Secondary Focus in Chinese

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1. Introduction

•Puzzle: Although it is known that there are movements associated with focus and quantification in Chinese (Ernst & Wang 1995, Shyu 1995, Zhang 1997, Wu 1999, Hole 2004, Tsai 2008, inter alia), it is not clear where the exact landing sites for these movements are.

(1) a. zhangsan [lian   lisi]$_i$ dou   bu   renshi t_i
          Z.   even L.   DOU Neg know
          'Zhangsan doesn't even know Lisi.'
     b. zhangsan [zhiyou pingguo]$_i$ cai   chi t_i
          Z.   only   apple   CAI eat
          'Zhangsan only eats apple.'
     c. lisi [henshao ren]$_i$ bu   renshi t_i
          L.   few   people Neg   know
          'There are few people that Lisi doesn't know.'

In all of these examples, the movements are obligatory, and the landing site is TP-internal. Can we just posit a FocP between TP and NegP in Chinese?
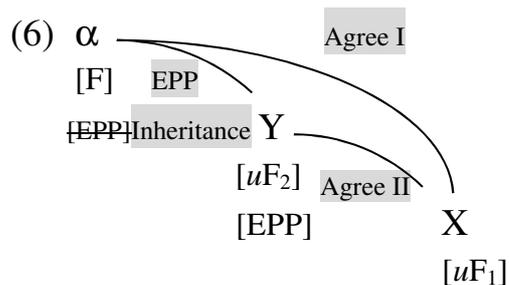
Unfortunately, it wouldn't work. When we consider more examples, we see the landing sites vary:

(2) a. zhangsan [lian   yifu]$_i$ dou   zai xuexiao xi t_i
          Z.   even clothes DOU at   school wash
          'Zhangsan even washes clothes at school.'
     b. zhangsan zai xuexiao [lian   zhifu]$_i$ dou   bu chuan t_i
          Z.   at   school   even uniform   DOU Neg wear
          'Zhangsan doesn't even wear uniforms at school.'

(3) a. zhangsan [zhiyou huaxue]$_i$ cai   meitian yanjou t$_i$
       Z.   only   chemistry CAI every.day research
       'Zhangsan investigates only chemistry every day.'
    b. zhangsan meitian [zhiyou huaxue]$_i$ cai yanjou t$_i$
       Z.   every.day only chemistry CAI research
       'Every day, Zhangsan investigates only chemistry'
    c. zhangsan yiqian   [zhiyou huaxue]$_i$ cai yanjou t$_i$
       Z.   previously only   chemistry   CAI research
       'Zhangsan previously investigates only chemistry.'

(4) a. [lian zhangsan]$_i$ dou   henduo ren   renshi   t$_i$
       even Z.   DOU many people   know
       'Even Zhangsan is known by many people.'
    b. henduo ren   [lian zhangsan]$_i$ dou   renshi   t$_i$
       many people   even Z.   DOU   know
       'Many people even know Zhangsan.'

(5) a. zhangsan meiyou [meiben shu]$_i$ dou   kan t$_i$
       Z.   Neg.   every   book   DOU read
       'Zhangsan didn't read every book.'
    b. zhangsan [meiben shu]$_i$ dou   meiyou kan t$_i$
       Z.   every   book   DOU Neg.   read
       'Zhangsan didn't read any of these books.'

(2) shows the landing site can be before or after the locative adjunct. (3) shows it can be before after the temporal adverbs. (4) shows it can even occur before the subject. (5) shows it can occur before or after negation. Importantly, different positions correspond to different interpretations.

• Goals of this talk: (i) to provide proper general descriptions of the facts, (ii) to provide a refined theory of movement to account for the facts.

• My proposals: (i) These facts can be accounted for by introducing the *secondary focus* as a syntactic object. More specifically, the landing site of the focused object is the edge of the secondary focus of the focusing particle/adverb. (ii) This movement is derived in the following fashion:

(6) α ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ Agree I
    [F]   EPP
    [EPP] Inheritance   Y ⎯⎯⎯⎯⎯⎯
           $[uF_2]$ Agree II
           [EPP]   X
                      $[uF_1]$

α is the functional head bearing the interpretable categorical feature (e.g. mood, exhaustive identification, etc.). <u>Agree I</u> is the typical Agree between the probe and the goal. The goal is in the constituent X bearing the focus associated with α. Merger of the focusing adverb takes place. <u>EPP Inheritance</u> transmits the [EPP] feature from α to the head Y bearing the *secondary focus* associated with α. When this is established, <u>Agree II</u> applies between the probe at the new location Y and the goal at X, triggering movement of X and its projection to merge with Y.

2. What is secondary focus?
2.1 What is focus?
• What is focus?

Definition of focus and focus-sensitivity (cf. Rooth (1985), Krifka (2007), Horvath (2007))
(7) Focus indicates the presence of *alternatives* that are relevant for the interpretation of linguistic expressions.
(8) Semantic operators whose interpretational effects depend on focus are associated with focus.
(9) Prosodic focus is only indirectly related to the syntactically active focus constituent.

(10) a. John saw [MARY's son living in Taipei].
     b. John saw [Mary's son LIVING IN TAIPEI].
     c. John saw [Mary's SON living in Taipei].

—The sentences in (10) all involve alternatives which for which the predicate 'John saw *x*' could potentially hold.
—The alternative values of the variable in these cases correspond to the whole bracketed DP.
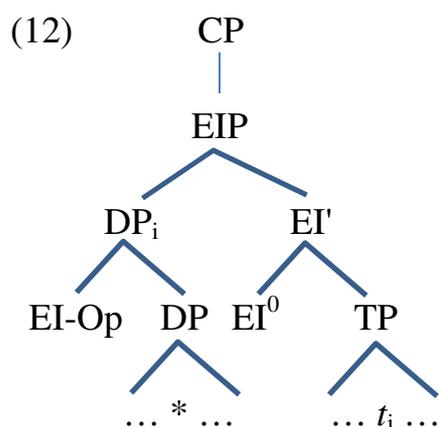
2.2 Previous analyses of focus-movement

• The clausal head/ 'minor functional head' analysis (Bayer 1996)

(i) Focusing adverbs are either clausal heads or 'minor functional heads'.

(ii) The clausal functional head occupies a position below T^0.

(iii)PRT being a *minor functional head* cannot project syntactic categorical features unless it occupies an operator position; in this case, PRT heads the functionally defined phrase PrtP.

(11) a. John will invite only Mary.

   b. [$_{IP}$ John [$_{I'}$ will [$_{PrtP}$ [$_{DP}$ only [$_{DP}$ Mary]]$_i$ [$_{Prt'}$ Prt^0 [$_{VP}$ invite t$_i$]]]]]

• **Analyses focusing on A'-dependency (Horvath 2007, Wagner 2009)**

(i) 'Focus movement' is triggered by a null EI^0 (EI=exhaustive identification).

(ii) This EI^0 bears an [*u*EI] feature, an EPP feature, the former enters into a *matching* relation the *goal* in its search domain.

(iii)The EI operator, which is the focusing particle itself, bears an [*i*EI] feature. The operator merges with a DP (or a PP, VP, CP). When movement takes place, the phrase containing the operator and its sister phrase is *pied-pied*.

(iv) The operator requires the presence of stressed-based 'information focus' in its c-command domain.

(12)

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              CP
              |
             EIP
            /    \
         DPᵢ      EI'
        /   \    /   \
    EI-Op   DP EI⁰    TP
           / \       /  \
         … * …    … tᵢ …
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• **Analyses of focus movement in Chinese**

—Shyu (1995, 2001): a TP-internal function head F has a [+Foc] feature triggering focus movement.

—Zhang (1997, 2000): the light verb *v* has a strong feature that triggers focus movement.

—Wu (1999): although there are overt movements in Chinese, they are topic movements which are triggered by a [pro] feature at the functional head Top. This movement induces scope effects. (His Chinese examples include *what book only Zhangsan buy?*)

- Contributions and problems:
—Bayer's and Horvath's accounts provide some formal treatments for focus-related movement. However, in their accounts the landing site of the movement occupies a fixed position; for Bayer it's below TP, for Horvath it's above TP.
—Previous studies of focus movement in Chinese identified a TP-internal position for the landing site of focus and scope-related movement. However, they have different theoretical assumptions and also postulate fixed landing sites for focus movement.

2.3 Secondary focus
- We can illustrate the existence of the secondary focus by examples that involve focusing adverbs but no focus movement (Shu 2011):

(13) A: zhangsan jintian zhaodao-le gongzuo. lisi zuotian zhaodao-le
      gongzuo.
      'Zhangsan got a job today. Lisi got a job yesterday.'
  B1: (bu.) ??<u>lisi jintian</u>   **ye$_a$** zhaodao gongzuo.
     no   L. today   also find   job
  B2: (bu.) <u>lisi</u>   **ye$_a$** <u>zai jintian</u>   zhaodao gongzuo.
     no L.   also at today   find   job
     'No. <u>Lisi</u> also got a job <u>today</u>.'

—Explanation: Although in (13B2), *lisi* is the focus associated with *ye* 'also', the double-underlined secondary focus indicates the alternative time point (yesterday) mentioned in the context is incorrect.

—The examples in (2-5) can now be understood in the same way:

(14) a. zhangsan [lian   yifu]$_i$ dou   zai xuexiao xi t$_i$
          Z.   even clothes DOU at   school wash
          'Zhangsan even washes clothes at school.'
     b. zhangsan zai xuexiao [lian   zhifu]$_i$ dou   bu chuan t$_i$
          Z.   at   school   even uniform   DOU Neg wear
          'Zhangsan doesn't even wear uniforms at school.'

In (14a), although *yifu* is the focus associated with the FA *lian*, signaling
that alternatives to *yifu* are under consideration in interpreting the
sentence, the alternatives to the PP *zai xuexiao* are also under
consideration, since the tacit assumption (or explicit in the context) is that
clothes can be washed <u>at home</u> instead of <u>at school</u>. Consider the
following context, which is natural for (14a):

(15) [Zhangsan is frugal. He doesn't want to spend money by using
   electricity and water at home…]

I will leave the readers to extend this analysis to other relevant examples.

• Some analytical consequences:
—An important consequence is that a focusing adverb is syntactically
  associated with more than one linguistic item.
—One-to-many syntactic dependency is not new. However, what is
  involved here is not multiple focus-movement.
—When there is no focus movement, as we have seen in cases like (13),
  we see the secondary focus is syntactically active as the <u>host</u> of the
  focusing adverb *ye* 'also'.
—**When overt movement is present, the secondary focus can be
  identified by being the <u>landing site</u> of the primary focus.**

3. An Agree analysis
• Previous analyses do not offer the possibility of 'floating' final landing
  sites for a non-scrambled expression with a fixed scope.
• In Chomsky (2007, 2008), features can be inherited. That is, a given
  feature can originate from a head α and then be inherited by a head β
  c-commanded by α.
• My proposal: suppose the target of feature inheritance can be
  determined by Agree, then we can have floating landing sites.

- Three counts of Agree:
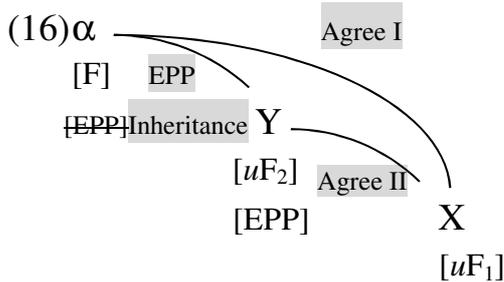
(16) α ———————— Agree I
    [F] EPP
   ~~[EPP]~~Inheritance Y ————
        $[uF_2]$ Agree II
        [EPP]   X
                   $[uF_1]$

> α is the functional head bearing the interpretable categorical feature (e.g. mood, exhaustive identification, etc.). <u>Agree I</u> is the typical Agree between the probe and the goal. The goal is in the constituent X bearing the focus associated with α. Merger of the focusing adverb takes place. <u>EPP Inheritance</u> transmits the [EPP] feature from α to the head Y bearing the *secondary focus* associated with α. When this is established, <u>Agree II</u> applies between the probe at the new location Y and the goal at X, triggering movement of X and its projection to merge with Y.

• Syntactic derivations for focusing adverbs (a revised version of Shu 2011)

> *An Agree analysis of focusing adverbs*
>   a. (i) α   D/*v*/Aux, etc. → α   D/*v*/Aux, etc.
>   valued $[iF]$ unvalued $[uF]$ valued $[iF]$ valued $[uF]$
>   (ii) Goal Condition: The head bearing the goal bears the focus of the probe, unless the former is the Aux or the main verb.
>   (iii) Directionality: The head bearing $[iF]$ c-commands the head bearing $[uF]$.
>   b. $[uF]$ selects a phrase P(uF) as a candidate for pied-piping.
>   c. Select a suitable morphosyntactic expression M and merge it to the edge of P(uF). M <u>realizes</u> the feature valuation of $[uF]$. The syntactic category of M is A (Adjective/Adverb).
>   ☆d. An EPP feature at α is inherited by a head Y bearing the secondary focus associated with α. The inherited EPP feature triggers internal Merge of [M P(uF)] to edge of YP.
>   e. Direction of merger is determined in the Φ.

4. Some consequences

- Feature inheritance is motivated by 'trinity' of semantics.
- The syntax of concord-like elements like *dou* and *cai* can be accounted for naturally.
- We predict that focus movement and focusing adverbs share some properties. They do. They are more compatible with indefinite noun phrases than with definite noun phrases.

(17) a. [lian   zhangsan]$_i$ dou   henduo ren   renshi   t$_i$
    even   Z.   DOU many people   know
   'Even Zhangsan is known by many people.'
  b. *[lian   zhangsan]$_i$ dou   lisi   renshi   t$_i$
    even Z.   DOU   L. know
(18) a. yiding henduo ren   renshi   zhangsan
   certainly many people   know   Z.
   'Certainly many people know Zhangsan.'
  b. *yiding   lisi   renshi   zhangsan
   certainly L. know   Z.

5. Conclusion

- In addition to the primary focus, a focusing adverb (or a covert focusing operator) can associate with a secondary focus.
- A natural analysis is one under the Agree framework, where movement applies after inheritance applies. Feature inheritance is this case is determined by where the secondary focus is located.

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