SpA

Epistemic heads placed in the speech act projection would ban interrogative reading.

- (27) a. ***Yinggai** Zhangsan xiang jia le (**ma**)?
SHOULD Zhangsan miss home LE SpA
Intended: ‘Should it be the case that Zhangsan feels homesick?’
- b. Zhangsan **yinggai** xiang jia le (**ma**)?
Zhangsan SHOULD miss home LE SpA
‘Should it be the case that Zhangsan feels homesick?’
- (28) **Yinggai** Zhangsan xiang jia le.
SHOULD Zhangsan miss home LE
‘It should be the case that Zhangsan feels homesick.’

Head Movement Constraint

Head movement must proceed to the next higher head; heads cannot be skipped. Take English for example:

- (29) a. I could have been driving home.
b. Could₁ you ___₁ have been driving home?
c. *Have₁ you could ___₁ been driving home?
d. *Been₁ you could have ___₁ driving home?
- (30) a. I have been driving home.
b. Have you been driving home?

Head Movement Constraint

When multiple modals are present in Chinese, they behave exactly like in English. This shows that the sentence-initial position is indeed a target for head movement. Below, *bixu* ‘must’ is a deontic modal, while *keneng* ‘may’ is a higher epistemic modal.

- (31) a. Zhangsan **keneng bixu** qu NYC.
Zhangsan MAY MUST go NYC
‘It is possible that Zhang must go to NYC.’
- b. **Keneng** Zhangsan **bixu** qu NYC.
MAY Zhangsan MUST go NYC
‘It is possible that Zhang must go to NYC.’
- c. ***Bixu**₁ Zhangsan **keneng** —₁ qu NYC.
MUST Zhangsan MAY go NYC
Intended: ‘It is possible that Zhang must go to NYC.’

Head Movement Constraint

When M_{epis} is not present, *bixu* can be fronted.

- (32) **Bixu** Zhangsan qu NYC.
MUST Zhangsan go NYC
'Zhangsan must go to NYC.'

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Conclusion

New evidence for clause-mediality of sentence-final aspectual particle in support of Erlewine (2017):

- Obligatory clause-medial modals
- Obligatory emptiness of *pro*
- Restrictions on topicalization
- Untenable biclausality
- *Le* & time adverbials
- Cartography and head movement

Additionally, the present approach eliminates the need to posit an aspectual C head, which is an aberration in view of the received cartographic hierarchies.

Selected References

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Thank you for listening!