

## Two Functional Projections in the Medial Domain in Chinese\*

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This paper argues that Rizzi's (1997) "fine structure of the left periphery" can be applied to the medial domain in Mandarin Chinese (i.e., the domain between TP and vP) and that this domain can license both Topic and Focus under distinct functional projections, with TopicP dominating FocusP. This paper explains the information-theoretic status of preposed objects by detailing the structural restrictions associated with the relevant topic and focus readings, respectively, and elaborating on their differences. By adopting this joint approach – one which is different from previous analyses – I show that preposed objects can be either Topic or Focus in the medial domain. This paper then presents a unified account for the preposed object construction, the so-called verb-copying construction and various other related phenomena.

Key words: Topic, Focus, sentence-medial domain, Mandarin syntax, functional projection

### 1. Introduction

It is known that, in addition to the canonical SVO order, Mandarin Chinese also allows SOV and OSV patterns of sentences.<sup>1</sup>

(1) a. SVO

Zhangsan    kan-le        na    ben    shu.  
Zhangsan    read-PERF    that    CL    book  
'Zhangsan has read that book.'

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<sup>1</sup> In this paper, the terms "Topic" and "Focus" are used as labels to refer to the linguistic items that carry discourse functions. The abbreviations for the glosses used in examples are: CL, classifier; PERF, perfective aspect marker; EXP, experienced aspect marker; PROG, progressive aspect marker; Q-PART, interrogative particle; RESULT, resultative particle; BA, disposal marker; EMP, emphatic marker; DE, marker of prenominal modifiers.

b. SOV

Zhangsan     **na**   **ben**   **shu**<sub>1</sub>     kan-le     ec<sub>1</sub>.  
 Zhangsan     that   CL   book     read-PERF

c. OSV

**Na**     **ben**   **shu**<sub>1</sub>   Zhangsan   kan-le     ec<sub>1</sub>.  
 that     CL   book   Zhangsan   read-PERF

While sentences like (1c) have been discussed in the literature concerning the Topic properties of the sentence-initial object, sentences like (1b) are referred to as the preposed object construction. In the previous literature on the preposed construction, there is no consensus on whether the object preposed to the domain between subject and the verb is Topic or Focus. Some linguists argue that sentences like (1b) involve a “Secondary Topic”, as opposed to a sentence-initial Topic (see Badan 2007, 2008, Paul 2002, 2005, and Tsao 1990). Other linguists argue that sentences like (1b) involve Focus, based on the contrastive interpretation conveyed by the phrase between the subject and the predicate (see Ernst and Wang 1995, Huang, Li and Li 2009, Shyu 1995, and Tsai 1994). In other words, researchers usually argue that a preposed object in the medial domain is interpreted either strictly as Topic or strictly as Focus.

The SOV order shows that more than one noun phrase occurs before the predicate. I argue that in addition to being canalized as involving multiple Topics in the left periphery, SOV sentences can also be analyzed under the TP structure.<sup>2</sup> As shown in example (2), the reflexive *ziji* ‘self’ is bound by the first nominal of the sentence, *Zhangsan*. The A-binding property of the first noun phrase suggests that this noun phrase is the subject of the sentence and that the preposed object occurs between the subject and the predicate; I refer to this domain where the preposed object occurs as “the medial domain.” I argue that this medial domain is below TP but above *vP*. In this paper, I will show that the medial domain in Chinese is relevant to both Topic and Focus but only in a specific, restricted and systematic way.<sup>3</sup>

(2) Zhangsan<sub>1</sub>   **na**   **ben**   **shu**<sub>2</sub>     gei-le     ziji<sub>1</sub>-de   pengyou   ec<sub>2</sub>.  
 Zhangsan     that   CL   book     give-PERF   self-DE   friend  
 ‘Zhangsan gave his friend that book.’

<sup>2</sup> As to be discussed later in this paper, the multiple Topic analysis and the medial structural analysis are both available for an SOV sequence under certain conditions. Specifically, in Section 5, I will discuss some interesting observations about similarities and differences between the CP domain and the TP domain.

<sup>3</sup> I mainly discuss syntactically licensed Topic and Focus, although these informational roles can also be realized by other linguistic devices, such as the prosodic contour and stress patterns.

Adopting Rizzi's (1997) insights of multiple functional projections, I agree with Badan (2007, 2008), Belletti (2004) and Paul (2005), on the occurrence of Topic and Focus in the medial domain. However, I depart from Badan (2007, 2008) and Paul (2005) and argue that "the preposed object" itself can be Topic or Focus (Section 2). I also depart from Belletti's (2004) claim and argue that the Chinese Focus cannot precede Topic in the medial domain, and that the "lower INFL domain" is outside of  $vP$  in Chinese. In Section 3, I argue that two distinct projections are needed for Topic and Focus interpretations, and that an analysis involving only a single functional projection, such as the  $\Delta P$  proposed by Lambova (2004) for Bulgarian, cannot be extended to Chinese. The discussion will then proceed to show how the proposal provides a unified account of the preposed object construction, the so-called verb-copying sentences and other related phenomena in Chinese (Section 4). In Section 5, I will discuss some observations with respect to the syntactic restriction and the semantic differences between Topic/Focus in the left-periphery (i.e., CP) and those in the medial domain (i.e., TP). Section 6 briefly concludes the paper.

## 2. The medial domain in relation to the information structure

Following Rizzi (1997) and Shyu (1995), I assume that Chinese can license Topic and Focus in the CP domain *via* movement or base-generation. The following discussion will be centered on the medial domain of Chinese. It will be shown that most of the general properties of Topic and Focus are also found in phrases in the medial domain. Specifically, the differences between the medial Topic and Focus will be shown in answers to (*wh*-)questions, in sentences with emphatic *shi*, and in sentences with indefinite NPs.

It has been argued that a sentence can contain phrases with different types of roles of information structure (Büring 1997, Lee 2003, among others). In a discourse like (3), example (3b) has Contrastive Topic, Topic and Focus. That is, the subject of each clause is a Contrastive Topic, because they are partitions of the Topic 'her sisters', according to the question (3a); the cities in (3b) are answers to the *wh*-question in (3a); thus, they are Focus.<sup>4</sup>

- (3) a. Where do Kelly's sister lives?  
 b. (As far as I know), [her elder sister]<sub>CT</sub> lives in [Taipei]<sub>F</sub>, [her younger sister]<sub>CT</sub> lives in [Kaohsiung]<sub>F</sub>, and [her youngest sister]<sub>CT</sub> lives in [Tainan]<sub>F</sub>.

<sup>4</sup> In this paper, the subscript T after a bracket means 'Topic', the subscript F means 'Focus', CF means 'Contrastive Focus' and CT means 'Contrastive Topic'.

Contrastive Topic is contextually bound (see Badan 2007, Krifka 2007 and Tomioka 2009). Example (4b) involves a Contrastive Topic when it is used to answer ‘What did the students eat?’ In such a discourse, ‘Fred’ refers to a partition of the Topic ‘the students’ in (4a), and the sentence only specifies the situation of ‘Fred’ but leaves aside comments on situations about other students.

- (4) a. What did the students eat?  
 b. [Fred]<sub>CT</sub> ate [the beans]<sub>F</sub>.

However, the subject ‘Fred’ is interpreted as Focus when the same sentence is the answer to a *wh*-question (5), or an answer to a multiple *wh*-question (6).

- (5) a. Who ate the beans?  
 b. [Fred]<sub>F</sub> ate [the beans]<sub>T</sub>.  
 (6) a. Who ate what?  
 b. [Fred]<sub>F</sub> ate [the beans]<sub>F</sub>.

Nonetheless, the same phrase ‘Fred’ can also be a Contrastive Focus, when it is used to correct the information, as shown in example (7), or to specify the status of one individual as opposed to the rest of the relevant individuals in the list of alternatives (Krifka 2007, Lee 2003), as shown in example (8).

- (7) a. Josh ate the beans.  
 b. No, [Fred]<sub>CF</sub> ate [the beans]<sub>T</sub>.  
 (8) a. It looks like [Fred]<sub>CF</sub> ate the beans, not [John]<sub>CF</sub>.  
 b. The baby picked [the money]<sub>CF</sub> first (, not [the pen]<sub>CF</sub>).

The above examples show that the same sentence or the same expression may carry different information roles depending on the discourse where the sentence is uttered. Such discourse functions are also available in Chinese. Assuming that a *wh*-interrogative expression and its answers are regarded as Focus, and that other aforementioned units in the same discourse are identified as general Topic (see É. Kiss 1998, Krifka 2007, Lee 2003, Rooth 1992, among others), we can see that the medial phrase, *zuoye* ‘assignment’, can be replaced by a *pro* (as in (9c)), when it has been mentioned previously in (9a); that is, *zuoye* ‘assignment’ is Topic (cf. also Paul 2002).

- (9) a. Ni *zuoye* xiewan-le ma?  
 you assignment write-PERF Q.PERF  
 ‘Are you done with your assignment?’
- b. Wo [*zuoye* ]<sub>T</sub> xiewan-le.  
 I assignment write-PERF  
 ‘I am done with the assignment.’
- c. Wo [*pro*]<sub>T</sub> xiewan-le.  
 I write-PERF  
 ‘I am done with [it].’

However, in the answer to a *wh*-question, as in (10), the medial element *zuoye* ‘assignment’ is obligatory, and it cannot be replaced by a *pro*.<sup>5</sup>

- (10) a. Ni *shenme* xiewan-le?  
 you what write-PERF  
 ‘What have you finished?’
- b. Wo [*zuoye* ]<sub>F</sub> xiewan-le. (*zuoye* can be stressed)  
 I assignment write-PERF  
 ‘I have finished THE ASSIGNMENT.’
- c. \*Wo [*pro*]<sub>F</sub> xiewan-le.  
 I write-PERF  
 ‘I have finished THE ASSIGNMENT.’

In other words, example (10) indicates that the same medial domain now is relevant to Focus. The contrast observed between examples (9) and (10) thus suggests that the medial domain can host both Topic and Focus. Notice that *zuoye* ‘assignment’ in (10b) can bear stress naturally and show certain degree of contrastive flavor. While previous researchers argue that such sentence medial phrases are Focus (see Ernst and Wang 1995, Huang et al. 2009, Shyu 1995 and Tsai 1994), Badan (2007, 2008), proposes that preposed objects should be analyzed as Contrastive Topic, following Paul (2006). I agree with Badan (2007, 2008) that Contrastive Topic is one of the informational notions that can be expressed by phrases in the medial domain, but I

<sup>5</sup> Given that Chinese is a *wh-in-situ* language, *wh*-questions in the SOV order in Chinese represent a subtype of Focalization, which is different from the Focus conveyed by the canonical *in-situ wh*-questions (cf. Kiss 1998, Rooth 1992 for discussion of different foci). Thanks to a reviewer for pointing out that Cheung (2008) makes a similar claim for *wh*-phrases that are preposed to the left-periphery in Chinese. Although both SOV and SVO orders of sentences can be used in answering *wh*-questions, there is a tendency for speakers to answer questions in the word order that reflects the word order of the question. In the following discussion, only SOV *wh*-questions are used for ease of presentation.

would like to point out that in addition to Contrastive Topic, other information functions are also available in sentences like (1b), when the relevant discourse is provided. That is, in addition to Topic (e.g., (9)) and Focus (e.g., (10)), the preposed object in the medial domain can also be Contrastive Topic or Contrastive Focus. The discourse in (11) suggests that the preposed objects, *Shanghai* and *Tianjin*, are Contrastive Topic (cf. Badan 2007 and 2008, citing Paul 2006). However, under a different discourse (e.g., (12)), *Shanghai* and *Tianjin* are Contrastive Focus that are associated with the correction of information.

- (11) a. Ni qu-guo dalu-de chengshi ma?  
 you go-EXP Mainland-DE city Q.PART  
 ‘Have you been to cities in Mainland China?’
- b. Wo, [Shanghai]<sub>CT</sub>, qu-guo-le, keshi (wo) [Tianjin]<sub>CT</sub> hai  
 I Shanghai go-EXP-PERF but I Tianjin still  
 mei qu-guo.  
 not go-EXP  
 ‘I have been to Shanghai, but I have not been to Tianjin yet.’
- (12) a. Zhangsan shuo ni qu-guo Tianjin.  
 Zhangsan say you go-EXP Tianjin  
 ‘Zhangsan says that you’ve been to Tianjin.’
- b. (Qishi ) Wo, [Shanghai]<sub>CF</sub>, qu-guo-le, keshi (wo) [Tianjin]<sub>CF</sub>  
 actually I Shanghai go-EXP-PERF but I Tianjin  
 hai mei (qu-guo).  
 still not go-EXP  
 ‘In fact, I have been to Shanghai, but I have not been to Tianjin yet.’

Examples (9) to (12) show that various information structures can be expressed through the sentence medial elements in Chinese. In the following discussion, I assume these sub-types of roles of information structure, but use only “Topic” and “Focus” as cover terms, in an attempt to show the interaction of information structure and syntactic representation in the medial domain in Chinese.

The distinction between Topic and Focus in the medial domain can be made clearer with the help of emphatic *shi* (cf. Huang 1988, Lee 2005, Teng 1979, and Paul and Whitman 2008<sup>6</sup>)<sup>7</sup>. Observe first that emphatic *shi* marks the focused item in cleft

<sup>6</sup> Thanks to an anonymous reviewer for referring me to this paper.

<sup>7</sup> The cleft construction in Chinese is represented in the form of “*shi* ... (*de*).” While there is a dispute over the function of the optional marker *-de*, it is generally assumed that *shi* is a Focus marker that shows the emphatic interpretation. I make this assumption in the following discussion.

sentences, as in (13a), and the whole predicate when a verum Focus is intended (e.g., (13b)).

- (13) a. Wo [*shi* **zuotian** ]<sub>F</sub> huilai de (bushi jintian).  
 I EMP yesterday return DE (not today)  
 ‘It is yesterday that I came back (, not today).’
- b. Wo [*shi* **kandao-le** **Lisi** ]<sub>F</sub>.  
 I EMP see-PERF Lisi  
 ‘It is seeing Lisi that I did.’

Since the role of emphatic *shi* is clearly to indicate the presence of a Focus phrase, we expect it to be capable of marking a phrase in the medial position when that phrase is interpreted as Focus. Indeed, as it is shown in (14), when the preposed object is the answer to a *wh*-question, it is compatible with emphatic *shi*.

- (14) a. Ni shenme xiewan-le? (Baogao ma? )<sup>8</sup>  
 you what write-PERF paper Q.PART  
 ‘What did you finish? (Paper?)’
- b. Wo [*shi* **zuoye** ]<sub>F</sub> xiewan-le (, baogao hai mei).  
 I EMP assignment write-PERF paper not yet  
 ‘It is the assignment that I finished (, not the paper).’

However, this is not the case when the phrase in the medial domain is interpreted as Topic. The preposed object in (15), *zuoye* ‘assignment’, is not compatible with emphatic *shi*:

- (15) a. Ni zuoye xiewan-le ma?  
 you homework write-PERF Q.PART  
 ‘Did you write the homework?’
- b. \*Dui, wo [*shi* [ zuoye ]<sub>T</sub>] xiewan-le.  
 yes I EMP homework write-PERF  
 ‘I wrote the homework.’

<sup>8</sup> Some speakers prefer to add the second part, *baogao* ‘paper’, to the discourse; thus the question-answer pair can also show the correction of information among contrastive alternatives, i.e., an instance of Contrastive Focus.

The contrast between (14) and (15) once again indicates that both Focus and Topic may appear in the medial domain, and that the bare preposed object could be Topic or Focus.

The distinction between Topic and Focus in the medial domain can also be found in sentences with indefinite phrases. As it is pointed out by Li and Thompson (1981), Topic in Chinese must be either generic or definite, and an indefinite Topic is not allowed. Thus, while an indefinite phrase is allowed to be the complement of the verb (e.g., *yi zhi gou* ‘a dog’ in (16a)), it cannot be the Topic phrase at the beginning of the sentence (e.g., (16b)).

- (16) a. Ni zai xuexiao you mei you kan-guo gou/ na zhi gou/  
 you in school have not have see-EXP dog/ that CL dog/  
*yi zhi gou?*  
 one CL dog  
 ‘Have you seen dog/that dog/a dog in school?’
- b. Gou/ Na zhi gou/ \**Yi zhi gou*, wo kan-guo *ec.*  
 dog/ that CL dog/ one CL dog I see-EXP  
 ‘Dog/That dog/A dog, I have seen [it].’

An interesting observation reported by Tsai (1994) is that an indefinite phrase is allowed in the medial domain, e.g., *yi pian lunwen* ‘one paper’ in (17).

- (17) Wo **yi pian lunwen** keyi yingfu (, *liang pian jiu bu xing*  
 I one CL paper can handle two CL then not can  
 le ).  
 PERF  
 ‘I can handle ONE PAPER (, but not TWO).’

However, sentences like (17) are allowed only when the indefinite phrase expresses quantity and is contrastively emphasized (e.g., ‘ONE, not TWO’). The same phrase in the medial domain in fact becomes unacceptable when it is not emphasized and without a contrast, as illustrated in (18).

- (18) ?\*Wo **yi pian lunwen** HAI ZAI-KAN (, bu shi ZAI-XIE ).  
 I one CL paper still PROG-read not be PROG-write  
 ‘I AM STILL READING a paper.’

Examples (17) and (18) suggest that an indefinite phrase is allowed in the medial domain only when it expresses quantity and Focus. I assume that the occurrence of aspect affixes, like *zai-* (for progressive aspect) in (18), indicates the realis status, and thus the presupposition of that sentence prefers specific nominals in the sentence. Thus example (18) is not acceptable. Example (19a) shows that with the existential marker *you* ‘exist’, the indefinite nominal is interpreted as specific, and the acceptability is greatly improved. Having a definite nominal in the medial domain as in (19b) is also acceptable.

- (19) a. Wo **you** **yi pian lunwen** hai zai-kan.  
 I exist one CL paper still PROG-read  
 ‘I am still reading a paper.’
- b. Wo **zhe yi pian lunwen** hai zai-kan.  
 I this one CL paper still PROG-read  
 ‘I am still reading this paper.’

Along the same line of reasoning, sentence in (17) with the modal, *keyi* ‘can’, can be interpreted as irrealis, which does not force the specific interpretation of the indefinite nominal, and thus the quantity reading is allowed. Based on the observation shown in (16) that an indefinite non-specific nominal cannot serve as Topic, I claim that the permitted indefinite nominal in the medial domain in (17) is not Topic, but Focus. The claim is supported by the fact that such indefinite nominals of quantity can be embedded under other Focus constructions. Since emphatic *shi* is compatible only with Focus but not with Topic, one may predict that the quantitative indefinite nominal in (17), *yi pian lunwen* ‘one paper’, is compatible with emphatic *shi*. This inference is supported by example (20).

- (20) Wo [*shi* [*yi pian lunwen*]]<sub>F</sub> keyi yingfu (, *liang pian jiu bu*  
 I EMP one CL paper can handle two CL then not  
 xing le ).  
 can PERF  
 ‘It is ONE paper that I can handle (, but not TWO).’

Such indefinite nominals can also serve as the *even*-Focus, as shown in (21).

- (21) Wo [lian yi pian lunwen dou]<sub>F</sub> kan bu wan, geng bie  
 I EVEN one CL paper all read not finish more not  
 ti shangtai-baogao le.  
 mention presentation PERF  
 ‘I cannot finish reading even one paper, not to mention giving the  
 presentation.’

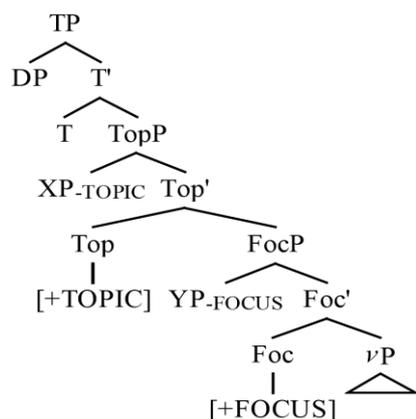
The preceding examples show that the object preposed to the medial domain can be interpreted either as Topic or as Focus, exhibiting different syntactic realization. This observation also suggests that treating preposed objects either strictly as Topic (e.g., Badan 2007, 2008, Paul 2002, and Tsao 1990) or strictly as Focus (e.g., Shyu 1995 and Tsai 1994) only illustrates part of the facts.

In the next section, in the spirit of Rizzi’s (1997) syntactic cartography, I will propose that two functional projections, TopP and FocP, are available in the medial domain to host Topic and Focus. I assume the core operations in the Minimalist Program and argue that Topic and Focus are realized in a sentence when there are lexical items bearing relevant features in the numeration.

### 3. Two functional projections in the medial domain: TopP and FocP

In Section 2, I showed that it is possible for a preposed object to express either Topic or Focus. To account for the aforementioned facts, I claim that two distinct projections should be identified in the medial domain to host Topic and Focus, respectively, and that this medial domain is below TP and above *v*P. I take the same approach as Badan (2007, 2008), Belletti (2004) and Paul (2005), i.e., extending Rizzi’s (1997) analysis to the TP domain (, unlike Lambova’s 2004 approach of single functional projection). I propose that Topic and Focus can be projected in the medial domain in Chinese, and that TopP is located higher than FocP. The proposed structure is shown in (22). The proposed analysis predicts that Topic and Focus can co-occur in the medial domain when the relevant discourses are provided, and that Topic always appears higher than (and hence precedes) Focus. The proposed analysis crucially differs from the proposal of “VP periphery” (see Belletti 2004, and Gouguet 2006), which relates the information structure to the edge of *v*P. In the course of the discussion, I will show that the phenomenon at issue is pertinent to a domain higher than *v*P.

## (22) TopP and FocP in the Medial Domain



Unlike Belletti (2004) and Rizzi (1997), I argue that no Topic projection is available under the Focus Projection, since such a phenomenon is not attested in Chinese. The proposal is also different from Badan (2007, 2008) and Paul (2002, 2005), because their discussion is mainly centered on facts of preposed objects as (Contrastive) Topic. This paper aims at providing a unified account to explain Topic and Focus expressed by (moved or base-generated) phrases in the medial domain.

According to the proposed structure (22), Topic and Focus can co-occur in the medial domain. Indeed, there are examples that support this analysis. Some example discourses are shown in (23) and (24). In a scenario that Mary has a crush on Zhangsan, she really wants to know more about things he likes and his habits. However, she is very shy, so she asks Zhangsan's best friend:

## (23) a. Mary:

Zhangsan shuiguó (a<sup>9</sup>) zui chang chi shenme ne?  
 Zhangsan fruit PART most often eat what Q.PART  
 'Speaking of fruit, what does Zhangsan eat most often?'

## b. Zhangsan's best friend:

Ta [shuiguó]<sub>T</sub> (a) [pingguó]<sub>F</sub> zui chang chi.  
 he fruit PART apple most often eat  
 'Speaking of fruit, he eats apples most often.'

## (24) a. Mary:

(Na<sup>10</sup>), Zhangsan, shu (a) zui xihuan kan shenme ne?  
 PART Zhangsan book PART most like read what Q.PART  
 'As for books, what does Zhangsan like to read most?'

<sup>9</sup> The *a* is meant to be added to make the Topic interpretation more easily available; instead of using *a*, inserting a pause can also serve the same purpose. Sometimes, depending on the coda of the preceding word, *ya* or *o* may be preferred by some speakers.

<sup>10</sup> *Na* is a discourse marker to show that the current discourse is the continuum of the previous one.

b. Zhangsan's best friend:

Ta [ shu ]<sub>T</sub> (a) [ wuxia xiaoshuo]<sub>F</sub> kan-de zui duo.  
 he book PART martial.arts novel read-RESULT most many  
 'Speaking of books, he reads martial arts novels most.'

Examples (23) and (24) show that it is possible that both Topic and Focus co-occur in a sentence between the subject, *Ta* 'he', and the main predicate. Since *shuiguo* 'fruit' in (23b) and *shu* 'book' in (24b) are mentioned in the previous discourse, they are identified as a natural Topic in those sentences. *Pingguo* 'apple' in (23b) and *wuxia xiaoshuo* 'martial arts novel' in (24b) are Focus, because they are answers to the *wh*-questions.

The difference between Topic and Focus in the medial domain can also be found in other phenomena. First, the proposed structure (22) predicts that Topic and Focus can only co-occur in the medial domain in a fixed order, i.e., Topic precedes Focus. The prediction is borne out, as shown in (25).

- (25) a. Zhangsan [ shu ]<sub>T</sub> [ wuxia xiaoshuo]<sub>F</sub> kan-de  
 Zhangsan book martial.arts novel read-RESULT  
 zui duo.  
 most many  
 'Speaking of books, it is martial arts novels that Zhangsan reads most.'
- b. \*Zhangsan [ wuxia xiaoshuo]<sub>F</sub> [ shu ]<sub>T</sub> kan-de  
 Zhangsan martial.arts novel book read-RESULT  
 zui duo.  
 most many

Second, the distribution of sentential adverbs suggests that the medial domain is higher than *vP* (contra proposals of the *vP* periphery). In example (26), the sentence-level adverb that modifies TP, *dagai* 'probably', is allowed to appear not only before but also after both Topic and Focus. This distributional fact suggests that Topic and Focus in the medial domain occur in a position higher than *vP*, i.e., in the TP domain. Thus, the proposed structure (22) is supported.

- (26) a. Zhangsan **dagai** [shu ]<sub>T</sub> [wuxia xiaoshuo]<sub>F</sub> kan-de  
 Zhangsan probably book martial.arts novel read-RESULT  
 zui duo.  
 most many  
 ‘Speaking of books, probably, it is martial arts novels that Zhangsan reads most.’
- b. Zhangsan [shu ]<sub>T</sub> **dagai** [wuxia xiaoshuo]<sub>F</sub> kan-de  
 Zhangsan book probably martial.arts novel read-RESULT  
 zui duo.  
 most many
- c. Zhangsan [shu ]<sub>T</sub> [wuxia xiaoshuo]<sub>F</sub> **dagai** kan-de  
 Zhangsan book martial.arts novel probably read-RESULT  
 zui duo.  
 most many

It is pointed out by Rizzi (1997:291) that *wh*-questions may co-occur with Topic (e.g., (27a)) but not with another stressed Focus (e.g., (27b)) in a clause-peripheral position.

- (27) a. A [Gianni]<sub>T</sub>, [che]<sub>F</sub> cosa hai detto?  
 ‘To Gianni, what did you tell him?’
- b. \*A [GIANNI]<sub>F</sub>, [che]<sub>F</sub> cosa hai detto (, non a PIERO)?  
 ‘TO GIANNI, what did you tell (, not to PIERO)?’

A similar distinction between Topic and Focus is found in Chinese in the medial domain. A *wh*-question can co-occur with Topic (e.g., (28a)); however, when a stress is applied to a phrase other than that *wh*-phrase, e.g., *shuiguo* ‘fruit’ in (28b), the acceptability of this sentence is questionable.<sup>11</sup>

<sup>11</sup> It is pointed out by a reviewer that a sentence similar to (28b) (e.g., (i)) is acceptable:

- (i) Zhangsan, SHUIGUO, wo shuo-de shi shuiguo er bu shi  
 Zhangsan fruit I mean-RELATIVE be fruit but not be  
 cai, shenme zui chang chi?  
 vegetable what most often eat  
 ‘Speaking of FRUIT, what I mean is fruit, not vegetables, what does Zhangsan eat most often?’

I agree that the stressed phrase is more acceptable in (i), because of the extra clause *wo shuo de shi shuiguo er bu shi cai* ‘what I mean is fruit not vegetables’. I suppose that this extra clause provides the environment of contrastive Focus, external to the original Topic-Focus partition, and thus allows the hearer to interpret this long sentence into two separate parts; i.e., the correction clause that licenses Contrastive Focus, and the following *wh*-question.

- (28) a. Zhangsan [shuiguo]<sub>T</sub> [shenme]<sub>F</sub> zui chang chi?  
 Zhangsan fruit what most often eat  
 ‘Speaking of fruit, what does Zhangsan eat most often?’
- b. ?\*Zhangsan [SHUIGUO]<sub>F</sub> [shenme]<sub>F</sub> zui chang chi  
 Zhangsan fruit what most often eat  
 (, bu shi CAI )?  
 (, not be vegetables)  
 ‘FRUIT, what does Zhangsan eat most often (not VEGETABLES)?’

The similarity between (27) and (28) argues for a distinction between Topic and Focus in the medial domain. Next, example (29) shows different types of answers to a *wh*-question. In Answer 1, both Focus and Topic occur in the answer. Answer 2 shows that Topic can be replaced by a *pro*; the contrast between Answer 3 and Answer 4 shows that the occurrence of Focus is required, but Topic does not have the same function.

- (29) Zhangsan shuiguo shenme zui chang chi?  
 Zhangsan fruit what most often eat  
 ‘Speaking of fruit, what does Zhangsan eat most often?’
- a. Answer 1: Ta [shuiguo]<sub>T</sub> [pingguo]<sub>F</sub> zui chang chi.  
 he fruit apple most often eat  
 ‘Speaking of fruit, he eats apples most often.’
- b. Answer 2: Ta [*pro*]<sub>T</sub> [pingguo]<sub>F</sub> zui chang chi.  
 he apple most often eat  
 ‘Speaking of fruit, he eats apples most often.’
- c. Answer 3: [Pingguo]<sub>F</sub>.  
 ‘apples’
- d. Answer 4: \*[Shuiguo]<sub>T</sub>.  
 ‘fruit’

The co-occurrence of Topic and Focus in the medial domain also shows an intriguing difference with respect to the compatibility of emphatic *shi*. Adopting Paul and Whitman’s (2008) proposal that the sentence medial bare *shi* is a Focus operator that marks elements to the right of it as Focus, one would predict that Topic cannot be marked by emphatic *shi*, whereas Focus can. This inference is supported. When both Topic and Focus occur in example (30), emphatic *shi* is compatible with the Focus, *wuxia xiaoshuo* ‘martial arts novel’ as in (30a), but it is not compatible the Topic, *shu* ‘book’, as in (30b).

- (30) a. Zhangsan [ shu ]<sub>T</sub> [ *shi* [ wuxia xiaoshuo]<sub>F</sub> ] kan-de  
 Zhangsan book EMP martial.arts novel read-RESULT  
 zui duo.  
 most many  
 ‘Speaking of books, it is martial arts novels that Zhangsan reads most.’
- b. \*Zhangsan [ *shi* [ shu ]<sub>T</sub> ] [ wuxia xiaoshuo]<sub>F</sub> kan-de  
 Zhangsan EMP book martial.arts novel read-RESULT  
 zui duo.  
 most many

Different analyses of emphatic *shi* have been proposed in the literature. Chiu (1993), for instance, argues that emphatic *shi* heads a functional projection as *ShiP*. Lee (2005) argues that emphatic *shi* is a grammaticalized focus marker that heads a focus phrase. Based on ellipsis facts, Li (2007) argues that emphatic *shi* is subcategorized for an IP. It has also been argued by Huang (1988), Paul and Whitman (2008), and Huang et al. (2009) that emphatic *shi* is generated in the split INFL domain and projects its functional projection.<sup>12</sup> Therefore, according to the gist of these analyses, the intervention of emphatic *shi* between Topic and Focus in the medial domain (e.g., (30a)) suggests that such Topic and Focus phrases do not form a constituent. This conclusion is perfectly compatible with the proposed structure of two distinct projections (contrary to the single-projection analysis proposed by Lambova (2004) for Topic and Focus in Bulgarian). In this analysis, the contrast observed in (30) is accounted for straightforwardly: the emphatic *shi* may intervene between Topic and Focus, but may not precede both of them, because *shi* marks the Focus element, and TopP dominates FocP in the medial domain.

The proposed analysis also predicts that sentences with a ditransitive verb like *song* ‘send’ would allow both direct and indirect objects to be preposed to the medial domain. This prediction is borne out. Each of (31b) and (31d) involves distinct packaging of information, as illustrated.

(31) Ditransitive predicates

- a. Ni song-guo *xuesheng* shenme ne?  
 you send-EXP student what Q.PART  
 ‘What have you sent to students?’

<sup>12</sup> I take the position that emphatic *shi* heads a functional projection, and is a Focus operator that marks the moved or base-generated elements to the right of it as Focus. If one wants to follow the feature checking mechanism through Spec-Head agreement, one may propose that at PF, emphatic *shi* precedes the Focus element, but the Focus element is moved to Spec, FocusP at LF or only relevant features are valued through Spec-Head agreement at LF. I take an open position in this regard.

- b. Wo, [ *zhe qun xuesheng* ]<sub>T</sub> (a), [ *na ben shu* ]<sub>F</sub> song-guo-le  
 I this group student PART that CL book send-EXP-PERF  
 (, *qianbi hai mei*).  
 pencil yet not  
 ‘Speaking of this group of students, I have sent [them] that book (, but not pencils).’
- c. Ni song-guo shei na ben shu?  
 you send-PERF who that CL book  
 ‘To whom have you sent that book?’
- d. Wo, [ *na ben shu* ]<sub>T</sub> (a), [ *zhe qun xuesheng* ]<sub>F</sub> song-guo-le  
 I that CL book PART this group student send-EXP-PERF  
 ( *qita ren hai mei*).  
 other person yet not  
 ‘As for that book, it is this group of students that I have sent already (, but not other people).’

Furthermore, if this proposal is on the right track, it is predicted that a hierarchical relation between medial Topic/Focus and other functional projections can be found as well. Assuming that emphatic *shi* hosting an independent functional projection in the split-INFL domain, Hsu (2005) and Hsu and Ting (2008) argue that modals in Chinese show a layered structure where the epistemic modal (indicating possibility/necessity) precedes emphatic *shi* that is followed by the deontic modal (indicating obligation/permission). These modals, then, precede the dynamic modal (indicating volition/ability). The structure is schematized as follows (from Hsu 2005):

- (32) TP – Epistemic modal – the emphatic *shi* – Deontic modal – Dynamic modal – vP

According to the preceding discussion, a preposed object can either appear before emphatic *shi* or form a constituent with it; we may predict that the preposed object cannot occur after deontic and dynamic modals, since these two modal projections are lower than emphatic *shi*. As predicted, examples (33) to (35) show that the preposed object can either precede or follow the epistemic modal, but has to precede deontic and dynamic modals. These examples again support the proposed structure that the medial domain where Topic and Focus occur is outside of the vP domain.

(33) Epistemic modal:

- a. Zhangsan **zhe ben shu<sub>i</sub>** yinggai kan-de-wan e<sub>i</sub>.  
 Zhangsan this CL book should read-RESULT-finish  
 ‘It is probably the case that Zhangsan is able to finish reading this book.’
- b. ?Zhangsan yinggai **zhe ben shu<sub>i</sub>** kan-de-wan e<sub>i</sub>.  
 Zhangsan should this CL book read-RESULT-finish  
 ‘It is supposed to be the case that Zhangsan is able to finish reading this book.’

(34) Deontic modal:

- a. Zhangsan **zhe ben shu<sub>i</sub>** keyi dai e<sub>i</sub> huijia.  
 Zhangsan this CL book can bring back-home  
 ‘Zhangsan can (=is allowed to) bring this book home.’
- b. \*Zhangsan keyi **zhe ben shu<sub>i</sub>** dai e<sub>i</sub> huijia.  
 Zhangsan can this CL book bring back-home

(35) Dynamic modal:

- a. Zhangsan **zhe ben shu<sub>i</sub>** nenggou kan-de-wan e<sub>i</sub>.  
 Zhangsan this CL book can read-RESULT-finish  
 ‘Zhangsan can (=is able to) finish reading this book.’
- b. \*Zhangsan nenggou **zhe ben shu<sub>i</sub>** kan-de-wan e<sub>i</sub>.  
 Zhangsan can this CL book read-RESULT-finish

The result of the present study has shown that Topic is structurally higher than Focus in the sentence medial domain and that emphatic *shi* (at the FocP) only marks Focus but it is not compatible with Topic. Given the data shown in examples (33) to (35), I assume that when the preposed object is interpreted as Topic, it is licensed above emphatic *shi* and so precedes deontic and dynamic modals. When the preposed object is interpreted as Focus, it is licensed at the FocP, and thus it follows epistemic modals but precedes deontic and dynamic modals. In (36), I summarize the distribution of the preposed object in relation to different types of modals (OK marks positions where preposed objects can occur; \* indicates unacceptable positions). I argue that the preposed object is moved to the medial domain as either Topic or Focus depending on the information package that is available in the discourse, and that Topic and Focus can co-occur in the medial domain (but in this particular order).

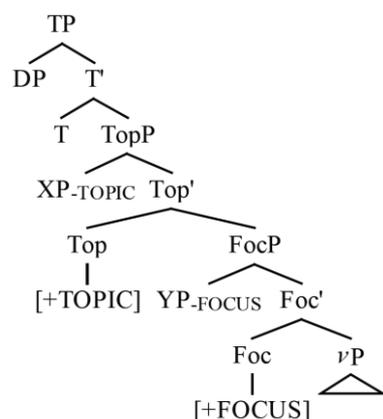
(36) TP-<sup>OK-Top</sup>-Epistemic-<sup>OK-Top</sup>-**emphatic sh**-<sup>OK-Foc</sup>-Deontic-\*--Dynamic-\*--  
 vP

I have shown that various phenomena related to this construction are accounted for straightforwardly under the proposed analysis, including the roles of the information structure conveyed by the preposed object and other nominals, the fixed ordering of Topic and Focus in the medial domain, the relative distributions of sentential adverbs and modals, and the compatibility/incompatibility of emphatic *shi*. In the section to come, I will argue that the proposed analysis and structure can be extended to other constructions.

#### 4. Base-generated nominalized VPs as Topic/Focus in the medial domain

In Section 2, I showed that the medial domain (between TP and *v*P) is relevant to information structure. In Section 3, I showed that various syntactic properties and interpretations of the preposed objects are captured under the proposed structure of Topic and Focus. In this section, I further extend the scope of research and show that the proposed analysis can account for various facts through a unified account. Specifically, I argue that the structure (22) proposed for the preposed object construction can also account for verb phrases in the medial domain. I claim that VPs occur in the medial domain are base-generated nominalized VPs as Topic (under the TopP) or Focus (under the FocP), where they get the appropriate interpretation. In addition, as nominalized VPs, they do not allow aspectual affixation (which is a verbal property, but not a nominal one). Given the proposal, we would expect to see two phrases co-occur in the medial domain serving as Topic and Focus, as shown exactly in example (37).

(22) TopP and FocP in the medial domain



We continue with the scenario in which Mary has a crush on Zhangsan and asks Zhangsan's best friend for more information about Zhangsan. She does not know that

Zhangsan is not good at sports. The following discourse shows that phrases other than bare nouns can occur in the medial domain.

(37) a. Mary:

Tingshuo Zhangsan hui [qi ma ]?  
 hearsay Zhangsan can ride horse  
 ‘I heard that Zhangsan can do horse riding; is it correct?’

b. Zhangsan’s best friend:

Bu keneng. Ta [qi ma ]<sub>T</sub> (a) [lian zuo zai  
 not possible he ride horse PART even sit at  
 mini ma shang dou]<sub>F</sub> [hen jinzhang]!  
 mini horse top all very nervous  
 ‘Impossible. Speaking of horse riding, he gets very nervous even when  
 [he] sits on a mini horse!’

c. Mary:

(Na) Zhangsan [zuo yundong] (a) zui xihuan shenme  
 PART Zhangsan do exercise PART most like what  
 yundong ne?  
 sport Q.PART  
 ‘Speaking of doing exercise, what kind of sport does Zhangsan like most?’

d. Zhangsan’s best friend:

Ta [zuo yundong]<sub>T</sub> (a) zhiyou [da duobi-qiu ]<sub>F</sub>  
 he do sport PART only play dodge-ball  
 [wan-de zui qijinger ].  
 play-RESULT most vigorously  
 ‘Speaking of doing sport, he is only into playing dodge ball.’

Example (37) shows that between the subject and the main predicate, there are two VPs in the medial domain. Such VPs are base-generated, since no other positions inside of the main predicate may hold these phrases. In addition, while the main predicate of (37b) is *hen jinzhang* ‘very nervous’, the VPs in the medial domain do not have to use verbs that are identical to the main predicate. A similar fact is found in (37d) as well. We can see that after the subject, the first VP in the medial domain is identified as Topic, and the VP after the first VP is identified as Focus. In (37b) it is marked as the *even*-Focus, and in (37d) it is the answer to the *wh*-question. The nominal modifier *zhiyou* ‘only’ in (37d) further supports the claim that VPs in the medial domain are nominalized VPs.

Similar to the preposed object construction, VPs in the medial domain can carry various roles of information structure. Thus, when there is only one VP in the medial domain, the interpretation of the sentence medial VPs varies depending on the discourse. Example (38b) shows that when the VP in the medial domain is the answer to the *wh*-question, it is Focus; however, the same phrase may be used as Contrastive Focus or as Topic, as shown in (38d) and (38f), respectively.

(38) a. Mary:

(Na) Zhangsan hai hui shenme ne?  
 PART Zhangsan else know what Q.PART  
 ‘What else is Zhangsan capable of?’

b. Zhangsan’s best friend:

Zhangsan [shuo fayu ]<sub>F</sub> hai ting liuli.  
 Zhangsan speak French rather quite fluent  
 ‘Zhangsan is quite fluent in speaking French.’

c. Mary:

Suoyi, Zhangsan [xue deyu ] xue-le hen duo nian.  
 so Zhangsan study German study-PERF very many year  
 ‘So, Zhangsan has studied German for many years.’

d. Zhangsan’s best friend:

Bu shi! Zhangsan shi [xue fayu ]<sub>CF</sub> xue-le hen  
 No be Zhangsan EMP study French study-PERF very  
 duo nian.<sup>13</sup>  
 many year  
 ‘No. It is studying French that Zhangsan has studied for many years.’

e. Mary:

(Na) Zhangsan [xue fayu ] ji nian le?  
 PART Zhangsan study French how.many year PERF  
 ‘How many years has Zhangsan studied French?’

<sup>13</sup> As it is pointed out by a reviewer, sentence (38d) and example (i) seem to be interchangeable.

(i) Zhangsan shi [fayu ]<sub>F</sub> xue-le hen duo nian.  
 Zhangsan EMP French study-PERF very many year  
 ‘It is French that Zhangsan has studied for many years.’

I suggest that sentences like (i) can be analyzed on a par with the preposed object construction. In the later sections, I will show that sentences like (38d) involve base-generated VP in the medial domain. I suppose that the choice between (38d) and (i) is related to whether an event is focused, or simply the entity in a relevant event is focused, and that the choice between these two expressions is pre-determined by the speaker’s presupposition.

f. Zhangsan's best friend:

Ta [ xue fayu ]<sub>T</sub> xue-le [ wu nian]<sub>F</sub>.  
 he study French study-PERF five year  
 'He has studied French for five years.'

Examples (37) and (38) show that base-generated VPs in the medial domain can bear different roles of information structure when there is an appropriate context. The discourse (38a-b) supports the claim that those base-generated VPs are nominalized VPs, since they can be used as answers to the *wh*-nominal phrase, *shenme* 'what'. In other words, such base-generated nominalized VPs can be either Topic or Focus in the medial domain, as shown in (38)). Also, it is possible for them to co-occur in the medial domain (e.g., (37)). These examples show that the verbs of those VPs do not have to coincide with the main predicate of the sentence. Based on this observation, I would then like to show that some syntactic restrictions related to these sentences come as a natural result of the proposed analysis.

Given that Topic, but not Focus, can be replaced by a *pro*, we expect to see the same contrast with respect to VPs in the medial domain. The inference is justified. In example (38e-f) (repeated below), *xue fayu* 'study French' serves as Topic in the medial domain, and it can be replaced by a *pro* (e.g., if one uses (39) to answer question (38e)).

- (38) e. Zhangsan [ xue fayu ] ji nian le?  
 Zhangsan study French how.many year PERF  
 'How many years has Zhangsan studied French?'  
 f. Ta [ xue fayu ]<sub>T</sub> xue-le [ wu nian]<sub>F</sub>.  
 he study French study-PERF five year  
 'He has studied French for five years.'
- (39) Ta [*pro*]<sub>T</sub> xue-le [ wu nian]<sub>F</sub>.  
 he study-PERF five year  
 'He has studied [French] for five years.'

However, if *xue fayu* 'study French' is used as Focus of the sentence, it cannot be replaced by a *pro* (e.g., (40)).

- (40) a. Ni shuo Zhangsan shenme xue-le wu nian?  
 you say Zhangsan what study-PERF five year  
 'What did you say that Zhangsan has studied for five years?'

- b. Ta [xue fayu]<sub>F</sub> xue-le wu nian.  
 he study French study-PERF five year  
 ‘He has studied French for five years.’
- c. \*Ta [*pro*]<sub>F</sub> xue-le wu nian.  
 he study-PERF five year  
 ‘He has studied [French] for five years.’

The proposed structure requires that Topic must precede Focus in the medial domain. We can see that example (37b) (repeated below) have Topic and Focus co-occur in the medial domain, but when the order of Topic and Focus is changed, the sentence becomes ungrammatical, as shown in (41). The contrast between (37b) and (41) supports the proposal that Topic and Focus can co-occur in the medial domain but only in a fixed order, i.e., Topic precedes Focus.

- (37) b. Bu keneng. Ta [**qi** ma]<sub>T</sub> (a) [*lian zuo zai*  
 not possible he **ride** horse PART *even sit* at  
 mini ma shang *dou*]<sub>F</sub> [**hen jinzhang**]!  
 mini horse top *all* very nervous  
 ‘Impossible. Speaking of horse riding, he gets very nervous even when  
 he sits on a mini horse!’
- (41) \* Ta [*lian zuo zai* mini ma shang *dou*]<sub>F</sub> [**qi** ma]<sub>T</sub> (a)  
 he *even sit* at mini horse top *all* **ride** horse PART  
**hen jinzhang**!  
 very nervous

The difference becomes even clearer with respect to the compatibility of emphatic *shi*. Example (42) shows that *zuo yundong* ‘do exercise’ (licensed at TopP) is not compatible with emphatic *shi*, but its following phrase, *da wangqiu* ‘play tennis’ (licensed at FocP), is.

- (42) Ta (\**shi*) [zuo yundong]<sub>T</sub> (*shi*) [da wangqiu]<sub>F</sub> keyi [<sub>VP</sub>[<sub>VP</sub>  
 he EMP do exercise EMP play tennis can  
 da haoji xiaoshi]].  
 play several hour  
 ‘Speaking of doing exercise, it is playing tennis that he can do for many  
 hours.’

#### 4.1 Copy the verb or not?

To the best of my knowledge, among examples shown in (37) and (38), only sentences like (38f) are discussed in the previous literature, which is generally referred to as the Verb Copying Construction (Cheng 2007, Fang and Sells 2007, and Gouguet 2006) or the phenomenon of Verb Duplication (Huang 1982, 1992, and Tang 1990). In this section, I will show that sentences like (37) and (38) come as the natural consequence of the proposed analysis. I argue that the present proposal not only explains properties of the so-called Verb Copying Construction (hereafter VCC), but also accounts for more data than the previous analyses.

Huang (1982, 1992) argues for a VP adjunction analysis of VCC. He claims that such duplication of the verb is triggered by a PF filter that requires an extra copy of the verb to take an extra complement, and the “original” VP1 is reanalyzed to function as an adverbial of the “duplicated” V2. Together, they form a complex VP. His proposed structure is shown in (43).

- (43) Ta [VP [VP1' qi<sub>original</sub> ma ] [V2 qi<sub>duplicated</sub>-le san ge xiaoshi]].  
 he ride horse ride-PERF three CL hour  
 ‘He rode horses for three hours.’

In order to deal with different interpretations of the resultative clause, following Nunes’ (2004) movement theory, Cheng (2007) shows an insightful proposal that sentences with the subject-reading (e.g., (44a)) are derived by sideward movement, and sentences with the object-reading (e.g., (44b)) involve standard movement.

- (44) Ta qi na pi ma qi-de hen lei.<sup>14</sup>  
 he ride that CL horse ride-RESULT very tired  
 a. ‘He rode the horse and became very tired as a result.’ (subject-reading)  
 b. ‘He rode the horse and the horse got very tired as a result.’  
 (object-reading)

Assuming that Move is decomposed as Copy and Merge, Nunes (2004) proposes that the Standard Movement is done through the realization of multiple copies that are merged consecutively in the derivation. Copies form a chain, and then “Chain

<sup>14</sup> As it is pointed out by Huang (1992), sentences with a resultative predicate can be ambiguous; in this paper I adopt Huang’s (1992) analysis of the resultative clauses and his analysis toward different interpretations, as shown in (i):

(i) Zhangsan [ qi-de [sc PRO hen lei ]].  
 Zhangsan ride-RESULT very tired  
 ‘Zhangsan rode and got very tired.’

reduction” applies, deletes non-trivial chain and decides which copy to be pronounced based on the Linear Correspondence Axiom, as proposed by Kayne (1994). In addition to this Standard Movement, since Copy and Merge are treated as separate actions, the system need not require the latter copy to merge with the structure that contains the former copy. As it is shown in (45a), Merge creates the syntactic unit  $K$ , which contains a sub-unit  $\alpha^i$ , and then Copy creates a copy of  $\alpha^i$ . Instead of merging this copy of  $\alpha^i$  with a larger structure containing  $K$  in the derivation, since there is a syntactic element  $L$  that is available, Merge allows the copy of  $\alpha^i$  to merge with  $L$ , and they form a separate structure  $M$ , as shown in (45b).

(45) Nunes (2004: 90) Sideward Movement:

- a. [ $K \dots \alpha^i \dots$ ] Copy  $\alpha^i$  ;[ $L \dots$ ]
- b. [ $K \dots \alpha^i \dots$ ]; [ $M \alpha^i [L \dots]$ ]

Following Nunes (2004) and Sybesma (1999), Cheng assumes that the resultative *de*-clause in sentences of subject reading contains the subject noun phrase; the subject raises to be the matrix subject, after the *de*-clause has merged with an ergative ‘ride’; her structure is shown in (46).

(46) Cheng (2007: 158): for the resultative *de*-clauses with subject reading

[<sub>IP</sub> he [<sub>VP</sub> ride [<sub>deP</sub> *de* he tired]]].

Based on the structure (46), Cheng proposes that Copy creates a copy of the verb *qi* ‘ride’; this copy merges with an available nominal and forms another VP, *qi ma* ‘ride horse’.

(47) a. [<sub>IP</sub> Ta [<sub>VP</sub> qi [<sub>deP</sub> de he lei ]]].

he ride de he tired

→ Copy: qi ‘ride’

Merge: V-qi ‘ride’, DP-ma ‘horse’

b. [<sub>IP</sub> Ta [<sub>VP</sub> qi [<sub>deP</sub> de he lei ]]]; [<sub>VP</sub> qi [<sub>DP</sub> ma ]].

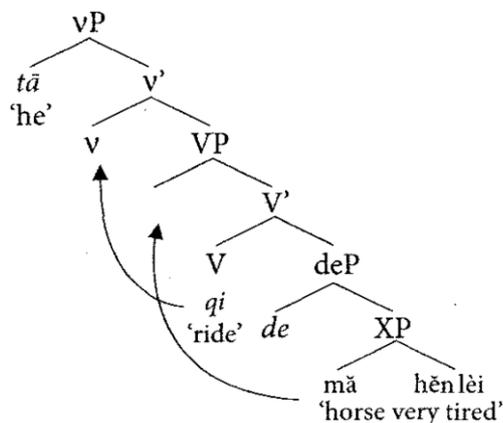
he ride de he tired ride horse

The VP that is formed by Sideward Movement merges with another VP through adjunction. Thus, her proposal for the sentence of subject reading (44a) resembles Huang’s adjunction analysis in (43).

To account for the object reading (44b), Cheng assumes that “the copied verb can occupy the small *v*, just like *ba*” (Cheng 2007:157) and argues that after the verb

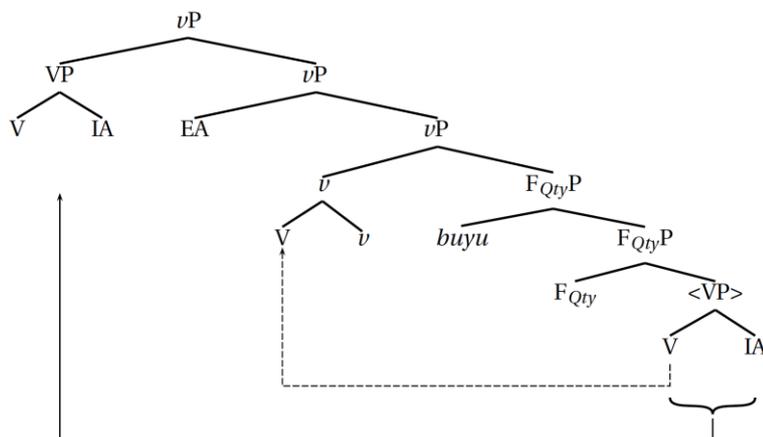
moves from V to *v*, the lower copy is fused with *-de* morphologically. The object *ma* ‘horse’ is then moved to Spec, VP to derive the sentence of object reading. Her structure is shown in (48).

(48) Cheng (2007): for the object reading (44b)



Along the line of VP analysis, Gouguet (2006) proposes that VCC is derived by head-adjoining V to *v*, and that the lower VP moves as a constituent to merge with *vP*. Based on the c-command relation between copies of V, Gouguet argues that only the highest VP and the V with *v* are pronounced, while the lower VP being c-commanded by the upper one remains unpronounced.

(49) Gouguet (2006:161): the verb-copying construction<sup>15</sup>



These VP analyses account for the fact that the VP in the medial domain has to precede the main predicate (i.e., *kan<sub>2</sub>* in *kan<sub>2</sub> le san ge xiaoshi* ‘has read three hours’ in (50)).

<sup>15</sup> According to Gouguet (2006), the projection  $F_{Qty}$  (for "quantity") is associated with telic aspect which is used to host postverbal adverbials in VCC.

- (50) a. Ta [ kan<sub>1</sub> shu ] [ kan<sub>2</sub>-le san ge xiaoshi].  
 he read book read-PERF three CL hour  
 ‘He read books for three hours.’  
 b. \* Ta [ kan<sub>2</sub>-le san ge xiaoshi] [ kan<sub>1</sub> shu ].  
 he read-PERF three CL hour read book

Gouguet’s (2006) and Huang’s (1982) analyses also capture the generalization that the sentence medial VP does not allow aspectual affixation, but only the main verb takes aspect affixes. The contrast is shown in (51).

- (51) a. Ta [ kan<sub>1</sub> shu ] [ kan<sub>2</sub>-le san ge xiaoshi].  
 he read book read-PERF three CL hour  
 ‘He read books for three hours.’  
 b. \* Ta [ kan<sub>1</sub>-le shu ] [ kan<sub>2</sub> san ge xiaoshi].  
 he read-PERF book read three CL hour  
 c. \* Ta [ kan<sub>1</sub>-le shu ] [ kan<sub>2</sub>-le san ge xiaoshi].  
 he read-PERF book read-PERF three CL hour

However, it is not clear how Cheng (2007) prevents the sentence medial V from taking aspect markers, if the main verb at *v* is a copy of the main verb at V. Moreover, putting aside the problem of what motivates the V to *v* movement (which is unclear in Cheng (2007) and Gouguet (2006)), under the movement or Copy mechanism, the PF requires verbs to be identical in this construction. Sentences like (52) would be problematic to those VP analyses, which rely on the verb movement/copy or the PF duplication, since no identical copies of the verb are observed.

- (52) Zhangsan [<sub>VP1</sub> **tou** qiu ] zongshi [<sub>VP2</sub> **miao** bu zhun lankuang ].  
 Zhangsan shoot ball always aim not sharp goal.frame  
 ‘Zhangsan always misses the goal while shooting the basketball.’

It is true that following those aforementioned VP analyses, one may argue that sentences like (52) involve a different kind of construction. However, taking this approach, we will need to complicate the system to explain all the properties that are shared by VCC and sentences like (52) and those in (37) and (38).

In addition, there are other facts that are problematic to these VP analyses. For example, it is not clear why the partial VP element can be moved out of its original complex VP and occurs before a modal that is generally assumed to be external to the VP domain (e.g., the dynamic modal *keyi* ‘can’ in (53)).

- (53) Zhangsan [VP1 **kan shu**] keyi kan<sub>2</sub> hao ji xiaoshi.  
 Zhangsan read book can read good several hour  
 ‘Zhangsan can read books for many hours.’

Assuming the V-to-*v* derivation, one may also wonder how the distribution of the *ba*-phrase is explained in VCC. According to Li’s (2006) analysis of *ba*-phrases in Chinese, *ba* is a functional category heading a projection that dominates VP and has a status similar to *v*P. Cheng’s (2007) and Gouguet’s (2006) analyses would obviate the co-occurrence of the *ba*-phrase and VP1, since the verb in VCC undergoes V to *v* movement. Conversely, *ba*-phrases are allowed in VCC. Example (54) shows that the *ba*-phrase occurs between the main predicate and the sentence medial VP, but cannot precede the sentence medial VP (i.e., (54a)) or follow the main verb (i.e., (54c)). Particularly, in the aforementioned VP analyses of VCC, it is not clear why *ba*-phrases never precede a complex verb-copying predicate, as shown in (54a).

- (54) a. \*Ta **ba ma** [VP1 xunlian<sub>1</sub> ma ] xunlian<sub>2</sub>-de hen hao.  
 he BA horse train horse train-RESULT very well  
 ‘He trains horses very well.  
 b. Ta [VP1 xunlian<sub>1</sub> ma ] **ba ma** xunlian<sub>2</sub>-de hen hao.  
 he train horse BA horse train-RESULT very well  
 c. \*Ta [VP1 xunlian<sub>1</sub> ma ] xunlian<sub>2</sub>-de **ba ma** hen hao.  
 he train horse train-RESULT BA horse very well

Even more importantly, examples (53) and (54) show that the sentence medial VP sits in a domain higher than the *v*P periphery, since it can precede a modal (53), but never follows the *ba*-phrase (54).

Taking a different type of VP analysis together with an insightful examination of Classical Chinese, Fang and Sells (2007) argue that the apparent VCC in fact involves a coordination of VPs in which the first VP subsumes the second VP semantically. Their argument is based on sentences like (55), in which more than one VP is allowed in a sentence and such VPs are headed by the same verb.

- (55) Ta [wan *youxi*] [wan-le *yi tian*] [wan-de *hen lei*].  
 he play game play-PERF one day play-RESULT very tired  
 ‘He played games for a day and was very tired.’

Although Fang and Sells’s (2007) analysis of VP coordination seems to be able to account for sentences involving different types of verbs and sentences with more than

one VP, the generalization they draw from (55) is incorrect. I would like to point out that the phenomenon at issue should be distinguished from VP coordination. First, let's consider example (56), which shows that two VP conjuncts are allowed to switch order.

- (56) a. Ta [<sub>VP1</sub> kan shu ] ye [<sub>VP2</sub> mai shu ].  
           he       read book   and-also    buy book  
           ‘He reads books and also buys books.’
- b. Ta [<sub>VP2</sub> mai shu ] ye [<sub>VP1</sub> kan shu ].  
           he       buy book   and-also    read book  
           ‘He buys books and also reads books.’

Following Fang and Sells's analysis of VP coordination, one would expect the order of VPs in VCC to be free as well. This, however, is never the case, as it is already illustrated in example (50). Moreover, Fang and Sells (2007) argue that aspect markers can appear in either VP or in both of them. This is not supported by the fact. As example (51) shows, the sentence medial VPs in the form of V-O never take aspect markers in VCC. Nonetheless, Fang and Sells (2007) provide a nice semantic explanation for examples (50) and (51). Following Zaenen and Kaplan (2002, 2003), Fang and Sells (2007) propose that a subsumption relation holds between the first VP and the second VP. This subsumption relation makes the first VP more general than the second VP. They, thus, suggest that the first VP may be the secondary Topic of the sentence, so that the Topic VP precedes the comment VP (e.g., (50)), and the Topic VP does not allow aspect markers (e.g., (51)). Their suggestion in fact coincides with the proposal of this paper. I also agree with Fang and Sells (2007) that the subsumption relation does make it easier for speakers to select identical verbs to construe the utterance. However, this semantic account alone cannot fully explain the fact that VCC and the VP coordination do not pattern alike syntactically. If VCC indeed involves VP-conjuncts, as claimed by Fang and Sells (2007), sentences like (57b) would be analyzed as involving extraction of a VP-conjunct, which should be ruled out in accordance with some version of the Coordination Structure Constraint (see Ross 1967). The sentence, however, is perfectly acceptable, contrary to the theoretical prediction.

- (57) a. Ta [<sub>VP1</sub> kan shu ] [<sub>VP2</sub> kan-le san ge xiaoshi].  
           he       see book       see-PERF three CL hour  
           ‘He has read books for three hours.’

- b. [<sub>VP1</sub> Kan shu ]<sub>i</sub>, ta t<sub>i</sub> [<sub>VP2</sub> kan-le san ge xiaoshi].  
 see book he see-PERF three CL hour

Unlike (57), extracting one of the VPs from sentences like (58) generates ungrammatical sentences (e.g., (59)).<sup>16</sup>

- (58) a. Zhangsan [ tan-*le* yi tian ] [ tan-*de* hen lei ].  
 Zhangsan play-PERF one day play-RESULT very tired  
 ‘Zhangsan played for a day and was tired.’  
 b. Zhangsan [ tan-*le* yi tian ] [ tan-*le* yi bai bian ].  
 Zhangsan play-PERF one day play-PERF one hundred time  
 ‘Zhangsan played for a day and played one hundred times.’  
 (59) a. \*[tan-*le* yi tian]<sub>1</sub>, Zhangsan t<sub>1</sub> [ tan-*de* hen lei ].  
 play-PERF one day Zhangsan play-RESULT very tired  
 ‘Zhangsan played for a day and was tired.’  
 b. \*[tan-*le* yi tian]<sub>1</sub>, Zhangsan t<sub>1</sub> [ tan-*le* yi bai  
 play-PERF one day Zhangsan play-PERF one hundred  
 bian ].  
 time  
 ‘Zhangsan played for a day and played one hundred times.’

Thus, with a little closer attention, the contrast between (57) and (59) shows that sentences in (58) indeed involve VP coordinations: (58a) coordinates a predicate containing a duration phrase and a predicate containing a resultative phrase. Example (58b) involves the coordination of two predicates both containing a duration phrase. Such sentences should be distinguished from the phenomenon at issue, which involves two base-generated nominalized VPs under projections that dominate the main predicate. Sentences in (58) therefore cannot be treated on a par with VCC or the phenomenon mentioned in the previous sections.

## 4.2 A unified account

The discussion in the previous sections leads us to conclude that it is inappropriate to analyze VCC by elaborating the VP-internal structure through V-duplication,

<sup>16</sup> (59a) should not be confused with (i), which involves coordination of two clauses (i.e., CPs).

(i) [pro<sub>i</sub> [ tan-*le* yi tian ] *le* ], [ Zhangsan<sub>i</sub> [ tan-*de* hen lei ]].  
 play-PERF one day PERF Zhangsan play-RESULT very tired  
 ‘[He] has been practicing the whole day; Zhangsan is very tired.’

For this sentence to be acceptable, another aspectual marker *le* is needed at the end of the clause.

V-to-v movement or VP coordination. I therefore reject VP-analyses. In fact, as we have seen at the beginning of Section 4, the proposed Topic and Focus analysis can account for more data and capture all the facts related to VCC. I agree with Fang and Sells (2007) on their semantic explanation, and argue that the current proposal directly implements such subsumption relation in the syntactic structure, i.e., Topic subsumes and thus precedes Focus in the medial domain (e.g., (50)), and the nominalized property of Topic and Focus that prevents them from carrying finite morphology (e.g., (51)). In addition, the proposed structure argues that nominalized VPs in the medial domain are between TP and vP, which in turn, explains the distribution of *ba*-phrases in VCC (e.g., (54)).<sup>17</sup> There are examples that further support the current proposal and the structure (22). First, consider examples (60) and (61). They show that the VP in the medial domain can be Topic (as in (60)) or Focus (as in (61)). When such a VP is the Topic, it may be replaced by a *pro*, but it is obligatory, when it is the Focus.<sup>18</sup>

<sup>17</sup> I assume that when Topic/Focus VPs are base-generated in the medial domain, they must comply with the argument structure of their head verbs. Example (ia) shows that an intransitive verb like *ku* ‘cry’, still does not allow extra complements, whereas a ditransitive verb like *song* ‘give’ can take both direct and indirect objects (ib).

- (i) a. \*Ta [Intransitive+OBJ *ku yanjing*] [ *ku-de yanjing tong*].  
 she cry eye cry-RESULT eye hurt  
 ‘She cried and had a pain in her eyes.’  
 b. Ta [Ditransitive+IO+DO *song Zhangsan zhe ge liwu*] [ *song-de hen hao* ].  
 he give Zhangsan this CL present give-RESULT very good  
 ‘As for giving Zhangsan this present, he did it very well.’

It seems impossible to license an intransitive verb alone in the medial domain, as in (ii).

- (ii) ?\*Ta [ *ku* ] [ *ku-de yanjing tong*].  
 she cry cry-RESULT eye hurt  
 ‘She cried and had a pain in her eyes.’

In fact, a phonological break, a pause (#), is required between two instances of *ku* ‘cry’ to improve the acceptability, as in (iii).

- (iii) ? Ta [ *ku* ]# [ *ku-de yanjing tong*].  
 she cry cry-RESULT eye hurt  
 ‘She cried and pained her eyes.’

A reviewer also points out that modifying the monosyllabic verb into a disyllabic phrase, *da ku* ‘bawl’, improves the acceptability (e.g., (iv)). Stuart Davis (personal communication) suggests that this disyllabic phrase forms a prosodic phrase by itself, and thus it can avoid the adjacency effect.

- (iv) Ta [ *da ku* ]# [ *ku-de yanjing tong*].  
 she big cry cry-RESULT eye hurt  
 ‘She bawled and pained her eyes.’

Similarly, as it is shown in (v), when phrases like a sentential adverb and a modal intervene between these dual verbs, sentences are acceptable.

- (v) Ta [ *ku* ] *dagai keyi* [ *ku haoji xiaoshi*].  
 she cry probably can cry several hour  
 ‘Speaking of crying, she probably can cry many hours.’

These examples suggest that (ii) may be ruled out by a PF constraint that has an effect of prohibiting adjacent identical elements from forming a prosodic phrase; thus, examples (iii) to (v) are greatly improved when such PF constraint is satisfied.

<sup>18</sup> A reviewer points out that sentences like (60c) may change its interpretation after the VP1 is omitted. I partly agree that without a context (i.e., when such a sentence is presented alone without the discourse, and when the VP1 is not expressed), the sentence may bear the Theme interpretation of

- (60) a. Lisi [ xunlian ma ] xunlian-de zenmeyang?  
 Lisi train horse train-RESULT how  
 ‘How is Lisi’s horse training going?’
- b. Ta [ xunlian ma ]<sub>T</sub> (a) xunlian-de hen hao.  
 he train horse PART train-RESULT very well  
 ‘He trains horses very well.’
- c. Ta [pro]<sub>T</sub> (a) xunlian-de hen hao.  
 he PART train-RESULT very well  
 ‘He trains [horses] very well.’
- (61) a. Ni zuotain shuo Lisi shenme xunlian-de hen hao?  
 you yesterday say Lisi what train-RESULT very well  
 ‘Yesterday, what did you say that Lisi trains very well?’
- b. Ta [ xunlian ma ]<sub>F</sub> xunlian-de hen hao!  
 he train horse train-RESULT very well  
 ‘He trains horses very well.’
- c. \*Ta [pro]<sub>F</sub> xunlian-de hen hao!  
 he train-RESULT very well  
 ‘He trains [horses] very well.’

Furthermore, the relative order of sentential adverbs (e.g., *xianran* ‘obviously’ in (62)) suggests that the sentence medial VP is licensed in the domain higher than *vP/VP*. The distribution of modals demonstrates the same point (e.g., the epistemic modal *yinggai* ‘should’ in (63)).

- (62) Ta ( xianran ) [ **qi ma** ] ( xianran ) [ **qi-de** ] (\* xianran )  
 he obviously ride horse obviously ride-RESULT obviously  
**hen lei** ].  
 very tired  
 ‘Obviously, he got very tired because of riding horses.’

the training event or the Agent interpretation. However, with the help of the discourse, such sentences are disambiguated in the relevant contexts. When the sentence medial VP serves as Topic in (60b) and is omitted, the speaker as well as the hearer would still acknowledge the previously mentioned interpretation of that VP, and the Agent interpretation should be maintained. However, in a totally different discourse, like (i), the sentence (ib) bears the Theme interpretation (, where the Agent interpretation is not available). That is, both interpretations can be available when the sentence is used in different contexts, not simultaneously.

- (i) a. Lisizai kongsi xunlian-de zenmeyang?  
 Lisiat company train-RESULT how  
 ‘How does Lisi’s (employee) training go in the company?’
- b. Ta xunlian-de hen hao.  
 he train-RESULT very well  
 ‘He is trained very well.’

- (63) Ta (yinggai) [ **kan shu** ] (yinggai) [ **kan-le** (\*yinggai)  
 he should see book should see-PERF should  
**shi ge xiaoshi**].  
 ten CL hour  
 ‘He should have read books for 10 hours.’

Sentences like (62) and (63) support the present analysis of distinct functional projections. Sentences with emphatic *shi* further indicate the distinction between Top-VP and Foc-VP in the medial domain. As it is shown in (64a), *xue zhongwen* ‘learn Chinese’ is the Focus of the sentence, so it is compatible with emphatic *shi*. However, in (64b), the same sequence with a Topic interpretation is not compatible with emphatic *shi*.

(64) a. Focus

- Wo [ **shi xue zhongwen**]<sub>F</sub> xue-le wu nian (, **bu shi**  
 I EMP learn Chinese learn-PERF five year ( not be  
**xue hanyu**).  
 learn Korean)  
 ‘It is learning Chinese that I spent five years, not learning Korean.’

b. Topic

- \*Wo [ **shi** [ xue zhongwen]<sub>T</sub>] **xue-le wu nian** (, **bu shi**  
 I EMP learn Chinese learn-PERF five year not be  
**si nian** ).  
 four years  
 ‘Speaking of learning Chinese, it is five years that I spent learning it, not six years.’

## 5. CP Topic/Focus vs. TP Topic/Focus

Assuming Topic and Focus in the CP domain in Chinese, I have shown in the previous sections that Topic and Focus can be realized in the TP domain in Chinese. Given the result of this study, one may wonder whether TopP and FocP in the TP domain function in the same way as TopP and FocP in the CP domain. Although the data that will be presented in this section are far from conclusive, I would like to show that there are facts which suggest differences of Topic/Focus in CP and TP domains with respect to semantics/pragmatics and syntax.

First, I would like to suggest the association between *contrastivity* and the TP domain, and *exhaustivity* and the CP domain. It has been reported in the literature that

without context, when there is only one phrase in the medial domain, a contrastive interpretation is easily available (see Ernst and Wang 1995, Huang et al. 2009, Shyu 1995, 2001, Tsai 1994, among others). *Exhaustivity*, on the other hand, is more commonly addressed in the discussion of matrix *wh*-questions and the cleft construction due to their quantificational property. In other words, although both CP and TP domains can host various types of information structural roles, *contrastivity* is easily available and is sometimes preferred in the TP domain. It is reported by Shyu (2001) that when sentences are presented without contexts, the acceptability of OSV order is often higher than SOV order, but the acceptability of SOV sentences is improved when an appropriate contrastive context is available. In addition, an anonymous reviewer pointed out that sentences like (65) is not acceptable. This observation is intriguing because in general, a definite nominal is allowed to be preposed to the TP domain or to the CP domain, as shown in (66).

(65) %Wo *zhe pian lunwen*<sub>1</sub> (zheng ) zai-kan e<sub>1</sub>.

I this CL paper (right.now) PROG-read  
‘This paper, I am reading [it].’

(66) a. Wo *zhe pian lunwen*<sub>1</sub> kan-le e<sub>1</sub>.

I this CL paper read-PERF  
‘This paper, I have read [it].’

b. *Zhe pian lunwen*<sub>1</sub> wo (zheng ) zai-kan e<sub>1</sub>.

this CL paper I (right.now) PROG-read  
‘This paper, I am reading [it].’

Interestingly, if we modify the progressive aspect in (65) with *hai* ‘still’, the sentence becomes acceptable.

(67) Wo *zhe pian lunwen*<sub>1</sub> hai zai-kan e<sub>1</sub>.

I this CL paper still PROG-read  
‘This paper, I am still reading [it].’

Following Ernst (2002) and Liu (2000), I suggest that the aspectual adverb, *hai* ‘still’, denotes a relation between two propositions (two temporal events), and that *hai* ‘still’ marks the contrast between the current reference-time and the time in another proposition. The contrast between (65) and (66b) suggests that when *contrastivity* would be required by certain propositions with the medial elements, there is no such requirement in the CP domain. Data of *wh*-preposing seem to suggest a similar distinction between CP and TP domains as well. Paul (2005) observes that asking two

contrastive *wh*-questions in one coordinated sentence is allowed, but such *wh*-phrases cannot be preposed to the left periphery (e.g., (68)).<sup>19</sup>

- (68) a. [TP Ni [VP renshi shei], [VP bu renshi shei]]?  
 you know who not know who  
 ‘Whom do you know and whom don’t you know?’  
 b. \*[CP Shei<sub>1</sub> [TP ni<sub>3</sub> renshi t<sub>1</sub>], [CP shei<sub>2</sub> [TP pro<sub>3</sub> bu renshi t<sub>2</sub>]]?  
 who you know who not know  
 ‘Whom do you know and whom don’t you know?’

However, unlike example (68b), preposing such contrastive *wh*-phrases to the medial domain is acceptable (e.g., (69)).

- (69) [TP Ni [shei<sub>1</sub> renshi t<sub>1</sub>], [shei<sub>2</sub> bu renshi t<sub>2</sub>]].  
 you who know who not know  
 ‘Whom do you know and whom don’t you know?’

Examples (65) to (69) seem to support the proposed association of the TP domain with *contrastivity*.

Relating *exhaustivity* to the CP domain is not novel. In his experimental study on Japanese exhaustive Focus, Kitagawa (2009) shows that the prosodic pattern that is tightly associated with exhaustivity is required by the matrix *wh*-questions, but it is not required by other questions. Although a related phonological study is beyond the scope of present research, we can still find some syntactic facts that support this idea. Following Kiss (1998, 2009, 2010), I assume that the cleft construction conveys

<sup>19</sup> I acknowledge that the ungrammaticality of (68b) may be due to reasons in addition to what concerns us here. Since the *wh*-object in each conjunct is referentially independent, this sentence could be an instance of ellipsis, and thus the silent subject needs to look for antecedent from the preceding clause. Assuming that ellipsis requires structural identity, in (68b), the clause containing the elided element involves negation, which is not identical to its preceding clause. Also, the animacy of the *wh*-phrase seems to be at work; when the *wh*-objects are inanimate, sentences are less degraded, as (i).

- (i) ?? Shenme dongxi<sub>1</sub> [ni<sub>3</sub> mai-le t<sub>1</sub>], shenme dongxi<sub>2</sub> [pro<sub>3</sub> hai mei  
 what thing you buy-PERF what thing yet not  
 mai t<sub>2</sub>]?  
 buy  
 ‘What have you bought and what haven’t [you] bought?’

In this case, coordination of two full *wh*-questions is preferred (e.g., (ii)), as it is pointed out to me by a reviewer:

- (ii) [Shei<sub>1</sub>, ni renshi t<sub>1</sub>], er [shei<sub>2</sub>, ni you bu renshi t<sub>2</sub>]?  
 who you know and who you then not know  
 ‘Whom do you know and whom don’t you know?’

However, the interaction of *wh*-questions and ellipsis is beyond the scope of the current study. I leave this issue for future research.

*exhaustivity* syntactically. Given a relevant set determined by the context, the cleft-Focus exhausts the set by excluding the complementary subset. Therefore, the cleft sentence (70b) contradicts the cleft sentence (70a); that is, (70b) is not the logical consequences of (70a), because the *exhaustivity* in (70a) requires that only ‘Peter’ is the relevant Focus.

(70) Hungarian cleft sentences (from Kiss 2010)

- a. [<sub>FocP</sub> Peter [ aludt a padlon ]].  
Peter slept the floor-on  
‘It was Peter who slept on the floor.’
- b. [<sub>FocP</sub> Peter es Pal [ aludt a padlon ]].  
Peter and Paul slept the floor-on  
‘It was Peter and Paul who slept on the floor.’

Interestingly, in English a *wh*-phrase can be clefted (e.g., (71a)). While (71b) can be used as an answer to the question (71a), (71c) is not a preferred answer when it is used to answer the question in (a). This example shows that *exhaustivity* is still at work after the *wh*-phrase is incorporated into a cleft structure.

- (71) a. What was it that John bought?  
b. It was a hat that he bought.  
c. % It was a hat that he bought. He also bought a shirt.

Cheung (2008) proposes that Chinese *wh*-questions preposed to the left periphery should be analyzed on a par with clefted *wh*-questions in English. She points out that emphatic *shi* is preferably used to mark the *wh*-phrases preposed to the CP domain, similar to the regular cleft construction in Chinese. In addition, the same contradiction effect in terms of *exhaustivity* is also found in Chinese in answers to such preposed *wh*-questions. Comparing answers to the preposed *wh*-questions in (72) and (73), we can see that the answer in (73) is pragmatically odd as opposed to the answer in (72).

- (72) a. [( Shi ) shenme dongxi]<sub>F</sub>, Zhangsan mai-le?  
EMP what thing Zhangsan buy-PERF  
‘What was it that Zhangsan bought?’
- b. [ Shi maozi]<sub>F</sub>, ta mai-le.  
EMP hat he buy-PERF  
‘It was a hat that he bought.’

- (73) a. [( Shi ) shenme dongxi]<sub>F</sub>, Zhangsan mai-le?  
 EMP what thing Zhangsan buy-PERF  
 ‘What was it that Zhangsan bought?’
- b. %[ Shi maozi]<sub>F</sub>, ta mai-le. ta ye mai-le chenshan.  
 EMP hat he buy-PERF he also buy-PERF shirt.  
 ‘It was a hat that he bought. He also bought a shirt.’

Second, it has been observed in the literature that movement to the medial domain is clause-bound (see Ernst and Wang 1995, Paul 2005, Shyu 1995 and Ting 1995), but licensing a remote object at the CP domain is allowed. I assume, following Chomsky (2000, 2001, 2005), that tensed CP is a strong phase and that T inherits features from the phase head C. Thus, I argue that such CP can host Topic/Focus, and its relevant TP domain can also host Topic/Focus. Since it is a phase, the relevant features of Topic/Focus are valued before Spell-Out, and there is no need for further extraction (so the contrast between (74a-b) and (74c)). I suggest that sentences like (74d) do not need to be derived through movement; similar examples in (75) with pronouns demonstrate this point.

- (74) a. Zhangsan shuo [<sub>CP</sub>[<sub>TP</sub> Lisi *na ben xiaoshuo*<sub>i</sub> du wan-le e<sub>i</sub>]].  
 Zhangsan say Lisi that CL novel read finish-PERF  
 ‘That novel, Zhangsan said that Lisi finished reading [it].’
- b. Zhangsan shuo [<sub>CP</sub> *na ben xiaoshuo*<sub>i</sub> [<sub>TP</sub> Lisi du wan-le e<sub>i</sub>]].  
 Zhangsan say that CL novel Lisi read finish-PERF
- c. \*Zhangsan *na ben xiaoshuo*<sub>i</sub> shuo [<sub>CP</sub>[<sub>TP</sub> Lisi du wan-le e<sub>i</sub>]].  
 Zhangsan that CL novel say Lisi read finish-PERF
- d. [<sub>CP</sub> *Na ben xiaoshuo*<sub>i</sub> [<sub>TP</sub> Zhangsan shuo [<sub>CP</sub>[<sub>TP</sub> Lisi du  
 that CL novel Zhangsan say Lisi read  
 wan-le e<sub>i</sub>]]]].  
 finish-PERF
- (75) a. [<sub>CP</sub> *Na ben xiaoshuo*<sub>i</sub> [<sub>TP</sub> Zhangsan shuo [<sub>CP</sub>[<sub>TP</sub> Lisi du-guo  
 that CL novel Zhangsan say Lisi read-EXP  
 (ta<sub>i</sub>) le ]]].  
 it PERF  
 ‘That novel, Zhangsan said that Lisi has read it.’

- b. [<sub>CP</sub> **Wang-xiaojie**<sub>i</sub> [<sub>TP</sub> Zhangsan renwei [<sub>CP</sub> [<sub>TP</sub> Lisi bu xihuan  
Wang-Miss Zhangsan think Lisi not like  
( ta<sub>i</sub> )]]]].  
her  
'Miss Wang, Zhangsan thinks that Lisi doesn't like her.'

Following Chomsky (2000, 2001), I also assume that infinitive CP contains a defeated T. One may infer that infinitive clauses could not host Topic/Focus, unlike tensed clauses. The prediction is supported by the control construction, as shown in (76).

- (76) a. ?\*Zhangsan bi [<sub>CP</sub> [<sub>TP</sub> Lisi **na ben xiaoshuo** na huijia]] le.  
Zhangsan force Lisi that CL novel take home PERF  
'That novel, Zhangsan forced Lisi to bring [it] home.'
- b. \*Zhangsan bi [<sub>CP</sub> **na be xiaoshuo**<sub>i</sub> [<sub>TP</sub> Lisi na e<sub>i</sub> huijia]]  
Zhangsan force that CL novel Lisi take home  
le.  
PERF
- c. Zhangsan **na ben xiaoshuo**<sub>i</sub> bi [<sub>CP</sub> [<sub>TP</sub> Lisi na e<sub>i</sub> huijia]]  
Zhangsan that CL novel force Lisi take home  
le.  
PERF
- d. **Na ben xiaoshuo**<sub>i</sub> Zhangsan bi [<sub>CP</sub> [<sub>TP</sub> Lisi na e<sub>i</sub> huijia]]  
that CL novel Zhangsan force Lisi take home  
le.  
PERF

Last but not least, this paper has shown that Topic has to precede Focus in the medial domain when they co-occur; there is no "lower" Topic available after Focus in Chinese, contrary to Belletti's (2004) and Rizzi's (1997) proposals for Romance languages. Before one may conclude that Romance languages and Chinese require different syntax for Topic and Focus, Benincà (2001) and Benincà and Poletto (2004) argue that Italian data suggest no Topic projection or a set of Topic projections which are lower than the Focus projection. As Neeleman et al. (2009) point out, Comment is allowed to be further divided into Focus and Background; the occurrence of Focus and Background is related to specific presupposition, and thus the effect is different from that of Topic and Comment on the sentence in terms of information packaging. Therefore, while Comment can embed a Focus, a Background cannot embed a Topic.

(77) Neeleman, Titov, van de Koot and Vermeulen (2009: 22)

- a. topic [COMMENT FOCUS [BACKGROUND ...]]
- b. \*FOCUS [BACKGROUND topic [COMMENT ...]]

This is similar to the subsumption relation proposed by Fang and Sells (2007), which together may explain why Topic is always before Focus in Chinese, and why we cannot further prepose the medial Focus to the Focus position in the CP domain (e.g., (78)).

- (78) a. [TP Zhangsang [ shu ]T [ wuxia      xiaoshuo]F kan-de      zui  
 Zhangsan    book      martial.arts    novel      read-RESULT    most  
 duo].  
 many  
 ‘Speaking of books, Zhangsan reads martial arts novels most.’
- b. \*[CP [ Wuxia      xiaoshuo]F [TP Zhangsang [ shu ]T [t]F  
 martial.arts    novel      Zhangsan      book  
 kan-de          zui      duo    ]].  
 read-RESULT    most    many

## 6. Concluding remarks

Given that Chinese is an SVO language, it has been a point of dispute whether an object preposed to the position between the subject and the predicate is Topic (e.g., Paul 2002 and Tsao 1990) or Focus (e.g., Shyu 1995 and Tsai 1994). Through the detailed examination of this and other constructions, this paper argued that the "split-CP" approach *à la* Rizzi (1997) can and should be extended to the medial domain in Chinese (between TP and vP), enabling Topic and/or Focus to appear in this hierarchical order. Structurally, the current study showed that Chinese does not allow triple functional projections for Topic and Focus, contrary to proposals in Belletti (2004) and Rizzi (1997), yet only two projections, TopP and FocP, are needed. The study presented in this work therefore does not support Lambova’s (2004) analysis postulating only a single functional projection, but supports the claims in Belletti (2004) and Paul (2005) about functional projections in the lower INFL domain. The proposed analysis permits us to account for the information structure carried by elements in the medial domain, as well as their co-occurrence and relative ordering restrictions.

The discussion then proceeded to show that the proposed analysis can be extended to nominalized VPs that are base-generated in the medial domain and to the so-called

Verb Copying Construction in Chinese. Section 4 offered a unified account of this construction and the preposed object construction. Advocating a syntactic approach to inducing specific results of the information packaging, I offered an account of various puzzling phenomena revolving around the VPs in the medial domain, such as word order, co-occurrence and distributional restrictions. Theoretically, assuming CP and vP as ‘strong phases’, one may analogize the phenomenon at issue to the periphery of CP, i.e., vP periphery; however, the present study showed that sentence medial Topic and Focus are crucially above the domain of vP. The empirical and theoretical investigation also led us to reject various alternative analyses of the verb-copying construction involving a PF-filter (Huang 1982), V-movement (Cheng 2007 and Gouguet 2006) and VP-coordination (Fang and Sells 2007).

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## 漢語句中主題與焦點之功能投射

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本文著眼於漢語句中詞組的句法結構以及其語用功能。透過句法和信息結構的互動關係，文中指出主題和焦點可以共存於介於主詞及謂語間的句中領域，同時也展現了和句首之主題焦點類似的語用功能以及句法限制。本文將 Rizzi (1997) 的左緣句構分析應用於句中詞組；文中所提出的分析能為前置受詞 (preposed objects) 和動詞複製結構 (the verb-copying construction) 的句法特性以及前人分析中未能解決的問題提出一致的解釋，並探討漢語不同語序間的信息結構和句法結構的對應關係。

關鍵詞：主題、焦點、句中、漢語句法、功能投射