

A bipartite analysis of *zhiyou* ‘only’ in Mandarin Chinese

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Abstract This paper provides cross-linguistic support for a bipartite analysis of ‘only’ (Bayer 1996; Kayne 1998; Lee 2005; Horvath 2007; Barbiers 2014; Quek and Hirsch 2017) by showing that it can be extended to account for all the properties of a focus particle – *zhiyou* ‘only’ in Mandarin Chinese. It proposes that *zhiyou* spells out one of the heads within a bipartite structure of ‘only’ and the other covert head that co-occurs with it on the clausal spine determines the semantic scope of ‘only’. The current proposal improves on a previous version of bipartite analysis (Hole 2017: *A crosslinguistic syntax of scalar and non-scalar focus particle sentences: the view from Vietnamese and Chinese*) by discarding the view that *zhiyou* and the particle *cai* form a Spec-Head relation, which enables us to cover a wider range of empirical data. Instead, the paper identifies the adverbial *zhi* ‘only’ as a possible candidate that overtly realizes the Foc head, and supports the bipartite analysis based on the cross-linguistic parallel between Mandarin and Vietnamese, which share a similar inventory of ONLY-related particles.

Keywords Focus particles, ONLY, Bipartite analysis, Focus movement, Chinese, Vietnamese

1 Introduction

This paper investigates a focus-related displacement phenomenon in Mandarin Chinese and its implications for the bipartite analysis of focus constructions (Bayer 1996; Kayne 1998; Lee 2005; Horvath 2007; Cable 2010; Barbiers 2010, 2014; Quek and Hirsch 2017, among others). A bipartite analysis, as indicated by its name, assumes that sentences containing an overt focus particle such as ‘only’ or ‘even’ underlyingly involve two focus-related heads in the structure: one on the clausal spine (Foc-head), and one more local to the focused constituent (Q-head). Bayer (1996, 2018, 2019) first proposes a bipartite analysis for some ‘only’-sentences in English and German. He argues that when *only* adjoins to a DP as in (1) and ends up in a non-propositional domain, it must move to an abstract higher head that marks the scope of ‘only’. The movement occurs at the Logical Form (LF) in English and is invisible.¹

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¹In this paper, capitals indicate prosodic prominence while square brackets $[...]_F$ indicate the ‘F-marked’ constituent (/focus associate) of ‘only’ (Jackendoff 1972; Rooth 1985). Abbreviations: CL=classifier, EXP=experiential marker, PERF=perfective marker, DE=modification marker.

- (1) John eats only [BEEF]_F.
 LF: ... [_{FocP} [_{QP} only BEEF]₁ [_{Foc'} Foc [_{vP} John eats t₁]]]²

Kayne (1998) also argues that (1) involves movement, except that the movement is an overt one. According to him, the *only* is base-generated on the vP (2a) and it attracts the focused phrase via a focus feature, as in (2b). The apparent adnominal position of *only* is due to the obligatory raising of the *only* to an abstract higher head and VP-preposing in (2c-d).

- (2) a. John only eats [BEEF]_F.
 b. John [_{FocP} BEEF₁ [_{Foc'} only [eats t₁]]] (attraction by *only*)
 c. John [_{WP} only₂ [_{FocP} BEEF₁ [_{Foc'} t₂ [eats t₁]]]] (raising of *only* to W)
 d. John [_{WP} [eats t₁]₃ [_{W'} only₂ [_{FocP} BEEF₁ [_{Foc'} t₂ t₃]]]] (VP-preposing)

The bipartite analysis is supported by various pieces of evidence across languages. Barbiers (2010, 2014) follows Bayer (1996) in arguing that adfocus (= adnominal/adprepositional) ‘only’ must move for semantic reasons, and shows that the abstract, attracting focus head can be lexicalized in Dutch, giving rise to focus particle doubling, as in (3).

- (3) hij is maar op één leerling maar boos geweest
 he is only at one student only angry been
 ‘He is only angry [at one student]_F.’

Lee (2005) observes that the Korean particle *man* ‘only’ does not have the scope patterns of regular QPs in this language. She thus argues that *man* is an agreement morpheme which indicates the existence of a null ONLY head. Indeed, Korean can have multiple occurrences of *man* to yield an interpretation as if only one ONLY is interpreted, as shown in (4).

- (4) John-man sakwa-man mekesse.
 John-only apple-only ate
 ✓ ‘It is only the case that [John]_F ate [apples]_F.’ (one ONLY)
 ✓ ‘Only [John]_F ate only [apples]_F.’ (two ONLYs)

In Vietnamese, the two focus-related heads are spelled out by distinct lexical items (*chỉ* and *mỗi* respectively) and they can co-occur when a single focus reading is intended (Hole 2013; Erlewine 2017; Quek and Hirsch 2017), as shown in (5).

- (5) Nam chỉ ăn mỗi THỊT BÒ
 Nam only eat only beef
 ‘Nam only eats [beef]_F.’

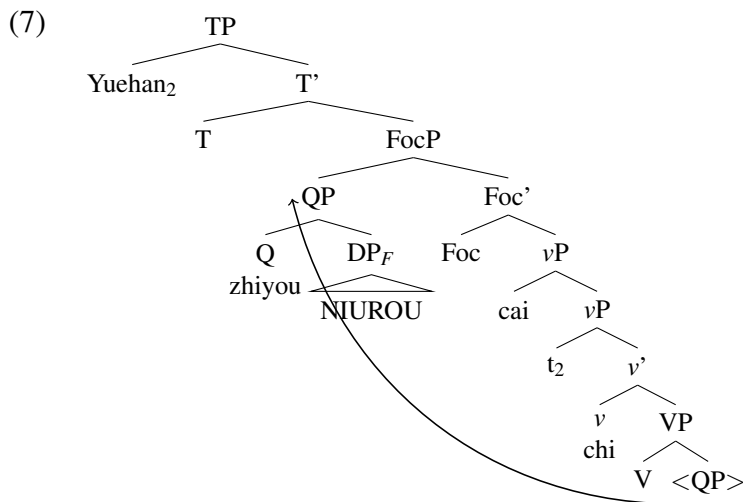
Turning to Mandarin, I argue in this paper that a bipartite analysis can further be extended to capture the properties of a focus particle *zhiyou* ‘only’. Note that we can find a precedent of the current analysis in Hole (2004, 2017), who proposes that *zhiyou* co-occurs with the scalarity head *cai* which attracts it to its specifier position, as shown in (6).

²Bayer does not use ‘Foc’ and ‘Q’ to label the two focus-related heads in his papers. The labels in the analyses cited in this paper are all adjusted so that different analysis can be compared straightforwardly.

- (6) Yuehan [_{SCALP} [*zhiyou* NIUROU]₁ [_{SCAL'} cai [_{vP} chi t₁]]]
 John only beef SCAL eat
 ‘Only [beef]_F does John eat (, which is little or insignificant).’

While Hole does not explicitly phrase his analysis as a bipartite one, he proposes that the adnominal phrase containing *zhiyou* moves to the specifier of *cai*, which is structurally similar to (1) except that the head *cai* bears an [EPP] feature.

In this paper, I argue against such a conditional link between *zhiyou* and *cai* and propose a novel bipartite analysis (following Quek and Hirsch 2017) where *zhiyou* instantiates a semantically vacuous Q head and it co-occurs with a covert but semantically contentful Foc head, as in (7). Crucially, the Foc head is not instantiated by *cai*. Rather than being a head which attracts *zhiyou*, *cai* is an optional adverb that functions as an emphatic discourse marker.



I show that such a move is not a trivial one since it can successfully derive the flexible positions of the *zhiyou*-phrase in the pre-verbal domain and correctly separate the meaning contribution of the particle *cai* from the ‘only’-construction. Furthermore, the current analysis still preserves the existence of two ‘only’-related heads within the structure in (7), which thus provides cross-linguistic support for the bipartite analysis of focus constructions.

The paper is organized as follows. Section 2 reviews the basic properties of the *zhiyou*-construction. Section 3 introduces a recent version of bipartite analysis of ‘only’ in Quek and Hirsch (2017) and shows that such a proposal can be extended to *zhiyou*. Section 4 compares the current analysis to Hole’s analysis and demonstrates that the postulated Spec-Head relation between *zhiyou* and *cai* is problematic. Section 5 identifies a possible candidate that overtly realizes the Foc head – *zhi*. Even though we do not see the co-occurrence of *zhi* and *zhiyou*, their counterparts in Vietnamese indeed co-occur, which provides indirect support for the bipartite analysis in Mandarin. Section 6 concludes.

2 Basic facts on *zhiyou*

This section discusses two basic facts on *zhiyou*: (i) *zhiyou* forms a constituent with non-verbal phrases (i.e. DP, PP, CP); and (ii) the *zhiyou*-construction involves \bar{A} -movement.

2.1 *zhiyou* forms a constituent with non-verbal phrases

While Mandarin *zhiyou* can immediately precede DPs, PPs, and clausal arguments as in (8), it cannot immediately precede predicates like vPs and APs, as shown in (9-10).³

- (8) a. *zhiyou* [_{DP} YUEHAN] *chi-guo niurou*
 only John eat-EXP beef
 ‘Only [John]_F ate beef before.’
- b. *zhe-jia-dian zhiyou* [_{PP} *zai ZHOUMO*] *cai yingye*
 this-CL-store only on weekend PRT open
 ‘Only on [weekends]_F does this store open.’
- c. *Yuehan zhiyou* [_S *mingtian bu xiaxue*] *cai qu xuexiao*
 John only tomorrow not snow PRT go school
 ‘Only [if it doesn’t snow tomorrow]_F will John go to school’⁴
- (9) a. **Yuehan keneng zhiyou* [_{vP} *chi-guo NIUROU*]
 John possible only eat-EXP beef
- b. **Yuehan zhiyou* [_{vP} *chi-guo NIUROU*] *cai keneng*
 John only eat-EXP beef PRT possible
 Int: ‘John might have only eaten [beef]_F.’
- (10) a. **Yuehan keneng zhiyou* [_{AP} *hen CONGMING*]
 John possible only very clever
- b. **Yuehan zhiyou* [_{AP} *hen CONGMING*] *cai keneng*
 John only very clever PRT possible
 Int: ‘John might only be [clever]_F.’

Moreover, *zhiyou* can only associate with the adjacent phrase to its right, namely a DP, PP, or clausal argument in (8), or any constituent within that phrase as its focus. For instance, in (11a-b) *zhiyou* can associate with the immediately right-adjacent DP. Both (11c) and (11d) involve prosodic prominence on a non-adjacent DP (on which the focus is intended), which leads to ungrammaticality. In (11e), by contrast, the focus is on a non-adjacent DP, but since that DP is contained within a complex DP which is immediately right-adjacent to *zhiyou*, the sentence is fine.

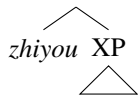
³In this paper I follow Hole (2017) and many others in assuming that *zhiyou* can be a single word. In fact, since *zhi* can be independently used as an adverbial particle ‘only’ and *you* can be an existential verb in Mandarin, it is possible that some *zhiyou*-constructions can be analyzed as the adverbial *zhi* modifying the verb *you*. However, this analysis cannot extend to all the data involving *zhiyou* as *zhiyou* can be ad-prepositional, whereas an existential verb can only take DP arguments but not PP ones. In addition, when the existential verb *you* occurs in the sentence-initial position to form an existential construction, it exhibits the ‘Definiteness Effect’ (Milsark 1974); but the sentence-initial *zhiyou* does not exhibit this effect, as shown by (8a).

⁴When *zhiyou* attaches to a clause as in (8c), it somehow yields a conditional meaning ‘only if’. This use is slightly different from the cases in which *zhiyou* adjoins to DPs and PPs in that *cai* is always required. I will not go into this use of *zhiyou* in this paper since its meaning is far beyond the basic exclusiveness semantics of ‘only’, although see a recent discussion of the exclusive *jiu* on its conditional use (Liu 2017).

- (11) a. *zhiyou* [DP ZHOUYI] [DP Yuehan] *qu-le* Suzhou (JINTIAN Yuehan *mei qu*)
 only Monday John go-PERF Suzhou today John NEG go
 ‘Only on [this Monday]_F John visited Suzhou ([today]_F John didn’t).’
- b. *zhiyou* [DP YUEHAN] *chi-le niurou* (BIER *mei chi*)
 only John eat-PERF beef Bill NEG eat
 ‘Only [John]_F ate beef ([Bill]_F didn’t).’
- c. **zhiyou* [DP zhouyi] [DP YUEHAN] *qu-le* *suzhou* (BIER *mei qu*)
 only Monday John hug-PERF Suzhou Bill NEG go
 Int: ‘This Monday only [John]_F visited Suzhou ([Bill]_F didn’t).’
- d. **zhiyou* [DP Yuehan] *chi-guo NIUROU* (ta *mei chi-guo* PANGXIEROU)
 only John eat-EXP beef he NEG eat-EXP crab.meat
 Int: ‘John ate only [beef]_F before (he never ate crab meat).’
- e. *zhiyou* [DP dai MAOZI de nanhai] *lai-le* (dai YANJING de nanhai *mei lai*)
 only wear hat DE boy come-PERF wear glasses DE boy NEG
 come
 ‘Only the boy who wears a [hat]_F came (The boy who wears [glasses]_F did not).’

In light of the cross-linguistic fact that the focus operator ‘only’ associates with a lexical constituent in its c-command domain (Beaver and Clark 2008; Jackendoff 1972; Rooth 1985), such a range of focus association of *zhiyou* suggests that *zhiyou* forms a constituent with the immediately right-adjacent phrase on the surface, as illustrated in (12).⁵

(12)



where XP = DP, PP (and other arguments)

2.2 *zhiyou*-construction involves \bar{A} -movement

The consensus of the previous literature is that *zhiyou* must occur in preverbal position (Erlewine 2015; Hole 2017; Zanon and Hsu 2019), either preceding or following the subject.⁶ When *zhiyou* immediately precedes a canonically postverbal DP or PP, as in (13) and (14), both *zhiyou* and that DP or PP must occur preverbally:

⁵Barbiers (2014) concludes that Dutch *maar* ‘only’ can be one constituent with non-verbal phrases such as DP in a similar way, contra Buring and Hartmann (2001).

⁶This contrasts with another particle that expresses the meaning of ‘only’ in Mandarin – the adverbial particle *zhi*. The particle *zhi* behaves largely like the English adverbial *only* in that it involves in-situ focus, as in (i).

- (i) Yuehan *zhi chi* NIUROU.
 John only eat beef
 ‘John only eats [beef]_F’

We will briefly discuss *zhi* in Section 5.

- (13) a. Yuehan chi-guo (**zhiyou*) [DP NIUROU]
 John eat-EXP only beef
 b. Yuehan *zhiyou* [DP NIUROU] chi-guo
 John only beef eat-EXP
 ‘Only [beef]_F did John eat before.’
 c. *zhiyou* [DP NIUROU] Yuehan chi-guo
 only beef John eat-EXP
 ‘Only [beef]_F did John eat before.’
- (14) a. Yuehan hui song Mali (**zhiyou*) MEIGUI
 John will send Mary only rose
 b. Yuehan *zhiyou* MEIGUI hui song Mali
 John only rose will send Mary
 ‘Only [roses]_F will John send Mary.’
 c. *zhiyou* MEIGUI Yuehan hui song Mali
 only rose John will send Mary
 ‘Only [roses]_F will John send Mary.’

I further demonstrate that *zhiyou*-sentences involve \bar{A} -movement of the canonically postverbal DP or PP based on the following tests. First, island effects can be detected with both post-subject *zhiyou* and clause-initial *zhiyou*, as (15-16) exemplify.

(15) *Relative clause islands*

- a. *Lisi [*zhiyou* YUEHAN]₁ zhidao [RC t₁ xihuan de nvsheng]
 Lisi only John know like DE girl
 Int: ‘Only [John]₁ did Lisi know the girl who he₁ likes.’
 b. *[*zhiyou* YUEHAN]₁ Lisi zhidao [RC t₁ xihuan de nvsheng]
 only John Lisi know like DE girl
 Int: ‘Only [John]₁ did Lisi know the girl who he₁ likes.’

(16) *Adjunct islands*

- a. *Lisi [*zhiyou* YUEHAN]₁ [Adjunct yinwei t₁ likai er gandao nanguo]
 Lisi only John because leave then feel sad
 Int: ‘Only [John]₁ did Lisi feel sad because he₁ left.’
 b. *[*zhiyou* YUEHAN]₁ Lisi [Adjunct yinwei t₁ likai er gandao nanguo]
 only John Lisi because leave then feel sad
 Int: ‘Only [John]₁ did Lisi feel sad because he₁ left.’

In addition, the *zhiyou*-construction exhibits reconstruction effects. (17) illustrates the baseline of the reconstruction tests in Mandarin. In (18)-(19), the (a) examples are grammatical because the pre-verbal *zhiyou*-phrase containing a reflexive is bound when reconstructed back into its base-generated position. The (b) examples are ungrammatical because the pre-verbal *zhiyou*-phrase containing a proper name is bound after obligatory reconstruction, which violates Condition C.

Finally, the (c) examples in (18-19) can preserve the idiomatic reading, which further confirms that there is indeed reconstruction.

(17) *Baselines of reconstruction effects*

- a. wo gei-guo Lisi_i [zhe-ben guanyu taziji_i de shu]
I give-EXP Lisi this-CL about himself DE book
‘I gave John_i this book about himself_i before’ (Condition A)
- b. *wo gei-guo ta_i [zhe-ben guanyu Lisi_i de shu]
I give-EXP he this-CL about Lisi DE book
‘I gave him_i this book about Lisi_i before’ (Condition C)
- c. Yuehan changchang chui zhe-ge niu
John often blow this-CL bull
‘John often makes this boast.’ (✓Idiomatic reading)

(18) *To post-subject position*

- a. wo [zhiyou ZHE-ben guanyu taziji_i de shu]₁ gei-guo Lisi_i t₁
I only this-CL about himself DE book give-EXP Lisi
‘[Only this_F book about himself_i] did I give John_i t₁’ (Condition A)
- b. *wo [zhiyou ZHE-ben guanyu Lisi_i de shu]₁ gei-guo ta_i t₁
I only this-CL about Lisi DE book give-EXP he
‘[Only this_F book about Lisi_i]₁ did I give him_i t₁’ (Condition C)
- c. Yuehan [zhiyou ZHE-ge niu]₁ changchang chui t₁
John only this-CL bull often blow
‘[Only this_F boast]₁ does John often make t₁.’ (✓Idiomatic reading)

(19) *To clause-initial position*

- a. [zhiyou ZHE-ben guanyu taziji_i de shu]₁ wo gei-guo Lisi_i t₁
only this-CL about himself DE book I give-EXP Lisi
‘[Only this_F book about himself_i] did I give John_i t₁’ (Condition A)
- b. *[zhiyou ZHE-ben guanyu Lisi_i de shu]₁ wo gei-guo ta_i t₁
only this-CL about Lisi DE book I give-EXP he
‘[Only this_F book about Lisi_i]₁ did I give him_i t₁’ (Condition C)
- c. [zhiyou ZHE-ge niu]₁ Yuehan changchang chui t₁
only this-CL bull John often blow
‘[Only this_F boast]₁ does John often make t₁.’ (✓Idiomatic reading)

Such syntactic displacement exhibits properties typical of \bar{A} -movement: clausal unboundedness and WCO effects. As (20) shows, focus fronting of a *zhiyou*-phrase is allowed within the complement clause of *renwei* ‘think’. Crucially, (21) and (22) demonstrate that movement of a *zhiyou*-phrase is potentially unbounded.

(20) *Baselines of cross-clausal movement*

- a. Zhangsan renwei [_S Lisi [zhiyou ZHE-ben shu]₁ cai hui xihuan t₁]
 John think Lisi only this-CL book PRT will like
 ‘John thinks that [only this_F book]₁ will Lisi like t₁.’
- b. Zhangsan renwei [_S [zhiyou ZHE-ben shu]₁ t₁ cai xie-de hao]
 John think only this-CL book PRT write-able good
 ‘John thinks that [only this_F book]₁ is well-written t₁.’
- (21) *Cross-clausal movement is possible (zhiyou+object)*
- a. Zhangsan [zhiyou ZHE-ben shu]₁ cai renwei [_S Lisi hui xihuan t₁]
 John only this-CL book PRT think Lisi will like
 ‘[Only this_F book]₁ does John think Lisi will like t₁.’ (To post-subject position)
- b. [zhiyou ZHE-ben shu]₁ Zhangsan cai renwei [_S Lisi hui xihuan t₁]
 only this-CL book John PRT think Lisi will like
 ‘[Only this_F book]₁ does John think Lisi will like t₁.’ (To clause-initial position)
- (22) *Cross-clausal movement is possible (zhiyou+subject)*
- a. Zhangsan [zhiyou ZHE-ben shu]₁ cai renwei [_S t₁ xie-de hao]
 John only this-CL book PRT think write-able good
 ‘[Only this_F book]₁ does John think t₁ writes well.’ (To post-subject position)
- b. [zhiyou ZHE-ben shu]₁ Zhangsan cai renwei [_S t₁ xie-de hao]
 only this-CL book John PRT think write-able good
 ‘[Only this_F book]₁ does John think t₁ writes well.’ (To clause-initial position)

Furthermore, WCO effects occur, as (23) demonstrates. That is, movement of a *zhiyou*-phrase containing a proper name may not cross a co-indexed pronoun, whether or not to a clause-medial or clause-initial position.⁷

- (23) *WCO effects*
- a. *wo [zhiyou YUEHAN_i] cai gei ta_i-de shangsi jieshao-guo t₁
 I only John PRT to his boss introduce-EXP
 Int: ‘I’ve only introduced [John_i]_F to his_i boss.’ (To post-subject position)
- b. ?*[zhiyou YUEHAN_i]₁ wo cai gei ta_i-de shangsi jieshao-guo t₁
 only John I PRT to his boss introduce-EXP
 Int: ‘I’ve only introduced [John_i]_F to his_i boss.’ (To clause-initial position)

2.3 Interim summary

This section reviewed some basic facts on *zhiyou*: (i) it forms a constituent with a non-verbal constituent on the surface; and (ii) the constituent formed by *zhiyou* and an F-containing constituent must be fronted to a preverbal position, which is typical of \bar{A} -movement. Any adequate analysis of *zhiyou* should capture these generalizations.

⁷Some of my informants report that (23a) or (23b) are marginally acceptable. However, notice the reading we are interested in is the bound variable reading, namely ‘I’ve only introduced John_i to his_i boss, but not others to their boss’, instead of the coreferential reading ‘I’ve only introduced John_i but not others to his_i boss’. The sentence is degraded under the bound variable reading.

3 A new proposal

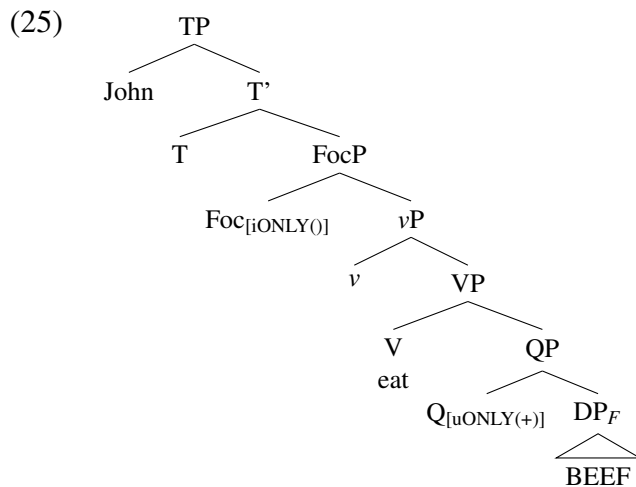
Following the literature on the bipartite analysis (Bayer 1996; Kayne 1998; Lee 2005; Cable 2010; Barbiers 2014, a.o.), I propose a bipartite analysis of ‘only’ in Mandarin, i.e. a sentence involving *zhiyou* underlyingly contains two heads: (i) one operator head (i.e. Foc^0) on the clausal spine, and (ii) the head that is overtly realized by *zhiyou* (Q^0) which is closer to the F-containing phrase:

$$(24) \quad [_{\text{FocP}} [_{\text{Foc}'} \text{Foc}_{[\text{iONLY}()]}^0] [_{\text{vP/TP}} \dots [_{\text{QP}} \text{Q}_{[\text{uONLY}(+)]}^0 \text{XP}_F] \dots]]]$$

In this paper, I adopt a particular version of the bipartite analysis proposed in Quek and Hirsch (2017), in which the Q head is semantically vacuous and it is the Foc head that is interpreted. Section 3.1 first reviews the motivations of such an analysis. Section 3.2 shows that the analysis can be straightforwardly extended to Mandarin Chinese.

3.1 Motivating a bipartite analysis

Quek and Hirsch (2017) propose a bipartite analysis for ‘only’. As illustrated in (25), an ‘only’-construction always involves two heads: a Foc-head on the clausal spine, and a Q-head local to the focused constituent. The two heads are in Agree relation: the Foc-head bears an interpretable but unvalued operator feature $[\text{iONLY}()]$ and the Q-head bears an uninterpretable but valued feature $[\text{uONLY}(+)]$. The Foc-head Agrees with the Q-head to get its feature valued. The English word *only* can either realize the interpretable Foc-head (adverbial *only*) in (26a) or the uninterpretable Q-head (adfocus *only*) in (26b).



- (26) a. John only $[_{\text{vP}} \text{ate BEEF}_F]$.
 b. John eats only $[_{\text{DP}} \text{BEEF}_F]$.

Semantically, the Q-head is vacuous and it is the Foc-head that is interpreted at LF as a propositional operator. The classical semantics for ‘only’ in Rooth (1985, 1992) is adopted: ‘only’ presupposes the truth of its prejacent and asserts the negation of all the alternatives (in a subset C of the focus value of the prejacent) that are not entailed by the prejacent, as in (27).

$$(27) \quad \llbracket \text{only} \rrbracket = \lambda p_{st} \lambda w : p(w) . \forall p' \in C [p'(w) \rightarrow p \subseteq p']$$

The analysis is motivated by a contrast between adverbial *only* and adnominal *only* in English (Taglicht 1984; Rooth 1992): while the former does not result in scope ambiguity when there is another scope-taking operator (e.g. a modal) in the sentence as in (28), the latter gives rise to scope ambiguity, as in (29).

- (28) a. Haki is only required to eat [a fish]_F. (*□ > only, only > □)
 b. Haki is required to only eat [a fish]_F. (□ > only, *only > □)
- (29) Haki is required to eat only [a fish]_F. (□ > only, only > □)

Under a bipartite analysis, adverbial *only* indicates the position in which *only* is interpreted (the scope site) in (28), and it therefore does not lead to ambiguity. By contrast, the overt realization of the adnominal *only* in (29) leaves the scope site undetermined. The covert Foc-head can either adjoin to the clausal spine of the embedded clause, or that of the matrix clause.

Quek and Hirsch (2017) point out that an alternative quantifier analysis of adnominal *only*, in which the propositional semantics of *only* is type-shifted to a quantifier as in (30), can potentially capture the scope ambiguity in (29) as well. The reason is that a quantifier in English can create scope ambiguity due to Quantifier Raising at LF.

- (30) $\llbracket \text{‘only’} \rrbracket = \lambda F_{\langle \text{est}, \text{st} \rangle} \lambda P_{\langle \text{e}, \text{st} \rangle} \lambda w : F(P)(w). \forall p' \in C[p'(w) \rightarrow F(P) \subseteq p']$
 (Adapted from Quek and Hirsch 2017)

Nevertheless, they take the following split-scope phenomena in (31) as support for the bipartite analysis.

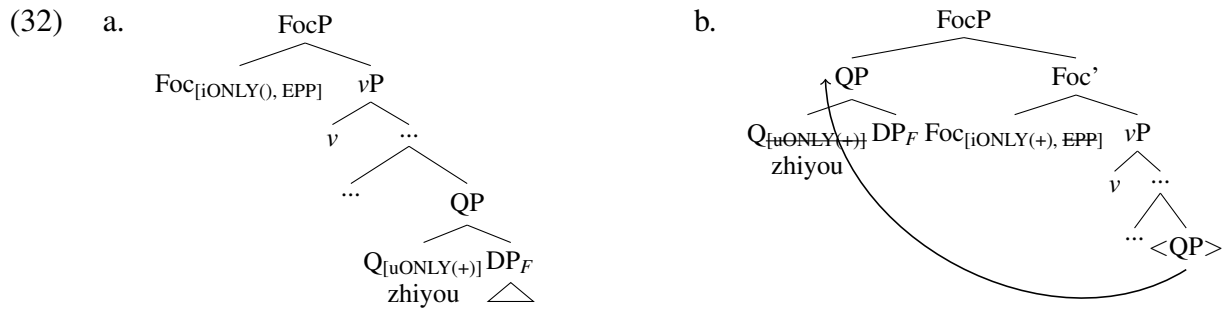
- (31) Haki is required to eat only [ONE fish]_F. (✓ only > □ > one fish)
 ‘The only requirement for Haki is to eat one fish, whatever the fish is’

If the adnominal *only* forms a quantifier phrase with the DP *one fish* in (31), they should scope at the same height. But (31) may in fact have a reading in which *only* scopes above the modal, while the numeral *one* scopes below the modal, yielding a non-referential reading. Under the bipartite analysis, the possibility of split scope is NOT unexpected because the exclusiveness meaning is contributed by the covert Foc head on the clausal spine, which can be separated from the position of the semantically vacuous adnominal *only* and the focus associate.

3.2 Extending to Mandarin *zhiyou*

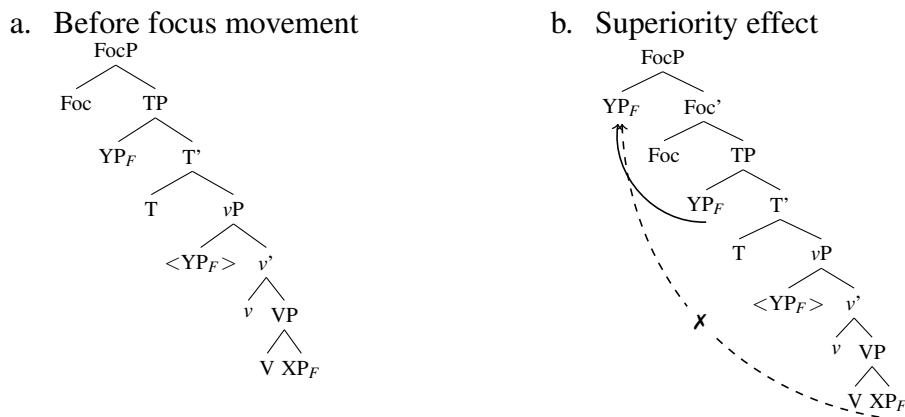
I argue that Mandarin is another language that offers support for a bipartite analysis of ‘only’. In particular, the Q head is realized as *zhiyou*, which adjoins to an F-containing nonverbal constituent, and there is always a Foc head co-occurring with *zhiyou* on the clausal spine (i.e. νP , TP). In addition, the fronting of the *zhiyou*-phrase can be attributed to an [EPP] feature on the Foc head. The two heads enter in Agree relation and the QP is attracted to Spec-FocP, as in (32).⁸

⁸In Section 5.1, I will discuss another possible implementation of the bipartite analysis in which the QP is attracted to the complement of the Foc head via ‘Undermerge’ (Pesetsky 2007; Yuan 2017), motivated by the word order of the two heads in a language (Vietnamese) that allows overt realization of both heads in the bipartite structure.



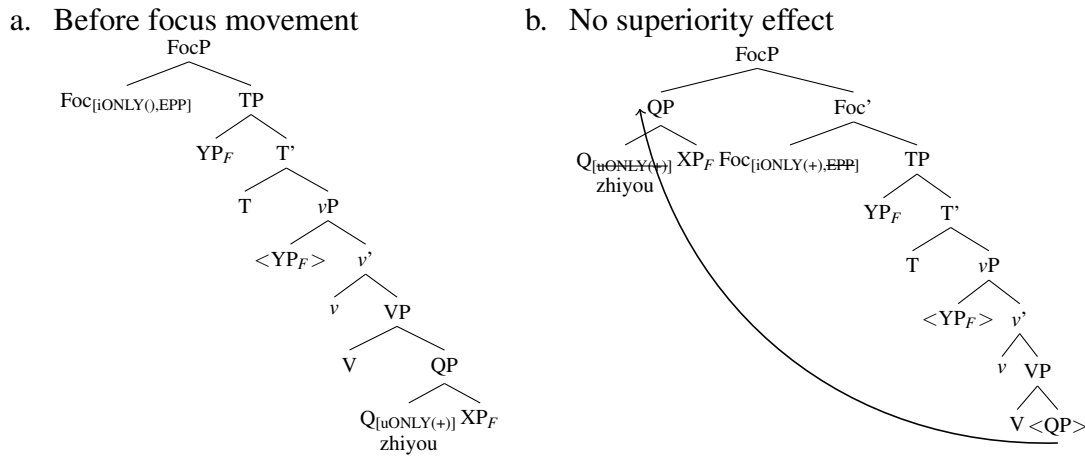
While we often refer to the fronting of the *zhiyou*-phrase as ‘focus movement’, the movement is by no means driven by the focus feature on the focused phrase (i.e. the F-marking) but rather driven by the [ONLY] features. The support comes from the cases in which there are two F-marked phrases in a sentence. If the movement is in fact triggered by the focus feature, we predict that the Foc head needs to attract the closest F-marked phrase when there are two F-marked phrases in its c-command domain as in (33), which should thus give rise to superiority effects.

(33) If the movement is triggered by the focus feature:



If the movement is due to [ONLY] features, no superiority effects will arise when there are two F-marked phrases– since the pure focus feature is not enough for a phrase to be attracted by the Foc head, whichever focused phrase adjoined by *zhiyou* will be attracted, as in (34).

(34) If movement is driven by the [ONLY] feature



The relevant Mandarin facts are as follows. I use a multiple *wh*-question like (35) to force a multiple-foci answer. As (36) demonstrates, there is no superiority effect as either of the focused phrases can be attracted.

(35) ni song-guo na-xie-ren shenme?
 you send-EXP which-CL-person what
 ‘You sent which people what?’

(36) *Potential superiority effect: indirect object > direct object*

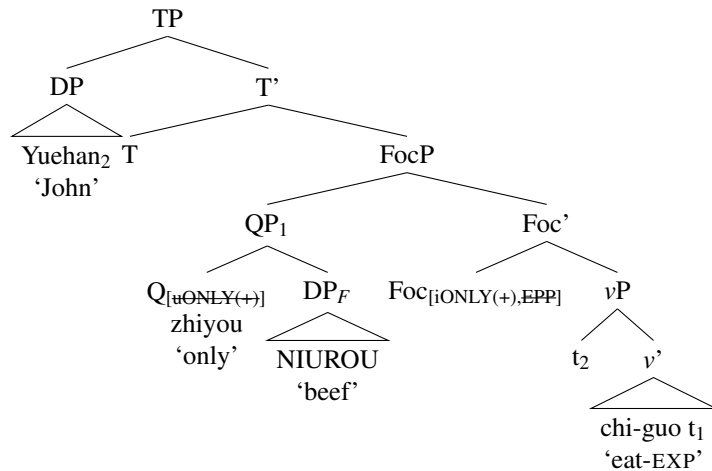
a. ⟨zhiyou XIAOWANG₁⟩ wo ⟨zhiyou XIAOWANG₁⟩ song-guo t₁ XIGUA
 only Xiaowang I only Xiaowang send-EXP watermelon
 ‘I sent only [Xiaowang]_F [watermelon]_F’

b. ⟨zhiyou XIGUA₂⟩ wo ⟨zhiyou XIGUA₂⟩ song-guo XIAOWANG t₂
 only watermelon I only watermelon send-EXP Xiaowang
 ‘I sent [Xiaowang]_F only [watermelon]_F’

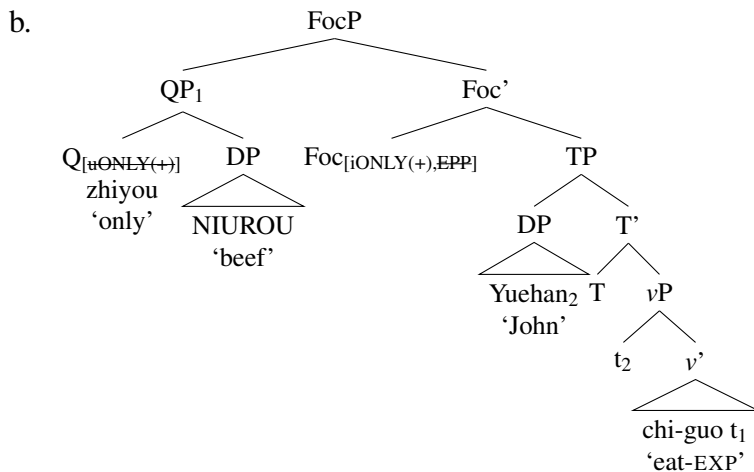
We are now in a position to derive the clause-initial and clause-medial positions of *zhiyou*. The covert Foc-head can occur at any point above *vP*, which suits its semantics as a propositional operator. At LF, the minimal constituent denoting a proposition is at least *vP*. An illustration of our analysis on *zhiyou* is in (37-38).

(37) a. Yuehan zhiyou NIUROU chi-guo
 John only beef eat-EXP
 ‘Only [beef]_F did John eat before.’

b.



- (38) a. zhiyou NIUROU Yuehan chi-guo
 only beef John eat-EXP
 ‘Only [beef]_F did John eat before.’



The proposed analysis can capture the sentences in which the *zhiyou*-phrase is base-generated within an embedded clause as well. I showed in Section 2.2 that in this case, *zhiyou* can be fronted to either the preverbal domain of the embedded clause (39) or that of the matrix clause (40).

- (39) Lisi renwei [*zhiyou* NIUROU] Yuehan [*zhiyou* NIUROU] chi-guo
 Lisi think only beef John only beef eat-EXP
 ‘Lisi thinks that only [beef]_F John ate before.’
- (40) [*zhiyou* NIUROU] Lisi [*zhiyou* NIUROU] renwei [Yuehan chi-guo]
 only beef Lisi only beef think John eat-EXP
 ‘Only [beef]_F, Lisi thinks that John ate before.’

For the sentences involving local movement such as (39), I argue that the covert Foc head is situated on the *vP* or *TP* of the embedded clause as in (41), which attracts the *QP* (= *zhiyou*-phrase) to the post-subject or clause-initial position.

(41) Foc on *vP*/TP of embedded clause \Rightarrow Local movement

- a. John think [_{CP} Lisi [_{FocP} QP_[FOCUS ONLY(+)] [_{Foc'} FOC_[iONLY(+), EPP] [_{vP} eat-EXP *t*]]]]
- b. John think [_{CP} [_{FocP} QP_[FOCUS ONLY(+)] [_{Foc'} FOC_[iONLY(+), EPP] [_{TP} Lisi eat-EXP *t*]]]]

For the sentences involving long-distance movement such as (40), the covert Foc head is situated on the *vP* or TP of the matrix clause, as in (42). Just like any regular \bar{A} -movement that crosses the clausal boundary, the QP first moves to the edge of the embedded CP so that the Foc head can probe it. The two head then agree with each other and the QP is attracted to the Spec-FocP.⁹

(42) Foc on *vP*/TP of matrix clause \Rightarrow Long-distance movement

- a. [John [_{FocP} QP_[FOCUS ONLY(+)] [_{Foc'} FOC_[iONLY(+), EPP] [_{vP} think [_{CP} *t* [_{C'} Lisi eat-EXP *t*]]]]]]
- b. [_{FocP} QP_[FOCUS ONLY(+)] [_{Foc'} FOC_[iONLY(+), EPP] [_{TP} John think [_{CP} *t* [_{C'} Lisi eat-EXP *t*]]]]]]

In a nutshell, the current analysis is able to capture all the \bar{A} -properties of the *zhiyou* construction that we discussed in Section 2.2, such as island effects, binding reconstructions, long-distance movements, and WCO effects.

Since *zhiyou* overtly realizes the semantically vacuous Q head and it is the covert Foc head that is interpretable, the scope of ‘only’ is fully decided by the position of the Foc head. While the Foc head is covert in the *zhiyou*-sentences, we can infer its position based on where *zhiyou* moves to. In other words, because the QP moves overtly, a *zhiyou*-sentence is not ambiguous in terms of

⁹One reviewer points out that for sentences involving the cross-clausal movement of a *zhiyou*-phrase, those with a clause-initial *zhiyou* on the surface generally sound better than those with a post-subject *zhiyou*. The current analysis does not capture this contrast since the derivations of those two constructions involve more or less the same steps: the attachment of the Foc head to a clausal spine, and the \bar{A} -movement of the *zhiyou*-phrase. As noted by the reviewer, this contrast also holds for the cross-clausal movement of a nominal phrase without *zhiyou*, which casts doubt on the current assumption that the post-subject position is a \bar{A} -position (see Section 2.2).

- (i) ⟨FAYU⟩ Lisi ⟨??FAYU⟩ renwei [Yuehan xue-guo]
 French Lisi French think John learn-EXP
 ‘For [French]_F, Lisi thinks that John learnt it before.’

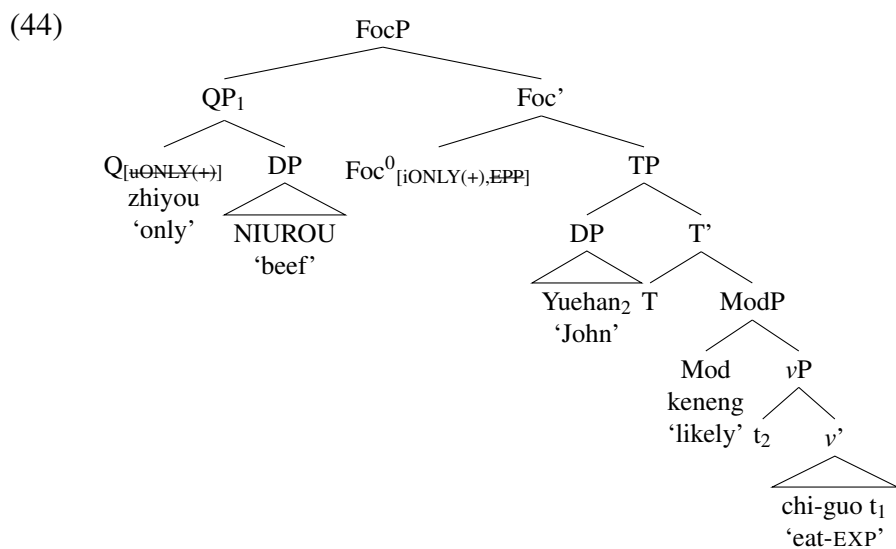
While it is beyond the scope of this paper to offer a detailed explanation, one suggestion I have is that maybe this contrast can be explained by the difference in the information structure of those two constructions rather than the difference in their syntax. The reason is that the contrast is not categorical in many examples in the first place, and adding an appropriate continuation can often improve the degraded ones as in (ii).

- (ii) Lisi FAYU renwei [YUEHAN xue-guo], DEYU renwei [MALI xue-guo]
 Lisi French think John learn-EXP German think Mary learn-EXP
 ‘For [French]_F, Lisi thinks JOHN learnt it before; For [German]_F, Lisi thinks MARY learnt it before.’
 (As an answer to ‘For each language, who does Lisi think that learnt the language before?’)

the scope of ‘only’, unlike English. As predicted, when there is another scope-taking operator in a sentence involving *zhiyou* as in (43), the scope relation is unambiguous.

- (43) a. Yuehan keneng zhiyou NIUROU chi-guo
 John likely only beef eat-EXP
 ‘Possibly, only [beef]_F did John eat.’ (◇ > only, *only > ◇)
- b. Yuehan zhiyou NIUROU keneng chi-guo
 John only beef likely eat-EXP
 ‘Only [beef]_F did John possibly eat.’ (*◇ > only, only > ◇)
- c. zhiyou NIUROU Yuehan keneng chi-guo
 only beef John likely eat-EXP
 ‘Only [beef]_F did John possibly eat.’ (*◇ > only, only > ◇)

Consider the semantics of (43c) in (44). The covert Foc head is interpreted as a propositional operator, and the Q head is semantically vacuous. The moved QP is reconstructed back so that the Foc head can have a propositional argument to take, and the reconstruction does not affect the interpretation of ‘only’.



- a. $\llbracket \text{TP} \rrbracket = \lambda w. \diamond (\text{John ate beef in } w)$
 b. $\llbracket \text{Foc}^0 \rrbracket = \llbracket \text{only} \rrbracket = \lambda p_{st} \lambda w : p(w). \forall p' \in C[p'(w) \rightarrow p \subseteq p']$
 c. $\llbracket \text{Foc}' \rrbracket = \llbracket \text{Foc}^0 \rrbracket (\llbracket \text{TP} \rrbracket)$
 $= \lambda p_{st} \lambda w : p(w). \forall p' \in C[p'(w) \rightarrow p \subseteq p'] (\lambda w. \diamond (\text{John ate beef in } w))$
 $= \lambda w : \diamond (\text{John ate beef in } w). \forall p' \in C[p'(w) \rightarrow (\lambda w. \diamond (\text{John ate beef in } w)) \subseteq p']$

One might wonder whether the split scope reading attested in English (see (31)), in which the scope of the focus associate is separated from the scope of the exclusive operator, is available in Mandarin. It seems not possible for a sentence like (45) to obtain such split scope reading.

- (45) #[zhiyou liang-ben shu]₁ Lisi bixu du t₁.
 only two-CL book Lisi required read
 Int: ‘Lisi is required to read only two books (whatever two).’ (only > □ > two books)

However, the unavailability is exactly expected from the general properties of \bar{A} -movement in Chinese. It is well-known that Chinese nominals reconstruct only for binding but not for scope, as shown by topicalization in (46-47), another typical \bar{A} -movement (Huang et al. 2009):

(46) Obligatory reconstruction for binding

- a. [zhe-ben guanyu taziji_i de shu]₁ Lixi bixu du t₁
 this-CL about himself DE book Lixi required read
 ‘[This book about himself]₁, John_i is required to read t₁’ (Condition A)
- b. *[zhe-ben guanyu Lisi_i de shu]₁ ta_i bixu du t₁
 this-CL about Lisi DE book he required read
 ‘[This book about Lisi]₁, he_i is required to read t₁’ (Condition C)

(47) Impossible scope reconstruction

- #[zhishao liang-ben shu]₁, Lixi bixu du t₁
 at.least two-CL book Lixi required read
 Int: ‘Lixi is required to read at least two books (whatever two)’ (require > at least two)

One immediate question that arises under this bipartite analysis is whether we can find an overt instantiation of the Foc head, hence supporting its postulation. Hole (2017) indeed pinpoints such a candidate – *cai*, which according to him is ‘near-obligatory’ in a sentence involving *zhiyou*:

- (48) Yuehan zhiyou NIUROU *(cai) chi.
 John only beef CAI eat
 ‘Only [beef]_F did John eat before.’

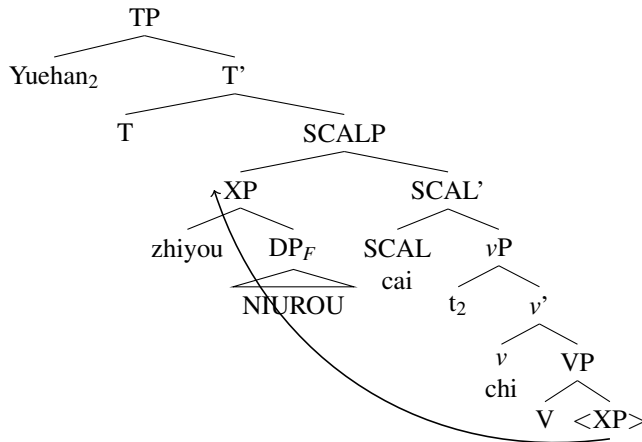
The current analysis crucially differs from his, since we discard the Spec-Head relation between *zhiyou* and *cai*; the Foc-head is covert and is not realized by *cai*. Instead, I analyze the *cai* co-occurring with *zhiyou* as an optional adjunct modifier which expresses an emphatic meaning (following Lai 1999; Biq 1988). In the next section, I demonstrate that such a move is not trivial, as it makes several correct predictions compared to an analysis that assumes a Spec-Head relation between *zhiyou* and *cai*. In Section 5, I discuss a possible candidate that overtly realizes the Foc head – the adverbial *zhi* ‘only’. While we do not see the co-occurrence of *zhi* and *zhiyou* in Mandarin (for a single focus reading), we do see their counterparts co-occur in Vietnamese, which has a similar inventory of ONLY-related particles.

4 Arguments against *cai* as Foc head

Hole (2017), based on his previous works (Hole 2004, 2008, 2013) provides the most explicit account of Mandarin *zhiyou* to my knowledge.¹⁰ His analysis crucially differs from the current one in positing a Spec-Head relation between *zhiyou* and a scalarity head *cai* (SCAL), as in (49).

¹⁰There is a vast literature on *cai* (Alleton 1972; Li and Thompson 1981; Biq 1984; Lai 1995, 1999), and yet the case in which *zhiyou* co-occurs with *cai* is usually not the focus.

- (49) Yuehan zhiyou NIUROU ?*(cai) chi
 John only beef SCAL_{LITTLE} eat
 ‘Only [beef]_F does John eat.’



Semantically, *cai* as a scalarity head contributes a so-called ‘little’ presupposition on top of the regular exclusive meaning of ‘only’ contributed by *zhiyou*, giving rise to a meaning that can be roughly paraphrased with a scalar exclusive particle such as *merely*. Consider the two English sentences in (50): the non-scalar exclusive particle *only* in (50a) presupposes (51a) and asserts (51b), whereas the scalar exclusive particle *merely* in (50b) further presupposes (51c) besides contributing the two inferences in (51a) and (51b).

- (50) a. John eats only [beef]_F.
 b. John eats {merely, just} [beef]_F.
- (51) a. Inclusive inference: John eats beef.
 b. Exclusive inference: John does not eat other things besides beef.
 c. ‘Little’ inference: John’s eating beef is considered to be little or not significant (or falls below the threshold of some contextually-relevant scale, generally).

According to Hole, a Mandarin *zhiyou*-sentence is obligatorily scalar due to the existence of the scalar particle *cai* in its structure. As shown in (52), it is infelicitous to follow up (49) with a sentence stating that the prejacent is ‘a lot’.

- (52) Yuehan zhiyou NIUROU cai chi, #danshi chi niurou jiu hen lihai le.
 John only beef SCAL_{LITTLE} eat but eat beef JIU very impressive PRT
 Int: ‘Merely beef does John eat, but to eat beef is quite impressive already’

Notice the ‘scalarity’ in Hole’s term should be understood in a narrow sense: taking the scale to be a partial ordering of propositions from weaker to stronger (Beaver and Clark 2008), the so-called non-scalar ‘only’ is achieved when the notion of strength is based on standard entailment. Consider the non-scalar ‘only’ in (50a), where the scale can be made up of the following propositions in (53) such that from left to right, each proposition is entailed by the propositions to its right.

- (53) <JOHN EATS BEEF, JOHN EATS BEEF AND FISH, JOHN EATS BEEF AND FISH AND CRAB-MEAT, ...>

The propositions on a scale can also be ordered with other more qualitative relations like impressiveness, significance, and so on. For instance, (50b) invokes a scale on which propositions are ordered by impressiveness as in (54). Notice that the proposition ‘John eats fish’ does not necessarily entail ‘John eats beef’, although in this context the former is assumed to be stronger than the latter in that if ‘John eats beef’ is impressive then ‘John eats fish’ is necessarily impressive.

- (54) <JOHN EATS BEEF, JOHN EATS FISH, JOHN EATS CRAB-MEAT, ...>

In other words, exclusives like ‘only’ always invoke some kind of scale but for Hole, who treats (50a) and (50b) separately, the scalar ‘only’ is reserved for cases in which the scale is ordered with those qualitative relations.

To summarize Hole (2017)’s proposal, *zhiyou* as adfocus ‘only’ is inherently scalar since it must front to the specifier of the scalarity head *cai*, which contributes a ‘little’ presupposition. The next subsection presents three arguments in favor of the current analysis over Hole’s proposal.

4.1 The clause-initial *zhiyou*

Let us first focus on the syntactic aspects of his analysis, whereby in a *zhiyou*-sentence, adfocus particle *zhiyou* and the scalarity head *cai* must stand in a Spec-Head relation. A prediction of the proposal is that the *zhiyou*-phrase and *cai* should always be adjacent; however, this prediction is false. As we have seen, when *zhiyou* attaches to an object DP, the object DP can occur either in post-subject (henceforth ‘clause-medial’), or clause-initial position, as repeated in (55). In the latter case, the *zhiyou*-phrase and *cai* are not linearly adjacent.

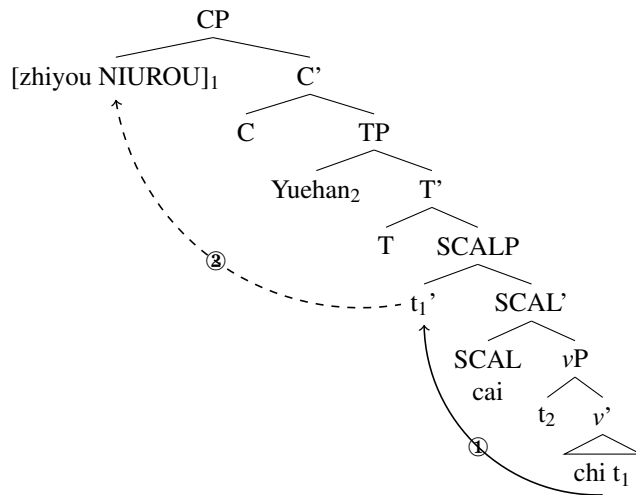
- (55) <*zhiyou* NIUROU> Yuehan <*zhiyou* NIUROU> *cai* *chi*
 only beef John only beef CAI eat
 ‘Only [beef]_F does John eat.’

One might wonder whether the clause-initial *zhiyou* may in fact be licensed via Spec-Head relation with a higher *cai* in the left periphery. This cannot be the case, however, since (56) is sharply ungrammatical.

- (56) **zhiyou* NIUROU *cai* Yuehan *chi*-guo
 only beef CAI John eat-EXP
 Int: ‘Only [beef]_F did John eat.’

While Hole does not address the clause-initial position of *zhiyou* explicitly in his (2017) paper, a natural extension of his analysis that preserves the Spec-Head relation between *zhiyou* and *cai*, and can derive the clause-initial *zhiyou* case in (55), is to have the *zhiyou*-phrase move through Spec-SCALP before landing at the left periphery, as illustrated in (57).

(57)



However, since the displacement of the *zhiyou*-phrase to Spec-SCALP and the displacement to the clause-initial position both exhibit typical \bar{A} -movement properties, as already shown in Section 2.2, the movement from Spec-SCALP to Spec-CP in (57) cannot be driven by the same [ONLY] feature due to Criterial Freezing (Rizzi 2006). Consider the English Q-Criterion for instance: a *wh*-phrase can check the [+Q] feature on an embedded C or a matrix C as in (58), but a sentence involving both an indirect question and a matrix question like (59) is ungrammatical. The reason for this is that after the *wh*-phrase moves to the embedded Spec-CP to check its [+Q] feature, it is then criterially frozen in place and cannot further move to check the same feature on the matrix C.

- (58) a. John wonders [_{CP} which book_t [_{C'} C_Q [_{TP} Mary read t]]].
 b. [_{CP} Which book_t [_{C'} does [_{TP} John think Mary read t]]]?

(59) *Which book does John wonder Mary read?

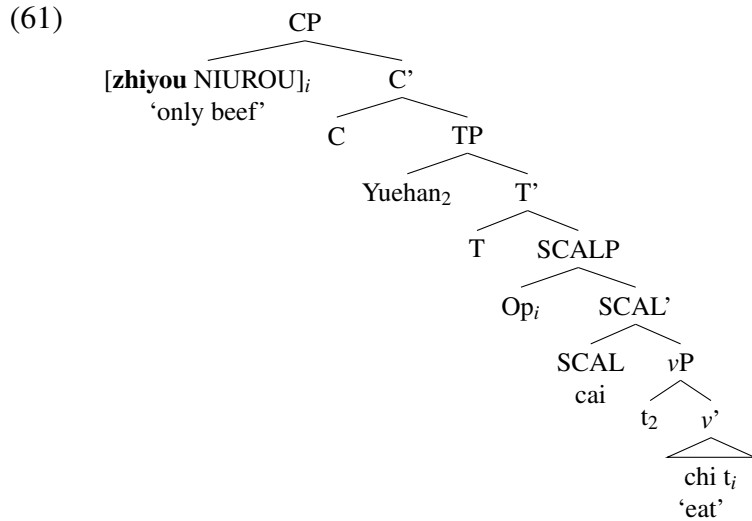
The only way out is to argue that the second movement is triggered by a different feature than [ONLY]. Bayer (2018) discusses a relevant case in which some German discourse particle, when forms a constituency with a *wh*-phrase, can first move to the specifier of a particle phrase on the *vP* to check some feature carried by the particle, and then further move to the left periphery because the *wh*-feature is still active. One important prediction of such an analysis is that the semantic scope of the discourse particle should be frozen in its first landing position, instead of its surface position. But this is not what we see in the Mandarin here: when having a scope-taking operator *keneng* ‘likely’ (◇) intervene between the surface position of the *zhiyou*-phrase and *cai* as in (60), the scope relation is ONLY > ◇, instead of ◇ > ONLY.

- (60) zhiyou zhezhong qufeng Yuehan keneng cai jieshou
 only this.kind music.style John likely CAI accept
 ✓ ONLY > ◇: Only for this kind of music style, John is likely to accept.
 ✗ ◇ > ONLY: It is likely that John only likes this kind of music style. ¹¹

¹¹For those who find the two readings in (60) a bit hard to distinguish, it is useful to compare (60) with the sentence in (i). Extending Bayer’s analysis to Mandarin predicts that the two should have the same scope relation for ‘only’ and the modal. But the two do not sound equivalent.

This example shows that *cai* cannot be the criterial position for *zhiyou* to check its [ONLY] feature because the scope of ‘only’ is not frozen in the place of *cai*. Thus Bayer’s analysis cannot be extended to derive the sentence involving the clause-initial *zhiyou*.

Finally, It is also unlikely that the clause-initial *zhiyou*-phrase is base-generated and binds a null operator in Spec-SCALP, as shown in (61), given the presence of obligatory reconstruction effects in (18-19), repeated here as (62).



- (62) *wo [zhiyou ZHE-ben guanyu Lisi_i de shu]₁ gei-guo ta_i t₁
 I only this-CL about Lisi DE book give-EXP he
 ‘[Only this book_F about Lisi_i]₁ did I give him_i t₁’ (Condition C)

In sum, the clause-initial occurrence of *zhiyou* poses a primary challenge to Hole’s analysis, especially the posited Spec-Head relation between the *zhiyou*-phrase and *cai*.

4.2 The optionality of *cai*

One motivation for having *cai* realize the head that attracts *zhiyou* (i.e. the Foc-head in the current bipartite analysis) in Hole’s (2017) analysis is that *cai* is ‘near-obligatory’. This section demonstrates that (i) *cai* is generally optional; and that (ii) there is a meaning difference between a *zhiyou*-sentence with *cai* and one without *cai*. Crucially, the latter is unexpected under Hole’s analysis, since an adfocus construction is inherently scalar in his analysis.

Contra Hole’s generalizations, we can observe that *cai* is optional in many cases. In fact, *cai* is optional in all the grammatical *zhiyou*-sentences in section 2.2, some of which are repeated below.

- (63) a. [zhiyou ZHE-ben guanyu taziji_i de shu]₁ wo (cai) gei-guo Lisi_i t₁
 only this-CL about himself DE book I CAI give-EXP Lisi

(i) Yuehan keneng zhiyou zhezhong qufeng cai jieshou
 John likely only this.kind music.style CAI accept
 ✗ ONLY > ◇: Only for this kind of music style, John is likely to accept.
 ✓ ◇ > ONLY: It is likely that John only likes this kind of music style.

- ‘[Only this_F book about himself_i]₁ did I give John_i t₁’
 b. Zhangsan [zhiyou ZHE-ben shu]₁ (cai) renwei t₁ xie-de hao
 John only this-CL book CAI think write-able good
 ‘[Only this_F book]₁ does John think t₁ (it) writes well.’

Furthermore, when the focused phrase is a subject, *cai* becomes generally optional, as in (64).

- (64) zhiyou YUEHAN (cai) chi niurou
 only John CAI eat beef
 ‘Only [John]_F eats beef’

Hence, let us make precise the notion of ‘near-obligatory’ in Hole’s claim. The real generalization seems to be that *cai* is necessary only when the string following the *zhiyou*-phrase contains just a bare verb without any aspectual marker, arguments or adverbial phrases:

- (65) *Constraint on the post-zhiyou string*
 The sister of a *zhiyou*-phrase cannot contain a sole bare verb (i.e. a verb without any aspectual affix).

Let us illustrate this generalization with actual data. In (66a), the sentence, which involves a bare intransitive, is degraded. However, the sentence improves if we add an aspectual suffix like *-guo*, a word to the left of the verb (e.g. a modal, negation, or an adverb), or a word to its right such as the object *niurou* ‘beef’, as (66b) shows.

- (66) a. ??zhiyou YUEHAN lai
 only John come
 ‘Only [John]_F will come.’
 b. zhiyou YUEHAN {lai-guo /hui lai /mei lai /jingchang lai /chi niurou}
 only John come-EXP will come NEG come often come eat beef
 ‘Only [John]_F {has come /will come / did not come /often comes / eats beef}.’

If we topicalize the object in (64), as in (67), the sentence again becomes odd in a way similar to (66a), and the addition of *cai* can improve it. This confirms the generalization in (65).

- (67) niurou ne zhiyou YUEHAN ?*(cai) chi
 beef TOP only John CAI eat
 ‘For beef, only [John]_F eats’

In cases where the focused phrase is the object and precedes the subject, the focused phrase is not immediately followed by the verb, and hence the constraint in (65) is observed regardless of the presence of *cai*. In such cases, then, *cai* is indeed optional:

- (68) zhiyou NIUROU Yuehan (cai) {chi /chi-guo /hui chi /mei chi /jingchang chi}
 only beef John CAI eat eat-EXP will eat NEG eat often eat
 ‘Only [beef]_F {does John eat /did John eat /will John eat/did John not eat/does John often eat}’

For sentences involving clause-medial *zhiyou*, *cai* is necessary only when the verb is bare without any aspectual marker or arguments or adverbial phrases as in (69a), but is always optional if the verb is not ‘bare’ as in (69b). All this conforms to (65).

- (69) a. Yuehan *zhiyou* NIUROU ?*(*cai*) *chi*
 John only beef CAI eat
 ‘Only [beef]_F does John eat’
- b. Yuehan *zhiyou* NIUROU (*cai*) {*chi-guo* /*hui chi* /*mei chi* /*jingchang chi*}
 John only beef CAI eat-EXP will eat NEG eat often eat
 ‘Only [beef]_F {did John eat /will John eat/did John not eat/does John often eat}’

Although it is not immediately clear why (65) should hold, the important point is that there exists no blanket ban on *zhiyou*-sentences without *cai*.¹² This contrasts starkly with the adfocus ‘even’ construction, which Hole treats on a par with the *zhiyou*-sentence as they both involve focus movement. However, in an ‘even’-construction, the particle *ye* can never be omitted, as exemplified in (70). While I will not discuss the *lian*-construction in further detail for reasons of space, the current contrast seems to suggest the two constructions are not completely parallel.

- (70) a. *lian* YUEHAN *(*ye*) {*lai-guo* /*hui lai* /*mei lai* /*jinchang lai* /*chi niurou*}
 even John YE come-EXP will come NEG come often come eat beef
 ‘Even [John]_F {came before/will come/did not come/often comes/eats beef}.’
- b. *lian* NIUROU Yuehan *(*ye*) {*chi* /*chi-guo* /*hui chi* /*mei chi* /*jingchang chi*}
 even beef John YE eat eat-EXP will eat NEG eat often eat
 ‘Even [beef]_F {does John eat /did John eat /will John eat/did John not eat/does John often eat}’
- c. Yuehan *lian* NIUROU *(*ye*) {*chi-guo* /*hui chi* /*mei chi* /*jingchang chi*}
 John even beef YE eat-EXP will eat NEG eat often eat
 ‘Even [beef]_F {did John eat /will John eat/did John not eat /does John often eat}’

¹²It is worth noting that the constraint in (65) is closely related to two generalizations made in the literature. One is the *Generalized Anchoring Principle* proposed in Tang and Lee (2000). They observe that Chinese sentences can sound ‘incomplete’ (marked by ‘%’), especially those involving a bare predicate (without any aspectual markers) like (i), and adding ‘something’ to such sentences will make them better.

- (i) Yuehan {%*lai* /*lai-guo* /*hui lai* /*mei lai* /*jingchang lai*}
 John come come-EXP will come NEG come often come
 ‘John {*comes/has come/will come/did not come /often comes}’

The other generalization is that a preposed object in the post-subject position generally requires a ‘contrastive’ interpretation (Ernst and Wang 1995; Lu 1994; Qu 1994; Shyu 1995) such that it sounds incomplete without a contrastive clause as in (ii):

- (ii) Yuehan *niurou chi* %(*panxie.rou bu chi*)
 John beef eat crab.meat NEG eat
 ‘John eats [beef]_F, not [crab meat]_F’

One might wonder whether the optionality of *cai* could be resolved under Hole’s proposal if we assume the existence of a covert *cai* in all those sentences that lack an audible *cai*. The main problem with this patch, however, is that *zhiyou*-sentences with or without *cai* are not completely synonymous. Consider a scenario in which the director and the vice director are discussing who is a good candidate for a role in a movie, and they share the knowledge that ‘Yangmi’ represents the level of average actresses, ‘Tangwei’ represents the level of good actresses and ‘Zhangziyi’ represents the level of great actresses. Now the *zhiyou*-sentence with *cai* in (71) and the one without *cai* in (72) actually lead to very different meanings, which can be made clear by the degree of felicity of A’s follow-up comments.

- (71) A: zhe ge juese shei neng yan?
 this CL role who able play
 ‘For this role, who is able to play it?’
B: zhiyou Tangwei zhe ge jibie cai neng yan
 only Tangwei this CL level CAI able play
 ‘Only actresses of Tangwei’s level are sufficient to be able to play that role’
 A: Taihaole! Na qing Zhangziyi kending mei wenti
 great then invite Zhangziyi definitely no problem
 ‘Great! Then having Zhangziyi will definitely work!’
- (72) A: zhe ge juese shei neng yan?
 this CL role who able play
 ‘For this role, who is able to play it?’
B: zhiyou Tangwei zhe ge jibie neng yan
 only Tangwei this CL level able play
 ‘Only actresses of Tangwei’s level are able to play that role’
 A: #Taihaole! Na qing Zhangziyi kending meti wenti
 great then invite Zhangziyi definitely no problem
 ‘Great! Then having Zhangziyi will definitely work!’

The sentence without *cai* in (72) expresses the regular exclusiveness meaning. Strikingly, the sentence with *cai* in (71) expresses a more complicated meaning, which is reflected above in the translation. A similar contrast can be found when *zhiyou* associates with the object; cf. (73), (74).

- (73) A: Xiaoli yuanyi zuo shenme zhiwei ne?
 Xiaoli willing take what position SFP
 ‘What position is Xiaoli willing to take?’
B: Xiaoli zhiyou bumenjingli zhe ge jibie cai yuanyi zuo
 Xiaoli only department-manager this CL level CAI willing do
 ‘Xiaoli, only the level of department manager is sufficient for her to be willing to take’
 A: Taihaole! Na juzhang ta kending yuanyi zuo ba
 great then division-head she definitely willing do SFP
 ‘Great! Then definitely she’ll be willing to take the job of division head’

- (74) A: Xiaoli yuanyi zuo shenme zhiwei ne?
 Xiaoli willing take what position SFP
 ‘What position is Xiaoli willing to take?’
- B: **Xiaoli zhiyou bumenjingli zhe ge jibie yuanyi zuo**
 Xiaoli only department-manager this CL level willing do
 ‘Xiaoli, only the level of department manager, she is willing to take’
- A: #Taihaole! Na juzhang ta kending yuanyi zuo ba
 great then division-head she definitely willing do SFP
 ‘Great! Then definitely she’ll be willing to take the job of division head’

It is clear that the existence of *cai* contributes something more to a *zhiyou*-sentence, and crucially, this is not something inherent in adfocus constructions – when *cai* is absent, that extra piece of meaning is not there. This therefore rules out the possibility that *cai* underlyingly exists but is simply not pronounced in the examples in (72) and (74). Although the contrasts above are sufficient to cast doubt on the conditional link between *zhiyou* and *cai*, I would like to briefly demonstrate that the current analysis, together with an existing analysis on the emphatic use of *cai* from Lai (1999), can in fact account for the data in (71-74).

According to Lai (1999) (based on Biq 1984, 1988), one usage of *cai* is as an emphatic discourse marker. Such a use can be illustrated with an example offered by Lai, which does not contain *zhiyou* ‘only’.

- (75) wo zuotian kan-le zhong-ri lanqiusai, NA CI BISAI cai jingcai ne!
 I yesterday watch-PERF China-Japan basketball game that CL game CAI great SFP
 ‘I watched the China-Japan basketball game yesterday. THAT GAME *cai* was great!’
 (Lai 1999: 627, ex. (4a))

The intuition is that in (75), the speaker is using *cai* to convey a reassessment about the standard for a basketball game to be considered as great: before watching the China-Japan basketball game, she might consider the basketball game between German-Spain last week to meet the standard of greatness; but after watching the China-Japan basketball game yesterday, the speaker has a new standard of greatness such that only the China-Japan game but not the German-Spain game was considered as great. To further explicate Lai’s analysis, I summarize two crucial conditions for a felicitous use of the emphatic discourse marker *cai* in (76).

- (76) *cai(p)* is used in a context when –
- p* and its alternatives are ranked in terms of what standard they indicate for a context-salient scalar property *G*;
 - The prejacent *p* is uttered to correct a potential alternative *p'* in the previous discourse to indicate a higher standard of *G*.

Take (75) for an illustration: *p* is ‘The China-Japan basketball game was great’ while *p'* is ‘The German-Spain basketball game was great’. They are ranked in terms of what the standard is for a game to be great: *p'* suggests a relatively lower standard *d'*, while *p* suggests a higher standard *d*. And by uttering *p*, the speaker rejects a potential alternative *p'* in the context to indicate that the standard is reassessed as higher than the previous one.

Going back to the puzzle that the addition of *cai* in a *zhiyou*-sentence weakens its exclusive meaning, I argue that the use of *cai* as a correction marker to a ‘lower’ prejacent (lower in that it indicates a lower standard of *G*) can capture the following contrast:

- (77) a. *zhiyou* Tangwei zhe ge jibie cai neng yan
 only Tangwei this CL level CAI able play
 ‘Only the level of Tangwei is able to play it’ (or higher levels)
- b. *zhiyou* Tangwei zhe ge jibie neng yan
 only Tangwei this CL level able play
 ‘Only the level of Tangwei is able to play it’ (not higher or lower levels)

By uttering the sentence with *cai*, the sentence can be understood as a correction to the potential alternative ‘Both the levels of Yangmi and Tangwei are able to play it’, which indicates a lower standard in terms of who is able to play the role; by uttering ‘Only the level of Tangwei is able to play it’, the exclusive particle operates over a smaller domain (that includes the level of Yangmi and the level of Tangwei) to exclude the level of Yangmi and indicates the standard is higher than previously expected. In short, the information conveyed by (77a) is similar to ‘While you might think both the level of Yangmi and the level of Tangwei can play it, let me tell you that among those two levels, only the level of Tangwei can play it’. This, certainly, does not exclude that the level higher than Tangwei are able to play the role as well.

In contrast, the variant without *cai* expresses the regular meaning of ‘only’ without the corrective flavor – it cannot be accommodated as a correction to a particular alternative; nor is the scalar property in terms of the degree of difficulty of playing the role made salient. In that case, ‘only’ will exclude all the salient alternatives in the domain and thus (77b) conveys the meaning that the role for some reason must be played by actresses of a certain level, not higher or lower.

To sum up, by discarding the conditional link between *zhiyou* and *cai* and treating *cai* as an adjunct, the current analysis captures the general optionality of *cai* in a *zhiyou*-sentence, and more importantly captures the fact that a *zhiyou*-sentence with *cai* and that without *cai* are not equivalent in meaning.¹³

¹³As pointed by one reviewer, there is some constraint on the structural relation between *zhiyou* and *cai* such that the two must be clause-mates as shown in (i), which is suspicious for an adjunct analysis of *cai* at first sight. But a similar clause-mate constraint for the adjunct can also be found with English *if ... then ...* conditional as in (ii), though the *if*-antecedent and the particle *then* are also not analyzed as Spec-Head relation (Bhatt and Pancheva 2006).

- (i) a. Zhangsan [**zhiyou** ZHE-ben shu]₁ **cai** renwei [_S Lisi hui xihuan t₁]
 John only this-CL book CAI think Lisi will like
 ‘[Only this_F book]₁ does John think Lisi will like t₁.’
- b. ??Zhangsan [**zhiyou** ZHE-ben shu]₁ renwei [_S t₁ Lisi **cai** hui xihuan t₁]
 John only this-CL book think Lisi CAI will like
 Int: ‘John thinks [only this_F book]₁ will Lisi like t₁.’
- (ii) a. John thinks that **if** it rains, **then** we should stay at home.
 b. ??**If** it rains, John thinks that **then** we should stay at home. (Bhatt and Pancheva 2006: 666(78))

The fact that *zhiyou* in fact has a conditional use (though not discussed in the current paper) suggests such a connection is not a random, or stipulative one.

4.3 The non-equivalence between post-foci *cai* and pre-foci *cai*

Another claim in Hole’s analysis is that since *zhiyou* and *cai* form a Spec-Head relation, sentence pairs like (78) can share the same underlying structure, and the difference lies in which heads are being pronounced. In the case of in-situ focus, it is always the scalarity head that is being pronounced (Hole 2017: 401).

- (78) a. Yuehan cai chi [zhiyou NIUROU].
 John CAI eat only beef
 ‘John only eats [beef]_F’
 b. Yuehan [zhiyou NIUROU]₁ cai chi t₁.
 John only beef CAI eat
 ‘John only eats [beef]_F’

However, the contrast between (79) and (80) is surprising under such a view.

- (79) a. zhiyou paiming diYI de xuexiao Yuehan cai₁ yuanyi kao
 only rank first DE school John CAI willing apply
 ‘Only the school that ranks [first]_F is John willing to apply for.’
 b. zhiyou zui NAN de ti Yuehan cai₁ yuanyi zuo
 only most hard DE problem John CAI willing solve
 ‘Only [the hardest]_F problem is John willing to do.’
- (80) a. #Yuehan cai₂ yuanyi kao paiming diYI de xuexiao
 John CAI willing apply rank first DE school
 ‘#John is merely willing to apply for the school that ranks [first]_F.’
 b. #Yuehan cai₂ yuanyi zuo zui NAN de ti
 John CAI willing solve most hard DE problem
 ‘#John is merely willing to do [the hardest]_F problem.’

The above contrast indicates that pre-foci *cai* and post-foci *cai* do not have the same meaning. I argue that Hole’s proposal that *cai* carries a ‘little’ presupposition in fact applies only to pre-foci *cai* in (78a), which can be translated as ‘merely’ (*cai*₂). The post-foci *cai* in (79) represents a different use, namely an emphatic discourse marker as we discussed in section 4.2 (*cai*₁). In (80), the *cai*₂ implicates that the prejacent ranks lower than a contextually-relevant threshold of a scale based on significance/impressiveness. Such scalarity, referred to as ‘little’ scalarity in Hole’s term, is inherent to *cai*₂: (80a-b) sound odd because entering the school that ranks first or solving the hardest problem is not usually considered as non-significant. The same oddness also persists in the English translations: the ‘little’ presupposition contributed by the scalar exclusive *merely* is not compatible with the prejacent, which is normally considered to be significant based on our world knowledge. By contrast, *cai*₁ as an emphatic discourse marker is used to correct a potential alternative to indicate John’s standard in choosing the school or the problem set is higher than expected. Such a use, though still can be considered as ‘scalar’, conveys almost the opposite flavor of scalar *cai*₂: the prejacent must rank higher than the salient alternative it is uttered to correct in terms of what standard for the scalar property they suggest.

In sum, the *zhiyou...cai* construction does not carry the same ‘little’ scalar meaning as the pre-foci *cai* that associates with an in-situ focus, and a more fine-grained analysis beyond assigning

a ‘SCAL_{LITTLE}’ meaning to *cai* in every case is required. The current discussion, in short, casts doubt on Hole’s claim that the *zhiyou...cai* ‘only’ construction is inherently scalar in the same way as the sentence with a pre-foci *cai*. Since the present proposal does not posit any deep connection between a *zhiyou*-sentence and the particle *cai*, it correctly predicts that a sentence only with *cai* should not be equivalent to one with both *zhiyou* and *cai*.

4.4 Interim summary

In this section, we compared the current analysis with an apparently similar analysis in the literature, and we argue that our move to discard the conditional link between *zhiyou* and *cai* is important and can account for a wider range of empirical data. In particular, the Spec-head relation between *zhiyou* and *cai* (i) fails to derive the clause-initial occurrence of *zhiyou*, and (ii) incorrectly predicts a *zhiyou*-sentence without *cai* is equivalent to one with *cai*, and (iii) incorrectly predicts that there is no difference between pre-foci *cai* and post-foci *cai*. By contrast, the current analysis does not face these problems.

5 Support for a bipartite analysis based on the cross-linguistic parallel

In Section 4, we argued against treating *cai* as the realization of the Foc head. One reviewer points out that such a move takes away one important motivation of having a bipartite analysis for ‘only’ in Mandarin: if there is no morphological evidence of the co-occurrence of the two heads (i.e. ONLY-doubling) in this language, then why should we go for a bipartite analysis? This section first discusses a possible candidate for the overt realization of Foc head in Mandarin – the adverbial *zhi*, and then turn to Vietnamese, which has two particles that behave similarly to *zhi* and *zhiyou* respectively (Hole 2013, 2017; Erlewine 2017). Crucially, we do see the co-occurrence of those two particles in Vietnamese. The cross-linguistic parallel between the two languages thus can provide motivations for a bipartite analysis of ‘only’ in Mandarin.

5.1 The adverbial *zhi* as the Foc head without [EPP] feature

One candidate for the overt Foc head in Mandarin is the adverbial particle *zhi* ‘only’, which behaves like the adverbial *only* in English (Li 2014; Erlewine 2015; Hole 2017): it must attach to the clausal spine and does not trigger overt movement of its focus associate (81). Semantically, it exhibits surface scope as in (82).

(81) a. Yuehan zhi chi-guo NIUROU.
 John only_{Adv} eat-EXP beef
 ‘John only ate [beef]_F before’

b. *Yuehan chi-guo zhi NIUROU.
 John eat-EXP only_{Adv} beef
 Int: ‘John ate only [beef]_F before’

(82) a. Lisi zhi keneng chi NIUROU
 Lisi only_{Adv} likely eat beef
 ‘Lisi is only likely to eat [beef]_F.’

(only > likely)

- b. Lisi keneng zhi chi NIUROU
 Lisi likely only_{Adv} eat beef
 ‘Lisi is likely to only read [beef]_F’ (likely > only)

To incorporate those facts under the current bipartite analysis of ‘only’ in Mandarin, I argue that the Foc head in Mandarin is either overtly realized as *zhi* which does not carry the [EPP] feature or is a covert one which carries the [EPP] feature, as in (83).

- (83) a. [_{FocP} [_{Foc} *zhi*_[iONLY()] [_{vP} ... [_{QP} Q_[uONLY(+)] XP_F] ...]]]
 b. [_{FocP} [_{Foc} FOC_[iONLY(),EPP] [_{vP} ... [_{QP} Q_[uONLY(+)] XP_F] ...]]]

Together with a language-specific spellout rule in (84), we can capture the distribution of ‘only’ in Mandarin as follows. In the case of (83a), since the Foc head is spelled out by *zhi*, we cannot see the overt Q head due to (84), as in (85); and no movement occurs due to the absence of the [EPP] feature on the overt Foc head. In the case of (83b), the Q head has to be overtly realized by *zhiyou*, and we see the overt movement due to the [EPP] feature on the covert Foc head, as in (86).

- (84) In Mandarin and English (adapted from Quek and Hirsch 2017):
 Exactly one head in the bipartite structure of ‘only’ must be phonologically overt.

- (85) Yuehan [_{FocP} zhi_[iONLY(+)] [_{vP} chi-guo [_{QP} Q_[uONLY(+)] NIUROU]]].
 John only_{Adv} eat-EXP beef
 ‘John only ate [beef]_F before.’

- (86) Yuehan [_{FocP} [_{QP} zhiyou_[uONLY(+)] NIUROU] [_{Foc} FOC_[iONLY(+),EPP] [_{vP} chi-guo t₁]]].
 John only_{Adv} beef eat-EXP
 ‘John ate only [beef]_F before.’

Because of the existence of (84), we cannot see the co-occurrence of the Foc head and Q head in the bipartite structure in Mandarin. In the next section, I show that Vietnamese has two particles that behave quite similarly as *zhi* and *zhiyou*, and crucially we indeed see their co-occurrence.

5.2 Adfocus fronting and ONLY-doubling in Vietnamese

In Vietnamese, we can find two particles that exhibit very similar (though not identical) properties as Mandarin *zhi* and *zhiyou*. The particle *chỉ* ‘only’ is like the adverbial particle *zhi* in that it occurs pre-verbally and does not trigger overt movement of the focus associate (Erlewine 2017; Hole 2013, 2017). It also exhibits the surface scope as in (87b-c):

- (87) a. Nam chỉ ăn THỊT BÒ
 Nam only_{Adv} eat beef
 ‘Nam only eats [beef]_F.’
 b. Nam có thể chỉ ăn THỊT BÒ
 Nam can only_{Adv} eat beef
 ‘Nam is allowed to only eat [beef]_F.’ (◇ > only, *only > ◇)

- c. Nam chỉ có thể ăn THỊT BÒ
 Nam only_{Adv} can eat beef
 ‘Nam is only allowed to eat [beef]_F.’ (*◇ >only, only > ◇)

Another particle *mỗi* is an adfocus particle which can adjoin to DPs as in (88). Importantly, it can be optionally fronted to the preverbal domain in a way just like Mandarin *zhiyou*: it can either land in a post-subject position, or a clause-initial position (Hole 2013, 2017).¹⁴

- (88) a. Nam ăn mỗi THỊT BÒ
 Nam eat only_{Adv} beef
 ‘Nam eats only [beef]_F.’
 b. Nam [mỗi THỊT BÒ]₁ mới ăn t₁
 Nam only_{Adv} beef PRT eat
 ‘Only [beef]_F does Nam eat.’
 c. [mỗi THỊT BÒ] Nam mới ăn t₁
 only_{Adv} beef Nam PRT eat
 ‘Only [beef]_F does Nam eat.’

What is interesting is that Vietnamese indeed allows the co-occurrence of *chỉ* and *mỗi* for a single focus reading (Hole 2013, 2017; Erlewine 2017; Quek and Hirsch 2017; Sun 2020). (89) is an example of the co-occurrence of the Foc head (with no [EPP] feature) and an in-situ QP.

- (89) Nam chỉ ăn [mỗi THỊT BÒ]₁
 Nam only_{Adv} eat only_{Adv} beef
 ‘Nam only eats [beef]_F.’

Now consider a crucial prediction that we can test in this language: since Mandarin *zhiyou* moves in a similar way that Vietnamese *mỗi* does and Vietnamese allows both heads to be phonologically overt, then if we can see *mỗi* moves to the specifier of *chỉ* (so that the two are adjacent), that fact can provide indirect evidence for a bipartite analysis in Mandarin.

This prediction is partially born out in Vietnamese. As shown in (90), when the *mỗi*-phrase is fronted, it indeed must be adjacent to the Foc head *chỉ* if the single focus reading is intended. The only puzzle is that the word order is not expected if the *mỗi*-phrase moves to the specifier of *chỉ* in a standard way, which should result in an order of ‘...mỗi THỊT BÒ chỉ...’.

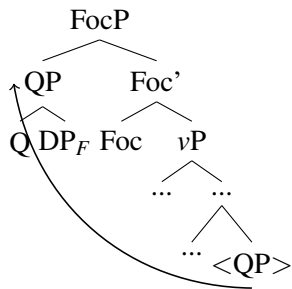
- (90) a. Nam chỉ [mỗi THỊT BÒ]₁ mới ăn t₁
 Nam only_{Adv} only_{Adv} beef PRT eat
 ‘Only [beef]_F does Nam eat.’

¹⁴The particle *mới* (not to be confused with adfocus *mỗi*) can be viewed as the counterpart of *cai* as discussed in Hole 2017, and while Hole argues that *mới* is near-obligatory like *cai*, we’ve shown that in Mandarin *cai* is in fact optional. It is beyond the scope of this paper to have a detailed investigation of when *mới* is optional, but my consultants confirmed that at least when the focus associate is pre-verbal (i.e. the subject), *mới* is fully optional in the sentences involving adfocus *mỗi* and there is a meaning difference between the sentence with *mới* and that without it. The optionality suggests that *mới* is apparently ‘near-obligatory’ in Vietnamese for independent reasons just like *cai* in Mandarin.

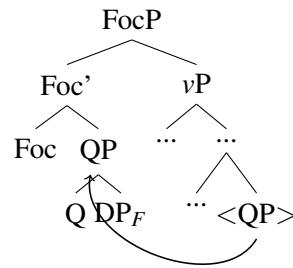
- b. *chỉ* [m^õi THỊTBỒ]₁ Nam mới ăn t₁
 only_{Adv} only_{Adf} beef Nam PRT eat
 ‘Only [beef]_F does Nam eat.’
- c. #*chỉ* Nam [m^õi THỊTBỒ]₁ mới ăn t₁
 only_{Adv} Nam only_{Adf} beef PRT eat
 Int: ‘Nam eats only [beef]_F.’

However, such a word order should not discourage the implementation of the bipartite analysis in Vietnamese, considering that the *m^õi*-phrase (the QP) is in fact attracted by *chỉ* (the Foc head). I argue that the unexpected word order can be captured by the operation ‘Undermerge’ (see also Sun 2020). A regular phrasal movement creates a specifier of a certain head and extends the syntactic structure at its root as in (91a), conforming to the Extension Condition (Chomsky 1995). However, it has also been argued that the Extension Condition can be relaxed in some cases, for instance when a head Internally Merges with multiple specifiers, the second specifier is Merged below the first specifier by ‘tucking-in’ (Richards 2001). For this reason some authors argue that Internal Merge also does not necessarily create a specifier, but can also create a complement of a head (Wagner 2006; Pesetsky 2007, 2013; Yuan 2017), as in (91b).

(91) a. Overmerge:

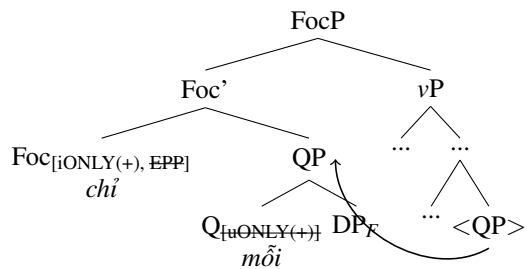


b. Undermerge:

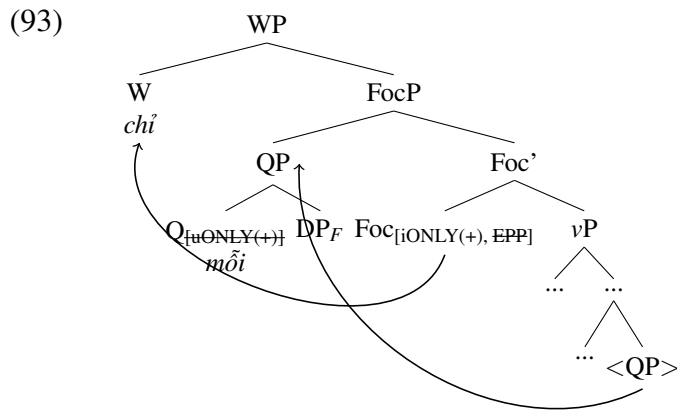


In other words, we can still maintain the bipartite analysis in which the Foc head bears an optional [EPP] feature by postulating that this [EPP] feature is a special one such that it attracts the FP to its complement position via ‘Undermerge’, as in (92). In this way the ‘Adverbial (*chỉ*)-Adfocus (*m^õi*)’ order in the ONLY-doubling examples in (90) can be accounted for straightforwardly.

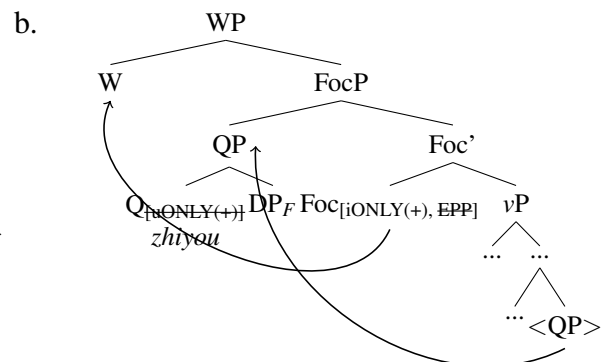
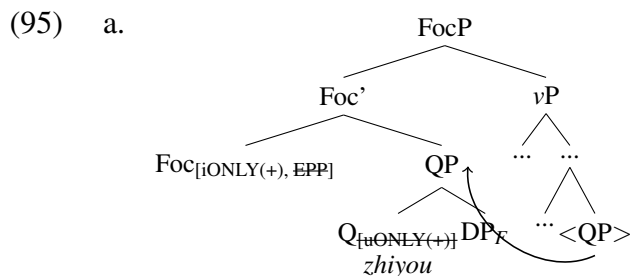
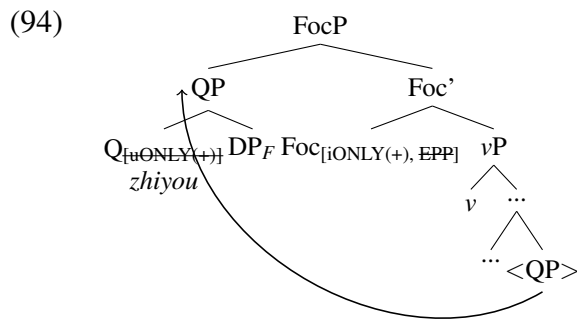
(92)



For those who find Undermerge suspicious, an alternative is to follow Kayne (1998) in postulating another abstract head (W) immediately above the FocP which requires the raising of the Foc head to it, as in (93). This can also derive the correct word order within the bipartite analysis.



Turning back to Mandarin, while we proposed a regular bipartite analysis in which the adfocus particle *zhiyou* is attracted to the specifier of the Foc head, as repeated in (94), nothing prevents us to adopt a Vietnamese-like implementation for Mandarin, as in (95). The reason is that this Foc head is covert in Mandarin, and we cannot ascertain the surface order of the Q head and Foc head – the different implementations will equally capture the Mandarin facts well.



In a nutshell, since Vietnamese and Mandarin have almost identical adfocus fronting patterns (except that it is optional in Vietnamese but obligatory in Mandarin), and we do see that the fronted adfocus particle must be adjacent to the adverbial particle in Vietnamese as predicted by the bipartite analysis of ‘only’ (plus an additional assumption that Undermerge is allowed in the grammar or

the Foc head further undergoes head movement), there is reason to believe that *zhiyou* (the Q head) also moves to a position that is in local relation with the Foc head in Mandarin. We do not see their co-occurrences simply because of a language specific spellout rule that bans the phonological realization of both heads in Mandarin. ¹⁵

6 Conclusions

This paper provides novel evidence for the bipartite analysis of ‘only’ by showing that it can account for all the properties of *zhiyou* ‘only’ in Mandarin. Under the current proposal, *zhiyou*, which bears the uninterpretable feature [uONLY], obligatorily fronts to the projection headed by the Foc-head bearing an interpretable counterpart on the clausal spine. My analysis crucially differs from Hole (2017) in discarding the Spec-Head relation between *zhiyou* and *cai*. I show that the near-obligatory occurrence of *cai* in a *zhiyou* sentence is illusive and should be attributed to an independent requirement in Mandarin. When that independent requirement is controlled for, *cai* in a *zhiyou*-sentence is in fact optional and its presence makes a pragmatic contribution as an emphatic discourse marker (Lai 1999; Biq 1984). Moreover, the Spec-Head relation is shown to be problematic in deriving the clause-initial position of *zhiyou*, while my analysis does not face such a problem. Finally, I argue that the unattested co-occurrence of the two particles that can overtly realize the Q head (adfocus *zhiyou*) and Foc head (adverbial *zhi*) in Mandarin should not discourage the application of the bipartite analysis of ‘only’ in this language. The reason is that we can find two particles in Vietnamese which behave like *zhiyou* and *zhi* in many aspects (Hole 2013, 2017), and we indeed observe their co-occurrence for a single focus reading in Vietnamese (Erlewine 2017; Quek and Hirsch 2017).

The parallel and variation between English, Mandarin, and Vietnamese on ‘only’ raise many interesting open questions. For instance, why are the two heads in the bipartite structure allowed to be both phonologically overt in Vietnamese but not in the other two languages? And can the bipartite analysis shed light on the constrained distribution of the adverbial ‘only’? In at least English and Mandarin, the adverbial *only* and *zhi* cannot occur in sentence-initial position but there is no such ban for the adnominal *only* or *zhiyou*. Finally, can the bipartite analysis extend to ‘even’ particles in those languages? Hole (2017) proposes a uniform analysis for ‘only’ and ‘even’ in Mandarin and Vietnamese: just like the adfocus ‘only’ moves to the specifier of a scalar phrase,

¹⁵In Cantonese, *zinghai* (the counterpart of adverbial *zhi*), and *dak* (the counterpart of adfocus *zhiyou*), can also co-occur and they observe the ‘only_{Adv}-only_{Adf}’ word order just like Vietnamese (p.c. Jackie Yan-Ki Lai, Ka-Fai Yip):

- (i) a. *zinghai* [dak NGAUJUK]₁ Aqiu sin sik t₁
 only only beef Aqiu PRT eat
 ‘Only [beef]_F does Aqiu eat.’
- b. Aqiu *zinghai* [dak NGAUJUK]₁ sin sik t₁
 Aqiu only only beef PRT eat
 ‘Only [beef]_F does Aqiu eat.’

The co-occurrence phenomena in a Chinese language such as Cantonese provides further support for the bipartite analysis of ‘only’ in Mandarin Chinese.

the adfocus ‘even’ (*lian* in Mandarin) also moves to the specifier of a scalar phrase. While I discard the conditional link between *zhiyou* and *cai* in Mandarin, it remains to be seen whether the same would be desirable for ‘even’ particles. While we do not have the space to discuss those questions in this paper, it seems that a bipartite analysis does bring new perspectives on our understanding of association with focus operators like ‘only’ and ‘even’.

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