The locus of Mandarin sentence-final particles and the Final-over-Final Constraint

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Workshop on Word Order of Heads
Chinese University of Hong Kong, October 2016
Previous work on Mandarin Chinese sentence-final particles (SFPs) have proposed or assume that SFPs are uniformly in the high clause periphery, such as in (a split) CP (see e.g. Lee, 1986; Tang, 1988; Cheng, 1991; Paul, 2014, 2015).

I show that a subset of Mandarin SFPs are in a dedicated, clause-medial position between TP and vP, rather than in the CP periphery (cf Tang, 1998).

I identify this as the head of the lower phase of the clause (traditionally vP; Chomsky 2000 a.o.).

Specifically, I investigate sentence-final le and ‘only’ éryǐ. Because word order alone does not teach us about the structural height of SFPs, my evidence comes from semantic scope.
SFPs have been well-discussed as a challenge to the Final-over-Final Constraint (FOFC). The presence of SFPs in a clause-medial position, as well as the clause periphery, sharpens the challenge to FOFC.

I propose that the distribution of Mandarin SFPs is best explained by embracing FOFC but refining it so FOFC does not apply across Spell Out domains (in analytic languages such as Mandarin).
Roadmap

§1 Proposal
§2 Evidence
§3 SFPs and FOFC
Roadmap

§1 Proposal
§2 Evidence
§3 SFPs and FOFC
Mandarin SFPs come in three classes (Chao, 1968; Hu, 1981; Zhu, 1982, a.o.). They are strictly ordered ($\text{SFP}_1 < \text{SFP}_2 < \text{SFP}_3$) and SFP in each class are in complementary distribution.

(1) **Three classes of Mandarin Chinese SFPs:**

a. **SFP$_1$:** low SFP
   sentence-final *le*, recent past *läizhe*, durative *ne*, ‘only’ *éryǐ*

b. **SFP$_2$:** clause-type
   polar question *ma*, imperative *ba*

c. **SFP$_3$:** speaker/addressee attitude
   impatient *ou*, softening *a*, gentle reminding *ei*
I follow the common view that all SFPs are head-final heads in the clausal spine (Lee 1986; Tang 1988; Cheng 1991; Tang 1998; Paul 2014, 2015 and references there), but return to this assumption at the end.

The low SFPs ($\text{SFP}_1$) are **clause-medial**, between $\text{vP}$ and $\text{TP}$. $\text{SFP}_1$ is the head of the lower phase of the clause.

(2)

\[
\begin{array}{c}
\text{AttitudeP} \\
\text{CP} \\
\text{TP} \\
\text{subject} \\
\text{T} \\
\vdots \\
\text{SFP}_1 \text{P} \\
\vdots \\
\text{vP} \\
\vdots \\
\end{array}
\]

$\text{head-final}$

$\text{head-final}$

$\text{head-final}$

$\text{head-initial}$

$\text{head-initial}$

$\text{head-initial}$
Roadmap

§1 Proposal
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Evidence for clause-medial SFPs

Because of their sentence-final position, the linear position of SFPs does not clearly reflect their structural position. I study the semantic scope of two low SFPs, *le* and ‘only’ *éryĩ*.

(3) **If low SFPs are in CP, predict scope over all Ops in TP:**
\[
\text{[CP [TP ... Op ... ] SFP₁ ]} \quad \Rightarrow \text{√SFP₁ > Op, *Op > SFP₁}
\]

(4) **If low SFPs are clause-medial, predict scope over some, not all:**

a. “... Op ... SFP₁” with a lower operator (Op):
\[
\text{[CP ... [SFP₁P [ ... Op ... ] SFP₁ ]]} \quad \Rightarrow \text{√SFP₁ > Op, *Op > SFP₁}
\]

b. “... Op ... SFP₁” with a higher operator (Op):
\[
\text{[CP ... Op ... [SFP₁P ... SFP₁ ]]} \quad \Rightarrow \text{*SFP₁ > Op, √Op > SFP₁}
\]
The function of sentence-final *le* is often described as expressing a change of state or that the assertion is somehow unexpected (Li and Thompson, 1981, a.o.):

(5) **The semantic contribution of SFP *le* (ex Soh, 2009, p. 625):**

Tāmen dàodá-le shān-dǐng le.
they reach-PERF mountain-top LE

‘They reached the top of the mountain, {which they hadn’t done before, contrary to what one may expect}.’
Here I follow the proposal of Soh and Gao (2006); Soh (2009):

(6) **Semantics for sentence-final le** (Soh and Gao, 2006; Soh, 2009):
Given a proposition $p$:

- **Asserts**: $p$ is true; and
- **Presupposes**: there is “an immediate past event or state” where $p$ is false.

(7) **Example from Soh and Gao (2006):**

Wǒ xǐhūan mùguā le.
I like papaya le

- **Asserts**: ‘I (now) like papaya.’
- **Presupposes**: ‘I did not like papaya in the immediate past.’
Negation

Consider two sentential negations, búshì and bù. Búshì is higher than bù (Huang, 1988; Yeh, 1992; Hsieh, 1996).

(8) **búshì can precede hái ‘still’ but bù cannot:**

a. Tā {*
   bu hái, √hái bù*} xǐhuān Zhōngguó cài.
   s/he   NEG still     still NEG like    China    dish
   ‘S/he still does not like Chinese dishes.’ L&T p. 345

b. Tā búshì hái zài hǎi-biān, tā shì hái zài xuéxiào.
   s/he   NEG   still at  sea-side s/he   SHI   still at  school
   ‘S/he isn’t still at the beach, she’s still at school.’ (Ibid p. 348)
Negation

(9) SFP le scopes above \textit{bù} but below \textit{búshì} (Soh and Gao, 2006):

a. \textit{bù...le}:

\begin{center}
Wǒ \textit{bù} xiǎng jiā \textit{le}.
\end{center}

\begin{center}
I \textit{NEG} miss \textit{home} \textit{LE}
\end{center}

Asserts: ‘I do not miss home now.’

Presupposes: ‘I did miss home before.’

b. \textit{búshì...le}:

\begin{center}
Wǒ \textit{búshì} xiǎng jiā \textit{le}.
\end{center}

\begin{center}
I \textit{NEG} miss \textit{home} \textit{LE}
\end{center}

Asserts: ‘I do not miss home now.’

Presupposes: ‘I did not miss home before.’
(10) Semantic interpretations of (9), based on (6):

a. \( [(9a)] = \text{LE}(p) \), where \( p = \text{NEG}('I \text{ miss home}') \)
    
    **Asserts:** \( p \) is true now  \iff  I do not miss home now
    
    **Presupposes:** in the immediate past, \( p \) was false  \iff

    I *did* miss home immediately before

b. \( [(9b)] = \text{NEG} (\text{LE}(p)) \), where \( p = 'I \text{ miss home}' \)

    **Asserts:** \( \text{NEG}(p \text{ is true now}) \iff \) I do not miss home now
    
    **Presupposes:** in the immediate past, \( p \) was false  \iff

    I *did not* miss home immediately before

\( \text{SFP} \text{ le is below búshì but above } bu. \)
Modals

Epistemic modals are structurally higher than deontic and circumstantial modals (Cinque, 1999; Hacquard, 2010, a.o.).

(11) **Le scopes above néng but below epistemic kěnéng** (Lin, 2011):

   a. **ABLE néng...le**:  
      
      Zhāngsān néng qù Táiběi le.  
      Zhangsan ABLE go Taipei LE

      ✓ ‘It has become the case that Zhangsan is able to go to Taipei.’
      * ‘Zhangsan is able to have gone to Taipei.’

   b. **MAY kěnéng...le**:  
      
      Zhāngsān kěnéng qù Táiběi le.  
      Zhangsan MAY go Taipei LE

      * ‘It has become possible that Zhangsan goes to Taipei.’
      ✓ ‘Zhangsan may have gone to Taipei.’
Modals

A similar contrast with universal modals:

(12) *Le scopes above deontic xūyào but below epistemic yào* (Santana-LaBarge, 2016, p. 413):

a. **Deontic MUST xūyào...le:**

   Wǒ míngtiān xūyào qù Chéngdū le.
   I tomorrow MUST go Chengdu LE

   ✓ ‘It’s now the case that tomorrow, I must go to Chengdu.’
   * ‘It will be the case that tomorrow, I must go to Chengdu.’

b. **WILL yào...le:**

   Wǒ míngtiān yào qù Chéngdū le.
   I tomorrow WILL go Chengdu LE

   * ‘It’s now the case that tomorrow, I will go to Chengdu.’
   ✓ ‘Tomorrow, I will be going to Chengdu.’

Epistemic modals scope over *le*, but *le* scopes over deontic and circumstantial modals.
Mandarin simplex wh-words can function as indefinites in the scope of certain operators, such as negation (Huang, 1982; Li, 1992; Cheng, 1994; Lin, 1998).

(13) **Interrogative and indefinite wh:**

a. Tā xiǎng chī shénme
   s/he want eat what
   i. ‘What did s/he want to eat?’
   ii. *‘S/he wanted to eat something/anything.’*

b. Tā bù xiǎng chī shénme
   s/he NEG want eat what
   i. ‘What didn’t s/he want to eat?’
   ii. ‘S/he didn’t want to eat anything.’
(14) **Wh-word outside of the scope of negation:**

*Shéi bù xiǎng chī fàn*

who not want eat rice

a. ‘Who doesn’t want to eat?’
b. ‘Anyone/someone doesn’t want to eat.’

(15) **Wh-indefinite licensed by sentence-final le (Li, 1992, p. 133):**

a. Tā kàn dào shénme  
  s/he see what

b. Tā kàn dào shénme le.
  s/he see what LE

i. ‘What did s/he see?’  ‘S/he saw something.’

ii. ‘S/he saw something.’
(16) *le licenses wh-indefinites as object but not subject:*

a. Tā shūō *shénme le*
   s/he say what LE
   i. ‘What did s/he say?’
   ii. ‘S/he said something.’

b. *{Shéi, shénme ren} shūō huà le*
   who what person say speech LE
   i. ‘Who spoke?’
   ii. *‘Someone spoke.’

Subjects are outside of the scope of *le.*
(17) **Examples of háišì alternative questions from Erlewine (2014a):**

a. **Object DP disjunction:**

   Nǐ (shì) xiǎng hē [[DP kāfēi] háišì [DP hóngchá]] (ne)?
   you SHI want drink coffee HAISHI tea NE

   ‘Do you want to drink coffee or tea?’

b. **vP disjunction:**

   Nǐ (shì) [[vP xiǎng hē kāfēi] háišì [vP xiǎng hē hóngchá]] (ne)?
   you SHI want drink coffee HAISHI want drink tea NE

   ‘Do you want to drink coffee or want to drink tea?’ (=a)

c. **TP disjunction:**

   (Shì) [[TP nǐ nòng-cuò-le] háišì [TP diànnǎo zìjǐ dāngjī-]le] (ne)?
   SHI you make-wrong-PERF HAISHI computer self crash-PERF NE

   ‘Did you make a mistake or did the computer crash by itself?’
Two features to note:

- Different size constituents can be disjoined by *háishì*.
- The focus marker *shì* optionally precedes the left edge of the disjunction.

(18) **Sub-TP disjunction can include sentence-final *le***:

**Context**: The addressee is crying.

*Nǐ (shì) [[xiǎng jiā le] háishì [gēn nánpéngyǒu fēnshǒu-le] (ne)?*

you SHI miss home LE HAISHI with boyfriend break.up-PERF NE

‘Did you start to miss home or break up with your boyfriend?’
Alternative question disjunction

We might imagine if this is a CP or TP disjunction with a pro-dropped subject in the second disjunct:

(19) **Hypothetical CP disjunction derivation for (18):**

\[
[[\text{CP } \text{Nǐ, xǐāng jiā le}] \text{ háishi [CP } \text{pro, gēn nānpéngyǒu fēnshǒu-le}] \text{ (ne)? you miss home LE HAISHI with boyfriend break.up-PERF NE}
\]

But this analysis would predict an incorrect placement of *shì*:

(20) **Incorrect placement of *shì* predicted by (19):**

* Shì [[\text{CP Nǐ, xǐāng jiā le}] \text{ háishi [pro, gēn nānpéngyǒu you miss home LE HAISHI with boyfriend fēnshǒu-le}] \text{ (ne)? break.up-PERF NE}

☞ **SFP le can be included in the disjunction of sub-TP constituents.**
Sentence-final *le* is in a fixed, clause-medial position

- Between higher and lower negation
- Below epistemic modals but above deontic and circumstantial modals
- Below the subject
Sentence-final ‘only’ éryǐ

Mandarin has (at least) two ‘only’ words introducing exhaustivity:

(21) Two ‘only’ s in Mandarin:
    Context: “What does he do on Saturdays?”
    a. Tā zhǐ [kàn diànshì]F.
       He ONLY watch TV
       ‘He only watches TV.’ ⇒ He doesn’t do anything else.
       He watch TV ONLY
       ‘He only watches TV.’ ⇒ He doesn’t do anything else.

‘Only’ associates with focus, presupposing the truth of the prejacent (stated value) and asserting the negation of other focus alternatives.³ See Tsai (2004) on zhǐ and Erlewine (2010) on éryǐ.
Sentence-final ‘only’ éryǐ

(22) The focus-sensitivity of sentence-final ‘only’ éryǐ:

a. Wǒ hùi [niàn]_F Yīngwén éryǐ.
   I can read English ONLY
   ‘I can only [read]_F English.’ ⇒ I cannot speak it, write it, etc.

b. Wǒ hùi niàn [Yīngwén]_F éryǐ.
   I can read English ONLY
   ‘I can only read [English]_F.’ ⇒ I cannot read other languages.

Here I concentrate on this focus-sensitive exhaustive ‘only’ éryǐ as in (22). There is also a use of éryǐ which seems to associate with the entire utterance and mean “It’s just that...” or “It’s just because...” I will not consider this utterance-level éryǐ here.
The scope of negation and *only* in English:

a. **ONLY > NEG:**
   \[ \text{I only don't drink } [\text{tea}]_F. \Rightarrow \text{I drink everything else.} \]

b. **NEG > ONLY:**
   \[ \text{I don't only drink } [\text{tea}]_F \Rightarrow \text{I also drink other things (not necessarily everything else).} \]
We again consider the higher búshì and lower bà negations:

(24) SFP éryǐ ‘only’ scopes above bà but below búshì (Erlewine, 2010, p. 23):

a. bà...éryǐ: \(\checkmark\) ONLY > NEG, *NEG > ONLY

\[\begin{align*}
\text{Wǒ bà hé [chǎ]}_F \text{ éryǐ.} \\
\text{I NEG drink tea ONLY}
\end{align*}\]

\(\checkmark\) ‘I only don’t drink [tea]$_F$.’ \(\Rightarrow\) I drink everything else.

\(*\) ‘I don’t only drink [tea]$_F$.’ \(\Rightarrow\) I also drink other things.

b. búshì...éryǐ: *ONLY > NEG, \(\checkmark\) NEG > ONLY

\[\begin{align*}
\text{Wǒ búshì hé [chǎ]}_F \text{ éryǐ.} \\
\text{I NEG drink tea ONLY}
\end{align*}\]

\(*\) ‘I only don’t drink [tea]$_F$.’ \(\Rightarrow\) I drink everything else.

\(\checkmark\) ‘I don’t only drink [tea]$_F$.’ \(\Rightarrow\) I also drink other things.

\(\overset{\text{☞}}{\text{Éryǐ is below búshì but above bu.}}\)
Modals

(25) **SFP éryǐ takes scope above néng but below kěnéng:**

a. **ABLE néng...éryǐ:**

Zhāngsān néng shūo [Fǎwén]_{F} éryǐ.
Zhangsan ABLE speak French ONLY

✓ ‘Zhangsan is only able to speak [French]_{F}.’
* ‘Zhangsan is able to only speak [French]_{F}.’

b. **MAY kěnéng...éryǐ:**

Zhāngsān kěnéng shūo [Fǎwén]_{F} éryǐ.
Zhangsan MAY speak French ONLY

* ‘It’s only possible that Zhangsan speaks [French]_{F}.’
✓ ‘It’s possible that Zhangsan only speaks [French]_{F}.’

☞ Éryǐ takes scope below epistemic modals but above circumstantial modals.
The semantics of ‘only’ requires a focused constituent in the scope of ‘only’ (Jackendoff, 1972; Rooth, 1985; Tancredi, 1990; Aoun and Li, 1993).

(26) **Only** must associate with a focused constituent in its scope:
   a. I can only [read]$_F$ English.
   b. I can only read [English]$_F$.
   c. * [I]$_F$ can only read English.
      Intended: ‘Only [I]$_F$ can read English.’

(27) **Sentence-final éryǐ** is unable to associate with the subject:
   * [Wǒ (yī ge rén)]$_F$ hùi niàn Yīngwén éryǐ.
      I one CL person can read English ONLY
      Intended: ‘Only [I (one person)]$_F$ can read English.’

Tang (1998, p. 45–47) shows the same with Cantonese sentence-final zaa: “The subject and any adverbs preceding the subject are always excluded from focalization of zaa.”
Subjects

If a subject stays in a postverbal position, as is possible with indefinite subjects of unaccusatives (Travis, 1984), it can be the focus of éryǐ:

(28) **Sentence-final éryǐ can associate with a postverbal subject:**
Lái-le [(wǒ) yī ge rén]F éryǐ.
come-PERF I one CL person ONLY
‘Only [(I) one person]F came.’

Subject quantifiers also take scope over éryǐ:

(29) **Distributive subject with dōu takes scope over éryǐ:**
Wǒmen dōu hē [hēi]F kāfēi éryǐ.
we DOU drink black coffee ONLY
✓ ‘Each of us only drinks [black]F coffee.’
✓ subject DOU > ONLY
* ‘Only [black]F coffee is such that we all drink it.’* ONLY > subject DOU

☞ Preverbal subjects are outside of the scope of éryǐ.
Háishì disjunctions of different sizes:

a. Disjunction of extended VP:

Nǐ (shì) [[vP yào yī wǎn fàn] háishì [vP yào liǎng wǎn fàn]] (ne)?
you SHI want one CL rice HAISHI want two CL rice NE

‘Do you want one bowl of rice or two bowls of rice?’

b. DP disjunction:

Nǐ (shì) yào [[DP yī wǎn fàn] háishì [DP liǎng wǎn fàn]] (ne)?
you SHI want one CL rice HAISHI two CL rice NE

‘Do you want one bowl of rice or two bowls of rice?’ (=a)
Alternative question disjunction

(31) Disjunction of extended VP can include sentence-final éryǐ; DP disjunction cannot:

a. Disjunction of extended projections of VP:

Nǐ (shì) [[yào [yī]̕ wǎn fàn éryǐ] háishì [yào liǎng wǎn you SHI want one CL rice ONLY HAISHI want two CL fàn]] (ne)?

rice NE

‘Do you want only [one]̕ F bowl of rice or two bowls of rice?’

b. Disjunctions of DPs:

* Nǐ (shì) yào [[DP [yī]̕ wǎn fàn éryǐ] háishì [DP liǎng wǎn you SHI want one CL rice ONLY HAISHI two CL fàn]] (ne)?

rice NE

Éryǐ can be included in the disjunction of sub-TP extended VPs.
Sentence-final éryǐ is in a fixed, clause-medial position

- Between higher and lower negation
- Below epistemic modals but above circumstantial modals
- Below the preverbal subject
§1 Proposal
§2 Evidence
§3 SFPs and FOFC
Chinese SFPs have been important in the discussion of the *Final-over-Final Constraint* (FOFC), a proposed universal on structure-building and linearization.

(32) **The Final-over-Final Constraint (FOFC)*** (Holmberg, 2000, p. 124): If a phrase $\alpha$ is head-initial, then the phrase $\beta$ immediately dominating $\alpha$ is head-initial. If $\alpha$ is head-final, $\beta$ can be head-final or head-initial.
(33) **Predictions of the Final-over-Final Constraint:**

a. $\sqrt{HF}$ over $HF$:

$$
\begin{array}{c}
\beta P \\
\alpha P & \beta \\
XP & \alpha
\end{array}
$$

b. $\sqrt{HI}$ over $HI$:

$$
\begin{array}{c}
\beta P \\
\beta & \alpha P \\
\alpha & XP
\end{array}
$$

c. $\sqrt{HI}$ over $HF$:

$$
\begin{array}{c}
\beta P \\
\beta & \alpha P \\
XP & \alpha
\end{array}
$$

d. $*HF$ over $HI$:

$$
\begin{array}{c}
\beta P \\
\alpha P & \beta \\
\alpha & XP
\end{array}
$$
The Final-over-Final Constraint

(34) Word orders in Finnish *wh*-questions (Holmberg, 2000, p. 128):

a. **Aux-V-O:**

✓ Milloin Jussi olisi kirjoittanut romaanin?
   when Jussi would have written a novel
   ‘When would Jussi have written a novel?’

b. **Aux-O-V:**

✓ Milloin Jussi olisi romaanin kirjoittanut?
   when Jussi would have a novel written

c. **O-V-Aux:**

✓ Milloin Jussi romaanin kirjoittanut olisi?
   when Jussi a novel written would have

d. **V-O-Aux:**

* Milloin Jussi kirjoittanut romaanin olisi?
   when Jussi written a novel would have

*V-O-Aux also holds across modern and historical Germanic languages Biberauer, Holmberg, and Roberts (2008, 2014), and at many other levels of syntactic structure.
At the same time, we know FOFC does not hold over entire utterances:

(35) A potential exception to FOFC, in German (Biberauer, Holmberg, and Roberts, 2008):

Johann hat [VP [DP den Mann] gesehen].
John has the man seen

‘John has seen the man.’

A common intuition for accounting for such data is that FOFC holds only over certain domains. I call these FOFC domains.
Reactions to FOFC exceptions


(36) **Possible reactions to an apparent exception to FOFC:**
Given a FOFC-violating structure \([\beta_P [\alpha_P \alpha \text{XP }] \beta]\), one could conclude:

a. FOFC is not a real constraint on grammar (or not active in my language);

b. The head \(\beta\) is not subject to FOFC evaluation; or

c. The heads \(\beta\) and \(\alpha\) are in different FOFC domains and therefore FOFC does not apply over them (but FOFC is observed upwards for \(\beta\) and downwards for \(\alpha\)).
Reactions to FOFC exceptions

- Waltraud Paul notably takes the first approach (36a).
- Most previous work on Chinese SFPs and FOFC have taken the second approach, by somehow exempting SFPs (36b).

I advocate for the third approach (36c): SFPs occur at the edges of FOFC domains, which coincide with phase edges.
The proposal

(37) Proposed structure: (=2)

```
          AttitudeP
             / \
            CP   Attitude
            /
           SFP3
     / \   \
TP   C    SFP2
   /
subject
     /  \
     T    SFP1P
     /
     :    SFP1
     \   \
    :    vP
    \   \
     :    :   :   :
     :    :    :
     :    :    :
     \   \   \   \   \   \   
      :    :    :    :    :    :    :
```
Let C (SFP$_2$) and SFP$_1$ be phase heads; the latter heading the lower phase of the clause, traditionally called $vP$. I take complements of phase heads to be Spell-Out domains (Chomsky, 2000, 2001).

(38) **Spell-Out domains of the Mandarin clausal spine (hierarchical):**

```
phase head  phase head
  ↓  ↓
[CP C(=SFP$_2$)] [TP T ... [SFP$_1$P SFP$_1$ ... [VP $v$ [VP V ...]]]

Spell-Out domain Spell-Out domain
```
The mechanism of cyclic Spell-Out naturally motivates these positions as break points for FOFC: Spell-Out makes subtrees opaque for introspection from above (Uriagereka, 1999; Chomsky, 2000, 2001).

(39) **Spell-Out leads to a natural break in FOFC enforcement:**

a. Merge $\alpha P$ with PH $\beta$: $\rightarrow$ b. $\alpha P$ undergoes Spell-Out: \\

$$
\begin{array}{c}
\alpha P \\
\alpha \quad \text{XP}
\end{array} \\
\beta \\
\text{phase head}
\begin{array}{c}
\beta P \\
\text{"\alpha..."}
\end{array} \\
\beta \\
\text{phase head}
$$

(40) **FOFC domains = Spell-Out domains:** (also in Richards 2016) FOFC holds only within individual Spell-Out domains.
This approach gives a principled explanation for why SFPs appear in these two positions of the clause: the clause periphery (higher phase edge) and a fixed clause-medial position (lower phase edge).

- An alternative is, for example, that SFPs are adjuncts. The very restricted distribution of SFPs is then difficult to explain.
A potential problem: *V-O-Aux again

Much of the initial motivation for FOFC was word order gaps between main verb, object, and auxiliary. This is most likely a FOFC-effect across the higher and lower phases of the clause.

Idea: This reflects morphological differences of the heads involved.

If the lower phase’s phase head head-moves or morphologically merges with higher material, this shifts or suspends the Spell-Out boundary (see e.g. Den Dikken, 2007; Gallego, 2007, 2010).
A potential problem: *V-O-Aux again

**Prediction:** (Apparent) FOFC violations might be more likely in isolating/analytic languages and less likely in agglutinating/synthetic languages.

- Philip (2013, p. 206) cites Matthew Dryer (p.c.) in stating that “for many of the VO languages exhibiting final uninflected tense or aspect particles, there is simply no verbal inflection in the language at all.”
- The FOFC-violating V-O-Aux order is attested by an ability modal in Middle Chinese and in a number of Southeast Asian languages (Simpson, 2001), with are indeed very analytic.

This explains the observation that “FOFC violations may cluster” (Biberauer et al., 2008, p. 100) in certain language families or in certain parts of the clause.
• The low SFPs *le* and *éryǐ* are in a **dedicated clause-medial position**, between higher and lower negations, epistemic and deontic modals, preverbal subjects and the VP.

☞ **Low SFPs realize the lower phase head.**

• The limited distribution of SFPs in Mandarin is best explained by **embracing FOFC**, with SFPs being **head-final heads** in the clausal spine.

☞ **Spell-Out domains are FOFC domains.** Extended stretches of FOFC enforcement (e.g. in languages with richer verbal inflection) reflect shifts in Spell-Out boundaries.
Thank you! Questions?

I thank Sze-Wing Tang and organizers for this opportunity to present this work. This work expands on Erlewine (2010, 2014b) and will appear as Erlewine (to appear). For valuable comments and discussion, I thank Tingchun Chen, Noah Constant, Thomas Grano, Irene Heim, Cheng-Teh James Huang, Hadas Kotek, Paul Kroeger, Jo-Wang Lin, Chen-Sheng Luther Liu, Victor Junnan Pan, Waltraud Paul, David Pesetsky, Norvin Richards, Robert Santana-LaBarge, Michelle Sheehan, Hooi-Ling Soh, audiences at the IACL 18 / NACCL 22 joint meeting at Harvard University (2010) and NAACL 25 at the University of Michigan (2013). I additionally thank Grace Chen-Hsiu Kuo, Chi-Ming Louis Liu, Iris Ouyang, Pamela Pan, Jiajia Su, Ning Tang, Cheng-Yu Edwin Tsai, Yimei Xiang, Tianxiao Wang for extensive discussion of data and judgments. All errors are my own.


References III


References IV


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