A Case of V2 in Chinese[*]

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Abstract: As far as the left periphery is concerned, there is a conspiracy between syntax, semantics, and pragmatics to ensure the success of sentence formation. We would like to put forth the claim that peripheral features play an important role in this endeavor, which can be checked by either Merge or Move according to the parameter-settings of individual languages. Along this line, topic prominence can be regarded as the result of peripheral feature checking, and the null topic hypothesis à la Huang (1984) is reinvented as a null operator merger to fulfill interface economy in the left periphery. In this regard, Chinese provides substantial evidence from obligatory topicalization in outer affective, evaluative, and refutory *wh*-constructions, which applies only when the licensing from a D(efiniteness)-operator is blocked. The idea also extends naturally to the issues concerning pro-drop and bare nominals in general. In this light, we may well compare Chinese obligatory topicalization to those residual cases of verb-second (V2) in English, all being manifestation of the strong uniformity.

Keywords: Topic Prominence, Comparative Syntax**,** Minimalist Program, Obligatory Topicalization, Verb Second Phenomena

1. Introduction: Q-operator and the Absence of Island Effects

In this paper, we examine a cluster of phenomena in Mandarin where topicalization appears to be obligatory, including constructions containing outer affectives, realis modals, and refutory *wh*-expressions. All things being considered, the generalization seems to be that these cases actually involve peripheral construals associated with illocutionary force and information structure. In particular, we entertain the possibility that peripheral features are there to satisfy the interface economy in Reinhart's (1997) sense. That is, obligatory topicalization is carried out to meet the interpretive needs imposed by information structure, as well as by the clause-typing requirement of the usual kind à la Cheng (1991). The mechanism works in very much the same way as negative inversion in English, and even comparable to Germanic verb-second phenomena.

In this light, I would like to consider first a set of tools available to our task. There are actually two strategies to derive the absence of locality effects in Chinese island constructions, which phenomena are first noted and extensively studied in Huang (1982). The first strategy is to align interrogative *wh*'s with indefinite *wh*'s (cf. Cheng 1991, Li 1992), where nominal or argument *wh's*-in-situ are analyzed as polarity variables licensed through unselective binding, and LF movement applies only to *wh*-adverbs, as proposed by Tsai (1994) and Reinhart (1998). Take (1a) for instance. Here we have a case of *wh*-in-situ bound by a

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Q-operator externally merged to the left periphery, as in (1b). As a result, no movement is involved, and the absence of strong island effects is explained away. The interrogative construal can be further decomposed as a speech act operator soliciting information from the addressee, plus an existential operator unselectively binding the in-situ *wh*-variable (cf. Hamblin 1973; Kattunen 1977), as in (1c):

(1) a. Akiu xihuan [[**shei**   xie]   de   shu]?   (interrogative)
       Akiu like   who   wrote DE   book
       'Who is the person x such that Akiu likes [books [x wrote]]?'

    b. Q_x ... [$_{complex\ NP\ island}$ [... wh_x ...] ...]

    c. $? \exists_x$ ... [$_{complex\ NP\ island}$ [... $wh(x)$ ...] ...]

       (?: speech act operator for soliciting information)

In (2a), we have a *dou*-construction, which may involve an implicit *wulun* 'no-matter' (see Lin 1996, among others). As a result, the *wh*-in-situ in question may well be bound by the polarity operator *dou*, as in (2b), which can be further decomposed as a negative operator which licenses existential quantification on the *wh*'s-in-situ, as in (2c):

(2) a. Akiu (wulun) [[**shei**   xie]   de   shu]   **dou** xihuan. (negative polarity)
       Akiu no.matter who   wrote DE   book   all   like
       'For any person x, Akiu likes [books [x wrote]].'

    b. *wulun* [$_{complex\ NP\ island}$ [... wh_x ...] *dou$_x$* ...]   (negative polarity ≈ *no matter*)

    c. $\neg\, \exists_x$ ... [$_{complex\ NP\ island}$ [... $wh(x)$ ...] ...] ($\neg$: negation operator)

Finally, (3a) presents a case where the *wh*-in-situ is bound by an epistemic modal *keneng* 'possibly', as in (3b), which again can be further decomposed into a possibility operator which triggers existential quantification on the *wh*-variable, as in (3c):

(3) a. Akiu **keneng** mai-le   [[shei   xie]   de   shu],   (existential)
       Akiu possibly buy-Prf   who   wrote   DE   book
       suoyi   ba   qian   hua-guang   le.
       therefore BA   money   use-up   Inc
       'For some person x, it is possible that Akiu bought [books [x wrote]],
       and has therefore spent all his money.'

    b. *keneng$_x$* ... [$_{complex\ NP\ island}$ [... wh_x ...] ...]

    c. $\Diamond\, \exists_x$ ... [$_{complex\ NP\ island}$ [... $wh(x)$ ...] ...]   ($\Diamond$: possibility modal operator)

    The second strategy is to align interrogative *wh*-construals with topicalization or left dislocation in the spirit of Chomsky's (1977) original insight. This option is entertained by Tsai (1997) where a nominal *wh*-in-situ is essentially treated like a resumptive pronoun bound by a null topic: Take (4a) for instance. The original proposal of Huang (1984) is to treat the null subject of the relative clause as an empty pronominal A'-bound by a topic externally merged to the left periphery:

(4) a. Akiu$_k$ a,   [xuduo [e$_k$ xie]   de shu]   dou jueban   le.
        Akiu   Top many   wrote   DE book   all out.of.print   Inc
        'Akiu, [many books [he wrote]] are out of print.'

    b.   Topic, [Op$_{[-Q]x}$ ... [$_{complex\ NP\ island}$ [... pro$_x$ ...] ...]

To recast this insight in terms of operator-variable relationship, one may postulate a null operator higher up in the left periphery which binds the subject pro within the relative clause, as in (4b), which in turn triggers predication on the lexical topic *Akiu*. We may therefore compare this null operator construal to the *wh*-dependency in (5): Both are established through binding, and no island effects are detected.

(5) Op$_{[+Q]x}$ ... [$_{complex\ NP\ island}$ [... *wh*$_x$ ...] ...]

On the other hand, this type of topic-in-situ construals does display a subject-object asymmetry, as evidenced by the ungrammaticality of (6):

(6) * Akiu$_k$ a,   wo mai-le   [xuduo [e$_k$ xie]   de   shu].
        Akiu   Top I   buy-Prf many   wrote   DE   book
        'Akiu, I bought [many books [he wrote]].'

This locality effect is predicted by the Generalized Control Rule (GCR), which requires an empty pronoun to be controlled by the closest antecedent, and may well fall under a more refined version of relativized minimality as proposed by Rizzi (2004).

In this paper, we would like to try out a hypothesis which essentially combines the two approaches presented above. Namely, one may well envision the so-called topic prominence as a form of peripheral feature checking at a criterial position in the left periphery. As a result, the null topic hypothesis in Huang's (1984) sense can be reinvented as a null D(efiniteness)-operator merger to the left periphery. Just like a Chinese *wh*-in-situ being licensed through unselective binding by a Q-operator merged to the Int head (cf. Cheng 1991; Tsai 1994, 2008; Stepanov & Tsai 2008), as in (7a), a bare nominal in Chinese can be licensed by a D-operator merged to the Top head, as sketched in (7b):

(7) a. [**Q$_x$-Int**] . . . *wh*(**x**) . . .

    b. [**D$_x$-Top**] . . . **N(x)** . . .

Under this unified approach, a Q-operator encodes interrogativity in terms of existential quantification accompanied by interrogative force, whereas a D-operator encodes topicality in terms of uniqueness quantification plus discourse-linking.

In the following discussion, we will examine a cluster of peculiar phenomena where topicalization of a subject appears to be obligatory. Three instances of obligatory topicalization (i.e., affective, refutory and evidential constructions) will be presented in Section 2-4 respectively. We argue that these cases only arise when a peripheral feature blocks the D-operator binding. As a result, the subject in question must physically raise to check the peripheral feature on Top (cf. Rizzi 1997), as illustrated below:

(8) [$_{TopP}$ DP [**Top** [$_{IP}$ . . . ~~**<DP>**~~ . . .]]]

The mechanism works in a very similar way to those residual cases of verb-second (V2) in English, where special semantic/pragmatic factors are involved, as shown by the interrogative inversion in (9a), as well as the negative inversion in (9b):

(9) a. What have you done?
     b. None of them did I find helpful!

In Section 5, we relate the notion of D-operator to Topic Prominence through certain mechanism of Merge in the left periphery. Section 6 then proceeds to address an interesting issue of null topic construals by postulating yet anther type of implicit operator, i.e., P(redicatoin)-operator. In Section 7, we examine obligatory topicalization from a comparative perspective by looking into the very nature of V2 in English and Germanic languages. Section 8 concludes this paper.

2. Case Study I: Obligatory Topicalization over Outer Affectee

The first case of obligatory topicalization has to do with two types of affective constructions in Chinese, i.e., outer vs. inner affectives, as illustrated in (10) and (11) respectively:

(10) ta   juran   [gei wo] he-le   san-ping   jiu! [outer affective]
     he   unexpectedly AFF me   drink-Prf three-bottle   wine
     'Unexpectedly, he drank three bottles of wine on me!'

(11) ta   juran   he-le   wo   san-ping   jiu!   [inner affective]
     he   unexpectedly drink-Prf me   three-bottle wine
     'Unexpectedly, he drank three bottles of wine on me!'

It is pointed out in Tsai (2007, 2010) that the outer affective differs from its inner counterpart in a number of ways:

Firstly, the outer affective construal of (10) is licensed by the applicative marker *gei*, which derives from a *give*-verb. By contrast, (11) involves the so-called pseudo double object construction without any applicative marking.

Secondly, a truth-conditional distinction exists between the two types of affective construals: In the scenario that a doctor asked a patient not to drink wine at home, but the patient did not follow the instruction, the doctor may utter (10), but not (11). In fact, the latter seems to require the Affectee to be the source of the wine, in contrast with the "to-the-possession-of" reading of English low applicatives such as *John baked Mary a cake*.

Thirdly, the outer affective construal is speaker-oriented, while its inner counterpart is not, as evidenced by the following contrast between (12) and (13). This restriction thus suggests that outer affectives actually form part of the left periphery, which serves a gateway to the interface construals among syntax, semantics, and pragmatics:

(12)*ta   juran   [gei women/ni/nimen/ta/tamen]   he-le   san-ping   jiu!
     he   unexpectedly AFF us/you/you(pl.)/him/them   drink-Prf three-bottle   wine
     'Unexpectedly, he drank three bottles of wine on us!'   [outer affective]

(13) ta   juran   he-le   women/ni/nimen/ta/tamen   san-ping   jiu!
     he   unexpectedly drink-Prf   us/you/you(pl.)/him/them   three-bottle   wine
     'Unexpectedly, he drank three bottles of wine on us!'   [inner affective]

Lastly, the outer affective can only be licensed through a special kind of illocutionary force, namely, exclamation with its tell-tale intonation as well as the presence of *juran,* an evaluative adverb expressing unexpectedness.[1] As a result, it is incompatible with typical declarative intonation, as in (14). On the other hand, the inner affective (i.e., the pseudo double object construal) has no problem with the same setup, as in (15):

(14)*ta   zuotian   [gei wo] he-le san-ping   jiu.
     he   yesterday AFF me   drink-Prf three-bottle wine
     'Unexpectedly, he drank three bottles of wine on me.'   [outer affective]

(15) ta   zuotian   he-le wo san-ping   jiu.
     he   yesterday drink-Prf me three-bottle   wine
     'He drank three bottles of wine on me.'   [inner affective]

It is therefore reasonable to suggest that Chinese outer affectives have an unusual distribution extending far beyond the boundary of the *v*P phase, which in turn argues for an independent applicative projection in the left periphery.[2]

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[1] Equally, we may replace the evaluative adverb with a causal *how*, which again conveys a sense of counter-expectation (cf. Tsai 2008), as shown below:
(i) ta   zenme   [gei wo] he-le   san-ping jiu?!
     he   how.come AFF me   drink-Prf three-bottle wine
     'How come he drank three bottles of wine on me?!'

[2] As a reviewer points out, there are some preverbal *gei*-phrases which does not show speaker-orientedness, as exemplified below:
(i) ta juran   [gei wo/women/ni/nimen/ta/tamen] zaocheng-le   san-ge-yi   de   sunshi!
     he unexpectedly to me/us/you/you(pl.)/him/them cause-Prf   three-Cl-million DE   loss
     'He caused a three million loss to me/us/you/you(pl.)/him/them unexpectedly!'
Curiously enough, the construal does not require licensing from exclamatory force and the corresponding intonation pattern, as in the following declarative sentence:
(ii) ta [gei wo/women/ni/nimen/ta/tamen]   zaocheng-le   san-ge-yi   de   sunshi.
      he to me/us/you/you(pl.)/him/them   cause-Prf   three-Cl-million DE   loss
      'He caused a three million loss to me/us/you/you(pl.)/him/them.'
This demonstrates clearly that only a highly grammaticalized *gei* is speaker-oriented, and has become neutral for the benefactive/malefactive distinction. By contrast, all the characteristics of outer affectives are lost with the malefactive of (i) and (ii), which, just like its benefactive counterpart in (18), is situated in the *v*P periphery, and can be topicalized as a PP adjunct, as evidenced by (iii):
(iii) [gei wo/women/ni/nimen/ta/tamen],   ta zaocheng-le   san-ge-yi   de   sunshi.
       to me/us/you/you(pl.)/him/them   he cause-Prf   three-Cl-million DE   loss
      'To me/us/you/you(pl.)/him/them, he caused a three million loss.'
Our position is further supported by another fact pointed out by the reviewer. Namely, the malefactive in question can appear either before or after a manner adverb such as *manmandi* 'slowly' without changing its interpretation:
(iv) a.   ta   [gei wo]   manmandi zaocheng-le   san-ge-yi   de   sunshi.
            he   to me   slowly   cause-Prf   three-Cl-million DE   loss
            'He slowly caused a three million loss to me.'
      b.   ta   manmandi [gei wo]   zaocheng-le   san-ge-yi   de   sunshi.
            he   slowly   to me   cause-Prf   three-Cl-million DE   loss
This behavior, as expected, is very typical of those VP-adjuncts such as *ba*-phrases:
(v) a.   ta   [ba dangao]manmandi chiwan-le.
            he   BA cake   slowly   finish-Prf

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This line of thinking is supported by the height advantage of outer affectives over their inner affectives. As illustrated below, outer and inner affectives can appear together in one sentence, with the former standing clearly higher than the latter:

(16) ta   juran   [gei wo] he-le   renjia   san-ping   jiu!
     he   unexpectedly AFF me   drink-Prf others three-bottle   wine
     'Unexpectedly, he drank three bottles of wine on others for my sake!'

In addition, it is possible to distinguish an outer Affectee further from a Beneficiary argument, which is also marked by *gei*, presumably a cognate of the outer affective marker. This can be easily seen by their positions relative to a manner adverb such as *manmandi* 'slowly': In (17), the Affectee stands higher than the manner adverb, while, in (18) the Beneficiary stays lower than the manner adverb:

(17) Akiu juran   [gei wo] **mantuntundi**   ca   diban!
     Akiu unexpectedly AFF me   slowly   wipe floor
     'Unexpectedly, Akiu slowly wiped the floor on me.'   [affective]

(18) Akiu juran   **mantuntundi** [gei keren]   ca   diban!
     Akiu unexpectedly slowly   for guest   wipe floor
     'Unexpectedly, Akiu slowly wiped the floor for the guests.' [benefactive]

In fact, the two construals again can marginally co-occur in the same sentence, with the affectee and the beneficiary separated by *manmandi* 'slowly', as evidenced by (19):

(19)$^?$Akiu juran   [gei wo] **mantuntundi**   [gei keren]   ca   diban!
     Akiu unexpectedly AFF me   slowly   for guest   wipe floor
     'Unexpectedly, Akiu slowly wiped the floor for the guests on me.'

We therefore have a clearer picture of how these "applicative" elements fair with one another in terms of syntactic cartography (irrelevant details omitted):

(20)   *complementizer layer*
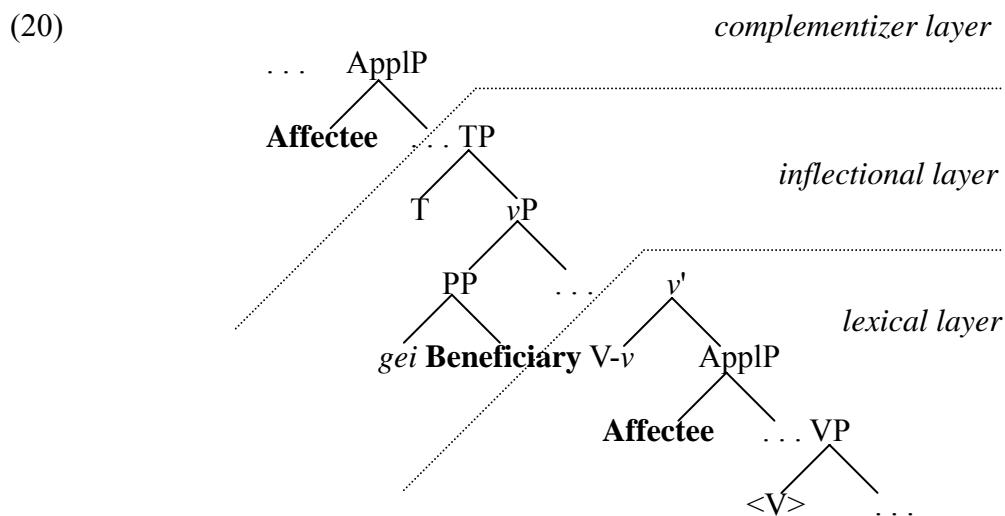
'He slowly finished the cake.'
b.   ta   manmandi [ba dangao]chiwan-le.
     he   slowly   BA cake   finish-Prf

Now it comes to the point relevant to our discussion: In presence of outer Affective construals, the external argument must appear higher than the speaker-oriented Affectee as well as the evaluative adverb *juran* 'unexpectedly', as illustrated by the contrast between (21a) and (21b):[3]

(21) a. **Akiu**   juran   [gei wo] na-leqian jiu   pao!
      Akiu   unexpectedly AFF me take-Prf money   then run
      'Unexpectedly, Akiu took the money and ran away on me.'

    b. * juran   [gei wo] **Akiu**   na-leqian jiu   pao!
       unexpectedly AFF me   Akiu   take-Prf money   then run
       'Unexpectedly, Akiu took the money and ran away on me.'

To make sure the external argument *Akiu* is where it appears to be, we need to first pin down its exact location. A reliable test can be found in Ko (2005), where it is pointed out that a monotone increasing expression like *meigeren* 'everyone' or *suoyouren* 'all people' can undergo topicalization, as in (22a), but a monotone decreasing expression like *henshoaren* 'few people' or *meiyou ren* 'no one' cannot, as in (22b):[4]

(22) a. meigeren$_k$/suoyouren$_k$, wo   renwei   [t$_k$ dou hui qu].
      everyone/all.people   I   think   all will go
      'Everyone/all people, I think will go.'

    b. * meiyou ren$_k$/henshaoren$_k$,   wo   renwei   [t$_k$ hui qu].
       have.not people/few.people I   think   will go
       'No people/few people, I think will go.'

Let's call this a monotonicity test: It follows that if *Akiu* is indeed in a topic position, then it can only be replaced by *meigeren* or *suoyouren*, but not by *meiyou ren* or *henshoaren*. This prediction is indeed borne out, as evidenced by contrast between (23a) and (23b):

(23) a. meigeren/suoyouren   juran   dou [gei wo] pao-le.
      everyone/all.people   unexpectedly all GEI I   run-Prf
      'Everyone/all the people ran away on me unexpectedly.'

    b. * meiyou ren/henshaoren   juran   [gei wo] pao-le.
       have.not people/few.people unexpectedly GEI I   run-Prf
       'No people/few people ran away on me unexpectedly.'

We thus conclude that *Akiu* has indeed been raised to the topic position in (21a), otherwise

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[3] It is possible to place the external argument in-between the evaluative adverb and the outer Affectee, where the evaluative adverb may well topicalize further to the sentence-initial position, as exemplified below:
(i) $^?$ juran   Akiu [gei wo] na-le   qian   jiu   pao!
    unexpectedly   Akiu AFF me   take-Prf   money   then   run
    'Unexpectedly, Akiu took the money and ran away on me.'
[4] Here a reviewer proposes an interesting alternative based on Beghellio and Stowell (1996), according to which different quantified phrases occupy different structural positions. This analysis, however, may require us to stipulate which type of quantifier position is available in the left periphery, which seems to go against the grain of the cartographic approach. We therefore do not take this particular solution in this paper.

the outer affective construal would be ruled out, as in (21b).[5]

3. Case Study II: Obligatory Topicalization over Refutory *Wh's*

It is widely observed that *nali* 'where' has a refutory usage, serving as a negative modality operator (see, for instance, Cheung 2007), as in (24a):

(24) a.　Akiu　　　nali　　　qu-le　　　Beijing! (ta　qu-le　　　Shanghai.)
　　　　　Akiu　　　where　　go-Prf　　Beijing! he　go-Prf　　Shanghai
　　　　　'It is impossible for Akiu to go to Beijing! (He went to Shanghai.)'

　　　b. * nali　　　Akiu　　　qu-le　　　Beijing! (ta　qu-le　　　Shanghai.)
　　　　　where　　Akiu　　　go-Prf　　Beijing! he　go-Prf　　Shanghai

Here again we have a case of obligatory topicalization, since the external argument cannot stay in subject position, as evidenced by (24b). This usage is very much in the same spirit of the negative modality construal of the following *where*-question in English:

(25) Where did you get that idea?! (≈ You shouldn't have that idea.)

　　Our observation is supported by the result of the monotonicity test. As mentioned above, we need to prove that the external argument *Akiu* in (24a) occupies a topic position. As illustrated in (26a), only a monotone increasing expression can appear sentence-initially:

(26) a.　meigeren/suoyouren　　　nali　　　dou qu-le　　Beijing!
　　　　　everyone/all.people　　　where　　all go-Prf　　Beijing!
　　　　　'It's not the case that everyone/all people went to Beijing!'

　　　b. * meiyou ren/henshaoren　　　nali　　　qu-le　　　Beijing!
　　　　　have.not people/few.people　where　　go-Prf　　Beijing!
　　　　　'It's not the case that no one/few people went to Beijing!'

By contrast, a monotone decreasing expression cannot occupy the same position, as evidenced by (26b). This indicates that the *Akiu* has indeed undergone topicalization in (24a), and that the process is obligatory, since otherwise the sentence would be ruled out, as is the

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[5] Here an empirical issue is raised by a reviewer: The grammaticality of the following sentences seem to cast the monotonicity test in doubt:
(i)　a.　meiyou ren$_k$,　　wo　yiwei　[t$_k$　neng tongguo　　kaoshi].
　　　　have.not people　I　　think　　　can　pass　　　　exam
　　　　'I think no one can pass the checkpoint.'
　　b.　henshaoren$_k$,　　wo　yiwei　[t$_k$　neng guo　guan].
　　　　few.people　　　I　　think　　　can　pass checkpoint
　　　　'I think few people can pass the checkpoint.'
However, it should be noted that the subordinate clauses is actually a modal construction, where the topicalized quantifiers can be reconstructed back into the scope of *neng* 'can' at LF. Without the modal, the construal again become untenable, as evidenced by (iia,b):
(ii)　a. * meiyou ren$_k$,　　wo　yiwei　[t$_k$　tongguo　　kaoshi].
　　　　have.not people　I　　think　　　pass　　　　exam
　　　　'I think no one can pass the checkpoint.'
　　b. * henshaoren$_k$,　　wo　yiwei　[t$_k$　guo　guan].
　　　　few.people　　　I　　think　　　pass checkpoint

case with (24b).

An important issue raised by a reviewer has to do with that fact that one we add a copula or a modal after the refutory *nali*, the grammaticality of (24b) appears to improve, as exemplified below:

(27) a.   nali   shi Akiu   qu-le   Beijing! (shi Xiaodi   qu-le   Beijing.)
         where   be Akiu   go-Prf Beijing! be Xiaodi   go-Prf   Beijing
         'It is not Akiu that went to Beijing! It is Xiaodi that went to Beijing.'

     b. ? nali   yinggai Akiu   qu Beijing! (yinggai Xiaodi   qu.)
         where   should Akiu   go Beijing! should Xiaodi   go
         'It is not Akiu who should go to Beijing! Xiaodi should go.'

This move essentially changes the dynamics of the refutory construals in (27a), since *Akiu* becomes a full-fledged contrastive focus associated with the emphatic marker *shi*, and cannot be related to the topic position by any means (cf. Section 5).

As for (27b), it is instructive to note that the sentence is only marginal to some of the informants we consulted. To those who accept (27b), only the deontic version of *yinggai* 'should' is allowed. In other words, its epistemic counterpart does not license the refutory construal, as evidenced by the deviance of the following example:

(28)   * nali   yinggai Akiu   qu-le   Beijing! (yinggai Xiaodi   qu-le.)
         where   should Akiu   go-Prf Beijing! should Xiaodi   go-Prf
         'It is note the case that Akiu should have gone to Beijing! It is Xiaodi who
         should have.'

This indicates that *Akiu* in (27b) is in the inner subject position at the edge of *v*P, as deontic modals typically occupy the inflectional layer in Rizzi's (1997) sense (cf. Tsai, in press). As a matter of fact, there is solid evidence suggesting that the postmodal argument is indeed an inner subject: As illustrated by the contrast between (29a,b), the existential subject preceding deontic *yinggai* must be interpreted as specific, while that following deontic *yinggai* can be nonspecific, a sure distinction of inner subjecthood in Chinese (cf. Diesing 1992, Tsai 2001):

(29) a.   you sange ren   yinggai   qu Beijing.   [outer subject]
         have three person   should   go Beijing
         'Three (specific) persons should go to Beijing.'

     b.   yinggai   you sange ren   qu Beijing.   [inner subject]
         should   have three person go Beijing
         'There should be three persons going to Beijing.'

More specifically, the premodal subject of (29a) is interpreted as individuals. By contrast, its postmodal counterpart of (29b) receives an amount reading, hence nonspecific. In this light, (27b) is (marginally) allowed simply because *Akiu* is too low to be related to the topic position in the left periphery. As a result, neither (27a) nor (27b) are relevant to our discussion as far as obligatory topicalization is concerned.

4. Case Study III: Obligatory Topicalization over Evaluatives

There is yet another relevant fact noted by P. Li (2013): In presence of *jianzhi* 'simply', an evaluative adverb expressing completeness or straightforwardness, the external argument must topicalize, as in (30a). Otherwise, the construal would become ungrammatical, as in (30b):

(30) a.　Akiu　　jianzhi　mei　　　ba　wo　fang zai　yanli!
　　　　　Akiu　　simply　have.not　BA　me　put　in　　eye
　　　　　'Akiu simply thinks nothing of me!'

　　　b. * jianzhi　Akiu　　mei　　　ba　wo　fang zai　yanli!
　　　　　　simply　Akiu　　have.not　BA　me　put　in　　eye

Here we apply the monotonicity test, and the result once again confirms that (30a) involves obligatory topicalization: Namely, a monotone increasing expression such as *meigeren* 'everyone' may appear before the evaluative adverb *jianzhi*, as in (31a), and a monotone decreasing expression such as *meiyou ren* 'no one' may not, as in (31b):

(31) a.　meigeren/suoyouren　　jianzhi　dou　mei　　　ba　wo　fang zai　yanli!
　　　　　everyone/all.people　　simply　all　have.not　BA　me　put　in　　eye
　　　　　'Everyone/all people simply think(s) nothing of me!'

　　　b. * meiyou　ren/henshaoren　jianzhi　mei　　　ba　wo　fang zai　yanli!
　　　　　　have.not people/few.people simply　have.not　BA　me　put　in　　eye
　　　　　'No one/few people simply think nothing of me!'

　　　All in all, the three case studies presented above have shown that we may well compare Chinese obligatory topicalization to English negative inversion or Germanic V2. As a matter of fact, our findings fit right into the so-called strong uniformity entertained by Miyagawa (2010), which states that every language shares the same set of grammatical features, and every language overtly manifests these features.[6] Therefore, it is not surprising at all that we are able to locate V2 phenomena in disguise in Chinese. In the next section, we will extend this line of inquiry into the notion "topic prominence".

5. D-operator and Topic Prominence

Under the minimalist approach, it seems natural to suggest that obligatory topicalization in Chinese is actually an instance of peripheral feature checking in the CP domain, presumably driven by considerations based on interface economy (cf. Reinhart 1997) and the clause-typing requirement (cf. Cheng 1991). The real challenge, however, lies in how these peculiar cases should be related to the traditional notion of topic prominence (cf. Tsao 1979). One way to think of this issue is to say that the null topic analysis of Chinese-type pro-drop à la Huang (1984) should be understood as the external merger of a null operator to check the peripheral feature in question. The relevant configuration is laid out below in the spirit of Chomsky (1977):

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[6] The original formulation of the uniformity principle is given by Chomsky (2001:2):
(i)　In the absence of compelling evidence to the contrary, assume languages to be uniform, with variety restricted to easily detectable properties of utterances.

(32) *Chinese-type pro-drop:*   ... [$_{TopP}$ Op$_k$-Top ... [$_{TP}$ e$_k$ ...

In this light, we propose that peripheral feature checking can be implemented either by externally merging a null operator to the Top head, or by internally merging (i.e., moving) a DP to the Spec of Top. The former option is allowed only in Chinese-type languages presumably due to its robust analyticity (cf. Huang 2004), and is done in exactly the same fashion as *wh*-in-situ licensing via unselective binding (cf. Tsai 1994, 2008).

A nice consequence of our proposal is that this particular type of null operator can be regarded as the quantifier part of a definite expression. Call it a D(efiniteness)-operator. Topicality is thus related to definiteness in a straightforward manner. In typological terms, this means that Chinese topics are analyzed as discontinuous DPs due to its robust analyticity. It is a D-operator that encodes topic prominence by binding a nominal down below, as in (33a), just like a Q-operator serving to license *wh*'s-in-situ, as in (33b):[7]

(33) a.   **[D$_x$-Top]** . . .   **N(x)** . . .

     b.   **[Q$_x$-Int]** . . . ***wh*(x)** . . .

Under this view, the rather peculiar definite reading of Chinese bare NPs is also explained away without resorting to N-to-D raising, as in (34a). It is done in very much the same way as the licensing of a generic NP, as in (34b):

(34) a.   **[D$_x$-Top]** [$_{TP}$ **hua(x)** kai   le]!
                           flower blossom Inc
          'The flower is blossoming!'

     b.   **Gen$_x$** [$_{TP}$ **hua(x)**   xüyao zhaogu]!
               flower   need   care
          'Flowers need care.'

The topicality of Chinese bare nominals is therefore taken to be an instantiation of the "discrete" definiteness in question. It follows that, in a language where a D-operator merges to a nominal domain (rather than a CP domain), no Chinese-type pro-drop should be allowed. By typological correlation, this language would typically resort to *wh*-movement, since the Q-operator is already built into an interrogative *wh*, and must be "pied-piped" along to a scope position in the left periphery. This is essentially what happens in a less analytic (hence less topic-prominent) language such as English (cf. Tsai 1994).

As pointed out by a reviewer, an interesting implication presents itself when we consider the traditional wisdom that all Chinese subjects are topics (see, for example, Chao 1968 and Tsao 1979). There are actually two aspects of this phenomenon which deserve our attention: On the one hand, the topicality restriction applies only to a subject in a declarative sentence, as in (35a). This is because indefinite objects typically receive aspectual licensing (cf., Tsai, 1994, Liao 2011), as in (35b), while indefinite subjects often get modal licensing in a non-declarative sentence such as (35c) (cf. Tsai 2001):

---

[7] As for those languages (e.g., Russian) which are not topic-prominent, but still allow definite bare nominals, it seems reasonable to suggest that there may well be two strategies for nominals to realize its definiteness across languages, i.e., either by D-operator binding or by N-to-D raising.

(35) a. *san-ge   ren   qu-le Beijing.
        three-Cl person go-Prf Beijing
        'Three people went to Beijing.'

    b. Akiu kaichu-le   san-ge   ren.
        Akiu fire-Prf   three-Cl person
        'Akiu fired three people.'

    c. san-ge   ren   keyi da   yi-liang jichengche.
        three-Cl person can   take one-Cl   taxi
        'Three people can take one taxi.'

On the other hand, bare nominals can get a definite reading even in object position, as illustrated below:

(36) wo ganggang zhao-dao   ren   le!
     I   just   find-reach   person Inc
     a. 'I just found the person!'   [definite]
     b. 'I just found a person!'   [nonspecific]

All these observations point to the conclusion that D-operator is only one of the potential licensers, whose availability is determined by the syntactic position of a nominal as well as its morpho-syntactic makeup. We will therefore limit our discussion to bare nominals, and leave numeral indefinites for future considerations on specificity construals.
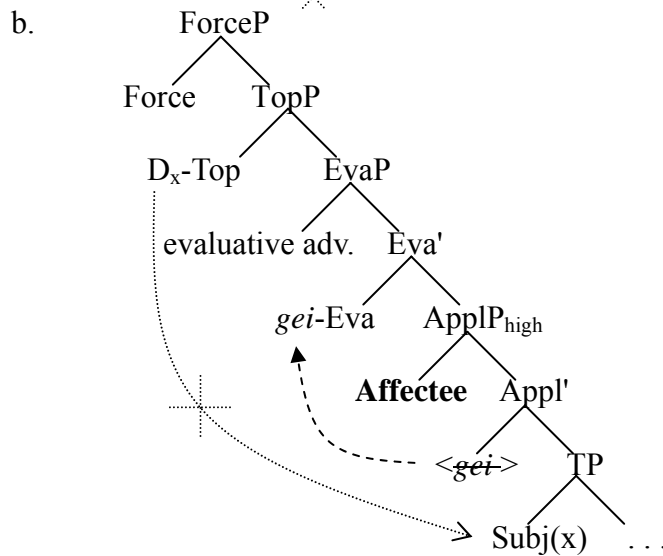
Given the mechanics developed above, now we are in a position to offer a structural analysis of the obligatory topicalization in Chinese. Let's first deal with Mandarin outer affectives. Our hunch is that D-operator binding is blocked by the evaluative-affective construal of (10). To implement the intuitive idea, we adopt a refined version of relativized minimality entertained in Rizzi (2004): Instead of the three-way distinction among A-, A'- and head-dependencies à la Rizzi (1990), the intervening factors have been reclassified into the following four types:

(37) a. Argumental: person, number, gender, case
     b. Quantificational: Wh, Neg, measure, focus...
     c. Modifier: evaluative, epistemic, Neg, frequentative, measure, manner, ...
     d. Topic

The evaluative adverb *juran* 'unexpectedly' is in itself a focus-sensitive operator, and the outer affective is associated with an exclamatory and speaker-oriented construal. Both are qualified as quantificational to block the D-operator binding in question.
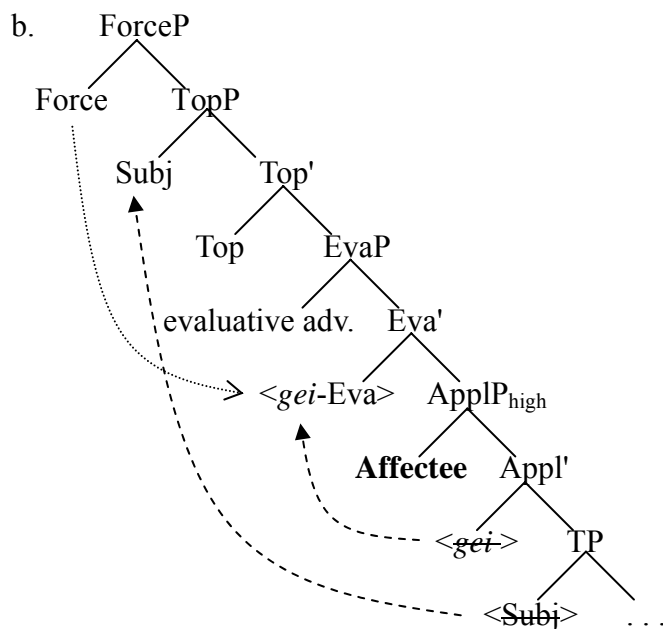
This move also suggests that unselective binding observes relativized minimality, in that D-operator binding is blocked by the evaluative operator according to (37b), both being quantificational expressions, as shown in (38a). More specifically, the binding dependency between the D-operator and the subject nominal cannot cross over a fully substantiated evaluative operator, which is valued as exclamatory by the Force head through Agree. (38b) spells out the relevant derivation in more detail:

(38) a. [+Quan] ... [+Quan] ... [+Quan]

b.

```
                          ForceP
                         /      \
                     Force       TopP
                                /    \
                          Dₓ-Top      EvaP
                                     /    \
                        evaluative adv.   Eva'
                                         /    \
                                   gei-Eva    ApplP_high
                                             /        \
                                      Affectee         Appl'
                                                      /    \
                                                 <gei>      TP
                                                           /  \
                                                       Subj(x)  . . .
```

As it turns out, the only alternative is for the D-operator to merge to the subject instead, which in turn must raise to [Spec, TopP] to check its peripheral feature. Since topicalization is not sensitive to the intervening quantifier (i.e., the evaluative operator) according to the new classification in (37a-d), as in (39a). The derivation therefore converges without further complications, as visualized in the diagram (39b):
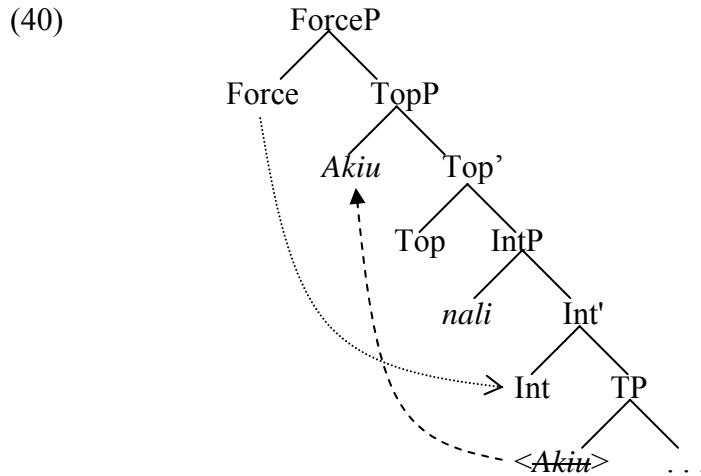
(39) a. [+Top] ... [+Quan] ... [+Top]

b.

```
                     ForceP
                    /      \
                Force       TopP
                           /    \
                       Subj      Top'
                                /    \
                             Top      EvaP
                                     /    \
                        evaluative adv.   Eva'
                                         /    \
                                  <gei-Eva>    ApplP_high
                                             /        \
                                      Affectee         Appl'
                                                      /    \
                                                 <gei>      TP
                                                           /    \
                                                      <Subj>      . . .
```

We therefore have an explicit minimalist account of the apparent obligatory topicalization in outer affective constructions without resorting to pragmatic idiosyncrasies.
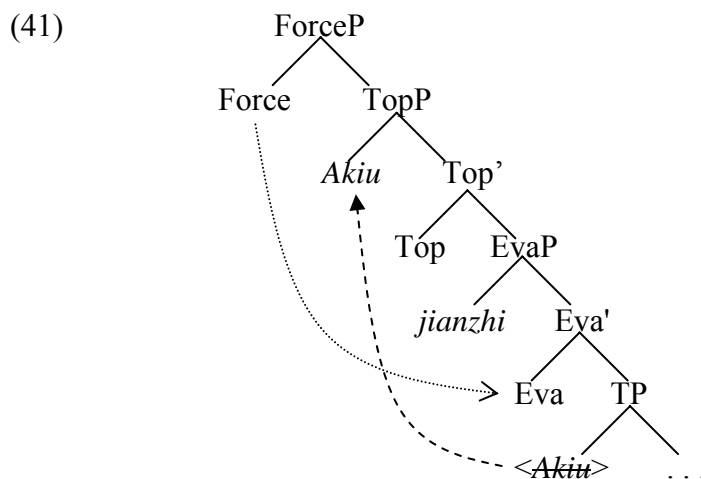
In the case of refutory *wh's*, D-operator binding is blocked by the negative modality operator *nali*, which occupies the Spec position of an Int(errogative) head. Consequently, the

D-operator is merged to the external argument *Akiu,* which in turn topicalizes as a last resort, as shown below:

(40)
```
                    ForceP
                   /      \
              Force        TopP
                          /    \
                      Akiu      Top'
                               /    \
                           Top       IntP
                                    /    \
                                nali      Int'
                                         /    \
                                      Int      TP
                                              /  \
                                        <Akiu>    . . .
```

Here the Int head may well hold a probe-goal relation to the Force head, thus acquiring a special kind of exclamatory force through Agree. The whole process thus types the sentence as exclamative in the spirit of Cheng (1991) and Brandner (2004).

Finally, we may analyze the adverb *jianzhi* 'simply' in (30a) as an evaluative operator, which is again valued as exclamatory. As a result, it blocks D-operator binding in accordance with the new formulation of relativized minimality. This explains the ungrammaticality of (30b). It follows that we must resort to topicalization to prevent the derivation from crash, as sketched in the following diagram:

(41)
```
                    ForceP
                   /      \
              Force        TopP
                          /    \
                      Akiu      Top'
                               /    \
                           Top       EvaP
                                    /    \
                              jianzhi     Eva'
                                         /    \
                                      Eva      TP
                                              /  \
                                        <Akiu>    . . .
```

Here the Eva head which hosts *jianzhi* is again valued as exclamative through Agree, which accounts for the exclamatory flavor of (30a).

In light of our findings above, it seems reasonable to unify the locality principle on movement and unselective binding under this refined version of relativized minimality. One interesting issue raised by Barry Yang (p.c.) concerns the implication of this unified analysis with respect to multiple *wh*-construals in Chinese. For instance, the following classic example from Huang (1982) is three-way ambiguous:

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(42) Akiu   xiangzhidao [shei   mai-le   shenme]
     Akiu   wonder   who   buy-Prf   what
    a.   Akiu wonders [who bought what].
    b.   Who is the person x such that Akiu wonders [x bought what]?
    c.   What is the thing y such that Akiu wonders [who bought y]?

The first reading is an indirect multiple *wh*-question with normal intonation, as in (42a),
where both the subject *wh* and the object *wh* assume the narrow scope. This means that they
are unselectively bound by the same local Q-operator, as illustrated by (43a). By contrast, the
second reading of (42b) has the subject *wh* in the wide scope instead, preferably stressed, as
in (43b). Finally, it is the object *wh* in (42c) that receives a stress, and is scoped out of the
complement clause through unselective binding from the matrix Q operator, as in (43c):

(43) a.   [Akiu xiangzhidao   [$Q_{j,k}$ [$shei_j$ mai-le $shenme_k$]]]

     b.   [Q_j [Akiu xiangzhidao   [Q_k [$SHEI_j$ mai-le $shenme_k$]]]]

     c.   [Q_k [Akiu xiangzhidao   [Q_j [$shei_j$ mai-le $SHENME_k$]]]]

Now the question is why the local Q operator does not block the binding dependency
between the matrix operator and the *wh*-in-situ in (43b,c). Here we propose a feature-based
solution based on Starke's (2001) analysis of weak islands (see also Rizzi 2004, Laenzlinger
& Soare 2005, and Haegeman 2012): As mentioned above, a feature would block a
dependency based on a feature of same type, as in (44a). On the other hand, if the features of
the "intervener" form a subset of the features of the "crossing-over" dependency, then no
blocking effect will be induced, as in (44b):

(44) a. * α_i ... α_j ... α_i

     b. $\alpha\beta$ ... α ... $\alpha\beta$

In light of this subset restriction on interveners, we may translate the stress on a *wh*-in-situ as
a focus feature [+Foc]. As a result, the quantificational feature on the local Q operator is a
subset of the feature set shared by the matrix Q operator and the *wh*-in-situ in (43b,c), as
shown in the following schema:

(45) [+Quan, +Foc]   ...   [+Quan]   ...   [+Quan, +Foc]

6. P-operator and Unexpected Island Effect in the Null Topic Construction

The other side of the coin for topic prominence is the formation of a topic-comment
relationship, which is typically triggered by a null operator situated in the left periphery (cf.
Chomsky 1977). Under the analysis entertained here, it differs from Q-operators and
D-operators in licensing predication rather than quantification (i.e., as a non-quantificational
anaphoric operator in Rizzi's (1997) terms). This is because the null operator itself has no
reference, and needs to be identified (cf. Chomsky 1986). Call it a P(redication)-operator.

    One interesting issue in this context is raised by Yang (to appear), where strong island

effects are demonstrated to emerge in the absence of a lexical topic, as exemplified by the contrast between (46a,b):

(46) a.   Akiu a,   [$_{DP}$ henduo [$_{NP}$ [$_{CP}$ e xie   de] shu]] dou mai-de   bucuo.
          Akiu Top   many   write   DE book all sell-Res not.bad
          'As for Akiu, [many books [that (he) wrote]] sell well.'

     b. * [$_{DP}$ henduo [$_{NP}$ [$_{CP}$ e xie   de] shu]] dou mai-de   bu-cuo.
              many   write   DE book all sell-Res not-bad
          '[many books [that (he) wrote]] sell well.'

The question, of course, is how to treat this anomaly under the Minimalist approach. Furthermore, the above phenomenon is not isolated: we found the same pattern in the following case of preposition stranding:

(47) a.   ni zai   chao,   wo jiu bu gei [e] zhufan   le!
         you again   annoy   I   then not GEI   cook   Inc
         'If you keep bugging me, then I won't cook for you!'

     b. * wo zaiye   bu gei [e] zhufan   le!
         I   again   not GEI   cook   Inc
         'I won't cook for (you/him) again!'

This indicates that the null topic construction may indeed involve null operator movement (i.e., internal Merge), which can neither cross over a complex-NP island, nor leave a preposition behind. Accordingly to Yang, this is due to a licensing requirement on checking the [Top] feature in the CP layer, which proposal is quite compatible with our position. On the other hand, there is also an identification requirement on the empty pronominal, which is encoded in the form of Generalized Control.

     First note that from our point of view, D-operator binding is unavailable for an empty pronominal, since it is itself a D. Instead, we would like to propose that the identification relies on a P-operator externally merged to the left periphery (presumably to the Pred head in the sense of Saito (2008)), as sketched in (48a):

(48) a.   [$_{PredP}$ Topic [**P$_x$-Pred** [$_{TP}$ . . . **e$_x$** . . .]

     b.   λx (... x ...) (Topic)

In a sentence with an overt topic, syntactic predication is triggered by the P-operator in question. It scopes over TP, and translates directly into a λ-operator, as shown in (48b): This gives us the topic-comment construal of (46a) as desired. Consequently, the null subject is licensed by P-operator binding in a straightforward manner. Then what happens when there is no overt topic in the matrix clause, as is the case with (46b)? Here no P-operator is available since there is no topic to predicate upon. The only way for the empty subject to secure its interpretation, as proposed by Yang (to appear), is to raise to the main clause.

     From our point of view, Chinese pro-drop essentially involves a D-operator which is itself merged to an argument position. As a result, it must adjoin to the Top head (i.e., through internal merge) so that it may bind its trace to avoid vacuous quantification, as in

(49a):

(49) a. [$_{TopP}$ **D$_x$-top** [$_{TP}$ . . . t$_x$ . . .]]

b. [$_{TopP}$ **D$_x$-top** [$_{TP}$ [$_{complex\text{-}NP\ island}$ . . . t$_x$ . . .] . . .]]

It follows that it is impossible for the D-operator to appear within a complex NP, since the subsequent raising would result in the strong island effect observed in (46b), as illustrated by the derivation of (49b).

Furthermore, there are at least two pieces of evidence which lend support to our take of topic prominence in Chinese: The first one has to do with a special class of reflexive adverbials, often dubbed as "reflexives of nature". As shown in (50a) and (51a), they trigger predication on a cause event in the discourse, producing a "by nature" interpretation:

(50) a. feng da-le,   men **ziji** hui kai.
         wind strong-Inc door self will open
         'When wind becomes stronger, the door naturally will open.'

b. [feng da-le], [$_{TopP}$ SELF$_E$-Top   [men hui   kai(E)]]
    wind big-Inc   door will open

c. λx ∃e (CAUSE (x, e) & *open*(e) & Theme (*door*, e)) (*stronger wind*)

(51) a. shijian dao-le, hua   **ziji** hui kai.
         time   due-Inc flower self will blossom
         'When the time is due, flowers will blossom by nature.'

b. [shijian dao-le], [$_{TopP}$ SELF$_E$-Top [hua   hui   kai(E)]]
    time   due-Inc   flower will blossom

c. λx ∃e (CAUSE (x, e) & *blossom*(e) & Theme (*flower*, e)) (*due time*)

(50b) and (51b) shows that the reflexive adverbial SELF can analyzed as a λ-operator binding a Neo-Davidsonian event argument (cf. Parsons 1990), which in turn licenses the topic-comment relationship (cf. Chierchia 1986). Here SELF works in conjunction with an implicit causative predicate CAUSE, which construal is wired into its outer reflexive semantics (cf. Tsai, to appear). In other words, SELF is essentially a lexical P-operator which predicates the door-opening event as the result of the stronger wind in (50a), and the flower-blossoming event as the effect of the due time in (51a). Their semantics is illustrated by (50c) and (51c) respectively.

The second case concerns sloppy relatives in Chinese, a special type of non-gapped relative clauses where the modifier-head relation can be characterized loosely as aboutness (cf. Tang 1979), as in (52a) and (53a):

(52) a. [[Xiaodi zuobi]   de xiachang]
         Xiaodi   cheat   DE consequence
         'The consequence of Xiaodi's cheating'

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    b.   [$_{DP}$ [$_{TopP}$ P$_E$-Top [Xiaodi zuobi(E)]]   de   xiachang]
                               Xiaodi cheat   DE consequence

(53) a.   [[Wanghu sha-ren]   de   jiama]
           Wanghu   kill-people   DE price
           'The price charged by Wanghu to kill people'

    b.   [$_{DP}$ [$_{TopP}$ P$_E$-Top [Wanghu   sha-ren (E)]] de   jiama]
                               Wanghu   kill-people   DE price

Here we may follow Tsai (1997) in characterizing this peculiar construal as an instance of eventuality causation (e.g., cause-effect, process-product), which is made possible by merging a P-operator to the CP layer. As sketched in (52b) and (53b), the difference from the previous cases is two-fold: On the one hand, the P-operator binds an implicit event variable just like reflexives of nature. On the other hand, it triggers modification rather than syntactic predication, thereby licensing the sloppy relative construals of (52a) and (53a).

7. Obligatory Topicalization as a V2 Phenomenon

Given what we have seen in obligatory topicalization, the next logical question to ask is how it fairs with our formal analysis of topic prominence. As mentioned before, an external argument must raise to [Spec, TopP] to realize its topicality when D-operator binding is blocked. We may well take this phenomenon to be a special instance of V2, very much akin to interrogative and negative inversion in English. Take (54) ((9a) repeated here) for example: It starts with everything in-situ, as in (54a). Then the Int head attracts the auxiliary have to check, while the object *wh* raise to check the peripheral feature on Int. The negative inversion in (55) ((9b) repeated here) is derived in the same way, except that it is the focus head that triggers inversion this time:

(54) What have you done?
          a.   you have done what
⇒   b.   [have$_k$-Int [you t$_k$ done what]]
⇒   c.   [what$_j$ [have$_k$-Int [you t$_k$ done t$_j$]]]

(55) None of them did I find helpful!
          a.   I did find none of them helpful
⇒   b.   [did$_k$-Foc [I t$_k$ find [none of them] helpful]]
⇒   c.   [[none of them]$_j$ [did$_k$-Foc [I t$_k$ find t$_j$ helpful]]]

By comparison, German V2 sports a complete spectrum of force construals in root contexts, as exemplified below (data drawn from Bayer (2004)):

(56) a.   *V2-declarative:*
          John Adams **ist** nicht der Komponist von 'Don Pasquale'
          John Adams is   not   the composer   of   Don Pasquale
          'John Adams is the composer of 'Don Pasquale'.'

    b.   *V2-exclamative:*

Du **bist** vielleicht ein Trottel!
you are perhaps an idiot
'What an idiot you are!'

c. *V2-wh-interrogative:*
Wer **ist** der Komponist von 'Don Pasquale'
who is the composer of Don Pasquale
'who is the composer of 'Don Pasquale'?'

d. *V2-wh-exclamative:*
Was **bist** du nur für ein Trottel!
what are you only for an idiot
'What an idiot you are!'

As noted by Bayer (2004), V2 counts as a process that visualizes features of illocutionary force (see also Wechsler 1991). Namely, I-to-C is a core device in establishing force. Brandner (2004) also argues quite convincingly that V2 is a strategy to specify a force-value in an explicit way. In V2 languages, there is no distinct lexical item (or inflection) that indicates the force-value. Therefore the finite verb must be in a spec-head relationship with a phrase that bears this feature via lexical specification. The difference, as we envision it, lies in the typological setup of Chinese which employs Agree/binding instead of I-to-C raising to realize its illocutionary force.

Furthermore, obligatory topicalization is essentially a main clause phenomenon, as embedded clauses typically disallows this type of usages. As shown below, force-related construals such as outer affectives, refutory *wh's* and exclamatory evaluatives cannot occur in clausal complements, as exemplified by (57-59) respectively:

(57) * Xiaodi xiangxin [Akiu juran [gei wo] na-le qian jiu pao].
Xiaodi believe Akiu unexpectedly AFF me take-Prf money then run
'??Xiaodi believes [unexpectedly, Akiu took the money and ran away on me].'

(58) * wo renwei [ta nali qu-le Beijing].
I think he where go-Prf Beijing
'I think [it is impossible for him to go to Beijing].'

(59) * Akiu zhidao [Wanghu jianzhi mei ba wo fang zai yanli].
Akiu know Wanghu simply have.not BA me put in eye
'??Akiu knows [Wanghu simply thinks nothing of me].'

The same observation applies to adverbial and relative clauses, where similar construals are uniformly blocked, as illustrated below:

(60) * dang [Akiu juran [gei wo] na-le qian jiu pao],
when Akiu unexpectedly AFF me take-Prf money then run
wo zhende hen shangxin.
I really very hurt
'When Akiu took the money and ran away on me unexpectedly, I am
really hurt.'

(61) * yaoshi [ta nali   qu-le   Beijing], wo hui hen shangxin.
       if   he where   go-Prf   Beijing   I   will very hurt
       'If it is impossible for him to go to Beijing, I will be very hurt.'

(62) * [nage [Wanghu jianzhi mei   fang zai yanli]] de   ren   gang zou.
       that Wanghu simply   have.not put in   eye   DE   person   just leave
       '[The person [whom Wanghu simply thinks nothing of]] just left.'

Chinese obligatory topicalization thus lends substantial support to the strong uniformity, in that it is essentially a V2 phenomenon in disguise, driven by the intervention effects from special force-related construals, as well as the need to comply with the interface economy.

8. Concluding Remarks

To sum up, Mandarin obligatory topicalization can be compared to residual V2 in English and to some extent, Germanic V2, in that both of them involve clause-typing and information structure-related peripheral construals. The typological difference then boils down to whether it is possible to build an operator-variable pair on a sentential scale, presumably through unselective binding.

Topic prominence is then reinvented in this new light: The null topic operator can be regarded as the quantifier part of a definite argument, and a Chinese topic is either an XP in the Spec-head relation with Top, or a discontinuous DP consisting of a peripheral D-operator and an in-situ nominal. We have therefore established a three-way typology for operator binding in a robust analytic language such as Chinese:

I.   *Q-operator binding for wh- in-situ:*
     $[\mathbf{Q_x\text{-}Int}]$ . . . $\boldsymbol{wh}(\mathbf{x})$ . . .

II. *D-operator binding for bare nominals in-situ:*
     $[\mathbf{D_x\text{-}Top}]$ . . . $\mathbf{N(x)}$ . . .

III. *P-operator binding for empty subject pronouns:*
     $[_{\mathbf{PredP}} \mathbf{Topic}\ [\mathbf{P_x\text{-}Pred}\ [_{\mathbf{TP}}\ \ldots \mathbf{e_x} \ldots \ \ ]$

This leads us to the conclusion that as far as the left periphery is concerned, there is a conspiracy between syntax, semantics, and pragmatics through either Agree or Move to ensure the success of sentence formation. This is actually a welcome result from the viewpoint of the cartographic approach, because we can easily implement this insight by encoding relevant restrictions with various functional projections in the complementizer layer.

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