

# VP ELLIPSIS CORRELATIVES IN MANDARIN CHINESE \*

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This paper proposes a syntactic account for the licensing condition and semantic requirement of VP ellipsis in Mandarin Chinese. I argue that Chinese VP ellipsis are four constructions related, i.e. *ye-shi*, *ye-you*, *mei-you*, and *ye-modal*. It is found that the constructions involving VP ellipsis can be captured under a hierarchy of the projection  $\text{TopP} > \text{FocP} > (\text{AspP})/(\text{ModP}) > \text{VP}$ . The subject in the target conjunct is a contrastive topic (Hole 2004) while the preverbal adverbs *ye* is a contrastive focus (Rooth 1992, Tsai 2001) occupying the specifier of FP with respect to its focused nature. Aspect phrase and Modal phrase are brought up to trigger the head movement and satisfy the focus criterion (Brody 1990, Kiss 1998). Under the feature-checking mechanism, the subject and the focus element are merged to eliminate the [Topic] and [Focus] feature respectively. The proposed VP ellipsis constructions satisfy the e-Givenness condition (Merchant 2001), a requirement that deleted phrases express semantic entailment information.

Key words: VP ellipsis, contrastive topic, contrastive focus, focus criterion, e-Givenness

## 1. Introduction

The syntactic component of a grammar can account for a pair-matching on sound and meaning (Chomsky 1995, 2000). One of the most central issues has been to get an explanation of how it is possible for speakers and listeners to understand and interpret ellipsis when the relevant form is missing, such as

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gapping, sluicing, and VP ellipsis (henceforth VPE). Ellipsis is usually conceived as a process that affects a phrase corresponding to a linguistic or pragmatic antecedent phrase. Two approaches to ellipsis are widely considered. One is the LF-copying approach. The elided part is generated as a phonetically null element and a copying process offers an interpretation to the elided element at LF. The other one is the PF-deletion approach. The elided part is generated as a completed category and then is deleted under identity with the antecedent part. As illustrated by Chomsky (1995) and Lasnik (1995), no operation can create a relevant configuration required for ellipsis since only formal features move at LF under the notion of economy. In order for an operation to create an ellipsis site, it must be overt rather than covert. If the operation, namely licensing ellipsis, occurs before Spell-out, the ellipsis could be a PF deletion phenomenon. To the core of the study, I will adopt the PF deletion approach rather than LF copying one for the VPE construction in Chinese, an account that is consistent with Chomsky & Lasnik (1993).<sup>1</sup>

This paper discusses issues related to VP ellipsis constructions in Mandarin Chinese. Chinese VPE related constructions have been noted by Tai (1969), Huang (1988, 1991), Otani & Whitman (1991), Wu (2002), Li (2002), Xu (2003), Su (2006), Wei (2006) and Soh (2007). First, I will show that both the PolP (Polarity focus phrase) by Lopez & Winkler (2000) and  $\Sigma$ P by Laka (1990) are not subject to Chinese VPE constructions because of the syntactic-semantic intricacy of *shi* 'be' and explanatory burden of these two hypotheses. Second, I claim that the projection of a negation head in Chinese VPE is not observed for other independent factors hinging on the matter. Third, I propose that the Chinese VPE constructions involve a contrastive topic (Tsao 1989, Hole 2004) and contrastive focus (Rooth 1992, Tsai 2001) in the left periphery in Chinese.

I argue that Chinese VPE are four constructions related, i.e. *ye-shi*, *ye-you*, *mei-you* and *ye*-modal. Syntactic research on VPE has shown that the functional categories above VP play a crucial role in licensing VP (see Lobeck 1995, López 1995, Zagana 1988, Martin 1993). The functional heads Focus, Aspect and Modal play important roles in the licensing process of Chinese VPE. The constructions involving VPE can be captured under two pragmatic or discourse projections, a Topic Phrase and a Focus Phrase, dominating an Aspect Phrase, Modal Phrase or the elided VP (TopicP>FocusP>AspP/ModP>VP). The subject in the target clause is in fact a contrastive topic while preverbal adjuncts *ye* and *mei* locate on the specifier of FP with respect to their focused nature. Under the feature-checking mechanism, the subject and the focus element are merged to eliminate the [Topic] and [Focus] features individually. *Ye-shi* construction permits a deletion of syntactic level higher than a VP. *You* 'have' as the Aspect head moves to the Focus head to maintain the focus criterion (see Brody 1990, Kiss 1998) and so does modal *hui* 'will'. Based on the semantic requirement that deleted phrases express entailment information, I will show that the proposed VPE constructions satisfy the e-Givenness Condition (Rooth 1992, Romero

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<sup>1</sup> Winkler & Schwabe (2003:4-8) remark that two assumptions about ellipsis have been predominant: deletion approaches and non-deletion approaches. The deletion approaches comprises the syntactic deletion and PF-deletion approach. The non-deletion approaches comprise interpretative accounts and syntactic movement accounts. Lobeck (1995), Chao (1988), Chung et al (1995) propose the proform & reconstruction approach, for example, belongs to the interpretive accounts.

1998, Schwarzschild 1999, and Merchant 1999, 2001).

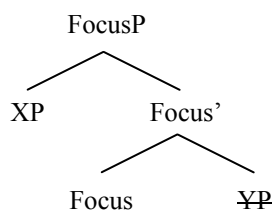
Section 2 is a literature review on the previous researches with brief comments. In section 3 I proposed a modified version of Chinese VPE related data and analyses. The proposed VPE constructions will be examined by e-Givenness condition in section 4. In section 5 I argue that a negation phrase construal with *bu* ‘not’ which is not empirically pattern together with other plausible structures is not tenable to capture the associated VPE phenomena. The conclusion finally organizes section 6.

## 2. Literature review

According to Wu (2002), under a PF-deletion approach, she argues that four syntactic configurations (*shi*-support, negation, modals, verbs) involving VPE in Chinese should be distinguished, which serve the same purpose as that of do-support in English. In addition, ellipsis in Chinese can be captured under a focus-based analysis of ellipsis in which Focus Projection (FP) may be projected above VP, IP, ModP or NegP; this way, the Principle of Full Interpretation and Ellipsis Licensing Condition can both be satisfied.

Wu argues that the verb is copied at the head of Focus Phrase (FP), which takes the VP as its complement, in the second clause. What follows the repeated verb in the second clause is an empty VP not merely a null object. The assumed focus phrase construction is as followed:

- (1) Focus Projection in Mandarin Chinese



XP= Focus (subject, in her analysis) YP= IP or VP

She then assumes that in the four syntactic configurations (*shi*-support, negation, modals, and verbs) involving VPE, what is deleted at PF level is IP (*Shi*-Support), NegP, ModP, and VP, illustrated as follows.

- (2) Zhangsan kanjian-le tade mama, FP Lisii ye shi (insertion) [<sub>IP</sub> ~~ti-kanjian-le tade mama~~]  
 (3) Zhangsan kanjian-le tade mama, FP Lisii meiyouj [<sub>NegP</sub> ~~ti-tj-kanjian-le tade mama~~]  
 (4) Zhangsan hui shuo fayu, FP Lisii ye huij [<sub>ModP</sub> ~~ti-tj-shuo fayu~~]

- (5) Zhangsan kanjian-le tade mama, FP Lisii ye kanjian-lej [<sub>VP</sub> ~~ti-ti-tade-mama~~]

A focus phrase projected above these four deleted phrases to grant the formal licensing condition or satisfy the ECP. The subject of the elided phrase must be moved to the specifier of FP to check the strong feature on focus feature [+F]; meanwhile, negation, modal, and verb do phonological copy onto the head of the focus phrase for their focus properties in Chinese. *Shi*-insertion is the last step after VP ellipsis occurs. Her additional assumption is that the insertion operation must preempt copying operation.

On the other hand, Wei (2006) argues that in addition to contrastive focus, there is a Polarity Phrase (see Lopez & Winkler (2000), Winkler (2000)) or  $\Sigma P$  (Laka (1990)) in VPE construction. He further proposes that *ye/que*, a focus particle, is projected as YeP and QueP. *Ye* or *que*, obtaining the [+F] feature, attracts the subject or other focused element onto the specifier position of YeP or QueP. Wei accounts for the manifestation of polarity symmetry and polarity asymmetry between conjuncts via the affirmative marker *shi* and covert negative marker ( $\sim$ ). (6c) is the demonstration of (6a), and (6d) of (6b).

- (6) a. [<sub>YeP</sub> Ye [<sub>TP</sub> [<sub>PolP</sub>/ $\Sigma P$  [<sub>NegP</sub> (Neg) [<sub>ModP</sub> Mod [<sub>VP</sub> ]]]]]] *Shi*  
 b. [<sub>QueP</sub> (Que) [<sub>TP</sub> [<sub>PolP</sub>/ $\Sigma P$  [<sub>NegP</sub> (Neg) [<sub>ModP</sub> Mod [<sub>VP</sub> ]]]]]]  $\sim$   
 c. Ta neng qu. Lisi ye shi [<sub>NegP</sub> ~~(Neg)~~ [<sub>ModP</sub> ~~Mod~~ [<sub>VP</sub> ]]]].  
 he can go Lisi also be  
 'He can go. Lisi do too.'  
 d. Ta neng qu. Dan (shi) Lisi (que) [ <sub>$\Sigma P$</sub>  bu [<sub>ModP</sub> neng [<sub>VP</sub> ]]].  
 he can go but be Lisi but not can  
 'He can go. But Lisi can not.'

Soh (2007), following Laka (1990) and Huang (1988), addresses a puzzle in the licensing of ellipsis in Chinese by proposing that the dummy auxiliary *shi* occupies a position higher than negation, while auxiliaries like *neng* and English *do* appear below it within ModP, as shown below.

- (7) a. [<sub>TP</sub> T [ <sub>$\Sigma P$</sub>   $\Sigma$  [<sub>ModP</sub> Mod [<sub>VP</sub> v [<sub>VP</sub> V ]]]]]  
 Dummy Aux *Shi* bu/zero Aux *neng/do* Verb *shi*  
 b. Ta xihuan Zhangsan. Wo ye shi [ <sub>$\Sigma P$</sub>   $\Delta$  ]  
 he like Zhangsan I also be  
 'He likes Zhangsan. I do too.'  
 c. Ta neng qu. Wo ye neng [<sub>VP</sub>  $\Delta$  ]  
 he can go I also can  
 'He can go. I can too.'

Soh assumes that the polarity projection  $\Sigma P$  can be headed by either a negative marker *bu* 'not' or a zero affirmative marker. Accordingly the dummy *shi* licenses the elided  $\Sigma P$ , while auxiliaries like *neng* license the elided vP.

Xu (2003) reviews Huang (1988, 1991) and Wu (2002), arguing that there is no "VP-ellipsis in disguise" in Chinese. What Huang mentioned is actually a type of NOC (null object construction). We exhibit some of Xu's intriguing data and arguments in the following.

- (8) a. John saw Mary happily, and Peter did, too.  
 b. Zhangsan zixide shua-le ya Lisi ye shua-le.  
 Zhangsan carefully brush Asp teeth Lisi also brush Asp  
 ‘Zhangsan carefully brushed teeth, and Lisi also brushed’  
 c. Zhangsan xian da-le tade erzi Lisi cai da de.  
 Zhangsan first hit Asp his son Lisi then hit Part  
 ‘Zhangsan hit his son first, and Lisi then hit (somebody)’

Xu claims that the VPE in disguise mentioned by Huang (1988, 1991) and VP construction VPE by Wu (2002) behaving as a true NOC rather than VPEC (VPE construction) is correlated to certain reasons. First, adverbial requirement is required only for VPE, namely adverbials in the second conjunct must be deleted with the verb if they are identical to the first conjunct. Unlike (17a), in (17b) *Lisi* might brush teeth casually not carefully, meaning that the construction is not a VPEC. In (17c) the reference of the null object is not limited to antecedent; however, VPE only permits strict and sloppy readings. (17c) is an example proving that the third reading is not available in VPE on the grounds that the interpretation can be *Zhangsan* hit *Lisi*’s son, and then *Lisi* hit *Zhangsan*’s daughter as a response.

In addition, to offer a PolP or  $\Sigma$ P to account for Chinese VPE might lead to objection. The ellipsis site of *ye-shi* construction can capture both affirmative and negative reconstructed interpretations. It thus takes to arbitrarily claim that PolP or  $\Sigma$ P is headed either by a negative marker *bu* ‘not’ or a zero affirmative marker, contrary to English. Soh’s analysis, like Wu (2002) and Li (2002), ignores the importance of *ye* to the formal account of Chinese VPE. Wei (2006) predicts the polarity symmetry and polarity asymmetry in VPE constructions but his framework needs a stipulation which precludes the possibility of *shi-bu*. It is further suggested that a negation phrase not be observed because of the explanatory burden of this projection which we will emphasize later.

Specifically, in terms of Soh (2007), to propose *shi* heading a Tense phrase remains doubt since the syntactic status of *shi* is not that high in Chinese ellipsis related construction, according to Wei (2004). As to Wei (2006), a question arises whether (7d) is still grammatical if we get rid of the coordinating conjunction *danshi* ‘but’.<sup>2</sup>

The additional conjunction connecting the two conjuncts is an unsettled

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<sup>2</sup> There remains another query to Wei (2006). That the data (cf.(15)) seem to presume a co-occurrence restriction of *ye* ‘also’ and *que* ‘however’ drives us to the question whether the following sentence is an exception to his point.

- (i) Zhangsan mei you zuo sheme shi, Lisi que ye mei you.  
 Zhangsan not have do what thing Lisi however also not have  
 ‘Zhangsan did not do anything, and Lisi did not do anything either.’

The assumed projection in (15b) can not predict (i) if *mei you* ‘not have’ is justified as a negation element too. This is not to say that his argument is problematic but to say the exact characteristics of *ye* ‘also’ and *que* ‘however’ with respect to VPE are dubious. One reviewer points out that this example is not quite acceptable, but in a sense when the adverb *que* focuses on the contrast with a built-up discourse, it may otherwise sound acceptable.

problem. I claim that it is the semantic or phonological constraints of coordinating conjunctions *keshi* ‘but’ or *danshi* ‘but’ that account for some VPE constructions being grammatical since in Wei (2006) and Soh (2007), both of which argue for the relevant projections with conjunctions which are not obligatory in Chinese grammar, contrary to English. If we take a close look at Wei (2006) and Soh (2007)’s argumentations, we find that a sentence is grammatical with a conjunctive.

- (9)        Zhangsan   keyi   qu,   keshi   ta   pian   bu.  
              Zhangsan   can   go   but   he   just   not  
              ‘Zhangsan can go but he just doesn’t want to.’ (Soh 2007 adapted  
              from Hsieh 2001: 78)
- (10)        Ta   neng   qu.   Dan   (shi)   Lisi   (que) [ΣP   bu [ModP   neng [VP]]].  
              he   can   go   but   be   Lisi   but   not   can  
              ‘He can go. But Lisi can not.’ (Wei 2006:8)

I would like to claim that genuine Chinese VPE constructions should be those without coordinating conjunctions, a precise description to account for the related construction as such. Instead of a unifying approach to the VPE relevant constructions, it will shed much more light on the matter if we put them in a separate discussion, in the vein of the Modular Theory of Grammar.

### 3. Data and analyses on Chinese VPE construction

As Rooth (1992), Tomioka (1995) and Fox (1998) point out, the function of ellipsis is to bring the subject to focus or contrastivity. This is the standpoint what Wu’s (2002) takes for locating the subject onto the specifier of FP in her thesis. However, in light of coordinate construction this view may not obtain its support from Mandarin Chinese, as demonstrated in (11). In (11a) and (11b), it is *ye* and *ye shi* getting the phonological or contrastive stress not the subject *Lisi* whether or not the VP is elided. It is *ye* marking the contrastive focus function by means of eliding the VP; otherwise the sentence is ungrammatical, as demonstrated in (12).

- (11)    a.    Zhangsan kanjian-le tade mama, Lisi ye kanjian-le tade mama.  
              Zhangsan see Asp   his   mother Lisi also see Asp   his   mother.  
              ‘Zhangsan saw his mother, and Lisi saw his mother too.’  
              b.    Zhangsan kanjian-le tade mama, Lisi ye shi.  
              Zhangsan see Asp   his   mother Lisi also be  
              ‘Zhangsan saw his mother, and Lisi did too.’
- (12)        \* Zhangsan kanjian-le tade mama, Lisi kanjian-le tade mama.

Li & Thompson (1981), Tsao (1989), and Shyu (1995) claims that subject in fact can be a topic in the sentence in a discourse level. Tsao (1989) argues that there are six concrete traits on the concept of a topic, which, in our case, the referred subject holds. Shyu (1995) further proposes that focus constituent can either be

topicalized or to be contrastively interpreted. This is what I am going to adopt to set up the property of the subject in the target conjunct. In the left periphery I assume the subject can be a topic occupying the specifier of a hypothesized Topic Phrase though it is also a focus element. In (12), the subject *Lisi* alone cannot fulfill the interpretation of the conjunct with respect to contrastive focus on VPE, except for the addition of adverbials *ye* or *mei*. Although being focused, the subject *Lisi* can never be as emphatic as the adverbial *ye*, another focus element preceding the target VP. It therefore follows that both the subject and adverbial in Chinese VPE construction are focused elements and entail the new information.

Hole (2004) claims that adverbials like *ye* as a stressed focus particle, which has the so-called “focusing use” relating to a preceding contrastive-topic element.<sup>3</sup> Hole’s assumed contrastive-topic is actually a subject of the second conjunct in view of Chinese coordinate structure; this is evidenced from his example (Hole 2004:43) as shown below.

- (13)      Ta zuotian qu kan ya      le,      wo ye      qu kan ya      le.  
              he yesterdaygo see tooth Asp I      too go see tooth Asp  
              ‘He went to the dentist yesterday, and I c-topic also went to the  
              dentist.’

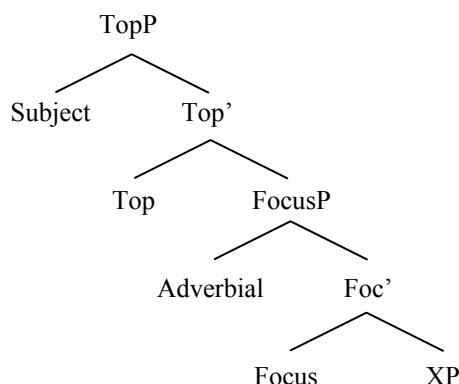
Consequently, in line with Shyu (1995), the traditionally assumed discourse distinction of “new” and “old” information in focus and topic cannot adequately account for the Chinese facts in the regard. Adverbials like *ye* can be located onto the specifier of Focus Phrase if it is immediately dominated by the Topic Phrase as I just argued above. Three more independent pieces of evidences back up the proposal are spelled out as the following: Shyu’s (1995) argues that there must be one and only one Focus Phrase in the Chinese clause while multiple Topic Phrases are allowed. In terms of focus movement in Chinese, the landing site of the focus constituent must be a position between the subject and the verb (cf. Tsai 1994, Zhang 2000).<sup>4</sup> Rizzi (1997) assumes that on functional projection layers TopP usually dominates FocuP. With the FP assumption just mentioned, I accordingly propose that in Chinese VPE construction the subject is on the specifier of TopP followed by a FocuP in which the adverbial is on the specifier of FocuP. I therefore propose that the Chinese VPE constructions involve a contrastive topic (see Hole 2004) and contrastive focus (see Rooth 1992, Tsai 2001) in the left periphery, which illustrates the topic-prominent characteristic of Chinese. Chinese might accordingly employ *yei* or *mei* to bridge the two conjuncts, similar to the coordinating conjunction in English. This offers a strong empirical evidence for its obligatory existence and function in Chinese grammar. The argumentation is illustrated in the following tree diagram.

- (14)

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<sup>3</sup> As pointed out by Hole (2004), there are three types uses of *ye*, i.e., parametric, emphatic and focusing.

<sup>4</sup> Under the VP shell analysis, the focus position could be the specifier of *v*.



In the following, XP may indicate the elided VP or other functional projection (hence the licensing head can be a functional head other than the focus head). I will maintain that in Chinese VPE constructions the Topic head as such is a null category while the Focus head must be lexically filled according to the focus criterion (see Brody 1990, Kiss 1998), the focus element must be in a Spec-Head agreement with the F, and the F must be in a Spec-head configuration with the focused element. In the following section, we will entertain that the Focus head is lexically filled by *shi* 'be', *you* 'have' and modal auxiliary.

Since elliptical structures need to recover the content of the missing materials from syntactic or pragmatic correlates, a priori, an excessive number of focuses will surely add heavy burden to the brain's processing. Thus, in parsing the elliptical structures such as VPE, human beings tend to avoid overload by limiting the number of focus to no more than two, in the sense of Wei (2006).<sup>5</sup> Our argumentation is supported in that there are no more than two focus elements, say subject and the adverbial in the formal configuration.

### 3.1 *Ye-shi* construction

In English, VPE requires the presence of an auxiliary, or an instance of *do*-support. Kuno (1978) argues that ellipsis does not occur in Chinese, since there is no *do*-support in Chinese. This is totally wrong since the crux is morphological difference between English and Chinese. Chinese is not a morphological tense oriented language, but it still has some other way to express VPE phenomena. *Ye-shi* is a typical VPE construction in Chinese.

(15) Zhangsan kanjian-le tade mama, Lisi ye shi.

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<sup>5</sup> Based on Winkler & Schwabe (2003), there are four approaches that address the integration of information structural component and concept of focus come into play within the theory of grammar: the first is mainly syntactic and maintains that focus movement is interpreted at the syntax-semantics interface (Platzack 2000). The second is an essentially semantic approach and finds its instantiation in Rooth (1992)'s theory of Alternative Semantics or in Schwarzschild (1999) and Merchant (2001) theory of Givenness. The third approach presumes that semantic component interfaces with information structure (see Winkler & Gobbel 2000). Vallduvi (1992) finally assumes that the information structural component is an interface separate from PF and LF, supposedly also located outside the grammatical model.



- Zhangsan see Asp his mother Lisi also be  
 ‘Zhangsan saw his mother, and Lisi did too.’
- (16) Zhangsan meiyou kanjian tade mama, Lisi ye shi.  
 Zhangsan not see his mother Lisi also be  
 ‘Zhangsan did not see his mother, and Lisi did not either.’
- (17) Zhangsan hui lai, Lisi ye shi.  
 Zhangsan will come Lisi also be  
 ‘Zhangsan will come, and Lisi will too.’
- (18) Zhangsan hui kai che lai, Lisi ye shi  
 Zhangsan will drive car come Lisi also be  
 ‘Zhangsan will come by driving a car, and Lisi will too.’

Unlike *do* in English, *ye-shi* is neutral to the corresponding modal or negation constructions in the first conjunct as demonstrated above. *Ye-shi* construction can be used to denote events in the past time, present time and factual state. Under the feature-checking mechanism, it is argued that there are two features hosting on the head of its functional projection individually, i.e., [Topic] and [Focus] features. *Lisi* bears a matching [Topic] feature to agree and check the [Topic] feature on Topic head, as well as *ye* with matching [Focus] feature to check the [Focus] feature on Focus head. In addition, *shi*, is lexically inserted to the focus head at PF level after VPE.<sup>6</sup> This is in accord with Inclusiveness Condition proposed by Chomsky (1999) in which no new objects should be added in the computation other than the elements already present in the lexical items selected for Numeration.<sup>7</sup>

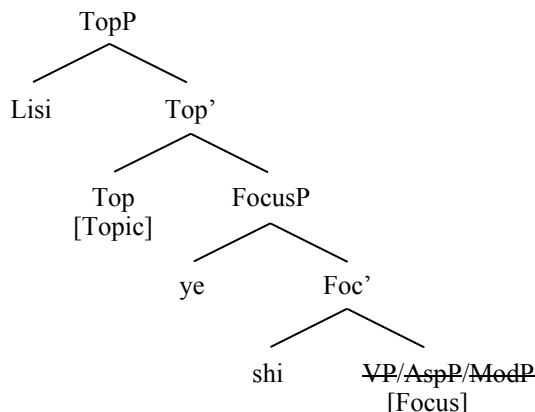
It should be noticed, however, that in Minimalist Program whether Merge or Move takes place should be considered here. It is Merge I adopt to describe the feature checking mechanism. *Lisi* and *ye* are merged to check the relevant features instead of moving them from the lower syntactic position since Merge is preferred over Move if the two choices are presented. (19) demonstrates the second conjunct of the *ye-shi* construction in discussion:

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<sup>6</sup> It seems that Soh (2007) argues against this claim. See Soh (2007) for the syntactic status of *shi* in VPE.

<sup>7</sup> Wu (2002) and Wang (2002) both argue the insertion of *shi* is a PF process, analogous to the *do*-support in English (Bolbaljik 2002). Since *do* insertion is driven by the morphological tense requirement in English which is not the case in Chinese, I think a plausible answer to claim the insertion of *shi* is a PF process might be that when the target VP is not elided, *shi* is not a necessary lexical item in the conjunct. It is otherwise necessary and inserted to the Focus head only if the ellipsis occurs.

- (19) Zhangsan lai le/meiyou lai/hui lai, Lisi ye shi.



### 3.2 *Ye-you* construction

Various uses of *you* seem to properly license the elided VP as well. *Ye-you* is one typical construction.

- (20) Zhangsan kanjian-le tade mama, Lisi ye you.  
 Zhangsan see Asp his mother Lisi also has  
 'Zhangsan saw his mother, and Lisi did too.'
- (21) Zhangsan sha quo yi tou zhu, Lisi ye you.  
 Zhangsan kill Asp a CL pig Lisi also has  
 'Zhangsan has killed a pig, and Lisi has too.'
- (22) Zhangsan zuotian sha-le yi tou zhu, Lisi ye you.  
 Zhangsan yesterday kill Asp a CL pig Lisi also have  
 'Zhangsan yesterday killed a pig, and Lisi did too.'

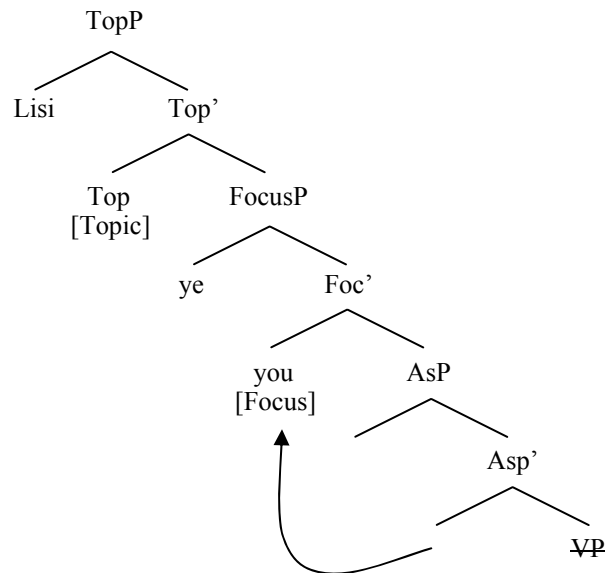
As is well known, not just being a possessive verb, *you* in Chinese can be expressed as presentational, perfective or assertive meaning in a modal or Infl position (see Cheng 1978, 1979, Huang 1987, 1988 and Tsai 2004). Based on Wu (2002), *shi* as such has focal or emphatic property in semantics or discourse so that it can locate on the focus head to license the elided VP. It is nevertheless not a condition for a focus head to be strictly as focal or emphatic since (i) licensing head could be a null element (cf. Lobeck1995, 1999) (ii) the focus element on the specifier of FP must be a focus or emphasis not the focus head (Zogana 1982, Sato & Murasugi 1990, Lobeck1995, 1999, Rizzi 1997) (iii) On cleft construction within the FP assumption, the verb moved to the focus head is syntactic or morphological required not semantic (see Lee 2005, Kiss 1998). It is up to now suggested that the proposed framework for *ye-shi* apply to *ye-you* construction as well. *You* is inserted at PF level to satisfy the focus criterion as *shi* does for (i) *you* is not required when the VP is not elided (ii) if it is occurred

with *ye*, the sentence sounds odd, which is exemplified as the following.

- (23) ?Zhangsan kanjian-le tade mama, Lisi ye you kanjian tade mama.  
 Zhangsan see Asp his mother Lisi also have see his mother  
 ‘Zhangsan saw his mother, and Lisi did too.’

*You* can be expressed as existential as it is for *shi*. According to Hsieh (1998), *shi* not only has equative and classificatory functions, but an existential use introducing certain time or location.<sup>8</sup> This way, it is captured that *shi* has been grammaticalized and moved to a higher position as *you*. According to Huang (1987), Taso and Cheng (1995), *you*, denoting a past event or action, is seen as an Aspect head projecting an Aspect Phrase. I therefore argue that *you* moves from the Aspect head to the focus head at PF level after the VPE takes place. This is illustrated by (24) in the following:

- (24) Zhangsan zuotian sha le yi tou zhu, Lisi ye you.<sup>9</sup>



### 3.3 Mei-you construction

It is not surprising at all, given the example (24) above; Chinese negation

<sup>8</sup> Concerning the existential use of *shi* ‘be’, an intriguing example from Hsieh (1998) is as followed:

- (i) Kai hui zhi qian shi xiao zu tao lun  
 open meeting before be small team discuss  
 ‘There is a panel discussion before the meeting’.

<sup>9</sup> One reviewer thinks that (24) is not quite acceptable; rather, it is better if *you* is inserted in the antecedent clause. In our field work, this view is unexpected however.

construction is subject to VPE. As Wu (2002) observes, only *mei-you* (but not *bu*), a negation compound appears to be a proper licenser to a elided constituent in that *mei-you* can also license the elided VP relied on the analyses from English patterns on *not* (cf. Merchant 2005)<sup>10</sup>:

- (25) Although they know we like to smoke, they respectfully request that we not.
- (26) Predicate ellipsis (including presumably VPs) in reduced relatives:  
I thought I'd be the only one going to the dinner, but in the end, I'm the onlyone not! (Merchant 2005)

Merchant thinks a null VP can be locally governed by a (sentential, negation) *not*. By analogy, *mei-you* can also license the elided VP in Chinese. What does syntactic position *mei-you* occupy in Chinese sentence? It is probably misleading to say that *mei-you* is plainly a Negation head projecting a Negation Phrase in Chinese, a concept originated from Wu (2002). It is argued below that in fact *mei-you* can be used to contrast a focus constituent. *Mei-you* can even be used to mark the contrastive focus element preceding it and answer over-ranged questions pragmatically. As the examples below represent:

- (27) Speaker A: Ni sha le yi tou zhu?  
you kill Asp one CL pig  
'You killed a pig?'  
Speaker B: Wo meiyou.<sup>11</sup>  
I not  
'I did not.'
- (28) Speaker A: Ni jintian zhuan le duo shao qian?  
you today earn Asp many few money  
'How much did you earn today?'  
Speaker B: Yi mao qian duo meiyou  
one cent money even not  
'Not even a cent.'

In addition, Xu (2001) argues that negations like *bie*, *bu* and *mei-you* in fact have not only [+Negation] feature labeling its scope but [+Focus] feature stressing the focus element following it, as the following data represent:

- (29) Ta meiyou zai bangongshi shuijiao (shi "wo")  
he not on office sleep (be I)  
'He did not sleep on the office.' (It is I)

<sup>10</sup> We will discuss the plausibility of the negation phrase headed by *bu* in section 5.

<sup>11</sup> One might even exert *wo nayou* instead of *wo meiyou*, though *wo nayou* is a bit pragmatically or semantically different.

- (30) Ta zai bangongshi li meiyou shuijiao (er shi gongzuo)  
 he on office inside not sleep (but be work)  
 'On the office he did not sleep.' (but work)

Moreover, *mei-you* accepts the phonological or emphatic stress in a sentence without deleting the VP.

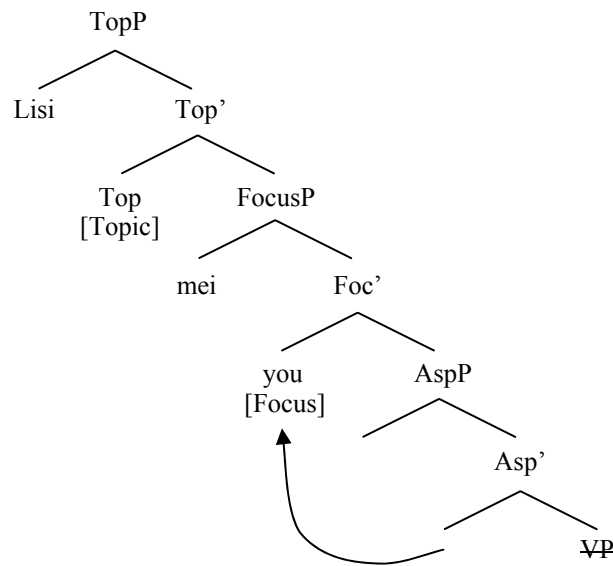
- (31) Zhangsan qu guo meiquo, Lisi mei you qu guo meiquo.  
 Zhangsan go Asp America Lisi not have go Asp America  
 'Zhangsan went to America before, and Lisi did not go to America before.'

*Mei-you* can be decomposed as *mei* and *you* which selects and licenses the adjacent VP. The later proposal wins out since it is justified on the independence of *mei* because without *you*, *mei* itself can denote and convey negative sense in a sentence while the insertion *you* can be specifically used to license the adjacent empty VP.

- (32) a. Ta mei (you) qian.  
 he not have money  
 'He does not have money.'  
 b. Shi lao wang mei (you) lai.  
 be old wang not have come  
 'It is old wang who does not come'

It is therefore assumed that *you* in *mei-you* construction with respect to VPE licenses the elided VP and then is inserted to the focus head, as rendered below.

- (33) Zhangsan zuo guo dalu, Lisi mei you



### 3.4 Ye-Modal construction

Following Wu (2002), VPE in Chinese is only plausible with the occurrence of a deontic modal in the second clause. That is, an epistemic modal seems to be unable to license the empty VP, as evidenced by example (34).

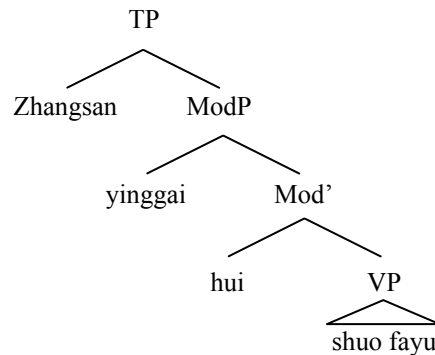
- (34) a. Zhangsan hui/keyi shuo fayu, Lisi ye hui/keyi. (deontic)  
 Zhangsan can speak French Lisi also can  
 'Zhangsan can speak French, and Lisi can too.'
- b. \*Zhangsan keneng/yinggai qu-le faguo,  
 Zhangsan could/should go Asp French  
 Lisi ye keneng/yinggai. (epistemic)  
 Lisi also could/should  
 'Zhangsan could/should go to French, and Lisi could/should too.'

Notice that in Chinese there can be more than one modal auxiliary in a sentence. A strong tendency on the word order will be that an epistemic modal precedes a deontic one, as exemplified as (35) and (36).

- (35) Zhangsan hui shuo fayu, Lisi ye yinggai hui.  
 Zhangsan can speak French Lisi also probably can  
 'Zhangsan can speak French, and Lisi can probably too.'
- (36) Zhangsan keyi shuo fayu, Lisi ye keneng keyi.  
 Zhangsan can speak French, Lisi also probably can  
 'Zhangsan can speak French, and Lisi can probably too.'

Although modal verb in Chinese can be assumed to be a simple verb (cf. Li & Teng 1995), its syntactic distribution is still in favor of a Modal or I(nfl) analysis (see Cheng 1980, Huang 1982, Tang 1988, Tsai 2002, among others). A proposal for describing the syntactic property of the multiple modal verbs is to claim that the lowest modal verb is a Modal head projecting a Modal Phrase while the higher one is a modifying adverbial. The following example demonstrates the idea:

- (37) Zhangsan yinggai hui shuo fayu.



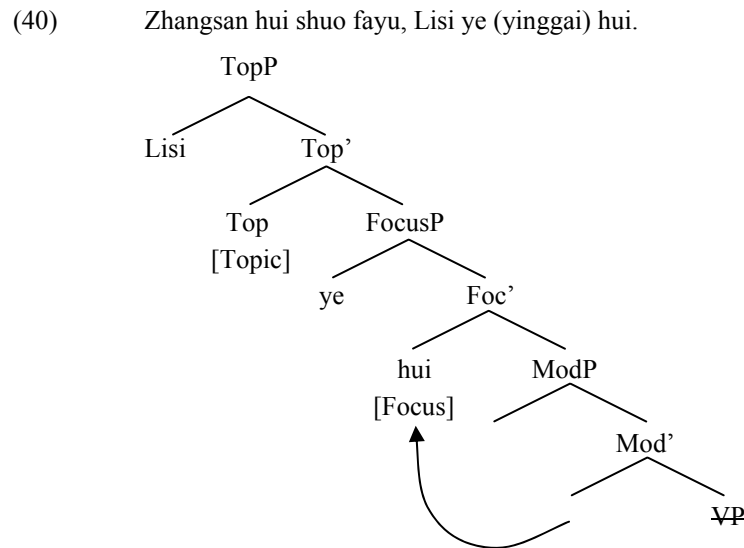
In other words, deontic modals form a natural class with *you* in this regard. What is more, it is shown in (38) that the sentence is grammatical if there is more than one modal in the target conjunct.

- (38)      Zhangsan hui shuo fayu, Lisi ye yinggai hui.  
              Zhangsan can speak French Lisi also probably can  
              ‘Zhangsan can speak French, and Lisi can probably too.’

As the optional epistemic modal *yinggai* ‘probably’ may occupy the specifier of the Focus bar as is shown in (38), the element licensing the elided VP is deontic *hui* ‘can’ not the epistemic *yinggai* ‘probably’. The syntactic property of the multiple modal verbs is best described as one projecting a ModP with the other being a modifying adverb in (37). This idea is also sustained in the VPE discussion in (38). For the present, at PF level Chinese deontic modal is seemingly inserted onto the focus head satisfying the formal licensing condition on VPE. It is yet difficult to argue the syntactic operation of *ye*-modal construction as it processed so far since deontic modal is not inserted as *shi* or *you* at PF level but merged on the focus head before Spell-out. Bear in mind that deontic modal is needed when the VPE does not occur, as is shown below:

- (39) a. Zhangsan hui shuo fayu, Lisi ye hui shuo fayu.  
              Zhangsan can speak French Lisi also can speak French.  
              ‘Zhangsan can speak French, and Lisi also can speak French.’  
       b. \*Zhangsan hui shuo fayu, Lisi ye shuo fayu.

Although (39a) is grammatical (39b) is not. This results from the fact that deontic *hui* must be recovered in the second conjunct before VPE occurs so that the Full Interpretation Principle and VP Parallelism Principle are both satisfied. Hence, moving the deontic modal from the Modal head to the focus head is right before Spell-out, as indicated below:



*Yinggai* merges onto the specifier of a second FocusP if it occurs in the Numeration or lexical array. It therefore predicts that *yinggai* is not a genuine modal but a common adverb since only true modal can license ellipsis. Furthermore, in modal constructions the requirement on the strict corresponding modal in the first and second conjunct is quite loose, except for the A-not-A question.

- (41) Zhangsan shuo fayu, Lisi ye hui.  
 Zhangsan speak French Lisi also can  
 ‘Zhangsan can speak French, and Lisi can too.’
- (42) a. Ta hui kai che bu hui?  
 he know-how-to drive car not know-how-to  
 ‘Does he know how to drive?’  
 b. \*Ta hui kai che bu?

Disobeying the condition on VP Parallelism, (41) reveals that deontic modal does not need to occur in the first conjunct (*hui* in this case should be inserted at PF level).<sup>12</sup> Conceptually, when we exert verbs of perception such as listening, speaking, smelling and son on, they all entail the endowed abilities of human beings if not disadvantaged. A deontic modal is naturally not spelled out in the first conjunct in (41), and consequently the non-parallelism of *yui* ‘can’ is explained. What is elided in (41) is a true VP *shuo fayu* ‘speak French’ rather than a Modal phrase. It is otherwise obligatory if A-not-A question is subject to VPE construction as is illustrated in (42) (see Li 2002).

Last but not the least, as demonstrated before, only deontic modal is subject to VPE construction but this observation is debatable if the modal can be both epistemic and deontic as the examples depicted below.

- (43) Zhangsan hui hui jia, Lisi ye hui. (deontic)  
 Zhangsan can back home Lisi also can  
 ‘Zhangsan can go home, and Lisi also can.’
- (44) Zhangsan hui hui jia, Lisi ye hui. (epistemic)  
 Zhangsan will go home Lisi also will.  
 ‘Zhangsan will go home, and Lisi also will.’

In (43) *hui* as a deontic modal refers to the “ability” to go home. In (44) *hui* as a epistemic modal refers to the “possibility” to go home. I cannot bring myself to accept that the only deontic modal construction subjects to VPE because (44) is grammatical, as opposed to Wu’s (2002). I leave the issue whether an epidemic licenses VPE for future research.

All in all, our analysis construes the four Chinese VPE related constructions, represented by modifying the hierarchy of projection as follows.

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<sup>12</sup> It is however admitted that *shi*, *you* and modal auxiliary needs to maintain the VP Parallelism before moving to the Focus head.



- (45) The Hierarchy of Projection:  
 TopP > FocP > (AspP)/(ModP) > VP

#### 4. E-Givenness condition

Turning to the identity requirement on VPE explored by Merchant (2001). He discusses many ellipsis instances where the so-called formal or structural isomorphism does not seem to hold. By testing examples such as an additional theory of “vehicle change” (Fiengo and May 1994), a type of sluicing dubbed SPROUTING raised by Chung and colleagues (1995) and failure of isomorphism with clitic doubling in Romanian, he concludes that there is no structural-identity requirement for ellipsis, neither in overt syntax nor even at LF. Rather, the condition relating to antecedent and ellipsis is entirely semantic. He assumes a new semantic condition on focus developed from Rooth (1992), Romero (1998) and Schwarzschild (1999).

- (46) e-Givenness  
 An expression E counts as e-GIVEN iff E has a salient antecedent A and modulo  $\exists$ -type shifting:  
 (i) A entails F-clo(E), and  
 (ii) E entails F-clo(A)
- (47) Focus condition on VPE  
 A VP \_ can be deleted only if \_ is e-GIVEN.

When the total identity holds, the two-way entailment in (46) is directly satisfied. The e-Givenness condition incorporating ‘two-way’ entailment requirements must be obtained to encode the identity requirement on elided VP. To exemplify his ideas, we take following examples (48) and (49) to discuss (Merchant 2001:27-8).

- (48) Abby called Chuck an idiot after Ben did ~~call Chuck an idiot~~.  
 (49) Abby called Chuck an idiot after Ben did ~~insult Chuck~~.

In (48) the antecedent here is the VP in the first clause [call Chuck an idiot]. This VP has an open variable corresponding to the subject, so  $\exists$ -type shifting must apply, yielding (50). By assuming the trace of the subject Ben is F-marked, we can replace this trace by an  $\exists$ -bound variable yields (51). VPA’ clearly entails F-clo (VPE). Given in (52), we know VPE’ also entails the F-closure of VPA, since the two are identical.

- (50) VPA’ =  $\exists x.x$  called Chuck an idiot  
 (51) F-clo(VPE) =  $\exists x.x$  called Chuck an idiot  
 (52) F-clo(VPA) =  $\exists x.x$  called Chuck an idiot

(53) VPE' =  $\exists x. x$  insulted Chuck

VPE' however does not entail F-clo(VPA), since you can insult someone without necessarily calling him or her an idiot. The VP in (49) is not e-GIVEN, by (46ii).<sup>13</sup>

The four analyses proposed in this study are predicted by e-Givenness condition demanding the F-closure on the same phrasal structure of the two conjuncts on the grounds that what elided must be a VP, Aspect phrase or Modal phrase in the second conjunct. The following instance on *ye-shi* construction demonstrates:

(54) Zhangsan kanjian-le tade mama,  
 Zhangsan see Asp his mother  
 Lisi ye shi [<sub>VP</sub> ~~kanjian-le tade mama~~].  
 Lisi also be see Asp his mother.  
 'Zhangsan saw his mother, and Lisi did too.'

(55) VPA' =  $\exists x. x$  kanjian-le tade mama

(56) F-clo(VPE) =  $\exists x. x$  kanjian-le tade mama

(57) F-clo(VPA) =  $\exists x. x$  kanjian-le tade mama

VPE' does entail F-clo(VPA), given in (56) and (57), we know VPE' also entails the F-closure of VPA, since the two are identical and two-way entailed. The proposed VPE constructions all satisfy the e-Givenness condition, as the following instances indicate.

- (58) a. Zhangsan kanjian-le tade mama,  
 Zhangsan see Asp his mother  
 Lisi ye shi [<sub>VP</sub> ~~kanjian-le tade mama~~].  
 Lisi also be see Asp his mother  
 'Zhangsan saw his mother, and Lisi did too.'
- b. Zhangsan mei you lai, Lisi ye shi [<sub>AspP</sub> ~~mei you lai~~].  
 Zhangsan not have come Lisi also be not have come  
 'Zhangsan did not come, and Lisi did not either.'
- c. Zhangsan hui hui jia, Lisi ye hui [<sub>ModP</sub> ~~hui jia~~].  
 Zhangsan can back home Lisi also can back home  
 'Zhangsan can go home, and Lisi also can.'
- (59) Zhangsan zuo guo lao, Lisi ye you [<sub>VP</sub> ~~zuo guo lao~~].  
 Zhangsan do Asp prison Lisi also have do Asp prison  
 'Zhangsan has been in a prison, and Lisi has too.'

<sup>13</sup> One reviewer wonders whether or not (47) can rule out the ungrammaticality of (39b). There is no VPE plunged in the structure of (39b) and what leads to the ungrammaticality of (39b) is because the target conjunct lacks the modal *hui* to satisfy the principle of reconstruction.

- (60) Zhangsan kanjian-le tade mama,  
 Zhangsan see Asp his mother  
 Lisi mei you [<sub>VP</sub> ~~kanjian-le tade mama~~]  
 Lisi not you see Asp his mother  
 ‘Zhangsan saw his mother, and Lisi did not.’
- (61) Zhangsan hui shuo fayu, Lisi ye hui [<sub>VP</sub> ~~shuo-fayu~~].<sup>14</sup>  
 Zhangsan can speak French Lisi also can speak French  
 ‘Zhangsan can speak French, and Lisi can too.’

## 5. There is no negation head projection

A negation phrase seems to involve in VPE structures as (62).

- (62) Zhangsan bu qu Taipei, Lisi ye shi (\*bu).  
 Zhangsan not go Taipei Lisi also be not  
 ‘Zhangsan do not go to Taipei, and Lisi do not either.’

In (62) the reconstructed VP in the first conjunct is *bu qu Taipei* ‘not go Taipei’, illustrates the elided phrase in the target must be something with a negation constituent. In our proposal, the four VPE constructions wholly predict that an individual licensing head such as, Focus, Modal and Aspect, licenses VPE whereas a stipulation is needed when assuming there exists a Negation head licensing VP deletion. Interestingly, (62) predicts a VPE (*qu Taipei*) but is ungrammatical if the sequence *ye shi bu* occurs. Assuming a Negation head licensing VPE can not answer why the following construction is not allowed if a negation head *bu* ‘not’ licenses VPE.

- (63) \*Zhangsan bu qu Taipei, Lisi ye bu.  
 Zhangsan not go Taipei Lisi also not  
 ‘Zhangsan do not go to Taipei, and Lisi do not either.’

It is suggested that a negation phrase projection not be observed by assuming that Chinese negation in which *bu* ‘not’ is an adverb in Spec, AuxP or Spec, VP which may occur only with unbounded aspectual situations and which must cliticize to the following element at S-structure, in the sense of Ernst (1995).<sup>15</sup> Given that *bu* is an adverb without ellipsis licensing capability we can get a straightforward account for the ungrammaticality of the following sentences.

<sup>14</sup> One might question that when the elided VP is reconstructed, the sentence is not that acceptable or grammatical. It should be noticed, however, that *shi* ‘be’ or *you* ‘have’, the last resort insertion to license the null VP, is not reconstructed and that as mentioned earlier (cf. (50) and (51)), the *ye*-modal construction could be involved a Modal phrase deletion or a VP phrase deletion.

<sup>15</sup> Not far dissimilar to Ernst (1995), Huang (1988), in order to explain why it cannot co-occur with (i) the perfective marker *-le* or (ii) manner phrases in the *V-de* construction, assumes that *bu* ‘not’ must cliticize onto auxiliaries/modals or the following verb.

- (64)      Zhangsan bu hui da qiu, Lisi ye bu hui.  
             Zhangsan not can play ball Lisi also not can  
             ‘Zhangsan can not play ball, and Lisi can not either.’
- (65)      \*Zhangsan xihuan zhe-ben shu, Lisi bu [VP].  
             Zhangsan like this-CL book Lisi not  
             ‘Zhangsan likes this book, (but) Lisi not.’ (Ernst 1995: 671)

It is evident that only *ye-shi* construction does the VPE is not prohibited regarding negation word *bu*, to wit, how can we explain (62) is grammatical given the licenser *ye-shi*? Following our assumption in which by treating *bu* as an adverb, what *ye-shi* licenses is still a VP, as shown in (66).

- (66)      Zhangsan [<sub>VP</sub> bu [<sub>VP</sub> qu Taipei], Lisi ye shi [<sub>VP</sub> bu [<sub>VP</sub> qu Taipei].

As to the null VP in (66), what reconstructed in the ellipsis site is a VP in the first conjunct as well. Furthermore, we have seen that Merchant (2005) argues for a sentential negation *not* in English licenses a null VP (cf. (25) and (26)). To tackle this problem, one possibility is to assume that Chinese negation word *bu* is distinct from English *not* since *not* can take scope over a sentence but not *bu*. More noteworthy is that only the construction *mei-you* (it is an Aspect head plus an adverb from our argumentation) can negate a sentence as a whole.

- (67)      Mei you liang ge ren xiang de shi yi yang de.  
             Not have two CL person think Part be one kind Part  
             ‘No two persons think alike.’
- (68)      \*Bu liang ge ren xiang de shi yi yang de.  
             No two CL person think Part be one kind Part  
             ‘No two persons think alike.’

This gives a good account for our proposal that sentential *not* in English as well as sentential *mei-you* in Chinese licenses the null VP. It further predicts that in Chinese, *mei-you/bu* is not true negation head projecting a negation phrase with respect to VPE constructions.<sup>16</sup>

It is worth a mention in passing in terms of *que-you* construal (Wei 2006). That *que-you* construction is controversial for its linguistic acceptability and optional quality in the coordinate structures. (69), (70) and (71) imply the phenomena:<sup>17</sup>

<sup>16</sup> One review suggests that before arguing against the possibility that negation is a licenser, we need to clarify the definition of being a licenser. A Negation head is a licenser to VPE in English (Merchant 2001, 2005), but our analysis reveals that it is at least empirically not in Chinese.

<sup>17</sup> In our field work, out of twenty informants, twelve of them deem that the *que-you* construction sounds odd unless the deleted VP is reconstructed though the same instances are acceptable to the other eight.

- (69) ? Zhangsan mei you kanjian ta de mama,  
 Zhangsan not have see he Part mother  
 Lisi que you.  
 Lisi however have  
 ‘Zhangsan did not see his mother, and Lisi however did.’
- (70) ? Zhangsan bu hui shuo fayu, Lisi que hui.  
 Zhangsan not can speak French Lisi however can  
 Zhangsan can not speak French, but Lisi however can.’
- (71) Zhangsan zuo quo bi, Lisi (que) mei you.  
 Zhangsan do Asp cheating Lisi however not have  
 ‘Zhangsan has cheated on the exam, and Lisi however has not.’

When the first conjunct is negative, *que-you* construction can probably be applied as (69) and (70) point out. *Que* ‘however’ is optional when the first conjunct is not negative as in (71). The target conjunct with *que-you* corresponds to the first conjunct with negative meaning with *mei-you*. Unlike the grammaticality and obligatoriness of *ye*, *que* lacks justification to be merged onto the specifier of FP. As noted in section 3 (cf. (14)), an obligatory adjunct is justified to be inserted onto the specifier of Focus phrase to satisfy the focus criterion, a distinct formal account of *ye* ‘also’ and *que* ‘however’ to Wei (2006). However, there seems to be a match between *ye-you* and *que-you* in response to the declarative or negative interpretation in first conjunct on contrastive focus.

## 6. Conclusion

In closing, this paper is composed of three parts. The first part introduces the common observation of Chinese VPE in a formal analysis. We dispense with the traditional view that *ye* is not contributed to the study of VPE. Instead, we suggest an alternative analysis of VPE in which the status of adverbs should be reconsidered. In the second part, we began with the two functional projections above the elided VP (TopP>FocusP>VP), a novel hypothesis on Chinese VPE in which the adverb between the subject and the VP is significant both empirically and theoretically. Aspect phrase and Modal phrase are brought up to account for the motivation of the relevant syntactic operation. Adverbs like *ye* and *mei* are located at the specifier of FP, in an agreement to their focused nature on the Chinese VPE construction. Under the feature-checking mechanism, the subject and the focused element are merged to eliminate the [Topic] and [Focus] feature. The related projection is accordingly: TopP > FocP > (AspP)/(ModP) > VP. Concerning the negation phrase to Chinese VPE, we look upon *bu* ‘not’ as an adverb in Spec, VP which may cliticize to the following element to dodge the explanatory burden. Finally, it is shown that each of these constructions is accounted for by the e-Givenness condition, the elided VP in the target conjunct and the antecedent VP must be semantically two-way entailed.

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