Focus adverbs at the vP and higher edges

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Operators such as *only*, *even*, and *also* are “**focus-sensitive,**” as their interpretation depends on the placement of focus elsewhere in the utterance.

(1)  
  a. David will **only** wear a bow tie when TEACHING.  
  b. David will **only** wear a BOW TIE when teaching.

based on Beaver and Clark (2008)
Focus triggers the computation of alternatives which vary in the focused position and focus-sensitive operators quantify over these alternatives (Rooth, 1985, 1992).

(1a) **Computing only for (1a):**

a. **Scope of only:** wear a bow tie when [teaching]$_F$.

b. **Alternatives:**
   \[
   \begin{aligned}
   &\text{wear a bow tie when teaching,} \\
   &\text{wear a bow tie when sleeping,} \\
   &\text{wear a bow tie when eating,} \\
   \end{aligned}
   \]

c. **Only:**
   
   yes  wear a bow tie when teaching,
   no   wear a bow tie when sleeping,
   no   wear a bow tie when eating,

(Horn, 1969)

d. $[(1a)]$ = David will wear a bow tie when teaching, but not at any other time (when sleeping or eating...).
Focus triggers the computation of **alternatives** which vary in the focused position and focus-sensitive operators quantify over these alternatives (Rooth, 1985, 1992).

(1b) **Computing only for (1b):**

a. **Scope of only:** wear \([a \text{ bow tie}]_F\) when teaching.

b. **Alternatives:**
   \[
   \begin{cases}
   \text{wear a bow tie when teaching,} \\
   \text{wear pants when teaching,} \\
   \text{wear a shirt when teaching,} \\
   \end{cases}
   \]

c. **Only:**
   
   - **yes** wear a bow tie when teaching,
   - **no** wear pants when teaching,
   - **no** wear a shirt when teaching,

   (Horn, 1969)

d. \[(1b)] = \text{David will wear a bow tie when teaching, but not anything else (pants, shirt,...).}
The question

The semantics of focus requires that the focused constituent—the “associate”—be in the scope of the operator (Jackendoff, 1972; Tancredi, 1990; Aoun and Li, 1993; Erlewine, 2014).

(2) * DAVID will only wear a bow tie when teaching.
   Intended: ‘Only [David]$_F$ will wear a bow tie when teaching.’

I will refer to this as the semantic requirement.

Q: Are there other constraints on the position of focus adverbs?
The semantic requirement is insufficient to explain the distribution of focus adverbs in Mandarin Chinese and Vietnamese.

- I show that focus adverbs in Mandarin and Vietnamese must be as low as possible while satisfying the semantic requirement, relative to a particular syntactic domain.
- I model the “as low as possible” behavior using Optimality Theory.
  - The full pattern motivates optimizing phase by phase.
- I relate this to the distribution of focus in Romance, Bantu, and Chadic.
Mandarin Chinese
In Mandarin, I will look at two focus-sensitive operators: *zhǐ* 只 and *shì* 是.

(3) **zhǐ** 只:  
- semantics of *only* (Tsai, 2004); glossed here as **ONLY**  
- In some positions—notably sentence-initially—appears as *zhǐyǒu* 只有.  
  - I argue *zhǐ* and *zhǐyǒu* are allomorphs. (See Appendix A.)

(4) **shì** 是:  
- “focus marker” (Teng, 1979, a.o.): indicates narrow/contrastive focus, often translated as a cleft—see Erlewine (2015b) for its semantics;  
- glossed here as **SHI**;  
- homophonous/homographous with the copular verb
Zhǐ and shì are focus adverbs

(5)  

a. David **only** drinks [red wine]_F.  
    
    b. David drinks **only** [red wine]_F.  

I argue that zhǐ and shì are always **adverbs**, not constituent-marking.
(6) **Zhǐ** and **shì** cannot be postverbal:

Zhāngsān \(\checkmark\) **zhǐ/shì** \([v_P\ hē] ^*\text{zhǐ/shì} [hōngjiǔ]_F\).  
Zhangsan **ONLY/SHI** drinks \(*\text{ONLY/SHI wine}\)

‘Zhangsan only drinks [wine]_F.’

(7) **Zhǐ** and **shì** cannot be inside PPs:

Zhāngsān \(\checkmark\) **zhǐ/shì** \([p_P\ duì] ^*\text{zhǐ/shì} [Lǐsì]_F\) rēng-le qiú.  
Zhangsan **ONLY/SHI** to \(*\text{ONLY/SHI Lisi throw-PERF ball}\)

‘Zhangsan (only) threw a ball at [Lisi]_F.’
Zhǐ and shì are focus adverbs

Adverb *only* can associate with multiple foci, but constituent-marking *only* cannot:

(8)  
   a. ✓ I *only* saw [the children]$_F$ ask [the adults]$_F$ to be quiet.  
   b. * I saw *only* [the children]$_F$ ask [the adults]$_F$ to be quiet.  
   c. * Only [the children]$_F$ asked [the adults]$_F$ to be quiet.

Mandarin zhǐ and shì can associate with multiple foci:

(9)  
   Multiple focus with shì (Cheng, 2008):  
   SHI son ask adult not noisy NEG SHI adult ask son not noisy  
   ‘The son asked the adult not to make noise, not the other way around.’

❄ Zhǐ and shì pattern with adverb *only*, not constituent-marking *only*.  

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11
The position of zhǐ/shì

(10) A simplex clause:

Zhāngsān
Zhangsan

zài jiālǐ
at home

chī shālā.
eat salad

( Zhǐyǒu
ONLY )

( zhǐ
ONLY )

⇔ [home]_F

⇔ [Zhangsan]_F or entire proposition focus

(11) Generalization (first):
Focus adverbs must be in the lowest position possible while taking their associate in their scope.
Zhǐ/shì can also associate down from a higher clause, long-distance.

(12) **Zhǐ (and shì) can associate long-distance:**

a. ✓ Lǐsì zhǐ shūo [CP Zhāngsān hē [chá]₉].
   Lisi ONLY say Zhangsan drink tea
   ‘Lisi *only* said that Zhangsan drinks [tea]₉.’

b. ✓ Lǐsì shūo [CP Zhāngsān zhǐ hē [chá]₉].
   Lisi say Zhangsan ONLY drink tea
   ‘Lisi said that Zhangsan *only* drinks [tea]₉.’
The position of zhǐ/shì

For long-distance association, shì/zhǐ must be at the vP edge: (cf 12a)

(13)  a.  * Zhǐyǒu Lǐsì shūo \([_{CP} \text{Zhāngsān hē [chá]}_F]\).  
       ONLY Lisi say Zhangsan drink tea

       b.  * Lǐsì zhǐ(yǒu) zuótiān shūo-guò \([_{CP} \text{Zhāngsān hē [chá]}_F]\).
            Lisi ONLY yesterday say-PAST Zhangsan drink tea
            (ungrammatical with the intended association)

(14)  Generalization (revised):
       Focus adverbs must be in the lowest position possible while taking their associate in their scope, *within a given clause* (CP).
Finally, evidence from verbs with nonfinite embeddings shows that domain over which the ‘as low as possible’ condition holds must be smaller than CP.

(15) **Zhǐ before and after the control verb xiǎng ‘want’:**

a.  ✓ Zhāngsān zhǐ \([v_P \text{xiǎng} [v_P \text{chī [shūcài]}_F]]\).

   ‘Zhangsan only \textit{want} eat vegetables.’

   ‘Zhangsan \textit{only wants to eat [vegetables]}_F.’

   only > want

b.  ✓ Zhāngsān \([v_P \text{xiǎng zhǐ} [v_P \text{chī [shūcài]}_F]]\).

   ‘Zhangsan \textit{want only} eat vegetables.’

   ‘Zhangsan wants to \textit{only eat [vegetables]}_F.’

   want > only

Both are possible because they are lowest \textit{within their respective phases}.
Generalization (final):
Focus adverbs must be in the lowest position possible while taking their associate in their scope, *relative to a particular phase*.

This behavior parallels the behavior of German, as described by Jacobs (1983, 1986) and Büring and Hartmann (2001), although their characterization has been controversial (see e.g. Reis, 2005). (See Appendix B.)
Vietnamese
In Vietnamese, I will look at two *only* words: *chi* and *mõi*.

(17) Hole and Löbel (2013) argues:
   a. *chi* is an adverb *only*; (glossed here as ONLY\textsubscript{adv})
   b. *mõi* is a constituent-marking *only*. (glossed here as ONLY\textsubscript{CM})

(18) Nam (chi) mua (mõi) [cuốn sách]\textsubscript{F}.
    Nam ONLY\textsubscript{adv} buy ONLY\textsubscript{CM} CL book
    ‘Nam bought only [the book]\textsubscript{F}.’
Chỉ is a focus adverb

With preverbal foci, chỉ, mỗi, or both can occur, but only in chỉ-mỗi order.

(19) **Stacking the two onlys on the subject:**

a. ✓ **Mỗi** [Nam]$_F$ mua cuốn sách.
   
   ONLY$_{CM}$ Nam bought CL book
   
   ‘Only [Nam]$_F$ bought the book.’

b. ✓ **Chỉ** [Nam]$_F$...
   
   ONLY$_{adv}$ Nam

c. ✓ **Chỉ** mỗi [Nam]$_F$...
   
   ONLY$_{adv}$ ONLY$_{CM}$ Nam

d. * **Mỗi** chỉ [Nam]$_F$...
   
   ONLY$_{CM}$ ONLY$_{adv}$ Nam

This is what is predicted by Hole and Löbel’s (2013) analysis of chỉ as an adverb and mỗi as constituent-marking: the adverb is necessarily linearly outside of the constituent-marking only.
Here I use sentences with a temporal adjunct.

(20) Hôm qua nam mua cuốn sách (thôi).

\[
\begin{align*}
\text{Chì} & \quad \text{ONLY}_{adv} \\
\text{ONLY}_{adv} & \quad \text{chì} \\
\text{Nam} & \quad \text{bought CL} \\
\text{bought} & \quad \text{book (PRT)}
\end{align*}
\]

\[\leftrightarrow\] [bought book]_F or [bought]_F or [book]_F
The position of *chì*

*chì* can associate long-distance, into a lower clause, but when it does, it must be in immediately preverbal position:


ONLY adv I ONLY adv say that Nam like Ngan (PRT)

‘I *only* said Nam likes [Ngan]F.’


I say that ONLY adv Nam ONLY adv like Ngan (PRT)

‘I said Nam *only* likes [Ngan]F.’
Vietnamese shows us a case where we can clearly distinguish between adverb and constituent-marking onlys, and we see that $\text{ONLY}_{adv}$ follows the generalization in (16), repeated:

\begin{center}
(23) \textbf{Generalization:} (\textasciitilde16)  
Focus adverbs must be in the lowest position possible while taking their associate in their scope, relative to a particular phase.
\end{center}
A purely semantic hypothesis
We might imagine that *shì/zhǐ/chǐ* must be as low as possible (within a particular domain) *unless it being in a higher position introduces a truth-conditional difference*.

Similar semantically-sensitive constraints have been proposed previously:

(24) **Scope Economy (Fox, 2000, p. 3):**
Scope-shifting operations cannot be semantically vacuous.

☞ The “as low as possible” behavior is not semantically-sensitive in this way.
A purely semantic hypothesis

(25) **Subject quantifier baseline:**
Měi-ge kèrén dōu zhǐ \([v_P \ hē \ [chá]_F]\).
Every-CL guest all ONLY drink tea

✓ ‘Every guest is such that they only drink \([tea]_F\).’
\(\text{every} > \text{only}\)

* ‘Tea is the only thing that every guest drinks.’
\(\text{*only} > \text{every}\)

Zhǐ in (25) is in the lowest possible position to take its focus associate in its scope.

What if zhǐ moves in front of the subject but keeps associating with “tea”?  

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**Theoretical Note**

In (25), the quantifier **zhǐ** (only) is in the subject position, indicating a scope that restricts the interpretation to the objects associated with it. The movement of **zhǐ** to the front of the sentence while maintaining its focus association with “tea” changes the interpretation of the sentence. This scenario investigates how the focus association affects the semantic structure of the sentence, particularly in the context of quantifiers and their scope.
(26) * Zhǐ cannot be higher, even if it would lead to a different reading:

\[ \text{Zhǐ (yǒu) měi-ge kèrén dōu hē [chá]_F.} \]

\text{ONLY every-CL guest all drink tea}

Intended: ‘Only [tea]_F is such that every guest drinks it.’

This reading can of course be expressed, but it requires fronting the associate:

(27) Fronting can be used to force zhǐ to scope higher, above every:

\[ \text{Zhǐyǒu [chá]_F měi-ge kèrén dōu hē [chá]_F.} \]

\text{ONLY tea every guest all drink}

‘Only [tea]_F is such that every guest drinks it.’

\text{only > every}
A purely semantic hypothesis

The argument against this purely semantic hypothesis also applies to Vietnamese:

(28) *Chi* can’t be higher, even if it changes the meaning:

   who also ONLY buy CL book
   ‘Everyone only$_{adv}$ bought [the book]$_F$.’ ✓∀ > only, *only > ∀

   ONLY$_{adv}$ who also buy CL book
   Int: ‘Only [the book]$_F$ is s.t.$i$ everyone bought it.$i$’ only > ∀

c. ✓Chi (mỗi) [cuốn sách]$_F$ ai cưng (mỗi) mua ____.
   ONLY$_{adv}$ (ONLY$_{CM}$) CL book who also (PRT) buy
   ‘Only [the book]$_F$ is s.t.$i$ everyone bought it.$i$’ ✓only > ∀
The “as low as possible” behavior cannot be the result of a semantically-sensitive condition à la Scope Economy (24).
Proposal
The requirement to take the associate in its scope in (16) follows from the semantics of focus (Rooth, 1985). **However, the requirement to be as low as possible, within a particular domain, is not explained by the semantics alone.**

The “as low as possible” requirement is due to the **syntax** of adverb placement. Formally, generate focus adverbs at different heights and have these derivations **compete**. (See Erlewine 2015a for alternatives.)
This competition will be modeled using *Optimality Theory* (OT).

(29) **Optimality Theory** (Prince and Smolensky, 1993):

a. There is a set of *candidates*—possible outputs.

b. Each candidate is checked for violations of *constraints*.

c. **Constraints are strictly ranked.**
   
   • Look at the highest constraint. If there is one candidate that satisfies it best, that is the *winner*.
   
   • If there’s a tie, look at the next constraint to break the tie...

d. The *winner* (indicated with ☑) is what is grammatical; others are ungrammatical.
The constraints

(30) **FOCADVLOW**: For each focus adverb, the number of violations is the number of terminal nodes in its complement.

(31) **FOCSCOPE**: The scope of the focus adverb must contain its intended associate. (i.e. the semantic requirement.)
Simplex clauses

(32)

<table>
<thead>
<tr>
<th></th>
<th>FOCSCOPE</th>
<th>FOCADVLOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>ONLY, Z at home eat [salad]$_F$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. ONLY Z at home eat [salad]$_F$</td>
<td><em><strong>!</strong></em></td>
<td></td>
</tr>
<tr>
<td>b. Z ONLY at home eat [salad]$_F$</td>
<td>**<em>!</em></td>
<td></td>
</tr>
<tr>
<td>a. Z at home ONLY eat [salad]$_F$</td>
<td>**</td>
<td></td>
</tr>
</tbody>
</table>
**Simplex clauses**

(33) | ONLY, \([Z]_F\) at home eat salad | FOCSCOPE | FOCADVLOW |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>ONLY ([Z]_F) at home eat salad</td>
<td></td>
<td>*****</td>
</tr>
<tr>
<td>b.</td>
<td>([Z]_F) ONLY at home eat salad</td>
<td>*!</td>
<td>****</td>
</tr>
<tr>
<td>c.</td>
<td>([Z]_F) at home ONLY eat salad</td>
<td>*!</td>
<td>**</td>
</tr>
</tbody>
</table>

**Proposal:** FOCSCOPE \(\gg\) FOCADVLOW
Now consider the case of focus in an embedded clause:

(34)  

<table>
<thead>
<tr>
<th></th>
<th>ONLY, Lisi say [Zhangsan drink [tea]_F]</th>
<th>FOCSCOPE</th>
<th>FOCADVLOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>ONLY L say [Z drink [tea]_F]</td>
<td></td>
<td>*<strong>!</strong></td>
</tr>
<tr>
<td>b.</td>
<td>L ONLY say [Z drink [tea]_F]</td>
<td></td>
<td>**<em>!</em></td>
</tr>
<tr>
<td>c.</td>
<td>L say [ONLY Z drink [tea]_F]</td>
<td></td>
<td>***!</td>
</tr>
<tr>
<td>d.</td>
<td>L say [Z ONLY drink [tea]_F]</td>
<td></td>
<td>**</td>
</tr>
</tbody>
</table>

We want (d) to compete with and rule out (c), but not compete with (b).

The solution is to optimize cyclically, at the phase level (Heck and Müller, 2001; Fanselow and Čavár, 2001). Assume vP and CP are phases.
(35) **Introducing ONLY in the embedded CP phase:**

<table>
<thead>
<tr>
<th>ONLY, Zhangsan ([_{vp} \text{drink [tea]}_F])</th>
<th>FOCSCOPE</th>
<th>FOCADVLOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ONLY Z ([_{vp} \text{drink [tea]}_F])</td>
<td>***!</td>
<td></td>
</tr>
<tr>
<td>b. Z ONLY ([_{vp} \text{drink [tea]}_F])</td>
<td>**</td>
<td></td>
</tr>
</tbody>
</table>

⇒ ‘Lisi say Zhangsan ONLY drink [tea]_F.’

(36) **Introducing ONLY in the matrix CP phase:**

<table>
<thead>
<tr>
<th>ONLY, Lisi ([_{vp} \text{say [CP Zhangsan drink [tea]}_F])</th>
<th>FOCSCOPE</th>
<th>FOCADVLOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ONLY L ([_{vp} \text{say [CP Z drink [tea]}_F])</td>
<td>*****!</td>
<td></td>
</tr>
<tr>
<td>b. L ONLY ([_{vp} \text{say [CP Z drink [tea]}_F])</td>
<td>****</td>
<td></td>
</tr>
</tbody>
</table>

⇒ ‘Lisi ONLY say Zhangsan drink [tea]_F.’
Crucially, optimization occurs phase-by-phase, not CP-by-CP, in order to derive the control embedding data:

(37) **Introducing ONLY after the lower \(v_P\):**

<table>
<thead>
<tr>
<th>ONLY, want ([v_P \text{ eat } \text{[veg's]}_F])</th>
<th>FOCSCOPE</th>
<th>FOCADVLOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ONLY want ([v_P \text{ eat } \text{[veg's]}_F])</td>
<td>***!</td>
<td></td>
</tr>
<tr>
<td>b. want ONLY ([v_P \text{ eat } \text{[veg's]}_F])</td>
<td>**</td>
<td></td>
</tr>
</tbody>
</table>

\[ \Rightarrow \sqrt{\text{Zhangsan want ONLY eat [vegetables]}_F}. \]

(38) **Introducing ONLY after the higher \(v_P\):**

<table>
<thead>
<tr>
<th>ONLY, Zhangsan ([v_P \text{ want eat } \text{[veg's]}_F])</th>
<th>FOCSCOPE</th>
<th>FOCADVLOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ONLY Z ([v_P \text{ want eat } \text{[veg's]}_F])</td>
<td>****!</td>
<td></td>
</tr>
<tr>
<td>b. Z ONLY ([v_P \text{ want eat } \text{[veg's]}_F])</td>
<td>***</td>
<td></td>
</tr>
</tbody>
</table>

\[ \Rightarrow \sqrt{\text{Zhangsan ONLY want eat [vegetables]}_F}. \]
The fact that competition only occurs within the phase constitutes a new argument for phase-based cyclic Spell-Out (Chomsky, 2000, 2001).
Low focus languages
This constraint-based proposal leads to a natural question:

Q: Are there languages with the reverse ranking of $\text{FOCADVLOW} \gg \text{FOCSCOPE}$? What would such a language look like?

$\text{FOCADVLOW} \gg \text{FOCSCOPE}$ means that focus-sensitive operators can only be at the $\text{vP}$ edge, and not higher. But the semantics is still the same: the associate must be in the scope of the operator (Rooth, 1985, a.o.).

$\text{FOCADVLOW} \gg \text{FOCSCOPE}$ entails that (bound) focus needs to be low, inside $\text{vP}$.
More concretely, we predict subject-object asymmetries in focus:

(39) **Subjects cannot be focused in their canonical position:**
* $[[\text{CP} \ldots \text{[subject]}_F \ldots \text{FocAdv} \ [\text{VP} \ldots ]]]$

(40) **Two possibilities for subject focus:**
   a. **Build another clause on top:**
      $[[\text{FocAdv} \ [\text{VP} \ldots \text{[CP} \ldots \text{[subject]}_F \ldots \text{VP} \ldots ]]]$
   b. **Exceptionally keep the subject low:**
      $[[\text{CP} \ldots \text{FocAdv} \ [\text{VP} \text{[subject]}_F \ldots ]]]$
French ONLY cannot be used with in-situ subjects:

(41) **French subject ONLY:** (Lambrecht, 2010)

a. * [Lui]$_F$ seulement me comprend.
   He **ONLY** 1sg understands

b. * Que [lui]$_F$ me comprend.
   **ONLY** he 1sg understands

c. Y a que [lui]$_F$ qui me comprend.
   **LOC** has **QUE** him **who** 1sg understands
   ‘Only [he]$_F$ understands me.’
More generally, focused constituents in French want to be postverbal:

(42) **Corrective subject focus:** (Lambrecht, 2010)

Context: “I heard your motorcycle broke down?”

   No my car is broken

b. Non, c’est ma [voiture]$_F$ qui est en panne.
   No it’s my car who is broken
   ‘My CAR broke down.’

Similar facts in other Romance languages (see e.g. Frascarelli, 1999, 2000; Costa, 2004a,b; Samek-Lodovici, 2005; and discussion in Féry, 2013).
We can model such interactions with $\text{FOCADVLOW} \gg \text{FOCSCOPE}$ if we assume that constituent ONLY and corrective focus also involve an (unpronounced) focus adverb.

(43) **Optimizing FocAdv in the same phase as the associate:**

<table>
<thead>
<tr>
<th>FocAdv, my [car]$_F$ [vP is broken]</th>
<th>FOCADVLOW</th>
<th>FOCSCOPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. FocAdv my [car]$_F$ [vP is broken]</td>
<td>**<em>!</em></td>
<td></td>
</tr>
<tr>
<td>b. my [car]$_F$ FocAdv [vP is broken]</td>
<td>**</td>
<td>*</td>
</tr>
</tbody>
</table>

This result, ‘my [car]$_F$ [FocAdv [is broken]],’ is uninterpretable as the focus associate is not in the scope of FocAdv!

Instead, another clause must be built on top, allowing FocAdv to be introduced at a higher vP.
In many Bantu languages, *wh*-words and the focus in corresponding answers must be a postverbal position.

Focused constituents with *fela* ‘only’ in Northern Sotho (Bantu) must be postverbal:

(44) **Northern Sotho focused internal arguments:** (Zerbian, 2006)

a. Mosadi otliša [bana]$_F$ **fela**.
   woman bring kids     ONLY
   ‘The woman only brings the [kids]$_F$.’

b. Mosadi otliša bana [sekolo]$_F$-ng **fela**.
   woman bring kids    school-LOC     ONLY
   ‘The woman only brings the kids to [school]$_F$.’
Northern Sotho as a low focus language

Subjects (typically preverbal) cannot be focused in-situ:

(45) Northern Sotho focused subjects: (Zerbian, 2006)

a. Build another clause on top:

Ké [mosadi]$_F$ fela atliša-ng bana.
COP woman only bring-REL kids

‘Only the [woman]$_F$ brings the kids.’
literally ‘It’s only the [woman]$_F$ that brings the kids.’

b. Exceptionally keep the subject low:

arrived man only

‘Only the [man]$_F$ arrived.’
Kikuyu (Bantu; Kenya) is canonically SVO and has both in-situ and biclausal cleft questions:

(46) **Kikuyu object *wh*-questions:** (Schwarz, 2003)

a. Kamau ɔɔnirɛ oo?
   Kamau see who
   ‘Who did Kamau see?’

b. N-oo Kamau ɔɔnirɛ?
   COP-who Kamau see
   ‘Who did Kamau see?’
Kikuyu as a low focus language

Subject *wh*-words must use the cleft strategy:

(47) **Kikuyu subject *wh*-questions:** (Schwarz, 2003)
   a. * Oo aðomayera mw-ana i-βuku?
      who read 1-child 5-book
   b. N-oo aðomayera mw-ana i-βuku?
      COP-who read 1-child 5-book
      ‘Who read the book to the child?’

**Rose et al. (2014):** Same pattern in Moro (Kordofanian; Sudan).
In some Bantu languages, when the subject is focused, it is kept low, and the object is instead fronted and agrees with the verb.

(48) **Kinyarwanda subject-object reversal:** (Morimoto, 2006)
   a. Umuhuûngu a-rasoma igitabo.
      1boy 1-read 7book
      ‘The boy is reading the book.’
   b. Igitabo ki-soma [umuhuûngu]_F_.
      7book 7-read 1boy
      ‘[The boy]_F_ is reading the book.’

This keeps the focus low, but also satisfies EPP on T at the same time.
Ngamo (West Chadic; Nigeria) is canonically SVO. Interestingly, its only word *yak* can “float” and associate with a postverbal constituent:

(49) **Ngamo ‘only’ *yak* can “float”:** (Grubic and Zimmermann, 2011)

(Yak) te (yak) esha si (yak) [nzono]_{F} (yak’i).

*only* she *only* call.PERF him *only* yesterday *only*

‘She *only* called him [yesterday]_{F}.’

The linear position of *yak* does not reflect the operator’s scope.
Ngamo as a low focus language

However, subjects must be postverbal to be the associate of *yak*:

(50) **Ngamo focused subjects:** (Grubic and Zimmermann, 2011)

   a. * (Yak) [Shuwa]_F (yak) sàlko bànò (yàk’ì).
      ONLY Shuwa ONLY build-PFV house ONLY
      Intended: ‘*Only [Shuwa]_F built a house.*’

   b. Sàlko bànò-ì yak [Kulè]_F.
      build-PERF house-BM only Kule
      ‘*Only [Kule]_F built a house.*’

**Tuller (1992); Fielder et al. (2010):** Similar low focus requirements are observed in other Chadic languages, including Bole, Tangale, Bade, Ngizim, Duwai.
“Low focus” languages exist, as predicted by the ranking $\text{FOCADVLOW} \gg \text{FOCSCOPE}$. 
Conclusion
• I argue that Mandarin Chinese zhǐ and shì are adverbs, and study their distribution together with Vietnamese chỉ, which is also an adverb (Hole and Löbel, 2013).

Their distribution follows the following generalization:

Focus adverbs must be in the lowest position possible while taking their associate in their scope, relative to a particular phase.
Conclusion

• The uniform behavior of focus adverbs in Mandarin Chinese and Vietnamese (and German) can be modeled in OT with the ranking \textsc{FOCSCOPE} \gg \textsc{FOCADVLOW}.
  • Optimization occurs \textit{phase-by-phase}.
  • This derives \textbf{the special status of the vP edge} as the position for focus adverbs that associate long-distance.

• I discussed “\textbf{low focus}” languages in Romance, Bantu, and Chadic, predicted by the ranking \textsc{FOCADVLOW} \gg \textsc{FOCSCOPE}.
Thank you! Questions?

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As noted at the beginning of section, in certain positions, *only* is realized as *zhǐyǒu* 只有 instead of *zhǐ* 只. Note that *yǒu* 有 is the existential verb, raising the question of whether *zhǐyǒu* is made up of the adverb *zhǐ* and the verb *yǒu*. For example, one might think that a sentence-initial *zhǐyǒu* is a sentence-initial *yǒu*, embedding a (small) clause, modified by *zhǐ*, schematized in (51).

(51) **A hypothesis: zhǐyǒu = zhǐ + main verb yǒu**

Zhǐ \[vp yǒu [clause S_F ... ] \]

Instead, I analyze *zhǐyǒu* as an allomorph of *zhǐ*, with *zhǐyǒu* appearing when *zhǐ* cannot form a polysyllabic prosodic word with an adjacent head.
There are a few arguments for this position:

- The choice of zhǐyǒu vs zhǐ is often determined by whether the adjacent constituent includes a functional head or not. For example, when preceding a PP ‘at home,’ zhǐ is preferred; when preceding a time ‘yesterday,’ zhǐyǒu is preferred.

(52) ...{✓ zhǐ, ?? zhǐyǒu} zài jiālǐ...
     ONLY at home

(53) ...{? zhǐ, ✓ zhǐyǒu} zúotiān...
     ONLY yesterday
• In pre-subject position, *only generally must be realized as zhǐyǒu. However, when the *only is preceded by negation, it is realized as bù-zhǐ ‘NEG-ONLY,’ and the extra yǒu is not necessary and in fact impossible.

(54)  \{\star Zhǐ, \checkmark zhǐyǒu\} [Zhāngsān]_{F} lái-le.

\textit{ONLY} Zhangsan \textit{come-PERF}

‘Only [Zhangsan] \textit{F} came.’

(55)  \{\checkmark Bù-zhí, \star bù-zhǐyǒu\} [Zhāngsān]_{F} lái-le.

\textit{NEG-ONLY} Zhangsan \textit{come-PERF}

‘Not only [Zhangsan] \textit{F} came.’

• I argued for the generalization that \textit{only} in immediately preverbal position (at a vP edge) is able to associate long-distance, into embedded clauses. If zhǐyǒu were decomposed using a main verb yǒu, as schematized in (51), we predict zhǐyǒu to be able to associate long-distance with any constituent it c-commands, contrary to fact.
In some cases, it is hard to distinguish between a focus-sensitive operator being an adverb or constituent-marking.

(56) **Two hypotheses for German focus operators:**

(Büring and Hartmann, 2001)

Ich habe **nur** [einen ROMAN]$_F$ gelesen.
I have **ONLY** a novel read

a. *Nur* as adverb:
   Ich habe [VP **nur** [VP [DP einen Roman]$_F$ gelesen]]

b. *Nur* as constituent-marking:
   Ich habe [VP [DP **nur** [DP einen Roman]$_F$] gelesen]
Jacobs (1983, 1986); Büring and Hartmann (2001): German focus particles are always adverbs.

\[(57)\quad * \text{[PP mit [nur [DP Hans]_F]]} \quad \text{with ONLY Hans}\]

\[(58)\quad * \text{[DP der Bruder [nur [DP des [GEN Grafen]]_F]]} \quad \text{the brother ONLY the-GEN count-GEN}\]
In many (but not all) cases, focus operators must be *adjacent* to their associate:

    yesterday has Rufus **EVEN** the.DAT girl flowers given

    yesterday has **EVEN** Rufus the.DAT girl flowers given

(60) **Closeness (informal):**
    (Büring and Hartmann 2001; following Jacobs 1983, 1986)
    Focus particles are as close to the focus as possible.
However, the Closeness constraint has been criticized as “spurious” and “more than doubtful” (Reis, 2005).

The behavior of Mandarin Chinese and Vietnamese presented here shows that Closeness-type behavior is attested in other, unrelated languages.