

Focus adverbs at the vP and higher edges

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November 2015

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)

Background

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:

{ wear a bow tie when teaching,
wear a bow tie when sleeping,
wear a bow tie when eating,... }

c. *Only*:

(Horn, 1969)

yes wear a bow tie when teaching,

no wear a bow tie when sleeping,

no wear a bow tie when eating,...

d. $\llbracket(1a)\rrbracket$ = David will wear a bow tie when teaching, but not at any other time (when sleeping or eating...).

Background

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 bow tie]_F when teaching.

b. Alternatives:

{ wear a bow tie when teaching,
wear pants when teaching,
wear a shirt when teaching,... }

c. *Only*:

(Horn, 1969)

yes wear a bow tie when teaching,

no wear pants when teaching,

no wear a shirt when teaching,...

d. $\llbracket(1b)\rrbracket$ = 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. *adverb*
b. David drinks **only** [red wine]_F. *constituent-marking*

☞ I argue that *zhǐ* and *shì* are always **adverbs**, not constituent-marking.

Zhǐ and shì are focus adverbs

(6) **Zhǐ and shì cannot be postverbal:**

Zhāngsān ✓**zhǐ/shì** [_{VP} hē ***zhǐ/shì** [hóngjiǔ]_F].
Zhangsan ONLY/SHI drinks *ONLY/SHI wine

‘Zhangsan *only* drinks [wine]_F.’

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

Zhāngsān ✓**zhǐ/shì** [_{PP} duì ***zhǐ/shì** [Lǐsì]_F] rēng-le qiú.
Zhangsan ONLY/SHI to *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:

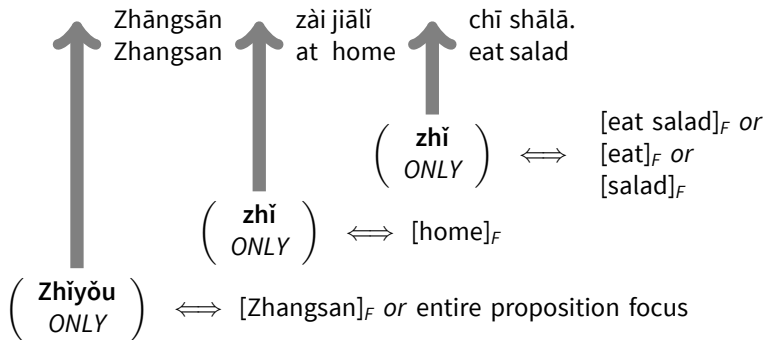
(9) **Multiple focus with *shì* (Cheng, 2008):**

Shì [érzi]_F jiào [dàrén]_F bié chǎo, bú **shì** [dàrén]_F jiào [érzi]_F bié chǎo.
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*.

The position of *zhǐ/shǐ*

(10) **A simplex clause:**



(11) **Generalization (first):**

Focus adverbs must be in *the lowest position possible* while taking their associate in their scope.

The position of *zhǐ/shì*

☞ *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]_F].
Lisi ONLY say Zhangsan drink tea
'Lisi *only* said that Zhangsan drinks [tea]_F.' only > say
- b. ✓ Lǐsì shūo [_{CP} Zhāngsān **zhǐ** hē [chá]_F].
Lisi say Zhangsan ONLY drink tea
'Lisi said that Zhangsan *only* drinks [tea]_F.' say > only

The position of *zhǐ/shì*

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

- (13) a. * **Zhǐyǒu** Lǐsì shuō [_{CP} Zhāngsān hē [chá]_F].
ONLY Lisi say Zhangsan drink tea
- b. * Lǐsì **zhǐ(yǒu)** zuótiān shuō-guò [_{CP} 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).

The position of *zhǐ/shì*

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** [_{VP} xiǎng [_{VP} chī [shūcài]_F]].
Zhangsan only want eat vegetables.
‘Zhangsan *only* wants to eat [vegetables]_F.’ only > want
- b. ✓ Zhāngsān [_{VP} xiǎng **zhǐ** [_{VP} chī [shūcài]_F]].
Zhangsan want only eat vegetables.
‘Zhangsan wants to *only* eat [vegetables]_F.’ want > only

Both are possible because they are lowest *within their respective phases*.

(16) **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 Buring and Hartmann (2001), although their characterization has been controversial (see e.g. Reis, 2005). (See Appendix B.)

Vietnamese

Chỉ is a focus adverb

In Vietnamese, I will look at two *only* words: *chỉ* and *mỗi*.

(17) Hole and Löbel (2013) argues:

- a. *chỉ* is an adverb *only*; (glossed here as ONLY_{adv})
- b. *mỗi* is a constituent-marking *only*. (glossed here as ONLY_{CM})

(18) Nam (**chỉ**) mua (**mỗi**) [cuốn sách]_F.
Nam ONLY_{adv} buy ONLY_{CM} CL book
'Nam bought *only* [the book]_F.'

Chỉ is a focus adverb

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

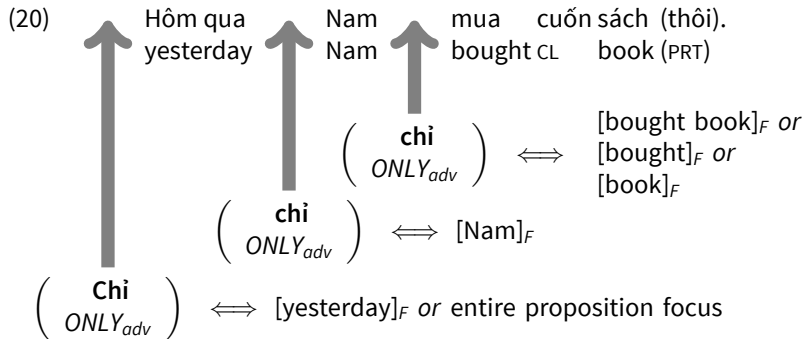
(19) **Stacking the two *only*s on the subject:**

- 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*.

The position of *chỉ*

Here I use sentences with a temporal adjunct.



The position of *chỉ*

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

- (21) (***Chỉ**) Tôi ✓**chỉ** nói [_{CP} là Nam thích [Ngân]_F] (thôi).
ONLY_{adv} I ONLY_{adv} say that Nam like Ngan (PRT)
'I *only* said Nam likes [Ngân]_F.'
- (22) Tôi nói [_{CP} là (***chỉ**) Nam ✓**chỉ** thích [Ngân]_F] (thôi).
I say that ONLY_{adv} Nam ONLY_{adv} like Ngan (PRT)
'I said Nam *only* likes [Ngân]_F.'

- ☞ Vietnamese shows us a case where we can clearly distinguish between adverb and constituent-marking *onlys*, and we see that **ONLY_{adv} follows the generalization in (16)**, repeated:

(23) **Generalization:** (=16)

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

A purely semantic hypothesis

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** [_{VP} hē [chá]_F].

Every-CL guest all ONLY drink tea

✓ ‘Every guest is such that they only drink [tea]_F.’ every > only

* ‘Tea is the only thing that every guest drinks.’ *only > 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”?

A purely semantic hypothesis

- (26) *Zhǐ* cannot be higher, even if it would lead to a different reading:

* **Zhǐ(yǒu)** měi-ge kèrén dōu hē [chá]_F.

ONLY every-CL guest all drink tea

Intended: 'Only [tea]_F is such that_i every guest drinks it_i.'

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:**

✓ **Zhǐyǒu** [chá]_F měi-ge kèrén dōu hē ____.

ONLY tea every guest all drink

'Only [tea]_F is such that_i every guest drinks it_i.' 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:

- a. Ai cũng **chi** mua [cuốn sách]_F.
who also ONLY buy CL book
'Everyone *only*_{adv} bought [the book]_F.' $\checkmark \forall > \text{only}, * \text{only} > \forall$
- b. * **Chi** ai cũng mua [cuốn sách]_F.
ONLY_{adv} who also buy CL book
Int: '*Only* [the book]_F is s.t._i everyone bought it_i.' $\text{only} > \forall$
- c. \checkmark **Chi** (**mỗi**) [cuốn sách]_F ai cũng (mới) mua ____.
ONLY_{adv} (ONLY_{CM}) CL book who also (PRT) buy ____.
'*Only* [the book]_F is s.t._i everyone bought it_i.' $\text{only} > \forall$

A purely semantic hypothesis

- ☞ 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)

ONLY, Z at home eat [salad] _F	FOCScope	FOCADVLOW
a. ONLY Z at home eat [salad] _F		***!***
b. Z ONLY at home eat [salad] _F		***!*
 a. Z at home ONLY eat [salad] _F		**

(33)

	ONLY, $[Z]_F$ at home eat salad	FOCScope	FOCADVLOW
☞	a. ONLY $[Z]_F$ at home eat salad		*****
	b. $[Z]_F$ ONLY at home eat salad	*!	****
	c. $[Z]_F$ at home ONLY eat salad	*!	**

Proposal: FOCScope \gg FOCADVLOW


Now consider the case of focus in an embedded clause:

(34)	ONLY, Lisi say [Zhangsan drink [tea] _F]	FOCScope	FOCADVLOW
	a. ONLY L say [Z drink [tea] _F]		***!***
☹	b. L ONLY say [Z drink [tea] _F]		***!*
	c. L say [ONLY Z drink [tea] _F]		***!
☞	d. L say [Z ONLY drink [tea] _F]		**

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 Ćavar, 2001). Assume vP and CP are phases.

(35) **Introducing ONLY in the embedded CP phase:**

ONLY, Zhangsan [_{VP} drink [tea] _F]	FOCScope	FOCADVLOW
a. ONLY Z [_{VP} drink [tea] _F]		***!
 b. Z ONLY [_{VP} drink [tea] _F]		**

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


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

ONLY, Lisi [_{VP} say [_{CP} Zhangsan drink [tea] _F]]	FOCScope	FOCADVLOW
a. ONLY L [_{VP} say [_{CP} Z drink [tea] _F]]		*****!
 b. L ONLY [_{VP} say [_{CP} Z drink [tea] _F]]		****

⇒ ✓‘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 vP:**

ONLY, want [_{VP} eat [_F veg's] _F]	FOCScope	FOCADVLOW
a. ONLY want [_{VP} eat [_F veg's] _F]		***!
 b. want ONLY [_{VP} eat [_F veg's] _F]		**

⇒ √‘Zhangsan want ONLY eat [vegetables]_F.’

(38) **Introducing ONLY after the higher vP:**

ONLY, Zhangsan [_{VP} want eat [_F veg's] _F]	FOCScope	FOCADVLOW
a. ONLY Z [_{VP} want eat [_F veg's] _F]		****!
 b. Z ONLY [_{VP} want eat [_F veg's] _F]		***

⇒ √‘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 FOCADVLOW** \gg **FOCScope**? What would such a language look like?

FOCADVLOW \gg FOCScope means that focus-sensitive operators can only be at the 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.).

☞ FOCADVLOW \gg FOCScope entails that **(bound) focus needs to be low, inside vP .**

More concretely, we predict subject-object asymmetries in focus:

(39) **Subjects cannot be focused in their canonical position:**

* [CP ... [subject]_F ... **FocAdv** [_{VP} ...]]

(40) **Two possibilities for subject focus:**

a. Build another clause on top:

FocAdv [_{VP} ... [CP ... [subject]_F ... [_{VP} ...]]]

b. Exceptionally keep the subject low:

[CP ... **FocAdv** [_{VP} [subject]_F ...]]

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?”

- a. * Non, ma [voiture]_F est en panne.
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).

Modeling low focus in French

- ☞ We can model such interactions with FOCADVLOW \gg 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:

FocAdv, my [car] _F [_{VP} is broken]	FOCADVLOW	FOCScope
a. FocAdv my [car] _F [_{VP} is broken]	***!*	
☞ b. my [car] _F FocAdv [_{VP} is broken]	**	*

- ☞ 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.

Northern Sotho as a low focus language

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.’

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:

Gofihlile [monna]_F **fela**.

arrived man only

‘*Only* the [man]_F arrived.’

Kikuyu as a low focus language

Kikuyu (Bantu; Kenya) is canonically SVO and has both in-situ and biclausal cleft questions:

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

- a. Kamau ɔ̀nirɛ oo?
Kamau see who
'Who did Kamau see?'
- b. N-oo Kamau ɔ̀nirɛ?
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 ađomayera mw-ana i-βuku?*
who read 1-child 5-book
- b. *N-oo ađomayera 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).

Bantu Subject-Object reversal

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 as a low focus language

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.

☞ 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'i).

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.**

- The uniform behavior of focus adverbs in Mandarin Chinese and Vietnamese (and German) can be modeled in OT with the ranking FOCSCOPE \gg FOCADVLOW.
 - Optimization occurs **phase-by-phase**.
 - This derives **the special status of the vP edge** as the position for focus adverbs that associate long-distance.
- I discussed “**low focus**” languages in Romance, Bantu, and Chadic, predicted by the ranking FOCADVLOW \gg FOCSCOPE.

Thank you! Questions?

For judgements and discussion of data, I thank Tingchun Chen, Victor Junnan Pan, Ning Tang, and Yimei Xiang for Mandarin Chinese and Trang Dang, Tran Thi Huong Giang, Cat-Thu Nguyen Huu, and Chieu Nguyen for Vietnamese. For comments and discussion, I especially thank Noah Constant, Jeanette Gundel, Martin Hackl, Claire Halpert, Irene Heim, Tim Hunter, Hadas Kotek, Waltraud Paul, David Pesetsky, Bernhard Schwarz, Radek Šimík, Luis Vicente, Michael Wagner, Malte Zimmermann, and the audience at Theoretical East Asian Linguistics 9. Errors are mine.

Manuscript: <http://ling.auf.net/lingbuzz/002415>

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Appendix A: *zhǐyǒu* vs *zhǐ* I

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*,¹ with *zhǐyǒu* appearing when *zhǐ* cannot form a polysyllabic prosodic word with an adjacent head.

Appendix A: *zhǐyǒu* vs *zhǐ* II

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) ...{ \checkmark **zhǐ**, ??**zhǐyǒu**} zài jiālǐ...
 ONLY at home

(53) ...{ ? **zhǐ**, \checkmark **zhǐyǒu**} zúotiān...
 ONLY yesterday

Appendix A: *zhǐyǒu* vs *zhǐ* III

- 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) {***Zhǐ**, [✓]**zhǐyǒu**} [Zhāngsān]_F lái-le.
ONLY Zhangsan come-PERF

‘Only [Zhangsan]_F came.’

(55) {[✓]**Bù-zhǐ**, ***bù-zhǐyǒu**} [Zhāngsān]_F lái-le.
NEG-ONLY Zhangsan come-PERF

‘Not only [Zhangsan]_F came.’

- I argued for the generalization that *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); Buring and Hartmann (2001): German focus particles are always adverbs.

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

(58) * [_{DP} der Bruder [**nur** [_{DP} des Grafen]_F]]
the brother ONLY the-GEN count-GEN

Background: the Closeness constraint debate

In many (but not all) cases, focus operators must be *adjacent* to their associate:

- (59) a. ✓ Gestern hat Rufus **sogar** dem [mädchen]_F Blumen geschenkt.
yesterday has Rufus EVEN the.DAT girl flowers given
- b. * Gestern hat **sogar** Rufus dem [mädchen]_F Blumen geschenkt.
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.