

Proceedings of  
The 20<sup>th</sup> North American Conference  
on Chinese Linguistics

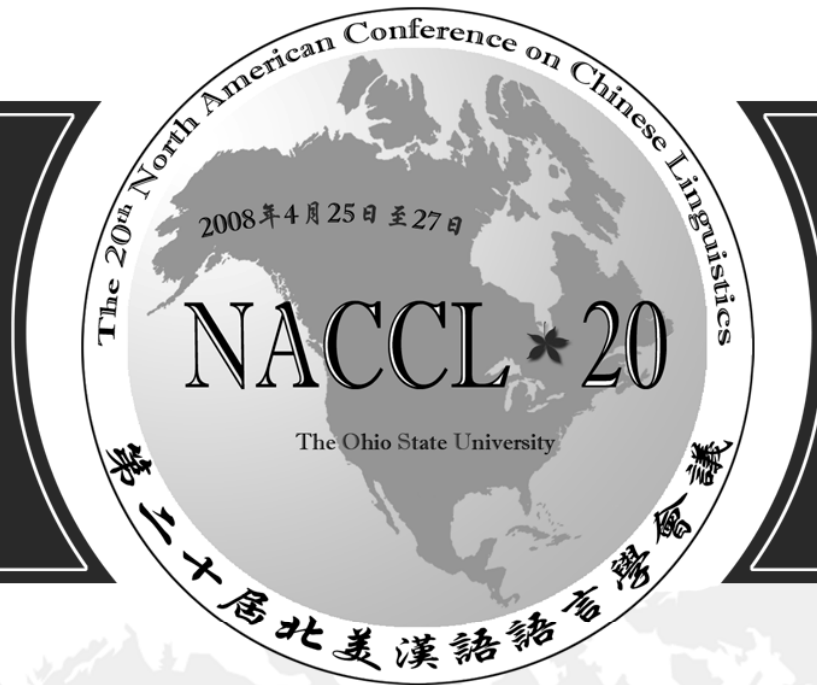
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25-27 April 2008  
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Edited by  
Marjorie K.M. Chan  
and Hana Kang



Proceedings of  
The 20<sup>th</sup> North American Conference  
on Chinese Linguistics  
(NACCL-20)

Dedicated to Professor Edwin G. Pulleyblank  
in honor of his 85th birthday

VOLUME 2

East Asian Studies Center

25-27 April 2008  
Columbus, Ohio



Edited by  
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## A Puzzle in Chinese Dative Shift

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This paper investigates the possible alternations between Dative Constructions and Direct Object Constructions in Chinese.<sup>1</sup> It argues that the semantic constraint on such alternations as proposed by Pinker (1989), Gropen et al. (1989), and Rappaport Hovav & Levin (2008) has to be coupled with syntactic constraints associated with the subcategorization framework of the dative verb in the lexicon. While English dative verbs can subcategorize for theme, goal, or benefactive, potential dative verbs in Chinese can only subcategorize for theme or goal. The limited subcategorization framework of these dative verbs reveals that Chinese does have limited argument structure in the lexicon (contra Lin's 2001).

### 1. Introduction

Dative constructions normally involve an agent, a theme, a goal (1a) or a benefactive (1b). The goal and the benefactive are usually after the theme (1):

#### (1) Dative Construction (DC)

- a. I sent a post card to John.  
<agent theme goal>
- b. I bought a post card for John.  
<agent theme benefactive>

Sometimes, dative shift (DS) can take place in which the goal or the benefactive can be 'scrambled' to a position in front of the theme and the resulting construction behaves on a par with Double Object Constructions (DOC):

#### (2) Dative Shift (DS) → Double Object Construction (DOC)

- a. I sent a post card to John. → I sent John a post card.
- b. I bought a post card for John. → I bought John a post card.

---

<sup>1</sup> "Chinese" is used to refer to Mandarin Chinese in this paper.

Traditionally, a semantic constraint has been proposed on DS: DOC and DC alternation can take place only if there exists an intended (sometimes factual) caused possession between the theme argument and the goal/benefactive argument, i.e., the goal/benefactive argument must be the intended (sometimes the factual) possessor of the theme (Pinker, 1898; Gropen et al., 1989; Rappaport Hovav & Levin, 2008).

In our examples (1-2), goals and benefactives can be both interpreted as recipients. Hence, they are intended possessors of the theme, ‘the post card’. In other words, John will end up with potentially or factually owning the post card. Since an intended caused possession between the theme argument, ‘John’, and the goal/benefactive argument, ‘the post card’, can be established, DS can take place in (1-2). In cases where the intended caused possession relationship cannot be formed, DS is unlikely to happen in (3-4):

- (3) a. I sent the salesman to the devil.  
       b.\*I sent the devil the salesman.                      (Harley 2003: 37, ex. (14))
- (4) a. I sent a post card to Paris.  
       b.\*I sent Paris a post card.

In (3), the intended caused possession cannot be established as in the idiomatic usage of ‘to send somebody to the devil’, there is no possession relationship between ‘the devil’ and that ‘someone’ such as ‘the salesman’. Neither can the intended caused possession relationship be established in (4): the intended caused possessor is inanimate. Hence, it is not a legitimate possessor, which according to our world knowledge, must be minimally [+animate].<sup>2</sup> The sentence (4b) cannot be grammatical unless you are talking about ‘sending a post card to *Paris Hilton*, the great-granddaughter of Conrad Hilton who is the founder of the Hilton empire.

## 2. The Chinese Dative Shift Puzzle

Chinese, in contrast with English, allows verbs that select a goal to alternate between DC and DOC, as in (5a-b), but not a benefactive argument, as in (6a-b). The example (6b), if grammatical, can only be interpreted as “I bought a post card from Zhangsan”, in which ‘Zhangsan’ becomes the source from whom I got the post card. If ‘Zhangsan’ is considered as the benefactive (i.e., as in (6a)), it is ungrammatical.

---

<sup>2</sup> There are exceptions in the generalization that the intended possessor must be animate, e.g., *give the house a coat of paint* and *give the page a number*. See Melntyre (2006) and Rappaport Hovav & Levin (2008) for further discussions.

(5) V + theme + goal: possible with DS<sup>3</sup>

- a. *Wo song le yi-zhang mingxinpian gei Zhangsan.*  
 I send perf. one-CL postcard to Zhangsan  
 ‘I sent a postcard to Zhangsan.’
- b. *Wo song le Zhangsan yi-zhang mingxinpian.*  
 I send perf. Zhangsan one-CL postcard  
 ‘I sent Zhangsan a postcard.’

(6) V + theme + benefactive: impossible with DS

- a. *Wo mai le yizhang mingxinpian gei Zhangsan.*  
 I buy perf. one-CL postcard for Zhangsan  
 ‘I bought a postcard for Zhangsan.’
- b. \**Wo mai le Zhangsan yi-zhang mingxinpian.*  
 I buy perf. Zhangsan one-CL postcard  
 Intended: ‘I bought Zhangsan a postcard.’

In literature, two other interacting constraints have been proposed to account for certain impossibility of the alternation between DC and DOC (Arnold et al, 2000; Davidse, 1996; Givón 1984; Polinsky, 1996; Ransom, 1979; Snyder, 2003; Thompson, 1990, 1995; Wasow, 1997, 2002; Rappaport Hovav & Levin, 2008; inter alia). One is related to the information structure (7a) and the other concerns the prosodic Heaviness principle (7b):

- (7) a. Information structure: Given material comes before new materials.  
 b. Heaviness: Heavy material comes last.

Take (8a) for example. Since [+human] element is in general treated as ‘given’ in literature (it bears a closer relationship to us), the DOC construction in which ‘Mailer’ is put in front of the theme ‘an idea for a book’ is appropriate. The theme (‘an idea for a book’) is also ‘heavier’ than the goal (‘Mailer’). Both (7a) and (7b) are satisfied. In contrast, the DC counterpart of (8a) as shown in (8b) is inappropriate. It violates both (7a) and (7b): the given material (‘Mailer’) does not come before new materials (‘an idea for a book’) and the heavy material (‘an idea for a book’) does not come last. The acceptability of (8b) can be significantly improved if we make the goal heavier as indicated in (8c):<sup>4</sup>

<sup>3</sup> The following acronyms are used in this paper: CL = classifier, perf. = perfective, Mod = modal particle.

<sup>4</sup> ‘Every journalist’ is a quantified [+human] element. It does not really count as purely ‘given’. So (7a) can also be vacuously avoided in (8c).

- (8) a. Nixon's behavior gave *Mailer* an idea for a book.  
 b. # Nixon's behavior gave an idea for a book *to Mailer*.  
 c. Nixon's behavior gave an idea for a book *to every journalist living in New York City in the 1970s*.

(Snyder 2003: 35, exx. (47a,b), (48))

But in our Chinese examples, neither (7a) nor (7b) can be ultimately responsible for the ungrammaticality in (6b). Compare (5) and (6). The only difference between them is the verb (*song* 'to send' in (5) versus *mai* 'to buy' in (6)). If constraints in (7) are applied to (5) and (6), it is hard to explain why DS in (5) is acceptable while that in (6) is not as they can both equally satisfy or violate (7).

In this paper, we argue that the solution lies in the verb itself. We will address questions like 'what exactly is the difference between Chinese *mai* ('to buy') and English *buy*? Are they two totally different verbs or not', etc. We argue that the subcategorization framework in the lexicon is responsible for certain (im)possibility of DS and it can be cross-linguistically parameterized.

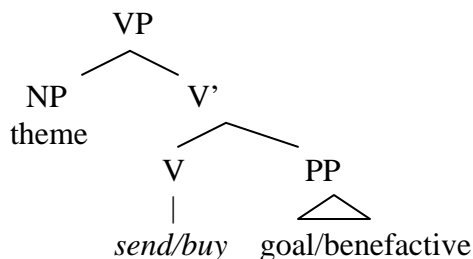
### 3. The Hypothesis

In general, we propose that the semantic constraint on the alternation of DC and DOC as proposed by Pinker (1989), Gropen et al. (1989) and Rappaport Hovav & Levin (2008) has to be coupled with syntactic constraints associated with the subcategorization framework of the dative verb in the lexicon. Take English dative verb *send* and *buy*, for example. Their subcategorization framework is shown in (9a) and (9b), respectively. They are both verbs (of the category V) that select two internal arguments (a theme and a goal/benefactive). Syntactically, these two arguments are realized as an NP (usu. the theme) and a PP (usu. the goal/benefactive). When projected into narrow syntax, the subcategorization will form a VP in which one internal argument (usu. the goal/benefactive PP) becomes the complement of the dative verb and the other (usu. the theme NP), the specifier of the VP:

(9) a. *send*: V, [ \_\_ NP, PP]

b. *buy*: V, [ \_\_ NP, PP]

c.



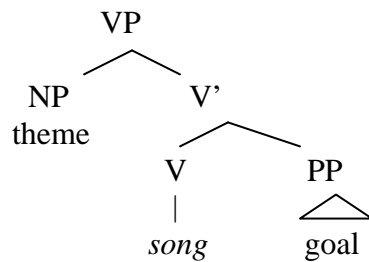
Since both the theme and the goal/benefactive are the core (internal) arguments of the dative verb (i.e., they are both subcategorized by the verb), it can be said that theme, goal and benefactive argument are all ‘lexicalized’ in English.

For the Chinese examples (5-6), we propose that *song* ‘to send’ behaves like English *send* and *buy* in that it selects two internal arguments: a theme and a goal, realized syntactically as an NP and a PP, respectively:

(10) Chinese dative verbs:

a. *song* ‘to send’: V, [ \_\_ NP, PP]

b.

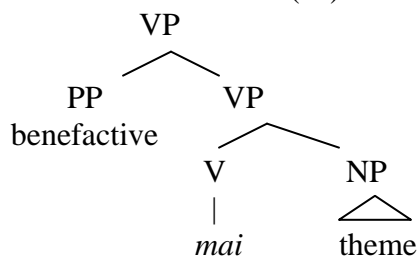


In other words, both theme and goal are lexicalized in Chinese. However, unlike English, we propose that benefactive is NOT lexicalized in Chinese. Under this proposal, Chinese verb *mai* ‘to buy’ does not really parallel with English *send* or even *buy*. Since benefactive is not subcategorized by verbs in Chinese, what looks like a dative verb is actually a surface illusion. Verbs like *mai* ‘to buy’ in Chinese only subcategorize for a theme. The benefactive is adjoined to VP later in syntactic derivation (as a syntactic adjunct):

(11) Chinese *mai* ‘to buy’

a. subcategorization framework: *mai*: V, [ \_\_ NP]

b. The relevant structure for (6a)



Under this analysis, *mai* ‘to buy’ in Chinese is not a genuine dative verb.

To account for the data in (5-6), we further propose that to allow for DS, the goal, the benefactive, and the theme argument in the DC all have to be within the relevant VP of the dative verb. This is a syntactic constraint. Essentially, it means that only argument

in one object position can alternate with another argument in a ‘similar’ object position: In English, both the goal and the benefactive in the DC are core (subcategorized) arguments of the verb within the relevant VP. Syntactically, they are both genuine objects (i.e., the indirect object) similar to the theme (i.e., the direct object). Hence, the theme and both the goal and the benefactive can alternate (i.e., to undergo DS). In Chinese, however, only the goal is a core (subcategorized) argument within the VP and the benefactive argument is adjoined to VP as an adjunct (not subcategorized by the verb in the lexicon). Therefore, the benefactive (as an adjunct) cannot alternate with the theme argument (the direct object), hence, the ungrammaticality of (6b).

More examples to support this argument are provided below:

(12) Goal is lexicalized in Chinese (genuine DC):

- a. *Wo gei le yi-zhang mingxinpiangei Zhangsan.*  
 I give perf. one-CL postcard to Zhangsan  
 ‘I gave a post card to Zhangsan.’
- b. *Wo ji le yi-ben shu gei Zhangsan.*  
 I mail perf. one-CL book to Zhangsan  
 ‘I mailed a book to Zhangsan.’
- c. *Wo liu le yi-zhang mingpian gei Zhangsan.*  
 I leave perf. one-CL business-card to Zhangsan  
 ‘I left a business card to Zhangsan.’

(13) Dative shift (possible DOC with verbs encoding a lexicalized goal as in (12)):

- a. *Wo gei le Zhangsan yi-zhang mingxinpian.*  
 I give perf. Zhangsan one-CL postcard  
 ‘I gave Zhangsan a postcard.’
- b. *Wo ji le Zhangsan yi-ben shu.*  
 I mail perf. Zhangsan one-CL book  
 ‘I mailed Zhangsan a book.’
- c. *Wo liu le Zhangsan yi-zhang mingpian.*  
 I leave perf. Zhangsan one-CL business-card  
 ‘I left Zhangsan (with) a business card.’

(14) Benefactive is not lexicalized in Chinese (putative DC):

- a. *Wo jian le yi-dong fangzi gei Zhangsan.*  
 I build perf. one-CL house for Zhangsan  
 ‘I built a house for Zhangsan.’

- b. *Wo zuo le yi-jian yifu gei Zhangsan.*  
 I make perf. one-CL cloth for Zhangsan  
 ‘I made a piece of cloth for Zhangsan.’
- c. *Wo zhi le yi-jian maoyi gei Zhangsan.*  
 I knit perf. one-CL sweater for Zhangsan  
 ‘I knitted a sweater for Zhangsan.’

(15) Dative Shift (impossible DOCs):

- a. \**Wo jian le Zhangsan yi-dong fangzi.*  
 I build perf. Zhangsan one-CL house  
 Intended: ‘I built Zhangsan a house.’
- b. \**Wo zuo le Zhangsan yi-jian yifu.*  
 I make perf. Zhangsan one-CL cloth  
 Intended: ‘I made Zhangsan a piece of cloth.’
- c. \**Wo zhi le Zhangsan yi-jian maoyi.*  
 I knit perf. Zhangsan one-CL sweater  
 Intended: ‘I knitted Zhangsan a sweater.’

Examples (12-13) concerns the goal argument in Chinese. As (13) indicates, DS can take place. The benefactive argument (14), on the other hand, cannot allow for DS (15).<sup>5</sup>

#### 4. Lin (2001) Revisited

Our analysis contrasts with Lin’s (2001) proposal that Chinese does not have argument structure (subcategorization) in the lexicon. The dative and double object alternation shows that Chinese allows partial subcategorization in the lexicon.

---

<sup>5</sup> There might be slight difference in dialectical judgments in (12-15). Some bilateral verbs like *jie* ‘to loan/lend’ seems to be counter examples to our generalization:

- a. *Wo jie le 100 kuai qian gei Zhangsan.*  
 I lend perf. 100 Yuan money to Zhangsan  
 ‘I lend 100 Yuan to Zhangsan.’
- b. *Wo jie le Zhangsan 100 kuai qian.*  
 I lend perf Zhangsan 100 Yuan money  
 ‘I lend Zhangsan 100 Yuan.’

Although Zhangsan is treated as the recipient of the money and potentially, he can be the beneficiary. But this ‘beneficiary’ argument behaves more like a goal instead of a benefactive as the English translation in (a) indicates. If *jie* (‘to loan/lend’) is treated as a verb that selects a goal, it actually supports the generalization that goal and theme can alternate in Chinese while benefactive and theme cannot.



According to Lin (2001), objects in Chinese are non-selective:<sup>6</sup>

(16) The non-selectiveness of objects in Chinese (examples abridged from Lin 2001):

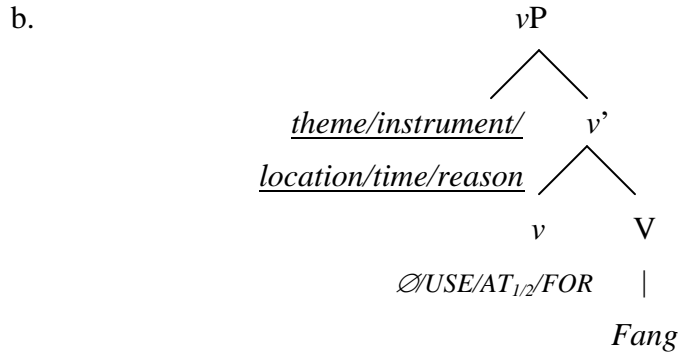
- a. *Laowang fang le yi-ben shu zai zhuo-shang.* (Theme) light v:  $\emptyset$   
 Laowang put perf. one-CL book at table-on  
 ‘Laowang put a book on the table.’
- b. *Zhexie shu zonggong fang le san-ge xiangzi.* (Instrument) light v: *USE*  
 These book altogether put perf. three-CL box  
 ‘It takes three boxes altogether to put these books in.’
- c. *Zhexie shu fang wo-jia.* (Location) light v: *AT<sub>1</sub>*  
 These book put my-home  
 ‘These books [can be] kept in my house.’
- d. *Zhe-wan mian fang le zheng-de zaoshang.* (Time) light v: *AT<sub>2</sub>*  
 This-bowl noodle put perf. whole morning  
 ‘This bowl of noodle has been here for the whole morning.’
- e. *Zhexie shu bu-shi fang hao-kan de.* (Reason) light v: *FOR*  
 These book not-be put good-look Mod  
 ‘These books are not there for good-looking.’

Thus, according to Lin (2001), verbs in Chinese like *fang* ‘to put’ do not have any sub-categorization framework in the lexicon. All the ‘complements’ are selected by various kinds of *light* verbs later in the overt syntax.<sup>7</sup> The ‘subcategorization framework’ of *fang* ‘to put’ is shown (17a) and selection of various arguments by various relevant light verbs is shown in (17b):

<sup>6</sup> We ignore the non-selectiveness of subjects in this paper.

<sup>7</sup> *Light verb* is defined along Bower (1993), Kratzer (1996), Hale and Keyser (1991, 1993, 1997, 1999), Huang (1994, 1997), Lin (2001) and Ai (2003), in which it is only phonetically light but semantically rich. Some examples are provided after each example in (16).

(17) a. *fang* ‘to put’: V, [ \_\_ Ø]



However, this seems to be over-generalized. Take *mai* as in (6) for example. Not all examples as indicated in (16) seem to be grammatical if we replace the verb *fang* ‘to put’ with *mai* ‘to buy’, shown in (18):

- (18) a. *Laowang mai le yi-ben shu zai zhuo-shang.* (Theme)  
 Laowang buy perf. one-CL book at table-on  
 ‘Laowang bought a book (and put it) on the table.’
- b. \**Zhexie shu zonggong mai le san-ge xiangzi.* (Instrument)  
 These book altogether buy perf. three-CL box  
 ‘It takes three boxes altogether to buy these books in.’
- c. \**Zhexie shu mai wo-jia.* (Location)  
 These book buy my-home  
 ‘These books [can be] bought and kept in my house.’
- d. ? *Zhe-wan mian mai le zheng-ge zaoshang.* (Time)  
 This-bowl noodle buy perf. whole-CL morning  
 ‘This bowl of noodle has been bought for the whole morning.’
- e. ? *Zhexie shu bu-shi mai hao-kan de.* (Reason)  
 These book not-be buy good-look Mod  
 ‘These books are not bought for good-looking.’

Thus, the non-selectiveness of objects in Chinese is actually verb-sensitive. In other words, the subcategorization framework in Chinese lexicon is not totally without control.

### 5. Concluding Remarks

Through the discussion of DS in Chinese, we have argued that Chinese might have limited subcategorization framework in the lexicon. Furthermore, the puzzle of

Chinese DS has provided us with a perfect window to look further into the so-called ‘lexicalization’ parameter.<sup>8</sup> It seems that cross-linguistically, certain arguments can be lexicalized into the verb but not all arguments need to be lexicalized in a given language. English, for example, lexicalizes both the goal and the benefactive argument. Chinese, on the other hand, only lexicalizes the goal argument, but not the benefactive one. Under this argument, verbs in Chinese have to be individually treated. Minimally, the study of Chinese verbs has to be category-based.<sup>9</sup> It seems that there is no easy generalization that can cover all the verbs in Chinese.

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<sup>8</sup> The term ‘lexicalization’ is not addressed in detail in this paper. For a comprehensive review and the possible way of parametrizing it, see Lin (2001).

<sup>9</sup> For a complete typology of dative verbs, see Rappaport Hovav & Levin (2008).

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## Postverbal Particles in Naxi<sup>1</sup>

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This paper aims to show that the postverbal particles in Naxi play a prominent role in the syntax of Naxi. Unlike English, the inflectional components such as aspect in the Naxi language are not expressed in morphosyntactic categories but in the analytic categories of postverbal particles. The postverbal particles in Naxi have their origins in directional verbs, which nowadays still retains their use as verbs. In Naxi, the grammaticalization is an ongoing development. With strong verbal characters, the grammatical status of the postverbal particles in Naxi is thus analyzed as functional categories, in between inflectional categories and lexical verbs.

### 0. Introduction

Naxi is a SOV language spoken in Yunnan, the southwestern China. Naxi belongs to the Lolo-Burmese branch of Tibeto-Burman.

The verbal inflections of grammatical categories are obligatory in English sentences. Look at examples (1a-d), tense or aspect markers such as *-ed*, *-s*, *-ing*, are inflected in English verbs:

- |        |                        |                       |
|--------|------------------------|-----------------------|
| (1) a. | It rained yesterday.   | (past tense)          |
| b.     | It rains every year.   | (present tense)       |
| c.     | It is raining now.     | (present progressive) |
| d.     | It has rained already. | (past perfective)     |

However, the inflectional components in the Naxi language are not expressed in morphosyntactic categories but in the analytic postverbal particles. For examples: (PROS = prospective particle, PERF = perfective particle, PROG = progressive particle, INCHO = inchoative particle)

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- (2) a. xur<sup>33</sup> gur<sup>33</sup> mbur<sup>33</sup>  
       rain drop PROS  
       ‘It is going to rain.’
- b. xur<sup>31</sup> gur<sup>33</sup> t<sup>h</sup>v<sup>33</sup>  
       rain drop PERF  
       ‘It has rained.’
- c. xur<sup>31</sup> gur<sup>33</sup> ne<sup>31</sup>  
       rain drop PROG  
       ‘It’s raining.’
- d. xur<sup>31</sup> gur<sup>33</sup> tʂ<sup>h</sup>ɿ<sup>31</sup>  
       rain drop INCHO  
       ‘It is starting raining.’

As shown in (2a) and (2b) respectively, the prospective future is expressed by the postverbal particle *mbur*<sup>33</sup> and the perfectivity by the postverbal particle *t<sup>h</sup>v*<sup>33</sup>. Likewise, *ne*<sup>31</sup> expresses progressive as in (2c); and the inchoative is expressed by *tʂ<sup>h</sup>ɿ*<sup>31</sup> as in (2d).

However, in Naxi, the term "postverbal particles" should be distinguished from the "sentence-final particles" (or SFP for short). For one thing, the postverbal particles are adjacent to the main verbs; whereas the SFP are in the sentence final positions. Take sentences (3a-b) as examples. In (3a) the perfective *t<sup>h</sup>v*<sup>33</sup> is adjacent to the main verb, and thus recognized as a postverbal particle. By contrast, the interrogative particle *la*<sup>31</sup> is a SFP and appears in the sentence final position. In (3b), *we*<sup>33</sup> is a SFP, expressing interjection while prospective particle *mbur*<sup>33</sup> and hearsay particle *tʂ*<sup>55</sup> are the postverbal particles, which are closer to the main verb. (SFP=sentence final particle)

- (3) a. nu<sup>31</sup> ha<sup>31</sup> ndzɿ<sup>31</sup> t<sup>h</sup>v<sup>33</sup> la<sup>31</sup>  
       you rice eat PERF SFP: INTERROGATIVE  
       ‘Have you finished eating?’
- b. u<sup>33</sup>jə<sup>33</sup> xo<sup>33</sup>pe<sup>55</sup> xa<sup>33</sup> mbur<sup>33</sup> tʂ<sup>55</sup> we<sup>33</sup>  
       WuYong vegetable buy PROS HERESAY SFP: INTERJECTION  
       ‘I was told that WuYong is going to buy vegetable.’

For the other thing, the postverbal particles are originated in verbs, and by virtue of this, they have strong verbal characters. For examples: in (3a) the postverbal particle *t<sup>h</sup>v*<sup>33</sup> is originated from the verb ‘reach’, and in (3b), the postverbal particle *mbur*<sup>33</sup> is from the verb ‘go’. And the hearsay particle *tʂ*<sup>55</sup> is derived from the verb ‘say’.

There is still another character which can differentiate the two types of particles. That is, the postverbal particles are actually syntactic components. They involve in determining the grammaticality of Naxi sentences.

As a matter of fact, this distinction is prevalent across Tibeto-Burman languages. Take Trung for an example. There are two forms of the postverbal particles. The postverbal particles are inflected. As we can see in example (4), the postverbal *buŋ* is inflected for person and number, and thus is considered as inflectional component. But the sentence final particles are invariables, very much like the sentence-final particles in Chinese: (Mei 1996)

- (4) Trung (Data quoted from Mei 1996)
- |              |                 |          |            |             |                |                |
|--------------|-----------------|----------|------------|-------------|----------------|----------------|
| tuŋrùŋ       | kā              | ʒgə̀     | tēn        | būbuī       | sōŋ            | buŋ            |
| <i>Trung</i> | <i>language</i> | <i>I</i> | <i>now</i> | <i>much</i> | <i>know.IS</i> | <i>PERF.IS</i> |
- ‘I have already leaned a lot of Trung now.’

### 1. Expressing the "Inflectional Categories" in the Naxi Way

In Naxi, the so-called "inflectional categories" such as aspect are expressed in the postverbal particles.

*Prospective* is a term used by Comrie (1976) to refer to such English expressions as *to be going to*, *to be about to*, etc. In Naxi, the directional verb *mbu*<sup>33</sup> ‘go’ can further develop a functional use as a prospective particle as in (5):

- (5) so<sup>31</sup>ŋi<sup>33</sup>    xu<sup>33</sup>    gu<sup>33</sup>    mbu<sup>33</sup>    jə<sup>33</sup>
- |                 |             |             |             |                        |
|-----------------|-------------|-------------|-------------|------------------------|
| <i>tomorrow</i> | <i>rain</i> | <i>drop</i> | <i>PROS</i> | <i>SFP: INDICATIVE</i> |
|-----------------|-------------|-------------|-------------|------------------------|
- ‘It is going to rain tomorrow.’

The perfectivity is expressed, crucially, by the postverbal particle *t<sup>h</sup>v*<sup>33</sup> in (6a), which is like the verbal particle *-wan* 完 in Chinese:

- (6) a.    ŋə<sup>31</sup>    mbe<sup>33</sup>    t<sup>h</sup>v<sup>33</sup>
- |          |           |             |
|----------|-----------|-------------|
| <i>I</i> | <i>do</i> | <i>PERF</i> |
|----------|-----------|-------------|
- ‘I have done.’
- b.    我做完了。

Similarly, the past experience is manifested as an experiential perfective particle *dzi*<sup>33</sup> in Naxi: (EXP PERF=experiential perfect)



- (7) t<sup>h</sup>u<sup>33</sup>γu<sup>31</sup> ni<sup>33</sup> ndzɿ<sup>33</sup> dzi<sup>33</sup>  
*they fish eat EXP PERF*  
 ‘They have ever eaten fish before.’

As in (8), t<sup>ʂ</sup>h<sup>31</sup> is an inchoative particle, referring to an event happened immediately before the utterance, which has not completely ended when the speaker started talking. The inchoative particle is roughly parallel to the inchoative verbal particle *-qilai* 起来 in Chinese:

- (8) a. t<sup>h</sup>u<sup>33</sup> gə<sup>31</sup> ŋv<sup>35</sup> ts<sup>h</sup>ɿ<sup>31</sup>  
*he up cry INCHO*  
 ‘He is starting to cry.’  
 b. 他哭起来了。

At first glance, the postverbal particle *ne*<sup>31</sup> is used to express progressive in Naxi:

- (9) t<sup>h</sup>u<sup>33</sup> iə<sup>33</sup> t<sup>h</sup>u<sup>31</sup> ne<sup>31</sup>  
*he cigarette smoke PROG*  
 ‘He is smoking cigarette.’

However *ne*<sup>31</sup> cannot be analyzed as progressive aspect marker because it may occur in canonical non-aspectual sentences such as in a habitual sentence (10a), or in a stative sentence (10b): (WITN=witness)

- (10)a. t<sup>h</sup>u<sup>33</sup>γu<sup>31</sup> mə<sup>33</sup>çiə<sup>31</sup>we<sup>33</sup> k<sup>h</sup>ə<sup>33</sup>lo<sup>31</sup> nu<sup>33</sup> dzi<sup>33</sup> dzər<sup>31</sup> ne<sup>31</sup>  
*they usually ditch at water swim WITN*  
 ‘They usually swim in the ditch.’  
 b. fe<sup>33</sup>tçi<sup>33</sup> dza<sup>31</sup> t<sup>ʂ</sup>h<sup>31</sup>u<sup>31</sup> bi<sup>31</sup> ne<sup>31</sup>  
*airplane very fast fly WITN*  
 ‘The airplane is very fast.’

In fact, the progressive meaning is derived from its strong visual effect; it is a direct presentation of what the speaker is seeing at the moment of speaking--a scene or a happening. Accordingly, the particle *ne*<sup>31</sup> is turned out to be an evidential expression. Therefore, the sentences in (10a-b) can be paraphrased separately as "Look! They are

swimming in the ditch, and they usually do that", or "Look! This kind of airplane flying thru now is very fast."<sup>2</sup>

So far, the data (from 2.1 to 2.5) show that there is no inflection in Naxi. Rather, the locational stance or perspective of the speaker is significant in Naxi grammar (Mei 2002). As a matter of fact, the postverbal particles play a crucial role in specifying the locational stance or the perspective of the speaker in the grammar of Naxi language.

## 2. More Functional Expressions of the Postverbal Particles in Naxi

In addition to the aspectual particles, there are more functional components specifying the locational perspective of the speaker expressed by the postverbal particles, namely directional and evidential particles.

Directional relations imply a spatial point-reference to the speaker. Thus centripetal and centrifugal motions are always anchored with respect to the speaker's location. In Naxi, the directional expressions are also displayed in the postverbal particles. As in (11), *fə*<sup>33</sup> is a centrifugal particle and *du*<sup>33</sup> a centripetal particle:

- (11) a. (nu<sup>31</sup>) y<sup>55</sup>    ʃɿ<sup>33</sup>    gv<sup>55</sup>    sɿ<sup>31</sup>    fa<sup>33</sup>    la<sup>31</sup>  
*you*    *child*    *this*    *CL*    *take*    *AWAY*    *SFP: IMPERATIVE*  
 ‘Get the child out of here, please!’
- b. (nu<sup>31</sup>) y<sup>55</sup>    ʃɿ<sup>33</sup>    gv<sup>55</sup>    sɿ<sup>31</sup>    du<sup>33</sup>    la<sup>31</sup>  
*you*    *child*    *this*    *CL*    *take*    *TOWARD*    *SFP: IMPERATIVE*  
 ‘Get the child here, please!’

Just like other postverbal particles, evidential stance is also a formal syntactic concept. There are two postverbal particles in Naxi expressing evidentiality: while *me*<sup>55</sup> is used when a claim is made by the speaker on the basis of his direct knowledge or first-hand information, *tsɿ*<sup>55</sup> is used by a Naxi speaker to make a statement without direct evidence, or at second hand: (EVIDN=evidential particle)

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<sup>2</sup> In Chinese, *-zhe* 著 display similar phenomena. The progressive meaning of *-zhe* 著 is actually from its strong visual effect (Mei 2001):

- a. 张三在看著电视。                    (*progressive*)  
 b. 河里游著两条鱼很快乐的样子。    (*dynamic on the scene*)  
 c. 墙上刻著两个大大的字。            (*vivid on the scene*)

- (12)a. u<sup>33</sup>jə<sup>33</sup>    nɑ<sup>31</sup>ɕi<sup>33</sup>    ɣu<sup>33</sup>tɕɿ<sup>31</sup>    dʒɑ<sup>31</sup>    sɿ<sup>33</sup>    me<sup>55</sup> / tsɿ<sup>55</sup>  
*WuYong    Naxi    language    very    know    EVIDN / HERESAY*  
 ‘WuYong knows Naxi language very well.’
- b. ηə<sup>33</sup>    nu<sup>33</sup>    v<sup>31</sup>    me<sup>33</sup>    u<sup>33</sup>jə<sup>33</sup>    nɑ<sup>31</sup>ɕi<sup>33</sup>    ɣu<sup>33</sup>tɕɿ<sup>31</sup>  
*I    NOM    think    that    WuYong    Naxi    language*  
 dʒɑ<sup>31</sup>    sɿ<sup>33</sup>    me<sup>55</sup> /\*tsɿ<sup>55</sup>  
*know    very    EVDN / HERESAY*  
 ‘I think that WuYong knows Naxi language very well.’
- c. t<sup>h</sup>u<sup>33</sup>ɣu<sup>31</sup>    tsɿ<sup>55</sup>    me<sup>33</sup>    u<sup>33</sup>jə<sup>33</sup>    nɑ<sup>31</sup>ɕi<sup>33</sup>    ɣu<sup>33</sup>tɕɿ<sup>31</sup>    dʒɑ<sup>31</sup>  
*they    say    that    WuYong    Naxi    language    very*  
 sɿ<sup>33</sup>    \*me<sup>55</sup> / tsɿ<sup>55</sup>  
*know    EVDN / HERESAY*  
 ‘They say that WuYong knows Naxi language very well.’

Interestingly, the hearsay particle *tsɿ*<sup>55</sup> is clearly developed from the verb *say*. When the postverbal particle *tsɿ*<sup>55</sup> is occurred, it indicates that the source of information the sentence is about is other than the speaker himself.

### 3. Grammaticalization

In Naxi, the directional verbs play a crucial role in the development of functional postverbal particles, most significantly in the workings of the modal or aspectual expressions.

As shown in (13-14), the modal contrast between realis and irrealis is made on the directional verbs in Naxi: (REA: realis, IRR: irrealis)

- (13)a. u<sup>33</sup>jə<sup>33</sup>    (\*so<sup>31</sup>ni<sup>33</sup>/ a<sup>33</sup>ni<sup>33</sup>)    xo<sup>33</sup>pe<sup>55</sup>    xa<sup>33</sup>    xu<sup>33</sup>  
*WuYong    tomorrow    yesterday    vegetable    buy    go.REA.3P*  
 ‘WuYong went to buy vegetable yesterday.’
- b. u<sup>33</sup>jə<sup>33</sup>    (so<sup>31</sup>ni<sup>33</sup>/ \*a<sup>33</sup>ni<sup>33</sup>)    xo<sup>33</sup>pe<sup>55</sup>    xa<sup>33</sup>    mbu<sup>33</sup>  
*WuYong    tomorrow    yesterday    vegetable    buy    go.IRR*  
 ‘WuYong will go to buy vegetable tomorrow.’
- (14)a. u<sup>33</sup>jə<sup>33</sup>    (\*du<sup>33</sup>k<sup>h</sup>a<sup>31</sup>gv<sup>31</sup>/ga<sup>33</sup>sɿ<sup>55</sup>k<sup>h</sup>a<sup>31</sup>)    xa<sup>33</sup>    ndzɿ<sup>33</sup>    tɕ<sup>h</sup>ɿ<sup>31</sup>  
*WuYong    later    just now    rice    eat    come.REA*  
 ‘WuYong came to eat rice just now.’

- b. u<sup>33</sup>jə<sup>33</sup> (du<sup>33</sup>k<sup>h</sup>ɑ<sup>31</sup>gv<sup>31</sup>/\*ga<sup>33</sup>s<sub>1</sub><sup>55</sup>k<sup>h</sup>ɑ<sup>31</sup>) xa<sup>33</sup> ndz<sub>1</sub><sup>33</sup> du<sup>33</sup>  
*WuYong later just now rice eat come.IRR*  
 ‘WuYong will come to eat rice later.’

However, the synthetic directional verbs may further develop a functional use as aspectual particles. Take the directional verb *mbu<sup>33</sup>* ‘go’ in (13b) as an example: *mbu<sup>33</sup>* ‘go’ is a synthetic verb encoded with the centrifugal motion and irrealis modality, which may extend to a functional expression of the events in the future, namely, a prospective particle. Compare the usage of *mbu<sup>33</sup>* as a verb (in (15a)=(13b)) and as a functional particle (in (15b)):

- (15)a. u<sup>33</sup>jə<sup>33</sup> so<sup>31</sup>ŋi<sup>33</sup> xo<sup>33</sup>pe<sup>55</sup> xa<sup>33</sup> mbu<sup>33</sup>  
*WuYong tomorrow vegetable buy go.IRREALIS*  
 ‘WuYong will go to buy vegetable tomorrow.’  
 b. so<sup>31</sup>ŋi<sup>33</sup> xu<sup>33</sup> gu<sup>33</sup> mbu<sup>33</sup> jə<sup>33</sup>  
*tomorrow rain drop PROS SFP: IND*  
 ‘It is going to rain tomorrow.’

Likewise, as the verb *tʂ<sup>h</sup>ɿ<sup>31</sup>* ‘come’ in (14a) and (16a), it is involved with the functional information of centripetal motion and realis modality at the same time. As indicated in (16b), it may develop into an inchoative particle, referring to an event happened immediately before the utterance but not completely ended when the speaker started talking. For example:

- (16)a. u<sup>33</sup>jə<sup>33</sup> gu<sup>31</sup>be<sup>33</sup> tʂ<sup>h</sup>ɿ<sup>31</sup>  
*WuYong LiJiang come.REA*  
 ‘WuYong came to LiJiang.’  
 b. t<sup>h</sup>u<sup>33</sup> gə<sup>31</sup> ŋv<sup>35</sup> tʂ<sup>h</sup>ɿ<sup>31</sup>  
*he up cry INCHO*  
 ‘He is starting to cry.’

The phenomena of the grammaticalization from motion verb to functional particle are rather prevalent in Naxi. To illustrate the grammaticalization in Naxi, more examples are given below. For instance: the postverbal particle *dzi<sup>33</sup>* expressing past experience is actually originated from the verb ‘walk or leave’. Naxi uses *dzi<sup>33</sup>* to mark the shifting position of the speaker, meaning, roughly, walking away from (or leaving) the narrated scene, and thereby expressing the events distance and by implication its pastness. Compare (17a) and (17b):

- (17)a.  $\eta\theta^{31}$      $dzi^{33}$      $m\theta^{33}$      $lo^{31}$      $ze^{31}$   
*I*    *walk*    *not*    *movable*    *SFP*  
 ‘I cannot walk anymore.’
- b.  $t^h\omega^{33}\gamma\omega^{31}$      $\eta i^{33}$      $ndz\eta^{33}$      $dzi^{33}$   
*they*    *fish*    *eat*    *EXP PERF*  
 ‘They have ever eaten fish before.’

The grammaticalization of  $t^hV^{33}$  from verb to functional particle is demonstrated in example (18):

- (18)a.  $\eta\theta^{31}$      $ia^{33}go^{31}$      $t^hV^{33}$      $ze^{31}$   
*I*    *home*    *reach.REA*    *SFP*  
 ‘I have reached home.’
- b.  $\eta\theta^{31}$      $mbe^{33}$      $t^hV^{33}$   
*I*    *do*    *PERF*  
 ‘I have done.’

The perfective particle  $t^hV^{33}$  is originated from the telic verb  $t^hV^{33}$  ‘reach or arrive’, which nowadays is still retains its use as a verb of centripetal movement in realis environments:

- (19)a.  $\eta\theta^{31}$      $ia^{33}go^{31}$      $t^hV^{33}$      $ze^{31}$   
*I*    *home*    *reach.REA*    *SFP*  
 ‘I have reached home.’
- b. \*  $\eta\theta^{31}$      $so^{31}\eta i^{33}$      $ia^{33}go^{31}$      $t^hV^{33}$      $ts\alpha^{31}$   
*I*    *tomorrow*    *home*    *reach. REA*    *should*  
 ‘I should arrive home tomorrow.’

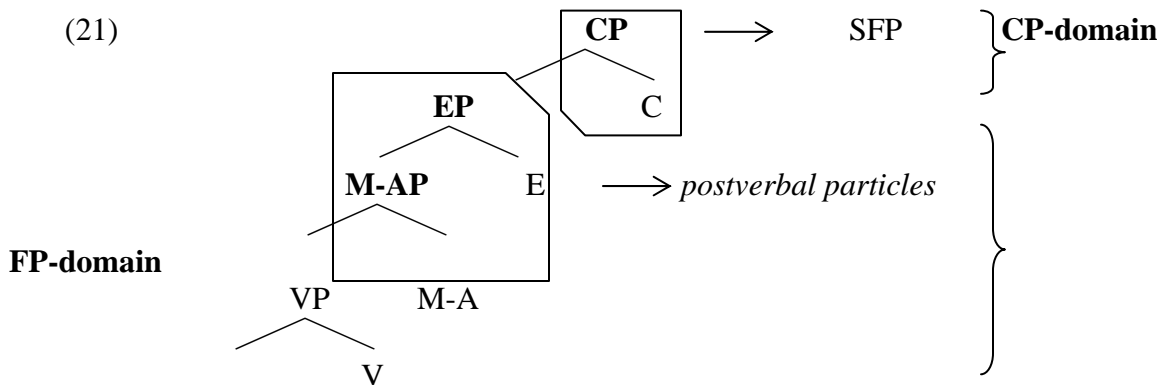
All these facts indicate the ongoing development from the lexical category as a synthetic verb complex to the functional category as analytic postverbal particles. A summary of the grammaticalization discussed above is given in (20):

(20)	Syntactic Verb Complex	→→→	Analytic Functional Particles
a.	$mb\omega^{33}$ 'go':	IRREALIS. CENTRIFUGAL	PROSPECTIVE
b.	$ts^h\gamma^{31}$ 'came':	REALIS. CENTRIPETAL	INCHOATIVE
c.	$t^hV^{33}$ 'reach':	REALIS. CENTRIPETAL. TELIC	PERFECTIVE
d.	$dzi^{33}$ 'leave':	REALIS. CENTRIFUGAL	EXPERIENTIAL PERFECT

**4. A Sketchy Analysis**

Before moving on to the analysis, we summarize the observations of the characters of the postverbal particles in Naxi. First of all, the postverbal particles are not inflected, which should be separated from sentence-final particles (SFP). The SFP in Naxi is used to express the mood of a sentence, or modulate the tone of a message in an imperative sentence or other forms of speech, which is very much like Chinese sentence-final particle *ma* 吗, *ne* 呢, *ba* 吧. Secondly, the functional expressions of aspect, direction and evidentiality are realized in the postverbal particles. They are syntactic, and involved in determining the grammaticality of a sentence. Moreover, the postverbal particles in Naxi exhibit strong verbal characters. They have their origins in verbs, and nowadays their verbal uses are still retained.

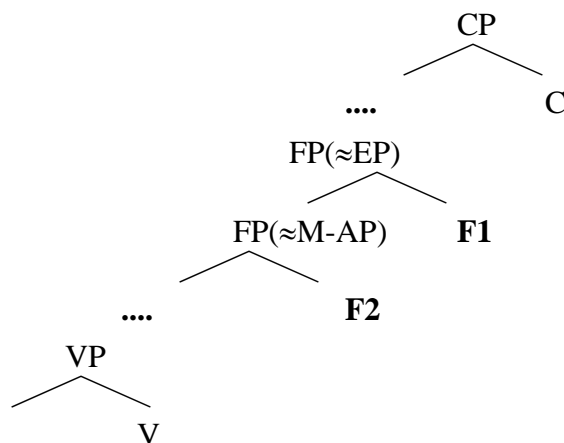
To account for the features of the postverbal particles in Naxi, I firstly differentiated the sentence-final particles from the postverbal particles by placing them in CP domain and in FP domain (cf. IP domain in Mei (2002)). Tree diagram (21) is basically based on Mei (2002):



According to Mei (2002), EgoP(EP), LocusP(LP) and M-AP(Modal-AspectP) are all inflectional projections. In Naxi, however, the development of verbal category to inflectional category is still in progress, in consideration of the facts that there is no inflection in Naxi and that the postverbal particles display strong verbal characters. To catch the facts, I hereby propose functional projections for the postverbal particles in Naxi. The so-called functional projections are between the inflectional projections (IP) and the projections of functional light verbs (*vP*).

The system works by placing the postverbal particles in the predicate in various combinations according to a fixed order. Look at the modified tree diagram in (22a) and their contents in (22b):

(22)a.



b. F1: DIRECTION; EVIDENTIALITY

F2: MODAL/ASPECT

PROSPECTIVE, PERFECTIVE, PAST EXPERIENCE, INCHOATIVE ...etc.

The advantages of the analysis can basically account for the clustering characters of the postverbal particles in Naxi:

- (23)
- a. No inflected postverbal particles; i.e. no grammatical categories.
  - b. The postverbal particles should be differentiated from SFP.
  - c. The postverbal particles exhibit strong verbal characters.
  - d. The analytic postverbal particles are developed from the synthetic verbs, which is an ongoing development in Naxi grammar.
  - e. The postverbal particles are relevant to the locational stance or the locational stance or perspective of the speaker.

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## The Scalarity of Dou in Focus Structure<sup>1</sup>

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This paper studies the semantics of scalar *dou* ‘roughly all’ in what is called *lian...dou/ye* ‘even...all/also’ construction in Mandarin Chinese. The dominant view in the literature is to assume that the scalar meaning is structural and scalar *dou* is treated on a par with distributive *dou* in the context of plural definites (e.g. Shyu 1995, Wu 1999, Portner 2002). In this paper, I address some rarely discussed issues such as the *dou / ye* alternation and the optionality of *lian*. I conclude that the scalarity comes from both *lian* and *dou* and I propose a way to capture their scalarity. In addition, a compositional semantics to *lian...dou/ye* is provided based on the semantics of each piece. Finally, some implications of the analysis are discussed.

### 0. Introduction

We know that *dou* as a distributive operator goes with a plural NP but not with a singular NP, as in the examples below<sup>2</sup>.

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<sup>1</sup> This is a part of chapter 3 of my dissertation (Chen, 2008). For more detailed discussions of the issue, I refer readers to the dissertation.

<sup>2</sup> But plurality is neither sufficient nor necessary to license *dou*. For example, a quantifier phrase such as *yixie*-NP ‘some’ doesn’t go with *dou* even if it is plural, as shown in (i).

- (i) \* *Youxie haizi dou hua le yifuhua.*  
some kid dou draw -ASP one-CL picture  
‘Some kids drew a picture.’

In addition, as has been noticed by Lin (1998), Wu (1999), etc., *dou* is perfect with a singular NP, as in (ii), because the predicate *reading* may be said to hold of each salient part of a book: pages, units, chapters etc. This contrasts with (iii) where the use of *dou* is not acceptable because you normally buy a book as a whole but not any part of it. In other words, there are no contextually plausible parts for *dou* to quantify over.

- (ii) *Zheben shu, ta dou dule*  
this-CL book, he dou read-ASP  
‘He has read all of the book.’
- (iii) \**Zheben shu, ta dou maile*  
this-CL book, he dou buy-ASP  
‘He has bought this book.’



- (1) [John he Mary] dou hua le yifuhua.  
 John and Mary dou draw -ASP one-CL picture  
 (i) 'John and Mary each drew a picture.'  
 (ii) \* 'John and Mary together drew a picture.'
- (2) [John] (\* dou) hua le yifuhua.  
 John dou draw -ASP one-CL picture  
 'John drew a picture.'

In sharp contrast to (2), a singular NP, when focused, is fully acceptable with *dou*, as shown in (3). Interestingly, the combination of focus and *dou* leads to a scalar reading, similar to English sentences with *even*. For instance, (3) may be uttered by a preschool teacher expressing her surprise about John's drawing a picture, given that John has never been cooperative in doing what the teacher has told him to do.

- (3) [John]<sub>f</sub> dou hua le yifuhua.  
 John dou draw -ASP one-CL picture  
 'Even John drew a picture.'

The above scalar reading has generally been taken to involve the '(*lian*)...*dou*' 'even...*dou*' construction with a silent *lian*, according to Chinese traditional grammars. For example, (3) is assumed to be (4). And a well-known feature about this structure is that *dou* may be replaced by *ye* 'also' without changing the meaning of the sentence. This is shown in (5).

- (4) (Lian) [John]<sub>f</sub> dou hua le yifuhua.  
 even John dou draw -ASP one-CL picture  
 'Even John drew a picture.'
- (5) (Lian) [John]<sub>f</sub> dou/ye hua le yifuhua.  
 even John dou / also draw -ASP one-CL picture  
 'Even John drew a picture.'

However, when *lian* is overtly present, *dou* or *ye* has to be present, as shown in (6). This is in parallel to *mei*-NP and quantificational *dou*, as illustrated in (7).<sup>3</sup>

- (6) Lian [John]<sub>f</sub> \*(dou/ ye) hua le yifuhua.  
 even John dou / also draw -ASP one-CL picture  
 'Even John drew a picture.'

<sup>3</sup> See Lin (1998) and Yang (2001) for analyses of *dou* with *mei*-NP.

- (7) Meige haizi \* (dou) huale yifuhua  
 Every-CL kid dou draw-ASP one-CL picture  
 ‘Every kid drew a picture.’

Below I will address the following issues: What is the contribution of the various particles? Or what is the source of the scalar reading? And how can we capture the scalarity observed in sentences with focus and *dou*?

### 1. The sources of the scalar reading

We show below that the scalarity comes from two sources: from *dou* and from *lian*. The scalarity of *dou* can be seen by comparing it with *ye* and the scalarity of *lian* can be identified by comparing *ye* with *lian...ye*. In addition, it is suggested that the scalarity of *dou* comes from its presupposition that makes reference to the speaker’s expectation. The scalarity of *lian*, on the other hand, is suggested to be inherent, in the way that the scalarity is inherent in the meaning of English *even*.<sup>4</sup>

#### 1.1. The scalar reading of *dou*

The scalar reading of *dou* is seen clearly in the examples below, where *lian* is absent. In (8) and (9), the object *problem 2* is preposed before *dou* and *ye* in order to be focused.<sup>5</sup>

- (8) John [di’er ti]<sub>f</sub> dou zuochulai le.  
 John 2<sup>nd</sup> problem dou figure out ASP  
 ‘John solved even problem 2.’

- (9) John [di’er ti]<sub>f</sub> ye zuochulai le.  
 John 2<sup>nd</sup> problem also figure out ASP  
 ‘John solved also problem 2.’

(8) with *dou* minus *lian* has the *even* meaning: John’s solving problem 2 is less likely or less expected. In other words, problem 2 is considered difficult. But (9) with *ye* minus *lian* has the *also* meaning without implicating whether the problem is difficult or not. Suppose the alternative problems to problem 2 are problem 1, 3, and 5, then (9) holds as long as John also solved problem 1 or problem 3 or problem 5, but this is not the case for (8). For (8) to be felicitous, problem 2 has to be a difficult problem with respect to the

<sup>4</sup> According to Karttunen and Peters (1979), *even* is associated with two presuppositions: scalarity and existentiality. We will introduce the differences between the two readings in section 3.3.1 when we discuss the semantics of *even*. But in the following discussion of *dou*, *lian* and *ye*, I use the terms scalarity and existentiality in the sense of Karttunen and Peters (1979).

<sup>5</sup> Object preposing in Chinese is considered as a case of focalization in the literature. See Shyu (1995) and Zhang (1997) for detailed discussions about it.

alternatives to it. In other words, *dou* in (8) invokes a ranking between the NP in focus and its alternatives but *ye* in (9) doesn't.

The above contrast between *dou* and *ye* is corroborated by the fact below. When a scale is explicitly expressed between *problem 2* and *problem 5* such that the imposed ranking is destroyed, as in A in (10), (8) becomes inappropriate as an answer. But (9) with *ye* is acceptable. This is because the latter is felicitous as long as there is at least one alternative that is true in the context without imposing any order between the NP in focus and its alternatives.

- (10) A: John solved problem 5, which was the most difficult problem. Did he solve problem 2?  
 B: (8)<sup>BAD</sup>/ (9)<sup>OK</sup>

In addition, the claimed *dou/ye* contrast resembles that of *even/also*. As discussed in Rullmann (1997), who gives credit to Horn (1972), the replacement of *even* by *also* in B's answer in (11) leads to the infelicity of the sentence.

- (11) A: Is Claire an [assistant]<sub>f</sub> professor?  
 B: Assistant professor? She is even/ \*also an [associate]<sub>f</sub> professor!

According to him, this is because *also* carries an existential presupposition which is either in conflict with the asserted content of the sentence or with our knowledge of the world. For instance, the answer in B with *also* would presuppose that Claire is an associate professor in addition to being an assistant professor, which is in conflict with our knowledge of the academic profession. In contrast, the felicity of *even* in this context shows that *even* doesn't commit us to the sort of existentiality claimed to hold for *also*.

Turning to Chinese, the corresponding sentence with *dou* is good but the sentence with *ye* is not.

- (12) A: Is Claire an [assistant]<sub>f</sub> professor?  
 B: Zhuli jiaoshou? ta [fu]<sub>f</sub> jiaoshou <sup>OK</sup>dou/ \* ye shi le.  
 assistant professor? she associate professor dou/also be ASP

This shows that independently of *lian*, *dou* is scalar but *ye* is not. The *dou*-statement imposes an order or a scale between the NP in focus and its alternatives; the *ye*-statement introduces only existentiality. This explains their contrasting behavior in (10) and (12) above. In (10), when the required scale for the *dou*-statement doesn't exist any more, the *dou* sentence becomes odd, but the *ye* sentence is acceptable. On the other hand, in (12), when the existential interpretation conflicts with our world knowledge, the *ye* statement becomes odd but the *dou* statement is good.

## 1.2 The scalar reading of *lian*

*Lian* has been claimed to be an optional element in obtaining a scalar reading for a sentence containing *dou* or *ye*. Below I present two arguments against this claim.

First, the *dou/ye* difference with respect to scalarity in (10) disappears with the addition of *lian*. In particular, while the *ye* statement in B's answer in (10) is felicitous in a context that doesn't support the expected scalarity, this is no longer the case when *lian* is added to it. As shown in (13), the addition of *lian* forces a scalar reading for the sentence, making the *ye* statement similar to the *dou* statement with respect to scalarity. As a result, it is no longer a felicitous answer to (10), as shown in (14).

- (13) John *lian* [di'er ti]<sub>f</sub> ye zuochulai le.  
 John even 2<sup>nd</sup> problem also figure out ASP  
 'John solved even problem 2.'

- (14) A: John solved problem 5, which was most difficult. Did he solve problem 2?  
 B: \*(13)

The above contrast between the *ye* statement and the *lian...ye* statement indicates that *lian* is the source of scalarity. It implies that *lian* is not fully optional as has been commonly assumed, because otherwise the above difference between *ye* and *lian...ye* would be unexpected. The contribution of *lian* to scalarity is also seen in (15), where the *dou/ye* difference with respect to existentiality still exists when *lian* is added to them.

- (15) A: Is Claire an [assistant]<sub>f</sub> professor?  
 B: Zhuli jiaoshou? ta *lian* [fu]<sub>f</sub> jiaoshou <sup>OK</sup>dou/ \* ye shi le.  
 assistant professor? she even associate professor dou/also be ASP

Given that *lian* is scalar, the infelicity of *lian...ye* indicates that the existentiality claimed to be part of the meaning of *ye* is still there. That is, *lian + ye* has both scalarity and existentiality. This contrast with *lian...dou* that seems to have only the scalar meaning. As mentioned earlier, the *even/also* difference in English led Rullmann to claim that *even* has only the scalar presupposition but not the existential one. The difference between *lian...dou* and *lian...ye* suggests that *lian*, like *even*, has only the scalar presupposition but not the existential one.<sup>6</sup>

To reiterate, *lian* is the source of scalarity and it doesn't involve the existential presupposition.<sup>7</sup> In addition, *lian...dou* is not identical to *lian...ye*. The former has only

<sup>6</sup> As we will see shortly, this differs from the analysis of *even* in Karttunen and Peters (1979), which assumes that *even* has both scalarity and existentiality.

<sup>7</sup> That *lian* is like *even* is indirectly supported by *lihn* 'include' in Cantonese. As discussed in Shank (2004), Cantonese *dou*, as in (i), can mean either 'also' or 'even'. But the two readings can be disambiguated by using *lihn* before the focused item, as in (ii), where *lihn* forces the scalar

scalarity, but the latter has both scalarity and existentiality. Below I provide one more evidence for the claimed difference between *lian...dou* and *lian...ye*.<sup>8</sup>

In (16), both *dou* and *ye* are good with a scalar reading. But in a situation where there are only two problems under consideration, the difference between *dou* and *ye* shows up. As in (17), the *lian...dou* statement is ok with the continuation that *John didn't solve the other problem* but the *lian... ye* statement is no longer acceptable.

(16) John *lian* [di'er ti] dou /ye zuo chulaile *lian...dou/ lian...ye*  
 John *lian* problem 2 dou /also figure out ASP.  
 'John solved even problem 2'

(17) John *lian* [di'er ti] dou / \* ye zuo chulaile, *lian...dou/ \*lian...ye*  
 John *lian* problem 2 dou /also figure out ASP.  
 buguo ta mei zuochulai lingyidao.  
 but he not work out another one-CL  
 'John solved even problem 2, but he didn't solve the other problem.'

(17) with *lian...dou* conveys the idea that John is a careless type of person. He solved the difficult problem, but failed to work out the less difficult one. In this context, *lian...ye* is not felicitous. This is because *ye* has the existential presupposition that requires that there

*even* reading.

- (i) Ngoh a-John dou jin-jo  
 I par-John also see-pfv  
 (a) I even saw John  
 (b) I saw John too.
- (ii) Ngoh lihn [ a-John ]<sub>f</sub> dou jin-jo  
 I include par-John also see-pfv  
 (a) I even saw John  
 (b) \*I saw John too.

This shows that Mandarin is different from Cantonese in that Cantonese *dou* is ambiguous between the existential and the scalar reading, Mandarin *dou* is not. The latter is always scalar and it is lexically distinct from the non-scalar *ye*. In addition, in Cantonese, the use of *lihn* may disambiguate the two readings of *dou*, Mandarin *lian* forces a scalar reading for the *ye* statement. Given the difference between *dou* and *ye* in Mandarin Chinese, this seems to support our view that it is *lian* that provides the scalarity to *ye* in Mandarin Chinese.

However, it is not clear to me whether existentiality stays in *lihn...dou* in Cantonese. From what I know about Mandarin *dou*, I would not expect Cantonese *dou* to appear in the assistant/associate professor example if, as claimed by Shank, it always carries an existential presupposition. However, if *lihn...dou* is acceptable in the above context, it implies that existentiality is not involved.

<sup>8</sup> This potential difference between *lian...dou* and *lian...ye* here is brought to my attention by Veneeta Dayal.

be at least one alternative that is true in addition to the proposition that John solved problem 2. Since the only available alternative is denied in the second conjunct, the *lian...ye* statement becomes infelicitous.

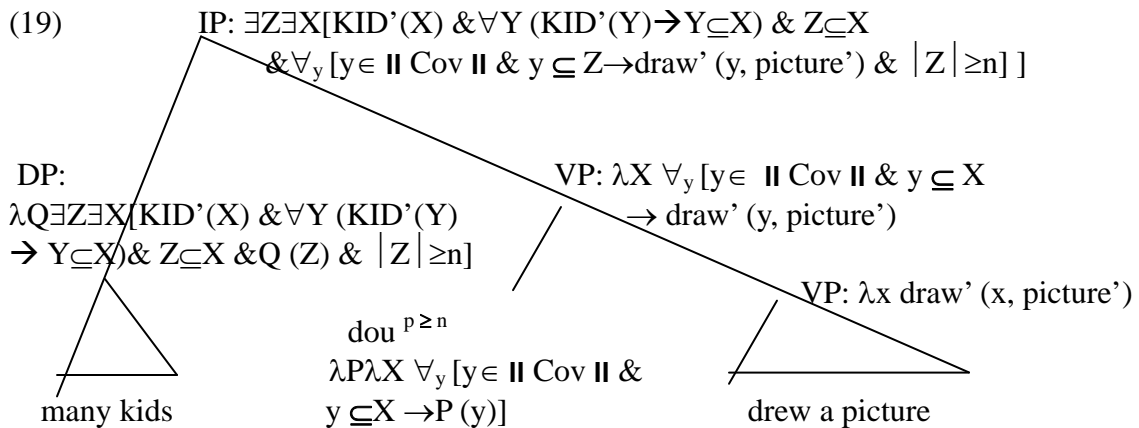
To sum up, the scalar reading in *lian...dou/ye* might come from either *dou* or *lian* and the scalarity of the latter is inherent to its meaning much as scalarity is inherent to the meaning of *even*. But where does the scalarity of *dou* come from? We turn to this topic next.

### 1.3. The source of the scalarity of *dou*

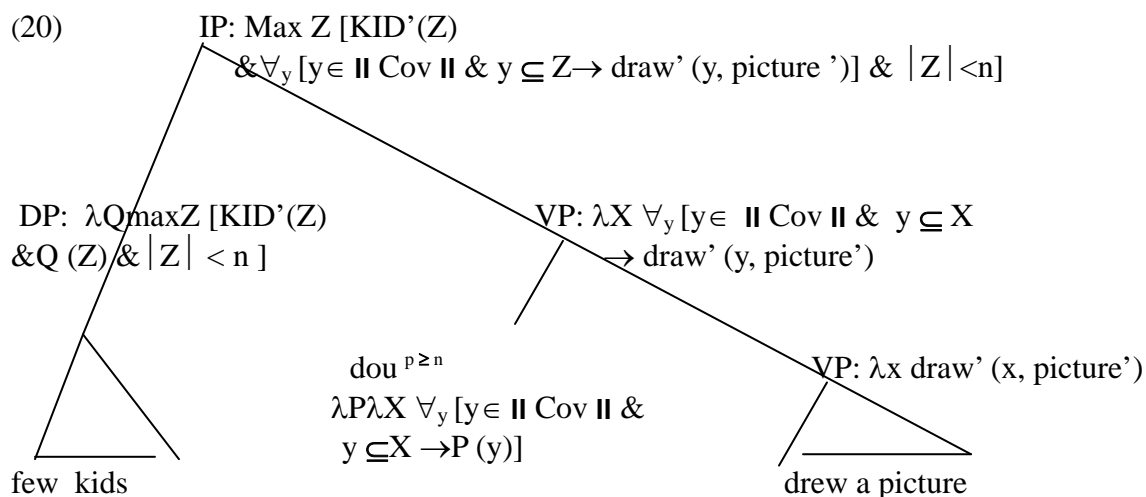
In this section, I discuss the scalarity of *dou*, suggesting that it arises from its presupposition of high expectation following Chen's (2005) analysis of *dou* for quantified statements.

In Chen (2005), to account for the *dou* (dis)harmony effect such as that in (18), she proposes that *dou* has a presupposition relative to the speaker's expectation. That is, *dou* is felicitously used only when the assertion of the sentence meets or exceeds the speaker's expectation about the predication. In this view, the (dis)harmony in (18) follows from the match or mismatch between the presupposition of *dou* and the semantics of the quantifier concerned. This is shown in (19) and (20), where  $dou^{p \geq n}$  stands for the presupposition of *dou*.<sup>9</sup>

- (18) *many NP...dou/ \*few NP...dou*  
 Henduode / \*Henshaode haizi dou huale hua  
 many /few kid dou draw-ASP picture  
 'Many / Few kids drew a picture.'



<sup>9</sup>  $dou^{p \geq n}$  stands for the following: (a) An assertion that the number of individuals denoted by the common noun with the property denoted by the verb phrase is equal to or greater than n. (b) A presupposition that the speaker expected that the number of individuals denoted by the common noun with the property denoted by the verb phrase would be less than or equal to n.



In (19), the semantics of *many* requires that the cardinality of the set of kids who drew a picture is equal to or above the speaker's expectation. So suppose 12 out of 20 kids meets the speaker's expectation, the sentence is true when the cardinality of the plurality is 12 or above. This high expectation requirement of *many* matches well with that of *dou*, because in the assertion of the proposition with *dou*, the speaker's expectation must have been met or exceeded. In other words, the felicity of the *dou* statement in this context entails that the speaker had a low expectation about the number of the kids who have the relevant property.

However, in (20), the semantics of *few* clashes with the presupposition of *dou* with respect to the speaker's expectation. In particular, the semantics of *few* requires that the cardinality of Max Z should be smaller than the expectation *n*. In the context set above, this means that the number of kids who drew a picture should be below 12. But this is in conflict with the presupposition of *dou*, which requires that the number of kids be 12 or above in this context. Therefore, *dou* and *few* cannot co-occur because the presupposition of *dou* is not satisfied.

Against this background, now we turn back to *dou* in *lian...dou* constructions and see if the scalarity of *dou* can be handled along the same lines.

As discussed above, (21) implies that John's solving problem 2 is not expected. Concretely, if there are two alternative problems, problem 3 and 4 in this context, (21) is felicitous only when problem 2 is a problem that is more difficult than its alternative problems. Assuming *dou* here also has the expectation-oriented presupposition, this means that the assertion of the proposition with *dou* exceeds the expectation of the speaker. If the expectation is a proposition that makes reference to the alternative set such as that in (22), then *dou* has the presupposition that relates the proposition to the speaker's prior expectation by separating the set into two subsets, those that exceed the

expectation and those that fall below.<sup>10</sup> In other words, (21) entails that the speaker had expected that John might solve problem 3 or problem 4.<sup>11, 12</sup> Thus an analogy can be drawn between *dou* in quantified statements and *dou* in *lian...dou* if we assume that the speaker's expectation for the latter can be established through the alternative propositions induced by focus.

(21) John (lian) [di'er ti]<sub>f</sub> dou zuochulai le.  
 John even 2<sup>nd</sup> problem dou figure out ASP  
 'John solved even problem 2.'

(22) {John solved problem 2, John solved problem 3, John solved problem 4}

Having identified the functions of *dou*, *ye* and *lian*, our goal next is to provide a compositional semantics for them. 2.1 briefly introduces focus semantics and the semantics for *even* on which we build our analysis. 2.2 shows how the particles are combined. 2.3 is a summary.

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<sup>10</sup> The alternative semantics of focus will be introduced in the next section.

<sup>11</sup> The claimed implication is also available in the negative context, as shown in (i). It asserts that John didn't solve problem 2. The use of *dou* expresses that the assertion exceeds the speaker's expectation. That is, the speaker had expected that John would not solve problem 3 or problem 4.

(i) a. John [di'er ti]<sub>f</sub> dou mei zuochulai le.  
 John 2<sup>nd</sup> problem dou not figure out ASP  
 'John even didn't solve problem 2.'

b. {John didn't solve problem 2, John didn't solve problem 3, John didn't solve problem 4}

In addition, it is impossible to put the negation *mei* in front of *dou*, just as in the case of *dou* in quantified statements, as mentioned in section 2.4.1 in chapter 2. This is shown in (ii) and (iii) below.

(ii) \* John [di'er ti]<sub>f</sub> mei dou zuochulai le. \* [not...dou]  
 John 2<sup>nd</sup> problem not dou figure out ASP  
 Intended: 'John even didn't solve problem 2.'

(iii) \* You 10 ge xuesheng mei dou xuan zheminke \* [not...dou]  
 exist 10 CL student not dou choose this CL course  
 Intended: 'There are 10 students who didn't sign up for the course.'

<sup>12</sup> Like it is in the positive sentence, *ye* in this context doesn't have the scalar reading either:

(i) John [di'er ti]<sub>f</sub> ye mei zuochulai le.  
 John 2<sup>nd</sup> problem also not figure out ASP  
 'John didn't solve problem 2, either.'



## 2. Combining focus sensitive particles

### 2.1. Background on focus semantics

In the alternative semantics of Rooth (1985, 1992), focus expresses a semantic value  $\llbracket \alpha \rrbracket^f$  in addition to its ordinary semantic value  $\llbracket \alpha \rrbracket^0$ . The former is a set of propositions from which the ordinary semantic value is drawn. For example, the ordinary semantic values for the two sentences in (23) are the same: *Mary like Sue*, the proposition that denotes the set of worlds in which Mary likes Sue. However, the focus semantic values for them are different depending on whether the focus is on *Mary* or on *Sue*.

- (23) a.  $[Mary]_f$  likes Sue.  
b. Mary likes  $[Sue]_f$

The focus semantic value for (23a) is the set of propositions of the form ‘x likes Sue’, while the focus semantic value for (23b) is the set of propositions of the form ‘Mary likes y’. Suppose the domain of individuals includes Mary, Linda, Sue, and Lisa, the alternative propositions for the above sentences may be the following:

- (24) a.  $\llbracket [Mary]_f \text{ likes Sue} \rrbracket^f = \{\text{Mary likes Sue, Linda likes Sue, Lisa likes Sue}\}$   
b.  $\llbracket \text{Mary likes } [Sue]_f \rrbracket^f = \{\text{Mary likes Sue, Mary likes Linda, Mary likes Lisa}\}$

The scalar particle *even* shows association with focus. According to Karttunen and Peters (1979) & Rooth (1985), among others, *even* doesn’t affect the truth condition of the sentences in which it appears, but it introduces presuppositions that bear on the semantic value expressed by focus. Specifically, it expresses a relation between the truth-conditional content of the sentence and the focus semantic value of the sentence. For example, for both sentences in (25), the truth conditional content or the assertion is (26). What *even* contributes to each sentence are presuppositions that relate the assertion to the focus semantic values. What this means is that the role of *even* in (25a) is to relate the assertion to the set of propositions in (24a) and that of *even* in (25b) is to relate the assertion to the set of propositions in (24b).

- (25) a. Even  $[Mary]_f$  likes Sue.  
b. Mary likes even  $[Sue]_f$   
(26) Mary likes Sue.

Karttunen and Peters (1979) assumes that *even* builds in existentiality and scalarity. The former requires that at least one of the alternative propositions other than the assertion be true, and the latter requires that the assertion is the least likely among all of the alternative propositions. Following the notation of Rooth (1985), this is done in (27), where *even* quantifies over propositions that are restricted by the context variable C:

- (27) a. Existentiality:  $\exists p [C(p) \ \& \ \checkmark p \ \& \ p \neq \wedge a]$   
 b. Scalarity:  $\forall p [[C(p) \ \& \ p \neq \wedge a] \rightarrow \text{likelihood}'(p) > \text{likelihood}'(\wedge a)]$

The existential implicature in (27a) says that there is some proposition  $p$  that is restricted by  $C$ , which is true, and it is distinct from the assertion,  $\wedge a$ . The scalar implicature in (27b) says that for all true propositions of the form  $p$  that are restricted by  $C$  and they are distinct from the assertion,  $\wedge a$ , the likelihood of  $p$  exceeds that of  $\wedge a$ . Under this view, the presuppositions of *even* in (25a), for example, are as follows:

- (28) a. Existential presupposition:  
 $\exists p [\exists x [p = \wedge \text{like}'(x, \text{Sue}) \ \& \ \checkmark p \ \& \ p \neq \wedge \text{like}'(\text{Mary}, \text{Sue})]]$   
 b. Scalar presupposition:  
 $\forall p [\exists x [[p = \wedge \text{like}'(x, \text{Sue}) \ \& \ p \neq \wedge \text{like}'(\text{Mary}, \text{Sue})] \rightarrow \text{likelihood}'(p) > \text{likelihood}(\text{like}'(\text{Mary}, \text{Sue}))]]$

In (28), (a) says that a proposition of the form  $x$  likes *Sue* is true and it is not identical to the assertion *Mary likes Sue*. (b) says that for all true alternative propositions in the form of  $x$  likes *Sue*, which are distinct from the assertion, they are more likely than the assertion *Mary likes Sue*. This amounts to saying that *Mary likes Sue* is the least likely among all the alternative propositions.

Having introduced focus semantics and the semantics of *even*, below we show how the particles in Chinese are combined following this approach.

## 2.2. Combining the particles

Recall that in previous section, we made the following claims. First, both *dou* and *lian* are scalar and *ye* is existential. Second, following Rullmann, we claimed that *lian* has only the scalar presupposition but not the existential one. Third, the scalarity of *dou* was assumed to come from its expectation-oriented presupposition. Here I propose to represent the claimed presuppositions of *lian*, *dou* and *ye* as follows:

- (29) a. The scalar presupposition<sup>lian</sup>  
 $\forall q [[C(q) \ \& \ q \neq \wedge p] \rightarrow q >_{\text{likely}} \wedge p]$   
 b. The existential presupposition<sup>ye</sup>  
 $\exists q [C(q) \ \& \ \checkmark q \ \& \ q \neq \wedge p]$   
 c. The scalar presupposition<sup>dou</sup>  
 $\forall q [[C(q) \ \& \ q \neq \wedge p] \rightarrow \wedge p >_{\text{speaker-expectation}} q]$

The presuppositions of *lian* and *ye* in (a) and (b) are identical to the scalar presupposition and the existential presupposition of *even* respectively. The former imposes a scalar relationship between the assertion and the alternative propositions. The latter requires that there be another true alternative that is distinct from the assertion. The presupposition of *dou* in (c) says that for all true propositions of the form  $q$  that are

restricted by C, which are distinct from the assertion, the assertion exceeds the speaker's expectation q.

In this approach, *lian...dou* and *lian...ye* are combined as follows. First, we look at a case with *dou* in (30). As discussed earlier, this sentence may have the ordinary semantic value and focus semantic value in (31a) and (31b) respectively, assuming there are only two alternative problems, problem 3 and problem 4, in this context.

(30) John [di'erti]<sub>f</sub> dou zuochulaile [NP<sub>f</sub> + dou]  
 'John solved even problem 2.'

(31) a.  $\llbracket \text{John [di'erti]}_f \text{ dou zuochulaile} \rrbracket^0 = \text{John solved problem 2}$   
 b.  $\llbracket \text{John [di'erti]}_f \text{ dou zuochulaile} \rrbracket^f = \{ \text{John solved problem 2, John solved problem 3, John solved problem 4} \}$

What *dou* introduces to the sentence will be the presupposition in (32) that relates the above ordinary semantic value to the focus semantic value via the expectation of the speaker:

(32) The scalar presupposition<sup>dou</sup>  
 $\forall q \llbracket C(q) \ \& \ q \neq p \rrbracket \rightarrow p >_{\text{speaker-expectation}} q$

This says that for all propositions of the form q that are restricted by C, which are true, and they are not identical to the assertion,  $\wedge p$ . That is, the assertion exceeds the expectation of q. In the case of (30), this means that the speaker expected that John would solve problem 3 or problem 4, but John's solving problem 2 exceeded the expectation of the speaker. This gives rise to the scalar reading of the sentence.

Now we look at (33) that involves *lian...dou*. As shown in (34), when the *dou* statement combines with *lian*, its assertion (ordinary semantic value) and the alternative propositions (focus semantic value) remain the same as in the earlier case without *lian*. But *lian* here imposes a scalar relationship between the assertion and the alternative propositions: the assertion is less likely than the alternatives that are not identical to the assertion. Concretely, this says that *John solved problem 2* is less likely than *John solved problem 3 or problem 4*. This implies that problem 2 is a difficult problem. This is compatible with the presupposition of *dou*, which requires that the assertion *John solved problem 2* exceeds the speaker's expectation. This is because the requirement can only be satisfied when problem 2 is a difficult problem.

(33) John *lian* [di'erti]<sub>f</sub> dou zuochulaile [*lian* NP<sub>f</sub> + dou]  
 'John solved even problem 2.'

- (34) a.  $\llbracket \text{John lian } [di'erti]_f \text{ dou zuochulaile} \rrbracket^0 = \text{John solved problem 2}$   
 b.  $\llbracket \text{John lian } [di'erti]_f \text{ dou zuochulaile} \rrbracket^f = \{ \text{John solved problem 2, John solved problem 3, John solved problem 4} \}$   
 c. The scalar presupposition<sup>dou</sup>  
 $\forall q \llbracket [C(q) \ \& \ q \neq \wedge p] \rightarrow \wedge p \gg_{\text{speaker-expectation}} q \rrbracket$   
 d. The scalar presupposition<sup>lian</sup>  
 $\forall q \llbracket [C(q) \ \& \ q \neq \wedge p] \rightarrow q \gg_{\text{likely}} \wedge p \rrbracket$

Even though the *dou* statement and the *lian...dou* statement are logically distinct, their meanings converge in a way that gives the effect of optionality.

Now we look at the cases with *ye* and *lian...ye*. In (35) with *ye*, the assertion and the alternative propositions are the same as the previous sentences with *dou*. The difference is the presupposition *ye* introduces to the sentence. As in (36), *ye* requires that there be a true statement that is not identical to the assertion. That is, it is satisfied as long as there is another true statement that is not identical to *John solved problem 2*. Thus the *ye*-statement carries only the existential meaning but not the scalar meaning, as we have previously discussed.

- (35) John  $[di'erti]_f$  ye zuochulaile [NP<sub>f</sub> + ye]  
 'John solved also problem 2.'

- (36) a.  $\llbracket \text{John } [di'erti]_f \text{ ye zuochulaile} \rrbracket^0 = \text{John solved problem 2}$   
 b.  $\llbracket \text{John } [di'erti]_f \text{ ye zuochulaile} \rrbracket^f = \{ \text{John solved problem 2, John solved problem 3, John solved problem 4} \}$   
 c. The existential presupposition<sup>ye</sup>  
 $\exists q [C(q) \ \& \ \vee q \ \& \ q \neq \wedge p]$

(37) shows the meaning of the sentence with *lian...ye*. It differs from the *ye* statement in the added presupposition of *lian* in (38d). As explained earlier, *lian* introduces a scalar presupposition that ranks the assertion *John solved problem 2* as the least likely among all alternative propositions. Thus the combination of *lian* and *ye* gives the sentence both scalar and existential meanings.

- (37) John *lian*  $[di'erti]_f$  ye zuochulaile [*lian* NP<sub>f</sub> + ye]  
 'John solved even problem 2.'

- (38) a.  $\llbracket \text{John lian } [di'erti]_f \text{ ye zuochulaile} \rrbracket^0 = \text{John solved problem 2}$   
 b.  $\llbracket \text{John lian } [di'erti]_f \text{ ye zuochulaile} \rrbracket^f = \{ \text{John solved problem 2, John solved problem 3, John solved problem 4} \}$

- c. The existential presupposition <sup>ye</sup>  
 $\exists q [C(q) \& \forall q \& q \neq p]$
- d. The scalar presupposition <sup>lian</sup>  
 $\forall q [[C(q) \& q \neq p] \rightarrow q >_{\text{likely}} p]$

However unlike *dou* and *lian...dou* which may converge in a way to give the effect of optionality of *lian*, this doesn't happen for *ye* and *lian...ye*.

The advantage of packaging meaning this way is that it enabled us to capture the differences and similarities between *dou* and *ye* on the one hand and *lian...dou* and *lian...ye* on the other. For instance, in the assistant/associate professor example, *dou* merely indicates what the speaker's expectations were about the alternative propositions, not about the alternatives being true. *Ye*, on the other hand, has precisely this implicature, leading to the contrast observed. In addition, it enabled us to derive the meanings of *lian...dou* and *lian...ye* from each piece whose semantics can be independently motivated.

### 3. Implication<sup>13</sup>

The analysis we have proposed for focus *dou* clearly rests on the view that there are two distinct *dou*'s in Chinese, both connected by an expectation-oriented presupposition. Below we provide empirical evidence to support this view. We show that a sentence with *dou* can be ambiguous between the scalar reading and the distributive reading whether it involves a singular NP or a plural NP.

First, (39) with a singular NP is ambiguous depending on whether *dou* is stressed or not. When *dou* is stressed, we get the distributive reading and when *dou* is not stressed, we get the scalar reading.<sup>14</sup> When *lian* is added, as in (40), the scalar reading is salient but the distributive reading is not.

<sup>13</sup> This analysis raises many further issues such as the potential redundancy between *lian* and *dou* assuming both introduce scalarity, the dependence of *lian* on *dou/ye*, and scalarity of *ye* statements etc. In view of the space, I discuss only the ambiguity of *dou* here. I refer readers to Chen (2008) for discussions of other issues.

<sup>14</sup> The fact that *dou* shows differing stress patterns in different structures is not a new observation. For example, Hole (2004) cited the following from Sybesma (1996), claiming that distributive *dou* in (i) must bear stress and scalar *dou* in (ii) can't bear stress. But they didn't discuss ambiguity of *dou* in a sentence or a sentence with a singular NP.

- (i) Tamen dou<sup>stress</sup> lai le  
 they dou come-ASP  
 'They all came.'
- (ii) Lian [tamen]<sub>f</sub> dou /\*dou<sup>stress</sup> lai le  
 even they dou come-ASP  
 'Even they came.'

- (39) Zheben shu, ta dou dule  
 this-CL book, he dou read-ASP  
 (i) ‘He has read all of this book.’ - Distributive, *dou*<sup>stressed</sup>  
 (ii) ‘He has read even this book.’ -Scalar, *dou*<sup>unstressed</sup>
- (40) Lian [zheben shu]<sub>f</sub>, ta dou kanle  
 even this-CL book, he dou see-ASP  
 (i) ‘He has read even this book.’  
 (ii) ? ‘He has read all of the book.’

The difference between (39) with a stressed *dou* and (40) with *lian...dou* can be seen in (41), where a stressed *dou* is not ok with the continuation ‘but he hasn’t finished it’, but an unstressed *dou* is. In other words, the distributivity in the former cannot be cancelled but the distributivity in the latter can. Thus if *dou* in (40) involves a distributive reading at all, it is not the same as the one in (39). Thus the two *dou*’s should be separated.

- (41) a. Zheben shu ta dou<sup>stressed</sup> dule, \* keshi hai meiduwan  
 this-CL book, he dou read-ASP but still not finish  
 ‘He has read the entire book. But he hasn’t finish it yet.’
- b. Lian zheben shu, ta dou dule, keshi hai mei duwan  
 even this-CL book, he dou read-ASP, but still not finish  
 ‘He has read even THIS BOOK. But he hasn’t finished it yet.’

A sentence with a plural NP shows the same ambiguity. For instance, our old example in (42) has both distributive reading and scalar reading:

- (42) John he Mary dou hua le yifuhua.  
 John and Mary dou draw -ASP one-CL picture  
 (i) ‘John and Mary each drew a picture.’ - Distributive, *dou*<sup>stressed</sup>  
 (ii) ‘Even John and Mary drew a picture.’ -Scalar reading, *dou*<sup>unstressed</sup>

In fact, to get the ‘scalar-distributive’ reading for (42), two *dou*’s can even appear overtly in the same sentence. As in (43), when scalar *dou* (*dou*<sup>scalar</sup>) is in front of distributive *dou* (*dou*<sup>dist</sup>), the sentence has the scalar-distributive meaning: That John and Mary each drew a picture was something the speaker had not expected.<sup>15</sup>

<sup>15</sup> Roger Schwarzschild (p.c) raised a question about the order of the two *dou*’s. In fact, scalar *dou* must precede distributive *dou*. The sentence is bad when we reverse the positions of the two *dou*’s as in (i), showing that distributive *dou* somehow has to be closer to the VP than scalar *dou*.  
 (i) \* [John he Mary]<sub>f</sub> dou<sup>dist</sup> dou<sup>scalar</sup> hua le yifuhua

- (43) (Lian) [John he Mary]<sub>f</sub> dou<sup>scalar</sup> dou<sup>dist</sup> hua le yifuhua  
 even John and Mary dou dou draw -ASP one-CL picture  
 (i) ‘Even John and Mary each drew a picture’  
 (ii) \* ‘Even John and Mary together drew a picture.’

In addition, that the sentence doesn’t have the ‘scalar collective’ reading as (43ii) indicates that the two *dou*’s are independently needed. That is, scalar *dou* doesn’t override the role of distributive *dou* and vice versa. I take the above as evidence that *dou* is indeed ambiguous.

#### 4. Conclusion

This paper studied *dou* in *lian...dou/ye* constructions. It argued that *dou* is scalar itself and its scalarity is captured by relating it to the context-sensitivity of distributive *dou*. In this connection, we proposed to analyze *lian* as *even* that is viewed as involving only scalar presupposition but not existential presupposition. This analysis not only enabled us to capture the differences between *lian...dou* and *lian...ye*: the former has only scalarity and the latter has both scalarity and existentiality, it also revealed to us some interesting facts about the two *dou*’s that will otherwise remain hidden.

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Intended meaning: ‘Even John and Mary each drew a picture’

I don’t have an explanation why there is such a restriction to the two *dou*’s and will leave it for future study. Below I just want to point out some of the relevant discussions about this in the literature that I am aware of. Gao (1994) provided the example in (ii) to argue for two *dou*’s, which I cited from Shyu (1995). In (ii), distributive *dou* can appear below negation, but scalar *dou* cannot.

- (ii) Lian [tamen ]<sub>f</sub> dou meiyou dou mai zheben shu  
 even they dou not dou buy this-CL book  
 ‘Even they have not all bought this book’

Zhang (1997) pointed out that the distance between scalar *dou* and the focused element is shorter than the distance between distributive *dou* and its licensors. In his approach, scalar *dou* M-commands the focused element and distributive *dou* is C-commanded by its licensor. I refer the readers to his thesis for details.

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## Relative Clauses in Hui'an Dialect<sup>1</sup>

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Based on the definition of the relative clause from Song (2001), this paper examines the relative clause in the Hui'an dialect from four parameters: (a) the relativization marker used; (b) the position of the head noun relative to the restricting clause; (c) the role and encoding of the head noun in the restricting clause; and (d) the role and encoding of the head noun in the main clause. The Hui'an dialect, spoken in Hui'an County, Fujian province, belongs to the Quan-Zhang subgroup of the Southern Min dialect family. The data used are mainly collected from naturally occurring conversations among native speakers. Findings include: (i) the dialect allows head-initial as well as head-final relative clause structures; (ii) internally-headed relative clauses do not occur; and (iii) light-headed relatives do occur.

### 0. Introduction

The relative clause consists of two components: the head noun and the restricting clause. The semantic function of the head noun is to establish a set of entities, which can be called the domain of relativization, whereas that of the restricting clause is to identify a subset of the domain by imposing a semantic condition on the domain of relativization referred to by the head noun. (Song 2001: 211) The following is an example of the relative clause provided by Song (2001: 211).

- (1) The girl whom Miss Edge coached won the game.

The domain of relativization is denoted by the head noun *the girl*. This domain of relativization is then 'narrowed down' to the only entity that can satisfy the condition expressed by the restricting clause *whom Miss Edge coached*. Strictly speaking, the definition of the relative clause proposed by Song (2001) is a definition of the restrictive relative clause, which is our focus in this paper.

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In general, there are four parameters to be taken into account when we investigate the restrictive relative clause in a specific language: (1) the relativization marker used; (2) the position of the head noun relative to the restricting clause; (3) the role and encoding of the head noun in the restricting clause; and (4) the role and encoding of the head noun in the main clause. In the present paper, we examine the restrictive relative clause in the Hui'an dialect in terms of these four parameters. The dialect is spoken in Hui'an County, Fujian province, and belongs to the Quan-Zhang subgroup of the Southern Min dialect family. The data used are mainly collected from naturally occurring conversations among native speakers. The following sections are organized as follows. In Section 1, relative clauses are classified into two types based on the relativization marker used, i.e. relatives with *e2* and demonstrative relatives. Particular focus is placed on demonstrative relatives. Section 2 discusses the position of the head noun in relation to the restricting clause. Section 3 examines the roles of the head noun in the restricting clause and the relativization strategies of gapping and pronoun-retention. Section 4 explores the roles that the head noun plays in the main clause, and headed relatives, headless relatives and light-headed relatives. Section 5 is a summary of our major findings.

## 1. Relatives with *e2* and Demonstrative Relatives

Matthews and Yip (1994, 2001) show that restrictive relative clauses in Cantonese can be divided into two types: classifier relatives and relatives with *ge3*, in which, *ge3* is a counterpart of *de* in Mandarin Chinese. These two types are also reported in the Jieyang dialect by Xu (2007), i.e. classifier relatives and relatives with *kai55/ti3*. The classifier and the counterparts of *de* in Mandarin Chinese (i.e. *ge3* and *kai55/ti3*) can be regarded as relativization markers. The classifier can be preceded by a demonstrative pronoun, which is optional in classifier relatives in Cantonese and the Jieyang dialect. In the Hui'an dialect, however, the demonstrative pronoun is obligatory while the classifier is optional. As with Cantonese and the Jieyang dialect, the Hui'an dialect can also use the counterpart of *de* in Mandarin Chinese (i.e. *e2*) as relativization marker. Thus, we suggest that relative clauses in the Hui'an dialect fall into two types: demonstrative relatives and relatives with *e2*.

In the remainder of this section, we offer an illustration of relatives with *e2* in Section 1.1, followed by a detailed description of the demonstrative pronouns and demonstrative relatives they occur in Section 1.2. In Section 1.3, we discuss whether *e2* can be followed by a demonstrative.

### 1.1. Relatives with *e2*

As mentioned above, the Hui'an dialect can use the counterpart of *de* in Mandarin Chinese (i.e. *e2*) to link the head noun and the restricting clause of the relative clause. This type of relative clause indicates a general referent with its head noun encoded by a generic noun. This can be exemplified by (2) below.

- (2) ts 1  $\frac{e2-4^2}{E^3}$  tshu5  
 rent E<sup>3</sup> house  
 ‘rented houses’

This example refers to a subset of houses (i.e. rented houses) in general, but not an entity. The head noun *tshu5* ‘house’ is a generic noun.

## 1.2. Demonstrative Relatives

Before exploring demonstrative relatives in the Hui’an dialect (Section 1.2.2), the syntactic contexts and category status of demonstratives proposed by Diessel (1999) and a general schema of demonstratives, especially demonstrative pronouns, in the Hui’an dialect are introduced in Section 1.2.1.

### 1.2.1. Demonstratives in Hui’an Dialect

Diessel (1999) puts forward four different syntactic contexts in which demonstratives may occur: (i) pronominal, i.e. demonstratives are used as independent pronouns in argument positions of verbs and adpositions; (ii) adnominal, i.e. demonstratives cooccur with a noun in a noun phrase; (iii) adverbial, i.e. demonstratives function as verb modifiers, and (iv) identificational demonstrative, i.e. demonstratives occur in copular and nonverbal clauses. Diessel uses demonstrative pronoun, demonstrative determiner, demonstrative adverb and demonstrative identifier to indicate the categorical status of demonstratives in these four syntactic contexts, respectively.

The Hui’an dialect uses the same demonstrative forms in syntactic contexts (i), (ii) and (iv), and particular forms in syntactic context (iii). Thus, demonstratives in the Hui’an dialect fall into two grammatical categories, which can be labeled as ‘demonstrative pronouns’ and ‘demonstrative adverbs’. Here we only focus on demonstrative pronouns due to their close relationship with demonstrative relatives. Thus, we use ‘demonstratives’ for short.

The Hui’an dialect has four sets of demonstratives with a two-way distinction (i.e. proximal and distal), which are shown in Table 1.

<sup>2</sup> The Hui’an dialect has seven citation tones, i.e. high level (*yinping*), low level (*yangping*), high rising (*yinshang*), low rising (*yangshang*), going (*qusheng*), high entering (*yinru*) and low entering (*yangru*), which are labeled by numerals 1 through 7. In addition, 0 is used to denote neutral tone. Sandhi tone is shown in the examples when it occurs. For example, in ‘e2-4’, ‘2’ is a citation tone (*yangping*) while ‘4’ is a sandhi tone (*yangshang*). Sandhi tone occurs in connected speech, in juxtaposition to other tone-carrying syllables (Chen 2000: 39).

<sup>3</sup> *e2* is glossed as ‘E’, since *e2* in the Hui’an dialect takes on a range of functions, e.g. nominalization marker, possessive marker and relativization marker. Sometimes, *e2* can be regarded as representing different markers in the same string. Thus, we use ‘E’ to avoid confusion.

Proximal	Distal
<i>tsit6</i> (+Num) + CL (this) (this kind of)	<i>hit6</i> (+Num) + CL (that) (that kind of)
<i>tsat6</i> (this)	<i>hat6</i> (that)
<i>tse2</i> (this kind of) (generic)	<i>h 2</i> (that kind of) (generic)
<i>tsuai2</i> (these)	<i>huai2</i> (those)

Table 1. Demonstratives in the Hui'an dialect

In Table 1 above, the first set of demonstratives '*tsit6/hit6* (+Num) + CL' is formed from a demonstrative root (i.e. *tsit6* and *hit6*, respectively) and a classifier, or a demonstrative root and a numeral and a classifier. These two demonstratives and the noun phrases they occur represent an entity or a member of an entire category, depending on the classifier. Examples are given in (3).

- (3) a. tsit6-4 lia 3-2 sa 1  
 this CL coat  
 'this coat'  
 b. hit6-4 tsi 3-2 tho5-4-pa 2  
 that CL suite  
 'that kind of suite'

The second set of demonstratives *tsat6/hat6* and the noun phrases they occur only refer to an entity, as shown in (4).

- (4) a. tsat6 sia 2  
 this what  
 'What is this?'  
 b. hat6 ten5-4-lo3  
 that computer  
 'that computer'

The following examples are to show that demonstratives *tse2/h 2* and the noun phrases they occur can represent a member of an entire category (e.g. (5a)) or an entire category (e.g. (5b)).

- (5) a. tse2 to5 tsia 7 kha 6-4 ho3-2 tsia 7  
 this-kind-of table eat comparatively good eat  
 'This kind of table is better for meals (than other kinds of tables).'  
 b. tse2 tshia 2 bo2-4 pai4-hai5  
 this orange no harm  
 'There is no harm in (eating) oranges.'

Demonstratives *tsuai2/huai2* can be glossed as ‘these/those’, as shown in (6).

- (6) a. tsuai2 si4 un3 o 6-t 2 e2-4<sup>4</sup> lau2  
 these be we school E building  
 ‘These are the buildings of our school.’  
 b. huai2 tho5-4-pa 2 kha 6 am5  
 those suite comparatively dark  
 ‘Those suites are darker (than these suites).’

### 1.2.2. Demonstrative Relatives

In this type of relative clause, demonstratives are mainly encoded by distal demonstratives. The following examples show that all the four distal demonstratives in the Hui’an dialect can be used in demonstrative relatives.

- (7) a. l 3 bue3 hit6 pun3-2 tshe5  
 you buy that CL book  
 ‘that book you bought’  
 b. un3 tshia 3 hat6 la 2  
 we hire that person  
 ‘that person we hired’  
 c. khio 6-4 khe5 h 2  
 pick passenger that-kind  
 ‘that kind of (car) which picks up the passengers (along the way)’  
 d. hep6 huai2 si 5  
 take those pictures  
 ‘those pictures that were taken’

It can be seen from the examples above that unlike relatives with *e2*, the restricting clause in demonstrative relatives is used to modify a definite entity, category or plural entities. For example, (7a) and (7b) both refer to a definite, specific and individual referent, while (7c) and (7d) refer to a category and plural entities, respectively. Demonstrative relatives also differ from relatives with *e2* in that the demonstrative can be used together with the head noun (e.g. (7a)), or itself be used as the head noun (e.g. (7c)), while the relativization marker *e2* is more like a linking word between the head noun and the restricting clause.

Besides distal demonstratives, however, we also find an example (8) using the proximal demonstrative *tsit6 e2* ‘this’ as the relativization marker.

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<sup>4</sup> ‘e2-4’ here functions as a possessive marker.

- (8) A1: hit6 e2-4 tsui3-2-kha 1 ti4-le4 pua 5-4-ti 1-ui 1  
 that CL flume in middle  
 ‘That flume is in the middle.’  
 B: 1 3-4 s 5-4 pa 2 lai5-4-pa5 hit6 e2?  
 2sg say room inside that CL  
 ‘Are you talking about that (flume) inside the room?’  
 A2: i 1-kai1 si4 sue3-2-sen1 tsit6 e2-4 kha 1 ka1 ui3-2-khai5  
 should be take-shower this CL flume disposal-verb inclose  
 ‘This flume for taking shower should be enclosed.’

In (8), speaker A is talking about a flume inside the room in A1, but hearer B is not sure about which flume A is talking about. Thus, in A2, speaker A uses a relative clause to make the referent be identifiable. This example differs from the examples above in that the referent encoded by the relative clause has been mentioned in the previous discourse. We suggest that this is one reason why a proximal demonstrative is used.

### 1.3. Can *e2* be followed by a Demonstrative?

In Mandarin Chinese, the relativization marker *de* can be followed by a demonstrative, as shown in (9) below.

- (9) wo kan dao de na ge xue-sheng  
 I see RVC DE that CL student  
 ‘that student I saw’

Now, the question is (a) whether this can happen in the Hui’an dialect, and (b) whether this type of relative clause is the source of demonstrative relatives such as those in (7). From the corpus of the Hui’an dialect, we do find an example, and only one example, of a relative clause in which *e2* is followed by a demonstrative, as shown in (10). However, the demonstrative *huai2* in (10) is also used as the head noun, i.e., it is not followed by a head noun like Mandarin Chinese in (9).

- (10) khio5 e2-4 huai2  
 deduct E those  
 ‘those that were deducted’

It would be unnatural to add an *e2* before the demonstrative in other examples of demonstrative relatives such as those in (7). It also should be mentioned that this example is produced by a younger speaker. Thus, we suggest that example (10) may be influenced by Mandarin Chinese.

The same is true of Cantonese, where it would be unnatural to add *ge3* before the classifier in classifier relatives (Matthews and Yip 2001: 273). We therefore doubt that

demonstrative relatives in the Hui'an dialect and classifier relatives in Cantonese can be derived from relative clauses like (9) and (10).

## 2. The Position of the Head Noun

There are three possibilities for the position of the head noun in relation to the restricting clause: (i) head-initial, i.e. the restricting clause follows the head noun; (ii) head-final, i.e. the restricting clause precedes the head noun; and (iii) head-internal, i.e. the head noun is inside the restricting clause. In this section, we examine head-final and head-initial types of relative clause (section 2.1) and discuss whether there is a head-internal type of relative clause in the Hui'an dialect (section 2.2).

### 2.1. Head-final and Head-initial Types

Typologically, SVO languages have a distinct preference to use the head-initial type of relative clause. As with Mandarin Chinese, however, relative clauses in the Hui'an dialect, including relatives with *e2* and demonstrative relatives, mainly belong to the head-final type. Examples are given in (11).

- (11) a. *than5 e2-4 tsin2*  
 earn E money  
 'the money earned'  
 b. *il t 2 l 3-5 huai2*  
 3sg give 2sg those  
 'those he gave you'

In (11a), the restricting clause *than5 e2-4* 'that (someone) earned' precedes the head noun *tsin2* 'money'. In (11b), the restricting clause *il t 2 l 3-5* 'he gave you' precedes the head noun *huai2* 'those'.

Although the head-final type shows a strong tendency in the Hui'an dialect, we also find the following examples of a head-initial type of relative clause.

- (12) *lu3 e2-0<sup>5</sup> hit6 k 1 tha3-4 ti 1-bun2 e2-0*  
 female E that CL study Chinese E  
 'that girl who studies Chinese'  
 (13) *un3 bue3-2 tsai4 h 2 tsit6-4-pa 6-4-kh 1 e5-4 lia 2-4 h 3 ts 3-2 tshai5*  
 1pl buy one that one-hundred can burn fire cook dish  
 'We bought one (utensil) that costs one hundred and can be used for cooking'

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<sup>5</sup> 'e2-0' here serves as a nominalization marker.



In (12), the restricting clause *tha3-4 ti 1-bun2 e2-0* ‘who studies Chinese’ follows the head noun *lu3 e2-0 hit6 k 1* ‘that girl’. The speaker thinks that the head noun may not be able to activate the hearer’s memory, thus the restricting clause is added to help the hearer identify the referent encoded by the head noun. Even though it can be analyzed as a case of ‘afterthought’, this example is still different from the non-restrictive relative clause. The restricting clause in the non-restrictive relative clause helps to tell something about the head noun, while that in the restrictive relative clause is used to restrict or limit the meaning of the head noun. In addition, the restricting clause in the restrictive relative clause is always used to refer to or identify a person or an object who or which is known to both the speaker and the hearer. In example (12), the hearer knows the person whom the speaker is talking about. The restricting clause *tha3-4 ti 1-bun2 e2-0* ‘who studies Chinese’ is not a piece of new information about the referent, but helps to limit the reference of the head noun and to make the referent identifiable.

In (13), the restricting clause *tsit6-4-pa 6-4-kh 1 e5-4 lia 2-4 h 3 ts 3-2 tshai5* ‘one hundred and can be used for cooking’ follows the head noun *h 2* ‘that’. In this example, the restricting clause is somewhat complicated, which may be one reason why a head-initial type of relative clause is chosen.

It should be mentioned that the restricting clause in (12) and (13) can be put before the head noun, which means the head-initial type can be changed into the head-final type. However, *e2-0* in *tha3-4 ti 1-bun2 e2-0* ‘who studies Chinese’ in (12) has to be deleted.

## 2.2. Is There a Head-internal Type?

The head-internal type is a form of relative clause which presents a domain noun internal to the restricting clause and is thus syntactically headless (Keenan 1985: 161). The following are examples of internally headed relative clauses and headed relative clauses in Ancash Quechua from Cole (1987: 279).

### (14) a. Headed Relative Clause

[<sub>NP</sub> [<sub>S</sub> nuna 1<sub>i</sub> ranti-shqa-n] bestya<sub>i</sub>] all<sub>i</sub>  
 man buy-PERFECT-3 horse(NOM) good  
 bestya-m ka-rquo-n  
 horse-EVIDENTIAL be-PAST-3

The horse the man bought was a good horse.

### b. Internally Headed Relative Clause

[<sub>NP</sub> nuna bestya-ta ranti-shqa-n] all<sub>i</sub>  
 man horse-ACC buy-PERFECT-3 good  
 bestya-m ka-rqo-n  
 horse-EVIDENTIAL be-PAST-3

The horse the man bought was a good horse.

As Basilico (1996: 499) points out, the difference between these two examples above is that in the externally headed relative clause, the noun *bestya* ‘horse’ is not a constituent of the clause *nuna ranti-shaq-n* ‘that the man bought’, while in the internally headed relative clause, the noun is a constituent of the clause.

Matthews and Yip (2007) propose that the object classifier relative in Cantonese has two possible analyses: head-final type and head-internal type, as shown in (15).

- (15) a. Head-final  
 [[keoi maai<sub>S</sub>] go cang lau<sub>NP</sub>] hou leng  
 3sg buy that CL flat very nice  
 ‘The flat she’s buying is really nice.’
- b. Head-internal  
 [<sub>S/NP</sub> keoi maai go cang lau] hou leng  
 3sg buy that CL flat very nice  
 ‘The flat she’s buying is really nice.’

However, it is hard to distinguish the head-internal type from head-final type of relative clause in Cantonese (Matthews & Yip 2001, 2007).

As we mentioned above, as with Cantonese, there also exist classifier relatives in the Jieyang dialect. However, the object classifier relative in the Jieyang dialect can be shown to belong to the head-final type. This is illustrated by example (16) from Xu (2007: 118).

- (16) [[ku<sup>55-11</sup>-ni<sup>55</sup> ua<sup>53</sup> poi<sup>53</sup><sub>S</sub>] t’au<sup>213-53</sup> ts’u<sup>213</sup><sub>NP</sub>] ho<sup>2</sup> tua<sup>11</sup>  
 last-year 1sg buy CL house very big  
 The house which I bought last year is very big.

The tone of the verb *poi53* ‘buy’ must be a sandhi tone when it is followed by an object *t’au<sup>213-53</sup> ts’u<sup>213</sup>* ‘house’. In (16), however, the verb *poi53* does not undergo tone sandhi, which suggests that *t’au<sup>213-53</sup> ts’u<sup>213</sup>* ‘house’ is not a constituent of the clause *ku<sup>55-11</sup>-ni<sup>55</sup> ua<sup>53</sup> poi<sup>53</sup>* ‘I bought last year’.

Now, let’s look at the relative clause in the Hui’an dialect. In fact, as with the Jieyang dialect, the object demonstrative relative in the Hui’an dialect is also clearly of the head-final type. This can be illustrated by a comparison between (17) and (18) below.

- (17) ua3-4 tsio 6-4 hit6 pun3-2 tshe5  
 I borrow that CL book  
 ‘I borrowed that book.’
- (18) [[ua3-4 tsio 6<sub>S</sub>] hit6 pun3-2 tshe5<sub>NP</sub>]  
 I borrow that CL book  
 ‘that book I borrowed’

In (17), *hit6 pun3-2 tshe5* ‘that book’ is an object of the verb *tsio 6-4* ‘borrow’, and the verb undergoes tone sandhi. While in (18), the verb *tsio 6* ‘borrow’ does not undergo tone sandhi, which indicates *hit6 pun3-2 tshe5* ‘that book’ is not a constituent of the clause *ua3-4 tsio 6* ‘I borrowed’. Thus, we can conclude that (18) is an example of head-final type, and we have no evidence for a head-internal type of relative clause in the Hui’an dialect.

### 3. The Role and Encoding of the Head Noun in the Restricting Clause

According to the role of the head noun in the restricting clause, relative clauses can be classified into three types: argument relative clauses, adjunct relative clauses and ‘aboutness’ relative clauses. Argument relative clauses and adjunct relative clauses refer to those in which the head noun takes an argument position and an adjunct position, respectively. The term ‘aboutness’ relative clauses, proposed by Cheng and Sybesma (2005), is used to refer to a kind of noun-modifying clauses discussed in Comrie (1996) and Matsumoto (2007), as shown in (19) from Matsumoto (2007: 133).

- (19) [[*atama ga yoku-naru*] *hon*]  
 head NOM good-become book  
 ‘the book (by reading which) (x’s) head gets better, i.e. x becomes smarter’

Matsumoto suggests that in this kind of clause (e.g. (19)) the subordinate clause does not contain a clear syntactic gap that is bound to the head noun. For example, there is no syntactic gap in the clause *atama ga yoku-naru* ‘head gets better’ in (19), since the predicate is an intransitive verb.

Matsumoto also points out that this kind of clauses fall outside (or that fall in both of) the conventional domains of the relative clause and noun complement constructions. This kind of noun-modifying clause is widespread in Asia, e.g. Korean, Mandarin and some other Sino-Tibetan languages etc (Comrie 1996). Comrie also points out that this kind of clause ‘do not receive a relative clause interpretation’. Both Matsumoto and Comrie compare this kind of clause with the relative clause from a syntactic viewpoint. However, according to the definition of the relative clause in Song (2001) mentioned above, we suggest that this kind of clause can also be grouped into the relative clause.

The ways in which the head noun is encoded in the restricting clause are also called relativization strategies. Keenan (1985) and Comrie (1989) both recognize that there are at least four different relativization strategies: (i) gapping or obliteration; (ii) pronoun-retention; (iii) relative-pronoun; and (iv) non-reduction. However, whether there is a ‘gap’ in the relative clause in languages such as Japanese, Korean and Chinese is controversial. Comrie (1996) suggests that ‘aboutness’ relative clauses are gapless and, argument relative clauses in languages such as Japanese are also gapless since these languages have zero anaphora. While Ning (1993) aligns ‘aboutness’ relative clauses to

adjunct relative clauses in Mandarin Chinese, assuming that a non-overt adjunct plays a role in the syntax of these clauses (Cheng and Sybesma 2005).

Thus, for ease of presentation, I use ‘relative clauses with a resumptive pronoun’ and ‘relative clauses with a gap’ to refer to those using a ‘pronoun-retention’ strategy and those without a resumptive pronoun, respectively. Now, we can classify the relative clause in the Hui’an dialect as follows.

- (20) A. argument relative clauses  
       (a) argument relative clauses with a gap  
       (b) argument relative clauses with a resumptive pronoun  
 B. adjunct relative clauses  
       (a) adjunct relative clauses with a gap  
       (b) adjunct relative clauses with a resumptive pronoun  
 C. ‘aboutness’ relative clauses

In the following sections, we examine these three types of relative clause one by one.

### 3.1. Argument Relative Clauses

The following two examples indicate that the ‘gapping’ strategy is used when the head noun is the subject or object of the restricting clause.

- (21) *bo2-4 tha3-4 tshe5 e2-4 la 2*  
       no read book E people  
       ‘the people who do not go to school’

- (22) *i1 khua 5 e2-4 tshe5*  
       3sg read E book  
       ‘the books he read’

In (21), the head noun *la 2* ‘people’ is the subject in the restricting clause *bo2-4 tha3-4 tshe5* ‘do not go to school’. In (22), the head noun *tshe5* ‘book’ is the object in the restricting clause *i1 khua 5* ‘he read’. We do not see a resumptive pronoun which is bound to the head noun in the restricting clause in both (21) and (22).

The ‘pronoun-retention’ strategy has to be used when the head noun functions as an indirect object in the restricting clause. This is exemplified by (23) below.

- (23) *ua3-4 sa 5-4 i1 ho5-4-kha3 hit6 e2-4 lau3-s 1*  
       1sg send 3sg card that CL teacher  
       ‘that teacher to whom I sent a card’

In (23), the head noun *hit6 e2-4 lau3-s 1* ‘that teacher’ is coreferential with the indirect object in the restricting clause, i.e. the pronoun *il* ‘3sg’.

### 3.2. Adjunct Relative Clauses

When the head noun serves as an adjunct such as temporal, locative, causal, instrumental and agentive etc. in the restricting clause, the ‘gapping’ strategy can be used. The following are temporal and locative examples.

(24) *tsh 5-4 ka 1-tso 6 e2-4 si2-4-tsam5*  
 search job E time  
 ‘the time when (one is) looking for a job’

(25) *un3 khe5 ten5-4-si4 hit6-4 t 5-4 to5*  
 we put television that CL table  
 ‘that table where we put the television’

In (24) and (25), the head noun *si2-4-tsam5* ‘time’ and *hit6-4 t 5-4 to5* ‘that table’ serve as the temporal adjunct and locative adjunct in the restricting clause *tsh 5-4 ka 1-tso 6 e2-4* ‘looking for a job’ and *un3 khe5 ten5-4-si4* ‘we put the television’, respectively.

There must be a resumptive pronoun in the restricting clause when the head noun is the object of a preposition such as *pi3* ‘compare’ and *ka 6* ‘with’, as shown in (26) and (27).

(26) *un3-2 ba 2 pi3-2 il kha 6 tua5 hit6 k 1 lu3 e2-0*  
 1pl mother compare 3sg comparatively old that CL female E  
 ‘that woman whom my mother is older than’

(27) *ua3 ka 6 il uan1-ke1 hit6 k 1 la 2*  
 I with 3rg quarrel that CL person  
 ‘that person with whom I had a fight’

In (26), the head noun *hit6 k 1 lu3 e2-0* ‘that woman’ is coreferential with the object of comparison in the restricting clause, i.e. pronoun *il* ‘3sg’. In (27), the head noun *hit6 k 1 la 2* ‘that person’ is coreferential with the object of preposition *ka 6* ‘with’ in the restricting clause, i.e. *il* ‘3sg’.

### 3.3. ‘Aboutness’ Relative Clauses

Attested examples of ‘aboutness’ relative clauses are given in (28) - (30) below.

(28) *l 3 bue3-2 ki1 phio5 hit6 k 1 lam2 e2-0*  
 you buy air ticket that CL male E  
 ‘the man whom (we met when) you bought your air ticket’

(29) *ki 5-4-ben5 e2-4 si2-4-kan1 kha 6 tsio3*  
 meet E time comparatively little  
 ‘The time for meeting (each other) is less (than before).’

(30) *tse2 si4 un3 tshu5-4-lai5 khua 5 tsho5-4-kh 5 e2-4 tsai2-i4*  
 this be 1pl house look out E morning  
 ‘This is (a view of) morning (when we) look outside from our house.’

In these examples, the restricting clause does not contain a clear syntactic gap that is bound to the head noun. Take (28) for an example, the head noun *hit6 k 1 lam2 e2-0* ‘that man’ cannot be an argument or an adjunct in the restricting clause *l 3 bue3-2 ki1 phio5* ‘you bought your air ticket’.

## 4. The Role and Encoding of the Head Noun in the Main Clause

In this section, we examine the roles of the head noun in the main clause in Section 4.1, and headed, headless and light-headed relatives in Section 4.2.

### 4.1. The Role of the Head Noun in the Main Clause

In the Hui’an dialect, the head noun of the relative clause mainly functions as topic, subject, object and predicate nominal<sup>6</sup> in the main clause. Examples are given in (31) – (34).

(31) *hep6 huai2 si 5 kh 5-4 len3-2 pa2 a0 khua 5* (topic)  
 take those pictures give 2pl father Suffix look  
 ‘Have your father look at the pictures that (you) took.’

(32) *tsh 5 hat6 le4 ka5-4 tshe5* (subject)  
 find that be teach book  
 ‘(Her) lover is a teacher.’

<sup>6</sup> ‘Predicate nominal’ is put forward by Fox and Thompson (1990), in which, the role of head noun in main clause can be subject, object, prepositional phrase object, predicate nominal and existential.

- (33) khua 5-4 en1 hep6 e2-4 si 5 (object)  
 look 3pl take E picture  
 ‘Look at the pictures they took.’
- (34) tse2 si4 pun3-2-lai2 ts 1 e2-4 tshu5 (predicate nominal)  
 this be previously rent E house  
 ‘This is the house (we) rented previously.’

#### 4.2. The Encoding of the Head Noun in the Main Clause

According to the encoding of the head noun in the main clause, relative clauses are usually divided into headed and headless types. Citko (2004), however, proposes another type of relative clause, i.e. light-headed relatives. In Citko (2004: 95), the terms ‘headed relatives’ and ‘headless relatives’ are used to refer to the relatives involving an external nominal head, and those lacking an overt nominal head, respectively; and, the term ‘light-headed relatives’ refers to the relatives which are headed by morphologically ‘light’ elements. These ‘light’ elements can be demonstrative, indefinites, negative indefinites and universals etc. The following is an example of the demonstrative light head in Polish from Citko (2004: 96).

- (35) Jan czyta to, co Maria czyta.  
 Jan reads this what Maria reads  
 ‘John reads what Marry reads’

In the Hui’an dialect, the light head in the relative clause can be the demonstrative or the ‘demonstrative (+numeral) + classifier’ complex.

(36) below is an example of a headless relative, while examples of light-headed relatives are given in (37) – (39).

- (36) un3 tshu5-4-lai5 tshun5 e2-0 i1 tsi 4-lai2 m4 tsia 7 (headless relative)  
 1pl house leave E 3sg always not eat  
 ‘He never eats the leftovers at home.’
- (37) l 3 bue3 huai2 k 5 bo2-4-s 5-4 kui5 (demonstrative)  
 2sg buy those still no expensive  
 ‘Those you bought are not expensive.’
- (38) l 3 kia2 hit6 l 5-4 t 5 (‘demonstrative + numeral + classifier’)  
 2sg take that two CL  
 ‘two (chairs) that you took’

- (39) len3-2 pa2 lia3 hit6 tsia5 ('demonstrative + classifier')  
 2pl father take that CL  
 'that (duck) that your father took'

In (37), the head noun is encoded by the demonstrative *huai2* 'those'. In (38), the head noun *hit6 l 5-4 t 5* 'two (chairs)' is formed by a demonstrative, a numeral and a classifier. In (39), the head noun is encoded by 'demonstrative + classifier' *hit6 tsia5* 'that (one)'.

## 5. Conclusion

In this paper, we have examined the restrictive relative clause in the Hui'an dialect based on four parameters: (1) the relativization marker used; (2) the position of the head noun in relation to the restricting clause; (3) the role and encoding of the head noun in the restricting clause; and (4) the role and encoding of the head noun in the main clause.

There are two relativization markers in the Hui'an dialect, i.e. *e2* and the demonstratives. *e2* is the counterpart of *de* in Mandarin Chinese. Demonstratives, mainly encoded by distal demonstratives, can be used together with the head noun or itself used as the head noun. Relative clauses fall into two types based on the relativization marker used, i.e. relatives with *e2* and demonstrative relatives. The former indicates a general referent, while the latter refers to an entity, plural entities or a category.

As with Mandarin Chinese, the relative clause in the Hui'an dialect mainly belongs to the head-final type, however, the head-initial type can also be used. There is no evidence for any head-internal type of relative clause.

According to the role of the head noun in the restricting clause, relative clauses in the Hui'an dialect can be classified into three types: argument relative clauses, adjunct relative clauses and 'aboutness' relative clauses. The 'gapping' strategy is used when the head noun serves as an argument such as subject and object or an adjunct such as temporal, locative, causal, instrumental and agentive etc. in the restricting clause. The 'pronoun-retention' strategy has to be used when the head noun functions as an indirect object or the object of a preposition in the restricting clause.

The head noun of the relative clause mainly functions as topic, subject, object and predicate nominal in the main clause. According to the encoding of the head noun in the main clause, relative clauses in the Hui'an dialect can be divided into headed relatives, headless relatives and light-headed relatives. The light-head is mainly encoded by the demonstrative and the 'demonstrative (+numeral) + classifier' complex.

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## Attitude Phrases and a Puzzle of Reconstruction<sup>1</sup>

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In this paper, I present some new sentences in which the subject NPs in their surface order occupy a position higher than an intensional operator but can only be interpreted as *de dicto*, missing the presumably available *de re* reading. I claim the lack of the *de re* reading is due to the presence of structurally higher attitude phrases, which are greedy world binders and will always bind the world variable of the NP below them. Further support for such claim comes from other base-generated attitude phrases, which also give rise to the same effects. The greediness of these attitude phrases is further confirmed from the lack of narrow scope *de re* reading. Then I show that the problem per se is not a matter of obligatory (syntactic) reconstruction by showing that the subject NPs still occupy their surface position with respect to binding. Evidences are also given from Brazilian Portuguese and Japanese to show that the topic-hood nature of the attitude phrases does not play a role in possible interpretations. The paradigm is thus consistent with the proposal here that attitude phrases are greedy world binders, which eliminate the potentially possible *de re* readings and give rise to the illusion of obligatory (syntactic) reconstruction.

### 0. Introduction

It is well known that an NP appearing below an intensional verb (such as *want*, *believe*, *seem*, etc) may be interpreted either as *de re* or *de dicto*<sup>2</sup>. On the other hand, an NP appearing above an intensional verb may only be interpreted as *de re*. The contrast is shown in (1), as indicated by the available interpretation.

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<sup>1</sup> Unless specified, the judgments of the sentences in the paper come from Jeff Bernath, Jonathan Bobaljik, Jean Crawford, Jon Gajewski, Diane Lillo-Martin, and William Snyder. I thank them for their native speakers' intuitions.

<sup>2</sup> A working definition for the *de re* / *de dicto* distinction is provided as below (excluding complicated cases such as the narrow scope *de re* reading).

a. A category C is interpreted *de re* in a sentence S if the extension of C satisfies the description for the speaker of S, but does not necessarily satisfy the description for the psychological subject of S.

b. A category C is interpreted *de dicto* with respect to an operator O in a sentence S if the extension of C satisfies the description of C under O for the psychological subject of S, but does not necessarily satisfy the description for the speaker of S.

- (1) a. Sue wants to marry a plumber. *de re / de dicto*  
 b. There is a plumber that Sue wants to marry. *de re / \*de dicto*

However, the above generalization does not always hold, as shown in (2). Here, the subject NP *a friend of his* occupies a position higher than the intensional verb *seem* and, yet, the *de re* reading is not available. Contrary to prediction, only the *de dicto* reading is possible.

- (2) To John<sub>i</sub>, a friend of his<sub>i</sub> seems to have been sick. *\*de re / de dicto*

From the comparison of (1a,b) we know that the *de dicto* reading is possible only when it appears below an intensional verb. Since the matrix subject NP in (2) undergoes raising from the embedded subject position, the reading in (2) seems to suggest that the NP *a friend of his*, for reasons unknown yet, needs to undergo obligatory reconstruction back to its base position below *seem*. This will explain why the *de dicto* reading is possible<sup>3</sup>. After reconstruction, the structure will look like the one in (3).

- (3) To John<sub>i</sub>, seems [a friend of his<sub>i</sub>] to have been sick.

Despite the seeming plausibility of (3), I will argue in this paper that the effect of (2) is not the result of obligatory reconstruction as in (3). Rather, the subject NP still occupies its surface position at the relevant level of representation. Specifically, I will argue that attitude phrases such as *to John* in (2) and (3) are greedy world binders in that they must bind the world variable of the NP that appears below them. The nature of being greedy world binders is the source for the availability of the *de dicto* reading and the absence of *de re* reading.

The organization of the paper is as follows. In section 2, I elaborate more why the case in (2) present a problem for the current analysis about reconstruction and pre-posing of PPs. In section 3, I provide an analysis that is consistent with the facts and give support evidences for it. In section 4, I give evidence from Brazilian Portuguese and Japanese to show that the problematic case in (2) is not related to the topic nature of the pre-posed PP. In section 5, I examine some possible alternatives to (2) and show that those other approaches cannot be maintained. Section 6 concludes the paper.

## 1. Why is it a problem?

### 1.1 Unexpected by the reconstruction theory

The example in (2) is not expected by current reconstruction theory, among which may be mentioned the syntactic reconstruction (SynR) approach and the semantic

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<sup>3</sup> The question of why the *de re* reading is not available is still mysterious, since we know from (1a) that it is generally possible when an NP appears below an intensional verb.

reconstruction (SemR) approach. The two approaches use different approaches to account for quantifier scope ambiguities, as shown in (4) and (5).

- (4) a. weil irgendeiner jedes Buch zu Hause gelesen hat  $\exists > \forall, * \forall > \exists$   
 since somebody every book at house read has  
 ‘since somebody read every book at home’  
 b. weil irgendein<sub>i</sub> Buch jeder t<sub>i</sub> zu Hause gelesen hat  $\exists > \forall, \forall > \exists$   
 since some book everybody at house read has  
 ‘since everybody read some book at home’ [Frey 1989]

- (5) weil [ irgendein Buch ] jeder [ irgendein Buch ] zu Hause gelesen hat  
 since some book everybody some book at house read has

Under the SynR approach (copy theory of movement), one can argue that the ambiguity of (4b) is expected since the sentence in (4b) will have the structure as in (5). In this structure the higher copy of *irgendein Buch* ‘some book’ c-commands *jeder* ‘everybody’ in one representation and *jeder* ‘everybody’ c-commands the lower copy of *irgendein Buch* ‘some book’ in the other representation. The ambiguity of (4b) is therefore accounted for directly, under the assumption that relative scope is defined in terms of c-command. This analysis is not available for (4a) since there is no overt movement, and QPs are interpreted in their surface position (assuming QR is not available in German). The rigid scope in (4a) is therefore also predicted.

The fact that *irgendein Buch* ‘some book’ in (4b) can be interpreted below the scope of *jeder* ‘everybody,’ as if it has never moved, has been referred to as reconstruction, or connectedness, in a more traditional term. The approach described above (the copy theory of movement) involves syntactic reconstruction, since in this theory the whole syntactic category is “reconstructed” into its base position. The lower copy can be thought of as the reconstructed element.

There is another approach, often termed semantic reconstruction, which tries to account for this syntax-semantics discrepancy without resorting to moving the whole category back. In other words, there is no reconstruction (copy) in syntax, but only in semantics, as stated below.

- (6) Semantic Reconstruction (Cresti (1995), Rullmann (1995), etc)  
 Overtly fronted categories may bind Higher Type Traces (T) of GQ type  $\langle \langle e, t \rangle, t \rangle$

In this approach, the (relevant part of the) tree of (4b) will look like (7).

- (7)  $[_{TP \langle t \rangle} \text{some book}_{\langle \langle e, t \rangle, t \rangle} [_{TP \langle \langle \langle e, t \rangle, t \rangle, t \rangle} \lambda 3 [_{TP \langle t \rangle} \text{everybody} [_{T' \langle e, t \rangle} \lambda 2 [_{VP \langle t \rangle} \mathbf{T3}_{\langle \langle e, t \rangle, t \rangle}$   
 $[_{VP \langle e, t \rangle} \lambda 1 [_{VP \langle t \rangle} t 2 [_{VP \langle e, t \rangle} \text{read } t 1 ]]]]]]]]]$  (taken from Lechner (2007))

Under (this type of) semantic reconstruction approaches, overtly fronted categories may bind higher type traces, T3 in (7), but they don't have to. If they do leave a higher type trace, as in (7), *irgendein Buch* 'some book' will be interpreted in this higher type trace position, taking scope below *jeder* 'everybody.' When there is no such trace, *irgendein Buch* 'some book' is interpreted in its surface position, taking scope above *jeder* 'everybody.' This derives the scope ambiguity of (4b).

Despite their equal explanation power in dealing with quantifier scope ambiguities, it has been claimed by Lebeaux (1995), Romero (1998), and Fox (1999) that the SynR approach is on the right track, using examples like (8)-(10) below.

- (8) a. Two women seemed to me to have talked with every senator.  $\exists > \forall, \forall > \exists$   
 b. Two women seemed to each other to have talked with every senator.  $\exists > \forall, * \forall > \exists$
- (9) a. A friend of his<sub>i</sub> seemed to John<sub>i</sub> to have been sick. *de dicto / de re*  
 b. A friend of John<sub>i</sub> seemed to him<sub>i</sub> to have been sick. *\*de dicto / de re*
- (10) a. A group of relatives of theirs<sub>i</sub> seemed to [Bill and John]<sub>i</sub> to have been involved in an accident. *de dicto / de re*  
 b. A group of relatives of each other<sub>i</sub> seemed to [Bill and John]<sub>i</sub> to have been involved in an accident. *de dicto / \*de re*

In (8), even though both scope readings are possible in (8a), the need for an anaphor to be bound in the matrix clause (*each other* in (8b)) will force *two women* to stay in its surface position and cannot lower to its base position. As discussed in Lebeaux (1995), the absence of the 'every senator > two women' reading in (8b) indicates that the availability of such reading in (8a) is derived by moving *two women* back to its base position and by QRing *every senator* over *two women*, not by QRing *every senator* all the way over *two women* in its surface position. Otherwise, with such possibility, (8b) would be just as ambiguous as (8a). The contrast in meaning between (8a,b) shows that the need for anaphor binding may affect quantifier scope interactions.

Similar paradigm is found in (9). In (9a), the subject NP *a friend of his* may be interpreted as *de re* or *de dicto*, relative to the intensional operator *seem*. This is so because binding condition C is respected both in the surface position and the base position of the subject. In (9b), on the other hand, the subject NP *a friend of John* has to stay in its surface position, since there will be a binding condition C violation, if the subject reconstructed back to its base position. Interestingly, the *de dicto* reading is missing in (9b). Since the *de dicto* reading is possible only when the NP is below and bound by the intensional operator, but not above it, Romero (1998) and Fox (1999) took this as support for the syntactic reconstruction approach, since the need to avoid binding condition C violation forces the existence of the upper copy and thus the unavailability of the *de dicto*

reading. The examples in (10) may be explained by the same fashion, so I will not go into details here.

Note that it is in (9b) and (10b) where the SynR approach and the SemR approach make different predictions, since there is an issue with respect to binding theories. In (9a) and (10a), where binding theory is not at issue, both the SynR approach and the SemR approach predict that the *de re* and the *de dicto* reading should both be possible. This is why the sentence in (2), repeated here as (11), is problematic to the two approaches.

(11) To John<sub>i</sub>, a friend of his<sub>i</sub> seems to have been sick.            \**de re / de dicto*

In (11), the subject NP *a friend of his* occupies a position higher than the intensional verb *seem*. Since Binding Principle is not at issue here, the subject can stay in its surface position and does not have to reconstruct to its base position. (11) should be as ambiguous as (9a) and (10a). Yet, the sentence only allows the *de dicto* reading and not the *de re* reading, contrary to predictions.

## 1.2 Distinct behavior from other pre-posed PPs

The second problem that the sentence in (11) creates is that it does not behave like other pre-posed PPs, as shown in (12) below, discussed in Reinhart (1983).

(12) a. \*Near Dan<sub>i</sub>, he<sub>i</sub> saw a snake.    b. \*He<sub>i</sub> saw a snake near Dan<sub>i</sub>.

(12b) is ungrammatical (under the co-indexation between *he* and *Dan*) because *Dan* is bound by *he*, violating Binding Condition C. (12a) shows that pre-posing of the PP does not rescue the sentence. This is consistent with Lebeaux's (1995) claim that Binding Condition C is an *everywhere* condition, a condition that must be satisfied in every level of representation. Therefore, *near Dan* in (12a) behaves as if it has never moved and has to reconstruct to its base position, just like (12b).

The pre-posing of the PP *to John* in (11), however, does not pattern alike with the pre-posing of *near Dan* in (12). If *to John*, just like *near Dan*, has to undergo reconstruction back to its base position, (11) would then look like (9a) and should be as ambiguous as (9a). This prediction is not borne out, as indicated by the meanings. The non-uniform behavior of PPs thus adds one more piece of support to the puzzling nature of (11).

## 2. Analysis and Supporting Evidence

### 2.1 Analysis

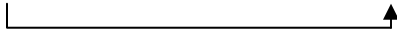
Having identified why the example in (11) poses a problem to the current reconstruction analysis and the treatment of PPs, in this section I will provide an analysis that is consistent with the facts and give supporting evidence to it.

I claim that attitude phrases such as *to John* are greedy world binders. In other words, the world variable of the NP below them can only be bound by these attitude

phrases and not by other world binders. The difference of greediness in world binding can be shown from the contrast between (13). As indicated, the *de re* reading is possible only in (13a,b) (for *a plumber* in (13a) and *a friend of her* in (13b)), which involves ordinary intensional verbs such as *want* and *believe*, but not in (13c) (*for a friend of his*), which involves attitude phrases such as *to John*.

- (13) a. Sue wants to marry a plumber. (=1a) *de re / de dicto*  
 b. Sue believes that a friend of hers is sick. *de re / de dicto*  
 c. To John, a friend of his seems to have been sick. *\*de re / de dicto*

These facts are accounted for straightforwardly under the dichotomy that *to John* (and other attitude phrases) belongs to the category of greedy world binders, while *want* and *believe* do not. Under such dichotomy, the meanings of (13a) and (13c) are represented in (14) and (15), respectively.

- (14) a.  $\lambda w \forall w' [R_{\text{ACC-Sue}}(w)(\underline{w}') \rightarrow \exists x [ \text{plumber}(x)(\underline{w}') \wedge \text{marry}(x)(\text{Sue})(w') ]]$   
 b.  $\lambda w \exists x [ \text{plumber}(x)(\underline{w}) \wedge \forall w' [R_{\text{ACC-Sue}}(w)(\underline{w}') \rightarrow \text{marry}(x)(\text{Sue})(w') ]]$
- (15) a.  $\lambda w \forall w' [R_{\text{ACC-John}}(w)(\underline{w}') \rightarrow \exists x [ \text{friend-of-John}(x)(\underline{w}') \wedge \text{sick}(x)(w') ]]$   
  
 b.  $*\lambda w \exists x [ \text{friend-of-John}(x)(\underline{w}) \wedge \forall w' [R_{\text{ACC-Sue}}(w)(\underline{w}') \rightarrow \text{sick}(x)(w') ]]$

As shown in (15a), the world variable on *a friend of his* (John), namely  $w'$ , is bound and thus the same as the worlds introduced by the attitude phrase *to John*. This obligatory binding of world variables captures the fact that the subject NP in (13c) can only be interpreted as *de dicto*. The *de re* reading, in which the world variable on the NP *a friend of John* is not bound by those introduced by *to John*, as shown in (15b), is thus not available. On the other hand, intensional verbs such as *want* are not greedy world binders. Therefore, they allow world variables of NPs to be bound by other world binders, resulting in the *de re* reading, as shown in (14b).

## 2.2 Supporting Evidences

It is proposed in section 3.1 that attitude phrases such as *to John* are greedy world binders in that they must bind the world variable of the NPs that appear below them. In this section, I will give supporting evidence to the claim.

The first piece of supporting evidence comes from (16). (16a) differs minimally from (11) in that the issue of co-indexation does not occur in (16a). The interpretation as indicated in (16a) shows that co-indexation does not play a role in the absence of the *de re* reading. (16b) shows that an NP appearing below an attitude phrase, even when it is definite, can only receive the *de dicto* reading.

- (16) a. To John, a friend of Mary seems to have been sick.      \**de re / de dicto*  
 b. To John, the dean is in the office.      \**de re / de dicto*

The second piece of supporting evidence comes from the fact that other attitude phrases, whether they are moved or base-generated, also have similar effects in eliminating the *de re* reading, as shown in (17). This shows that the absence of the *de re* reading cannot be attributed to the special status of *to John* as in (11), since other (base-generated) attitude phrases also have similar effects.

- (17) a. For John, a friend of his seems to have been sick.  
 b. From John's perspective, ...  
 c. In John's opinion, ...  
 d. In John's mind, ...  
 e. According to John, ...  
 f. From John's point of view, ...
- } \**de re / de dicto*

Another piece of evidence for the proposal in section 3.1 comes from the absence of the *intermediate* reading. Note that if the proposed analysis here is on the right track, then we predict that not only (15b) is not possible, but that (18), as shown below, is also not possible. (18) differs minimally from (15a) in that the world variable on the NP *a friend of John* is not bound by the worlds introduced by *to John*, and has been called the non-specific *de re* reading (Fodor (1970)), or the narrow scope *de re* reading (von Stechow & Heim (2007)).

$$(18) \lambda w \forall w' [\text{R}_{\text{ACC-John}}(w)(\underline{w}') \rightarrow \exists x [\text{friend-of-John}(x)(\underline{w}) \wedge \text{sick}(x)(w')]]$$

This prediction is indeed borne out. Consider the following scenario: [John entered the bathroom. He saw a group of people. These people are basketball players, but John mistakenly believes that they are plumbers. Then he heard someone coughing. He didn't see who is coughing, but he believes that the coughing must be coming from one of these people.] The subjects were asked to judge whether the following sentences in (19) can be felicitously uttered in the scenario above.

- (19) a. John thinks that a basketball player is coughing.  
 b. To John, a basketball player is coughing.  
 c. In John's mind, a basketball player is coughing.

The judgments I got from native speakers seem to be pretty consistent: (19a) is possible under the scenario above, but (19b,c) are not possible. Note that the scenario above is good only under the narrow scope *de re* reading of *a basketball player*, but bad



under the wide scope *de re* and the *de dicto* reading of *a basketball player*. The reported judgments confirmed the claim that attitude phrases such as *to John* or *in John's mind* are greedy world binders and will eliminate all the possible readings except the *de dicto* reading, as in (19b,c). Ordinary intensional verbs, such as *think*, as in (19a), behave differently in that it is not a greedy world binder and allows the *de re* reading of *a basketball player*. The contrast in (19) is consistent with the proposed dichotomy.

One last piece of evidence to show that the proposal is on the right track comes from (20). As shown in (20), if other non-attitude phrases are used in replacement of the attitude phrase, the *de re* reading is available again. The contrast between (11) and (20) suggests that attitude phrases is the source for the absence of the *de re* reading.

- (20) a. On John<sub>i</sub>'s birthday, a friend of his<sub>i</sub> seems to have been sick. *de re / de dicto*  
 b. In John<sub>i</sub>'s house, a friend of his<sub>i</sub> seems to have been sick. *de re / de dicto*

Given the evidence provided above, it is claimed in this section that attitude phrases are special and different from other ordinary intensional verbs and other PPs in that they are greedy world binders and must bind the world variables of the NP that occurs below them. In the next section, more evidence will be given from Brazilian Portuguese and Japanese.

### 3. Evidence from Brazilian Portuguese (BP) and Japanese<sup>4</sup>

One might argue that the movement of *to John* in (11) is a kind of topicalization, and it is the special nature of being a topic that contributes to the absence of the *de re* reading. In this section, I will examine similar constructions in Brazilian Portuguese (BP) and Japanese to show that the claim above does not hold. BP and Japanese are useful since these two languages have a clear way to distinguish topics from non-topic elements (such as focus elements). In BP, at least for some people, topics bear a special intonation<sup>5</sup> while topics in Japanese are marked with *-wa*. The relevant examples in BP are provided in (21).

- (21) a. Um amigo dele parecia para o João ter estado em um acidente  
 A friend-of-him seemed to-the John have-INF been in a accident  
 'A friend of his<sub>i</sub> seemed to John<sub>i</sub> to have been in an accident.' (?*de re/de dicto*)  
 b. Para o João, um amigo dele parecia ter estado em um acidente  
 to-the John, a friend-of-him seemed have-INF been in a accident  
 'To John<sub>i</sub>, a friend of his<sub>i</sub> seemed to have been in an accident.' (*de dicto/\*de re*)

<sup>4</sup> I thank Ana CP Bostos for the BP judgments and Koichi Ohtaki and Masahiko Takahashi for the Japanese judgments.

<sup>5</sup> I use upper case letters to indicate that the NP is marked with topic intonation and lower case letters to mean that the NP is marked with normal intonation.

- c. PARA O JOÃO, um amigo dele parecia ter estado em um acidente  
 to-the John, a friend-of-him seemed have-INF been in a accident  
 ‘To John<sub>i</sub>, a friend of his<sub>i</sub> seemed to have been in an accident.’ (de dicto/\*de re)
- d. Para o João, um amigo da Maria parecia ter estado em um acidente  
 to-the John, a friend-of-the Mary seemed have-INF been in a accident  
 ‘To John, a friend of Mary seemed to have been in an accident.’ (de dicto/\*de re)

As shown in (21a), when the PP *para o João* ‘to John’ stays in its base position, the subject NP *um amigo dele* ‘a friend of his’ occupies a position above the intensional verb *parecia* ‘seemed’ and can be interpreted either as *de re* or *de dicto*. In (21b), the PP *para o João* has been pre-posed to sentence-initial position and, just like English, and the subject NP can only be interpreted as *de dicto*, but not *de re*. (21c) shows that whether or not the subject NP bears the topic intonation does not distinguish the meaning. (21d) shows that the same paradigm is still observed when co-reference is not at issue, consistent with the English facts.

Moreover, just like other non-moved attitude phrases in English, phrases such as *in John’s mind* in BP also show similar effects, as shown in (22) below.

- |   |   |                                  |
|---|---|----------------------------------|
| <p>(22) a. Na opinião do João, ...<br/>         In-the opinion of-the John, ...<br/>         b. De acordo com o João, ...<br/>         Of accordance with the John, ...<br/>         c. Na cabeça do João, ...<br/>         In-the head of-the John, ...<br/>         d. Do ponto-de-vista do João, ...<br/>         Of-the point-of-view of-the John, ...<br/>         e. Na perspectiva do João, ...<br/>         In-the perspective of-the John, ...</p> | } | * <i>de re</i> / <i>de dicto</i> |
|---|---|----------------------------------|

The examples in (21) and (22) pattern with the English examples in (11) and (17) in that they all have an attitude phrase at sentence-initial positions and they allow only the *de dicto* reading of the subject NP. Interestingly, Japanese also behaves like English and BP, as shown in (23) and (24).

- (23) a. Hitori-no kare-no tomodachi-ga John-ni(-wa) jiko-ni  
 one-GEN he-GEN friend-NOM John-to(-top) accident-DAT  
 at-ta to omoe-ta  
 come.across-past that seem-past  
 ‘A friend of his seemed to John to have been in an accident.’ *de re* / *de dicto*

- b. John-ni(-wa) Hitori-no kare-no tomodachi-ga jiko-ni  
 John-to(-top) one-GEN he-GEN friend-NOM accident-DAT  
 at-ta to omoe-ta  
 come.across-past that seem-past  
 ‘To John, a friend of his seemed to have been in an accident.’ \**de re / de dicto*

- (24) a. John-kara sure-ba, ...  
 John-from do-cond  
 ‘From John’s point of view’  
 b. John-no kokoro-no naka-de-wa, ...  
 John-GEN mind-GEN inside-at-top  
 ‘In John’s mind’
- } \**de re / de dicto*

Just as BP uses intonation to mark topic phrases, Japanese uses a topic marker – *wa* to mark topics. As shown in (23a), both the *de re* and the *de dicto* readings are available when the PP *John-ni* ‘to John’ is not moved. However, as in (23b), the *de re* reading is no longer available once the PP has been moved to sentence-initial position. The optionality of the –*wa* marker in (23b) indicates that the topic-hood of the subject does not contribute to the absence of the *de re* reading. Similar to English and BP, other base-generated attitude phrases in Japanese also have the effect of eliminating the *de re* reading, as in (24).

To summarize, the pattern in BP and Japanese shows that it is not the topic-hood nature of the moved PP that contributes to the absence of *de re* reading. Rather, the absence of such reading should be attributed to the fact that the world variable of the NP is bound by the attitude phrases, which are greedy world binders. Having defending the proposals in this paper, in the next section I will examine some alternative analyses and show that those approaches cannot hold.

#### 4. Rejection of Other Alternatives

As indicated in the beginning of the paper, the absence of the *de re* reading and the availability of the *de dicto* reading of the subject NP in (2) seem to suggest that, when there is an attitude phrase, the subject must undergo some kind of obligatory reconstruction back to its base position below *seem*. The relevant examples are provided below as (25).

- (25) a. In John<sub>i</sub>’s mind, a friend of his<sub>i</sub> seems to have been sick. \**de re / de dicto*  
 b. To John<sub>i</sub>, a friend of his<sub>i</sub> seems to have been sick. \**de re / de dicto*

This alternative analysis, however, can be easily shown to be wrong, as in (26).

- (26) From John's point of view, every student<sub>i</sub> seems to his<sub>i</sub> advisor to have passed the general exam.

In (26), there is an attitude phrase *from John's point of view*. The subject NP *every student* still stays in its surface position and does not undergo obligatory reconstruction to its base position, since a variable binding relation can still be established between *every student* and *his advisor* in (26). Therefore, the above alternative cannot be maintained.

Another possible alternative is to claim that the attitude phrase (moved or base-generated) occupies a position in the tree where the *de re* reading of the NP is processed, as shown in the tree in (27). Since two phrases cannot occupy the same position, the *de re* reading is not possible. This will not only explain the absence of the *de re* reading, but also account for why attitude phrases behave differently from other PPs (since they occupy different positions in the tree).

- (27)            3  
           near Dan        3  
           *to-phrase/de re*    3  
                               seem

This alternative approach, however, cannot be maintained, either. From (1a), repeated here as (28), we know that an NP can be interpreted as *de re* even when it appears below an intensional verb. Therefore, the absence of the *de re* reading of an NP cannot be attributed solely to the unavailability of a position above the intensional verb. Rather, an approach that employs the mechanism of world variable binding must be adopted, as the one suggested in this paper.

- (28) Sue wants to marry a plumber. (=1a)                            *de re / de dicto*

The discuss above shows that the two alternative approaches, though appealing and reasonable, cannot be maintained.

## 5. Conclusion

In this paper, I present a new set of data that pose a challenge to the theory of reconstruction. It is shown that the existence of an attitude phrase at sentence-initial position (whether it is moved or base-generated) has the effect of eliminating the presumably available *de re* reading, even when the subject NP still appears higher than the intensional operator. This paradigm is not expected by either the SynR or the SemR approach. To solve the problem, I propose that attitude phrases such as *to John* or *in*

*John's mind* are greedy world binders in that they must bind the world variable of the NP that appears below them. I then use other non-attitude phrases and the unavailability of the narrow scope *de re* reading to support the above claim. I also examine similar paradigms from BP and Japanese to show that the topic-hood of the pre-posed PPs does not play a role in eliminating the *de re* reading. Moreover, two potential alternatives are examined and shown to be incorrect, giving support to our current proposal.

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## Presupposition on Times and Degrees: The Semantics of Mandarin *hái*<sup>1</sup>

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Mandarin adverb *hái* allows for two main interpretations when associated with gradable properties. Descriptive work usually discriminate between ‘temporal’ and ‘comparative’ readings of *hái*, while the semantic core of the adverb has been defined in terms of scalarity. In this paper, our purpose is to give an understanding of the topic by providing the basis for an analysis of the adverb at the syntax-semantics interface. While subscribing to the generalization that *hái* is restricted to ordered domains, we will propose to characterize the adverb as a repetitive operator, that is, an additive operator the event domain; we will show that the possibility for *hái* to associate to gradable properties in comparative constructions can be explained on the bases of its repetitive use.

### 1. Introduction

Mandarin Chinese adverb *hái* can receive three main interpretations when associated with the same predicate, as it is the case for the gradable predicate *niánqīng* ‘(to be) young’ in (1) below.

(1) Zhāngsān hái niánqīng.  
*Zhangsan HAI young*

The adverb in (1) conveys three distinct interpretations, which are partially disambiguated in (2)a-c, and which are traditionally associated with the so-called ‘temporal’ (2a), ‘comparative’ (2b) and ‘borderline’ (2c) readings of *hái*.

(2) a. Zhāngsān hái (hěn) niánqīng (tā kěndìng bu néng zhīdào!)  
*Zhangsan HAI very young he of-course NEG possible know*  
‘Zhangsan is still (very) young (of course he cannot know that!)’

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<sup>1</sup> The author would like to thank the members of the group *Pluralité verbale: dépendances distributives*, and especially Lucia M. Tovenà and Sylviane Schwer, for helpful comments on earlier versions of this proposal. I am also grateful to Marie-Claude Paris for her precious insights.



- b. Zhāngsān (bǐ Lìsì) hái niánqīng.  
*Zhangsan than Lisi HAI young*  
 ‘Zhangsan is still younger (than Lisi).’
- c. Zhāngsān hái (suàn) niánqīng.  
*Zhangsan HAI to-consider young*  
 ‘Zhangsan is still (to be considered) young.’

Previous semantic accounts have focused on the similar pragmatic inferences conveyed by the adverb in (2)a-c. Under this view, *hái* has been analyzed as a polysemous item which contributes an additive presupposition, paired with a scalar implicature, to the sentence (Paris 1988; Yeh 1998; Liu 2001). In this paper, we will present the outline of an analysis which takes this common intuition as a start, but which differs from the previous ones on sever respects.

Following the theoretical frame provided by Tovena and Donazzan (2008), we will define the semantic core of *hái* in terms of a repetitive adverb, that is, an additive operator which is specialized for the event domain. Application to verbal predicates leads, in our analysis, to the constraint of an ordering between presupposition and assertion, which is set by the ordering of time; aspectual restrictions, on the other hand, motivate the characterization of *hái* as an operator on intervals. We will show that the semantic content of *hái* in (2)a-c can thus be reduced to the simple operational scheme in (3).



The proposed analysis has some important theoretical consequences which make it differ from the aforementioned proposals. First, being parasitic to an ordered domain, *hái* does not induce by itself an order among the set of alternatives introduced by its presupposition, and cannot be considered, in this respect, a scalar operator parallel to e.g. English *even*, as argued on the contrary by Liu (2001). As we will show by considering comparative constructions, then, *hái* does not contribute any explicit information about the position of the asserted and presupposed item on the scale: while the relative ordering of the two arguments is given by the relation structuring the domain, their position on the scale is left open, and possibly recovered by means of contextual information.

The paper is organized as follows. In section 2, we will consider the ‘temporal’ interpretation of *hái*, which will provide the basis of our characterization of the adverb. In section 3, we will then focus on the interpretation of *hái* in comparative structures, and we will show, in particular through a contrastive comparison with scalar degree modifier

*geng*, that the basic characterization can be maintained also in this context. Finally, we will conclude by considering the borderline reading in section 4.

### 1.1 Ordered domains

Before turning to the analysis of *hái*, we think it is important to make explicit some of the assumptions that underline the formal analysis proposed in the following section.

Because of their intriguing semantic properties, additive adverbs such as Mandarin *hái* have been the object of several analyses in many languages. We won't even attempt to give a critical review of this abundant literature here<sup>2</sup>; for the present purpose, it may suffice to note that the most part of the existing accounts attribute to these adverbs a polysemic nature, which shows up in their ability to modify properties associated with different domains. To build a unified lexical entry for these items would then mean to reduce the differences between the domains to a common ground.

The hypothesis that the domain of T(ime) and the domain of D(egree) are conceptually similar is not a new one, and has been largely exploited, for instance, in recent semantic work that builds on the notion of graduation to explain aspectual alternations in the VP<sup>3</sup>. As far as we are concerned, the similarity between the two domains can be considered to be a structural one: both T and D denote a totally ordered set of abstract individuals that, for formal purposes, have been converted into the logical types *t* and *d*, respectively. Concerning the domain of Time, the ordering relation is generally taken to be one of precedence (Landman 1991); although in the case of Degree, as we will see, the matter seems to be more complicated, we will assume for now that the orientation of the scale is the same. The totally ordered set of times and degrees can thus be represented as in (4).

$$(4) \quad (I, <) = \forall i, i' \in I [ i \neq i' \ \& \ ((i < i') \vee (i' < i)) ]$$

The definition in (4) represents the relation *<* as an asymmetric and irreflexive relation, inducing a total order (or scale) on the set *I*, that, given what we have said, can be identified both with T or D. We will see in section \*\*\* that the condition of irreflexivity should be dropped when degrees are paired with concrete individuals in the denotation of gradable predicates, since one must allow somebody to be, for instance, as tall as himself. But since nobody is taller than himself, the definition in (4) will do for comparison of majority, which will be our main concern in the following discussion.

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<sup>2</sup> But see, among others, König (1977), Löbner (1989,1999), Michaelis (1993), Ippolito (2004) for German languages, and Borillo (1984), Tovena (1996) for Romance languages.

<sup>3</sup> Cf. for example the 'affectedness' account of (a)telicity by Krifka (1998) or the scalar analysis of achievements by Hay et al. (1999).

## 2. Temporal *hai*

Considering the interpretation of (2a), the generalization seems to be that the adverb receives an interpretation of continuity when the verbal predicate *niánqīng* ‘(to be) young’ is understood to be subject to a change in time (5a). This constraint is shown to be relevant by the fact that the adverb is infelicitous with predicates that typically do not allow for a change, such as *lǎo* ‘(to be) old’ in (5b).

- (5) a. Zhāngsān hái niánqīng, děng yì huìr tā jiù huì lǎo (yì diǎn).  
*Zhangsan HAI young wait a while he then MOD old a little*  
 ‘Zhangsan is still young, he will be old(er) in the future.’
- b. #Zhāngsān hái lǎo (děng yì huìr tā jiù huì sǐ.)  
*Zhangsan HAI old wait a while he then MOD die*  
 (‘#Zhangsan is still old, he will die in the future.’)

The truth value and felicity conditions of (5a) can thus be expressed informally as in (6).

### (6) Temporal *hai*.

‘Zhāngsān hái niánqīng’ is true under a temporal interpretation if ‘Zhangsan is young’ is true at  $t$  and there is another point in time  $t'$ , which precedes  $t$ , for which the proposition is also true.

If the characterization we give in (6) is correct, *hái* must be interpreted as an additive item, which contribution to the sentence is that of an ordered presupposition. The definition still needs to be made more precise, in particular for what concerns the aspectual properties of the predicate, in order to account for the continuative reading of the adverb.

The first observation is that the predicate in (5a) denotes a state, that is, a predicate that is traditionally considered a property of times rather than a property of events. If we look at the data, however, it seems that structural conditions on the predicate are in fact more relevant for the acceptability of *hai* than mere lexical distinctions. Eventive predicates, such as the (a)telic activities in (7)a,b are fine if they are modified by the progressive operator *zai* (Smith 1991), making them unbounded, strictly homogeneous events.

- (7) a. Zhāngsān hái zai shuìjiào.  
*Zhangsan HAI PROG sleep*  
 Zhangsan is/was still sleeping.

- b. Zhāngsān hái zai hē dìyī wǎn tāng.  
*Zhangsan HAI PROG drink first CL.bowl soup*  
 Zhangsan is/was still drinking the first bowl of soup.

The relevance of aspectual markers for acceptability shows that grammatical aspect plays a role. We could thus suppose that, in an extended VP projection (Travis 2000), the adverb falls in the outer AspP area.

(8) hai [ (- bound) VP]

The account we give for temporal *hai* as a predicate of intervals has two more consequences. First, it allows us to explain the infelicity of the adverb (and of aspectual adverbs in general, as observed in the literature) with so called ‘non-reversible’ predicates like *lǎo* ‘(to be) old’ in (5b). In the discussion of example (5b), we dismissed the problem by saying the such predicates are not subject to temporal change; in fact, the correct characterization in our framework would be to say that ‘non-reversible’ predicate do not easily allow for a representation as convex intervals. The predicate ‘to be old’ in (5b), for instance, cannot reach an end without implying also the loss of its subject; this pragmatic condition is, to our mind, what blocks the possibility of a change.

Finally, the characterization of *hái* in (8) has a consequence also for the hypothesis at the origin of our analysis. We accepted as a working hypothesis that the three interpretations in (2)a-c depend on the type of the predicate and the kind of predication, and are not a matter of structural ambiguity of *hái* as aspectual adverb or a degree modifier. In the next section, where we will analyze the semantics of *hái* as a modifier of gradable predicates, we will tackle this matter in more detail through a comparison with the degree adverb *gèng*.

### 3. *Hái* in comparative constructions.

In this section, we will concentrate on the semantic interpretation of *hái* in comparative constructions like (2b). Despite the great amount of literature devoted to aspectual adverbs like *hái*, the occurrence of these items in comparative constructions has often been neglected; on the contrary, we believe that the analysis of this occurrence of the adverb will provide a good way to test the assumptions we made for the temporal domain.

Let’s consider once more the interpretation of *hái* in (5b), repeated here in (9).

- (9) Zhāngsān (bǐ Lìsì) hái niánqīng.  
*Zhangsan than Lisi HAI young*  
 ‘Zhangsan is still younger (than Lisi).’

The contribution of *hái* in (9) seems to consist in the inference that the two compared items possess the property to be young at least to a positive degree. The inference is due to the adverb, as the contrast between (10a) vs (10b) shows.

(10) a. Lìsì bǐjiào ài, Zhāngsān bǐ tā gāo.  
*Lisi rather short Zhangsan than him tall*  
 Lisi is rather short, Zhangsan is taller than him.

b. # Lìsì bǐjiào ài, Zhāngsān bǐ tā hái gāo.  
*Lisi rather short Zhangsan than him HAI tall*  
 (#Lisi is rather short, Zhangsan is still taller than him)

Contrasts such as the one in (10) motivate the interpretation of *hái* as a scalar adverb (Liu 2001), since *hái* is supposed to convey the information that the standard Lisi is positioned high on the scale defined by the property *gāo* ‘(to be) tall’. However, the contribution of the adverb, as we will show, must be stated in different terms. We will then describe informally the meaning contribution of *hái* in (9) in the following, more general way.

(11) *Comparative hái.*

Zhāngsān bǐ Y hái niánqīng’ is true iff ‘Zhāngsān bǐ Y niánqīng’ is true and ‘Y niánqīng’ is also true.

To understand the meaning contribution of the adverb in this context, we need to look more carefully to the syntax and semantics of comparatives constructions. Here we will concentrate on comparatives of inequality, since *hái* is restricted to this context, and we will take as prototypical form in our analysis the comparative of majority.

The basic difference between gradable and non-gradable properties is that the former denote sets of individuals which are (partially) ordered along a relevant dimension (Klein 1980). As such, each positive property, like *niánqīng* ‘(to be) young’ in (9), extensionally denote a set of individuals (those for which the property to be young holds in a given model), that in turn represents a convex interval on the dimensional scale of ‘youthfulness’. We will call this interval the ‘comparison class’ for the subject Zhangsan in (9).

We will point out here two main aspects of comparatives which seem to be shared by most languages. First, comparison classes are not equivalence classes: that is, two or more individuals belonging to the same comparison class, while sharing the same positive property, can be ordered one with respect to the other (12).

- (12) Zhāngsān hé Lìsì dōu gāo, (kěshi) Zhāngsān bǐ Lìsì gāo (yì diǎn).  
*Zhangsan and Lisi both tall but Zhangsan than Lisi tall a little*  
 Zhangsan and Lisi are both tall, but Zhangsan is (a bit) taller than Lisi.

On the other hand, the same lexeme denoting the positive form of the predicate is often ambiguous between a positive and a dimensional reading. Consider, in fact, (13) vs. (12).

- (13) Zhāngsān hé Lìsì dōu ài, (kěshi) Zhāngsān bǐ Lìsì gāo (yì diǎn).  
*Zhangsan and Lisi both short but Zhangsan than Lisi tall a little*  
 Zhangsan and Lisi are both short, but Zhangsan is (a bit) taller than Lisi.

In the comparative sentence (13), the same property *gāo* ‘(to be) tall’ characterizing Zhangsan and Lisi in (12) can be used to denote the dimension along which two non-tall individuals can be compared. In this sense, Zhangsan can be said to be ‘taller’ than Lisi, even when he himself is not positively tall. This apparent contradiction can be solved by postulating a polar opposition among positive (*gāo* ‘(to be) tall’) and negative (*ài* ‘(to be) short’) predicates along the same scale (Kennedy 2001), or simply as implying a marked positive form, capable of denoting also the scalar dimension (GAO, ‘tallness’). In this paper, we will adopt the latter view.

Drawing conclusion up to now, we see that the analysis of *hái* in terms of a repetitive adverb restricted to a convex interval can be plausibly extended to gradable predicates, once we take gradable properties to denote convex interval along a dimensional scale. The present analysis in fact accounts for the interpretation of *hái* that we make explicit in (11): to say that the two compared items must share the same positive property means, in the framework we adopted, that they belong to the same interval on the scale.

There seems to be still an unsolved problem, though. The analysis we outlined above does not exclude the possibility that *hái* behave like a ‘true’ scalar adverb, contributing explicit information about the two compared items on the scale. To make this point more explicit, we will make a contrastive comparison of *hái* and the scalar adverb *gèng*, which, while conveying a similar interpretation in some cases, behaves quite differently in many respects.

### 3.1 The scalar adverb *gèng*

The adverb *gèng* can be defined a degree adverb which is constrained, in general, to comparative constructions. In this context, *gèng* leads to an interpretation that looks at first sight very similar to that we have seen for *hái* in (9), cf. also (10b) vs. (14b) below.

- (14) a. Zhāngsān bǐ Lìsì gèng gāo.  
*Zhangsan than Lisi GENG tall*  
 ‘Zhangsan is even taller than Lisi.’
- b. # Lìsì bǐjiào ài, Zhāngsān bǐ tā gèng gāo.  
*Lisi rather short Zhangsan than him GENG tall*  
 (‘#Lisi is rather short, Zhangsan is still taller than him’)

Two contexts, however, allow seizing the semantic difference between the two adverbs.

First, contrary to *hái* (15a), *gèng* does not allow the differential interval between the two compared item to be expressed by a measure phrase denoting a specific amount, such as *sān cùn* ‘three inches’ in (15b), cf. (Paris 1988).

- (15) a. Zhāngsān bǐ Lìsì hái gāo sān cùn.  
*Zhangsan than Lisi HAI tall three inch*  
 ‘Zhangsan is still taller than Lisi (by three inches).’
- b. \*Zhāngsān bǐ Lìsì gèng gāo sān cùn  
*Zhangsan than Lisi GENG tall three inch*

The second context, as noted in particular by Yeh (1998) and Yu & Xia (2008), is provided by ‘hyperbolic’ comparative sentences as (16)a-b, in which the two compared items do not generally belong to comparable classes.

- (16) a. Zhāngsān ah, bǐ húli hái jiǎohuá.  
*Zhangsan EX than fox HAI smart*  
 ‘Zhangsan is (still) smarter than a fox!’
- b. #Zhāngsān ah, bǐ húli gèng jiǎohuá  
*Zhangsan EX than fox GENG smart*

We will show that the difference between the two adverbs in these two linguistic contexts help understanding the semantics of *gèng* and *hái*, and provides more evidence for the analysis we proposed for the latter.

Let’s consider the case of hyperbolic comparatives first. If we follow the hypothesis underlying our analysis, the semantic contribution of *hái* in (16) is to state explicitly that the subject and the comparison standard belong to the same interval on the scale, i.e. to the same comparison class. This could seem odd in the case of hyperbolic comparative propositions, whose rhetoric function is rather to state the extraordinary status of the subject by comparing it with an unusual standard, not belonging to the same

class of comparison. In fact, if *hái* is not present in the sentence, hyperbolic comparatives like (16) are less acceptable in Mandarin.

- (17) ??Zhāngsān ah, bǐ húli jiǎohuá.  
*Zhangsan EX than fox smart*

It seems, then, that *hái* in this context has the rhetoric function we would expect: the adverb makes explicit that the property *jiǎohuá* ‘(to be) smart’ in (16) should be interpreted as denoting an interval on the scale of smartness which includes both Zhangsan and the prototypical fox. The scalar effect is then achieved in this way: by choosing an idiomatic standard and asserting that the subject can be compared with it because it belongs to the same comparison class, the speaker implicates that the subject also possess the relevant property to a high degree.

Why is it the case that *gèng* is then infelicitous in the same context? We venture the hypothesis that the infelicity of *gèng* is due to the fact that, contrary to *hái*, *gèng* is a degree adverbial with scalar implications.

Recall that, contrary to *hái*, *gèng* only modifies gradable predicates, and, as a degree adverb, is restricted in particular to comparative propositions. The bare (i.e. unmodified) gradable predicate is generally taken to be ‘inherently’ comparative in Mandarin (Li & Thompson 1981, a.o.), that is, a silent comparative morpheme, which introduces the standard *bǐ*-phrase, can be supposed to be present in (18a). The correspondent non-comparative form is marked, either by contrastive focus or, more frequently, by degree adverbials, such as *hěn* ‘very’ in (18b)<sup>4</sup>.

- (18) a. Zhāngsān gāo.  
*Zhangsan tall*  
 ‘Zhangsan is taller’
- b. Zhāngsān hěn gāo.  
*Zhangsan very tall*  
 ‘Zhangsan is (very) tall’.

We take the (silent) comparative morpheme to have the role of introducing compositionally the standard of comparison.

The fact that *gèng* is restricted to comparative constructions seems then to imply that the adverb modifies the standard of comparison. We would propose to characterize the scalar contribution of *gèng* in this way: the adverb conveys the information that the

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<sup>4</sup> The adverb *hěn* in (12b), if unstressed, loses its interpretation as degree adverbial meaning ‘very’, and seems to have the sole function to mark the non-comparative reading of the predicate. As such, it has been compared (see e.g. Sybesma 1999) to the null *pos* operator that ensures the positive interpretation of gradable predicates in relational analyses (Stechow 1984).



standard must be considered as the highest element of its comparison class in a given context. By saying that the subject surpasses the standard, the speaker thus implies that it is also outstanding all comparable items in the same context, and that, consequently, the subject and the standard do not belong to the same comparison class.

Once we accept to state the semantics of *gèng* in these terms, the restrictions we noted in (15b) and (16b) above can receive an explanation.

First, *gèng* cannot ‘rescue’ hyperbolic comparatives the way *hái* does. Rather than implying by its meaning contribution that the two items belong to the same comparison class, *gèng* builds its scalar effect on the semantics of basic comparatives, which, as we have seen, are independently infelicitous when the subject and the standard are pragmatically not comparable.

The unacceptability of *gèng* in sentences like (15b), where the differential between the two compared items is expressed by a specific dimensional phrase, may also fall into the account of the adverb that we proposed. Comparatives of inequality always imply, as part of their semantic content, the existence of a differential between the two compared items. The differential may surface explicitly as a measure phrase, cf. (19)a,b.

(19) a. Zhāngsān bǐ Lìsì gāo yì diǎn.

*Zhangsan than Lisi tall a little*

‘Zhangsan is a bit taller than Lisi’

b. Zhāngsān bǐ Lìsì cōngmíng yì diǎn.

*Zhangsan than Lisi intelligent a little*

‘Zhangsan is a bit more intelligent than Lisi.’

The measure phrase *yì diǎn* ‘a little’ in (19)a,b explicitly denote the extent of the interval representing the differential between Zhangsan and Lisi along the scale of tallness and intelligence, respectively. So called ‘dimensional’ properties like *gāo* ‘(to be) tall’ in (19a) also allow for measure phrases such as the measure phrase *sān cùn* ‘three inches’ in (20)<sup>5</sup>, denoting more specifically the extent of the interval along the gradable dimension.

(20) Zhāngsān bǐ Lìsì gāo sān cùn

*Zhangsan than Lisi tall three inch*

‘Zhangsan is a bit taller than Lisi’

As we have seen in (15b) above, *gèng* is unacceptable in sentences where the differential is expressed by specific measure phrases like *sān cùn* ‘three inches’ (21a); on

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<sup>5</sup> See Bierwisch & Lang (1989).

the other hand, it can occur with non-specific differential measure phrases, like *yi diǎn* ‘a little’ in (21b).

- (21) a. \*Zhāngsān bǐ Lìsì gèng gāo sān cùn  
*Zhangsan than Lisi GENG tall three inch*
- b. Zhāngsān bǐ Lìsì gèng gāo yī diǎn  
*Zhangsan than Lisi GENG tall a little*  
 ‘Zhangsan is even a bit taller than Lisi’

From a syntactic point of view, both *sān cùn* ‘three inches’ and *yi diǎn* ‘a little’ are two post-verbal phrases expressing a measure complement. The reasons for the contrast of acceptability between (21a) vs. (21b), then, should rather be found on the semantic side.

Once more, we believe that the semantic characterization we gave for the adverb may help in finding an explanation. Recall that in our analysis *gèng* contributes the information that the standard and the subject of comparison do not belong to the same interval on the dimensional scale. This may be the reason why specific differential measure phrases are ruled out: it is impossible to measure out the interval intervening between two standards that do not belong to the same scale. On the contrary, the mere existence of a differential, which is always implied, may be explicitly stated also in this case, as (21b) shows.

Finally, we should note that, if our analysis is on the right track, the grammaticality of *hái* in (15a) follows: contrary to *gèng*, the adverb *hái* asserts that the compared items both belong to the same interval on the scale. The quantification of the differential interval is thus not excluded.

#### 4. Borderline reading of *hái*.

The last example of occurrence of *hái* that we need to consider is the so called ‘borderline’ reading of the adverb, exemplified by (2c), repeated here in (22).

- (22) Zhāngsān hái (suàn) niánqīng.  
*Zhangsan HAI to-consider young*  
 ‘Zhangsan is still (to be considered) young.’

The borderline reading of the adverb is supported by the intuition that Zhangsan in (22), while belonging to the group of young people, represents in some way a ‘marginal’ example of youth (Liu 2001). Being a marginal example of youth means that, in the denotation of ‘young’ in a particular context, one must include other individuals which are better example of youth than Zhangsan, i.e. that are probably younger than him.

While sentence in (22), on the basis of this shared intuition, has sometimes be considered a special case of comparative construction (one in which the comparison standard is left implicit), we will maintain here that the existence of a comparison standard is not due to the (silent) presence of a comparative morpheme, but it is only the result of the presupposition of *hái*.

We will then propose to describe the meaning contribution of *hái* in (22) as in (23).

(23) *Borderline hái*.

‘Zhāngsān hái niánqīng’ is true iff ‘Zhāngsān niánqīng’ is true and in the denotation of ‘niánqīng’ there is at least another individual *y* for which ‘*y* hái niánqīng’ is true.

Under this view, the characterization of *hái* that we proposed for the temporal and comparative readings of the adverb can be maintained also in this context, but with one important difference. If we accept the definition of borderline *hái* we give in (23), in fact, we should also admit that the ordering relation between the presupposed and asserted item be reversed. The presupposed item *y* is interpreted as possessing the relevant property to a *higher* degree than Zhangsan: in other terms, we could say that the orientation of the scale represented by the predicate ‘(to be) young’ is opposite to that of comparatives of superiority, going from ‘young’ to ‘old’ rather than from ‘old’ to ‘young’.

If his observation is correct, then, the borderline reading of *hái* may confirm another important point that we stressed in the introduction: *hái* is not inherently scalar, in that it does not introduce an order among the alternatives, but rather relies on the order independently structuring the domain.

## 5. Conclusions

In this paper, we sketched a proposal for a unified analysis of the adverb *hái* in terms of a repetitive adverb, that is, an additive restricted to an interval in an ordered domain. In our analysis, *hái* contributes the information of the existence of a presupposed item *y*, of the same type of the asserted one and ordered with respect to it by a relevant ordering relation.

Following this hypothesis, we showed that the interpretation of *hái* in its temporal, comparative and borderline readings can be reduced to the same operational scheme (24).

(24)



The proposed analysis brings two consequences that make it differ from previous ones on two important respects: first, *hái* does not convey any explicit information about

the position of (a) and (b) on the scale defined by the interval. This point has been made clear in particular through a comparison between *hái* and the scalar adverb *gèng* in the context of comparative constructions. In paragraph 3.1, we proposed a contrastive comparison between *hái* and the adverb *gèng*, which we analyzed as a scalar degree adverbial. We argued in particular that a similar scalar effect is conveyed by the two adverbs by exploiting two different strategies. In the context of gradable predicates denoting intervals on a dimensional scale, *hái* contributes the information that both the presupposed and the asserted item belong to the same interval identified by the positive reading of the predicate. On the contrary, *gèng* is limited to comparative constructions, and in this case scalar effect is obtained by explicit information about the position of the standard on the scale.

The second consequence is that *hái* does not introduce explicitly an ordering among the alternatives, but rather relies on the ordering independently structuring its domain of application. For these reasons, we defended the hypothesis that *hái* cannot be considered a scalar adverb, but rather an additive adverb specialized for an ordered domain.

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## Word Order in Mandarin: Reading and Speaking

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This paper starts with a close look at the relationship between Chinese transitive verbs and their object positions in sentences. Then large body of data were collected to show that the spoken form of contemporary Chinese has become more like a head-final language, in sharp contrast with the written form, which remains largely as a head-initial language. The split in grammatical rules has posed great challenge to the English learners of Chinese. In order to facilitate the beginning learners, this paper has made some pedagogical suggestions at the end.

### 1. The Issue

Chinese grammar has seemed notoriously flexible to many Chinese language learners. In some cases, the word order is so free that some scholars even claim Chinese has no grammar at all. However, as Teng (2007) puts it, no language may ever exist without a rigid grammatical system because for all languages in the world, word order is one of the default rules to determine the meaning of an information structure. Chinese is no exception. Looking back at the historical debates on the Chinese word order, two issues stand out. One is whether Chinese is an SVO language or an SOV language. The second one is whether the written form and spoken form share the same grammar.

It has been long noted that in Chinese the object of a verb can be on either side of the verb, which has induced the hot debate over the past several decades about whether Chinese is an SVO or SOV language. Although many linguists describe Chinese as an SVO language, Tai (1973) tries to solve the word order issue by observing the relationship between *ba*-construction and passive *bei*-construction, as shown in (1).

- (1) a. 张三把玻璃打破了。  
      ‘Zhangsan broke the glass.’  
      b. 玻璃被张三打破了。  
      ‘The glass was broken by Zhangsan.’

Based on the general passivization rules of languages, which turns the object NP of an active sentence into the subject of a passive sentence, Tai (1973) argues that *boli* introduced by *ba* in (1a) should be treated as the object of the verb since it allows the passivization rule to map it into the subject position in the passive sentence in (1b).

Hence, he claims that Chinese should be classified as an SOV language. To explain the difference between *ba*-construction and non-*ba*-construction, raised in Li and Thompson (1981) and as is shown in (2), Travis (1984) uses the Principles and Parameters theory to define Mandarin as underlyingly an SOV language, but superficially an SVO word order in the surface structure.

- (2) a. 张三打破了玻璃。  
       ‘Zhangsan broke the glass.’  
       b. 张三把玻璃打破了。  
       ‘Zhangsan broke the glass.’

Travis argues that a Chinese transitive verb assigns its theta role to the left but its accusative case to the right. After the theta role assignment, *ba* is inserted to let the preverbal NP have Case. Otherwise, the preverbal NP would have to move to the post-verbal position to get Case from the verb. Li (1990) pushes this idea even further and claims that Chinese is an SOV language except under the Case assignment requirement. Gao (2000 and 2008) gives many more examples other than *ba*-construction, shown as (3) and (4), to demonstrate that Mandarin should be treated as a base-generated SOV language.

- (3) a. 他们去了北京。  
       ‘They went to Beijing.’  
       b. 他们到北京去了。  
       ‘They went to Beijing.’
- (4) a. 李小姐很满意王先生的处理方式。  
       ‘Miss Li is very satisfied with the way Mr Wang handled the matter.’  
       b. 李小姐对王先生的处理方式很满意。  
       ‘Miss Li is very satisfied with the way Mr Wang handled the matter.’

Bear in mind that these claims generally only refer to the structures within a VP. Gao (2000) has also brought out the issue that the term SOV should really mean head-final and the phenomenon is seen in many other phrases, such as NP, PP, CP, etc. According to Greenberg (1963), head-final means that for a phrase, the head is found at the end (the right peripheral) of the phrase. For instance, in a noun phrase (NP) in Chinese, the head noun always occurs last to form an [AP N]<sub>NP</sub>. It is obvious that in an SOV language, the head verb always comes after the object NP to form a [NP V]<sub>VP</sub> if the verb is a transitive one. Since a VP is just an instance of phrases in a language, an SOV language is generally considered to be head-final. Japanese and Korean are the most cited languages to demonstrate head-final or SOV phenomenon. In the same manner, French is

considered to be an example of SVO/head-initial language since the heads are generally found at the beginning of all phrases, regardless of whether it is a VP, or an NP. The claim that Chinese is undergoing the change from head-initial to head-final is greatly supported in Gao (2000) and later works. For instance, Gao (2007) has argued very convincingly that many of the coverbs/prepositions in the traditional analyses actually should be analyzed as case markers while the locative endings are really postpositions that combine with the NP before them to form postpositional phrases.

In Feng (2002), we see another aspect of the debate. By quoting many phrases in newspapers and magazines, he notes that many VO compounds can take another postverbal object in the written form, but not in the spoken form.

- (5) a. 面临九七回归，近两成市民有意迁居加拿大。（书面用语）  
 ‘Before the return of Hong Kong to China, nearly twenty percent of the city residents planned to move to Canada.’
- b. \*在一九九七年香港回归大陆前夕，近百分之二十的城市居民打算搬家加拿大。  
 ‘On the eve of the return of Hong Kong to China, nearly twenty percent of the city residents planned to move to Canada.’

Gao (2008) explains the different grammaticality judgments of the minimal pair *qianju* and *banjia* in (5) as follows: The VO compound *qianju* was formed a long time ago and had enough time to undergo re-analysis, a process in which an object nominal is incorporated into the verb to form a compound verb. Then the new verb was transformed by the transitivity strengthening rule and became a strong transitive verb that could take an object to its right. The *banjia*, on the other hand, may only be a recently coined VO structure and there simply hasn’t been enough time for it to undergo all the syntactic/morphological changes, and therefore could not be used as a single transitive verb.<sup>1</sup>

With such a variety of variations in Mandarin phrase structures, people begin to seriously ask whether Mandarin should still be classified as a fundamentally head-initial language. In many recent publications (Chen 2007, Gao 2002, 2007 and 2008, Feng 2002, etc), some Chinese linguists began to note that the differences are systematically distributed in the different registers of the language. Gao 2008 has done a special research on

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<sup>1</sup> The difference can be seen in the following examples, where a lexical item can be inserted into *banjia*, but not *qianju*. This shows that *banjia* is still a V-O sequence while *qianju* is an inseparable single compound verb.

- (i) 在过去的几年里他搬了好几次家。  
 (ii) \*在过去的几年里他搬家了好几次。  
 (iii) 他曾数次迁居。  
 (iv) \*他曾迁数次居。



the differences and found that the head-final phrases are mainly found in the spoken form in the northern dialects, while the head-initial structure remains with the written form and in the southern dialect group. In this paper, I take a closer look at the word order issues in Mandarin Chinese and show that the current analysis of Chinese word order could demonstrate that Mandarin Chinese is split on its syntactic constructions in the different registers. The paper is organized as follows: in Section 2, I lay out the theoretic background of the current analysis. In section 3, I show that there is a systematic difference in the phrase structures of CP, PP, and VP in the spoken and written forms. In section 4, I conclude the paper with remarks on how the change started to take place and what the change means in current CSL education.

## 2. Theoretical Background

Whether a language should be categorized as an SVO language or an SOV language depends on the linear positions of the objects to their verbs. In this sense, Japanese and Korean are typical SOV languages since the objects in these languages are usually found before their selecting verbs. In the terms of Greensburg (1963), an SOV language usually also displays head-final properties in other phrases. For instance, in Japanese, besides the OV sequence of the VP, we also see the head noun appear at the end of an NP. In a head-initial language, on the other hand, we usually find prepositions rather than postpositions. This phenomenon can be described with X-bar theories laid out in Jackendoff (1990) and Pollard and Sag (1994) as (6) and (7). The left-branching configuration in (6) is used to demonstrate the head-initial phenomenon, while the right branching configuration in (7) is used to explain the head-final languages.

(6) Head-initial Structures:

- a.  $XP \rightarrow X' YP$                       b.  $X' \rightarrow X' YP$                       c.  $X' \rightarrow X YP$

(7) Head-final Structures:

- a.  $XP \rightarrow YP X'$                       b.  $X' \rightarrow YP X'$                       c.  $X' \rightarrow YP X$

Theoretically, according to the Principles and Parameters framework, if a language displays all properties in (6), it should be classified as an SVO language. On the other hand, if a language displays the properties in (7), it should be categorized as an SOV language. However, Chinese is found to display properties of both (6) and (7) in all phrases except the ones listed in (8) and exemplified in (9), where the bold characters/expressions are the head of the phrase and the underlined expressions are modifiers.

- (8) a.  $NP \rightarrow AP N'$   
 b.  $N' \rightarrow NP N$   
 c.  $VP \rightarrow AP V'$

- (9) a. 张三去年五月写的 那部 长篇小说。  
 ‘the thick novel that Zhangsan wrote last May’  
 b. 王五的汉语语言学 专著。  
 ‘Wangwu’s book on Chinese linguistics’  
 c. 李小姐每天 都 兢兢业业地 工作。  
 ‘Miss Li works wholeheartedly everyday.’

Thus, for an NP, its modifiers *Zhangsan qunian wuyue xie de, nei-bu*, and *changpian* in (9a) and *Wangwu de* in (9b) and arguments *hanyu yuyanxue* in (9b) all come before the head noun in both written and spoken forms. This is also true with adverbial modifiers: *meitian, dou*, and *jingjingyeyede* must appear before the head verb *gongzuo*, as is shown in (9c). However, in the next section, I will show that in all other phrases, Mandarin Chinese displays both head-initial and head-final properties. I will focus my arguments on how the different properties are distributed in the different registers of the language and show that the spoken form displays more head-final properties. In particular, I want to argue that the spoken form displays more head-final properties, while the written form displays more head-initial properties in the following structures, where IP stands for an inflexion phrase that is equivalent to a sentence in general grammatical terms.

- (10) a. CP → S(=IP) C  
 b. PP → NP P  
 c. VP → NP V  
 d. XP → YP X’ (NP → AP N’; VP → AP V’; CP → CP C’)

### 3. Empirical Evidence

In this section, I will take a look at many examples to demonstrate that the head-final phenomenon is not just limited to VP structures. They are found in other major phrases as well. In particular, I want to show that (a) within a CP, a conjunction can appear on both/either side of the IP; (b) the term PP can mean a postpositional phrase in Chinese; (c) the VO vs. OV difference is very clearly seen as the difference between southern dialects and northern dialects; and (d) only in the written form can a subordinate clause appear after the matrix clause.

#### 3.1. Complementizers/Conjunctions

In most Chinese grammar books, Complementizers (i.e. conjunctions) are introduced as a pre-clause element that introduces a subordinate clause to be placed before the matrix clause as a sentential modifier. For instance, *ruguo* in (11a) introduces a conditional clause. However, in the spoken form, we find that a lot of people like to add a post-clause element *dehua* to the end of the subordinate clause, as is shown in (11b). Moreover, when *dehua* is added, we also notice that on many occasions, the pre-clause complementizer

*ruguo* is omitted, leaving *dehua* as the only element to introduce the conditional clause. Since complementizers are treated as the head of CP, in cases like this, we will have no other choice but to analyze *dehua* as a post-clause complementizer, which will take the structure of (10a).

- (11) a. 如果教学环境改变了, 学生的学习情绪也会随之改变的。  
 ‘The mood of the students will also change if the teaching environment changes.’  
 b. (如果) 下雨的话, 我们就不去了。  
 ‘We will not go if it rains.’

The analysis of *dehua* also reminds us of the use of *deshihou* as the post-clause complementizer that introduces a temporal adverbial clause in Chinese. Although in the written form we often find the use of *dang* or *zai* before the clause as the pre-clause element optional, in the spoken form the post-clause *deshihou* seems to be the only element we could find to be analyzed as the complementizer to introduce the subordinate clause of time. The same is true with other temporal complementizers such as *yiqian* and *yihou*, etc. They are illustrated with the following examples.

- (12) a. (当) 祖国需要我们的时候, 我们都应该毫不犹豫地挺身而出。  
 ‘We will not hesitate to die when our motherland needs us to.’  
 b. 你见到他的时候, 别忘了替我问声好。  
 ‘Don’t forget to say hello for me when you see him.’
- (13) a. (自从) 新中国成立以后, 很多在国外学习工作的爱国志士纷纷返回家园。  
 ‘After the new China was founded, many overseas Chinese scholars returned to their homeland.’  
 b. 到了北京以后, 一定要常给家里打个电话。  
 ‘Remember to call home after you arrive in Beijing.’
- (14) a. (在) 中国改革开放以前, 很少有学者关注去西方留学的信息。  
 ‘Very few scholars paid any attention to the information on studying abroad before China opened up to the world.’  
 b. 来北京上学以前, 我就听说了您的大名。  
 ‘I heard your name before I came to school in Beijing.’

Thus I have shown that in the spoken form, head-final structures are the dominant forms for subordinate clauses.

### 3.2. Prepositions vs. Postpositions

No matter whether they are called coverbs (Li and Thompson 1981) or prepositions (Li 1990), the optional use of the spatiotemporal elements such as *zai* and *cong* signifies that they have lost their primary properties as the heads to produce prepositional phrases.

- (15) a. 随着京宁沪高速铁路的投入使用, 从北京到上海现在只需要五个小时。  
‘It takes only five hours from Beijing to Shanghai after the high-speed railway went into operation.’  
b. 同志, 买票。大西湖到小西湖多少钱?  
‘Tickets, please. How much does it cost from Big West Lake to Little West Lake?’
- (16) a. (在)正面的墙上写着五个金光闪闪的大字----为人民服务。  
‘Five shining characters are written on the front wall ---- Serve the People.’  
b. 桌子上给你留着午饭。  
‘Your lunch is on the table.’

Gao (2000) and (2007) has challenged the preposition analysis. He argues that a preposition must have at least three major linguistic properties. First, as a lexical head, it should have a full semantic or grammatical content of its own. For instance, in English, the meaning of the preposition *on* in the phrase *on the table* is the space on or above the table. This is seen from its grammatical function of mapping the NP to the space above it. Second, it must be able to combine with another phrase to form a (different) phrase with it as the head. That is, it should be able to change the syntactic category of the phrase it combines with. For instance, in English, the preposition *on*, when combined with the NP *the table*, changes the NP to a PP *on the table*. Third, since the preposition is the head of a PP, it should be the obligatory element of the phrase. That is, its existence should be independent of the element it combines with or any other element in the sentence. In English, this property can be seen from the fact that prepositions generally are allowed to be stranded. However, we find that *zai*, for example, has none of these properties in the following sentences.

- (17) a. 他在墙\*(上)挂了一幅画。  
‘He hung a painting on the wall.’  
b. (\*在)墙\*(上)被他挂了一幅画。  
‘A painting was hung on the wall by him.’  
c. (\*在)墙\*(上)挂了一幅画。  
‘A painting is hung on the wall.’

Please note that the sentences in (16) and (17) show that the use of *zai* is optional. It only occurs when an overt case marker<sup>2</sup> is needed. Thus, it occurs obligatorily only in (17a). In (17b) and (17c), it cannot occur because a covert case marker is already in place. Secondly, the word *zai* does not have any meaningful content except marking the following phrase as a locative. Thus, *zai zhuzi-shang* and *zhuzi-shang* carry exactly the same meaning. Thirdly, the phrase, when combined with *zai*, does not project to a different syntactic category. For instance, *zai qiang-shang* is still a locative phrase just as *qiang-shang* is. Compared to *ba* in (1), *zai* in (17) displays exactly the same syntactic properties of a case marker rather than a preposition. Based on the properties that *zai* has, Gao (2000) claims that the so-called prepositions such as *zai* and *cong* should be analyzed as case markers rather than prepositions.

Instead, Gao (2007) has argued for a postpositional analysis of the locative endings such as *-shang* and *-li*. He notes that, in many locative phrases, it is the locative ending that functions as the head to project into a locative phrase. We also understand that the grammatical function of the locative endings is to map the NP to its related areas. For instance, *-shang*, when combined with *zhuzi*, maps *zhuzi* to the area above it, which is how we understand what *zhuzi-shang* or *zai zhuzi-shang* means. Since those locatives are heads and they appear at the end of the projected locative phrases, they are postpositions. Thus these locative phrases are also known as postpositional phrases.

We also find the similar cases in time adverbials. In the written form, we often see the use of *yu* or *zai* before a time expression, but in the spoken form, these time expressions are used without those prepositions.

- (18) a. 你的来信于昨日收到，内情详知，勿念。  
 ‘Don’t worry, I have read your letter that arrived yesterday.’  
 b. 我十五号就收到了他的来信。  
 ‘I received his letter on the fifteenth.’
- (19) a. 据考证，此画作于十九世纪三十年代。  
 ‘According our research, this painting was painted in the 1830s.’  
 b. 我看这封信应该是一九六四年写的。  
 ‘I believe this letter was written in 1964.’

The drop of the temporal prepositions supports the claim that the head-initial phrases are disappearing in the spoken form. So far we could not confirm any use of postpositions in temporal adverbials, although we suspect that some temporal words like *hao* and *nian* began to show some properties of postpositions.

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<sup>2</sup> Gao (2000) has argued for two kinds of case markers. A covert case marker is phonologically null and only occurs in topic, subject, or object positions. Otherwise an overt case marker must be used before a marked complement of the verb.

In recent years, we have found that it is more likely to read (a) sentences and to hear (b) phrases in the following, thus confirming that structure in (8b) has become more popular in the spoken form.

- (20) a. 除了英国和法国(以外), 一些其它西方列强也参与了对圆明园的抢劫掠夺。  
 ‘Besides Great Britain and France, other western powers also took part in the plunder of Yuanming Yuan.’  
 b. 李四除外, 凡是想去听课的人, 请把手举起来。  
 ‘Except Lisi, anyone who would like to attend the class, please raise your hand.’
- (21) a. 学校希望每个学生(在)中考以前都能把所欠的学费交清。  
 ‘The school hopes that every student hands in his tuition to the school before the mid-term exams.’  
 b. 五一以后, 西藏所有的旅游点将全部对中外游客开放。  
 ‘After May 1, all sightseeing places in Tibet will be open to domestic and international tourists.’

Therefore, I have shown that in the spoken form, Chinese is dominantly postpositional and (10b) is the most popular structure to use.

### 3.3. VO vs. OV

Speaking of variations within the VP structure, many linguists have concentrated on the different analyses of the *ba*- and non-*ba*-construction. However, many other verbs also demonstrate the flexibility of letting the object choose either preverbal positions in spoken forms or postverbal positions in written forms, as shown in (3) and (4). What’s more, we even find that in highly educated speech, people also like to choose preverbal objects with the insertion of a light verb<sup>3</sup> to introduce a nominalized action verb, as is shown in the following.

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<sup>3</sup> A light verb is a verb that has little or no semantic content of its own. It takes an action-denoting nominal as its object, as are shown in the following sentences, where the light verbs are in bold letters. In many cases, the light verb may be dropped and the action-denoting nominal will serve as the verb (with appropriate morphological changes).

- (i) You should **take** a walk after dinner.  
 (ii) You should walk a little after dinner.  
 (iii) Let’s **take** a break.  
 (iv) 他们就这个问题**进行**了长时间的讨论。  
 (v) 他们就这个问题讨论了很长的时间。  
 (vi) 对政府给与的鼎力协助, 我们**表示**由衷的感谢。  
 (vii) 我们由衷地感谢政府给与的鼎力协助。

- (22) a. 学校领导很高兴你们能来参加母校百年华诞。  
 ‘The school leaders are very happy to know that you could come to the centennial ceremony of your home school.’  
 b. 你能来我很高兴。  
 ‘I am very glad that you could come.’  
 c. 学校领导对你们能来参加母校百年华诞感到非常高兴。  
 ‘The school leaders are very happy to know that you could come to the centennial ceremony of your home school.’
- (23) a. 学校很快就处理了这件事。  
 ‘The school handled this matter.’  
 b. 学校很快就对这件事进行了处理。  
 ‘I am very glad that you could come.’  
 c. 学校领导对你们来参加母校百年华诞表示最热烈的欢迎。  
 ‘The school leaders express their warmest welcome to your coming to the centennial ceremony of your home school.’

Feng (2002) reveals a very interesting phenomenon. Some compacted VO compounds in Chinese can take an additional post-verbal object only in written forms. Gao (2008) argues that only a strong transitive verb can display this ability and those kinds of verbs are only found in the written form. The same kind of transitive verbs become weak in spoken forms, where the additional objects become marked complements that appear before the verb, and thus display a kind of SOV structure.

- (23) a. 不少人已经移民美国。（多见于书面用语）  
 ‘Many people have immigrated to the United States.’  
 b. 许多人正在向西部移民。  
 ‘Many people are immigrating to the west region.’
- (24) a. 一九三一年九月十八日，日本帝国主义开始进兵东北。  
 ‘The Japanese began to march their troops to the Northwest in Sept. 18, 1931.’  
 b. 一九三一年九月十八日，日本帝国主义开始向东北进兵。  
 ‘The Japanese began to march their troops to the Northwest in Sept. 18, 1931.’
- (25) a. 杨教授作客中南海。（只限于书面用语）  
 ‘Professor Yang was invited to be a guest in Zhongnanhai.’  
 b. 杨教授到中南海作客。  
 ‘Professor Yang was invited to be a guest in Zhongnanhai.’

We have shown that in Mandarin written form, the word order within a VP can vary with head-initial phrases as the preferred order, but in the spoken form, more and more head-final phrases are used, thus confirming that (8c) is now the dominant word order in the spoken form.

### 3.4. Subordinate Clauses

In modern Chinese, placing subordinate clauses before the matrix clauses has become a dominant word order. However, in the written form, some archaic Chinese conjunctions still linger on to render some head-initial phrases. When these archaic conjunctions are replaced with modern ones in the spoken form, no head-initial order is allowed, as are shown in the following.

- (26) a. 已有八百多头牲口被杀，以防止疫情扩散。  
 ‘More than 800 cattle were slaughtered to prevent the spread of the disease.’  
 b. \*已有八百多头牲口被杀，为了防止疫情扩散。  
 ‘More than 800 cattle were slaughtered to prevent the spread of the disease.’  
 c. 为了防止疫情扩散，已有八百多头牲口被杀。  
 ‘More than 800 cattle were slaughtered to prevent the spread of the disease.’  
 d. \*以防止疫情扩散，已有八百多头牲口被杀。  
 ‘More than 800 cattle were slaughtered to prevent the spread of the disease.’

Thus, the examples in (26) show that only the archaic conjunctions can trigger head-initial word order in the written form. Since no archaic conjunctions are used in the spoken form, no subordinate clauses are found before the matrix clauses, thus confirming that only in the speaking register do we have absolute head-final word order structures that are illustrated in (8d).

### 3.5. Other Modifiers

It has been well-known that in contemporary Chinese no nominal modifiers such as PPs and adjectives can appear after the nominal heads. Likewise, all adverbials must also occur pre-verbally. Some structures may stand out as potential counter-examples. They are the verb-complement constructions and its extension of the de-clause constructions, as is shown in the following.

- (27) a. 张三把桌子擦干净了。  
 ‘Zhangsan has cleaned the table..’  
 b. 刚才这件事把王小姐弄得一头雾水。  
 ‘Ms. Wang was greatly puzzled by what had happened.’



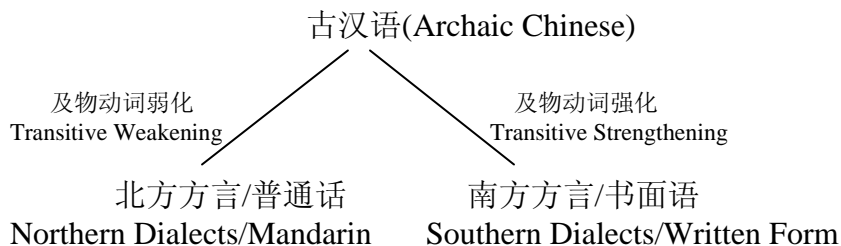
However, Gao (2000) has given a very convincing argumentation for these structures to be analyzed as head-final. That is, in (27a), *ganjing* should be treated as both the semantic and syntactic center of the compound verb *ca-ganjing*. Likewise, *yitouwushui* in (27b) is shown to function as the primary predicate of the sentence.

Accompanied by the pre-nominal adjectival modifiers and pre-verbal adverbial modifiers, we have demonstrated that the spoken form displays mostly head-final properties and should be classified as a head-final language while the written form remains mostly head-initial except for the modifiers. Thus I have shown that the head-final properties are displayed in all phrases in Chinese. The distribution of head-initial and head-final phrases demonstrates that the Chinese spoken form displays mostly head-final properties while the written form is still dominantly head-initial.

#### 4. Conclusion

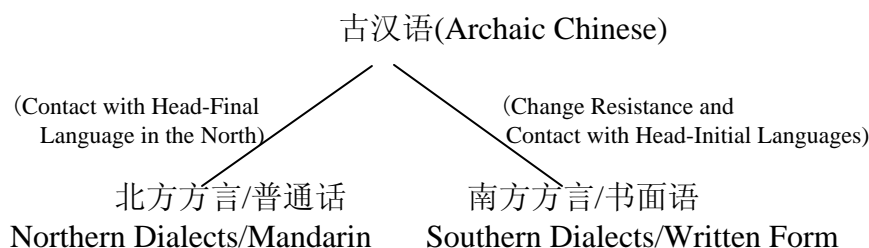
Gao (2000) has argued that the change in the spoken form is most likely due to frequent contact with head-final languages such as Japanese, Korean, and Mongolian, since surveys show that the change is gradually spreading from the North to the South. The written form, as the most solid and stable form of the language, has resisted the change. In analyzing the variation within the VP structure, Gao (2008) has found the same pattern of change and made a proposal to explain the differences with the chart in (28). According to this chart, the prepositioning of the verbal object in the spoken form is due to the weakening of the transitive verbs' ability to assign Cases in the northern dialects.

#### (28) Variation within VP



Now this chart can be modified as (29) to explain the difference between the written form and the spoken form. The weakening of the transitive verbs could be regarded as being influenced by the languages that have weak transitive verbs.

## (29) Word Order Variation



The difference between the spoken and written forms has put a big challenge to educators of CFL. Please note that this analysis reveals that the word order of the written form resembles the English word order much more than the spoken form. If we often hear improper Chinese sentences from our Chinese students, we may want to consider if the improperness actually could be avoided if we put more effort into explaining the different grammars in the two different registers of the language.

### 5. Current Study and CFL Education

From the above discussions and examples with translations, we have seen the split in the word order between the written and spoken forms in Chinese. We notice that the word order of Chinese written form is quite similar to that of English, but in the spoken form, it is quite different, or even reversed. The similarities between the written form and English have made it very easy and convenient for Chinese students to pick up the wrong grammar to use in speech. This is especially true with students in the beginning stages, when they learn their grammar mostly from the written form. Mistakes such as the following can be seen from these confused students, who are not well-informed of the differences.

- (30) a. \*当你到了那边，别忘了早点儿联系我。  
'When you arrive there, don't forget to contact me early.'
- b. \*我说过好多次我会负责你到底的。  
'I told you several times that I will be responsible for you all the way through.'
- c. \*我昨天就已经交钱了这本书。  
'I have paid for the book yesterday.'
- d. \*以前上大学，我们搬家过好几次。  
'Before going to college, we moved several times.'
- e. \*以后我到了北京，会给你打电话的。  
'After I arrive in Beijing, I will give you a call.'

The problems in these sentences strike me most by their similarities to the English word order. For (30a), *lianxi*, according to Gao (2008), could be a strengthened transitive verb in the written form and southern dialect groups, as we often see *lianxi women* on the

websites or newspaper ads. Even in some Chinese-English dictionaries *lianxi* is translated as a transitive verb *contact*, but it is still a weak transitive verb in the northern dialect group and therefore the object *wo* should occur preverbally as a marked complement, as is shown in (31a). The same is true with (30b). For (30c), *jiaoqian* is mistakenly understood as a Chinese version of *pay* in English. The same problem is found in (30d) when *banjia* is mistakenly understood as having exactly the same function as *move*. In (30d) and (30e), students mistakenly use *yiqian* and *yihou* as pre-clause complementizers. The corrected sentences are given in (31).

- (31) a. (你)到了那边, 别忘了早点儿和/跟我联系。  
 ‘When you arrive there, don’t forget to contact me early.’
- b. 我已经说过好多次了, 我会对你负责到底的。  
 ‘I told you several times that I will be responsible for you all the way through.’
- c. 这本书, 我昨天就已经交过钱了/我昨天就已经交过这本书的钱了。  
 ‘I have paid for the book yesterday.’
- d. 上大学以前, 我们搬过好几次家。  
 ‘Before going to college, we moved several times.’
- e. 到了北京以后, 我会给你打电话的。  
 After I arrive in Beijing, I will give you a call.

The problem sentences in (30) also show that it is very difficult for English learners of Chinese to receive Chinese as a head-final language. This should come as no surprise at all since English itself is a head-initial language. According to first language transfer studies, it is very natural for students to accept similar language structures first. The best way to teach our students to avoid these kinds of mistakes is to show them the different word orders in different registers of the language. According to the principles of the Comparative Grammar, we can focus our instruction on the differences of the languages rather than the similarities. That is, we must spend more time on the different word orders of the spoken form with our beginning learners. Language is the manifestation of the thoughts and cultures of its speakers. To show our students the differences in different cultures, we can start by letting our students note the different ways that people arrange things in many basic cultural examples. The simplest examples are the names of people of both cultures. In China, it is well known that family name always comes first, followed by the given name. However, in the United States, the given name has to come first and family name is always last. Other examples include the different arrangements for postal addresses and dates. In English, people like to arrange the address from smaller units to larger ones while the Chinese people like to do the reverse. Take a look at the following examples.

GAO: CHINESE WORD ORDER

(32) Postal Address

- a. 中国湖南省武冈县城关镇光明路 274 号  
'China Hunan Province Wugang County Chengguan City Guangming Rd. No. 274'
- b. 275 Lighthouse Ave. New City, California, USA  
'275 号灯塔大街新城市加利福尼亚州美国'

(33) Army Unit

- a. 中国人民解放军第 38 军红九师机步团三营钢八连一排二班战士刘铁柱  
'PLA 38<sup>th</sup> Army the Red 9 Division Mechanical Regiment Third Battalion the Iron 8 Company First Platoon Second Squad soldier Liu Tiezhu '
- b. Company H, 2<sup>nd</sup> Battalion, 55<sup>th</sup> Parachute Infantry Regiment, 3<sup>rd</sup> Brigade Combat Team, 42<sup>nd</sup> Airborne Division, US Army  
'H 连第二营第五十五伞兵团第三作战旅第八十二空降师美国陆军'

(34) Time/Dates

- a. 二零零八年五月十二日下午两点二十八分  
'The Year 2008 May 12 in the afternoon at 2 O'clock 28<sup>th</sup> minute'
- b. At 7 O'clock in the evening of September 23, 1987  
'七点整晚上九月二十三日一九八七年'

The expressions in (32) – (34) above are very good examples for the beginning students to take the first step towards their understanding of the differences between Chinese and English. After that, we could frequently remind them to pay special attention to the head-final structures they encounter during their Chinese studies within the framework of Comparative Grammar. This way, many of the ungrammatical or funny sentences from the students could be avoided.

- (35) 到哈尔滨去以前，你应该先了解一下那里的天气情况。  
'You should learn about the weather of Harbin before you go there.'  
Not: \*你应该知道哈尔滨的天气以前去那里。

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## 谈“有（一）点儿+形/动”的语义及语用功能

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提要：在汉语语言学和对外汉语教学领域里，“有（一）点儿+形/动”被认作为一个常见的固定用法。一般的语法著作和对外汉语教材都简略地介绍该结构表示少量，意义消极或与本来预料不符。近来更有新的研究认为“有（一）点儿+形容词”这种结构在句中所表达的是一种消极，负面的评价。笔者认为，前人的定论及近来的研究都至少存在两个问题，一个是语言资料涵盖不全，另一个是与语言事实不完全符合。

本文从调查现代汉语语言资料着手，在语言事实的基础上重新认识、描述“有（一）点儿+形/动”这一结构，进而分析“有（一）点儿”后所加的形容词和动词的类及所表示的不同情境(situation)，及该句式的语用功能。

本文语言素材来自《北京大学汉语语言学研究现代汉语语料库》。

### 1. 前言

#### 1.1. 问题的提出

“有（一）点儿+形/动”在对外汉语教学方面是一个比较浅显的语法现象，通常在初级阶段就可以遇到。一般的定义是该结构表示少量，常用于表示消极或与本来意愿不符的情况下。但是在日常实际语言运用中，常常发现与本定义不符的实例，这就不得不使我们针对问题，调查研究实际汉语语料，在语言事实的基础上重新认识该结构，力求对该语言现象给予一个新的，共时性的描述。

对“有（一）点儿+形/动”的基本定论是这是一个常见的固定用法，表示程度不高；稍微。多用于不如意的事情(吕1999)。近来的研究认识到‘有点儿+形容词’实际使用的灵活多样，认为与其只强调其后所用的形容词多为消极意义的，不如说‘有点儿+形容词’这种结构在句中所表达的是一种消极，负面的评价更为恰当(范2004)。

本人认为无论是较早的基本定论，还是近人的研究都存在一定的的问题。问题在于二者既不完全与现代汉语语言事实符合，也没有完全涵盖“有点儿”的副词用法。本文意在从语料出发，重新认识这一用法。

## 1.2. 范围和语料

本文讨论的只是“有（一）点儿”的副词用法，也就是在“有（一）点儿+形/动”结构中的“有（一）点儿”。“有（一）点儿”还可以是“动量”结构，如“我现在有一会儿时间。”“有（一）点儿”的这种用法不在本文的讨论范围之内。

另外一个需要简单说明的是“有一会儿”中“一”的有无问题。“有一会儿”的副词用法中的“一”是可有可无的。它的出现与否并不影响句子的意思，也不会把句子变成病句，如：“我有点儿忙”和“我有一会儿忙”。因此，下文只用“有点儿”的形式。顺便提一下，“点儿”可以用在句尾，如“快着点儿。”这时的“一”是不能出现的。我们不可说“快着一会儿。”当然，这一用法也不在本文的讨论范围之内。

本文参考的所有汉语语料均出自于《北京大学汉语语言研究中心现代汉语语料库》。

[http://ccl.pku.edu.cn:8080/ccl\\_corpus/index.jsp?dir=xiandai](http://ccl.pku.edu.cn:8080/ccl_corpus/index.jsp?dir=xiandai)

## 2. 语料研究

### 2.1. 对前人对此用法的总结

总体来说，对“有点儿”+形/动“这一固定用法，以往的研究可以归结为以下三点。

**2.1.1.** 在“有点儿+形/动”结构里出现的形容词和动词多是有消极意义或是贬义的。如：

1. 爸爸[有点儿]累。
2. 患者的嘴唇[有点儿]肿，
3. 现在想起来真是[有点儿]“土”了，感到对那小伙子有一种过意不去的内疚。
4. 先生的书房“半成斋”似乎跟他研究的化石一样古老，甚至让人觉得[有点儿]零乱。
5. 初期，外国文学的翻译出版工作是兴旺、热闹过一个时候的，甚至还[有点儿]滥，

很显然（1）中的“累，”（2）中的“肿”和（4）中的“零乱”都不是人们所期待的，是不好的。（3）中的“土”原本本身就加了引号，及（5）中的“滥”都具有典型的贬义色彩。这样的例子在我们的语料中数量是相当大的。

何：“有（一）点儿+形/动”

**2.1.2.** 在“有点儿+不+形/动”的结构里使用的形容词和动词本身的意义大多是有积极意义的或是褒义的。如：

6. 他[有点儿]不高兴。
7. 他觉得这[有点儿]不好。
8. 他感到这事儿[有点儿]不妙。
9. 他对结果[有点儿]不满意。
10. 可读书界对畅销书的态度，总[有点儿]不公正。

这一点例句中的形容词及否定形式，已经表现得非常清楚，无须赘言。这样的句子在我们调查的语料中，数目相当不少。2.1.1. 和 2.1.2. 实质上反映的是同一个问题：“有点儿”的后加成份，不管是肯定形式还是否定形式，都是表示消极意义的或是贬义的。

**2.1.3.** “有点儿+形/动”常常可以和表示少量的副词“稍微”连用，如：

11. 稍微[有点儿]疼

这一点似乎很合规则，“有点儿”表示少量，“稍微”也表示少量，但是我们在语料中发现这样的句子数量并不多，也就是说虽然可以这样连用，但是人们常常并不这样用。

## 2.2. 语料研究

### 2.2.1. 形容词和动词的褒贬色彩问题

语料告诉我们，在“有点儿+形/动”的句式里，形容词和动词并不像前人所说的一定是具有贬义色彩的。实际上不具有褒贬彩的词数量很大，俯拾皆是。请看下面的例子。

13. [有点儿]面熟，可是一下子记不起来了。
14. 来加拿大近一星期了，已经[有点儿]习惯了加拿大的地广人稀。
15. 一转脸，看到从马路斜坡上下来一个手持拐杖的人，都觉得他的身影[有点儿]熟悉。
16. 车厢里的“乘客”是否感到[有点儿]晃动。

从例句13到16可以看出，“面熟，习惯，熟悉，晃动”等动词是相当中性的，不具有任何褒贬色彩。进一步的语料研究，我们看到在“有点儿+形/动”的句式里不



## 何：“有（一）点儿+形/动”

但语义中性的形容词和动词数量很大，而且具有积极意义的或是褒义的形容词和动词数量很可观。下面句子都是语料库中的实例：

17. 当然，她心里也[有点儿]爱上了其中的一个小伙子。
18. 当然，《廊桥遗梦》给人的答案既朦胧、又忧伤，而且还[有点儿]甜丝丝的。
19. 我觉得小超的话有理，气也就消了，还[有点儿]感激她呢。
20. 孟子的文章我已经觉得[有点儿]太鲜甜，有如生荔枝，
21. 就要使诗歌[有点儿]亲切和自然，

显而易见，诸如“爱上，感激，亲切，自然”等动词是相当具有褒义色彩的，积极的，使用语言的人所喜爱的或期待的。实际的语言素材告诉我们，在“有点儿+形/动”结构里出现的形容词和动词并不多是有消极意义或是贬义的，起码我可以说不再多是有消极意义或是贬义的。这些动词或形容词可以是消极的贬义的，可以是中性的，更可以是积极的褒义的<sup>1</sup>。下面我们进一步来探讨一下这些形容词和动词有哪些共性和特性。

### 2.2.2. “有点儿+形/动”结构中的形容词/动词的特点

首先，我们简单地把出现在“有点儿+形/动”结构里的形容词和动词分一下类。分类的情况是这样的。

#### a. 静态动词

像，近于，缺乏

#### b. 心理状态活动及感官动词

爱，怕，疼，烦，迷信，后悔，吃惊，怯，感激，喜欢，惭愧，熟悉，害怕，烫，偏爱，可怜，怀疑

#### c. 动态动词

照顾，挑剔，冒险

从数量上讲，纯粹的静态动词和动态动词的数量相对而言是比较少的，绝大多数的是介于静态动词和动态动词之间的心理状态、活动及感官的动词。这些形容词和动词的共性就是都可以受表示程度的“很”来修饰。

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<sup>1</sup> 北京大学郭瑞教授指出，考虑到其他方言有同样的现象，“有点儿+动/形”结构里出现的动词或形容词可以使褒义的也可以是贬义的，语料库的语料所反映的可能是近一二十年的语言事实，一个正在进行中的语言变化。语言变化的问题，需要更多的研究，本文暂不讨论。

## 何：“有（一）点儿+形/动”

### 2.2.3. “有点儿”+固定用法

语料事实告诉我们，“有点儿”后边所跟的并不只是人们通常认为的形容词和动词。我们发现在实际的语言运用中，“有点儿”后常常跟着一些相当口语化的固定用法。下面是我们在语料库中发现的实例。

22. [有点儿]“对不起观众”
23. [有点儿]说不过去
24. [有点儿]招架不住
25. [有点儿]下不来台
26. [有点儿]跟不上趟
27. [有点儿]飘飘然起来。
28. [有点儿]喘不过气来了
29. [有点儿]“站着说话不腰疼”

### 2.3. “有点儿+形/动”的动词语义

前文说过“有点儿+形/动”表示的基本语义是程度不高，稍微的意思。下面我们从动词语义方面简单讨论一下“有点儿+形/动”所表现的情境。

#### 2.3.1. 静止状态

“有点儿”后边跟着的是形容词时，所表达的是形容词本义的程度不高，表现的是一个静止的状态。

30. [有点儿]累
31. [有点儿]肿
32. [有点儿]浪费
33. [有点]紧张
34. [有点]贵

这些例句所表现的都是静止的状态，即没有开始，也没有结尾，无变化而言。

#### 2.3.2. 变化后的状态

“有点儿”后边跟着的是动词时，有的时候表现的是一种变化后的状态。

35. 庙会，[有点儿]变味了
36. [有点儿]高兴了

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例句30到34表现的是一种状态，例句35和36表现的也是一种状态，但这两种状态是不同的。前者是纯粹的静止状态，而后者是变化后的状态。句子告诉我们，以前的不是这样的，但是现在是这样地。就整体而言，即没有变化的起始，也没有变化的过程，更没有变化的终结，所以仍是静止情境，变化后所造成的静止情境。

### 2.3.3. 变化过程

“有点儿+形/动”的结构有的时候也可以表现一种变化，一种程度不大的变化。具体的变化可以是变化的开始，变化的过程之中和或是变化的结果。

37. [有点儿]这个堕落下来了
38. [有点儿]害怕起来
39. [有点儿]犹豫起来
40. [有点儿]骄傲起来
41. [有点儿]紧张起来
42. [有点儿]动摇起来
43. [有点儿]明白过来

37中的“堕落下来”可能是有歧义的。一个可能是“下来”的贬义语义，一个可能是“下来”的继续的意思。不管是哪个，“堕落”仍在进行之中。38到42都有变化起始的意思。43有明显的变化意思。

## 2.4. “有点儿+形/动”的语用功能

### 2.4.1. 语义冲突

“一点儿”本来就是少量的意思。“有点儿+形/动”表示该动词或形容词的少量。前文提过，人们通常认为这一结构常常可以和表示少量的副词“稍微”连用。但是我们发现在实际的语料中，这种用法的例子并不多。相反，这一结构跟表示程度大的“颇”，“真”，“很”等副词连用的例子倒是很多。请看下边的例子；

44. 颇[有点儿]牙碜。
45. 几个老太太颇[有点儿]失望。
46. 真[有点儿]像在战场上冲锋陷阵的劲头。
47. 说来堂堂男子汉，如此“斤斤计较”，真[有点儿]难为情
48. 且我又颇欣赏“观人于微”这句话，所以对于题跋这样的小品文字很[有点儿]偏爱。

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用表示程度大的副词来修饰表示少量的结构在语义上很显然是有冲突的。这样的用法不但不为病句，作为一种修辞手段，增加对比，夸大戏剧性，达到语言使用者的某种目的。

### 2.4.2. 语体冲突

修辞手段的另一种表现形式就是语体的冲突。“有点儿”是非常口语化的，四字成语是书面化的。我们在语料中发现“有点儿”+四字格的用法非常广泛，例子很多。下面列举的是我们在语料中发现的和“有点儿”连用的四字格。

受宠若惊	不寒而栗	醉生梦死	不知所措
心不在焉	依依不舍	倚老卖老	想入非非
异乎寻常	不足挂齿	应接不暇	漫不经心
离经叛道	局促不安	得意忘形	小题大作
兴师动众	菲夷所思	怒目金刚	装腔作势

这种语体的冲突，同样是对比反差大，生动活泼，给人以更深的感染。

### 2.4.3. 缓和语气

表示说话人的主观意志，看法和态度，而不是客观的判断或描述，该结构的使用在于使语气变得缓和委婉

49a. 他觉得这[有点儿]不好。

49b. 他觉得这不好。

50a. 她听后，也许是感到[有点儿]意外

50b. 她听后，也许是感到意外

51a. 这也许[有点儿]唐突

51b. 这也许唐突

拿49a, 50a 和 51a 跟49b, 50b 和 51b作比较，a 句的语气明显要缓和得多。B 句中没[有点儿]就显得突然、生硬、直接了然得多。

## 2.5. 结束语

“有点儿+形/动”虽然是一个较为简单的固定用法，但是目前对该结构的理解与描述与语言事实本身还存在着一定的差异。我们从调查语言事实着手，重新理解认识这个结构。我们认为该结构不再像通常人们所说的那样只表示被动的、消极的、贬义的、与说话者意志相反的意思，它可以表示中性的，也可以表示主动

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的、积极的、褒义的。除此之外,我们还简单地讨论了该结构中形容词和动词的通性,该结构所表示的情境,及它的语用功能。

本文涉及的只是对“有点儿+形/动”研究的初步,有很多问题仍没有答案,仍需研究讨论,如该结构的用法是否表现了一个正在进行中的语言变化。如果是这样的话,那么变化的内外在因素等又是哪些等等。

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## The Sentence-Internal Topic and Focus in Chinese

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The purpose of this study is two-fold. First, it argues that Rizzi's (1997) "fine structure of the left periphery" can be applied to the sentence-internal domain in Chinese (i.e., between TP and  $\nu$ P) and that this domain can license both Topic and Focus under distinct functional projections, with TopicP dominating FocusP. The result of this paper supports claims in Belletti (2004) and Paul (2005) about functional projections in the lower INFL domain, and shows that an analysis of single projection proposed by Lambova (2004) for Topic and Focus in Bulgarian cannot carry over to Chinese data. Second, by taking this joint approach of syntax and information structure, different from previous analyses, I argue that pre-posed objects can be either Topic or Focus in the sentence-internal domain. The present study in turn shows that the so-called verb-copying sentences in Chinese can be analyzed on a par with the pre-posed object construction. A unified account to the pre-posed object construction and the so-called verb-copying sentences is provided.

### 1. Introduction

In the literature on pre-posed object construction, there is no consensus whether objects pre-posed to the domain between subject and the verb is Topic or Focus.<sup>1,2</sup> Here,

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<sup>1</sup> In this paper, I use "Topic" and "Focus" as labels to refer to the linguistic items that carry such informational roles.

<sup>2</sup> 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; ASP, aspect marker; RESULT, resultative particle; BA, disposal marker.

I refer to such a domain as “sentence-internal domain,” approximately below TP and above *v*P.

- (1) Zhangsan            na.ben.shu<sub>1</sub>    kanguo.le    ec<sub>1</sub>  
       Zhangsan            that.CL.book    read.PERF  
       ‘Zhangsan has read that book.’

Some linguists argue for such sentences as involving a Secondary Topic, as opposed to the sentence-initial Topic (e.g. Tsao 1990 and Paul 2002, 2005). Differently, some linguists refer to such sentences as involving Focus, based on the contrastive interpretation conveyed by the sentence-internal element (e.g. Tsai 1994, Ernst and Wang 1995, Shyu 1995, and Huang, Li and Li to appear).

In this paper, I will show that the sentence-internal domain in Chinese is relevant to both Topic and Focus but in a specific, restricted and highly systematic way.<sup>3</sup> Agreeing with Paul’s (2005) claim for Topic and Focus in the lower INFL domain in Chinese, I depart from Paul (2005) and previous analyses that the “pre-posed object” itself can be either Topic or Focus sentence-internally in an appropriate context (section 2). In section 3, I argue that two distinct projections are needed for the Topic and Focus interpretations, and that an analysis of single-projection as proposed by Lambova (2004) for Bulgarian is not supported by Chinese data. The discussion will then proceed to show how the proposed analysis accounts for the so-called verb-copying sentences in Chinese (section 4). Section 5 briefly concludes the paper.

## 2. The Sentence-internal Domain in Relation to the Information Structure

Assuming Chinese can license Topic and Focus in the domain of CP, the following discussion will show that the differences between Topic and Focus also carries over to the sentence-internal domain. The discussion will be centered on differences between Topic and Focus in the cleft-construction, answers to (*wh*-)questions and sentences with indefinite NPs.

Generally, Topic can be either overt or covert in answering questions, but answers to *wh*-questions are Focus that cannot be optional. This generalization holds to elements in the sentence-internal domain in Chinese. (2a) and (2b) show that the sentence-internal item *zuoye* ‘assignment’ is optional when it is mentioned in the previous discourse, i.e., Topic (see Paul 2002).

- (2) ni        zuoye        xiewan.le        ma?  
       you    assignment write.PERF    Q.PART  
       ‘Are you done with your assignment?’

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<sup>3</sup> I center the discussion on Topic and Focus that are syntactically licensed and assume that such information can also be realized by other linguistic devices, such as prosodic contour.

- a. wo zuoye xiewan le  
 I assignment write PERF  
 ‘I am done with the assignment.’
- b. wo ec xiewan le  
 I write PERF  
 ‘I am done with [it].’

However, I find that when (2a) is used to answer a *wh*-question (3a), the sentence-internal element *zuoye* ‘assignment’ is obligatory, since it is the answer to the *wh*-question.

- (3) a. ni shemo xiewan.le?  
 you what write.PERF  
 ‘What have you finished?’
- b. wo \*(zuoye) xiewan le (zuoye can be stressed)  
 I assignment write PERF  
 ‘THE ASSIGNMENT, I have finished it.’

The same domain now is relevant to Focus. The fact that *zuoye* ‘assignment’ in (3b) can be stressed further indicates its Focus status. Examples (2) and (3) suggest that the sentence-internal domain can be used for both Topic and Focus.

The distinction between sentence-internal Topic and sentence-internal Focus is clearer with the help of emphatic *shi*. In Chinese cleft sentences, emphatic *shi* can mark Focus phrases sentence-internally.<sup>4</sup>

- (4) a. wo [*shi zuotian*] huilai de (bushi jintian)  
 I SHI yesterday return DE (not today)  
 ‘It is yesterday that I came back (, not today).’
- b. wo [*shi kanwanshu.le*]  
 I SHI read.book.PERF  
 ‘I did finish the reading.’

Assuming that cleft sentences represent Focus (see É.Kiss 1998), but not Topic, we expect that sentence-internal NPs with different informational statuses show different compatibility concerning the cleft construction. Such a conjecture is correct. We find that when the pre-posed object is the answer to *wh*-questions, as in (5b), it is compatible with emphatic *shi*.

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<sup>4</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* shows the emphatic function. I take this assumption in the following discussion.



- (5) a. ni shemo xiwan.le? (Baogao?)<sup>5</sup>  
 you what write.PERF  
 ‘What did you finish? (Paper?)’
- b. wo [(shi) zuoye] xiewan.le (baogao hai.mei)  
 I SHI assignment write.PERF paper not.yet  
 ‘It is the assignment that I finished (, not the paper).’

However, example (6) shows that when the pre-posed object involves given information, it is not compatible with emphatic *shi*.

- (6) a. ni zuoye xiwan.le ma?  
 you homework write.PERF Q-PART  
 ‘Did you write the homework?’
- b. wo [(*\*shi*) zuoye] xiewan.le  
 I SHI homework write.PERF  
 ‘I wrote the homework.’

The contrast between (5b) and (6b) indicates the difference between Focus and Topic in the sentence-internal domain.

Such distinction can also be found in sentences with indefinite phrases. It is pointed out by Li and Thompson (1981) that Topic in Chinese must be either generic or definite; an indefinite Topic is not allowed.

- (7) guo/na.zhi.guo/\*yi.zhi.guo, wo yijing kanguo.le  
 dog/that.CL.dog/one.CL.dog I already see.EXP.PERF  
 ‘Dog/That dog/A dog, I have already seen.’

However, Tsai (1994) reports that an indefinite phrase is allowed in the sentence-internal domain, e.g. *yi.pian.lunwen* ‘one paper’ in (8).

- (8) wo yi.pian.lunwen keyi yingfu (, liang.pian jiu bu xing le )  
 I one.CL.paper can handle 2.CL.paper then not can ASP  
 ‘I can handle ONE PAPER (, but not two).’

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<sup>5</sup> I adopt É. Kiss’s (1998) analysis that “identificational Focus,” which is related to semantic features [+/-exhaustive, +contrastive], should be distinguished from “information Focus,” since the latter involves no syntactic reordering and only conveys new information. Given Chinese as a *wh*-in-situ language and the fact that questions like (5a) are not marginal, I deem that *wh*-questions in the SOV order, e.g. (5a), represent a sub-type of Focus, identificational Focus, which is different from the information Focus conveyed by canonical *wh*-questions (cf. Rooth 1992, É. Kiss 1998, among others).

Nonetheless, we can see that sentences like (8) are only licit when the indefinite phrase is quantitative, or sentences are ungrammatical (, as in (9)).

- (9) \*wo yi.pian.lunwen zai.kan  
 I one.CL.paper PROG.read  
 ‘I am reading A PAPER.’

Examples (7) to (9) suggest that besides Topic, the pre-posed object can get the Focus status when proper contexts are provided. Recall that emphatic *shi* is compatible only with Focus but not with Topic, the quantitative indefinite NP in (8), *yi.pian.lunwen* ‘one paper’, fits emphatic *shi* as expected (as in (10)).

- (10) wo shi yi.pian.lunwen keyi yingfu (, liang.pian jiu bu xing le)  
 I SHI 1.CL.paper can handle 2.CL.paper then not can ASP  
 ‘It is one paper that I can handle (, but not two).’

Example (10) supports (5) and (8) that the pre-posed object in the above situations has the status of Focus. The foregoing discussion shows that both Topic and Focus are available to NPs in the sentence-internal domain in Chinese, and that such Topic and Focus do show different syntactic properties. It then further suggests that treating the pre-posed objects as either Topic (e.g., Tsao 1990 and Paul 2002) or Focus (e.g., Tsai 1994 and Shyu 1995) only illustrates part of the facts. In the section to come, in the spirit of Rizzi (1997), I will propose that two functional projections, TopP and FocP, are available in the sentence-internal domain to host Topic and Focus when needed.

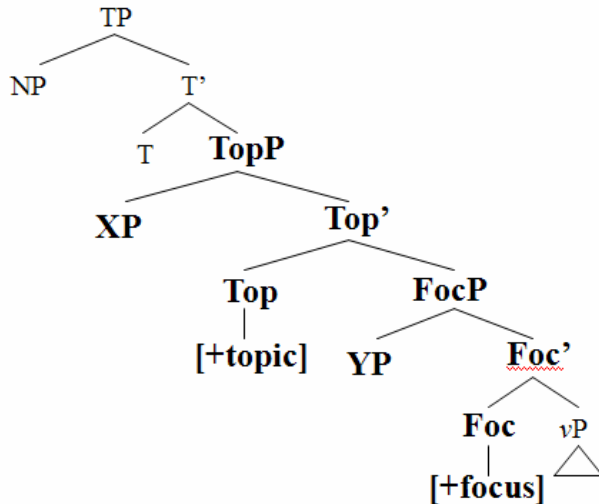
### 3. Proposal: Sentence-Internal TopP and FocP

To account for facts mentioned in the preceding discussion, I claim that two distinct projections should be identified in the sentence-internal domain (i.e., between TP and vP) to host Topic and Focus, respectively.<sup>6</sup> Following Rizzi’s (1997) postulation of TopP and FocP, I propose to extend this analysis further in such a way that Topic and Focus phrases can be projected in the sentence-internal domain of Chinese, with TopP higher than FocP (cf. Belletti 2004 for Topic and Focus in the lower IP area in Italian). The proposed structure is shown in (11).

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<sup>6</sup> Different from the idea of “VP periphery” (cf. Belletti 2001, Gougnet 2006) that would relate the information structure to the edge of vP, in the following discussion, I will show that the phenomenon at issue is pertinent to a domain higher than vP.

(11) Sentence-internal TopP and FocP



The gist of this structure is that, in the sentence-internal domain, both Topic and Focus can be licensed with proper contexts. Granted that “fixed-ordering” is often an indication of functional categories, this structure predicts that Topic and Focus can co-occur in the sentence-internal domain, but Topic is always higher than Focus. The prediction is borne out. Example (12) shows that Topic *shu* ‘book’ and Focus *xiaoshuo* ‘novel’ co-occur in the sentence-internal domain, and that Topic NP has to precede Focus NP.

(12) ‘Speaking of books, it is novels that he reads most.’

- a. ta shu.TOP xiaoshuo.FOC kan.de zui duo  
 he book novel read.RESULT mostmany
- b. \*ta xiaoshuo.FOC shu.TOP kan.de zui duo  
 he book book read.RESULT mostmany.

With respect to *wh*-questions, the discourse in (13) shows that the Topic NP in the sentence-internal domain (i.e. *shuiguo* ‘fruit’) is optional, but the Focus NP is obligatory (i.e. *pingguo* ‘apple’).

(13) a. ta shuiguo shemo zui.chang chi?  
 he fruit what most.often eat  
 ‘Speaking of fruit, what does he eat most often?’

- b. ta (shuiguo.TOP) \*(pingguo.FOCUS) zui.chang chi  
 he fruit apple most often eat  
 (Fruit,) he eats apples most often.’

The distinction between Topic and Focus in the sentence-internal domain is further illustrated by cleft sentences. Recall that emphatic *shi* is only compatible with Focus NP, but not with Topic. The contrast is shown in (14). Emphatic *shi* is not compatible with Topic *shu* ‘book’ (14a), but it is fine with Focus *xiaoshuo* ‘novel’ (14b).

(14) ‘Speaking of books, it is novels that he reads most.’

- |    |     |                     |                       |                              |             |           |
|----|-----|---------------------|-----------------------|------------------------------|-------------|-----------|
| a. | *ta | [shi                | shu <sub>-TOP</sub> ] | xiaoshuo <sub>-FOCUS</sub>   | kan.de      | zui.duo   |
|    | he  | SHI                 | book                  | novel                        | read.RESULT | most.many |
| b. | ta  | shu <sub>-TOP</sub> | [shi                  | xiaoshuo <sub>-FOCUS</sub> ] | kan.de      | zui.duo   |
|    | he  | book                | SHI                   | novel                        | read.RESULT | most.many |

Different analyses of emphatic *shi* have been proposed in the literature. Chiu (1993) proposes that emphatic *shi* heads a functional projection as ShiP. Lee (2005) argues that emphatic *shi* is a grammaticalized focus marker heads a focus phrase. Based on facts of ellipsis, Li (in progress) argues that emphatic *shi* is subcategorized for an IP. It has also been argued that emphatic *shi* is generated in the split INFL domain and projects its functional projection, as proposed by Huang (1988), Huang et al. (to appear). I thereby adopt the approach that emphatic *shi* is analyzed as heading its functional projection. Its intervention indicates that Topic and Focus in the sentence-internal domain do not form a constituent and are licensed by different projections (, contra Lambova 2004).

Furthermore, Example (15) shows that a sentential adverb, like *dagai* ‘probably’, is allowed to sit after the Focus NP. The distribution of sentential adverbs suggests that sentence-internal Topic and Focus are licensed in a domain higher than vP.

- (15) (dagai) Zhangsan(dagai) haixian<sup>-TOP</sup>(dagai) pangxie<sup>-FOC</sup>(dagai) bu neng chi  
 probably Zhangsanprobably seafood probably crab probably not can eat  
 ‘As for seafood, probably, it is crab that Zhangsan can’t eat.’

The proposed structure with two distinct projections in the INFL domain is thus supported. It is then predicted that sentences with a ditransitive verb like *song* ‘give’ would allow both direct and indirect objects to be pre-posed in the sentence-internal domain.<sup>7</sup> The prediction is borne out (e.g. (16)). Unlike the canonical pattern as in (16a), sentences like (16b) and (16c) convey different interpretations for specific pragmatic contexts.

- (16) a. wo zuotian song.le Zhangsan na.ben.Chomsky.de<sup>8</sup> shu  
 I yesterday give.PERF Zhangsan that.CL.Chomsky.DE book  
 ‘Yesterday, I gave Zhangsan that book of Chomsky’

<sup>7</sup> Thanks Professor Daniel Büring for pointing this out to me.

<sup>8</sup> The marker *-de* is for pre-nominal modifiers.

- b. wo, *Zhangsan* (a)<sup>9</sup>-TOP, [na.ben.Chomsky.de shu]<sup>-FOC</sup> zuotian song.le  
 I Zhangsan a that.CL.Chomsky.DE book yesterday give.PERF  
 ‘Speaking of Zhangsan, I gave [him] THAT BOOK OF CHOMSKY.’
- c. wo, [na.ben.Chomsky.de shu (a)]<sup>-TOP</sup>, *Zhangsan*<sup>-FOC</sup> song.le (qita.ren haimei)  
 I that.CL.Chomsky.DE book Zhangsan give.PERF other.person not.yet  
 ‘As for that book of Chomsky, it is Zhangsan that I gave [it to him] already  
 (, but to not other persons).’

In sum, I agree with previous analyses of the pre-posed object proposed by Tsai (1994) and Shyu (1995) for Focus and by Paul (2002, 2005) for Topic, but depart from them in arguing that both Topic and Focus in the sentence-internal domain are allowed to license pre-posed objects in Chinese. It is shown that the present analysis tackles the information structure conveyed by the pre-posed object and also issues such as the fixed ordering of Topic and Focus, and the compatibility of emphatic *shi*. In the following section, I will show that the so-called “verb-copying” sentences can be accounted for by the same analysis.

#### 4. Application: The So-called Verb-Copying Construction

Since Huang (1982), it has been noticed that Chinese has a construction referred as the Verb-copying Construction (or “verb duplication” in Huang 1982). The generalization is that in Chinese, a transitive verb cannot be followed by an object together with a complement phrase denoting the duration (e.g. 17a) or a resultative phrase (e.g. 17b).

- (17) a. \*ta kan.le [shu] [liang.ge.xiaoshi]  
 he read.PERF book 2.CL.hour  
 ‘He has read books for two hours.’
- b. \*ta kan.le [shu] [hen lei]  
 he read.PERF book very tired  
 ‘He read books and got very tired.’

In other words, there is at most one complement allowed for each verb in the predicate, as in (18).

- (18) a. ta kan.le [shu]  
 he read.PERF book  
 ‘He read books.’

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<sup>9</sup> The *a* indicates a pause, which is used in (16) to help getting the Topic interpretation.

- b. ta kan.le [liang.ge.xiaoshi]  
 he read.PERF 2.CL.hour  
 ‘He has read for two hours.’
- c. ta kan.de [hen lei]  
 he read.RESULT very tired  
 ‘He read and got very tired.’

Therefore, it seems that “an extra copy of the head verb” is needed to salvage sentences like (18), as shown in (19).

- (19) a. ta [kan shu] [kan.le liang.ge xiaoshi]  
 he read book read.PERF 2.CL.hour  
 ‘He has read books for two hours.’
- b. ta [kan shu] [kan.de hen lei]  
 he read book read.RESULT very tired  
 ‘He read books and got very tired.’

In terms of the phenomenon at issue, Huang (1982, 1992) argues for a VP adjunction analysis; the proposed structure is shown in (20). He claims that such duplication is motivated by a PF filter that requires copying the verb for extra complement, and then the original VP1 is reanalyzed to function like an adverbial of the duplicated V2 in forming a bigger VP unit (see Cheng 2007 for a similar account)<sup>10</sup>

- (20) ta [VP [v1' qi-original ma ] [ [v2 qi-duplicated-le xan.ge.xiaoshi]]]  
 he ride horse ride PERF 3.CL.hour  
 ‘He rode for three hours.’

In order to deal with different interpretations in sentences with resultative complement, Cheng (2007) argues that sentences with subject-reading, like (21a), are derived by “side-ward movement,” and sentences with object-reading, like (21b), involve “standard movement,” following the framework of movement in Nunes (2004).

- (21) ta qi na.pi.ma qi.de hen.lei  
 he ride that.CL.horse ride.RESULT very.tired  
 a. ‘He rode the horse and became tired as a result.’ (subject-reading)  
 b. ‘He rode the horse and the horse got very tired.’ (object-reading)

---

<sup>10</sup> To simplify the discussion, I refer to the “original” verb and its complement as VP1 and its “duplicated” verb as V2. The label “VP” is only used for convenience in discussion. The internal structure of such constituents is irrelevant here.

Her proposal for (21a), sideward movement, resembles Huang's adjunction analysis in (20). As for (21b), Cheng proposes that after the verb moves from V to *v*, the lower copy of it is fused with *-de* morphologically, and then, the object *ma* 'horse' is moved to Spec-VP. Along the line of VP analysis, Gouguet (2006) proposes that verb-copying sentences are derived by head-adjointing V to *v*, and then the lower VP moves as a constituent to merge with *v*P. Taking a different type of VP analysis and showing a nice investigation into Classic Chinese, Fang and Sells (2007) claims that the seeming verb-copying sentences, in fact, involve coordination of VPs and that the first VP subsumes its following VPs semantically.

Although these VP analyses account for the issue of fixed ordering of VP1 and V2, such analyses also face some problems. Li (2006) analyzes *ba* as a less-lexical category heading a projection that dominates VP/*v*P (i.e., *ba* has a status similar to *v* or heads a projection higher than *v*P). Gouguet's (2006) and Cheng's (2007) analyses thus obviate the co-occurrence of the *ba*-phrase and VP1, since the verb is argued to undergo V-to-*v* movement in their analyses. Conversely, as shown in (22), VP1 can co-occur with the *ba*-phrase.

- (22) ta (\*ba ma) [<sub>VP1</sub>xunlian<sub>1</sub> ma] (ba ma) xunlian<sub>2</sub>.de (\*ba ma) hen hao  
 he BA horse train horse BA horse train.RESULT BA horse very well  
 'He trains horses very well.'

If we adopt Li's (2006) proposal that *ba* dominates *v*P and thus a V-to-*v* movement is allowed, example (22) is still problematic for VP analyses, because it is not clear why VP1 never follows *ba*-phrases. Moreover, if VP1 and its following VP form a bigger VP and if *ba*-phrases indicate the left-periphery of VP, the distribution of *ba*-phrase shown in (22) turns to be mysterious. Example (22) shows that the *ba*-phrase occurs between VP1 and V2, but it cannot precede VP1 or follow V2. This suggests that the VP1 *xunlian ma* 'train horse' in (22) is at a position outside of the predicate-VP.

Also, as in (23a), VP1 is a constituent independent of the predicate-VP: the distribution of VP1 is similar to that of temporal or locatives expressions (e.g (23b)).

- (23) a. ([<sub>VP1</sub>kan shu]) ta ([<sub>VP1</sub>kan shu]) keyi ([<sub>VP1</sub>kan shu]) kan<sub>2</sub> haojige.xiaoshi  
 readbook he readbook can readbook read many.hour  
 'he can read books for many hours.'
- b. (jintian/zai.zheli) wo (jintian/zai.zheli) keyi (jintian/zai.zheli) kan shu  
 today/at home I today/at home can today/at home read book  
 'Today/At home, I can read books.'

Put aside the motivation for the V-to-*v* movement that is unclear in Gouguet (2006) and Cheng (2007), if we consider the distribution of VP1 in (23a), it is not clear why VP1 can occur before a modal (e.g. *keyi* 'can' in (23)) and even at the sentence initial position.

Under VP-analyses, moreover, it is not clear why the “duplicated” V2 can carry aspect markers but the “original” VP1 never does. In (24), when V1 takes aspect markers (i.e. (24b) and (24c)), sentences are ungrammatical.

(24) ‘He read books for three hours.’

- |    |     |                      |      |                      |                |
|----|-----|----------------------|------|----------------------|----------------|
| a. | ta  | kan <sub>1</sub>     | shu  | kan <sub>2</sub> .le | san.ge.xiaoshi |
|    | he  | read                 | book | read.PERF            | 3.CL.hour      |
| b. | *ta | kan <sub>1</sub> .le | shu  | kan <sub>2</sub>     | san.ge.xiaoshi |
|    | he  | read.PERF            | book | read                 | 3.CL.hour      |
| c. | *ta | kan <sub>1</sub> .le | shu  | kan <sub>2</sub> .le | san.ge.xiaoshi |
|    | he  | read.PERF            | book | read.PERF            | 3.CL.hour      |

Examples (22) to (24) show problems shared by the foregoing VP analyses. In addition, there are other problems with respect to Fang et al.’s (2007) proposal. In general, conjuncts are allowed to switch order in a sentence (e.g. (25)). Given Fang et al.’s (2007) VP-coordination analysis, one would expect the order of VPs to be free, contra the truth (cf. (26)).

- (25) a. ta [kan.shu] ye [mai.shu]  
 he read.book and:also buy.book  
 ‘He reads books and also buys books.’
- b. ta [mai.shu] ye [kan.shu]  
 he buy.book and:also read.book  
 ‘He buys books and also reads books.’

(26) ‘He read books for three hours.’

- |    |     |                        |                       |                        |
|----|-----|------------------------|-----------------------|------------------------|
| a. | ta  | [kan <sub>1</sub> shu] | [kan <sub>2</sub> .le | san.ge.xiaoshi]        |
|    | he  | read book              | read.PERF             | 3.CL.hour              |
| b. | *ta | [kan <sub>2</sub> .le  | san.ge.xiaoshi]       | [kan <sub>1</sub> shu] |
|    | he  | read.PERF              | 3.CL.hour             | read book              |

Furthermore, according to Ross’s (1967) Coordination Structure Constraint, movement within a coordination structure is restricted, e.g. a conjunct is not permitted to be moved out (27). Sentences like (28b) that seem to involve an extraction of a conjunct would be ruled out by Fang et al.’s (2007) analysis, contrary to the fact.

(27) ‘He bought books and also bought pens’

- |    |    |                   |          |
|----|----|-------------------|----------|
| a. | ta | [mai.shu] ye      | [mai.bi] |
|    | he | buy.book and.also | buy.pen  |



- b.\*[mai.shu]<sub>i</sub>, ta t<sub>i</sub> ye [mai.bi]  
 buy.book he and.also buy.pen.

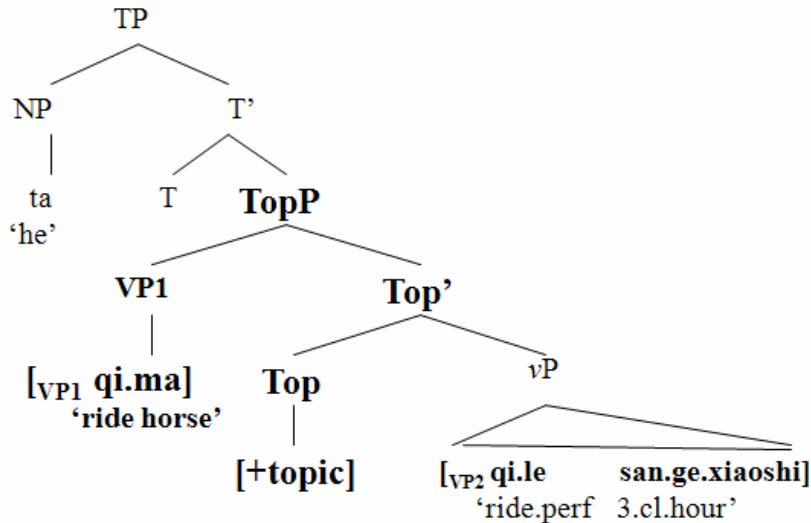
(28) ‘He has read books for three hours.’

- a. ta [kan.shu] [kan.le san.ge.xiaoshi]  
 he see.book see.PERF 3.CL.hour  
 b. [kan.shu], ta [kan.le san.ge.xiaoshi]  
 see.book he see.PERF 3.CL.hour

The contrast between (27b) and (28b) is not expected under an analysis of VP-coordination. Therefore, I relinquish VP-analyses and turn to the approach of functional projections. I argue that the so-called verb-copying sentence in Chinese is better accounted for under the present analysis. I propose that the VP1 at issue is base-generated at TopP or FocP in the sentence-internal domain, where it gets the corresponding interpretation. By this analysis, I will show that problems with VP analyses are dealt with straightforwardly, such as distributions of *ba*-phrases (22) and modals (23), the restriction on aspect markers (24) and the fixed ordering (26). The realization of the sentence-internal VP in each functional projection is discussed as follows.

In structure (29), VP1 is a base-generated Topic in the sentence-internal domain, while VP2 is the predicate of the sentence.

(29) VP1 as Sentence-internal Topic



The discourse in (30) shows that VP1 *xue zhongwen* ‘learn Chinese’ in (30b) is optional in answering (30a), because it is already mentioned in the question, i.e., Topic.

- (30) a. ni [VP1xue zhongwen] xue2.le wu nian ma?  
 you learn Chinese learn.PERF five.year Q.PART  
 ‘Did you learn Chinese for 5 years?’
- b. dui, wu ([VP1xue zhongwen]) xue2.le wu nian  
 yes, I learn Chinese learn.PERF 5.year  
 ‘Yes, I spent five years learning Chinese.’

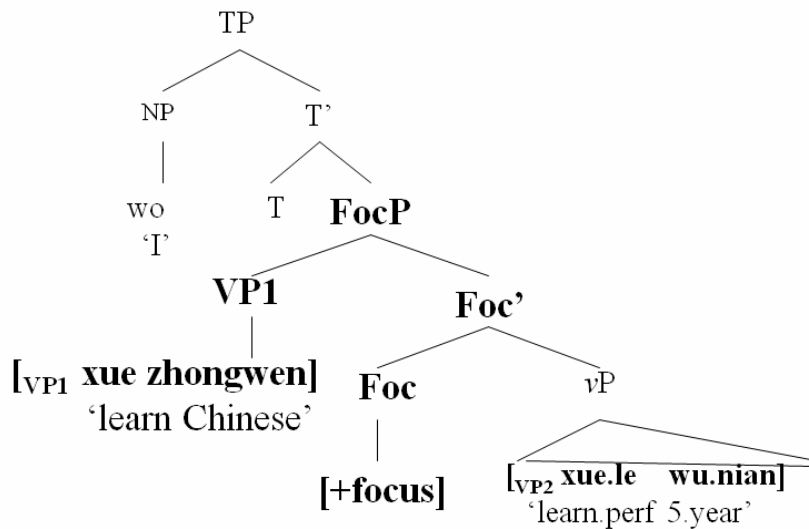
Another piece of evidence comes from *lian*-phrases. *Lian*-phrases are analyzed as Focus phrases with the marker *lian-* ‘even’ in Chinese (see Shyu 1995 and Paul 2002, 2005). We find that when a *lian*-phrase occurs in the sentence-internal domain, VP1 is most naturally interpreted as Topic and VP1 must precede the *lian*-phrase.

- (31) ta (\*lian minima) [VP1 qi ma] lian minima dou qi2 bu hao  
 he even mini.horse ride horse even mini.horse all ride not.well  
 ‘As for riding, he can’t even ride a mini horse.’

Therefore, I argue that VP1 can be licensed as Topic in the sentence-internal domain. Given the proposed structure, it follows that such Top-VP1 cannot take aspect markers (e.g. (24)) and that it has a seemingly freer distribution, because Chinese also allows Topic in the CP domain (e.g. (23)). Moreover, it comes as a natural result that *ba*-phrases cannot precede Top-VP1 (e.g. (22)). The present analysis also predicts that VP1 has to precede VP2, since Top-VP1 is higher than the predicate-VP. Examples that are problematic to VP analyses are explained.

Given the proposed two-projection analysis, another possible location for VP1 is the Spec-Foc. The corresponding structure is shown in (32).

(32) VP1 as Sentence-internal Focus



The Focus status of VP1 can be shown by answers to *wh*-questions. We see that VP1 *xue zhongwen* ‘learn Chinese’ in (33b) is used to answer the question (33a), which suggests that VP1 is Focus.

- (33) a. ni        shemo    xue.le        wu.nian?  
           you     what     learn.PERF    5.year  
           ‘What have you learned for five years?’
- b. wo [VP1 xue        zhongwen] [VP2xue.le    wu.nian]  
           I     learn    Chinese     learn.PERF 5.year  
           ‘I have learned Chinese for five years.’

Given the status of VP1 and the proposed structure (32), it comes as a nature result that *ba*-phrases cannot precede it (e.g. (22)), that such Foc-VP1 and the one in the CP domain show a distribution different from a constituent within the predicate (e.g. (23)), and that such Foc-VP1 can cannot take aspect markers (e.g. (24)).

The preceding discussion shows that the sentence-internal domain can license base-generated VPs as Topic or Focus. Based on the proposed structure (as in (11)), one may expect the co-occurrence of internal Topic and internal Focus to be allowed. This inference is borne out. The discourse (34) shows that two VPs occur before the predicate and after the subject of the sentence in (34b), where the former VP *zuo yundong* ‘do exercise’ receives the Topic interpretation, and the latter VP *da wangqui* ‘play tennis’, the Focus.

- (34) a. ta        [zuo yundong] na.yi.zhong        keyi henjiu?  
           he        do exercise    which.one.kind     can very.long-time  
           ‘When doing exercise, which kind (of exercise) he can do for a long time?’
- b. ta [Top-VP zuo yundong] [Foc-VP da    wangqui] keyi [vP [VP da    haoji.xiaoshi]]  
           he        do exercise            play    tennis     can        play many.hour  
           ‘Speaking of doing exercise, it is playing tennis that he can play for a long time.’

It is thereby confirmed that Topic and Focus can both be licensed in the sentence-internal domain in Chinese and that the so-called verb-copying sentences in fact involves base-generated VPs as Topic/Focus.<sup>11</sup>

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<sup>11</sup> Given VPs base-generated in the sentence-internal domain to serve as Topic/Focus, I suppose that such constituents have to comply with the argument structure of verbs. It is shown that with respect to VP1, a intransitive verb like *ku* ‘cry’, still, doesn’t allow extra complement (ia), whereas a ditransitive verb like *song* ‘give’ can take both direct and indirect objects (ib).

- (i) a. \*ta        [VP1 ku.yanjing]        [ku.de        yanjing.tong]  
           she        cry.eye                cry.RESULT    eye.hurt  
           ‘She cried and pained her eyes.’

Following this line of analysis, there are examples which further support the proposed analysis. The relative order of sentential adverbs (e.g. *xianran* ‘obviously’ (35)) suggests that VP1 is licensed at the INFL domain, higher than *vP*. The distribution of modals (e.g. *yinggai* ‘should’ in (36)) demonstrates the same point.

(35) ta (xianran) qi.ma (xianran) qi.de (\*xianran) hen.lei  
 he obviously ride.horse obviously ride.RESULT obviously very.tired  
 ‘Obviously, he got very tired because of riding.’

(36) ta (yinggai) kan.shu (yinggai) kan.le (\*yinggai) shi.ge.xiaoshi  
 he should see.book should see.PERF should ten.CL.hour  
 ‘He should have read book for 10 hours.’

Sentences like (35) and (36) discourage proposals involve *vP* (or *VP*) but support the present analysis about functional projections in the INFL domain. In addition, sentences with emphatic *shi* show the distinction between Top-*VP* and Foc-*VP* in the sentence-internal domain. As in (37a), when VP1 *xue zhongwen* ‘learn Chinese’ is the Focus of the sentence, it is compatible with emphatic *shi*. However, in (37b), the same VP1 with a Topic interpretation is not compatible with emphatic *shi*.

(37) a. Focus

wo shi xue.zhongwen xue.le wu nian (, bu shi xue.hanyu)  
 I SHI learn Chinese learn.PERF 5.year not be learn.Korean  
 ‘It is learning Chinese that I spent five years ( not learning Korean).’

---

b. ta [<sub>VP1</sub> 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.’

Furthermore, I find it is not impossible to license an intransitive verb in the sentence-internal domain. As in (iia), when there are a sentential adverb and a modal, the sentence is good, but (iib) without intervening elements yields an ungrammatical sentence.

(ii) a. ta [<sub>VP1</sub>ku] dagai keyi [ku haoji.xiaoshi]  
 she cry probably can cry many.hour  
 ‘As for crying, she probably can cry many hours.’

b.\*ta [<sub>VP1</sub>ku] [ku.de yanjing.tong]  
 she cry cry.RESULT eye.hurt  
 ‘She cried and pained her eyes.’

I suggest that the contrast in (ii) may due to a PF constraint (e.g. Obligatory Contour Principle) that prohibits phonologically identical elements from being adjacent.

b. Topic

\*wo shi xue zhongwen xue.le wu nian (, bu shi si.nian)  
 I SHI learn Chinese learn.PERF 5.year not be 4.year  
 ‘As for learning Chinese, it is five years that I spent learning it (not 4 years).’

Such difference is clearer with co-occurring VPs. Example (38) shows that VP licensed as Topic (i.e., *zuo.yundong* ‘do.exercise’), is not compatible with emphatic *shi* and that the following VP licensed as Focus (i.e., *da.wangqui* ‘play tennis’) is fine with the emphatic *shi*.

(38) ‘Speaking of doing exercise, it is playing tennis that he can play for a long time.’

ta (\*shi) [<sub>Top-VP</sub> zuo yundong] (shi) [<sub>Foc-VP</sub> da wangqui] keyi  
 he SHI do exercise SHI play tennis can  
 [<sub>VP</sub> [<sub>VP</sub> da haoji.xiaoshi]]  
 play many hour

Thus, it is concluded that such VPs in the sentence-internal domain should be analyzed as being in the projection of TopP or FocP, rather than as part of the predicate VP.

### 5. Concluding Remarks

The current study supports claims in Belletti (2004) and Paul (2005), but contrary to Lambova’s (2004) analysis of single projection. Given that Chinese is an SVO language, it has been a point of dispute whether an object pre-posed to the position between the subject and the predicate is Topic (e.g., Tsao 1990 and Paul 2002) or Focus (e.g., Tsai 1994 and Shyu 1995). Through the careful 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 sentence-internal domain in Chinese, enabling Topic and/or Focus to appear. I argued that both Topic and Focus are available to NPs in the sentence-internal domain when proper contexts are provided. This analysis accounts for the information structure carried by the sentence-internal elements, their co-occurrence and their ordering restriction. All these facts can be captured by postulating Topic and Focus projections in this hierarchical order sentence-internally (,on a par with the CP domain).

The discussion then showed how the proposed analysis applies to the so-called verb-copying sentences in Chinese. I argued that the construction at issue is not purely for PF reason. By this joint approach of syntax and the information structure, issues related to the so-called verb-copying sentences, such as fixed ordering and aspect-marker taking, were properly accounted for, and problems with previous analyses were solved. Finally, the result of this paper showed that the pre-posed object construction and the so-called verb-copying sentences can be tackled by a unified account.

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## Mandarin Intransitive Verbs and Their Objects at the Syntax-Information Structure Interface<sup>1</sup>

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This paper proposes a syntax-information structure interface account to the object-taking intransitive constructions in Chinese. On the basis of an analysis assumed in Huang (1990) and Wang (1965), we propose that there is an abstract verb, represented as HAVE, in the relevant constructions. We argue that this abstract verb can be realized as either an inner *v*P aspectual head selecting a VP as its complement or a lexical verb selecting a TP as its complement. It is assumed that if the abstract verb is merged with a VP projected from an unergative verb, then the sole argument of VP is the underlying subject of VP, which must be raised in accordance with the relevant verb raising if it is definite. It is claimed that the movement of the definite VP-subject to the clausal subject position is motivated by the partitioning of information as required by the information structure. Under this analysis, if the sole argument of VP is an underlying indefinite subject (as in the case of unergativity), it may stay within its VP-subject position and ultimately function as the object of the sentence after the verb is raised to HAVE, as its movement is not required by the partitioning of information. The present analysis relies crucially on the interaction between syntax and information structure. The key point is that the non-canonical order of arguments in the above well-formed structures is often a reflex of the informational status of the relevant NPs and their configurational properties.

### 1. Intransitive Verbs and Their Objects in Mandarin

It has been noted that in Mandarin Chinese some intransitive verbs can take objects like transitive ones, but they are not used as causative verbs when they take two arguments, deriving a SVO structure, as shown in (1b):

- (1) a. Wang Mian de fuqin si le  
Wang Mian DE father die ASP  
'Wang Mian's father died.'

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- b. Wang Mian *si* le fuqin  
 die ASP father  
 ‘Wang Mian lost his father.’

The intransitive verb *si* ‘die’ takes one argument in (1a), but two in (1b). Although it takes two arguments in (1b), it is not transitivized in the usual sense and thus exhibits fundamental difference from the causative verb in (2b) which may be considered as derived from the intransitive one in (2a) through a process of causativization.

- (2) a. Fan re le  
 rice hot ASP  
 ‘The rice is hot now.’  
 b. Wo qu re fan  
 I go hot rice  
 ‘I will go and heat the rice.’  
 (Teng 1974: 464)

In (2b) *re* ‘heat’ is a causativized verb and thus becomes transitive. However, in (1b) causativization does not occur with *si*, which is still used intransitively. It is unclear why the Chinese intransitive verb *si* ‘die’ can occur with both an object, its thematic argument, and an extra argument as its subject, which bears no thematic relation with it in (1b). Of course, not all intransitives can occur in the structure, as given in (1b). For instance, the sentence would become ungrammatical if the intransitive *si* is replaced by *bing* ‘ill’, as shown below:

- (3) \*Wang Mian *bing* le fuqin  
 ill ASP father  
 ‘Wang Mian’s father was ill.’

To account for the difference between (1b) and (3), different approaches have been proposed in the generative paradigm (cf. Li 1990; Tan 1991; Pan 1997; Pan and Han 2005; Xu 1999, 2001; Hole 2006; Huang 2007). From the perspective of split intransitivity, a reasonable hypothesis is to assume that only unaccusative verbs can occur in the structure, as shown in (1b) in Chinese. Assuming that intransitives can be split into unaccusatives and unergatives (Perlmutter 1978; Burzio 1981, 1986; Belletti 1988; Levin and Rappaport 1995), then we may label *si* as an unaccusative and *bing* as an unergative. If the different syntactic behavior of the two verbs is assumed to root in their unaccusative-unergative distinction, then the acceptability difference between (1b) and (3) can be accounted for. Following this line of analysis, we may say that the acceptability difference between (1b) and (3) does not lie in the possible occurrence of the extra argument in their respective structures since both (1b) and (3) are external possessive sentences with an extra possessor argument, but in the possibility of the inversion between the verb and its sole argument in syntax. That is, the sole argument of

the unergative verb cannot occur in the object position. Unaccusatives can have its sole argument placed in the object position because it originates in the object position in underlying structure. Hence, the issue raised with the unaccusativity is not why its sole argument can occur in the object position, but why it need not move to the surface subject position in some cases, exhibiting surface unaccusativity (Levin & Rappaport 1995). Huang (2008) claims that the postverbal argument in (1b) need not move to the subject position in modern Chinese because modern Chinese TP does not have [+EPP] feature. What is more, since in Chinese all verbs can assign an inherent Case in addition to their structural Case, the sole argument of *si* in (1b) can get an inherent Case at its underlying object position.

Although the unaccusative-unergative distinction account may shed some light on our understanding of a number of issues related to the so-called surface unaccusativity phenomenon, it alone, however, may not solve all the problems pertaining to the argument inversion. For instance, the unaccusativity analysis will inevitably run into problems when accounting for the acceptability of the following sentence:

- (4) Wang Mian jia bing le yi-ge ren  
 Wang Mian home ill ASP one-CL person  
 ‘A person was ill at Wang Mian’s home.’  
 (Shen 2006: 295)

## 2. A Syntax-Information Structure Interface Account

The above discussion shows that the problematic issues raised by the Mandarin object-taking intransitive constructions cannot be simply explained away by the unaccusativity account. In this section, we show that it is the interaction between syntax and information structure that determines the possible derivation of the relevant constructions. Our account consists of two parts. In the first part, we postulate an aspectual light verb for the constructions under discussion, and in the second part, we show how information structure plays a role in the ordering of arguments in syntactic structures.

We propose that there is an abstract light verb HAVE expressing the meaning of EXIST in the relevant constructions, which can be realized either as an aspectual verbal suffix or as an overt raising verb, be it an unaccusative or unergative structure. We assume that the aspectual light verb in Chinese always selects a VP as its complement, and in case there is an agentive light verb *v* which projects a *v*P above VP, the aspectual light verb will occur inside this *v*P projection. In this case, there will be two layers of light verb projections, with the aspectual light verb heading a lower *v* projection below the agentive *v*P, but above the VP. In case no agentivity is involved and thus there is no agentive *v*, then the aspectual light verb itself heads a single *v*P projection. Under this analysis, the abstract verb HAVE is realized as an aspectual verbal suffix *-le* if it occurs below an agentive *v*P and is adjoined by a lexical verb. We argue that the abstract verb HAVE can also occur as an overt raising verb, which is realized as *YOU* ‘have’ if it

selects a TP as its complement (cf. Huang 1990). On this analysis, (1b) may have an underlying structure as follows:

(5) [TP e [<sub>VP</sub> [<sub>V'</sub> HAVE [<sub>VP</sub> si fuqin]]]]

The function of this abstract verb HAVE is to assert the existence of an event/state denoted by its VP complement (cf. Huang 1987, 1990). In case this abstract verb is merged with an unaccusative VP such as the one given in (5), the VP head will be raised to the abstract verb HAVE, which is realized as *-le* (cf., Wang 1965) after the raised verb is head-adjoined to it.

(6) Wang Mian [<sub>VP</sub> [<sub>V'</sub> si-le [<sub>VP</sub> ~~si~~ fuqin]]]

In (6), the sole object argument of VP need not move, given that Mandarin can be viewed as a surface unaccusative language. The reason why surface unaccusativity can occur in Mandarin Chinese so as to produce a structure like (6) above is still a puzzle in theoretical analysis. The usual way to account for this postverbal phenomenon is to resort to the theory of Case. However, we think that the above structure should be better viewed as resulting from the interaction of syntax with the partitioning of information. In the underlying syntactic structure, the sole argument of the unaccusative construction occurs postverbally. Hence, it is thematically licensed at its object position. In the information structure, the postverbal NP carries new information. If the sole argument of the unaccusative remains in its postverbal position in the surface structure, then its staying in-situ might be required by the partitioning of information. Xu (1999) argues that the sole argument of the unaccusative verb receives an inherent partitive Case. However, such a partitive Case account may encounter problems in accounting for the following sentence (cf. Pan and Han 2005):

(7) Wang Mian diao le suoyou de yachi  
 Wang Mian fall ASP all DE tooth  
 ‘Wang Mian has all of his teeth fallen.’

In (7) the postverbal NP cannot be accounted by the partitive Case account, though it can be easily accounted for in a theory of information structure since it, though non-indefinite, conveys new information in the postverbal position. Huang (2008) argues that TP in Chinese lacks [+EPP]. If this analysis is adopted, then the optional movement of the postverbal NP to the clausal subject position may not be motivated by syntax. We assume that its movement may be motivated by the partitioning of information. The underlying object of the unaccusative verb will move to the preverbal position only if it is assigned the [+Specific] feature, as will be detailed below. We further assume that the sentence-initial NP in (6) actually occupies a non-thematic subject position provided by TP. Of

course, the non-thematic subject position in (6) can also be filled by the thematic argument of the predicate, as shown below:

(8) [<sub>TopP</sub> Wang Mian [<sub>TP</sub> fuqin [<sub>vP</sub> [<sub>v'</sub> si-le [<sub>VP</sub> ~~si fuqin~~]]]]]

In (8) the possessor of the argument of the predicate is assumed to occupy the topic position under the present analysis. Since it is not syntactically related to the predicate in question, it should be analyzed as a dangling topic (cf. Pan and Hu, in press).

Different from (1b), (3) is ungrammatical. We assume that in (3) there is also an abstract verb HAVE, which is merged with a projection associated with the unergative verb. The difference between (1b) and (3) lies in the fact that the sole argument of the verb in (3) is the underlying subject, but not the object, of the predicate. Notice that the unergative verb *bing* ‘ill’ is a stative verb. On an analysis discussed in Hale and Keyser (2002), one may assume that stative verbs have a structure like the one below:

(9) [<sub>P</sub> D [<sub>P</sub> [D ]]]

But in this paper, a more traditional analysis of stative verbs will be adopted. We assume that stative verbs have the following structure in Chinese:

(10) [<sub>VP</sub> NP [V [N ]]]

In (10) N provides the phonological content for the stative while V, besides projecting the categorial feature, relates the stative with its subject through predication.<sup>2</sup> Under the present analysis, the difference between stative unergative verbs and active unergative verbs lies in the fact that active unergative verbs have a light verb *v* expressing the notion of agentivity whereas such a light verb is lacking in the projection of stative unergative verbs. As stative unergative verbs head a VP projection, the light verb HAVE can be merged with this projection. Under this analysis, (3) may have an underlying structure below:

(11) Wang Mian [<sub>vP</sub> e [<sub>v'</sub> HAVE [<sub>VP</sub> fuqin [<sub>v'</sub> V [N bing]]]]]

To derive (3), *bing* will first move to V in (11) and then the *bing*-V complex will move to the light verb HAVE, as shown below.

(12) [<sub>TopP</sub> Wang Mian [<sub>TP</sub> e [<sub>vP</sub> e [<sub>v'</sub> bing-V-le [<sub>VP</sub> fuqin [<sub>v'</sub> ~~bing-V~~ [N bing]]]]]]]

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<sup>2</sup> V in statives may be viewed as a relator as defined in Dikken (2006), which we assume may relate N in the stative with a subject as in (10).

In the above structure *fuqin* ‘father’ originates in the [Spec, VP] position. Assume that a DP with a zero D will be assigned the feature [+Specific] when occurring in the [Spec, VP], i.e., the predicate-internal subject position.<sup>3</sup> Let’s further assume that the predicate-internal subject must be raised to the sentence-level subject position in accordance with the raising of the relevant verb if it has a feature [+Specific]. The raising of the predicate-internal subject to the clausal subject position might be required by the EPP feature. However, if it is really the case that the TP in Chinese lacks an EPP feature, as claimed by Huang (2008), then its raising might not be motivated by EPP. Let us assume that the raising of the predicate-internal subject is not motivated by EPP, but by the partitioning of information, as required by the information structure. If this is the case, then the ungrammaticality of (3) might result from the fact that the VP-internal subject in (3), as a specific NP, fails to move to the sentence subject position to satisfy the relevant requirement imposed on it by the information structure. If it meets the condition imposed on it by the information structure and moves to the clausal subject position, it will derive a sentence like *Wang Mian fuqing bing-le*. To capture this generalization, we may stipulate the following condition to account for the fact that the predicate-internal subject with a [+Specific] feature in Mandarin must move to the clausal subject position.

- (13) A predicate-internal subject with the feature [+Specific] must move to the clausal subject position to satisfy the requirement of information structure in the partitioning of information.

Notice that in (12) *Wang Mian* is placed at the topic position rather than the subject position. Also as noted earlier, the sentence given in (4), different from the one in (3), is grammatical, though it also involves the use of the unergative verb *bing*. We assume that (4) is derived through a process like the one given below:

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<sup>3</sup> An NP with a zero D is syntactically defined as specific in subject positions, be it a clausal subject or a VP subject. It is reasonable to assume that the subject position can license a zero D as specific as it has a strong topic feature. This is the reason why an NP with a zero D appearing in a subject, but not object, position must be interpreted as specific. For instance, in the following example, the NP with a zero D must be interpreted as specific when occurring in the subject position:

- (i) Keren lai le  
 guest come ASP  
 ‘The guests have come.’

Since [Spec, VP] is a subject position, *fuqin* ‘father’ in this position in (12) will be assigned the feature [+Specific]. Once this feature is assigned, it should be preserved. To be in harmony with the information structure so as to facilitate the partitioning of information, the VP subject must move to the clausal subject position after the raising of the verb. However, if it does not move to the clausal subject position in overt syntax, it cannot have an adequate interpretation since, as a specific NP, it is arranged in an order that does not conform to the information structure.

- (14) Wang Mian Jia [<sub>VP</sub> [<sub>v</sub> bing-le [<sub>VP</sub> yi-ge ren [<sub>v</sub> ~~bing~~]]]]  
 Wang Mian home ill ASP one-CL man  
 ‘A person was ill at Wang Mian’s home.’

In (14), the verb *bing* moves to *v* through the head-to-head movement, and the VP-internal subject stays in-situ. (14) differs from (3) in that its predicate-internal subject is non-specific in reference. Since it is non-specific, it does not need to move to the clausal subject position. Hence, no violation of the condition (13) occurs. In this case, it may stay within its predicate-internal position and ultimately function as the object of the sentence after the verb is raised to HAVE, as its movement is not required by the partitioning of information.

Although an unergative stative verb such as *bing* may sometimes precede its sole argument in a structure like (14), an unergative activity verb like *xiao* ‘laugh’ cannot occur before its argument as shown below.

- (15) \*Wang Mian Jia xiao-le yi-ge ren  
 Wang Mian home laugh ASP one-CL man  
 ‘A person laughed at Wang Mian’s home.’

Following Hale and Keyser (2002), we assume that the active unergative verb *xiao* ‘laugh’ has a lexical structure like the following:

- (16) [<sub>V</sub> V [<sub>N</sub> xiao ]]

Under Hale and Keyser’s (2002) analysis, the actual verb is derived by conflation, which introduces the phonological matrix of the N complement into the empty matrix of the head V. Hale and Keyser (2002) further assumes that active unergatives lack a specifier. On this analysis, active unergatives may not have an external argument associated with the verb per se. Let us assume the external argument of an active unergative structure is licensed by a functional category generated above VP (Marantz 1984; Kratzer 1996; Collins 1997). Let us further assume that this functional category is an agentive light verb *v* (Chomsky 1993; Hale and Keyser 1993). If the abstract verb HAVE occurs inside *v*P, as proposed in this paper, then we have two light verbs in (15): one is the agentive outer verb and the other is the aspectual light verb. The underlying structure of (15) can be represented as (17) below:

- (17) [<sub>TopP</sub> Wang Mian Jia [<sub>TP</sub> e [<sub>VP</sub> yi-ge ren [<sub>v</sub> v [<sub>v</sub> HAVE [<sub>V</sub> V [<sub>N</sub> xiao ]]]]]]]]]

Starting from (17), the following derivations might apply:

- (18) a. [<sub>TopP</sub>Wang Mian Jia [<sub>TP</sub> e [<sub>VP</sub> yi-ge ren [<sub>v'</sub> v [<sub>v'</sub> HAVE [<sub>V</sub> xiao-V [<sub>N</sub> ~~xiao~~ ]]]]]]]]]  
 b. [<sub>TopP</sub>Wang Mian Jia [<sub>TP</sub> e [<sub>VP</sub> yi-ge ren [<sub>v'</sub> v [<sub>v'</sub> xiao-V-le [<sub>V</sub> ~~xiao-V~~ [<sub>N</sub> ~~xiao~~ ]]]]]]]]]

In (18a), *xiao* ‘laugh’ moves to V, and then in (18b) the *xiao-V* complex moves to the functional head *v*, i.e., HAVE, which is realized as *-le* after it is head-adjoined. The outer light verb *v* represents the originator of the event, which can be viewed as the source of the activity reading associated with the active unergative verb *xiao*. The inner light verb heads an aspectual projection. The structures given in (17) and (18) show that there is no way to derive a surface structure like (15). To derive (15) the *xiao-V-le* complex must move to a position preceding the [Spec, *v*P], but such a position is not available as shown in (18). Notice that in (18) there is a T projection, which might make one wonder what factors can prohibit the *xiao-V-le* complex from moving to it so as to derive the surface structure, as shown in (15). We think that the *xiao-V-le* complex cannot move to T in this instance since it has been argued by many researchers that V-to-T movement does not exist in Mandarin Chinese (cf. Tang 2001). In a word, (15) is ungrammatical because there is no possible legitimate way to derive it. One may also wonder if it is possible to insert a raising verb HAVE into (18b) so as to derive (15), as shown below:

- (19) [<sub>TopP</sub>Wang Mian Jia [<sub>TP</sub> e[<sub>T'</sub> HAVE [<sub>TP</sub> e[<sub>VP</sub> yi-ge ren [<sub>v'</sub> v[<sub>v'</sub> xiao-V-le[<sub>V</sub> ~~xiao-V~~[<sub>N</sub> ~~xiao~~ ]]]]]]]]]]]

One may think that in (19) the *xiao-V-le* complex can move to the matrix HAVE so as to derive (15). However, such a head movement is illicit since it violates the locality condition imposed on it by the clausal boundary. In addition to the violation of the locality condition, the assumed movement can also be excluded by a prohibition against the raising of a lexical verb to a raising verb. Following Huang (1990), we assume that HAVE in (19) is a raising verb which selects a TP as its complement. Since the movement of a lexical verb to a raising verb in overt syntax is generally prohibited, the assumed movement of the *xiao-V-le* complex to HAVE in (19) cannot derive a grammatical sentence. The only legitimate output for (19) to generate is a string like the following:

- (20) Wang Mian Jia you yi-ge ren xiao-le  
 Wang Mian Jia have one-CL person laugh-ASP  
 ‘There is a man laughing at Wang Mian’s home.’

In (20) HAVE is realized as *YOU*, which is a raising verb selecting a clause as its complement. The above analysis shows that (4) and (15) have different syntactic structures, which

can help account for their difference in acceptability. However, if we extend our analysis of (4), as shown in (14), to the following sentence, problems arise.

- (21) ??Wang Mian bing-le yi-ge ren  
 Wang Mian ill-ASP one-CL man  
 ‘Wang Mian had a person who was ill.’

Different from (4), (21) is less acceptable. The sentence-initial element in (21) is an NP rather than a locative phrase, as in (4). One possible way to account for the acceptability difference between (4) and (21) is to say that the locative phrase in (4) is part of the argument structure of the verb in question, as it has a locative role, while the name in (21) is not part of the argument structure. However, such an account may fail to explain why the following sentence becomes acceptable, though its sentence-initial element is not a locative phrase.

- (22) Wang Mian bing-le yi-ge gongren  
 Wang Mian ill-ASP one-CL worker  
 ‘Wang Mian had a worker who was ill.’

The above sentence can be understood in a scenario in which *Wang Mian* is a boss who has several workers working for him. In this scenario, the use of (22) will be felicitous if one of his workers is sick and thus cannot work at the moment of speaking. Since (22) is acceptable, the acceptability difference between (4) and (21) may not lie in their difference in argument structure. We think that their difference lies in the licensing of the topic. The sentence-initial element in (4) can naturally function as a topic since, as a locative phrase, it can be used to delimit the space in which an event may occur, whereas the sentence-initial element in (21) needs some licensing if it is intended to be interpreted as a topic. The sentence-initial element in (21) is a dangling topic, which cannot be licensed by a syntactic variable, as it is not available. The only possible way for it to be licensed is to seek some semantic variable (Pan and Hu, in press). To establish a possessive relationship between the dangling topic as the possessor and some NP in the sentence as the possessum is a possible way to provide a semantic variable to license the dangling topic. Since such a variable can be easily accommodated in (22), (22) is acceptable. Since such a variable cannot be easily accommodated in (21), (21) does not have a natural interpretation. Notice that the acceptability difference between (21) and (22) is still there even if their postverbal arguments are fronted to the preverbal position.

- (23) ??Wang Mian, yi-ge ren bing-le  
 Wang Mian one-CL man ill-ASP  
 ‘Wang Mian had a person who was ill.’



- (24) Wang Mian, yi-ge gongren bing-le  
 Wang Mian one-CL worker ill-ASP  
 ‘Wang Mian had a worker who was ill.’

The above examples involve double-nominative constructions. In these constructions, the two preverbal NPs can be linked by a linker –DE. However, low acceptability remains when the two preverbal NPs in (23) are linked by –DE. The difference between the following two sentences shows that the low acceptability of (21) does not result from syntax.

- (25) ??Wang Mian de yi-ge ren bing-le  
 Wang Mian DE one-CL man ill-ASP  
 ‘One of Wang Mian’s men was ill.’

- (26) Wang Mian de yi-ge gongren bing-le  
 Wang Mian DE one-CL worker ill-ASP  
 ‘One of Wang Mian’s workers was ill.’

### 3. Conclusion

In this paper we have discussed under what condition an intransitive verb may precede its sole argument, appearing in a non-canonical order. The idea is that the inversion between the intransitive verb and its argument is determined by the postulation of an abstract verb HAVE and the interaction of syntax with information structure. The key point is that the non-canonical order of the intransitive verb and its argument in the well-formed intransitive structures is often a reflex of the informational status of the relevant NPs and their configurational properties.

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## ‘把’字句语法意义在现代汉语‘把’字结构句中的不均衡表现

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本文旨在从认知语法角度讨论现代汉语中‘把’字句语法意义在‘把’字结构句中的不均衡表现。笔者指出，现代汉语里，在‘把’字结构句中存在一条从‘致使’结果义典型表现到非典型表现的连续统。在这个连续统中，‘把’字句语法意义的表现程度是不均衡的，有一个由强到弱的分布，并认为这样的分析可以比较全面地反映汉语说话人对‘把’字句的认识全貌，而且更符合人们通常的分类认知。

### 1. 引言

与传统‘处置’义（王 1944-1945, Li and Thompson 1981）解释不同，胡（2005）认为“‘把’字句‘A 把 B+C’的语法意义是‘与致使源 A 有关，‘把’字宾语 B 处于 C 描写的结果状态中”，以下简称‘致使义’。继此结论，本研究将进一步指出，现代汉语中，由‘把’字结构组成的各类句中，这种语法意义的表现是不均衡的：

- (1) 他把车洗干净了。
- (2) 桑椹把孩子的舌头吃紫了。
- (3) 他把车洗了。
- (4) 他把旗子一挥，……。
- (5) 他把车往河里开……。

从语感上讲，（1）-（5）是不一样的。（1）-（2）带有很强的致使义，（1）、（2）都有很具体的致使结果，（3）有结果，但不具体。（4）的结果在言外，并具备明显动感，而（5）的动作性明显，具有很强的处置义，结果隐含在某种预期中。从形式上看，（1）-（5）也有所不同；（1）-（2）中的谓语均为动补结构加动态助词‘了’，（3）中的谓语只是动词加上‘了’，而（4）的谓语带有‘短时效’标记，动作义多于结果义；（5）的谓语则带有强烈的动作延续性。按照‘把’字句致使义的分析，‘把’字句的语义重心是落在致使结果状态上的。那么

‘把’字句的语义表现就不应同动词表现的动作性，或动作延续性发生关系。换言之，把字句谓语不应带有体现致使动作本身过程的标记，如短时、进行体貌。从语言事实上看，典型的‘把’字句，如(1)、(2)、(3)的确是这样，加入短时貌‘一’或表示进行的‘在’后都站不住。可是(4)和(5)就不一样了。

(5)的情况特别棘手，因为可以说“他正在把车往河里开呢”。当然在分析操作过程中，我们可以通过一些结构和语义上的限定，把(4)和(5)排除在‘把’字句以外，不予讨论。但是这种非此即彼的做法，不能全面地反映汉语母语说话人对‘把’字句这一客观现象的认知，最多是分析手段上的权宜之举。本文将从原型理论(Rosch 1973)出发，对‘把’字结构句中‘把’字句语法意义的分布做一系统地描述，并予以分析，提出自己的看法。

## 2. 从‘典型’到‘非典’

原型理论是现代认知心理学乃至认知语言学的核心理论之一。与传统分类理论不同，原型理论认为各个类别之间不是一种非此即彼，黑白分明的关系，而是一种从家族核心到外延逐渐变化，由典型到非典型的关系。一个个体之所以属于某一类别，不是因为其具备某种区别性特征，而是因为此个体同本类中的核心成员之间存在有家族近似性。这种近似性越强，则与核心成员的关系越近，反之，则远。从这一观点来看，如果承认‘把’字句的语法意义为‘致使’义，我们就可以把强烈表现这种‘致使’义的‘把’字结构句看成‘把’字句的典型核心句，而将那些‘致使’义表现不那么强烈的，而又在结构和‘致使’义上与核心成员有着某种家族近似关系的‘把’字结构句看成边缘句。

- (6) 就他的儿子，反正就叫明成祖是谁，把他杀掉了。
- (7) 你还能把他怎么样？
- (8) 那时候有浦心余，那会儿想把满族团结起来，人名浦心余，画家。
- (9) 人就说话怎么土里土气的，怎么那么一点没礼貌没家教，把家长都带出来了。
- (10) 这就算求着人家，让人家把这个尸体给咱们留着。
- (11) 他也没后代，没什么的，反正就一人儿了，国家也把他养起来了就。
- (12) 我把脚硌坏了。
- (13) 这事儿真把我急死了。
- (14) 什么还能把他怎么样？
- (15) 我编的，我还不怕，就把你怕成那样。

## 胡:‘把’字句语法意义

- (16) 洗凉水澡把他洗病了。
- (17) 看他这样儿，把刘庸笑得前仰后倒的。
- (18) 他满以为这突然的枪响会把贺龙吓个半死。
- (19) 吃饭把他噎着了。
- (20) 一不留神，我把他丢了<sup>1</sup>。
- (21) 我刚才的蛋糕哪儿去了，嘿，谁把我蛋糕吃了！？
- (22) ...但是还有一个弟弟，反正是解，把他解职了。
- (23) 后来到我们这么一穷了，把这刀啦什么伍的都买了，买废铁了，哈哈。
- (24) 干嘛,练练，来个掉毛儿，把脖子歪了。
- (25) 年纪轻轻的把个老婆跑了。
- (26) 把旗子一挥，（就）冲了上去。
- (27) 把裤腿一挽，（就）下河去了
- (28) 他把眼一瞪，（就）抄起一根棍子来。
- (29) 目前，世界各制鞋公司正在把高技术引入制鞋工艺，不断推出新款式的旅游鞋。
- (30)...龙华人正在把梦变成现实。
- (31) 菏泽地区正在把清退引向深入。
- (32) 日元升值从宏观到微观正在把日本经济带入了非变革不可的境地。
- (33) 世界主要国家都在把主要注意力转向发展经济，提高综合国力。
- (34) 现在全中国人民正在把现代化作为自觉的追求。
- (35) 图为工贸公司锅巴生产线的工人正在把成品锅巴装箱外运。

例(6)-(19)就‘把’字句语法意义表现而言，可以说非常完美，完全符合胡(2005)的定义，用通俗的话来说，都可以解释为与某人、某物、某事有关，某人、某物、某事由于某事件处于某种结果状态中。表面上看，(6)-(11)与(12)-(19)有所不同。主要区别是，(12)-(19)的例句没有具备意志性的致使源，而(6)-(11)中有。正是这种区别给人们一种印象，似乎(6)-(11)更具备致使义。实际上，从语法

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<sup>1</sup>丢在这里表示丢失的意思，而非扔掉。

意义上看,这两组是一样的,不同的只是他们具体句中的词汇意义。具体来说,(6)-(11)中的致使源 A 恰好具备意志性,而(12)-(19)里的 A 恰好没有。下面一些例子可以进一步说明这一问题:

(12a) 石头把我的脚硌坏了。

(12b) 他把我的脚硌坏了。

(13a) 这事儿真把我急死了。

(13b) 你真地把我急死了。

(14a) 你还能把他怎么样?

(14b) 什么还能把他怎么样?

这里看出, a、b 句的致使源有所不同,意志性的有无也有所不同,但就致使结果义而言, a、b 没有区别,具体来说:

(12a)、(12b) 我的脚硌坏了。

(13a)、(13b) 我急死了

(14a)、(14b) 他怎么样

再来看一下(20)-(25)的情况。有了前面两组的比较,我们对这一组就比较容易做出判断。虽然在谓语构成上,本组与前面两组有所不同,但从‘把’字句语法意义表现上看,本组与前两组没有区别。(20)-(25)的谓语都是由动词直接加‘了’组成的。语感告诉我们,虽然没有补语,但结果状态的表现依然充分。至于这种结果是怎么得出来的,笔者认为和‘动词时段语义’(Verbal Semantics)有关。相关的具体分析因为同本篇关系不大,这里不予讨论。这样(20)-(25)可以说具备所有(6)-(19)的特点。细查之,(6)-(25)除了语法意义表现以外,有几点是共同的。一,‘把’字谓语或为动补结构,或为动词加‘了’,或为表示结果状态的词语,呈现明显的结果义;二,所有的句子都不表现事件或行为过程本身,句语义重心落在由事件或行为引起变化后的结果状态上。正是因为这些共同的特点,(6)-(25)中都不可以出现标志事件或动作本身过程的成分,这包括“在、正在、一”。因为这些成分的出现将与致使结果义发生冲突,而使这些句子不可接受,如:

(36)\*石头正把我的脚硌坏了。

(37)\*石头在把我的脚硌坏了。

(38)\*石头正在把我的脚硌坏了。

(39)\*石头把我的脚一硌坏了。

(40)\*他正把我的脚硌坏了。

(41)\*他在把我的脚硌坏了。

(42)\*他正在把我的脚硌坏了。

(43)\*他把我的脚一硌坏了。

(44)\*我正把他丢了。

(45)\*我在把他丢了。

(46)\*我正在把他丢了。

(47)\*我把他一丢了。

可是(6)-(25)的这些特点在(26)-(35)这些‘把’字结构句中却发生了变化。这里实际上有两种情况:一是‘把’字句谓语带‘一’的情况,一种是‘把’字标记前带‘在’或‘正在’的情况。

先看一下有‘一’的‘把’字结构句。通过仔细观察,我们发现(26)-(28)其实是‘把’字结构与‘一...,就...’格式的结合。准确地说,是‘一...,就...’格式做‘把’字句谓语而成的一种特殊的‘把’字句。我们知道,‘一...,就...’有自己的功能,其意义表现于表示两个连续的事件一个接着一个相继发生。‘一’后的动词短语表现短暂的行为或事件,‘就’后面的成分代表前一事件后立刻出现的行为或事件,而后一事件在某一程度上是前一事件的结果,见以下例句(吕淑湘等1980):

(48)一请就来。

(49)门一推就开。

(50)他一解释我就懂了。

(51)一写就一大篇。

当然不是所有的‘一...,就...’的句子都可以同‘把’字结构结合,因为不是本文重点,不在这里讨论。这里要说得是,因为‘一...,就...’结构的第二部分有结果义,这样就有了同‘把’字结构结合的可能性。尽管在这种结合后的结构中,‘把’字结构C中动词表现带有一定的过程性,而且结果义与‘把’字结构C中的动词关系不如(6)-(25)中的那么紧密,但是由于C中带‘一’的部分表现的过程性



在这些句子中不是语义重点，其语义重心实际上还是落在‘就……’那部分上的，也就是结果上。这样这些以‘一…，就…’格式组成的‘把’字结构句基本满足了‘把’字句表现致使结果的语法意义的要求。换句话说，我们可以把这一类‘把’字句看成‘把’字句中的比较特殊的一类。从语料上看，这类句子，尽管我们没有作系统的统计，是少数。我们通过北京大学网上现代汉语语料库进行了非常粗略的概算，其结果如下：含‘把’的结构共 408, 708 条（这里包括‘把’为名词和量词的条目，如前五十条中，有四条是这样的情况），我们任意选出 500 条，具体到本文，选了前 500 条。在这 500 条中，没有一例以(26)-(28)格式出现的情况。在人民大学《北京话口语语料库》中的 1075 条‘把’字结构中也只找到三条(26)-(28)格式的句子。

下面看一下带有‘在’或‘正在’的‘把’字结构句。我们发现这类句子有一个共同的特点，那就是其‘把’字谓语部分都表现一种‘趋向’性。这里所谓‘趋向’性并不仅仅狭隘地限于空间关系，而是一种涉及时空关系及程度范围的抽象意义。这类‘把’字句的谓语整体语义总是表现一种朝向目的点的位移，有时是时空上的位移，有时是不同状态程度间的位移，前面的(29)-(30)就是这样的例子。尽管这里面各句的具体词汇意义不同，但是都表现了向预期目标发展的意义，从而隐含了一种结果。与(6)-(25)不同，这些结果均非已然，而是一种预期。这类‘把’字句谓语带有比较明显的过程性。如(29)，如果加上词汇意义，很清楚，‘高技术引入制鞋工艺’这一目标此时还没有实现；(30)中的‘梦’也没有完全成为现实。(31)-(35)中的情况也都大致相同。正是由于(29)-(35)中的语义特点，此类把字结构句的整体意义表现就与(6)-(25)相去甚远，感觉上很不一样。好像‘把’字谓语中的动词所表现事件或动作所表现的过程性明显，而结果性相对削弱。但是这些句子中的预期结果，显性的还是非显性的依然是‘把’字谓语语义指向的终极目标。这在(29)-(34)中分别表现为：

(29a) 引入… 工艺

(30a) 变成… 现实

(31a) 引向… 深入

(32a) 带入… 境地

(33a) 转向… 发展…，提高…

(34a) 作为… 追求

例(35)的情况稍微特殊一点。第一，(35)中的‘正在’并没有跟‘外运’直接发生关系，而同‘装箱’有关。第二，‘把’字谓语表面上没有明显的结果，起码形式上是这样。因为不能把‘外运’在形式上解释成‘外’是‘运’的结果，这样明显

不符合汉语‘动结’结构:‘V+结’的要求。但是凡是母语说话人都能感觉到本句在语义上确实有些结果的意思。我们首先分析一下本句谓语的情况。这里实际涉及到两个事件,第一是装箱,然后是外运。但是在本句中如果没有‘外运’好像‘装箱’自己不能和‘正在’单独使用:

(52) \*图为工贸公司锅巴生产线的工人正在把成品锅巴装箱。

同样没有‘装箱’只有‘外运’也不行:

(53) \*图为工贸公司锅巴生产线的工人正在把成品锅巴外运。

追其原因,似乎不管是‘装箱’还是‘外运’都只是某种行为,缺乏明确的目标结果。但是两者放在一起就行了,因为此时,‘装箱’成了‘外运’的前提条件,而‘外运’则是‘装箱’的目标结果。这样过程和结果就都有了。无论是读者还是听话人都可以从字面上得到这层潜在的意思。因此可以说(35)和(29)-(34)同属一类。综上所述,可以说虽然有‘在’或‘正在’的‘把’字结构句过程性高于结果性,但是仍然在现代‘把’字句语法意义允许的范围内。无论这些句子描写的状态为已然还是未然,基本符合‘与致使源A有关,‘把’字宾语B处于C描写的结果状态中’这一意义。这些句子与(6)-(25)的主要区别在于语义中心的偏移。这种偏移主要取决于‘把’字谓语前后附加成分的具体语义和功能。综上所述,我们认为(29)-(35)仍然属于‘把’字句只是‘非典’而已。

### 3. 连续统的讨论

以往对于‘把’字结构的讨论主要集中在是‘处置义’还是‘致使义’上,方法上大都是二分,即是‘处置’还是‘不是处置’,或是‘致使’还是‘不是致使’。对观察材料也均未作如上的分类,而是一把抓,试图作出非此即彼的结论。当材料在某些方面不符合工作定义时,则使用排除法予以排除。如前所述,根据这种方法,按照所述‘把’字句语法意义的定义,我们完全可以把(5)以及(29)-(35)排除在‘把’字句以外,但是这样的结论似乎有悖于现代汉语母语说话人对‘把’字句的整体认知。大概没有人会认为(5)和(29)-(35)与真正的非‘把’字句的‘把’字结构句(54)和(55)同属一类,

(54)把弹子打瞎人的眼睛。

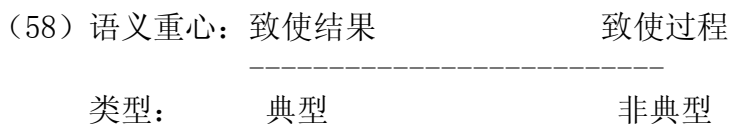
(55)宝玉正把眼瞅着‘海棠春睡图’...

也没有人会认为它们跟下面这些不成立的‘把’字句一样:

(56) \*我正在把门开。

(57) \*他们正在把东西运。

我们一般倾向认为它们更像现代的‘把’字句。实际上，从‘把’字句的语法意义上来看，我们可以得出下面这样一种结论，即‘把’字句的语义重心是在其结果义上，但是这取决于谓语动词前后成分的组合以及词汇组合意义。不同的‘把’字结构句在语义重心的表现上侧重有所不同。如果某一‘把’字结构句的语义重心正好落在致使结果上，那么这一‘把’字结构句属于‘把’字句的典型句。一旦这一重心偏移，移向致使过程，则渐变为非典型句，这一中心偏移越大，离典型句越远，甚至完全超出了‘把’字句的语法意义所允许的范围，成为了不可接受的‘把’字句。在其他因素均等的情况下，语义重心在‘致使过程 - 致使结果’这一连续段上的位置至关重要，而母语说话人对‘把’字句判断上的宽容度也取决于此。语料显示，(6)-(25)这一类是最为常见的，也是人们使用最多的。从上面的分析不难看出，这一类属于‘把’字句的典型范畴，这也就解释了这一类在语料中出现的高比率。与之相比，(26)-(28)就少了很多，而(29)-(35)在口语中基本上找不到，主要以书面形式出现（书面语的实际情况比较复杂，这里不做讨论）。无论(6)-(35)在生活实际中各自出现的多寡，人们从感觉上基本上觉得他们同属一种范畴。可以说，语料实际和现代汉语母语说话人对‘把’字句的实际认知是吻合的。人和机器的一大区别就在于他的认知从来不是一分为二的，而是全方位的，连续渐变的。面对这样一种语言现实，我们认为原型理论的解释最为恰当。我们认为，现代汉语中，‘把’字句的语法意义在‘把’字结构句中的体现是不均衡的。存在一种由高程度体现而低程度体现的连续统。换言之，在‘把’字句这个集合体中，按照把字句语法意义体现程度的不同，存在典型把字句到非典型把字句这样一个连续统。典型与非典型之间的关系可以由下面这个的图解表示：



#### 4. 余论

以上讨论说明了一个问题，‘把’字句语法意义在现代汉语‘把’字结构句中的表现并非均质，有强有弱。其强弱表现取决于全句语义中心的落点，离致使结果越远，则越弱，而具有此种表现的‘把’字结构句也就离本家族中的典型句越远。由于篇幅有限，与之相关的几个问题没有在本文中作深入的讨论。首先，一旦语义中心完全落在动词所代表的行为过程上，相应的‘把’字结构句是一种什么样的句

子呢?我们要说明的是,这样的句子并不是像(54)、(55)那样的句子,而是不可接受的句子。如现代汉语中,我们不能说:

(59)\*我把你打

(60)\*我们把东西运

第二,从典型到非典这一连续统上,除了典型以外,其他各类各自占据什么位置呢?如,是带‘一’的一类更为典型还是带‘在’的更为典型?他们之间还有没有别的类?对于这些问题,本文作为一个初步的探讨,尚无答案。第三,在观察语料时注意到一个现象,以前在对外汉语教学界有一种看法,就是‘把’字句在祈使句中用得比较多,而从语料实际上看却并不多,绝大部分是描写性质的陈述句。假设对语料的观察正确,这种现象是和‘把’字句中语法意义表现程度有关,还是和‘把’字句语用功能有关?这些都需要进一步研究。

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## Ambiguity in the Affirmative/Negative ‘V U/BO NP’ Construction in Taiwanese Southern Min\*

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This paper is aimed to describe and explain the ambiguity in the Taiwanese Southern Min V *u/bo* NP ‘V have/not-have NP’ construction. This structure, whether being affirmative or negative, induces two kinds of meanings which are referred to as generic and episodic readings. It is argued in this paper that syntactically the complex predicate V *u/bo* NP is a resultative compound based on Lin’s (2001) light verb syntax analysis. Semantically the twofold interpretations are ascribed to the mechanism that individual-level (henceforth i-level) predicates and stage-level (henceforth s-level) predicates employ (Chierchia 1995). Through investigating the V *u/bo* NP construction from both syntactic and semantic points of views, we also hope to shed light on the syntax-semantics interface in language use.

### 1. Introduction

The affirmative/negative V *u/bo* NP ‘V have/not-have NP’ construction in Taiwanese Southern Min (henceforth TSM)<sup>1</sup> is ambiguous with respect to generic and episodic interpretations it imparts (c.f. ‘potential modality’ and ‘existential aspect’ in Cheng’s (1997) words), as illustrated in (1) and (2), respectively<sup>2</sup>.

(1) Abing    thak    u/bo            che.  
      Abing    read    have/not-have    books  
      ‘Abing can/can not study well.’

(2) Abing    chue            u/bo            sosi  
      Abing    search-for    have/not-have    key  
      ‘Abing found/failed to find the key.’

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1. Taiwanese Southern Min is a dialect of Chinese.

2. The TLPA (Taiwan Language Phonetic Alphabet) is used for the transcription of Taiwanese Southern Min data in this paper.

On the generic reading like (1), the sentence is associated with a potential property. It states that the agent *Abing* has or does not have the ability to study well. Unlike the generic sentences which indicate permanent states or truth, the episodic sentences refer to a completed event which as a consequence can occur periodically. As shown in (2), the agent *Abing* was searching for the key, and ended up having or not having the key at some reference time. In this case it is possible for *Abing* to do the searching-event repeatedly because each event intrinsically contains an end-point.

As a step toward a possible explanation for the ambiguity in the V *u/bo* NP construction I turn to their Mandarin Chinese counterparts, V-*de/bu*-V constructions, which have drawn much more attention in the literature following miscellaneous proposals (c.f. Tsai 2001, Wu 2004, among others). The Mandarin counterpart of sentence (1) is as follows<sup>3</sup>:

- (3) Aming shu      du      de/bu lai.  
 Aming books study de/bu come  
 ‘Aming can/can not study well.’

The English interpretation of both (1) and (3) unequivocally utilizes the modal element which appears to be inherent in the verb in the original sentences. Specifically, *de/bu* in Mandarin Chinese and *u/bo* in TSM alike are taken to be modal elements, whether in an explicit or implicit manner (see Tsai 2001 and Wu 2004 for Mandarin, Wang 2008 for TSM). This case seems to indicate that a convergent analysis of both postverbal modality and negation is promising for both languages. Nonetheless, in the other case that Taiwanese V *u/bo* NP conspicuously employs the episodic characteristic like (2), we find it left out in previous proposals and hence reconsideration of the status of *u/bo* is required.

Since the ambiguity problem of V *u/bo* NP in Taiwanese touches on the syntax-semantics interface, this paper will try to clarify both to which extent the semantics plays a role in determining the interpretation and how much the syntax has manipulated the configuration. Hence this paper tackles the ambiguity problem from two different angles. Syntactically this article argues for a resultative verbal complement analysis of *u/bo* following the idea of Cheng (1997), Huang (2003), Li (1996), Tang (1996), Teng (1992). It follows the framework of Lin’s (2001) light verb analysis, which takes light verbs as

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3. The object *shu* ‘books’ in (3) is topicalized in a way about which the paper is not concerned in regard to the V-*de/bu*-V construction. There are two points to note here: the first one is that the Mandarin *Aming du de/bu lai shu* ‘Aming can/can not study well’ is not ungrammatical but may sometimes receive a question mark. When further taking into account the modern colloquial usage of V-*de/bu*-V we realize the whole V-*de/bu*-V NP configuration is just not as popular as it used to be in archaic Chinese, hence attributing this question mark to a historical account. The other point is that sentence (3) in effect has the same distributions with its TSM counterpart (1), as *Aming tshe thak u/bo* with the object topicalized as well is perfectly fine.

eventuality predicates that determine the eventualities of sentences. Semantically it sets out to take a closer look at the complex predicate V *u/bo* NP by examining its generic properties paralleling individual-level predicates and its episodic properties paralleling stage-level predicates. Based on Chierchia's (1995) approach, this paper shows that in V *u/bo* NP construction the generic representation, which corresponds to the generalization of individual-level predicates, is ascribed to the generic operator which bounds a Davidsonian argument ranging over occasions/eventualities. As for the V *u/bo* NP predicates which denote an episodic representation, it is claimed that there is no generic operator, hence the sentence gets the default episodic meaning.

The remaining sections of this paper are organized as follows. Section 2 provides an overview of the morphological, syntactic, and semantic properties of the Taiwanese V *u/bo* NP construction. Section 3 demonstrates both the syntactic and semantic analyses of the V *u/bo* NP. Section 4 briefly offers a previous analysis. Section 5 concludes this article.

## 2. The Morphological, Semantic and Syntactic Properties of Taiwanese V *U/Bo* NP

### 2.1. Morphological Properties

First of all, in this construction *u* and its negative counterpart *bo* have not lost their lexical meanings especially in generic sentences when we compare the sentences with their Mandarin counterparts, as illustrated in (4a) vs. (4b)<sup>4</sup>.

- (4) a. Abing khuann bo jit-gi. (Taiwanese)  
 Abing read not-have Japanese  
 'Abing does not understand Japanese.'
- b. Abing kan bu dong riwen. (Mandarin)  
 Abing read not understand Japanese

In (4a), *bo* corresponds to *bu-dong* in (4b), meaning 'not understand'.

In addition, verbs which denote 'disposing' meaning such as *be* 'sell', *chit* 'erase', and *tan* 'throw' are not compatible with the construction as in (5) unless what follows them pertain to quantity or quality as in (6) (Cheng 1997).

- (5) \*Abing chit bo opang.  
 Abing erase not-have blackboard  
 Intended: 'Abing failed to clean any blackboard.'
- (6) Abing chit bo leng-te opang.  
 Abing erase not-have two-Cl blackboard

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4. The abbreviations used in this paper are glossed as follows: Cl: classifier; Perf: perfective maker; POSS: possessive; Q: question marker; SPF: sentence final particle.



- i) 'Abing failed to clean two blackboards.'
- ii) 'Abing is not capable of cleaning two blackboards (,too much work for him).'

## 2.2. Semantic Properties

Semantically we look at the V *u/bo* NP construction from three different aspects. One is the event types of verbs preceding *u/bo* that are allowed to occur in the construction. The second aspect investigates the NP types which may affect the genericity of the sentences (Krifka et al. 1995). The final aspect demonstrates that the thematic roles in the subject positions are not restricted.

In the first place, the verbs preceding *u/bo* are restricted. The postverbal NPs are found only with accomplishment verbs, or activity verbs turned into accomplishments by the addition of the resultative portion *u/bo* (as in (7)-(8)). They are not acceptable with statives (Huang 2003), as in (9) and (10).

- (7) Abing be u chai.  
Abing buy have vegetable  
'Abing bought vegetables.'
- (8) Abing than bo cinn.  
Abing make not-have money  
'Abing can not make any money.'
- (9) \*Abing ai bo lang.  
Abing love not-have person  
Intended: 'He does not love anyone.'
- (10) \*Yi sin bo kao.  
he believe not-have religion  
Intended: 'He does not believe in any religion.'

Furthermore, it is demonstrated by Krifka et al. (1995) that kind-referring NPs (but not objects) render sentences generic. In the V *u/bo* NP construction this argument is born out, too. The kind-NPs in the subject position determine the genericity of sentences like (11)-(13), but kind-NPs in the object position do not show the characteristic like (14)-(16).

- (11) Tua-khoo lang be bo sann.  
plump people buy not-have clothes  
'Plump people can not find suitable clothes to buy.'

- (12) Bai hahau co bo haksing.  
 bad school get not-have students  
 ‘Bad schools can not get any student.’
- (13) Phua-penn e chiu-a kam senn u kue-ji?  
 sick POSS tree Q produce have fruit  
 ‘Can sick trees produce any fruit?’
- (14) Aying be bo sui sann.  
 Aying buy not-have beautiful clothes  
 i) ‘Aying failed to buy any beautiful clothes.’  
 ii) ‘Aying can not buy any beautiful clothes that fit her.’
- (15) Abing kam lia u tua-cia hi-a?  
 Abing Q catch have big fish  
 i) ‘Did Abing catch any big fish?’  
 ii) ‘Can Abing catch any big fish?’
- (16) Cit-king hahau co bo he hakseng.  
 this-Cl school get not-have good student  
 i) ‘This school failed to get any good student (this year).’  
 ii) ‘This school (is too bad that it) can not get any good student.’

Moreover, the subjects which occur with the resultative verbal complements V *u/bo* NP have various thematic roles like (17)-(19).

- (17) Abing chue bo sosi. (*Agent*)  
 Abing search-for not-have key  
 ‘Abing failed to find the key.’
- (18) Cit-cia yunn-a thi bo monn. (*Patient*)  
 this-Cl sheep peel not-have wool  
 ‘This sheep has no wool to peel.’
- (19) Cit-khu chan cing u mi-kiann. (*Locative*)  
 This-Cl field grow have thing  
 ‘In this field things can grow well.’

Lin (2001) also gives us examples which indicate that Mandarin Chinese has the property of unselectiveness of subject and object, as illustrated in (20a-b) and (21a-b).

- (20) *Unselectiveness of subject in Mandarin Chinese*
- a. Laozhang kai-le yi-liang tanke-che. (Agentive)  
 Laozhang drive-Perf one-Cl tank  
 ‘Laozheng drove a tank.’
- b. Gaosu-gonglu-shang kai-zhe yi-pai tanke-che. (Existential)  
 expressway-on drive-ZHE one-line tank  
 ‘There is a line of tanks on the expressway.’
- (21) *Unselectiveness of object in Mandarin Chinese*
- a. chi niu-rou mian (Theme/Patient)  
 eat beef noodle  
 ‘eat beef noodle’
- b. chi da-wan (Instrument)  
 eat big-bowl  
 ‘use a big bowl to eat’

Hence in Taiwanese that the various thematic roles occurring in the subject position along with V *u/bo* NP construction is not a random case, but a general property as seen cross-dialectally in Chinese family.

### 2.3. Syntactic Properties

Although the syntactic distributions of V *u/bo* NP clearly state that it serves as a predicate of a clause, it is worth noting how the predicate behaves with respect to other syntactic elements in a sentence.

First, adverbs or other negation markers which indicate irrealis property can occur before *u* but not *bo*, as in (22a-d).

- (22) a. I chhoa tih-be u boo a.  
 he marry almost have wife SFP  
 ‘He is about to have a wife.’
- b. I boo choa ia-be u leh.  
 he wife marry not-yet have SFP  
 ‘He has not been able to get a wife yet.’
- c. Li an-ne tai-ci co be u.  
 you this-way thing do cannot have  
 ‘In doing so, you cannot get anything done.’

- d. Li an-ne tai-ci co ne-e u?  
 you this-way thing do how-can have  
 ‘In doing so, how can you get anything accomplished?’

(Cheng 1997: 213)

Second, only in episodic sentences can the resultative verbal complement V *u/bo* take a suffix *tio* or *ka*, which refer to ‘achieve’. When the postverbal NPs are bare NPs or definite NPs, *tio* is employed like (23a-b); when the postverbal NPs are quantifier NPs, *ka* is employed like (24a-b).

- (23) a. Abing pha bo tio mang-a.  
 Abing hit not-have achieve mosquito  
 ‘Abing failed to hit the mosquito.’  
 b. Abing be u tio hit-pun che.  
 Abing buy have achieve that-Cl book  
 ‘Abing bought the book.’
- (24) a. Abing cia bo ka leng-wann peng.  
 Abing eat not-have achieve two-bowls rice  
 ‘Abing did not finish two bowls of rice.’  
 b. Cit-te to-a ce bo ka cap-e lang.  
 this-Cl table sit not-have achieve ten person  
 ‘There were less than ten people sitting at this table.’

### 3. The Analysis

#### 3.1. The Syntax of V *U/Bo* NP Construction: A Comparative Analysis Between Mandarin Chinese and Taiwanese Southern Min

In this section, we review the basic idea of Lin’s (2001) light verb syntax in Mandarin Chinese and also take relevant analyses which help us shed light on the syntactic representation of Taiwanese V *u/bo* NP construction.

Lin proposes that light verbs must have concrete thematic contents and serve substantial roles in the licensing of arguments and the construction of sentence structure. His main evidence comes from an interesting phenomena existing in Mandarin Chinese, which he calls unselectiveness of subject and object. The examples are already illustrated in (20-21), repeated here in (25-26) for readers’ sake.

- (25) *Unselectiveness of subject in Mandarin Chinese*  
 a. Laozhang kai-le yi-liang tanke-che. (Agentive)  
 Laozhang drive-Perf one-Cl tank  
 ‘Laozheng drove a tank.’

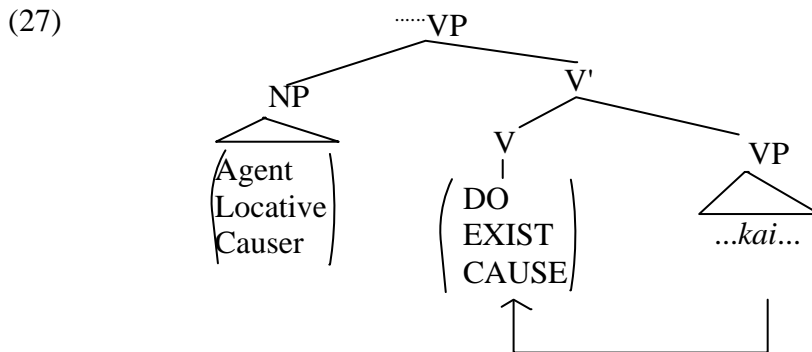
- b. Gaosu-gonglu-shang kai-zhe yi-pai tanke-che. (*Existential*)  
 expressway-on drive-ZHE one-line tank  
 ‘There is a line of tanks on the expressway.’
- c. Zhe-liang po-che kai-de wo xia-si le. (*Causative*)  
 this-CL broken-car drive-DE I scare-dead SFP  
 ‘Driving this broken car made me scared to death.’

(26) *Unselectiveness of object in Mandarin Chinese*

- a. chi niu-rou mian (*Theme/Patient*)  
 eat beef noodle  
 ‘eat beef noodle’
- b. chi da-wan (*Instrument*)  
 eat big-bowl  
 ‘use a big bowl to eat’
- c. chi guanzi (*Location*)  
 eat restaurant  
 ‘dine at some restaurant’
- d. eat tou-tong (*Reason*)  
 eat head-ache  
 ‘eat for [curing] headache’

(Lin 2001: 117)

As argued by Lin, the examples in (25a-c) and (26a-d) illustrate certain important properties of verbs in Mandarin Chinese. In (25a-c), an action verb like *kai* ‘drive’ does not require an agentive external argument; its external argument can be a locative or a causer. These different subjects do not seem to fall within the selectional domain of the verb *kai* ‘drive’. This kind of phenomena suggests that the subject of a Mandarin Chinese is not selected by the main verb, but is licensed by light verbs in Syntax. The same conclusion also holds for the object arguments. The structural analyses for (25a-c) are represented in the diagram (27) below, which will serve as our framework for the analysis of Taiwanese V *u/bo* NP construction.



In order to get a resultant state interpretation and also to capture the unselectiveness of subjects for the V *u/bo* NP compound, we adopt Lin's account and illustrate how his analysis also applies to the Taiwanese construction under discussion.

First we take a look at the example (28) below.

- (28) Se-cia    cun    lia    bo            hi-a.  
 small-Cl boat catch not-have fish  
 'People can not catch any fish in small boats.'

In (28), the subject *se-cia cun* 'small boats' is a locative rather than an agentive external argument which should be required by the action verb *lia* 'catch'. This indicates that Taiwanese share parallel features with Mandarin in respect of predication in syntax, and the phenomena are also already mentioned in examples (17-19).

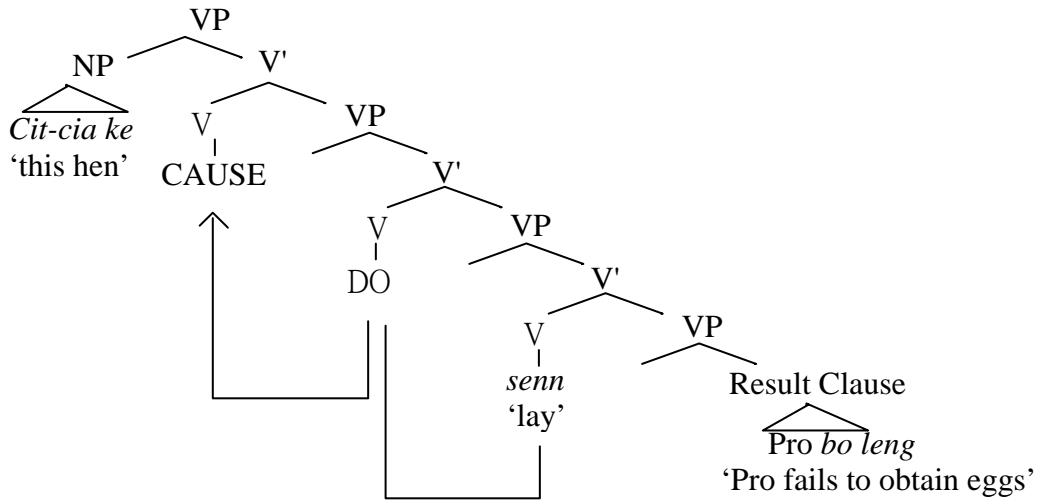
Second, let us look at another examples, which will help clarify the resultative meaning that the V *u/bo* NP construction denotes.

- (29) a. Abing    than    u            cinn.  
           Abing    make    have    money  
           'Abing succeeds in making (much) money.'
- b. Abing    than    bo            cinn.  
           'Abing fails to make any money.'
- (30) a. Abing    chue            u            sosi.  
           Abing    search-for    have    key  
           'Abing found/succeeded in finding the key.'
- b. Abing    chue    bo    sosi.  
           'Abing failed to find the key.'

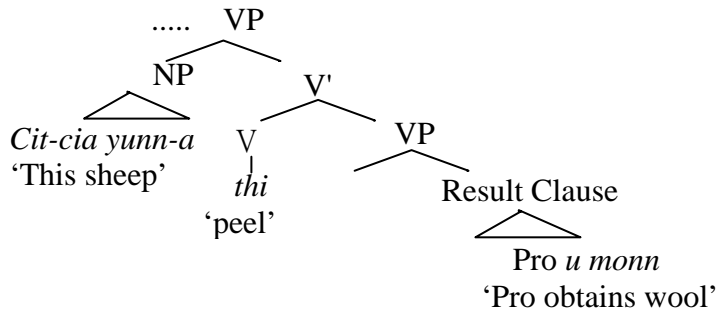
In (29-30), *u/bo* play a role in the determination of whether a desired result is attained or not. Specifically, in (29b), *bo* does not serve to negate the whole event of 'Abing's making money' but to negate the agent's preferable resultant condition, that is, to obtain as much money as he can. The same interpretation holds true for (30b).

Here we provide the syntactic representations for V *u/bo* NP construction with respect to different thematic roles that subjects denote.

(31) Subject as an Agent, e.g. *Cit-cia ke senn bo leng* ‘This hen fails to lay any egg’.



(32) Subject as a Patient, e.g. *Cit-cia yunn-a thi u monn* ‘This sheep has (abundant) wool to be peeled’.



To sum up, in our analysis we take the V *u/bo* NP as a general type of the so-called resultative verb compounds (Huang & Li 1995) and demonstrate that it share the parallel syntactic structures which are proposed by Lin (2001).

### 3.2. The Semantic Analysis for Generic and Episodic Interpretations in V *U/Bo* NP

We will show that the genericity lying in the V *u/bo* NP construction can be explained by the properties of individual-level predicates and, following Chierchia (1995), we propose that Taiwanese V *u/bo* NP sentences with the generic reading also conform to a generic operator analysis.

To begin with, a list of relevant properties identified as criterial for the characterization of i-level predicates in V *u/bo* NP are offered in the following (33-35) statements and examples.

(33) Stable stativity: I-level predicates denote a state that is ‘transient’ or ‘stable’ (Chierchia).

- a. \*Abing cang/ting-ko-gue/cit-tang-cing thak bo che.  
 Abing yesterday/last month/a year ago read not-have book  
 ‘Abing could not study well yesterday/last month/a year ago.’
- b. Abing cang/ting-ko-gue/cit-tang-cing chue bo  
 Abing yesterday/last month/a year ago search not-have  
 in-ba-e phue.  
 his father's letter  
 ‘Abing failed to find out his father's letter yesterday/last month/a year ago.’

Hence, the difference between a generic reading and an episodic reading manifests itself in the behavior of temporal adverbials.

(34) Locatives: There are tight restrictions on the cooccurrence of i-level predicates and locative modifiers such as (a-b), whereas in s-level predicates there exist no such restrictions such as (c-d).

- a. \*Abing ti chu thiann u enggi.  
 Abing at home listen have English  
 ‘??Abing can understand English at home.’
- b. \*Cit-kha chu-khuan-a ti taipak be bo cinn.  
 this-Cl bracelet in Taipei sell not-have money  
 ‘This bracelet can not be sold for any money at Taipei.’
- c. Aying ti chai-chi-a be bo sann.  
 Aying in market buy not-have clothes  
 ‘Aying failed to buy any clothes in the market.’
- d. Abing ti tsu hua bo lang.  
 Abing at home call not-have person  
 ‘Abing failed to call to anyone at home.’

(35) Kind-referring NPs in subject position: Taiwanese *i-level* predicates select the universal reading of kind-referring NPs in the subject position like (a-b), whereas *s-level* predicates can not, as illustrated in (c).

- a. Pun-tuann-lang cing bo chai.  
 lazy people grow not-have vegetable  
 ‘Lazy people can not grow any vegetable.’



- b. Bai-ha-hao    cio    bo    hak-sing.  
 bad school    obtain    not-have    student  
 ‘Bad schools can not obtain good students.’
- c. ??Pun-tuann-lang    cue    bo    Abing.  
 lazy people    find    not-have    Abing  
 ‘Lazy people failed to find out where Abing was.’

Now we move on to the semantic analysis which serves to account for the ambiguity in V *u/bo* NP construction. (36) is our proposal:

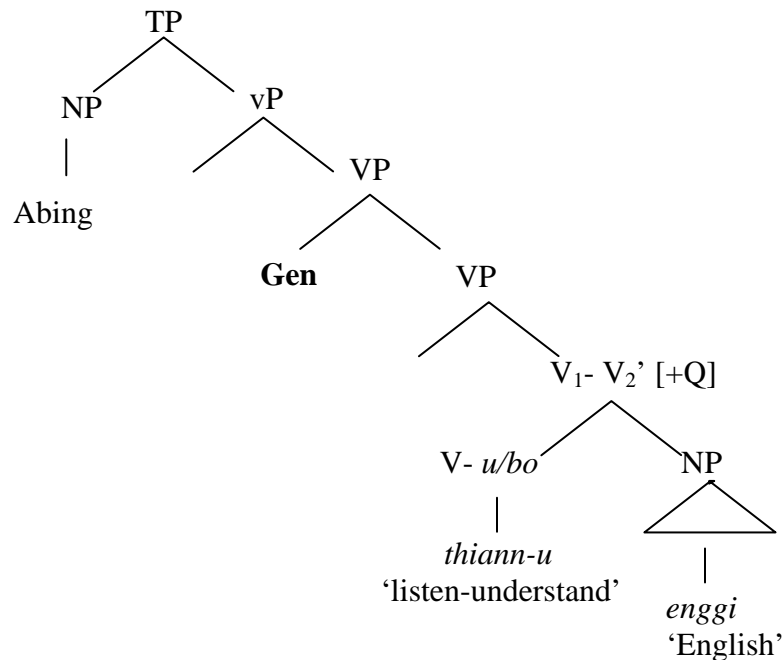
(36)

a. The generic sentences, which correspond to *i-level* predicates, inherently have a habitual morpheme which carries a feature [+Q] in the predicate. The feature requires the presence of **Gen** operator (Chierchia).

b. In the episodic sentences, which correspond to *s-level* predicates, there is no [+Q] feature in the V *u/bo* NP predicate, hence no **Gen** operator is employed.

The basic structure of a V *u/bo* NP construction with respect to the generic reading is as follows, e.g. *Abing thiann-u enggi* ‘Abing understands English’.

(37)



#### 4. Previous Analysis: Wang's (2008) Account for Postverbal Negation in Taiwanese

For expository purpose and limitations of this article, I simply review Wang's two essential arguments here. For a detailed discussion, readers are referred to her text. I argue against Wang's analysis by diminishing her two essential arguments. First, it is argued that there is a null head which represents a concept of achievement in the V *u/bo* NP construction, as in (38).

- (38) Li-e che u/bo Ø taoloo.  
 Li-e find AFFIRM/NEG job  
 'Li-e is (un)able to find a job.'

However, as the aforementioned examples (c.f. 23-24) show, *tio* or *ka* can occur in this position, too. This makes the null head proposal ad hoc in that she can not explain why the ACHIEVEMENT head can sometimes be null and sometimes visible.

Second, she argues that the thematic role of the object in V *u/bo* NP should be GOAL because the NP can not be passivized, hence being impossible to take the PATIENT or THEME role. This generalization is incorrect. For one thing, the thematic roles are an endowment in the argument structure, and hence can not be justified by any transformational rule. For another, as we take a closer look at the passive sentences in both Mandarin and Taiwanese, we find out that it is not always the case that themes can be passivized, as in (39) for Mandarin and (40) for Taiwanese.

- (39) a. Zhangsan chang-le yi-shou ge.  
 Zhangsan sing-LE one-Cl song  
 'Zhangsan sang a song.'
- a' \*Yi-sou ge bei Zhangsan chang-le. (PASSIVE)  
 'A song was sang by Zhangsan.'
- b. Zhangsan zai chi fan.  
 Zhangsan ZAI eat rice  
 'Zhansan is eating the meal.'
- b.' \*Fan bei Zhangsan zai chi. (PASSIVE)  
 'The meal is being eaten by Zhangsan.'
- c. Zhangsan song Li zhe-ben shu.  
 Zhangsan give Li this-Cl book  
 'Zhangsan gives Li this book.'
- c.' \*Zhe ben shu bei Zhangsan song Li. (PASSIVE)  
 'This book was given to Li by Zhangsan.'

- (40) a. Abing te thak hit-pun ce.  
 Abing TE study that-Cl book  
 ‘Abing is studying that book.’
- a.’ \*Hit-pun ce te hoo Abing thak. (PASSIVE)  
 ‘That book is being studied by Abing.’
- b. Abing ca peng a.  
 Abing eat rice SFP  
 ‘Abing ate the meal.’
- b.’ \*Peng hoo Abing ca a. (PASSIVE)  
 ‘The meal was eaten by Abing.’

Therefore, Wang’s analysis does not appear to be plausible. Here it is further suggested that the various behaviors of thematic roles in both the Mandarin *V-de/bu-V* construction and the Taiwanese *V-u/bo* NP construction might be attributed to the general properties of Mandarin resultative verbal complements, as already discussed a lot in the literature by Li (1990), Li and Huang (1994) and among others. For instance, one type of the resultative compounds can not be passivized as illustrated in (41).

- (41) a. Zhangsan he-zui-le jiu.  
 Zhangsan drink-drank-LE wine  
 ‘Zhangsan drank wine and got drunk.’ (L&H 1994)
- a.’ \*Jiu bei Zhangsan he-zui-le  
 ‘\*The wine was drunk by Zhangsan.’

## 5. Conclusion

This paper has provided an overview of the affirmative/negative *V u/bo* NP construction in Taiwanese Southern Min by examining its semantic and syntactic properties. In order to account for various properties the construction accommodates, this article argues that the complex predicate *V u/bo* NP is a type of resultative verbal compounds and hence its parallel cross-dialectal properties can be accounted for by Lin’s (2001) analysis in a general manner. It further argues that the generic and episodic interpretations induced in the construction in effect correspond to individual-level predicates and stage-level predicates, respectively. It is proposed that there is an inherent [+Q] feature in predicates denoting generic meanings, and a concomitant **Gen** operator in the sentence is to bind the argument ranging over eventualities. Having taken a closer look at *V u/bo* NP construction, we learn that the facts lying in the syntax-semantics interface can sometimes be blurred by the mingling of multiple aspects in language use; therefore, to adopt either aspect of analyses without considering the others is likely to lead to an arbitrary conclusion.

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## Presuppositions in Chinese Bare Conditionals<sup>1</sup>

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This paper examines the syntactic and semantic distributions of Chinese conditionals with a focus on presuppositions in bare conditionals uttered in episodic contexts. I show that *wh*-words/pronouns in CBCs used to describe actual events can be uniformly treated with the semantics of English free relatives with *ever* (FRs-*ever*) as definite descriptions denoting a maximal entity satisfying the description of *wh*-conjuncts. While *-ever* contributes either an ignorance or an indifference presupposition (Von Stechow 2000), I argue that CBCs are inherently prefixed with a counterfactual modal environment and that the indifference presupposition always enters the truth conditional content as an entailment, while the presupposition of ignorance is a mere implicature.

### 1. Introduction

There has been an extended theoretical debate over the syntax and semantics of Chinese Bare Conditionals (CBCs). According to Cheng and Huang's original account, CBCs are conditional donkey sentences which lack an overt leading element *ruguo* 'if', bear only future tense/aspect, disallow consequent pronouns/definite expressions, and require the presence of two identical *wh*-words to occur, one in each clause. *Wh*-words are treated as indefinites without inherent quantificational force and are unselectively bound by a covert necessity operator that serves as the source of the universal force possessed by the construction (1996):<sup>2</sup>

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<sup>1</sup>I wish to thank the audience of NACCL-20 for their helpful feedback and particularly Professor David Beaver for his invaluable comments on an early draft of this paper.

<sup>2</sup>Conditional donkey sentences are conditional sentences with donkey anaphora. Cheng and Huang observe that in Mandarin Chinese, donkey sentences typically take forms of conditional sentences which may involve a *wh*-word in the antecedent clause and an element anaphoric to it in the consequent clause. See Cooper (1979) and Evans (1980) for a detailed discussion of donkey sentences.

- (1) *Shei xian lai, shei /\*ta/\*[e]<sup>3</sup>/\*na-ge-ren (jiu) xian chi.*  
 who first come, who/he/she/[e]/that person then first eat  
 ‘If X comes first, X eats first.’  
 =  $\forall x$  (you like  $x \rightarrow x$  is lucky)

*Ruguo*- ‘if’ conditionals, on the other hand, disallow a second *wh*-word in the consequent clause and are treated with the traditional E-type pronoun strategy.

- (2) *Ruguo ni kandao shei, qing jiao ta/\*shei lai jian wo.*  
 if you see who please tell him/her/who come see me  
 ‘If you see someone, please ask him/her to come see me.’  
 = If (for some  $x$ , ( $x$  a person) (you see  $x$ )), then tell him/her to come in.

Some take Cheng and Huang’s account at face value but seek alternative ways to explain how the default universal force of *wh*-words in CBCs is derived (Chierchia 2000). Others take issue with Cheng and Huang’s two paradigmatic view of Chinese conditionals and argue that like *ruguo*- ‘if’ conditionals, CBCs can admit a consequent pronoun that is able to pick out a singular unique referent presuming the referential nature of Chinese pronouns (Lin 1996, 1998; Pan and Jiang to appear):<sup>4</sup>

- (3) *Shei shang xueqi na di-yi-ming, shei/ta zhe xueqi jiu keyi dang*  
 who last semester get top-one who/he this semester then may serve  
*banzhang.*  
 leader  
 ‘Whoever’s performance was the best last semester may serve as the class leader this semester.’

Lin (1996) terms CBCs that permit consequent pronouns “one-case bare conditionals” (3) and gives those that prohibit pronouns “multi-case bare conditionals” (1). Informants, nevertheless, consider that (3) with a consequent pronoun can be true even if there were three people who simultaneously had the best performance last semester. In that case, the pronoun *ta* ‘he’ can be used to refer to those three people who had the best score last semester. In my recent work (Huang forthcoming), I show that the use of a consequent pronoun in a bare conditional is not subject to an existence and uniqueness condition if CBCs are uttered in generic contexts. Consider the following examples:

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<sup>3</sup> Empty pronominal.

<sup>4</sup> If we adopt the view that Chinese *ta* ‘he/she’ can only be referential in nature as many have claimed (Chao and Sells 1983; Cheng and Huang 1996).

- (4) (Genju xuixiao de guiding), *shei shangxueqi* na di-yi-ming,  
 according school DE rule who last semester get top-one  
*ta/shei zhexueqi* jiu keyi dang banzhang.  
 he/who this semester then can serve leader  
 '(According to the rule of the school) whoever had the best score last  
 semester can serve as the class leader this semester.'
- (5) *Shei zhe beizi zuo hao shi*, *shei/ta* xia beizi jiu keyi jixu zuo  
 who this life do good deeds who/he next life then can continue be  
 ren.  
 human  
 'Whoever does good deeds in this life can continue to be human in the next  
 life.'

CBCs in (4~5) are generic statements, though their verb constellations denote a single episodic event or state at the basic level of categorization. There is no presupposition of a unique referent associated with the consequent pronoun.

Regardless of what the condition is that restricts the use of consequent pronouns in CBCs, it is clear that CBCs can have either a universal or a definite quantificational force. It is plausible to assume that the quantificational force of *wh*-words/pronouns in CBCs when uttered to describe actual events is strikingly similar to that of English FRs-*ever*. In the first part of this paper I show that *wh*-words/pronouns in CBCs uttered in episodic contexts can be uniformly treated with the semantics of FRs-*ever* as definite descriptions denoting a maximal entity, singular or plural (Jacobson 1995; Dayal 1997; Tredinnick 2005). In the second part of this paper I compare CBCs and English FRs-*ever* focusing on modal implication and presupposition in these two constructions. Specifically, I challenge the commonly held assumption that CBCs are the Chinese version of English *whatever* sentences. While showing that *wh*-words/pronouns in CBCs are comparable to the morpheme *-ever* that is presuppositional (Dayal 1997; Von Stechow 2000; Tredinnick 2005), I argue that CBCs are not just the counterpart of FRs-*ever* and that CBCs are inherently prefixed with a counterfactual modal base while the mood of *whatever* sentences varies pragmatically. My diagnostics through standard presupposition projection tests reveal that the indifference presupposition associated with CBCs always enters the truth conditional content as an entailment, while the presupposition of ignorance is a mere implicature. This paper is outlined as follows: Section 2 summarizes recent analyses of the semantics of English FRs with *-ever*. Section 3 examines presuppositions in CBCs in episodic contexts and introduces the "ignorance use of Chinese *wh*-words.". In Section 4 I draw a comparison between Chinese bare conditionals and English *whatever* sentences focusing on presuppositions in these two constructions.



## 2. Recent Analyses of English FRs-*ever*

### 2.1 Quantificational Force of FRs-*ever*

It is a well known fact that English FRs with *-ever* are definite descriptions (Jacobson 1995; Dayal 1995, 1997; Von Stechow 2000; Tredinnick 2005). The idea is that *ever* FRs are like plain FRs in that both can be paraphrased as definites or universals:<sup>5</sup>

- (6) a. I ordered what he ordered for dessert. (= the thing he ordered for dessert)  
 b. Do what the baby sitter tells you. (= everything the babysitter tells you)  
 c. John will read whatever Bill assigns (= everything/anything Bill assigns)  
 d. Whoever was awake saw what happened. (= the person/everyone who was awake).

To provide a unifying account of FRs that allows for both definite and universal readings, Jacobson treats FRs-*ever* as definite descriptions denoting a maximal entity. A relative clause with or without *-ever* as in *what(ever) the baby sitter tells you* denotes the maximal individual, which can be singular (= *the thing the baby sitter tells you*), or plural (= *the sum of all the things (everything) the baby sitter tells you*). For the purpose of this paper, I will not go into the technical detail of her analysis. Instead, I will review the contribution of *-ever* that she and others have taken to be presuppositional.

### 2.2 FRs-*ever* as Presuppositional

The morpheme *-ever* of *ever* FRs contributes an additional modal flavor to an utterance which otherwise lacks in sentences with plain FRs without *-ever*. Dayal (1997) takes the role of the morpheme *-ever* as an indicator of a speaker's ignorance (7a) which is not signaled in (7b) with a plain FR that does not contain *-ever*:

- (7) a. There's a lot of garlic in *whatever* Arlo is cooking.  
 b. There's a lot of garlic in *what* Arlo is cooking.

(7a) but not (7b) can be paraphrased as: "the speaker does not know what Arlo is cooking but the thing whatever it is that Arlo is cooking has a lot of garlic in it." According to Dayal, *whatever* asserts that the speaker cannot identify the referent of the FR which denotes *the thing that Arlo is cooking*. In other words, "in each epistemic alternative, the sentence without *-ever* is true" as Von Stechow puts it. However, Von Stechow soon notices that *whatever* does not always make an epistemic assertion. For instance, in embedded contexts (8), *whatever* does not contribute an epistemic certainty to the assertion of the sentence (p. 4):

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<sup>5</sup> Examples in (6a~c) taken from Jacobson (1995) and Dayal (1997).

- (8) Unless there's a lot of garlic in *whatever* Arlo is cooking, I will eat out tonight.  
 ≠ Unless I'm sure that there's a lot of garlic in *what* Arlo is cooking, I will eat out tonight.

This motivates Von Stechow to assume a presupposition of ignorance as to the denotation of the FR, thus replacing Dayal's "assertion of ignorance." In addition, he identifies an indifference presupposition associated with *-ever* in examples like (9), for instance:

- (9) I grabbed whatever tool was handy.

The preferred reading in (9) signals that the speaker grabbed the tool that was handy and he did so indiscriminately. Similarly, the sentence in (10a) has the preferred reading (10b) where Zack indiscriminately voted for the person at the top of the ballot:

- (10) a. Zack simply voted for whoever was at the top of the ballot.  
 b. Zack voted for the person that was at the top of the ballot, and *if a different person had been at the top of the ballot, Zack would have voted for that person.*

Assuming the usual principles of presupposition, Von Stechow further detects that while the agent indifference presupposition projects locally (11), the presupposition of ignorance projects out of *unless*-clause (12):<sup>6</sup>

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<sup>6</sup> One can think of presupposition projection as accommodation. Following Beaver & Zeevat (2004), let us say that a presupposition projects globally is identified with accommodation in the global context:

- (i) If Mary's carrying an umbrella, then she knows that it is raining.  
 = It is raining. If Mary's carrying an umbrella, then she knows that it is raining.

Here the factive verb "know" triggers a presupposition "it is raining" which projects globally. In the example below, the presupposition "it is raining" is accommodated locally and evaluated as part of the assertion:

- (ii) I wonder if it is raining. If Mary's carrying an umbrella, then she knows that it is raining.  
 = I wonder if it is raining. If Mary's carrying an umbrella, then it is raining and she knows that it is raining.

In cases where fronted addition of the presupposition produces a felicitous discourse, global accommodation is preferred.

- (11) Unless Zack simply voted for *whoever* was at the top of the ballot, he must have spend at least 5 minutes in the voting booth.  
 = *Unless Zack simply voted indifferently* for the person at the top of the ballot, he must have spend at least 5 minutes in the voting booth.  
 ≠ *Zack simply voted indifferently. Unless Zack simply voted for the person at the top of the ballot, he must have spend at least 5 minutes in the voting booth.*
- (12) Unless there's a lot of garlic in *whatever* Arlo is cooking, I will eat out tonight.  
 = *I'm not sure what Arlo is cooking, but unless there's a lot of garlic in what Arlo is cooking, I will eat out tonight.*  
 ≠ *Unless I'm sure that there's a lot of garlic in what Arlo is cooking, I will eat out tonight.*

In embedded contexts speaker's ignorance presupposition projects out to the matrix level (12), while the presupposition of agent's indifference does not (11). Von Stechow notices this asymmetry between the ignorance and indifference presupposition. Still, he provides *whatever* a conditional semantics and explicitly assumes a presupposition of indifference. His idea is that the implication of a certain modality may give rise to either a speaker's ignorance reading (concerns speaker's epistemic uncertainty), or to an agent's indifference reading (concerns agent's deontic alternatives). He gives *whatever* the following analysis:<sup>7</sup>

- (13) *whatever* ( $w$ ) ( $F$ ) ( $P$ ) ( $Q$ )  
 presupposes:  $\forall w' \in \min_w [ F \cap ( \lambda w'. \iota x. P(w')(x) \neq \iota x. P(w)(x) ) ]$ ;  
 $Q(w) (\iota x. P(w)(x) )$   
 asserts:  $Q(w) (\iota x. P(w)(x) )$

**F** is the modal base. The **min**-operator triggers an existential presupposition which ensures that the domain of quantification is non-empty and that the worlds being quantified over differ minimally from one another. Depending on the modal base provided by contexts, a counterfactual modal environment will give rise to an indifference reading and the quantification is over counterfactual alternatives which differ from the actual world. An ignorance reading will be derived in an epistemic modal environment and the quantification is over speaker's epistemic alternatives. If the identity of an FR-*ever* ( $\iota x. P(x)$ ) differs across the epistemic modal base, then the speaker does not know (is ignorant of) the identity of  $\iota x. P(x)$ . On the other hand, if the identity of an FR-*ever* ( $\iota x. P(x)$ ) remains the same

<sup>7</sup> The iota operator is normally used only for singular expressions, but I will follow Tredinnick (2005) and others and let it be used for both singular and plural definites.

across the epistemic modal base, then the speaker knows the identity of  $\mathbf{x}$ .  $\mathbf{P}(\mathbf{x})$ . Shortly put, regardless of what  $\mathbf{x}$ .  $\mathbf{P}(\mathbf{x})$  is in all  $w'$  minimally different from  $w$  with respect to  $F$ , the proposition  $\mathbf{Q}(\mathbf{w})(\mathbf{x}. \mathbf{P}(\mathbf{w})(\mathbf{x}))$  will have the same truth value in  $w$ . At the level of assertion, an FR with *-ever* is identical to an FR without *-ever*. Next, I discuss how Von Stechow's analysis of *whatever* in (13) can be extended to capture the meaning of CBCs. As the discussion progresses, I will also make adjustments to his formula.

### 3. Presuppositions in CBCs in Episodic Contexts

Let me begin this section with a set up of some preliminaries regarding the form of CBCs. As introduced in section 1 following Lin (1996) and Huang (forthcoming), I consider that CBCs can admit non-future tense/aspect and allow the presence of consequent pronouns contrary to Cheng and Huang's claim. Nevertheless, I do not believe that a consequent pronoun can only be admitted in a CBC if it picks out a singular unique referent. I observe that *wh*-words/pronouns allow both a definite and a universal reading in CBCs uttered in episodic and generic contexts. Let us set aside the meaning of CBCs in generic contexts and focus only on presuppositions in CBCs in episodic contexts. We will begin this section with a brief introduction of tense and aspect in Mandarin Chinese.

#### 3.1 Tense and Aspect in Chinese Bare Conditionals

Tense and aspectual morphemes are syntactically optional in Mandarin. A sentence without tense/aspectual morphemes has both an open and a closed reading as the English translation in (14) indicates (Smith 1997):

- (14) Zhangsan xiuli yitai luyinji.  
 Zhangsan repair one tape recorder  
 'Zhangsan repaired/is repairing a tape recorder.'

(14) can mean either that Zhangsan finished repairing a tape recorder, or that the repairing is still ongoing. If uttered to describe a past event, CBCs can bear perfective aspect which can be overtly or covertly indicated by a perfective morpheme:

- (15) Natian didi henguai, Mama shou shenme, ta jiu zuo shenme.  
 that day little brother well-behaved mother say what he then do what  
 'That day little brother was very well-behaved. He did whatever mother said.'
- (16) Zuotian, wo zhishi xiangdao shenme, jiu xie-le shenme.  
 yesterday I just think what then write-Perf what  
 'Yesterday, I was only writing down whatever came to my mind.'

- (17) Zuotian shei zai xuanpiao shang, Dawei jiu tou-le shei/ta.  
 yesterday who is ballot on top David then vote-Perf what/he  
 ‘Yesterday, David voted for whoever appeared on the ballot.’

In the presence of time adverbials such as *zuotian* ‘yesterday’ and *natian* ‘that day’, CBCs freely allow the verb to be modified by the perfective morpheme *le*.

### 3.2 Quantificational Force of *Wh*-words in CBCs

I observe that *wh*-words in CBCs describing actual events (in both episodic and generic contexts) may share with English FRs-*ever* the semantics of a definite expression in its broad sense including both singular and plural definites.<sup>8</sup> Take the bare conditional in (15) as an example, *wh*-words denote the maximal individual—either *the thing* or *the sum of all the things that the mother said*. Apply Von Stechow’s analysis in (13) to *didi* ‘younger brother’ in (15) and assume a counterfactual modal base, we derive a reading which says that “in all of the minimally different counterfactual worlds in which mother had said a different thing/things, little brother would have done the thing(s) that mother said.” This is the desired reading intended in (15). The examples in (15~17) all have a preferred reading that presupposes the agent’s indifference. In contrast to (15), a simple relative construction shown in (18) below lacks such presupposition:

- (18) Didi zuo mama shuo de shi.  
 little brother do mother say DE thing(s)  
 ‘Little brother did what mother said.’

The utterance in (15) presupposes that *didi* ‘younger brother’ is acting indifferently (willingly or unwillingly) doing the thing(s) his mother said, while the sentence in (18) with a simple relative clause *mama shuo de shi* ‘what mother said’ does not.

Besides an indifference reading, CBCs can also have a speaker’s ignorance reading if an appropriately induced by contexts. Consider the following mini-discourse:

- (19) A: Natian didi zuo-le shenme?  
 that day little brother do-Perf what  
 ‘What did little brother do that day?’

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<sup>8</sup> As mentioned in 2.1 an FR in *what he ordered* is equivalent to the iota expression which denotes the maximal individual of which it is true—either that it is *a thing* or *the sum of all the things that he ordered*. Note that the term “definite” is used in Lin (1996) to refer to a singular unique individual.

B: Wo bu zhidao, mama shou-le shenme, ta jiu zuo shenme.  
 I not know mother say-Perf what he then do what  
 'I don't know. He did whatever mother said.'

When the conversation concerns the speaker's epistemic state as the discourse context so provides in (19), the CBC in speaker B's utterance has an ignorance reading. It says that the speaker does not know, or is uncertain as to what her *didi* 'younger brother' did. It is important to note that the ignorance reading is only implicated, not presupposed. For, speaker B's utterance in (19) is compatible with a situation where the speaker does in fact know what it was that her *didi* 'younger brother' did but deliberately hiding it as a secret. In section 4 I will show in detail that calling both the ignorance and the indifference reading "presupposition" cannot be justified. Next, I continue to discuss the ignorance reading of CBCs. In passing I introduce the "ignorance use" of Chinese *wh*-words.

### 3.3 Ignorance use of Chinese *wh*-words

Some uses of Chinese *wh*-words have not been documented in the literature. When a speaker has a person in mind but is unable to properly identify the name of that person, she may use *shei* 'who' to signal that:

(20) Ni xihuan DE neige shei, gancai dadianhua lai-le.<sup>9</sup>  
 you like DE that who minute ago call come-Perf  
 'Whoever you like phoned a minute ago.'

Compare (20) with (21) where the head of the relative clause is *ren* 'person' instead of the *wh*-word *shei* 'who':

(21) Ni xihuan DE neige ren, gancai dadianhua lai-le.  
 you like DE that person minute ago call come-Perf  
 'That man you like phoned a minute ago.'

A hearer, upon hearing (20), will automatically assume that the speaker wishes to supply more information about the identity of the person whom the addressee likes but is unable to do so.<sup>10</sup> The sentence in (21) is uttered without such intention. By no means will the hearer interpret (20) as a question asking who the person was that called. Likewise, in the example below, the use of *shei* 'who' is judged by native speakers as an indicator of speaker's inability to utter the person's name for whatever reason:

<sup>9</sup> Some native speakers prefer not to have *neige shei* 'that who' embedded inside a relative clause, but still consider (20) well-formed.

<sup>10</sup> The *wh*-phrase in (20) can have another meaning that signals that the speaker considers the person whom the addressee likes is unimportant. This use of *wh*-words will not be considered in this paper.

- (22) Yuna xiang gen neige shei shuohua, keshi shei you bu li ta.  
 Yuna want with that who talk but who then not bother her  
 'Whoever Yuna wanted to talk, he didn't want to pay attention to her.'

The ignorance use of *wh*-word *shei* 'who' is preceded by a determiner *neige* 'that' in (20) and in the first clause in (22). In the second clause in (22), there is no determiner that precedes *shei* 'who'. The use of *shei* 'who' in both examples in (20) and (22) do not turn the sentences into questions ( $\neq$  *shei dadianhua lai-le* 'who was it that just called'). Rather, they signal a speaker's ignorance/uncertainty as to the identity of the person under discussion. I will term this kind of use "ignorance use of *wh*-words." One should be reminded that there is no causal link between the two *wh*-conjuncts in (22). This is in sharp contrast with CBCs, since CBCs always require a causal relation to exist between two eventualities.<sup>11</sup> For the sake of clarity, let me emphasize that the "ignorance use" of *wh*-words does not require a causal relation to exist i.e., there is no need for the existence of a causal link between the liking of the person expressed by *shei* 'who' and the action of phoning in the example in (20).

#### 4. CBCs vs. *Whatever*

##### 4.1 A Default Counterfactual Modal Base in CBCs

In this section I argue that *wh*-words in bare conditionals always contribute an agent/subject's indifference presupposition which is also an entailment, while a speaker's ignorance reading is only an implicature. Consider (17) again repeated here in (23):

- (23) Zuotian shei zai xuanpiao shang, Dawei jiu tou gei-le shei/ta.  
 yesterday who is ballot on top David then vote to-Perf what/he  
 'Yesterday, David voted for whoever appeared on the ballot.'

The default reading in (23) is one that says *David voted indifferently*. A person's name being on the ballot is itself a sufficient condition for David to vote for him. If a different person had been on the ballot, he would have voted for him. The bare conditional in (23), as a matter of fact, entails that David voted indifferently as it cannot immediately precede an utterance which expresses David's strong preference for wanting to vote for a specific candidate:

- (24) #Shei zai xuanpiao shang Dawei jiu tou shei. Dawei xiang tuo Ma.  
 who is ballot top David then vote who David want voted Ma.  
 'He voted for whoever appeared on top of the ballot. David wanted to vote for Ma.'

<sup>11</sup> Lin (1996) also claims that two *wh*-clauses without a causal relation cannot form CBCs.

In (25) the indifference entailment that *David voted indifferently* survives in a number of constructions, e.g., when embedded inside an *if*-clause (25a), and in negation (25b):

- (25) a. Ruguo shei zai xuanpiao shang, Dawei jiu tou gei shei,  
 if who be ballot on David then vote to who  
 Ma you keneng luo xuan  
 Ma has possibility lose election  
 ‘If David voted for whoever appeared on the ballot, possibly Ma will lose.’  
 = If David voted indifferently for the person/people who appeared on the  
 ballot, Ma will possibly lose.
- b. Bushi shei zai xuanpiao shang, Dawei jiu tou gei shei, Ma jiu hui ying.  
 not who be ballot on David then vote to who, Ma then will win  
 ‘It is not the case that David voted for whoever appeared on the ballot, Ma  
 will win.’  
 = ‘It is not the case that David voted indifferently for the person/people who  
 appeared on the ballot, Ma will win.’

Evidently, the bare conditional in (23) not only entails but also presupposes that *David voted indifferently*. Given that two clauses that form a bare conditional must be in a causal relation (pace Lin 1996) and that causation is commonly associated with counterfactual reasoning (Lewis 1973b), I propose that bare conditionals receive a causal interpretation by default and are always given a counterfactual modal base.<sup>12</sup>

As for the ignorance reading of the bare conditional in (23), i.e., *the speaker does not know whom David voted for* turns out to be an implicature rather than a presupposition. The use of a bare conditional is felicitous regardless of whether or not the speaker knows the identity of the person whom David voted for:

- (26) Shei zai xuanpiao shang, Dawei jiu tuo gei shei. Ta tuo Ma.  
 who is ballot on David then vote to who he vote Ma  
 ‘David voted for whoever appeared on the ballot. He voted for Ma.’

It can be concluded that *wh*-words in a bare conditional do not presuppose a speaker’s ignorance. Given that the English translation of (26) containing *whoever* is also compatible with a situation where the identity of the person whom David voted for is known to the speaker, one may find it more adequate to consider calling the ignorance reading of CBCs and *whoever* “implicature,” rather than calling it “ignorance presupposition” as originally

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<sup>12</sup> Exactly what is it for two propositions to be in a causal relation is a complicated matter. See Dowty (1979) and Lewis (1973b), among others for the discussion of causation.



proposed in Von Stechow (2000). Interestingly even if the identity of *wh*-words is the topic under discussion, the indifference reading is still presupposed and the ignorance reading remains an implicature. The mini discourse in (27) shows just this:

(27) A: Dengyixia shei xian chi?  
 in a minute who first eat  
 ‘Who can eat first in a minute?’

B: Shei laile, shei/ta jiu xian chi. Jiushi David!  
 who come-completive who/he then first eat namely David  
 ‘Whoever came first, eat first. Namely, David!’

#### 4.2 Presuppositions in CBCs in Episodic Contexts with Future Reference

All the CBC examples discussed in this paper so far contain past tense/aspect. Treating *wh*-words/pronouns as definite expressions in CBCs with past episodic tense/aspect appears to be a sound strategy. Definite descriptions are known to limit the interpretation to a set of contextually specified individuals. Episodic contexts describing past events are able to supply just that. However, the existence and uniqueness presupposition traditionally associated with definite expressions may pose a problem for my claim that *wh*-words/pronouns denote definite descriptions in CBCs uttered in episodic contexts with future reference. For instance, *wh*-words/pronouns in a bare conditional with future tense fail to presuppose existence as shown in (28):

(28) Mingtian shei zai xuanpiao shang, Dawei jiu tou gei shei/ta.  
 tomorrow who is ballot top David then vote to what/he  
 ‘Tomorrow, David voted for whoever appeared on the ballot.’

It becomes obvious that the iota operator employed in Von Stechow’s analysis for *whatever* in (13) which presupposes the uniqueness and existence of an individual will be too strong to interpret *wh*-words/pronouns in CBCs and even English FRs *-ever*. To solve this problem, we may consider turning the iota operator into an existential operator and modify Von Stechow’s formula for the presupposition of *-ever* in (13) roughly as (29):

(29) *CBCs/whatever* (*w*) ( $F_{\text{counterfactual}}$ ) ( $P_{\text{Future}}$ ) ( $Q_{\text{future}}$ )  
 presupposes and entails:  
 $\exists!x.P(w)(x) \rightarrow \forall w' \in \min_w [F \cap (\lambda w'. \exists x. P(w')(x) \neq \exists x. P(w)(x))]:$   
 $Q(w)(\exists x. P(w)(x))$ <sup>13</sup>

<sup>13</sup> An exist operator was Professor Beaver’s idea but was not intended to use for this case.

In episodic contexts for a bare conditional bears future tense with a counterfactual modal base, (28) presupposes and entails that “if the person denoted by *wh*-words/*whoever* exists, then in all of the minimally different counterfactual worlds in which a different person appears on top of the ballot, David will vote for that person in the actual world.” Of course, let us not forget that if the context supplies an epistemic modal base, then we get an ignorance implicature.

Even though the interpretation of CBCs uttered in generic contexts are not discussed in this paper, one should be reminded that a CBC that bears future tense/aspect does not need to be used to describe a future episodic event, it may be used as a generic statement. Future research then, must capture presuppositions in CBCs uttered in generic contexts.

## 5. Conclusion

In this paper, I examine quantification, modal implication, and presupposition of CBCs drawing comparison with English free relatives with *-ever*. CBCs uttered in episodic contexts to describe actual events are compatible with non-future tense/aspect and permit consequent pronouns. I argue that *wh*-words/pronouns in these CBCs can be analyzed as definite descriptions denoting the unique maximal entity, singular or plural in the sense of Jacobson (1995) and Dayal (1997). I propose that *wh*-words in a bare conditional do not presuppose a speaker’s ignorance and claim that *wh*-words in bare conditionals always contribute to an agent’s/subject’s indifference presupposition which is also an entailment, while the speaker’s ignorance reading is only an implicature. The indifference presupposition always enters the truth conditional content as an entailment, while the presupposition of ignorance is a mere implicature.

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## Light Verb Construction as a Case of Remnant Movement

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In this paper, based on Chinese data, I propose that the so called light verb construction can be subsumed under the analysis of internal topicalization, following the analysis of remnant movement. First, I argue that a light verb does assign theta-roles. Second, I argue that all the particular syntactic behaviors observed in Grimshaw and Mester (1988) - the verbal noun cannot undergo topicalization, passivization or dislocation in a cleft construction - are in fact the consequence of violating the constraint on remnant movement. With this new proposal, we do not need a special mechanism of transferring theta-roles from the VN to the arguments at the sentence level for the light verb construction, as proposed by Grimshaw and Mester (1988) or Saito and Hoshi (2000).

### 1. Introduction

In this paper, I provide a new analysis of the so called ‘light verb construction’ (see Grimshaw and Mester (1988) and many others). A typical Japanese light verb construction is shown in (1).

- (1) Tony-wa Kate-to aiseki-o shita  
-TOP -with table-sharing-ACC did  
“Tony shared a table with Kate.”

According to Grimshaw and Mester (1988), the verb *shita* (the past tense of *suru*) in example (1) does not assign any theta-roles. Although *suru* is a main verb in (1), it does not have an argument structure but rather behaves like the auxiliary *do* in English. This claim is based on the following three observations regarding *suru*. First, *suru* imposes no restriction on the theta-role of its subject. Thus the subject can be Agentive or not. Second, the noun taken by *suru* can have any number of arguments and any type of argument structure. This means that the noun can be derived from intransitive, transitive or ditransitive verbs. Third, the verbal properties of *suru* are quite clear: it assigns accusative case and it is transitive. This can be seen from the accusative case-marker on the verbal noun (henceforth VN) in sentence (1).

If *suru* does not assign any theta-roles, then how can the arguments in (1) get their theta-roles? It has been proposed that it is the VN which is taken by the light verb as its complement that assigns theta-roles to the arguments in the sentence. For example, in

Grimshaw and Mester's terms, the VN must be a theta-transparent NP, i.e. one that takes outside arguments. Only the light verb *suru* takes a theta-transparent object. Other verbs take only theta-opaque objects, which allow only inside arguments.

The latter case can be seen in (2). Notice that *suru* can also act as a heavy verb. As such, it takes a verbal noun whose Agent argument is the only argument outside its VN projection as in (2).

- (2) Grissom-ga [Sara-e-no hanashi]-o shita.  
 -NOM -to-GEN talk-ACC did  
 "Grissom talked to Sara."

There are some special characteristics of the light verb construction. One of them, from Grimshaw and Mester (1988), is that at least one argument apart from the subject must be outside the VN. As one can see, this is exactly the property that distinguishes (1) from (2). Though in both sentences the subject is at the sentence level, only sentence (1) contains a non-subject argument outside the VN projection. Thus only sentence (1) fits into the criterion and qualifies as a light verb construction.

A light verb construction also shows some particular syntactic differences from its heavy counterpart. For example, in a true light verb construction, the VN cannot be topicalized, as pointed out by Grimshaw and Mester (1988).<sup>1</sup> Similarly, Saito and Hoshi (2000) also pointed out that the VN in a light verb construction cannot be dislocated in a cleft construction and it cannot be passivized, either. On the contrary, the VN in a heavy verb counterpart shows no problem with the operations mentioned above.

There are several analyses trying to solve the mysterious behaviors of the light verb construction, such as Argument Transfer by Grimshaw and Mester (1988), LF incorporation by Saito and Hoshi (2000) and LF category lowering by Aihara (2004), among many others. Overall, Grimshaw and Mester (1988) and Saito and Hoshi (2000) both propose that these syntactic differences in a light verb construction are due to some theta-role transferring mechanisms. This is because the arguments at the sentence level have to get theta-roles from the VN, since the light verb itself does not assign any of them. However, since nouns do not usually assign theta-roles, there has to be some ways for the light verb to get theta-roles from the VN and assign them to the arguments. Because of this kind of transmission of theta-roles, there is a tightly bound relationship between the VN and the light verb, which then results in the immobility of the VN.

In this paper, however, I will make the claim that there is no such a distinction between light or heavy verbs. I consider them all heavy. Hence, I resort to a different

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<sup>1</sup> They also point out that the VN cannot be relativized or modified by a numeral. We do not mention these two properties for the following reasons: For the former, relativization cannot be applied to Chinese since Chinese uses a different relativization strategy (see Aoun & Li 2003). For the later, this is not relevant to our discussion here.

proposal to deal with the special syntactic behaviors which have been observed in light verb constructions. Based on Chinese data, I provide a new analysis of the light verb construction following the idea of remnant movement. I expect this new finding to shed more light on the study of light verb constructions in general.

## 2. Chinese Data

In Mandarin Chinese, the light verb construction was first discussed in Zhu (1985). He pointed out that there are five verbs functioning as light verbs in Chinese, one of them being *jinxing* ('proceed'). It can take a transitive VN such as *diaocha* ('investigation') which takes two arguments: Agent and Theme. The VN is derived from its verbal counterpart, as shown in sentence (3).

- (3) CSI diaocha le zhege anzi.  
 CSI investigate ASP this case  
 'CSI investigated this case.'

Kuo and Ting (2007) have done some preliminary investigation of the light verb construction in Chinese. We show that in the following examples, only (4a) fulfills the requirement of a true light verb construction as stated in Grimshaw and Mester (1988), since only in (4a) can one find another argument (the Theme argument of the VN) apart from the subject appearing at the sentence level. In (4b), the Theme argument is inside the VN projection. As for (4c), there is simply no Theme argument at all.

- (4) a. CSI (dui) [NP zhege anzi] jinxing le [NP diaocha].  
 CSI to this case proceed ASP investigation  
 b. CSI jinxing le [NP zhege anzi de diaocha].  
 CSI make ASP this case GEN investigation  
 'CSI made an investigation of this case.'  
 c. CSI jinxing le [NP diaocha].  
 CSI make ASP investigation  
 'CSI made an investigation.'

If only sentence (4a) is a light verb construction, a prediction that we can make here is that the VN in (4a) cannot be topicalized, passivized or dislocated in a cleft construction, just like its Japanese counterpart. But these operations should be allowed in (4b) and (4c), since they are heavy verb constructions. This prediction is borne out, as shown from (5) to (7).

(5) VN topicalization

- a. \*?[\_NP Diaocha]<sub>i</sub>, CSI (dui) [\_NP zhege anzi] jinxing t<sub>i</sub> le .  
           investigation CSI to this case proceed ASP
- b. [\_NP Zhege anzi de diaocha]<sub>i</sub>, CSI jinxing t<sub>i</sub> le  
           this case GEN investigation CSI make ASP
- c. [\_NP Diaocha]<sub>i</sub>, CSI jinxing t<sub>i</sub> le .  
           investigation CSI make ASP

(6) VN passivization

- a. \*[\_NP Diaocha] bei CSI (dui) [\_NP zhege anzi]] jinxing le .  
           investigation by CSI to this case proceed ASP
- b. [\_NP Zhege anzi de diaocha] bei CSI jinxing le  
           this case GEN investigation by CSI make ASP
- c. [\_NP Diaocha] bei CSI jinxing le .  
           investigation by CSI make ASP

(7) VN in a cleft construction

- a. \*.Shi [\_NP diaocha] CSI (dui) [\_NP zhege anzi] jinxing le  
           is investigation CSI to this case proceed ASP  
           ‘It is the investigation that CSI has made of this case.’
- b. Shi [\_NP zhge anzi de diaocha], CSI jinxing le.  
           is this case DE investigation CSI proceed ASP  
           ‘It is the investigation of this case that CSI has made.’
- c. Shi [\_NP diaocha] CSI jinxing le  
           is investigatio CSI proceed ASP  
           ‘It is the investigation that CSI has made.’

Based on the parallel syntactic behaviors between Japanese and Chinese, we can conclude that Chinese example (4a) is a true light verb construction, which is not the case like in (4b) or (4c).

### 3. The Analysis

In the previous section, I have shown that like Japanese, Chinese also shows the distinction between light and heavy verbs. Though it should then follow that the previous analyses may apply to the above Chinese data, I would like to provide a new analysis which not only explains the above contrasts but also gives some new insights into the overall analyses of the light verb construction.

My proposal is as follows: I argue that the particular syntactic behavior of a light verb construction is not due to the light versus heavy verb difference (or some theta-role

transferring mechanism), but depends on whether there is at least one argument moving out of the projection of the VN.

### 3.1. Subjects

First, I show that the so called light verb does assign an Agent theta-role (and probably the Theme role as well). Whether the subject can be non-agentive is controversial in Japanese. For example, Grimshaw and Mester (1988) provide a sentence with a non-Agent subject and judge it grammatical, as shown in (8). On the other hand, non-Agent subject sentences are rejected in Saito and Hoshi (2000), as shown in (9).<sup>2</sup>

(8) Densha-wa Oosaka-ni TOOCHAKU-o shita.

Train-TOP Osaka-to arrival-ACC suru  
 ‘The train arrived in Osaka.’

(9) ?\*Ya-ga mato-ni [NP meityuu]-o sita.

Arrow-NOM target-to strike-ACC did  
 ‘The arrow struck the target.’

Recall that this light verb is considered to be ‘light’ because it does not assign any theta-roles. Interestingly, to the best of my knowledge, Chinese only shows a strong preference for an Agentive subject. No matter whether we are dealing with a light or heavy verb construction, the subject must be an Agent-like lexical item. This is shown in (10) and (11) respectively.

(10) a. Juandui pohuai le zhezuo guji

army destroy ASP this historic spot  
 ‘The army destroyed this historic spot.’

b. Suanyu pohuai le zhezuo guji

acid rain destroy ASP this historic spot  
 ‘The army destroyed this historic spot.’

(11) a. Juandui (dui) [NP zhezuo guji] jinxing le [VN pohuai]

army to this historic spot proceed ASP destruction  
 ‘The army made has made destruction of this historic spot.’

b. \*Suanyu (dui) [NP zhezuo guji] jinxing le [VN pohuai]

acid rain to this historic spot proceed ASP destruction  
 ‘The acid rain has made destruction of this historic spot.’

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<sup>2</sup> One may notice that there is a topic/subject marker difference in these two sentences. However, according to my informant, even if the order is switched (-wa becomes -ga in (8) and -ga becomes -wa in (9)), the result is the same.



Notice that in (10), the same verb *pohuai* ('destroy') can take both Agentive and non-Agentive subjects. However, when this verb becomes a verbal noun taken by the light verb *jinxing*, as in (11), only an Agentive subject is acceptable. I take this as evidence that the so called 'light' verb does assign a theta-role to the subject. Moreover, the theta-role in question is Agent. Thus only Agentive subjects are acceptable.

What we have observed in Chinese provides evidence that the so called light verb does assign theta-roles, at least for the subject. If the above conclusion is right, it first weakens the claim that a light verb does not assign any theta-roles. Under this view, a light verb is not 'light' anymore. In the theta-role assigning ability criterion, it behaves exactly in the same way as a heavy verb.

Furthermore, if a light verb assigns the external theta-role, it then follows that the 'light' verb now can assign accusative case to its VN (cf. the Japanese sentence in (1)), according to Burzio's generalization. This result is in fact welcome since in the literature, it has been a mystery how the VN gets case in a light verb construction. Previous analyses usually resort to explanations based on incorporation. For example, Grimshaw and Mester (1988) point out that the accusative case assigning ability is the only verbal property of the light verb. A light verb is in fact not equivalent to a verb unless it combines with a VN. Probably this is why it can be exempt from Burzio's generalization. On the other hand, Saito and Hoshi (2000) resort to a noun incorporation approach suggesting that the accusative case on the VN is licensed via its incorporation to the verb. Thus, the verb is not constrained by Burzio's generalization, either. Compared to these two explanations, my current proposal seems to provide a more natural connection to the generally accepted theta-role and case generalization.

### 3.2. Verbal Nouns

If the verb in a light verb construction is the same as the heavy verb, why do we observe different syntactic patterns in the two constructions? I propose that this answer lies on whether there is at least one argument moving out of the VN projection. This proposal is very similar to Grimshaw and Mester (1988)'s requirement of a light verb construction that I adopted above. Recall that in some analyses there must be at least one non-subject argument of the VN appearing at the sentence level. Also recall that for a heavy verb counterpart, there is no such requirement.

Under my proposal, the Theme argument in (4a) moves out from the VN projection. Once there is an argument moving out of the VN projection, it leaves a trace. When we move the VN which contains a trace (remnant movement), this movement has to obey the Proper Binding Condition, which requires that traces must be bound (cf. Lasnik and Saito (1992) and many others).

However, as pointed out by Müller (1996) and Saito (2003), in the case of remnant movement, the Proper Binding Condition has to be obeyed only when the phrase which undergoes remnant movement undergoes the same kind of movement as the one which leaves a trace in it. The generalization is given in (12).

- (12) A phrase containing a trace of movement cannot undergo movement of the same type (operator movement, scrambling, NP-movement). (Saito (2003): (54), p500)

Take German, for example. In (13a), the scrambling of the object, followed by the topicalization of the remnant VP, is grammatical. On the other hand, multiple scrambling in (13b) is illicit.

- (13) a.  $[_{VP} t_i \text{ Gelesen}]_j \text{ hat das Buch}_i \text{ keener } t_j$   
 read has the book no one  
 ‘No one has read the book.’
- b. \* $\text{da\ss } [_{VP} t_i \text{ gelesen}]_j \text{ das Buch}_i \text{ keener } t_j \text{ hat}$   
 that read has book no one has  
 ‘that no one has read the book’
- (Saito (2003): (52), p499)

I propose that this is exactly what happens with the ‘light’ verb construction. Recall that in a so called true light verb construction, the VN cannot undergo topicalization, passivization or dislocation in a cleft construction. A shared property of these three operations is that they are all cases of operator movement. The long passivization, like (7), in Chinese has been argued to involve operator movement, as in Ting (1998). The example is illustrated below.

- (14)  $[\text{Zhangsan}_i \text{ } [_{VP} \text{ bei } [_{XP} \text{ OP}_i \text{ Lisi } \text{ piping } t_i ]]]$   
 Zhangsan BEI Lisi criticize  
 ‘Zhangsan was criticized by Lisi.’

One inference that we can make is that if the movement of the Theme out of the VN projection is also some kind of operator movement, it follows that the VN cannot undergo further operator movement.

There is evidence showing that this seems to be the case in the light verb construction. In Chinese, the movement of an object from a postverbal position to a preverbal position (between the subject and the verb) has been argued to be an operation of internal topicalization, as in Ting (1995) and Paul (2002). One of the examples is shown in (15).

- (15) a. CSI diaocha le zhege anzi. (= (3))  
 CSI investigate ASP this case  
 ‘CSI investigated this case.’

- b. CSI (dui) zhege anzi diaocha le  
 CSI to this case investigate ASP

Thus in sentence (4a), the Theme Argument at the sentence level can be viewed as being topicalized from the VN projection. Assuming that this internal topicalization is also some kind of operator movement, we then expect that the VN cannot undergo other operator movements.<sup>3</sup> This prediction is borne out in the previous discussion.

As for the heavy verb counterparts like (4b) or (4c), there is no trace left in the VN since there is no movement happening at the very beginning. The VN can then undergo operator movement without causing any violation.

#### 4. Further Support from Japanese

Before closing, I would also like to present some supporting evidence from Japanese. A Japanese light verb construction is presented in (16). This sentence is slightly degraded because of the double-o constraint.

- (16) ??Honda-ga akoodo-o seisan-o siteire  
 -NOM Accord-ACC production-ACC do-ing  
 ‘Honda is producing Accords.’

If one tried to scramble the VN to the sentence initial position, the sentence becomes ungrammatical, as shown in (17). Under my approach, this ungrammaticality results from the violation of the Proper Binding Condition. The trace of the Theme argument in the VN cannot be properly bound since the binder is in a lower position than the trace.

- (17) \*Seisan-o<sub>i</sub> Honda-ga akoodo-o t<sub>i</sub> siteiru  
 production-ACC -NOM Accord-ACC do-ing

On the other hand, if the Theme argument is also scrambled to a position higher than scrambled VN, now the sentence is improved. The contrast is shown in (18).

- (18) ?\*Akkodo-o<sub>j</sub> seisan-o<sub>i</sub> Honda-ga t<sub>j</sub> t<sub>i</sub> siteiru  
 Accord-ACC production-ACC -NOM do-ing

This improvement also follows the Proper Binding Condition since the Theme argument can bind its trace in the VN in (18) now.

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<sup>3</sup> Though the movement here is topicalization, there is much evidence showing that this internal topicalization is A-movement, rather than A'-movement.

## 5. Conclusions

With a preliminary investigation of Chinese data, I propose a new analysis to deal with the light verb construction: there is no distinction on the verb itself. The only difference causing different syntactic behaviors depends on the status of the VN, i.e. whether there is movement out of it or not. As a case of remnant movement, the unique syntactic patterns of a 'light' verb construction then follow.

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## **Yes/no Question Particles Revisited: The Grammatical Functions of *mo4*, *me1*, and *maa3***

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This study reexamines the syntactic, semantic, and pragmatic roles of question particles in Cantonese. Whereas question particles have been studied extensively in terms of their pragmatics, the syntactic and semantic characterization deserves further investigation. A comparison is made between a previously unnoticed Cantonese question particle *mo4* and its counterparts *me1* and *maa3*. The particle *mo4* carries a linguistic implicature similar to that in *me1*.

It is found that Cantonese question particles in yes/no interrogatives interact with aspect and negation markers in interesting ways. While the neutral yes/no question particle *maa3* does not co-occur with these markers, *mo4* and other question particles do not show this restriction.

Adopting Rizzi's (1997, 2004) Split-CP Hypothesis, it is argued that question particles should be treated as the head of ForceP. The sentence final nature of such particles is derived by phrasal movement as a result of the clitic nature of sentence final particles and a formal feature in Force<sup>0</sup> and Mod<sup>0</sup>. This study sheds light on our understanding of the complex and sometimes subtle differences among question particles attested in Spoken Cantonese.

### **1. Introduction**

From the typological point of view, English and Cantonese (as well as other varieties of Chinese) differ significantly in the way in which a question is formed. Syntactically speaking, a regular yes/no question in English involves placing an auxiliary or a dummy *do* at the beginning of the question so that these grammatical items precede the subject in syntax. In open interrogatives (or the so-called wh-questions), the wh-expression has to undergo syntactic movement to the sentence-initial position, in addition to the operation of subject-auxiliary inversion, as shown in (1):

- (1) a. Can/Will/Did you tell Mary the news?  
b. What can/will/did you tell Mary?

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Chinese does not have subject-auxiliary inversion. Interrogative expressions stay in the position where they are interpreted, hence the so-called Wh-in-situ phenomenon. Despite this, Chinese employs clause-final particles (also called sentence-final particles) in questions. These particles have the function of clause-typing an utterance in the sense of Cheng (1991) in such a way that this utterance is interpreted as interrogative. Some languages with question particles only have one or two forms, e.g. *ka* in Japanese. Chinese, on the other hand, has various question particles at its disposal.

In this paper, I will discuss question particles in Cantonese, particularly *mo4*, *me1* and *maa3*, focusing on their pragmatic, semantic, and syntactic commonalities and differences. I will show that *mo4* is a pragmatically non-neutral yes/no question particle that carries special implicature opposite to the proposition or truth condition of the sentence. In addition, I will demonstrate that *mo4* behaves similarly to *me1* in allowing the co-occurrence of aspect markers and negation markers, contrasting significantly with *maa3*. Furthermore, the syntactic characteristics of these question particles will be discussed. Finally, a proposal of their representation in syntactic structure will be presented.

## 2. Question Formation with Particles

A speaker typically asks a yes/no question when (s)he seeks a positive or a negative answer to the question. A careful study of yes/no questions in Cantonese (and other Chinese varieties) reveals that these questions are not formed in one way only. Rather, a yes/no question in Cantonese can take more than one form.<sup>2</sup> First, a question particle (*maa3*, *me1* or *aa4*)<sup>3</sup> can be added at the end of a declarative sentence and the resulting clause is a yes/no question.

- (2) Lei5 yam2 gaa3fe1 maa3? (particle yes/no question)  
 you drink coffee Q-PRT<sup>4</sup>  
 ‘Do you drink coffee?’

Second, instead of using a question particle like *maa3*, a yes/no question can be formed by placing a negation marker at the end of clause. The resulting question is what Cheng, et. al. (1996) call a negative particle question (i.e. NPQ), illustrated in (3a). The third kind of yes/no question is formed by reduplicating the head of the predicate (formed by a verb phrase or adjective phrase), or the first syllable of this head, coupled with the addition of the negation marker *m4*, yielding a so-called A-not-A question, as in (3b):

<sup>2</sup> Cheng et al. (1996) consider the so-called disjunctive *haishi* questions, *ma*-questions A-not-A questions, VP-VP questions, and tag-questions as subtypes of yes/no questions in Mandarin.

<sup>3</sup> In this paper, romanization of Cantonese follows the convention of the Linguistic Society of Hong Kong. See Matthews & Yip (1994) for different systems of romanization.

<sup>4</sup> The abbreviations used in the glosses include: CL (classifier), Q (Question), PRT (Particle), EXP (Experiential aspect marker), PERF (Perfective aspect marker), and PROG (Progressive aspect marker).

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- (3) a. Lei5 yam2-zo2 gaa3fe1 mei6? (NPQ)  
 you drink PERF coffee not-yet  
 ‘Have you drunk/had coffee?’
- b. Lei5 yam2-m4-yam2 gaa3fe1? (A-not-A question)  
 you drink-not-drink coffee  
 ‘Do you drink coffee (or not)?’

We may borrow a general term “closed interrogative” from Huddleston and Pullum (2002) to refer to these three kinds of questions. As far as question particles are concerned, only the first group (i.e. particle yes/no questions) allows the use of *maa3* or *me1*. These two particles cannot be used in A-not-A questions or NPQs. This contrast is illustrated below:

- (4) a. Lei5 yam2 gaa3fe1 maa3/me1? (particle yes/no question)  
 you drink coffee Q-PRT  
 ‘Do you drink coffee?’
- b. \*Lei5 yam2-zo2 gaa3fe1 **mei6** maa3/me1? (NPQ)  
 you drink PERF coffee not-yet Q-PRT  
 ‘Have you drunk/had coffee?’
- c. \*Lei5 **yam2-m4-yam2** gaa3fe1 maa3/me1? (A-not-A question)  
 you drink-not-drink coffee Q-PRT  
 ‘Do you drink coffee?’

The particles that are attested in NPQs and A-not-A questions, as well as in wh-questions are *ne1* and *aa3*.

- (5) a. Lei5 yam2-zo2 gaa3fe1 mei6 **ne1/aa3?** (NPQ)  
 you drink PERF coffee not-yet Q-PRT  
 ‘Have you drunk/had coffee?’
- b. Lei5 yam2-m4-yam2 gaa3fe1 **ne1/aa3?** (A-not-A question)  
 you drink-not-drink coffee Q-PRT  
 ‘Do you drink coffee?’
- c. Si1 Hou6 sik6-zo2 mat1je5 **ne1/aa3?** (Wh-question)  
 Si Hou eat PERF what Q-PRT  
 ‘What has Si Hou eaten?’

It should be noted that in (4a), the sentence would be interpreted as declarative, rather than interrogative, in the absence the question particle (unless a rising intonation is used).

Q-particles in yes/no questions like *maa3*, *me1*, *ne1* and *aa3* are noted in the literature (e.g. Yuan 1960, Kwok 1984, Law 1990, Leung 1992, Matthews and Yip 1994,



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Huang 1996, Kuong 2002). In the Cantonese variety spoken in Macau and some neighborhoods near Zhongshan, there is yet another particle that can be used in questions such as (2) and (4a). This is shown in the following example:

- (6) Si1 Hou6 zungji sik6 min6 **mo4**?  
 Si Hou like eat noodles Q-PRT  
 ‘Si Hou likes eating noodles? (I thought he doesn’t.)’

Although rarely attested in Hong Kong Cantonese, the particle *mo4* is fairly common in Macau Cantonese, especially among older speakers. The following is an excerpt from a dialogue between a seventy-year-old housewife (A) and a grocer (B):

- (7) A: Waa3, di1 mai5 gwai3-zo2 hou2 do1 wo3  
 Wow, CL rice expensive-ASP very much PRT  
 ‘Wow, the rice has become so expensive!’  
 B: Gam2 lei5 maai5-m4-maai5 aa1?  
 Then you buy-not-buy PRT  
 ‘Well, are you (still) buying [it]?’  
 A: m4 sik6 **mo4**?  
 Not eat Q-PRT  
 ‘As if we don’t eat [rice] anymore!’

Another example of *mo4* (taken from a radio phone-in program in Macau) is presented below:

- (8) m4tung1 co5 hai2dou6 dang2 sau1 gung1 **mo4**?  
 as-if sit here wait get-off work Q-PRT  
 ‘(As if) we just sit here and wait to get off work?’

This is an instance of a rhetorical question. According to Matthews and Yip (1994: 336), *m4tung1* in such contexts expresses skepticism and sarcasm.

One general property of question particles is that only one such particle may be used in a given question, thus disallowing combinations with another question particle. This generalization applies to *mo4*.

- (9) a. \*Keoi5 lei4 me1 mo4 / mo4 me1?  
 he come Q-PRT Q-PRT/ Q-PRT Q-PRT  
 ‘He is coming?’

- b. \* Keoi5 lei4 maa3 me1 / me1 maa3?  
 he come Q-PRT Q-PRT / Q-PRT Q-PRT  
 ‘He is coming?’
- c. \* Keoi5 lei4 maa3 mo4 / mo4 maa3?  
 he come Q-PRT Q-PRT / Q-PRT Q-PRT  
 ‘He is coming?’

Kuong (1999) refers to this property of question particles as individuality. Although clause-final particles can be used in combination (see, for instance, Kwok 1984, Law 1990, Matthews and Yip 1994, Tang 1998), question particles are special in that they are mutually exclusive. The above examples show that multiple question particles within one interrogative sentence are not permitted in Cantonese.

### 3. Pragmatic Functions of *mo4* and *me1*

After establishing the question particle status of *mo4*, I now move on to discuss the pragmatic functions of this particle and its comparison with *maa3*. As mentioned in the previous section, in the presence of the Q-particle *maa3*, a declarative sentence becomes a yes/no question. Questions formed with *maa3* are neutral in the speaker’s commitment to the truth condition of the sentence. The speaker simply requests information about whether a statement is true or not. On the other hand, the yes/no question formed with *mo4* (or *me1*) is not neutral in the speaker’s belief system. As far as their pragmatics is concerned, the speaker implies that (s)he is surprised or holds a belief that is opposite to the denotation of the sentence. Take the following yes/no questions for instance.

- (10) a. Si1 Hou6 lei4 mo4/me1?  
 Si Hou come Q-PRT  
 ‘Si Hou is coming? (I thought he’s not)’
- b. Si1 Hou6 **m4** lei4 mo4/me1?  
 Si Hou not come Q-PRT  
 ‘Si Hou is not coming? (I thought he is.)’

Matthews and Yip (1994), and Kuong (2002) show that the Q-particle *me1* carries an implicature that is contrary to the proposition of the sentence. The speaker in (10a) asks whether Si Hou is coming or not. But this yes/no-question is not neutral in meaning. What the speaker expresses is his disbelief that Si Hou is coming. In other words, by saying (10a), the speaker is implicating that (s)he did not expect Si Hou to be coming.

Likewise, in (10b) the implicature contributed by the use of the Q-particle is also contrary to the proposition that Si Hou is not coming. The speaker is surprised that Si Hou is (probably) not coming even though he was thinking just the opposite.

Linguistic implicature can be cancelled or modified, especially when the speaker tries to make an additional comment to correct or reevaluate his or her assumption. This can be seen in the following sentences with the speaker's afterthought.

- (11) Si1 Hou6 lei4 mo4? Keoi5 lei4 zik1 hai6 waa3 yat1 ding6 zou6 saai3 gung1 fo3  
 Si Hou come Q-PRT he come that-means definitely do all homework  
 '(What?) Si Hou is coming? His coming means that he definitely has finished  
 his homework.'

In this example, the speaker's question with *mo4* has the implicature that he was thinking that Si Hou would not come. The speaker adjusts this belief by saying that Si Hou's coming surely means that the latter person had already finished doing the homework, thus refuting or correcting the implicature that Si Hou is not coming.

One may ask in what ways *mo4* and *me1* differ, as opposed to *maa3*. The answers are not clear cut, but seem to lie in two aspects. First, in terms of attitudinal intensity, *me1* seems stronger in the speaker's tone of voice than *mo4*. According to Yuan (1960: 230), *me1* is used to express the speaker's surprise, or when the question is a rhetorical one. Matthews and Yip (1994), and Huang (1996) share this view. Huang (1996) further mentions that *me1* can be used to express the speaker's disagreement with a proposition. My observation is that *mo4* is similar to *me1* in its ability to express surprise and disagreement, hence opposite implicature. However, when they are used in rhetorical questions, *mo4* is less intense in the speaker's attitude than *me1*. In other words, *mo4* is lighter or less accusatory in the speaker's tone of voice. Consider the following examples:

- (12) Keoi5 hou2 lek1 me1? Ngo5 gau3 dak1 lok3.  
 s/he very clever Q-PRT I also able PRT  
 'As if he was so clever! I can also do that.'

(adapted from Matthews and Yip, p.348)

- (13) Keoi5 hou2 lek1 mo4? Ngo5 gau3 dak1 lok3.  
 s/he very clever Q-PRT I also able PRT  
 'As if he was so clever! I can also do that.'

The speaker's attitude in (12) is more dissatisfactory than in (13) even though the difference is somewhat subtle.

Another difference between *mo4* and *me1* seems to be correlated with the age of the speaker. Younger speakers tend to use *me1* much more often than *mo4*. For instance, in a radio talk show between two twenty-some-year-old hosts that airs on weekday afternoons in Macau, the use of *me1* was found, whereas *mo4* was not observed.

To summarize the discussion so far, *mo4* and *me1* are not neutral in meaning, whereas *maa3* shows neutrality in the speaker's attitude. The former two question particles carry opposite implicature. In the next section, I will discuss how the question

particles outlined so far interact with some semantic categories, namely aspect markers and negation markers.

#### 4.1. Syntax-Semantics Interaction

Cantonese question particles interact with aspect markers and negation markers in very interesting ways. Some particles can co-occur with these semantically oriented markers, others cannot. Kuong (2002) points out that while the neutral yes-no question particle *maa3* does not co-occur with aspect markers (contrasting with its Mandarin cognate *ma*), *me1* and *aa4* in Cantonese do.<sup>5</sup>

##### Aspect markers

- (14) a. \*Si1 Hou6 heoi3-zo2/-guo3/-gan2 hok6haau6 **maa3**?  
 Si Hou go PERF/EXP/PROG school Q-PRT  
 ‘Has Si Hou gone to school?/Is Si Hou going to school?’
- b. Si1 Hou6 heoi3-zo2/-guo3/-gan2 hok6haau6 **me1**?  
 Si Hou go PERF/EXP/PROG school Q-PRT  
 ‘Si Hou has gone to school?/Si Hou is going to school?’

The particle *mo4* behaves like *me1* in this respect. In other words, aspect markers are also possible in questions with *mo4*.

- (15) Si1 Hou6 heoi3-zo2/-guo3/-gan2 hok6haau6 **mo4**?  
 Si Hou go PERF/EXP/PROG school Q-PRT  
 ‘(What?) Si Hou has gone to school?/Si Hou is going to school?’

In addition to aspect markers, *maa3* also differs from *mo4* and *me1* in its co-occurrence with a negation marker. It is found that *maa3* does not appear in yes-no questions that contain a preverbal negation marker, whether it be the default *m4* ‘not’ or the aspectual *mei6* ‘not yet’ or *mou5* ‘have not’ in spoken Cantonese, as in (16a):

##### Preverbal negation

- (16) a. \*Keoi5 **m4**-heoi3/**mei6**-heoi3/**mou5**-heoi3 hok6haau6 **maa3**?  
 he not go /not-yet go /have-not go school Q-PRT  
 ‘Isn’t he going to school?/Hasn’t he gone to school?’
- b. Keoi5 **m4**-heoi3/**mei6**-heoi3/**mou5**-heoi3 hok6haau6 **mo4/me1**?  
 he not go /not-yet go /have-not go school Q-PRT/Q-PRT  
 ‘(What?) He is not going to school?/He has not gone to school?’

<sup>5</sup> Though *aa4* is not the focus of research in this study, its distribution, meaning, and functions in Cantonese seem to be similar to those of *mo4*. A quantitative study may be required to determine the extent of their similarity. I leave this for further research.

The contrast in (16) shows that unlike the pragmatically neutral *maa3*, the non-neutral particles *mo4* and *me1* can indeed co-occur with a preverbal negation marker.

A note should be emphasized here in relation to negative particle questions. By definition, an NPQ must have a negation marker, i.e. the one that occurs postverbally towards the end of the question. Similar to *maa3* and *me1*, *mo4* is also disallowed in an NPQ.

- (17) a. \* Si1 Hou6 lei4-zo2      **mei6**      **maa3/me1?**  
          Si Hou come PERF not-yet Q-PRT/Q-PRT  
          ‘Has Si Hou come already?’
- b. \* Si1 Hou6 lei4-zo2      **mei6**      **mo4?**  
          Si Hou come PERF not-yet Q-PRT  
          ‘Has Si Hou come already?’

The restriction against the presence of *me1* and *mo4* in NPQs is not purely semantic, since preverbal negation markers are attested in yes/no questions with *me1* and *mo4*. The explanation seems to be a syntactic one.<sup>6</sup>

A related restriction is found in A-not-A questions, as reported earlier. This is shown in the following example:

- (18) \*Lei5 yam2-m4-yam2 gaa3fe1 **maa3/me1/mo4?**      (A-not-A question)  
          you drink-not-drink coffee Q-PRT/Q-PRT/Q-PRT  
          ‘Do you drink coffee (or not)?’

The example shows that yes/no question particles, namely *maa3*, *me1* and *mo4*, are incompatible with A-not-A questions.

To summarize, *mo4* and *me1* have a similar distribution when it comes to the interaction with aspect and negation markers, differing from *maa3*. On the other hand, *mo4*, *me1* and *maa3* behave similarly when the negation marker occurs in the postverbal or A-not-A context.

#### 4.2. Matrix Restriction in Syntax

As far as the syntax is concerned, this study finds that Cantonese question particles are restricted to direct questions, meaning that such particles only occur in main clauses, but not in embedded contexts. This generalization is likely to be related to the fact that embedded yes-no questions typically take the form of A-not-A questions or what Cheng et al. (1996) call Negative Particle Questions. Compare (19a-b) and (19c):

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<sup>6</sup> Cheng et al. (1996) analyze *mei6* in Cantonese NPQs as a Q-particle, thus occupying a syntactic position that would otherwise be filled by any other Q-particle.

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- (19) a. Keoi5dei6 m4 zi1 [ba4ba1 lei4-m4-lei4] (embedded A-not-A)  
 they not know dad come-not-come  
 ‘They don’t know if Dad is coming.’
- b. Keoi5dei6 m4 zi1 [ba4ba1 lei4-zo2 mei6] (embedded NPQ)  
 they not know dad come ASP not-yet  
 ‘They don’t know if Dad has come (or not).’
- c. \*Keoi5dei6 m4 zi1 [ba4ba1 wui5 lei4 mo4/maa3] (embedded PRT YNQ)  
 they not know dad will come Q-PRT  
 ‘They don’t know if Dad will come.’

Note that (19c) per se is not an ungrammatical sentence. This sentence is grammatical only if the question particle is construed as occurring in the matrix context, hence a matrix interrogative sentence meaning “don’t they know that Dad will come?” However, (19c) is unacceptable if the question particle *mo4* or *maa3* is interpreted as occurring in the embedded question. This latter interpretation (i.e. an indirect question) can only be expressed using an A-not-A structure like the one in (19a).

Three diagnostic tests can be run to ascertain the matrix restriction of yes/no question particles (or question particles in general). The first test is to use a combination of a matrix A-not-A question and an embedded particle yes/no question. Since an A-not-A question can only co-occur with the particle *ne1* or *aa3*, the particle *mo4* or *maa3* in this context cannot be construed as belonging to the matrix A-not-A question. Consider (20):

- (20) \*Keoi5dei6 zi1-m4-zi1 [ba4ba1 wui5 lei4 mo4/maa3]?  
 they know-not-know dad will come Q-PRT  
 ‘Do they know if Dad will come?’

If *mo4* or *maa3* can be used in the embedded context, a sentence like (20) should be well-formed; but it is not.

The second test that can be adopted to determine whether *mo4* and *maa3* can occur in the embedded context is fronting. An embedded question in Cantonese, as well as in many languages, can be fronted or topicalized to the sentence-initial position, as shown in the pair of examples below:

- (21) a. Keoi5dei6 m4 zi1 [ba4ba1 wui5-m4-wui5 lei4]  
 they not know dad will-not-will come  
 ‘They don’t know if Dad will come.’
- b. [**Ba4ba1 wui5-m4-wui5 lei4**] keoi5dei6 m4 zi1  
 dad will-not-will come they not know  
 ‘Whether Dad will come or not, they don’t know.’

Going back to (19c), if the particle *mo4* or *maa3* present in this sentence could be interpreted as belonging to the embedded question, the fronted counterpart in (22) should be grammatical. However, this is not the case.

- (22) \***[Ba4ba1 wui5 lei4 mo4/maa3]** keoi5dei6 m4 zi1 (cf. 19c)  
 dad will come Q-PRT they not know  
 ‘Whether Dad will come or not, they don’t know.’

The only well-formed alternative is the following, in which *mo4* is construed as belonging to the matrix question.

- (23) [Ba4ba1 wui5 lei4] keoi5dei6 m4 zi1 mo4?  
 dad will come they not know Q-PRT  
 ‘Don’t they know that Dad will come?’

This test again confirms the hypothesis that yes/no-question particles are confined to matrix contexts.

The third diagnostic is the so-called sentential subject. Indirect questions are possible within sentential subjects. This can be seen in the following example from English:

- (24) Whether Dad will come is not important.

In Cantonese, an A-not-A question or an NPQ is permitted in a sentential subject, as illustrated below:

- (25) a. [Si1 Hou6 wui5-m4-wui5 lei4] m4 gan2jiu3  
 Si Hou will-not-will come not important  
 ‘Whether Si Hou will come or not is not important.’  
 b. [Si1 Hou6 lei4 zo2 mei6] m4 gan2jiu3  
 Si Hou come PERP not-yet not important  
 ‘Whether Si Hou has already come or not is not important.’

In contrast to A-not-A questions and NPQs, a yes/no-question with *mo4* or *me1* in a sentential subject appears to be unacceptable.

- (26) \***[Si1 Hou6 wui5 lei4 mo4/me1/maa3]** m4 gan2jiu3  
 Si Hou will come Q-PRT not important  
 ‘Whether Si Hou will come or not is not important.’

The ungrammaticality suggests that the particles *mo4*, *me1*, and *maa3* are exclusive to the matrix context, disallowing the interpretation where the yes/no question is an indirect interrogative.<sup>7</sup>

So far we have seen that syntactically speaking, *mo4*, *me1*, and *maa3* only occur in matrix yes/no-questions, but not in the embedded context. Next, let me discuss the possibility of the presence of a topic expression in yes/no-questions with clause-final particles, particularly in view of the fact that Cantonese, like other Chinese varieties, is topic-prominent in the sense of Li and Thompson (1976).

#### 4.3. Interaction with sentence topics

It is a very common property of Chinese that a topic expression occurs in a sentence, whether the sentence is interrogative or declarative. The following are two examples of the co-occurrence of a sentential topic and the question particle *mo4*.

- (27) a.    Go1 bun2 syu1 (aa3), lei5 mei6 tai2 mo4?  
           that CL book PRT, you not-yet read Q-PRT  
           ‘That book, you haven’t read [it] yet?’
- b.    Go1 zeong1 solfa2 (aa3), lei5 maai5-zo2 lo3 mo4?  
           that CL sofa PRT you buy PERF PRT Q-PRT  
           ‘That sofa, you have already bought [it]?’

Note that the topic expression, namely *that book* and *that sofa*, can be immediately followed by the pause particle *aa3*, which is sometimes referred to as a topic particle, as in Matthews and Yip (1994). It is possible for (27b) to end with the question particle *me1* even though the phonetics of the second last particle may be slightly different, as exemplified below:

- (28) Go1 zeong1 solfa2 (aa3), lei5 maai5-zo2 la3 me1?  
       That CL sofa PRT you buy PERF PRT Q-PRT  
       ‘That sofa, you have already bought [it]?’

Such a difference in phonetics between the particle *la3* and *lo3* is not unusual. Given that these two particles have the same tone and share the same meaning, we may assume that *lo3* in the *lo3 mo4* sequence is the result of vowel harmony. What is important to note in this section is that topicalization is possible in yes/no questions involving question particles.

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<sup>7</sup> It should be noted that (26) could be a sequence of two grammatical sentences if *mo4* or *me1* is the question particle terminating the interrogative and *m4 gan2jiu3* ‘not important’ is interpreted as the second sentence with a null subject. In this case, the Q-particle would be followed by a longer pause.



### 5. Syntactic Structure of Question Particles

Having specified the major syntactic properties of yes/no question particles in Cantonese, I will discuss the syntactic representation of such particles in this section. As far as syntactic structure is concerned, the current generative approach to grammar assumes the presence of a functional category, namely CP, which is higher than TP (or IP) (see, for instance, Chomsky 1986). In English, subject-auxiliary inversion is derived by moving the element in T to the C head. This is referred to as T-to-C movement. The element that undergoes this kind of movement is an auxiliary (e.g. *have/has, is/are*), a modal (e.g. *can, could, will, or should*), or the dummy *do* (and its variants). In matrix wh-questions in English, the wh-expression (including *how*) moves to the specifier of CP, hence Wh-movement.

More recently, drawing on empirical data from Italian and English, Rizzi (1997) proposes that CP can, in fact, be split into several functional categories, particularly in the presence of a sentential topic and/or a syntactically focused element. This claim is often referred to as the Split-CP Hypothesis. The following sequence shows the functional categories proposed by Rizzi:

(29) ForceP Top(ic)P Foc(us)P Top(ic)P FinP IP ...

The above sequence is an oversimplified version of Rizzi's Split-CP. In his proposal, each of these categories has a specifier and a head. In addition, ForceP dominates TopP, which in turn dominates FocP. The Split-CP structure has been revised by various researchers, including Rizzi (2004).

As far as Cantonese is concerned, A. Law (2002) suggests that ForceP is present in the clause structure. More specifically, she claims that ForceP is also the highest function projection just like Italian. Since question particles have the illocutionary force of an interrogative, she proposes analyzing question particles as heading ForceP. In other words, question particles are in Force<sup>0</sup> in syntax. This is compatible with earlier analyses of question particles as C<sup>0</sup> (e.g. Cheng 1991, Cheng et al. 1996, Tang 1998, Cheng & Rooryck 2000). Since topicalization is indeed possible in an interrogative sentence, whether it be a yes/no question or a wh-question, incorporating TopP in the clause structure has its advantage. Therefore, I will adopt the hypothesis that question particles are elements in Force<sup>0</sup>.

In the literature on sentence-final or clause-final particles, two groups of particles are generally identified (see, for instance, Leung 1992, Matthews and Yip 1994, Tang 1998 and 2000, A. Law 2002). According to Tang (1998), the particle that occurs at the very end of the sentence (e.g. a question particle) is considered an "outer particle," whereas the one that precedes this final particle is referred as an "inner particle" since the inner particle is closer to the other lexical items in the sentence. Sometimes, the inner particles are referred at Class I particles, while the outer particles belong to Class II (see Leung 1992 and Tang 2000, 2002). Consider the following examples:

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- (30) Zingwaa lok-gwo jyu **lei4 me1?** (Tang 2000, ex.12)  
 Just-now fall-EXP rain PAST Q-PRT  
 ‘Did it rain a moment ago?’
- (31) Keoi5 maai5 lau2 **laa3 me1?** (Tang 2002, ex. 6)  
 He buy flat PRT Q-PRT  
 ‘He bought a flat already?’

According to Tang (2002), reversing the ordering between the inner particle and the outer particle would result in ungrammaticality, as shown below:

- (32) \*Keoi5 maai5 lau2 **me1 laa3?** (Tang 2002, ex. 7)  
 He buy flat Q-PRT PRT  
 ‘He bought a flat already?’

Leung (1992) and Tang (1998, 2002) seem to be right in classifying clause-final particles into inner and outer particles. The co-occurrence between an inner and an outer particle indeed follows strict ordering constraints such that the inner particle must precede the outer particle. In this respect, the question particle *mo4* behaves similarly to *me1*.

- (33) Lei5 so4 ge3 mo4/me1?  
 you dumb PRT Q-PRT/Q-PRT  
 ‘Are you dumb (or what)?’
- (34) a. Keoi5 zou6 saai3 gung1fo3 lo3 mo4?  
 He do all homework PRT Q-PRT  
 ‘He has finished the homework?’
- b. Keoi5 zou6 saai3 gung1fo3 la3 me1 ?  
 He do all homework PRT Q-PRT  
 ‘He has finished the homework?’

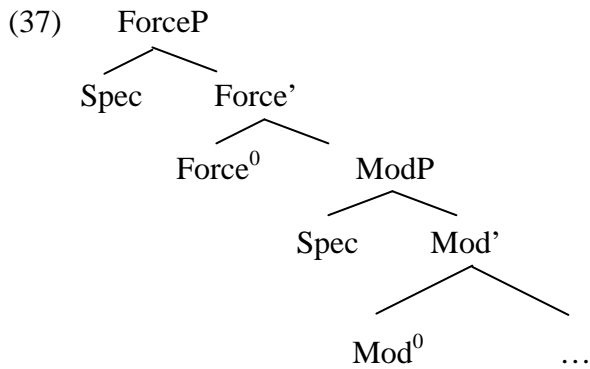
In these examples, the inner particles are *ge3*, *lo3*, and *la3*, respectively. Any reverse ordering would result in ungrammaticality as observed in Tang (2000, 2002). This is illustrated below:

- (35) \*Lei5 so4 **me1/mo4 ge3?**  
 you dumb Q-PRT/Q-PRT PRT  
 ‘Are you dumb (or what)?’
- (36) a. \* Keoi5 zou6 saai3 gung1fo3 **mo4 lo3**  
 He do all homework Q-PRT PRT  
 ‘He has finished the homework?’

- b. \* Keoi5 zou6 saai3 gung1fo3 **me1 la3**  
 He do all homework Q-PRT PRT  
 ‘He has finished the homework?’

According to Matthews and Yip’s (1994) grouping, the inner particles can be further divided into adverbial (e.g. *sin1*), assertive (e.g. *ge3*), and evaluative or modificational (e.g. *ze1*, *la3*, and *lo3*). The outer particles, on the other hand, are associated with a question or an exclamative sentence.

Adopting the insights from the works of Leung, Tang, and Matthews and Yip, we can assume that *mo4*, *me1* and *maa3* are syntactic markers of sentential force, which head ForceP mentioned earlier, similar to Cheng’s (1991) claim regarding the question particle *ma* and *ne* in Mandarin.<sup>8</sup> In addition, in the spirit of the analysis of Leung (1992) and Tang (2000, 2002), I propose that the inner clause-final particle occupies a functional head that is lower than Force<sup>0</sup>. More specifically, I assume that this head is what Rizzi (2004) calls Mod<sup>0</sup> (which corresponds roughly to mood and modality). The tree diagram looks like the following structure:



Now let us tackle the word order issue. On the one hand, we need to capture the fact that the inner particle precedes the outer particle in overt syntax, allowing for the sequences of *ge3 mo4*, *lo3 mo4*, and *la3 me1*. On the other hand, if Force<sup>0</sup> is higher than Mod<sup>0</sup> and the question particle *mo4* is in Force<sup>0</sup> and the inner particle *ge3* is in Mod<sup>0</sup>, then we have to explain why the sequence is not *mo4 ge3*, which is not attested (cf. 35). I suggest that this conflict can be reconciled if we assume that syntactic movement is

<sup>8</sup> Kayne (1994) claims that the ‘specifier-head-complement’ sequence represents the universal word order of human languages. Tang (2000) adopts this claim and suggests that the C head in Cantonese and Mandarin is head-initial, which takes TP as the complement. Ann Law’s (2002) analysis of sentence final particles treats the projection (ForceP) hosting question particles as head-final. She also assumes that the functional head SFP<sup>0</sup> is head-final. Her head-final analysis is similar to that in Law (1990). But this approach would assume mixed head-complement ordering in Cantonese since other phrases (e.g. VP or PP) are head-initial.



(42) ForceP TopP ModP TP

Kuong (2006) has argued that topicalized expressions and sentence topics in Mandarin are in the specifier of TopP and that the possible topic particle is in Top<sup>0</sup>. Applying this idea to Cantonese, the question is how the sentence topic reaches the sentence initial position in the presence of ForceP, which dominates TopP. I mentioned above that Force<sup>0</sup> has a formal [EPP] feature that needs to be eliminated in overt syntax, and that the question particle is like a clitic demanding a phrasal host to its left. We can hypothesize that attracting the closest phrasal category to the specifier of ForceP is most economical in the syntactic derivation. Therefore, moving TopP to Spec,ForceP would be more economical than moving ModP or TP to that specifier across the intervening TopP when the sentence topic is present.

Let us now recall that question particles only allow for matrix interpretation. Since this is a syntactic, rather than a semantic or pragmatic, restriction, an explanation in syntax must be sought. One important feature in Force<sup>0</sup> is [Q]. Interrogatives are assumed to have the [+Q] feature, whereas declaratives and exclamatives have a Force<sup>0</sup> that is [-Q]. This [Q] feature was previously proposed for C, as in Chomsky (1995) (before Rizzi's Split-CP Hypothesis was put forward). To explain why question particles in Cantonese (and Mandarin) can only occur in the matrix context, I suggest that the [Q] feature may have two instantiations or subfeatures, namely [+matrix] and [-matrix]. Question particles such *mo4* and *me1* have the [+Q: +matrix] feature specification. This analysis makes sense if we consider the syntactic distribution of the complementizer *that* in English. This complementizer only occurs in the embedded finite context, but not in the matrix context. Consider (43):

- (43) a. John said **that** he went to Africa.  
 b. \* John want **that** to go to Africa  
 c. \* **That** did John go to Africa?

A straightforward analysis of this restriction is to assume that the complementizer *that* has some formal syntactic feature [-matrix]. Given the [-matrix] feature specification of *that*, there would be a feature mismatch if *that* occurs in Force<sup>0</sup> of the matrix or root sentence since Force<sup>0</sup> in this case is [+matrix]. The interrogative *if* and *whether* in English are also known for their embedded nature. Comparing English and Cantonese in this respect, *mo4* and *me1* are [+Q: +matrix], while *if* and *whether* are [+Q: -matrix]. As a result, question particles in Cantonese only occur in the matrix context, but not in embedded clauses.<sup>10</sup>

<sup>10</sup> In Kuong (2002), I argue, based on the distribution of question particles, that the [+Q] feature may be specified as [+YNQ] for particles that occur solely in yes/no questions such as *maa3*, *me1*, or [-YNQ] for particles that occur in Wh-questions, A-not-A questions, and Negative Particle Questions. These two subfeatures are not incompatible with the [+matrix] (or [-matrix]) feature proposed in the current study.

In sum, I have proposed in this section that question particles (and other outer particles) are located in Force<sup>0</sup> in the syntactic structure. The so-called inner sentence final particles occupy the head of ModP, which is lower than ForceP. TopP is situated between ForceP and ModP. To derive the correct word order between the inner particle and the outer particle, I have suggested that the clitic nature of such particles, coupled with the formal feature [EPP] in Mod<sup>0</sup> and Force<sup>0</sup>, triggers two phrasal movements, with the first targeting Spec,ModP and the second targeting Spec,ForceP. I have also claimed that question particles in Cantonese have the [+matrix] property in the specification of the [+Q] feature.

## 6. Concluding Remarks

In this paper I have reexamined the syntactic, semantic, and pragmatic roles of yes/no question particles in Cantonese. The question particle *mo4* is non-neutral in pragmatic meaning and carries a linguistic implicature similar to those in *me1*, contrasting with *maa3*, which is neutral or unmarked. The particle *mo4* is found to be lighter in the tone of voice, and is used more extensively in older speakers than in young ones.

It is observed that Cantonese question particles in yes/no interrogatives do not interact with aspect and negation markers in a uniform manner. While the neutral yes/no question particle *maa3* does not co-occur with the negation marker *m4* (unlike Mandarin *ma*), *mo4* and other question particles in Cantonese do. In terms of the co-occurrence of question particles and aspect markers, *maa3* fails to appear in yes/no questions that contain the perfective aspect marker *zo2*, or *mei6* ‘not yet’, or *mou5* ‘have not’ in spoken Cantonese, whereas neither *mo4* nor *mei1* shows this restriction.

As far as the syntactic properties of question particles are concerned, it was shown that question particles only occur in the matrix context, and that they follow inner particles if they occur in a sequence. Another observation was that topicalization can occur in yes/no questions with sentence final particles. Adopting Rizzi’s (1997, 2004) Split-CP Hypothesis, I follow A. Law to suggest that question particles should be treated as the head of ForceP. I further claim that the sentence final nature of such particles is derived by phrasal movement triggered the clitic nature of sentence final particles and a formal feature in Force<sup>0</sup> and Mod<sup>0</sup>.

The analysis presented here unifies the head directionality of functional heads in Cantonese, suggesting that the functional projections in the left periphery, including ForceP, TopP, and ModP, are head-initial, just like other phrases.

It is hoped that this study sheds light on our understanding of the complex and sometimes subtle syntactic, semantic, and pragmatic differences among common question particles attested in Spoken Cantonese.

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## On the Headedness of Mandarin Resultative Verb Compounds<sup>1</sup>

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This paper examines previous accounts of the headedness of Mandarin resultative verb compounds and argues for the view that such compounds are headless. This study is theoretically significant in that it challenges the idea that all compounds have a head as all phrases do.

### 1. Introduction

There has been a lot of discussion in the literature as to whether Mandarin resultative verb compounds (RVCs) like *xi-ganjing* ‘wash-clean’ in (1) have a head.

- (1) Zhangsan **xi-ganjing**-le yifu.  
Zhangsan wash-clean-PERF clothes  
‘Zhangsan washed his clothes clean.’

Concerning the headedness of RVCs, there are four logical possibilities and each of them has been proposed in the literature: (i) V1 being the head (e.g., Cheng & C.-T. James Huang 1994; Yafei Li 1990, 1993, 1995, 1999; Lingling Wang 2001); (ii) V2 being the head (e.g., Tai 2003, Yong 1997); (iii) both V1 and V2 being heads (e.g., Gu 1992); (iv) neither V1 nor V2 being the head (e.g., Chu-Ren Huang & Lin 1992).

The purpose of this paper is to argue for the fourth possibility mentioned above, namely the headlessness position, from the perspective of argument realization. In what follows, I will first examine previous accounts of the headedness of Mandarin RVCs and then provide arguments for the fourth possibility. The final section briefly discusses the theoretical implication of this study.

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<sup>1</sup> I am grateful to Kuniyoshi Ishikawa, Tatsuya Ito, Yutaka Kato, and Mariko Yanagawa for their help with the Japanese data, and to Daniel Klamer, Rickard Melkersson and Peter Sundkvist for their assistance with the Swedish examples. Meanwhile, I greatly appreciate the insightful comments and constructive suggestions from Masha Babyonyshev, Larry Horn, and Jim Huang. Abbreviations: ACC=accusative; CL=classifier; DAT=dative; GEN=genitive; INTR=intransitive; MM=modifier marker; NOM=nominative marker; PERF=perfective aspect; TR=transitive.

## 2. Previous Accounts

### 2.1 V1 as Head

This possibility is assumed by Yafei Li (1990, 1993, 1995, 1999), Ross (1990) and Uehara et al. (2001), argued for by Cheng & C.-T. James Huang (1994) and Lin (1998), and maintained by Lingling Wang (2001). Among them, Cheng & Huang (1994: 194) (cf. also Lin 1998: 36) argue that V1 is the head on the grounds that V1 rather than V2 determines the event type of the whole compound. According to them, when V1 is “active,” the compound as a whole is either unergative or “transitive,” as shown in (2); when V2 is “stative,” the entire compound is either “ergative” or “causative,” as shown in (3). In this regard, Cheng & Huang implicitly assume that the unergative and transitive types of RVCs are active and the ergative and causative types are stative.

- (2) a. Zhangsan **qi-lei-le**. (Unergative)  
 Zhangsan ride-tired-PERF  
 ‘Zhangsan rode himself tired.’
- b. Zhangsan **qi-lei-le** ma. (Transitive)  
 Zhangsan ride-tired-PERF horse  
 ‘Zhangsan rode the horse and as a result the horse became tired.’  
 Or: ‘Zhangsan rode horses and as a result he became tired.’
- (3) a. Zhangsan **lei-bing-le**. (Ergative)  
 Zhangsan tired-sick-PERF  
 ‘Zhangsan’s being in the state of tiredness caused him to become sick.’
- b. Fanzhong-de nonghuor **lei-bing-le** Zhangsan. (Causative)  
 heavy-MM farm.work tired-sick-PERF Zhangsan  
 ‘The heavy farm work caused Zhangsan to become sick, as a result of his being in the state of tiredness.’

There are two problems with Cheng & Huang’s view. First, as noticed by Cheng & Huang (1994: 190) themselves and shown in (4), it is common for an RVC with an active V1 to have both a transitive and a causative use.<sup>2</sup> As they implicitly assume that

<sup>2</sup> According to Jim Huang (p.c.), when the V1 of an RVC like *kan-hua* ‘read-dim’ in (4) is transitive, the “causative” reading of the RVC is derived by moving a transitive RVC to combine with a “zero CAUSE morpheme.” Therefore, among the different types of RVCs, the causative type exemplified by (4b) is derived. Because of this, Jim Huang held that the fact that an RVC with an active V1 has both a transitive and a causative use does not count as evidence against the view of Cheng & Huang (1994).

However, even if the derivational analysis of a causative RVC with a transitive V1 is correct, the causative use of an RVC involving a transitive V1 still poses a problem for Cheng & Huang’s view. This is because according to Cheng & Huang, the causative use of an RVC with a stative

the former use is active and the latter stative, this poses a serious problem for their view that the event type of V1 determines the event type of the entire RVC.

- (4) a. Zhangsan **kan**-hua-le ta-de yanjing.  
 Zhangsan read-dim-PERF he-GEN eye  
 ‘Zhangsan read (something), and as a result his eyes became dim-sighted.’
- b. Na-benhouhou-de shu **kan**-hua-le Zhangsan-de yanjing.  
 that-CL thick-MM book read-dim-PERF Zhangsan-GEN eye  
 ‘The thick book caused Zhangsan’s eyes to become dim-sighted as a result of Zhangsan’s reading it.’

The second problem with Cheng & Huang’s view is that their reliance on the notion of “event type” to decide the matter of headedness seems to go against their idea that “the notion of a head is a structural and not a conceptual notion” (1994: 191). This is because event type is primarily a semantic rather than a structural notion, even though it has effects on sentence structure and could even be syntacticized within a certain framework.<sup>3</sup>

## 2.2 V2 as Head

The second logical possibility regarding the headedness of Mandarin RVCs is that V2 is the head. In the literature, a number of researchers (e.g., Tai 2003: 308, Hongqi Wang 1995: 145, and Yong 1997: 9) claim that V2 is the semantic focus of an RVC, and thus is the head. Or in Tai’s words, V2 functions as the “center of predication” and V1 like a manner adverb.<sup>4</sup> However, the evidence for this claim is conceptual rather than empirical. In fact, as pointed out by Cheng and Huang (1994: 192), the claim seems not to hold even on the conceptual level. This is because in addition to *ti-kai* ‘kick-open,’ *tui-kai* ‘push-open,’ and *la-kai* ‘pull-open,’ which may suggest that V2 is the center of predication of an RVC, there are examples like *ti-kai* ‘kick-open,’ *ti-dao* ‘kick-fall,’ and *ti-bian* ‘kick-flat,’ which may indicate that V1 is the semantic focus.

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V1 is determined by the fact that the event type of V1 in this case is stative. Crucially, on the view of Cheng & Huang (1994) and C.-T James Huang (1992), the causative use in this case is also derived, though in a different way; that is, it is derived by adding an external argument to a (deep) ergative RVC. Therefore, Cheng & Huang do intend the event type of the V1 of an RVC to determine both the non-derived and “derived” types to which this RVC can belong. In turn, the fact that Cheng & Huang assume causative RVCs to be **stative** and the fact that an RVC with an **active** V1 can have a causative use together pose a serious problem for Cheng & Huang’s view that the event type of the V1 of an RVC determines the event type of the whole compound.

<sup>3</sup> Cf. recent attempts to syntacticize event structure by Borer (1998) and Ritter & Rosen (1998), for example.

<sup>4</sup> Related to this, Talmy (1985: 127-129, 2000: 153) maintains that the resulting subevent of a resultative is the main event and the causing subevent is a subordinate event.

The only empirical evidence for the V2-as-head claim is given by Linding Li (1984). Li's evidence comes from the distributional facts of the two components of an RVC. He observes that V1, but not V2, can be omitted. For example, given the use of an RVC *ku-hong* 'cry-red' in (5a), the V2 of the RVC cannot be omitted, but the V1 can, as shown in (5b) and (5c). Based on this, Li concludes that the second component of *ku-hong* is the head of the compound.

- (5) a. Zhangsan-de    yanjing    **ku-hong**-le.  
       Zhangsan-GEN eye        cry-red-PERF  
       'Zhangsan's eyes were cried red.'
- b. \*Zhangsan-de    yanjing    **ku**-le.  
       Zhangsan-GEN eye        cry-PERF  
       Literally: 'Zhangsan's eyes cried.'
- c. Zhangsan-de    yanjing    **hong**-le.  
       Zhangsan-GEN eye        red-PERF  
       'Zhangsan's eyes became red.'

However, Li's criterion is problematic. Given this criterion, we have to conclude that the V1 rather than V2 of *xi-ganjing* 'wash-clean' in (6a) is the head of the compound, because, as shown in (6b-c), in this case it is the V2 that can be omitted.

- (6) a. Zhangsan    **xi-ganjing**-le    yifu.  
       Zhangsan wash-clean-PERF clothes  
       'Zhangsan washed his clothes clean.'
- b. Zhangsan    **xi**-le    yifu.  
       Zhangsan wash-PERF clothes  
       'Zhangsan washed his clothes.'
- c. \*Zhangsan    **ganjing**-le    yifu.  
       Zhangsan clean-PERF clothes  
       Intended: 'Zhangsan cleaned the clothes.'

But the same criterion leads to the conclusion that the same compound in (7) is headless because (7b) and (7c) respectively show that the V2 and the V1 of the compound can be omitted.

- (7) a. Yifu    **xi-ganjing**-le.  
       clothes wash-clean-PERF  
       Literally: 'The clothes washed clean.' → 'The clothes were washed clean.'

- b. Yifu **xi**-le.  
clothes wash-PERF  
Literally: ‘The clothes washed.’ → ‘The clothes were washed.’
- c. Yifu **ganjing**-le.  
clothes clean-PERF  
‘The clothes became clean.’

In addition, by the same criterion, *kan-dun* ‘cut-blunt’ in (8a) should be double-headed because (8b) and (8c) show that in this case neither V1 nor V2 can be omitted.

- (8) a. Zhangsan **kan-dun**-le dao.  
Zhangsan cut-blunt-PERF knife  
‘Zhangsan cut (something with the knife) and as a result the knife became blunt.’
- b. \*Zhangsan **kan**-le dao.  
Zhangsan cut-PERF knife  
Intended: ‘Zhangsan cut (something) with the knife.’
- c. \*Zhangsan **dun**-le dao.  
Zhangsan blunt-PERF knife  
Intended: ‘Zhangsan made the knife blunt.’

However, this very criterion leads to the conclusion that the same RVC in (9a) is right-headed because, as shown in (9b-c), it is the V1 rather than the V2 that can be omitted.

- (9) a. Dao **kan-dun**-le.  
knife cut-blunt-PERF  
Literally: ‘The knife cut blunt.’ → ‘The knife got blunt from cutting.’
- b. \*Dao **kan**-le.  
knife cut-PERF  
Intended: ‘(Somebody) cut (something) with the knife.’
- c. Dao **dun**-le.  
knife blunt-PERF  
‘The knife became blunt.’

Therefore, Li’s criterion leads to the undesirable conclusion that RVCs can be head-final, head-initial, headless, or double-headed, and that the same RVC can be head-initial or head-final in one instance, and headless or double-headed in another.

### 2.3 Both V1 and V2 Being Heads

The third possibility concerning the headedness of an RVC is that both V1 and V2 are heads, a position argued for by Gu (1992).<sup>5</sup> Gu argues against the view that V1 is the head of an RVC, and points out that both V1 and V2 contribute to the argument structure of the compound, and therefore both are heads. For example, in (10a) below, V1 contributes the Causer argument *Zhangsan*; in (10b), V2 contributes the Causee argument *Zhangsan-de yanjing* ‘Zhangsan’s eyes.’

- (10) a. Zhangsan ca-liang-le jingzi.  
 Zhangsan wipe-shiny-PERF mirror  
 ‘Zhangsan wiped the mirror shiny.’
- b. Na-ben houhou-de shu kan-hua-le Zhangsan-de yanjing.  
 that-CL thick-MM book read-dim-PERF Zhangsan-GEN eye  
 ‘The thick book caused Zhangsan’s eyes to become dim-sighted as a result of Zhangsan’s reading it.’

Although Gu is right in pointing out that both V1 and V2 can contribute to the argument structure of an RVC, it is more proper to state that the argument of V2 has to be realized in the overt syntax as shown in (11), although V1 may contribute to the argument structure of the entire compound in certain uses of an RVC. For example, in (11b) what is overtly realized is a semantic argument of V2, not an argument of V1. Furthermore, the fact that in (11b) the argument of V1 is not syntactically realized casts doubt on Gu’s view that all RVCs are double-headed.

- (11) a. Zhuozi ca-ganqing-le.  
 table wipe-clean-PERF  
 Literally: ‘The table wiped clean.’ → ‘The table was wiped clean.’
- b. Shoujuan ku-shi-le.  
 handkerchief cry-wet-PERF  
 Literally: ‘The handkerchief cried wet.’ → ‘The handkerchief got wet from someone’s crying.’

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<sup>5</sup> In this respect, note that Baker & Stewart (1999) propose a bi-headed analysis of the serial verb construction, an analysis also implied by the syntactic structure given to this construction by Baker (1989). However, Déchaine (1993) argues that different types of serial verb constructions differ as to which verb is the head (for information about different types of serial verb constructions, see also Stewart 2001). Moreover, Zubizarreta & Oh (2007), in discussing Korean serial verb constructions, make a distinction between morpho-syntactic head and semantic head, with the latter varying according to the type of the serial verb construction.

- c. Zhangsan zou-lei-le.  
Zhangsan walk-tired-PERF  
'Zhangsan walked himself tired.'
- d. Zhangsan chi-bao-le.  
Zhangsan eat-full-PERF  
'Zhangsan ate himself full.'

#### 2.4 Neither V1 nor V2 as Head

The final possibility as to the headedness of Mandarin RVCs is that they have no head. This is the position held by Chu-Ren Huang & Fu-Wen Lin (1992). The main evidence for Huang & Lin's position comes from the fact that, as shown by (12), the transitivity of an RVC is not determined by V1 or V2.

- (12) a. Zhangsan ku-shi-le shoujuan.  
Zhangsan cry-wet-PERF handkerchief  
'Zhangsan cried the handkerchief wet.'
- b. Na-ge youmo gushi xiao-wan-le Zhangsan-de yao.  
that-CL humor story laugh-bend-PERF Zhangsan-GEN waist  
'That humorous story caused Zhangsan's waist to bend as a result of Zhangsan's laughing.'

For example, in (12a), the RVC allows an object even though both V1 and V2 involve a single argument. Furthermore, Huang & Lin argue that the event structure of the entire RVC is a composite of the event structures of V1 and V2. Based on these, they conclude that RVCs in Mandarin "involve composite instead of headed structures" (1992: 91).

However, as pointed out by Cheng & C.-T. James Huang (1994: 217-218), Chu-Ren Huang & Lin are not entirely consistent in their view that RVCs are headless. In fact, Huang & Lin argue that to allow for the subject-oriented reading with respect to transitive sentences like (13), the compound involved has to be headed by V2—presumably because the authors assume that the sole argument of V2 cannot be fused with the Causer.

- (13) Zhangsan kan-lei-le shu.  
Zhangsan read-tired-PERF book  
'Zhangsan read books and as a result he became tired.'

I agree with Cheng & Huang (1994) that Huang & Lin's (1992) idea is unattractive because they have to treat the compound in (14) below as headless when the sentence has an object-oriented reading, the (a) reading, and to treat the same compound as headed by V2 when the sentence has a subject-oriented reading, the (b) reading.



- (14) Zhangsan zhui-lei-le Lisi.  
 Zhangsan chase-tired-PERF Lisi  
 (a) ‘Zhangsan chased Lisi and Lisi got tired.’  
 (b) ‘Zhangsan chased Lisi and Zhangsan got tired.’

Furthermore, I do not think that Huang & Lin (1992) present any good reason for treating RVCs like the one in (13) as headed by V2. In fact, arguably the RVC in (13) is headless, just like other RVCs.

### 2.5 Summary

What can be seen from the above discussion of the four possibilities concerning the headedness of RVCs is that different researchers use different criteria in deciding on this issue. However, no matter whether the criterion adopted is semantic or structural, I do not see any convincing empirical evidence for regarding either V1 or V2 as the head of an RVC, and the same holds of the double-head claim.

### 3. Argument Realization and the Headlessness of Mandarin RVCs

In this section, I argue for the headlessness position from the point of view of argument realization. The main evidence for this view comes from the fact that as seen from (15-19) below, there are different ways of realizing the Causer and Causee arguments licensed by Mandarin RVCs.

- (15) Zhangsan xi-ganjing-le yifu.  
 Zhangsan wash-clean-PERF clothes  
 ‘Zhangsan washed his clothes clean.’
- (16) Zhangsan qie-dun-le dao.  
 Zhangsan cut-blunt-PERF knife  
 ‘Zhangsan cut (something) with the knife, and as a result the knife became blunt.’
- (17) Na-bao yifu xi-lei-le Zhangsan.  
 that-CL clothes wash-tired-PERF Zhangsan  
 ‘(Zhangsan washed that bundle of clothes) and the clothes got Zhangsan tired.’
- (18) Na-kuai paigu kan-dun-le san-ba dao.  
 that-CL sparerib cut-blunt-PERF three-CL knife  
 ‘That sparerib got three knives blunt as a result of the cutting (by some specific person).’
- (19) Na-ge youmo gushi xiao-wan-le Zhangsan-de yao.  
 that-CL humor story laugh-bend-PERF Zhangsan-GEN waist  
 ‘That humorous story got Zhangsan’s waist bent as a result of his laughing.’

For example, in (15) the Causer argument is realized by *Zhangsan*, which is semantically also an argument of V1 *xi* ‘wash’; the Causee argument is realized by *yifu* ‘clothes,’ which is semantically also the single argument of V2 *ganjing* ‘clean’ and an argument of V1. For another example, in (17) the Causer argument is realized by *na-bao yifu* ‘that bundle of clothes,’ which is the Patient argument of V1; the Causee argument is realized by *Zhangsan*, which is semantically the Agent argument of V1 and the single argument of V2.

On the assumption of the head feature percolation condition in (20), the fact that the Causer and Causee arguments can be realized in different ways argues against any claim that Mandarin RVCs have a head.

(20) Head Feature Percolation Condition (cf. Yafei Li 1990, 1995)

The way that the arguments of the head of a compound are realized in the syntax should be maintained on the compound level.

Take (21), which is the same as (17), as an example.

(21) Na-bao yifu      **xi-lei-le**              Zhangsan.    [(17)]  
 that-CL clothes wash-tired-PERF Zhangsan  
 ‘(Zhangsan washed that bundle of clothes) and the clothes got Zhangsan tired.’

The fact that the Patient argument of the V1 of the RVC in this sentence is realized in the overt subject position of the compound poses a problem for the claim that V1 is the head. This is because when *xi* ‘wash’ is used alone, its Patient argument is realized in the object position of an active sentence, not in the subject position, as shown in (22).

(22) Zhangsan    **xi-le**              na-bao              yifu.  
 Zhangsan    wash-PERF    that-bundle    clothes  
 ‘Zhangsan washed that bundle of clothes.’

Likewise, the fact that the Agent argument of the V1 of the RVC (21) is realized in the overt object position of the compound causes a problem to the claim that the first component of the compound is the head. This is because as (22) shows, when *xi* ‘wash’ is used alone, its Agent argument is realized in the subject position of an active sentence. Moreover, the fact that the single argument of V2 is realized in the overt object position of the compound poses a problem for the claim that V2 is the head of the compound, because when V2 is used alone, its single argument must be realized in the overt subject position, as shown in (23).

- (23) Zhangsan **lei-le**.  
 Zhangsan tired-PERF  
 ‘Zhangsan got tired.’

Finally, the existence of sentences like (21) also challenges the claim that Mandarin RVCs are double-headed because after all, neither the realization of the Agent and Patient arguments of V1 nor the realization of the single argument of V2 is maintained on the compound level. Therefore, the fact that sentences like (21) are grammatical provides a strong argument for the headlessness of Mandarin RVCs.

Note that crucially, the head feature percolation condition adopted here is independently motivated and supported by crosslinguistic evidence. To start, there is evidence that Japanese RVCs are head-final. In this regard, Yafei Li (1993) reasons that since most types of compounds are head-final in Japanese and since the right-hand component of an RVC is of the same category as the whole compound, namely a verb, “the minimal assumption is that they pattern with all these other types of compounds in being head-final” (p. 487). More importantly, there is indirect evidence from other V-V compounds that Japanese RVCs are head-final. Specifically, there is evidence from case marking that other V-V compounds in Japanese are right-headed. For example, although as shown in (24a) and (24b), *ou* ‘chase’ and *tsuku* ‘attach,’ when used separately, require an accusative object and a dative object respectively, the compound *oi-tsuku* ‘chase-attach’ can only be followed by a dative object, as shown in (24c).

- (24) a. John-ga    Mary-**o**        **ot**-ta.  
 John-NOM    Maru-ACC    chase-PAST  
 ‘John chased Mary.’        (Nishiyama 1998: 177)
- b. John-ga    Bill-**ni**        **tui**-ta.  
 John-NOM    Bill-DAT    attach-PAST  
 ‘John attached to Bill.’    (Nishiyama 1998: 177)
- c. John-ga    Mary-**ni/\*o**        **oi-tui**-ta.  
 John-NOM    Mary-DAT/ACC    chase-attach-PAST  
 ‘John chased Mary and attached to (i.e., caught up with) Mary.’ (Nishiyama 1998: 184)

Therefore, there is evidence that other V-V compounds in Japanese are head-final. This, in turn, provides the strongest indirect evidence that Japanese RVCs, which are V-V compounds, are also head-final.

With the head-final nature of Japanese RVCs kept in mind, we now turn to several observations that can be made about these compounds. First, as shown in (25), Japanese does not allow sentences analogous to Mandarin examples like (17).

LI: RESULTATIVE VERB COMPOUNDS

- (25) \*Sorerano fuku-ga        **John-o**    aria-**tsukare**-ta.  
 those        clothes-NOM    John-ACC    wash-get.tired-PAST  
 Intended: ‘John washed those clothes and the clothes got John tired.’

Moreover, the sentence in (26) only allows the first reading, the subject-oriented reading.

- (26) **John-ga**    Bill-o        oi-**aki**-ta.  
 John-NOM    Bill-ACC    chase-get.bored-PAST  
 (a) ‘John chased Bill and as a result John became bored.’  
 (b) \*‘John chased Bill and as a result Bill became bored.’

Finally, as shown in (27) and (28) respectively, the single argument of *tsukareru* ‘get tired’ and *akiru* ‘get bored’ is realized in subject position when such verbs are used alone and are not part of a compound.

- (27) **John-ga**    **tsukare**-ta.  
 John-NOM    get.tired-PAST  
 ‘John got tired.’

- (28) **John-ga**    **aki**-ta.  
 John-NOM    get.bored-PAST  
 ‘John got bored.’

Given the right-headedness of Japanese RVCs, the above facts provide strong support for the head feature percolation condition. That is, (25) is ungrammatical in Japanese because in this case the single argument of V2, the head of the compound, is realized in the object position of the whole sentence, thus violating the head feature percolation condition. For the same reason, the second reading of (26) is ruled out. As for the first reading of (26), it is allowed because in this case the single argument of V2 is realized in the subject position of the whole sentence, thus obeying the head feature percolation condition. Therefore, there is strong evidence from Japanese RVCs that the head feature percolation condition is needed.

In addition to the evidence from Japanese RVCs, there is also evidence for the head feature percolation condition from Japanese V-V compounds which are not RVCs. For example, the fact that (29) is grammatical is because the V2 (i.e., the head) of the compound involved is transitive and the way its arguments are realized in the overt syntax is maintained on the compound level.

- (29) John-ga        soup-o [suupu-o]    **huki-kobosi**-ta.  
 John-NOM    soup-ACC            boil.over (INTR)-spill (TR)-PAST  
 ‘The soup boiled over and John spilled it.’ (Nishiyama 1998: 193)

Crucially, note that in this example, V1 is intransitive and its single argument is realized as the object of the sentence. As shown in (30), when V1 is used alone, its single argument should be expressed in the subject position.

- (30) Suupu-ga **huki**-ta.  
 soup-NOM boil.over (INTR)-PAST  
 ‘The soup boiled over.’

This shows that the way the argument(s) of the non-head component of a compound are realized in the syntax need not be maintained on the compound level. In turn, it suggests that the grammaticality of (29) is due to the fact that the argument realization related to V2 (the head) rather than V1 (the non-head) is preserved on the compound level.

Further crosslinguistic evidence for the head feature percolation condition comes from Swedish RVCs. To begin with, there is evidence that Swedish RVCs, like Japanese ones, are head-final. First, as shown in (31), the category of each Swedish compound involved is identical with the category of the right component, which is a verb, not with the category of the left component, which is an adjective.

- (31) De röd-målade huset.  
 they red-painted house.the  
 ‘They painted the house red.’

Second, unlike Japanese and Mandarin RVCs, in which the causing predicate precedes the result predicate, Swedish RVCs have the reverse order.<sup>6</sup> I argue that such an ordering is motivated by the fact that adjectives in Swedish cannot bear tense inflection, as shown in (32a). Rather, a copula has to be used to reflect tense, as shown in (32b).

- (32) a. \*John trött.  
 John tired  
 Intended: ‘John was tired.’

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<sup>6</sup> According to Yafei Li (1993: 499), the ordering of the two components of Japanese and Mandarin RVCs is motivated by iconicity considerations, namely the requirement that the temporal relation of the two components must be reflected in their surface linear order. Obviously, Swedish RVCs pose a problem to Li’s “Temporal Iconicity Condition.” To account for similar counterexamples in German, Li proposes that the condition applies only when the two components of the compound are both verbal. While this proposal predicts that RVCs like those in Swedish do not need to meet the condition proposed by Li because such compounds are composed of an adjective and a verb, Li fails to account for why the two components of such compounds must be in the “adjective-verb” order.

- b. John var trött.  
 John be.PAST tired  
 ‘John was tired.’

Because Swedish RVCs function as main predicates and thus are verbs, and because regular tense inflection in the language is in the form of suffixes, it is necessary for the component which can bear tense to be in the right position of the compounds. If so, the ordering of the two components of Swedish RVCs provides additional support for the view that the right component is the head.

Bearing in mind the head-final nature of Swedish RVCs, let’s consider one observation about these compounds. That is, Swedish RVCs, like Japanese ones, do not allow sentences like (33).

- (33) \*De där kläderna trött-tvättade John.  
 those there clothes tired-washed John  
 Intended: ‘John washed those clothes and the clothes got John tired.’

By adopting the head feature percolation condition, the ungrammaticality of (33) can be readily accounted for. Given the head feature percolation condition and the right-headedness of Swedish RVCs, the Agent argument of the head of the RVC in (33) should be realized in the subject position, not in the object position of the sentence. This is because as shown in (34), when *tvätta* ‘wash’ is used separately, the Agent argument needs to be expressed in the subject position as far as active sentences are concerned.

- (34) John **tvättade** de där kläderna.  
 John washed those there clothes  
 ‘John washed those clothes.’

Likewise, on the basis of (34) and the head feature percolation condition, the Patient argument of *tvätta* ‘wash’ is expected to be realized in the object position, not the subject position of (33). Therefore, the ungrammaticality of (33) is due to its violation of the head feature percolation condition.

Given that the head feature percolation condition is independently motivated, I take the grammaticality of sentences like (17-19) to be crucial evidence for the headlessness of Mandarin RVCs.

It is worth pointing out that the conclusion that Mandarin RVCs are headless is consistent with Shuanfan Huang’s (1998: 261) view that “Chinese is essentially a headless language.” Although Huang’s argument is made on the basis of the fact that neither the first nor the second element of a compound in Mandarin “prevails in the determination of the category type of a compound” (Huang 1998: 270) (and thus it is possible that a specific type of compound is left-headed or right-headed), our conclusion

that RVCs are headless is consistent with Huang's overall assessment as to the headedness of Mandarin compounds.

Before we take leave of this section, I would like to address one remaining issue, which is about why the argument of V2 has to be overtly realized, as seen from (11). I argue that this results from the constructional requirement of the resultative construction in general and Mandarin RVCs in particular. That is, as resultative constructions, Mandarin RVCs require the argument that undergoes the change denoted by the result component to be overtly expressed. This proposal is independently confirmed by English change-of-state verbs like *break* and *open*. As shown in (35), the argument that undergoes the change of state expressed by *break* has to be overtly expressed, regardless of whether the entity that causes the change to take place is overtly realized or not. This is clearly demonstrated by the fact that (35c) can only be understood as "John became broken" and thus is ungrammatical on the intended interpretation that John broke something.

- (35) a. John broke the window.  
 b. The window broke.  
 c. \*John broke. (Intended: 'John broke something.')

#### 4. Theoretical Implication

The fact that Mandarin RVCs are headless has an interesting theoretical implication. That is, in terms of headedness, there are not only headed verb compounds but also headless verb compounds. If this is correct, then it challenges the view that all compounds have a head as all phrases do (e.g., Di Sciullo & Williams 1987, Lieber 1992, and Selkirk 1982). Meanwhile, it poses a problem for the "syntax-all-the-way-down" approach to morphology (cf. Spencer 2005).

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## Analyzing Passive Constructions in the Finite State

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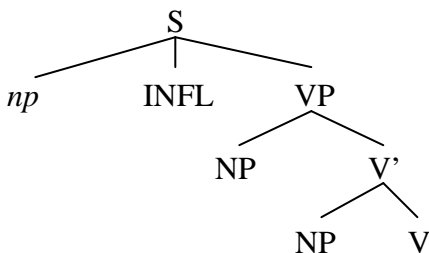
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He (1996) provided strong evidence in his GB analysis for that the Chinese BEI passive construction is not the counterpart of ordinary active construction because they have distinct deep structures. And it is hard to take GET in the English GET passive construction as a marker only (cf. Langacker 1991). In this paper, I propose that BEI construction be analyzed in the finite state where the (process) verb-form with the result-denoting element is treated, like the past participle in GET passive construction, as denoting the resultant state subsequent from the process and BEI as the predicate for restructuring the event.

### 1. Introduction

One of the important findings in Chinese *bei* passive construction is the discrepancy between its deep structure and that of the active. He (1996) used the Government and Binding approach in his analysis of the Chinese *ba* and *bei* constructions. He found that the deep structure of *bei* passive construction is not the same with that of the canonical active construction as shown in his example below:

(1)



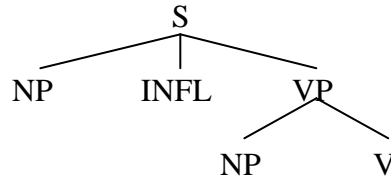
( passive: *xin bei wo shao le* The letter was burnt by me.)

From (1) above, He found that [NP (ex.), VP] is disallowed to move to [*np*, S].

He also found that [NP, S] and the [NP (ex.), VP] in (2) below are counterparts.

## LI: PASSIVE CONSTRUCTION

(2)



( active: *wo shao le xin* I burnt the letter.)

The different deep structures of *bei* and the canonical constructions show that canonical active construction is not the counterpart of *bei* construction. Such finding has strengthened the assumption implied in many active and passive comparative studies that, structurally, passive construction is not necessarily the counterpart of the canonical active construction in many world languages.

A canonical construction in Chinese might not have a corresponding *bei* construction. For example, though the above canonical construction *wo shao le xin* (I burnt the letter) does have *xin bei wo shao le* (The letter was burnt by me), for the canonical construction *wo mei tian shao yi feng xin* (I burn a letter every day), the insertion of *bei* will yield an unacceptable sentence as *\*mei tian yi feng xin bei wo shao* (\*A letter be burnt by me every day). It is clear here that one of the most important constraints of *bei* construction is that the event must have been completed with a result. Another example shows the same: *wo bu xi yan* (I don't smoke) → *\*yan bu bei wo xi* (\*Cigarette be not smoked by me). Therefore, it is improper to use ordinary active construction as the base to derive the *bei* passive construction.

As is well accepted in Chinese, *ba* construction, in the active voice in the traditional terminology, rather than any non-*ba* active construction is commonly compared to *bei* construction as an active-passive pair.

The *bei* construction and the *ba* construction seem to have been, in most cases, convertible. Even in negative case, the two ungrammatical *bei* sentences also have ungrammatical *ba* sentences: *\*wo mei tian ba yi feng xin shao*; *\*wo bu ba yan xi*.

However, not all *ba* sentences have *bei* alternations. For example, the experiential type of *ba* sentence like *tamen ba ge zhu jiao bing le* (They had the main role sick) cannot be altered to *\*zhu jiao bei tamen bing le*. The causative type of *ba* sentence cannot either: *xiao zi shu ba yanjing kan hua le* (The book in small prints got the eyes blurry through reading) → *\*yanjing bei xiao zi shu kan hua le*.

More examples are provided below which seem to show that accusativity must be involved which in turn must be concerned with delocation in the formation of *bei* passive sentences:

- (3) a. *Laoshi ba di san ke jiang wan le*  
 The teacher has had Lesson Three (discussed) finished.

b. \**di san ke bei laoshi jiang wan le*

Lit: \*Lesson Three got/had been (discussed) finished by the teacher.

(4) a. *Da huo ba senlin hui le*

The big fire got/had the forest destroyed.

b. *Senlin bei da huo hui le*

The forest got/had been destroyed by the big fire.

The verb *jiang* (to lecture) in (3) does not express delocation while the verb *hui* (to destroy) in (4) does.

The accusativity and delocation constraints for the formation of *bei* passive construction are consistent with the semantic interpretation of passive construction: the resulting state requires an action that leads to the resulting state; delocation implies disposal and transfer. In other words, without accusative action, there will be no resulting state and thus no receipt of that state to talk about. And, without delocation, there will be no transfer of the resulting state to the receiver of the state.

## 2. Predicates

The idea of the derivation of the passive construction from the canonical active construction was based on the fact that, in most cases, the world events described in the two constructions are the same. Now, moving our focus from process/action in the world event described in both active and passive constructions to the distinct grammatical functional structures of the speaker's recounts of the event, we have two different types of predicates:

- (i) process verb followed by an aspectual marker as in canonical constructions;
- (ii) light verb without aspectual marker as in constructions of complex predication.

To our main concern in this paper, we concentrate on the second type of predicate.

In the analyses of the *ba* construction treating *ba* as the predicate, the grammatical functional structure is composed of a subject, an object and a complex predicate with a complement. This complement semantically serves as one of the two arguments. The process verb-form and the resultative element constitute the syntactic complement.

In literature, *bei* has been recognized, in terms of its syntactic category, as preposition, verb and passive marker under different approaches. The present study supports the verb hypothesis. Here, *bei* is treated as the predicate. The grammatical functional structure of the *bei* construction is composed of a subject, an optional indirect object and

a complex predicate. Like in the *ba* construction, here the process verb-form and the resultant state denoting element form part of the predicate of which *bei* is the other part.

### 3. The Finite State Hypothesis

We may take *bei* as the relator, a predicate that denotes the relation between the patient, optionally the agent of the event, and the event itself. This approach corresponds to the last category in the following list.

- (i) *bei* as a preposition introducing the agent of the action; (world event)
- (ii) *bei* as a passive marker marking the case of the verb form; (language)
- (iii) *bei* as a verb denoting the relation. (speaker)

In terms of perspective from which analysis initiates, (i) takes the perspective of world event; (ii) takes the perspective of language and; (iii) takes the perspective of speaker.

Apart from perspectival differences, the above three functions of *bei* in the *bei* construction, correspond to three levels in linguistics analysis, namely, (i) to phrase level; (ii) to word level; (iii) to sentence level. We, as grammatical analysts, have the freedom to make a choice. And sometimes, we may choose more than one at a time and possibly mix them up to some extent.

In the present study, I have adopted the last approach because I find that both the defining feature of Event (Nordenfelt 1977) and the pragmatic features of utterances strongly support the instantaneity of linguistic expressions and these observations may help us to find some solutions to the problems in analyzing passive constructions.

The Swedish philosopher Nordenfelt defined ‘event’ as the “the coming about of a new state” or “the entering into a new state”. This means that ‘event’ is instant transfer of state. (For this, both English and Chinese provide evidence. For example, “*shijian fa-sheng zai yi jiu yi jiu nian wu yue si hao*” (The incident happened on May 4<sup>th</sup>, 1919). For similar Swedish examples, refer to Allwood in Allwood & Gardenfors 1999.

To try an analogy, we might as well take an utterance as a photo ‘shooting’ the on-going activity with the result of a scene. The construal of a static situation is not difficult when we have *haizimen zai jia ne* (The children are at home). But it becomes difficult to construe the situation when the children are at home playing as a state as in *haizimen zai jia wanr youxi ne* (The children are at home playing games). The reason, I assume, is that we tend to associate what we read with world state of affairs simply because our cognition is automatically or near-automatically functioning while we read the sentence. We do not feel it problematic until we analyze the sentence for its syntactic structure since grammatical analysis is neither encoding nor decoding of the sentence. Overall, I assume that there is a crucial distinction between interpreting a sentence and analyzing a sentence. In interpreting a sentence, we associate what we read in a sentence

with the world states of affairs while in analyzing a sentence, we often do, as in reading, use our cognitive ability to associate what is in the sentence with the corresponding world affairs. However, as is shown below, it is necessary to restrain to the structural anchoring point of that moment of “shooting the scene”. That is so to speak, the focal point of utterance. Therefore, I propose analyzing sentences, like passives, in the finite state.

The English *get* passive construction and the Swedish *blir* passive construction can also be analyzed in the finite state.

Both English and Swedish have passive constructions which mean that the subject entity *has come to be in or get into* some specific sort of state resulted from an action. In English, *get* can be used (instead of *be*) in situations where something happens. For example:

(5) Our flight got cancelled.

(6) I got paid today.

The ‘something has happened’ in *get* passive seems to be consistent with the defining feature of event. Apart from the instant happening, Langacker (1991) discussed the sense of the original meaning of *get*, that is, to ‘obtain’ is still retained in *get* passive. This seems to be close to the Chinese *bei* in *bei* passive which has been interpreted as ‘receiving’ the result.

In Swedish, the typical passive is with the verb *blir*. For example:

(7) Polisen blir uppringd av en orolig person.  
The police BLI called up by a worried person

(8) Representanten forsokte bli omvald.  
The representative tried BLI reelected

The word *blir* means ‘become’. Though it differs from *get* and *bei*, what follows *blir* is quite the same, that is, usually the past participle of the verb which denotes a resultant state.

We know that there is the active counterpart of *get* which is also *get* as in (9) and (10) below:

(9) The thief got arrested by the police. (passive)

(10) The police got the thief arrested. (active)

The counterpart of *blir* is *få* which means *get* and very close to *ba*: it is also used as a measure word which means ‘a few’.

There are other passive constructions in the three languages, such as the *wei.....suo* in Chinese, *be* passive in English and *-s* form in Swedish. We can categorize them as one other type. Due to the limited space of this paper, this type will not be dealt with here.

The finite approach introduced in this paper is assumed to be applicable to analyzing most types of sentences and the Chinese double object *gei* construction is an example. This will be briefly discussed in Section 6.

#### 4. Focal Point and Thematic roles

A sentence, so long as is uttered, has an anchoring just like a photo which shoots a scene with one particular static state of a continuous, going-on process. That is to say, any utterance expresses a state, a point in time of a process but not the process itself. This might sound strange. But if you look at the following sentences, you will find they can hardly be said to describe any processes:

- (11) Each of us talked for 20 minutes.
- (12) Mary works 6 hours a day.
- (13) By midnight, John had driven continuously for 10 hours.

In (11), if the whole sentence is taken to be describing a dynamic event, then how do we explain the multiple *talkings* of *each of us*? If the sentence is taken to be reporting a fact and the *20 minutes* as the total amount of time for each of us talking, it is more reasonable and then the whole sentence no longer expresses a dynamic event. As for (12), it is hard to say that the sentence expresses an action or process. The whole sentence also expresses a routine. And with (13), since *midnight* is a point of time, *12 hours* must be a total amount of time to match *midnight*.

The above analyses are crucial because, in constructing the argument structure, we have two choices: the valence of the action verb in terms of world state of affairs or the arguments of the predicate of the sentence. If we consider the world, we tend to take the main verb as having a certain number of arguments. But if we consider the sentence as the speech which shows the speaker's conceptualization, we would then take the predicate as the core lexical item of its thematic structure. I propose that a passive sentence be analyzed at two-levels though within one clause. That is, the process verb takes its arguments (participants) while the passive predicate verb takes its arguments. Goldberg & Jackendoff (2004) pointed out that the adjective and the preposition used as resultative complement can be treated as a kind of non-nominal argument of a structural event instead of a verb event. And its semantic role is 'property' or 'path'. I assume that the past participle and its neighboring element, if there is one, form a unit which plays the role of either a PROPERTY or a PATH.

## 5. Multifunctionality

Shi & Hu (2005) propose that *bei* have multifunctions: as both passive marker and preposition. It is reasonable since in English *get* passive sentence, there are *get* and *by* while in Chinese, there is only *bei*. These two functions apply to the agent object on the one hand and the ‘passive sense’ of the verb on the other hand. My analysis departs from their analysis in that I do not posit two functions in this way. Instead, I take the semantics of *bei* as metaphorically containing the sense of ‘befall’ and ‘bestow’ due to the meaning potential (cf. Allwood 2000) of the word *bei*.

According to the meaning potential approach, *bei* (*get* as well) is polysemous and its meaning is context-sensitive. That is, its meaning is decided when it is co-activated with the neighbouring elements. To make it simpler, the meaning potential is all the uses of a word in the speaker’s memory. The multiple meanings of *bei* and *get* can be found in most of the dictionaries. Therefore, they will not be introduced here.

I posit three functions of *bei*:

- (i) introducing the agent of initiating the befall/bestow if there is one;
- (ii) indicating the resultativeness of the verb form in the COMP;
- (iii) relating the befallen-upon/bestowed-upon, the agent if there is one, and the result.

The focal point in the finite state and the instant nature of event all explain why it is so though world state of affairs are on-going and language is linear. The relator or predicate that denotes relation naturally functions as introducing the following entity being related. That is why a single *bei* has multiple functions.

Another aspect of the peculiarity in *bei* construction concerns the semantics of *bei* and the predication of the subject of the construction. We know that the original meaning of *bei* is ‘cover’ or ‘to cover’. I use befall/bestow instead in order to show the unexpectedness of the construction as well as both the positive and negative possibilities of the event happened. Obviously, these terms are used on the part of the result. That is, the result befalls or bestows upon the subject of the *bei* sentence. But if we consider the subject, we have to change befall/bestow into ‘receive’ or ‘suffer’ as some scholars used. So, how to account for this? Can we say that it is inherit and true that any relator relates in two directions or non-directional? Or can we say that the senses of ‘befall’ and ‘receive’ are mutually directed? I leave this question for further research.

## 6. Concluding Remarks

The finite approach is assumed to be applicable in analyzing most linguistic constructions. For example, with the double object construction, if we take ‘transfer’ as the general meaning of *gei* (give), then, the verb denotes the manner of transferring. We will have no problem in interpreting the difference between each of the two sentences below:



- (14) a. The doctor **gave** Mary an attractive skin.  
 b. The doctor gave an attractive skin **to** Mary.
- (15) a. John taught the students English.  
 b. John taught English **to** the students.

The cognitive semantics of *gei* is denoting a relation between the giver and the receiver. And the relation is an abstract concept and it is a state. The construction can be analyzed in the finite state as well.

Simpler syntax hypothesis (Culicover & Jackendoff 2005) aims at finding out a reasonable explanation for the syntax-semantics interface issues. It is a simpler syntactic theory that is able to account for the semantic and pragmatic properties. I have shown that sentences are structured with focal points and analyzing sentences should not be mixed with decoding of the sentences. Passive construction can be analyzed in the finite state dealing with interface issues of semantics, pragmatics and syntax. To some extent, we have moved a step further towards this direction.

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## Contrastive Focus Structure in Mandarin Chinese

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This paper examines two types of cleft constructions in Mandarin Chinese *shi* and *shi...de*, trying to determine if both or which one are/is truly the construction(s) for marking contrastive focus. After showing that the *shi...de* cleft construction has several peculiarities that are not expected for a construction marking contrastive focus and on the other hand the *shi* cleft construction does not have any of them, I conclude that only the *shi* cleft is a marked construction for contrastive focus in Mandarin, despite all the apparent similarities it shares with *shi...de*. Additionally, the structures of the two types of clefts are discussed, with the conclusions that *shi* is the copula in both clefts, *de* is the attributive marker and both clefts are essentially equational sentences.

### 1. Introduction

This paper is concerned with one specific question in the information structuring of Mandarin Chinese. This study is based on a basic but important assumption, namely, Mandarin uses its formal structure (phonology, syntax, etc.) to manifest pragmatic notions such as topic and focus. It is generally agreed that Mandarin is a discourse configurational language (Xu 2002) and topic-prominent language (Li et al. 1981). It is also shown in Li (2005) that topic, as a syntactic component, occurs at the sentence-initial position preceding subject. Similarly, some studies show that Mandarin also uses formal devices to manifest focus, either through a sentence pitch accent or a specific syntactic position in the sentence, or both (Xu 2004). In this paper, I will investigate how a particular type of focus, namely contrastive focus, is manifested in Mandarin Chinese.

#### 1.1. Focus, Informational Focus and Contrastive Focus

I follow the definition of focus in Lambrecht (1994) as follows.

(1) Focus: The semantic component of a pragmatically structured proposition whereby the assertion differs from the presupposition. (p213).

Lambrecht defines assertion and presupposition as follows.

(2) Assertion: The proposition expressed by a sentence which the hearer is expected to know or take for granted as a result of hearing the sentence uttered. (p52)

(3) Presupposition: The set of propositions lexicogrammatically evoked in a sentence which the speaker assumes the hearer already knows or is ready to take for granted at the time the sentence is uttered. (p52)

Based on Lambrecht's definitions, we can represent focus with the following formula:

(4) Focus = Assertion – Presupposition.

A wh-question/answer sequence is often used as a diagnostic for focus. The part in the answer that is not in the question is considered the focus. For example, in (5), *a cake* in the answer is the focus and the presupposition is the proposition 'Susan brought something to the party'.

(5) Q: What did Susan bring to the party?

A: She brought a cake to the party.

Many versions of subclassification of focus have been proposed in the literature. A most common one is to classify focus into two subtypes according to whether the focused item is in contrast with other alternatives in a limited set. The noncontrastive type and the contrastive type assume different names in different studies. Examples are *rheme vs. kontrast* (Vallduvi & Vilkuna 1998), *information focus vs. identification focus* (Kiss 1998), *informational focus vs. operational focus* (Roberts 1998) and *informational focus and contrastive focus* (Xu 2002). Here I follow Xu (2002) and use the terms *informational focus* and *contrastive focus* because of their transparency. Contrastive focus is not only the part by which an assertion differs from its presupposition (that is, it must at first be informational focus), it is also associated with two unique properties Exhaustiveness and Exclusiveness as proposed in Kiss (1998). The first property describes that the constituent under contrastive focus in a sentence is a complete list of the entities that make the truth value of the proposition true. The second property says that those and only those entities under contrastive focus will make the truth value of the proposition true, excluding other entities. For example, it is generally agreed that English cleft sentences 'it is/was...that/who...' is a construction for contrastive focus (Rochemont 1986), the element after 'it is/was' is under contrastive focus. It indeed has these two properties. Let us look at the following sentence.

(6) It was a hat and a shirt that Mary bought yesterday.

For the truth value of (6) to be true, a hat and a shirt must be all the things (exhaustiveness) and the only things Mary bought (exclusiveness). If Mary bought a hat, a shirt and also a pair of shoes, (6) is false. This shows a clear contrast from

informational focus. Let us assume *a hat and a shirt* is the informational focus in (7) below.

(7) Mary bought a hat and a shirt yesterday.

(7) is true even if Mary also bought a pair of shoes besides a hat and a shirt. So informational focus does not need to fulfill the requirements of exhaustiveness and exclusiveness but contrastive focus does.

## 1.2 Contrastive Focus in Chinese

### 1.2.1 Unmarked Contrastive Focus

Contrastive focus can be further divided into two types: marked vs. unmarked. Whether it is marked or unmarked depends on whether a special syntactic construction is being used. (8) is an example of unmarked contrastive focus in Chinese.

- (8) Q: ni        chi mifan    ma?  
       You     eat rice     QP  
       ‘Do you eat rice?’
- A: wo chi miantiao,    bu chi mifan.  
    I    eat noodle        not eat rice.  
    ‘I eat noodle, not rice.’

In the answer in (8), *miantiao* is a new entity contrasting with *mifan* and rejects the alternative *mifan* as a possible value to make the truth value of the proposition ‘I eat X’ positive. As an unmarked form, it does not use any special syntactic pattern but obtains the interpretation through context. Given appropriate context, any constituent in an unmarked sentence can be interpreted as contrastive focus.

### 1.2.2 Marked Contrastive Focus

Contrastive focus can also take a marked form using special syntactic constructions. English cleft sentence like (9) which are mentioned above, are an example of marked construction for contrastive focus.

(9) It was last year that I went to Boston to visit my sister.

In (9), *last year* is under contrastive focus, forming a contrast with all the other possibilities available in the context. The sentence implies that *last year* is the one and only time that ‘I’ went to Boston to visit ‘my’ sister in the specific context where the utterance occurs, which satisfies the exhaustiveness and exclusiveness requirements for contrastive focus.

In Chinese, there are also constructions that resemble English cleft sentences. There are two of them: one marked by *shi*, and the other by *shi...de*. They are called Chinese Cleft Sentences. *Shi* is typically the copula and *de* is typically the attributive marker in Mandarin. What the exact functions of *shi* and *de* are in these two types of cleft constructions has not received a consensus in previous studies. (10) and (11) are examples of the two types respectively.

(10) wo shi        mingnian    qu faguo.  
 I    SHI        next year    go France.  
 'It is next year that I am going to France.'

(11) wo shi        zuotian        qu kan        wo        jiejie    de.  
 I    SHI        yesterday    go see        my        sister    DE  
 'It was yesterday that I went to see my sister.'

(10) and (11) have similar interpretations to their English counterparts. In the two sentences, the part under focus occurs after *shi*. So structurally they look similar too. For these reasons, they are called Chinese cleft sentences and their pragmatic function is likewise claimed to be the same as their English counterparts, namely, to indicate that the element after *shi* bears contrastive focus. *Shi* is accordingly called the focus marker in many studies.

A natural follow-up question is that: Which exact cleft sentence out of these two is the authentic construction for contrast focus in Mandarin, the *shi* cleft or the *shi...de* cleft, or both? Another follow-up question is that: if only one of them truly has the function marking contrastive focus, what is the main function of the other one? No consensus, however, has been reached in the literature regarding these two questions. For example, Xu (2002) claims that the *shi* cleft is used for marking contrastive focus. Teng (1979) says it is the *shi...de* cleft that marks contrastive focus, yet at the same time, he also says *de* is optional, so basically he does not distinguish these two cleft sentences. Some other studies like Lü (1982) think both constructions serve that function. What I am going to show in the following is that only the *shi* cleft is truly a marked construction for contrastive focus in Mandarin and the *shi...de* cleft, however similar to the *shi* cleft on the surface, is not used to mark contrastive focus but has a different semantic function.

## 2. Marked Construction For Contrastive Focus: *shi...de* Cleft or *shi* Cleft

### 2.1 The *shi...de* Cleft

Let us look at more examples of the *shi...de* cleft sentences. In (12), the subject is under focus, in (13), the locative adverbial is under focus and in (14) it is the manner adverbial that is under focus.

(12) shi ta gaosu wo de.  
 SHI he tell me DE  
 'It was him who told me (this).'

(13) wo shi zai daxue li renshi ta de.  
 I SHI at university inside know him DE.  
 'It was in college that I met him.'

(14) wo shi zuo gonggongqiche lai xuexiao de.  
 I SHI sit bus come school DE  
 'It was by bus that I came to school.'

Sentences from (12) to (14) are the most typical examples of the *shi...de* cleft sentences, which are generally used to focus subject, adverbials of time, place, manner, purpose and so on. All these elements occur in front of the verb in Mandarin. As a matter of fact, *shi...de* can only focus on a pre-verbal constituent. It cannot be used to focus the object or some other post-verbal elements. This is shown below in (15) and (16).

(15)\*wo zuotian qu kan shi wo jiejie de.  
 I yesterday go see SHI my sister DE.  
 '(intended) It was my sister that I went to see yesterday.'

(16)\*wo qu guo faguo shi yi ci de.  
 I go ASP France SHI one time DE  
 '(intended) It was once that I have been to France.'

The closest way of expressing the meaning intended by (15) is using the so-called 'pseudo cleft-sentence' as in (17) below in which *shi* must be interpreted as the copula.

(17) wo zuotian qu kan de shi wo jiejie.  
 I yesterday go see DE SHI my sister  
 'The person I went to see yesterday was my sister.'

As for the meaning intended by (16), there is simply no way of using the *shi...de* pattern at all. If we use the pseudo cleft again, we can only come up with some sentence as awkward as 'the number of times that I have been to France is one.' Certainly, an unmarked sentence can be resorted to to convey the sense of contrast as shown in (18) where the adverb *zhi* 'only' is used before the verb and stress is put on the word *yi ci* at the same time.

- (18) wo zhi      qu guo      faguo    YI CI  
 I    only      go ASP      France one time.  
 'I have only been to France ONCE.'

This prohibition from focusing post-verbal elements is a bit strange and hard to explain if we take the views that *shi* is just the focus marker and the function of the structure is to signal contrastive focus. There is no reason why post-verbal constituents cannot be focused. English cleft construction cannot focus on the verbal or adjectival predicate but this can be easily accounted for from the structure of the construction. The English cleft sentence contains a relative clause marked by *that* or *who* and the focused element is the antecedent. Just as an English relative clause cannot modify a verb or an adjective, the English cleft sentence cannot focus on the verb or adjective. But other than this restriction due to structural reasons, all other sentential constituents can be focused in English cleft sentences.

A second peculiarity of the *shi...de* construction is that it can only be used to describe a past event ((12) - (14) above) and a general situation as (19). Describing a future event using the *shi...de* cleft is in general forbidden as shown by (20).

- (19) taiyang shi cong    dongfang    shengqi      de.  
 Sun    SHI from    oriental    rise      DE  
 'It is from the orient that the sun rises.'

- (20)\*ta      shi      mingtian    likai    Beijing de.  
 He    SHI    tomorrow    leave    Beijing DE  
 '(intended) It is tomorrow that he will leave Beijing.'

The ungrammaticality of (20) would be very puzzling if the function of the *shi...de* pattern were indeed to mark contrastive focus, as it is hard to make a direct connection between the information structuring of focus and a particular semantic reference of time.

A third puzzling aspect regarding the claim that the main function of the *shi...de* cleft is to signal contrastive focus concerns its actual use in the discourse. If we claim that some construction's main function is to signal contrastive focus, then it would be natural to expect this construction to only be utilized where a contrast between two entities is intended to be presented, often serving such pragmatic purposes as refuting an existing assumption, or correcting someone's speech, etc. However, in Chinese *shi...de* is a commonly used sentence pattern, and even used in situations where nothing contrastive is intended. It goes so far that in forming an ordinary *wh*-question asking about a specific aspect (like time, location, manner, agent, etc.) of a past event, the *shi...de* construction is the only device. That is to say, if we treat sentences such as (12) –(14) above (repeated here in (21) with their corresponding questions added) as answers to three *wh*-questions

respectively, there is no way of asking and answering the questions other than using the *shi...de* construction.

- (21) a. Q: shi shei gaoxu ni de?  
 SHI who tell you DE  
 ‘Who told you (that)?’  
 A: Shi ta gaosu wo de.  
 SHI he tell me DE  
 ‘He told me (that).’
- b. Q: ni shi zai nar renshi ta de?  
 you SHI at where know him DE  
 ‘Where did you meet him?’  
 A: wo shi zai daxue li renshi ta de.  
 I SHI at college inside know him DE  
 ‘I met him in college.’
- c. Q: ni (shi) zenme lai xuexiao de?  
 you SHI how come school DE  
 ‘How did you come to school?’  
 A: wo (shi) zuo gonggongqiche lai xuexiao de.  
 I SHI sit bus come school DE  
 ‘I came to school by bus.’

It is true that in a *wh*-question, the *wh*-phrase is the focus and the rest of the sentence is presupposition, but nothing contrastive is really meant here. There is no explanation why a construction for contrastive focus must be used in these cases. Or there should at least simultaneously exist a ‘noncontrastive’ way of asking and answering these questions in the language, but unfortunately there is not.

To summarize, due to the three observations described above, I conclude that *shi...de* is not truly a construction for contrastive focus in Mandarin Chinese. Next I will examine the other cleft structure in Mandarin and see if its main function is to mark contrastive focus.

## 2.2. The *shi* Cleft

Let us look at the other cleft construction in Mandarin, the *shi* cleft. It differs from the *shi...de* cleft in the surface structure by only one word, and its interpretation is also very similar to *shi...de*. One generally cannot tell their semantic difference. I repeat (10)



and (11) here ((22) and (23) below) to remind readers of the similar meanings they convey.

(22) wo shi mingnian qu faguo.  
 I SHI next year go France.  
 ‘It is next year that I am going to France.’

(23) wo shi zuotian qu kan wo jiejie de.  
 I SHI yesterday go see my sister DE  
 ‘It was yesterday that I went to see my sister.’

Despite all the apparent similarities between the *shi...de* cleft and the *shi* cleft, however, after scrutiny we find that the latter lacks all the unexplainable peculiarities of the *shi...de* construction discussed in last section that should not be expected for a construction for contrastive focus.

First, it can be used to focus on any constituent in the sentence, not just preverbal elements. It can focus on the subject (24a)), the preverbal temporal adverbial (24b)), the main verb (24c)), the object (25d)), and the post-verbal frequency complement (24e)).

- (24) a. Shi Zhangsan qu faguo, (bu shi Lisi).  
 SHI Zhangsan go France not SHI Lisi.  
 ‘It is Zhangsan who is going to France, (not Lisi).’
- b. Zhangsan shi mingnian qu faguo, (bu shi jinnian).  
 Zhangsan SHI next-year go France not SHI this-year  
 ‘It is next year that Zhangsan is going to France, (not this year).’
- c. Zhangsan shi qu faguo, (bu shi hui faguo).  
 Zhangsan SHI go France, not SHI return France  
 ‘Zhangsan is going to France, (not returning to France).’
- d. Zhangsan shi qu faguo, (bu shi qu yingguo).  
 Zhangsan SHI go France, not SHI go Britain  
 ‘It is France that Zhangsan is going to, (not Britain).’
- e. Zhangsan shi qu guo faguo liang ci, (bu shi san ci).  
 Zhangsan SHI go ASP France two time not SHI three time  
 ‘It is twice that Zhangsan has been to France, (not three times).’

It should be noted that as you can see from above, when a pre-verbal element as well as the main verb is under focus, *shi* is preverbal, but when a post-verbal element is under focus, *shi* still occurs in front of the main verb, not following the focused element moving rightward. This consistent preverbal position of *shi* will be accounted for later.

The question now is that when *shi* occurs before the verb and the focused element occurs after the verb, how do people know which post-verbal element is under focus? Here is where prosody comes into play. A sentence stress will be put on the word that is under contrastive focus. For instance, (24e) has two post-verbal constituents: the object *faguo* and the frequency complement *liang ci*. Which word is interpreted as the locus of contrastive focus depends on where the stress falls. In (25a), the stress is on *faguo* and *faguo* is understood to be the contrastive focus whereas in (25b) the stress is on *liang ci* and *liang ci* is accordingly understood to be the contrastive focus. This solution is not available to the *shi...de* cleft.

- (25) a. Zhangsan shi qu guo FAGUO liang ci.  
 ‘It is France that Zhangsan has been to twice.’  
 b. Zhangsan shi qu guo faguo LIANG CI.  
 ‘It is twice that Zhangsan has been to France.’

The second difference between the *shi* cleft and the *shi...de* cleft is that the use of the *shi* cleft is not restricted to past or general situations, but to all temporal situations. (24b) above is an example of a future situation, and (26) and (27) below are its counterparts for past and general situations respectively.

- (26) Zhangsan shi san nian qian qu le faguo, (bu shi si nian qian).  
 Zhangsan SHI three year ago go ASP France not SHI four year ago  
 ‘It was three years ago that Zhangsan went to France, (not four years ago).’  
 (27) Zhangsan shi jingchang qu faguo, (bu shi ou’er).  
 Zhangsan SHI often go France not SHI occasionally  
 ‘Zhangsan OFTEN goes to France, (OCCASIONALLY).’

Third, compared to the use of the *shi...de* construction in non-contrastive contexts, the use of *shi* cleft is heavily context-dependent and only used when a pragmatic contrastive focus is intended, as it should be. Therefore sometimes when taken out of context, a *shi* cleft sentence is hardly acceptable, shown in (28).

- (28) ? ta shi cizhi le.  
 He SHI resign ASP

However, provided with an appropriate context, this sentence is rendered acceptable immediately.

- (29) ta shi cizhi le, bu shi bei jiegu le.  
 He SHI resign ASP not SHI PAS fire ASP  
 ‘He RESIGNED, not got FIRED.’

From its behaviors, I conclude that the main function of the *shi* cleft is to mark contrastive focus and it is truly a marked construction for contrastive focus in Mandarin Chinese. Therefore, although the *shi* cleft and the *shi...de* cleft constructions look similar and have similar interpretations, they have different pragmatic functions and only the *shi* cleft is used to mark contrastive focus in Mandarin Chinese.

### 3. Structures of the *shi* and the *shi...de* Cleft Constructions

Now that we have denied the possibility of the *shi...de* cleft being a construction marking contrastive focus in Mandarin and demonstrated that the *shi* cleft is the one marking contrastive focus, then what is the structure of the *shi* cleft, is *shi* a pure focus marker or something else? To understand its structure, we should start from investigating the structure of the *shi...de* cleft and from there the structure of the *shi* cleft will easily be accounted for.

#### 3.1 Structure of the *shi...de* Cleft Construction

In order to understand the structure of the *shi* cleft, we need to understand what *shi* and *de* are in the construction. So what are they?

The main function of *de* in Mandarin is being the attributive marker. A phrase ending in *de* is often used as a modifier for a noun in Mandarin. The phrase preceding *de* can be a DP, VP, or a clause, as in the following examples.

- (30) a. Zhangsan de shu  
 Zhangsan DE shu  
 ‘Zhangsan’s book’
- b. na ge dai yanjing de xuesheng  
 that CLF wear glasses DE student  
 ‘the student who wears glasses’
- c. wo xihuan kan de dianying  
 I like look DE movie  
 ‘movies that I like to watch’

An interesting characteristic of such structure is that when the context is clear, the head nouns in all these phrases can be dropped, producing the so-called ‘headless relative clauses’, a covering term for all the *de* phrases in the following examples:

- (31) a. Na ben shu shi Zhangsan de.  
 that CLF book be Zhangsan DE  
 ‘That book is Zhangsan’s.’
- b. wo bu renshi na ge dai yanjing de.  
 I not know that CLF wear glasses DE  
 ‘I don’t know the one who is wearing glasses.’
- c. Zhaxie dou bu shi wo xihuan kan de.  
 These all not be I like look DE  
 ‘None of these is what I like to watch.’

But note that the allowance for dropping the head noun is only restricted to cases where the head noun functions as either the subject or the object in the relative clause. A sentence like (32) where the head noun is *yuanyin* ‘reason’ and dropped is ungrammatical because *yuanyin* functions as the adverbial in the relative clause.

- (32) qing gaosu wo ni mei lai shangke de \*(yuanyin).  
 Please tell me you not come have-class DE (reason).  
 ‘Please tell me the reason why you didn’t come to class.’

Because dropping of the head noun after *de* in this type of structures is very common, some DPs that contain a VP followed by *de* alone have even been lexicalized in Mandarin, referring to a person in a particular profession such as *mai cai de* ‘selling vegetables *de*’ (meaning vegetable vendor), *zuo shengyi de* ‘do business *de*’ (meaning businessman), *changge de* ‘sing song *de*’ (meaning singer) and etc.

- (33) Zhangsan shi mai cai de/zuo shengyi de/changge de.  
 Zhangsan be sell vegetable DE/do business DE/sing-song DE  
 ‘Zhangsan is a vegetable vendor/businessman/singer.’

In (33), *shi* must be analyzed as the copula. It makes good sense semantically and *shi* can be negated and also changes into V-not-V to form a yes-no question. (33) is just a simple structure of ‘A is B’. Can we analyze the *shi...de* construction in the same way? Is there evidence for the analysis of *de* in *shi...de* as the attributive marker, *shi* as the copula and the whole sentence as a structure of ‘A is B’ just like (33)? I think there is.

As for *shi* in the cleft construction, it must be a verb at least. First it can be negated, the negative form of *shi...de* is *bu shi...de* (shown in (34)). Also in forming a V-not-V question, *shi bu shi* is used ((35)).

(34) Zhangsan bu shi qunian qu faguo de.  
 Zhangsan not SHI last-year go France DE.  
 ‘It was not last year that Zhangsan went to France.’

(35) Zhangsan shi bu shi qunian qu faguo de?  
 Zhangsan SHI not SHI last-year go France DE.  
 ‘Was it last year that Zhangsan went to France?’

If we admit that *shi* is a verb, then it must be the copula. Next, if we would analyze *de* as the attributive marker, the verb phrase before it and after *shi* must be analyzed as a relative clause. There are two pieces of evidences to support this analysis.

First, we all know that the *shi...de* construction can focus a subject DP, exemplified again as below.

(36) shi Zhangsan shuo de.  
 SHI Zhangsan say DE  
 ‘It was Zhangsan who said (this).’

However, the following sentences are ungrammatical regardless of their almost identical structure to (36).

(37) a. \*shi Zhangsan cizhi de.  
 SHI Zhangsan resign DE  
 ‘(intended) It was Zhangsan who resigned.’

b. \*shi ta zai xiao de.  
 SHI he at laugh DE  
 ‘(intended) It is him who is laughing.’

(37) cannot be acceptable no matter what the contexts might be. The only difference between (36) and (37) that can be detected after further scrutiny is that *shuo* is a transitive verb whereas *cizhi* and *xiao* are intransitive verbs. First if *shi...de* were really a construction marking contrastive focus, the interaction between verb transitivity and focusability of the subject would be another strange property to account for. So why the contrast in grammaticality between (36) and (37)? If we analyze the segments between *shi* and *de* as relative clauses in the above sentences, then we have the answer. This is because an intransitive verb cannot form a legitimate relative clause when the head noun is dropped. As I mentioned before, the head noun of a relative clause can only be dropped in Mandarin when it functions as the subject or object in the relative clause, i.e. it must be a missing argument of the verb in the relative clause. Therefore when the relative clause contains a subject and an intransitive verb, its argument structure is complete and thus

cannot be used to modify another noun. This is the reason why (37) is ruled out. As a contrast, in (36), the part between *shi* and *de* ‘*Zhangsan shuo*’ still needs an object, and hence a well-formed relative clause. This is the reason why (36) is grammatical. I propose (38) below as the underlying structure for (36).

(38)(DPi)    *shi*        *Zhangsan*    *shuo*    *de* (DPi).  
                   SHI        *Zhangsan*    say        DE  
                   ‘(literally) (Sth.) was what Zhangsan said.

I assume that in (38) both the subject and the head noun of the relative clause are covert and they are coindexed. It is again a simple structure ‘A is B’ just like (33). In Mandarin it is very natural to drop the subject/topic of a sentence. It will be a complete sentence if we fill out the subject position with an overt DP, say, *zhe jian shi* ‘this thing’. Some people may raise a question here: if you assume that there is a DP after *de* which is coindexed with the subject, what exact DP can we reconstruct here? Is it *Shi* ‘thing’, *yi jian shi* ‘a thing’, or *zhe jian shi* ‘this thing’? It is true that any of such overt DPs would make the sentence in (38) sound odd. But this fact should not invalidate the analysis. Nobody will deny that in a sentence like *ta shi changge de* ‘He is a singer’ (c.f. (33)), *changge de* refers to a person who sings, yet an overt noun phrase like *ren* ‘person’, *yi ge ren* ‘a person’ or *na ge ren* ‘that person’ would all make the sentence sound more or less odd. I propose that in the *shi...de* cleft construction, there is a base-generated covert nominal category after *de* which is the head of the relative clause after *shi* and it is coindexed with the DP before *shi*. So the underlying structure of, say (13) above, is shown below in (39).

(39) [w<sub>0i</sub>    *shi* [[    *zai* *daxue*        *li*        *renshi*    *ta*    *de*<sub>CP</sub>] e<sub>i</sub> DP] IP]  
       I        SHI        at university    inside    know    him DE.  
       ‘It was in college that I met him.’

To summarize, only when we analyze *shi* as the copula and *de* as the attributive marker followed by an empty head noun, can we account for the contrast of grammaticality between (36) and (37).

Another piece of evidence supporting the relative clause analysis in the *shi...de* construction is related to the use of the completion *le*. It is known that when using *shi...de* to describe a past action, for which the completion *le* is normally used, one cannot use *le*. Again, this would be strange for a construction whose main function is to mark contrastive focus. However, it happens that when a relative clause is describing a past action, *le* is not used either, as shown below.

- (40) *zuotian gei wo da (\*le) dianhua de ne ge ren shi wo mama.*  
 yesterday to me make phone-call DE that CLF person is my mom  
 ‘The person who called me yesterday was my mom.’

This coincidence would be hard to explain if we consider the *shi...de* cleft and relative clauses as two irrelevant structures to each other. But if we assume that the *shi...de* cleft construction contains in it a relative clause, then it is not a coincidence anymore.

Based on the above analysis, I conclude that in the *shi...de* cleft construction *shi* is the copula, *de* is the attributive marker, and the entire construction, regardless of its function, is a simple structure of direct equation ‘A is B’, where A is a DP and B is a headless relative clause. This analysis also readily explains why *shi* never occurs right of the verb. That is just a sure result of the structure of *shi...de*. A *shi...de* sentence with *shi* occurring after the verb in the relative clause is simply a badly-formed structure in Chinese, as shown in (41) ((15) above).

- (41)\* *wo zuotian qu kan shi wo jiejie de.*  
 I yesterday go see SHI my sister DE.  
 ‘(intended) It was my sister that I went to see yesterday.’

### 3.2 Structure of the *shi* Cleft Construction

Along the same line of the analysis for the *shi...de* cleft, I propose that *shi* in the *shi* cleft is also the copula for the same reasons that it can be negated with *bu*, forms V-not-V question, and it also cannot occur right of the verb. So on the surface it is also a structure of equation ‘A is B’. However without the attributive marker *de*, it is an equation between a DP (A) and a VP or sentence (B). How does this work?

Following Ross (1983), I think that the VP or S after *shi* can be regarded as a nominal element, which describes a situation. This can well be so because there is no formal marking for verbal or sentential nominalization in Chinese. Thus the entire sentence of the *shi* cleft construction can have such interpretation as ‘for somebody or something, the situation/case is (what is described by the VP or S)’. So (42a) ((24a) above) is interpreted as ‘The situation is that ZHANGSAN is going to France’, and (42b) ((24b) above) is interpreted as ‘For Zhangsan, the situation is that he is going to France NEXT YEAR’.

- (42) a. *Shi Zhangsan qu faguo, (bu shi Lisi).*  
 SHI Zhangsan go France not SHI Lisi.  
 ‘It is Zhangsan who goes to France, (not Lisi).’  
 b. *Zhangsan shi mingnian qu faguo, (bu shi jinnian).*  
 Zhangsan SHI next-year go France not SHI this-year  
 ‘It is next year that Zhangsan is going to France, (not this year).’

This kind of analysis is in line with the basic topic-comment structure of Mandarin Chinese. As one prominent characteristic of topic-comment structure, topic does not have to be in a direct selectional relationship with the predicate. The overt DP before *shi* in each of the above examples is to be analyzed as the topic. The real subject is an empty element right before *shi* standing for word ‘the situation’ ‘the case’ or the expletive ‘it’ (Chinese does not have overt expletives by the way), which results in the surface form where the initial overt DP (the topic) forms an indirect equational relationship with the predicate. Li (2005) proposes a TopP containing an IP as the basic structure for Chinese sentences. Following Li (2005), the underlying structure of (42b) above is as follows.

- (43) [Zhangsan<sub>i</sub> [e *shi* [e<sub>i</sub> mingnian qu faguo<sub>CP</sub>].IP] TopP]  
 ‘It is next year that Zhangsan is going to France.’

To sum up, both *shi...de* and *shi* cleft constructions are actually simple equational sentences ‘A is B’, with *shi* being the copula. The difference is that in the former, A and B form a direct equational relationship and in the latter, A and B form an indirect equational relationship with the sentence interpreted as ‘For A, the situation/case is that B.’ This semantic interpretation actually matches very well with its pragmatic function as marking contrastive focus, because when people are making contrast between two entities, they tend to say ‘For X, it is a case of A, not a case of B.’

#### 4. Recapitulations and Remaining Questions

In this paper I discussed two cleft constructions in Mandarin Chinese: *shi...de* and *shi*. Both have been claimed to be constructions marking contrastive focus. I have shown that only the *shi* cleft is truly a marked structure in Mandarin to signal contrastive focus, while the *shi...de* cleft construction, regardless of its apparent resemblance to the *shi* cleft, is not for marking contrastive focus. Then I analyzed the structures of both constructions and concluded that *shi* in both constructions is the copula and *de* in the *shi...de* cleft is still the attributive marker. Both constructions have the structure of ‘A is B’, only that in *shi...de* A and B has a direct equational relationship, whereas in *shi*, A is the topic, and A and B form an indirect equational relationship.

There are still some remaining issues. If the main function of *shi...de* is not to mark contrastive focus, what is its main function? Why does it have to be used in a wh-question about a past event? Why can it be used to describe a past or general situation but not future? How are these characteristics related to its structure? Since this paper is only concerned with constructions for contrastive focus in Mandarin, investigations of those questions are beyond the scope of this paper. In addition, since *shi...de* pattern has a lot of varieties with different semantic properties in Mandarin, it can certainly form a topic itself for a whole new independent study. As a matter of fact, there have been a lot of studies on that topic in the past, but certainly further research is still needed.\



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## **A Probe-Goal Approach to Parametric Variation in English and Mandarin Chinese Nominal Phrases\***

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This paper is a comparative study of the morphosyntax of the constituents referred as noun phrases (NPs) in traditional grammar, and it focuses on empirical data from English and Mandarin Chinese. This paper investigates the internal structure of nominal phrases in terms of Abney's (1987) Determiner Phrase (DP) Hypothesis, which proposes that nominal phrases are headed by determiners. Furthermore, it pursues a universal structure for the nominal phrase in all languages in line with Pereltsvaig's (2007) Universal-DP Hypothesis, which asserts that the syntactic structure of the nominal phrase is universal regardless of the presence of lexical items which realise the heads of the functional projections. More specifically, it proposes a Probe-Goal feature-valuing model to account for the parametric variation in these two languages within the framework of Chomsky's (2000, 2001, 2004) phase-based Minimalist Programme.

### **1. Introduction**

This paper is a comparative study of the morphosyntax of the constituents referred as noun phrases (NPs) in traditional grammar. In particular, it will focus on empirical data from English and Mandarin Chinese. The phrase structure of nominals in these two languages has been investigated in the literature (i.e. Cheng and Sybesma (1999) on Mandarin and Cantonese, Li (1999) on English and Mandarin). This paper investigates the internal structure of nominal phrases in terms of Abney's (1987) Determiner Phrase (DP) Hypothesis, which proposes that nominal phrases are headed by determiners. Furthermore, it pursues a universal structure for the nominal phrase in all languages in line with Pereltsvaig's (2007) Universal-DP Hypothesis, which asserts that the syntactic structure of the nominal phrase is universal regardless of the presence of lexical items which realise the heads of the functional projections. More specifically, it will propose a Probe-Goal feature-valuing model to account for the parametric variation in these two languages within the framework of Chomsky's (2000, 2001, 2004) phase-based Minimalist Programme.

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The paper is organized as follows. In section 2, I present the parametric variation of nominal phrases in English and Mandarin Chinese. In Section 3, I briefly review the previous literature discussing the phenomena of the two languages. In section 4, I propose a unified-structure account, which is committed to the claim that the functional structure in the Narrow Syntax are uniform across all languages, in order to explain the parametric variation in the two languages. In section 5, I apply the proposed account to analyse the data presented in Section 2. Section 6 concludes the paper.

## 2. Nominal phrases in English and Mandarin Chinese

It is well-known that we can observe parametric variation in nominal phrases cross-linguistically as shown in (1) and (2):

- (1) a. English: I hate **cats/the cats**.  
 b. Mandarin: Wo<sup>3</sup> tao<sup>3</sup> yan<sup>4</sup> **mao<sup>1</sup>/na<sup>4</sup> zhi<sup>1</sup> mao<sup>1</sup>**.
- (2) a. English: **Rice** is good to eat.  
 b. Mandarin: **Fan<sup>4</sup>** hen<sup>3</sup> hao<sup>3</sup> chi<sup>1</sup>.

In these two languages, nominal phrases behave quite differently in three respects: definiteness, gender, and number. In English, the definiteness is expressed by an article (i.e. *the* and *a*). Genericity is conveyed by bare plurals or mass nouns as in (1a) and (2a). There is no grammatical gender marker. The number is distinguished by the plural marker *-s* as in *the cat* versus *the cats*.

Mandarin is radically different from English. There are no articles such as *a* and *the*. Bare nouns appear in argument positions to express genericity as in (1c) and (2c). They can also express definiteness as in (3):

- (3) **Gou<sup>3</sup>** yao<sup>4</sup> guo<sup>4</sup> ma<sup>3</sup>lu<sup>4</sup>  
 dog want cross road  
 Singular reading: ‘The dog wants to cross the road.’  
 Plural reading: ‘The dogs want to cross the road.’  
 NOT: ‘A dog wants to cross the road’ or ‘Dogs want to cross the road.’

In the expression of quantities, the numeral classifier is required as shown in (4).

- (4) shi<sup>2</sup> \*(zhi<sup>1</sup>) bi<sup>3</sup>  
 ten CL pen  
 ‘ten pens’

In addition, although there is a plural marker<sup>1</sup> in Mandarin, it is quite restricted in use. The plural marker *-men* can only be used with nominals denoting human beings. This can be demonstrated by the contrast of grammaticality in (5).

- (5) a. hai<sup>2</sup>zi<sup>5</sup>-men<sup>5</sup>  
 child-MEN  
 ‘children’  
 b. \*zhuo<sup>1</sup>zi<sup>5</sup>-men<sup>5</sup>  
 table-MEN  
 Intended meaning: ‘tables’

### 3. Literature Review

Following the description of parametric variation between the two languages, this section reviews the literature, addressing the issue of whether we can have a unified structure to analyse the data or whether we need a language-specific structure for each language.

In the literature, most authors adopt non-unified approaches to explain the differences within a language or among languages. For example, Cheng and Sybesma (1999) propose that Chinese and English have different encoding mechanisms for definiteness. According to their proposal, definiteness is encoded by the function head, Classifier (Cl), in Chinese whereas it is encoded by the D head in English. This is motivated by their assumption that the encoding of (in)definiteness in articulated and article-less languages is fundamentally different. The two types of encoding strategies that they assume are schematised as below:

Sio’s (2006: 29; modified):

- (6) Articled languages such as English: [<sub>DP</sub> Definite [<sub>NumeralP</sub> Indefinite]]  
 Article-less languages such as Chinese: [<sub>NumeralP</sub> Indefinite [<sub>CIP</sub> Definite]]

According to their proposal, the DP in English and the CIP in Chinese are inherently definite, whereas the NumeralP in both languages is inherently indefinite. However, as noted by Chan (1999), it is not theoretically plausible for the Cl head and the Numeral head to have a fixed value of definiteness, namely the Cl head carrying a [+Definite] feature and the Numeral head carrying a [+Indefinite] feature as proposed by Cheng and Sybesma (1999). This proposal in turn will lead to a crash in the derivation of the nominal phrase, for the feature specification of a functional head is percolated to the highest node of an extended projection (Grimshaw 1991). Therefore, Cheng and Sybesma’s (1999)

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<sup>1</sup> As to whether the suffix *-men* is a plural marker or a collective marker, readers are referred to Iljic (1994, 2001) and Li (1999) for discussion.

postulation of inherently indefinite NumeralP containing the inherently definite CIP must be on the wrong track.

In order to account for the differences between English and Mandarin nominals, Li (1999) proposes a non-unified account as well. The internal structures of English and Mandarin nominals are presented in (7).

- (7) English: [DP [NumP *-s* [NP ]]  
 Mandarin: [DP *-men* [NumP [CIP[NP ]]]]

According to her proposal, the noun in English is obligatorily raised to the functional head, Number (Num), and then the plural marker *-s* is suffixed to the noun. On the other hand, in Mandarin the overt CI head between NumP and NP will block the N-to-Num movement because of the Head Movement Constraint (Travis 1984). The marker *-men* is suffixed to the noun only when the noun can move up to D. However, given that English and Mandarin have an unvaried Adjective-N order<sup>2</sup> as show in (8) and (9) respectively, Li's postulation of head movement in English and Mandarin nominal phrases seems to be unconvincing. If there were N-to-Num movement in bare nouns, the sequences *pretty girls* and *piao<sup>4</sup>liang<sup>4</sup> bao<sup>3</sup>bei<sup>2</sup>-men<sup>5</sup>* should be ungrammatical, whereas the sequences *\*girls pretty* and *\*bao<sup>3</sup>bei<sup>2</sup>-men<sup>5</sup> piao<sup>4</sup>liang<sup>4</sup>* should be grammatical. Yet this is not the case. As a result, an alternative account is required.

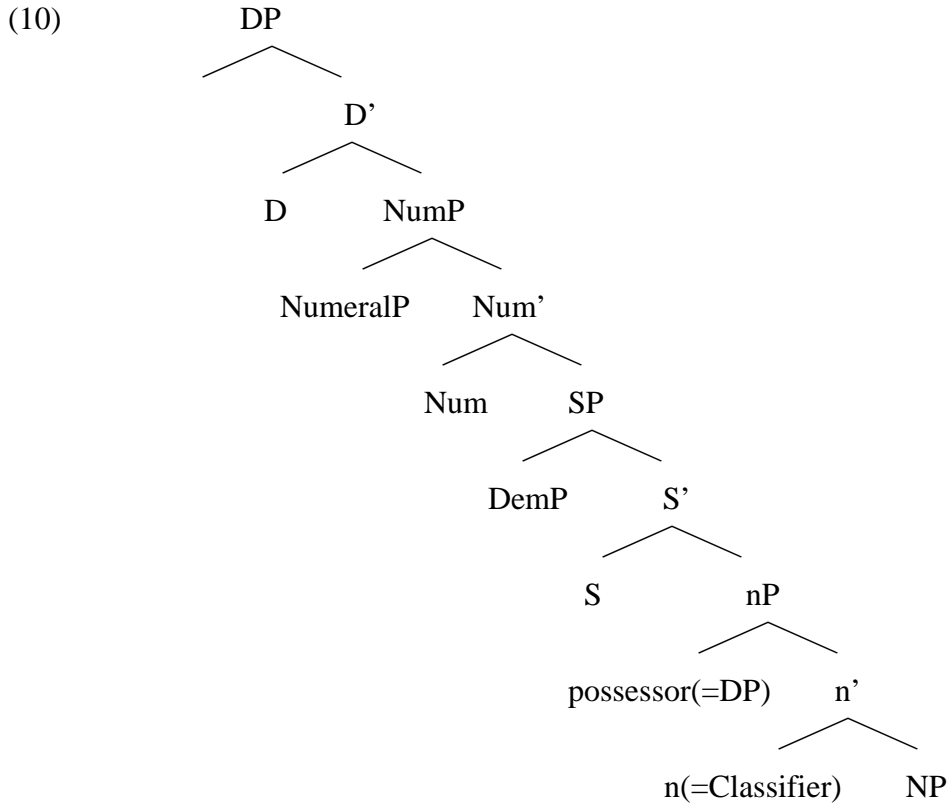
- (8) English: *pretty girls*  
           *\*girls pretty*
- (9) Mandarin: *piao<sup>4</sup>liang<sup>4</sup> bao<sup>3</sup>bei<sup>2</sup>-men<sup>5</sup>*  
                   *pretty babe-MEN*  
                   ‘*pretty babes*’  
                   *\*bao<sup>3</sup>bei<sup>2</sup>-men<sup>5</sup> piao<sup>4</sup>liang<sup>4</sup>*  
                   *babe-MEN pretty*

#### 4. My Proposal: A Probe-Goal Approach

Although there is still a debate on the internal structure of the nominal phrase across languages, I will argue for the existence of DP in all languages and show how the composition of the nominal phrase may bear on issues of referentiality, specificity, quantification, and definiteness in order to maintain a unified structure account, namely the DP Hypothesis, cross-linguistically. The syntactic structure that I postulate is schematized as:

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<sup>2</sup> I assume that the adjective can be adjoined to the NP or nP.



In order to maintain the idea that the nominal structures are essentially the same cross-linguistically, I assume that the head of DP is the locus of the [Definite] feature (henceforth [Def]), the head of Number Phrase (NumP) is the locus of the [Number] feature (henceforth [Num]), the head of Specificity Phrase (SP) is the locus of the [Specific] feature (henceforth [Spec])<sup>3</sup>, and the light noun projection (nP), which is lexically realised as the classifier in classifier languages (i.e. Chinese), is the locus of the [Referential] (henceforth [Ref]), [Countable] (henceforth [Count]), and [Unit] features. In terms of feature interpretability (Chomsky 1995), the aforementioned feature carried by each functional projection is interpretable. However, the head of each functional projection bears not only the interpretable feature but also several uninterpretable features related to the other functional projections. For instance, the D head is composed of an interpretable [Def] feature and the uninterpretable [Num], [Spec] and [Ref] features. According to Chomsky's (2001) Probe-Goal theory, the interpretable feature of each functional head interacts with the uninterpretable features of other functional heads via

<sup>3</sup> It is assumed that definite nominals are not necessarily specific. For instance, the nominal phrase *the bus* in (i) is definite but nonspecific.

(i) Every morning I take the bus to school.

the operation Agree. For example, the D head with the interpretable [Def] feature and the unvalued uninterpretable [Ref] feature serves as the Probe, while the n head with the interpretable [Ref] feature and the unvalued uninterpretable [Def] feature serves as the Goal. The interpretable [Def] feature on D matches and deletes the unvalued uninterpretable [Def] feature on n by Agree, while the interpretable [Ref] feature on n matches and deletes the unvalued uninterpretable [Ref] feature on D by Agree.

As for the parametric variation, I assume it can be limited to two sources: (i) how the movement-triggering feature (namely [EPP]) on different functional heads (i.e. D, Num and n) can be satisfied (i.e. by DP-internal head/phrasal movement); (ii) how the (un)interpretable features on different functional heads can be phonetically realised.

## 5. Data Analyses

In this section, I will analyse the data from English and Mandarin Chinese based on the proposal presented in the previous section to explain the parametric variation between these two languages.

### 5.1. Bare Nouns in English and Mandarin and Bare Plurals in English

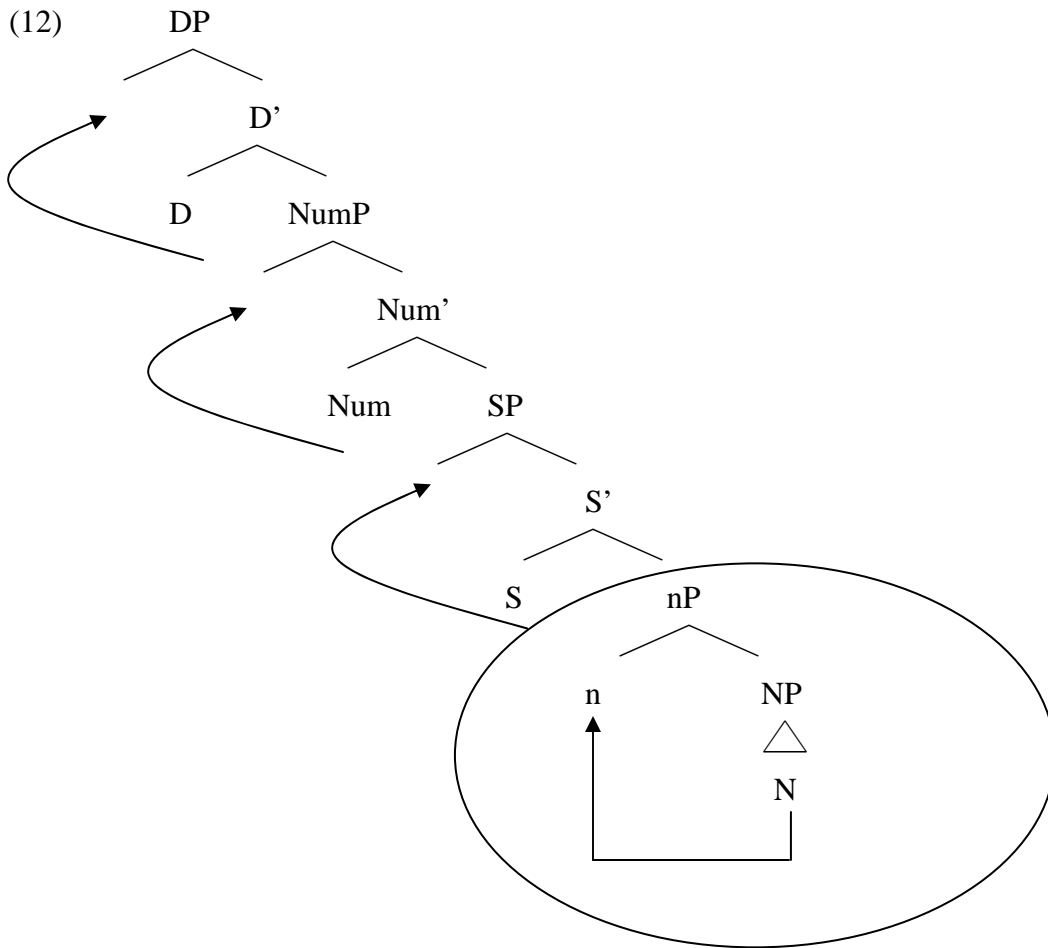
In contrast to French, genericity in English is conveyed by mass nouns or bare plurals as shown in (11).

- (11) a. **Rice** is good to eat.  
b. I hate **cats**.

Given the assumption that the (in)definiteness of nominal phrases is determined by the feature specification of the functional head D in the universal syntactic structure in (10), I am going to provide a unified account for the derivation of the bare noun in (11a) and the bare plural in (11b), arguing that there is N-to-n movement followed by phrasal movement of nP to the Specifier (Spec) of DP.

Cinque's (1994) N-movement (head movement of N to D) analysis of bare nouns in the DP domain of Romance languages is not applicable for English, for his analysis is based on the relative order of nouns with respect to a number of modifying adjectives. Such an analysis is parallel to the head-movement analysis of verb in the clausal domain, which is based on the relative order of verbs with respect to a number of modifying adverbs. However, as indicated in (8), English has unvaried Adjective-N order; therefore, an alternative account is required for English.

On my account, there is N-to-n movement followed by phrasal movement of nP to the Spec of DP via the Spec of SP and the Spec of NumP, as illustrated in (12):



For the derivation of the bare noun and the bare plural in (11), the N (i.e. *rice* and *cat*) first merges with the n head with an interpretable [ $\pm$ Count] feature, which determines the countability of the phrase. The N then moves to the n head to satisfy the latter's [EPP] feature. The S head specified with an interpretable [-Spec] feature then merges with the nP, leading to the generic meaning of the whole structure. The S head with the unvalued uninterpretable [Ref] and the interpretable [-Spec] feature agrees with the n head with the interpretable [-Ref] feature and the unvalued uninterpretable [Spec] feature. The nP in turn raises to the Spec of SP to satisfy the [EPP] feature of S. The Num head with the unvalued uninterpretable [Ref] and an interpretable [Num] feature then merges with the SP. It agrees with the n head with the interpretable [-Ref] feature and the unvalued uninterpretable [Spec] feature. The nP further moves to the Spec of NumP to satisfy the [EPP] feature of Num. The D head with the interpretable [-Def] feature and the unvalued uninterpretable [Ref] then merges with the NumP. It agrees with the n head with the interpretable [-Ref] feature and the unvalued uninterpretable [Def] feature. The nP finally



reaches the Spec of DP to satisfy the [EPP] feature of D.<sup>4</sup> Then, within a Distributed Morphology approach, I assume that the uninterpretable [Num: Plural] feature on the n head in (11b) is spelt out by the PF component as the suffix *-s*.

The above analysis can be applied to bare nouns in Mandarin as well. However, as indicated by Cheng and Sybesma (1999, 2005), bare nouns in Mandarin can have different interpretations according to their positions in the sentence. For instance, postverbal bare nouns can be interpreted as indefinite, definite or generic, whereas preverbal bare nouns can be interpreted as definite or generic only. Examples can be found in (13) and (14):

Cheng and Sybesma (2005: 261; modified):

(13) Object position:

a. Indefinite

Hu<sup>2</sup>fei<sup>3</sup> mai<sup>3</sup> **shu**<sup>1</sup> qu<sup>4</sup> le<sup>5</sup>

Hufei buy book go SFP

Singular reading: 'Hufei went to buy a book.'

Plural reading: 'Hufei went to buy books.'

b. Definite

Hu<sup>2</sup>fei<sup>3</sup> he<sup>1</sup> wan<sup>2</sup> le<sup>5</sup> **tang**<sup>1</sup>

Hufei drink finish PRF soup

'Hufei finished the soup.'

c. Generic

Wo<sup>3</sup> xi<sup>3</sup>huan<sup>1</sup> **gou**<sup>3</sup>

I like dog

'I like dogs.'

(14) Subject position:

a. Definite

**Gou**<sup>3</sup> jin<sup>1</sup>tian<sup>1</sup> te<sup>4</sup>bie<sup>2</sup> ting<sup>1</sup>hua<sup>4</sup>

dog today very obedient

Singular reading: 'The dog was very obedient today.'

Plural reading: 'The dogs were very obedient today.'

b. Generic

**Gou**<sup>3</sup> ai<sup>4</sup> chi<sup>1</sup> rou<sup>4</sup>

dog love eat meat

'Dogs love to eat meat.'

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<sup>4</sup> The whole process of Agree operations on each functional head is simplified here. For instance, the D head with the interpretable [-Def] feature and the unvalued uninterpretable [Spec] also agrees with the S head with the unvalued uninterpretable [Def] and the interpretable [-Spec] feature.

According to Cheng and Sybesma's analysis, the diverse interpretations in (13) and (14) result from the different underlying syntactic structures. Instead, I propose a unified underlying structure for both definite and indefinite nominals, arguing that the feature specification of the functional heads D and S determines the (in)definiteness and specificity of the phrases. In other words, the only difference between (13a-c) or (14a-b) concerns the values of the interpretable [Def] feature on D and the interpretable [Spec] feature on S.

### 5.2. Nominal Phrases with Demonstrative in English and Mandarin

Given that specificity can be encoded by a demonstrative in English and Mandarin, this section turns to the Demonstrative-Numeral-N sequence in English and the Demonstrative-Numeral-Classifier-N sequence in Mandarin. I propose that they involve the movement of DemP to the Spec of DP via the Spec of NumP. This movement is triggered by the [EPP] feature with the match and deletion of an uninterpretable [Deictic] feature carried by the head of DP. More specifically, I assume that the Dem is specified for an interpretable [Deictic] feature (i.e. [Proximal] or [Distal]) and this feature values and deletes the uninterpretable [Deictic] feature on the head of DP via Agree. In turn, the interpretable [+Def] feature on the head of DP matches and deletes the uninterpretable [Def] feature carried by the Dem via Agree. The DemP then moves to the Spec of DP to satisfy the [EPP] feature on D.

## 6. Concluding Remarks

As demonstrated in the previous section, a unified structure of encoding definiteness and number can be reached by the current Probe-Goal approach. The idea that the projection of DP is a property of UG can also be maintained, which allows article-less languages (i.e. Mandarin) not to lexically realise the functional head D.

As for the parametric variation, I assume it can be limited to two sources: (i) how the [EPP] feature on different functional heads (i.e. D, Num and n) can be satisfied (i.e. by DP-internal head/phrasal movement); (ii) how the (un)interpretable features on different functional heads can be phonetically realised. In English, I propose there is N-to-n movement. The uninterpretable [Num: Plural] feature on n is phonetically realised as *-s*. As for the so-called indefinite article *a(n)*, I assume that it is a numeral base-generated in the Spec of NumP. It moves to the Spec of DP to satisfy the [EPP] feature on D. In Mandarin, the n head can be filled either by the merge of a classifier or by the N-to-n movement. Finally, the head of the DP in Mandarin is realised by a null determiner.

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## 上海方言的时态

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一种权威的理论认为：汉语句子表示事件只有“体”的形式，而“时”是用时间名词来表示的。这种说法不全面。本文讨论吴语上海方言的体，着重研究上海方言“时”、“体”结合的复合时态。

上海方言中句尾通常被称作“语气词”的“了”（又写作“勒”），相当于苏州方言的“哉”，是“当前相关状态”的标记，“表明一个事态跟某个特定的‘参照时间’再当前具有特定的联系。”（Li, Charles N., Sandra

A.）笔者进而认为在吴语的“时态句”（汉语的句子中有一般“陈述句”、“描写句”与必要时须表示“时态”的“时态句”的差别）中“了（哉）”在无特指的情况下，它通常表示的是事件行为发生的“现在、当下状态”，是观察事件出发的“现在时点”，它成为上海方言中“现在时”的标志。比如说：“上海到了。”在没有上下文的语用条件下，这句话的句法含义只是说“现在到上海”，既无“已经到”、“正在到”也无“开始到”“将要到”的意思。

上海方言的“来”字结构“垃拉”或“垃海”，从表示“在、在那里”开始，后来语法化成为一个“体助词”，现今在动词前可表示句子的“进行体”，在动词后表示句子的“存续体”。“进行体”表示动作行为动态地进行着，如“五分钟前我垃拉吃点心。”“存续体”是表达动作结束后其状态在延续的意义。如“现在我坐垃海。”

上海方言存在“时”与“体”结合的复合时态，与英语法语同类时态意义相似。

从“现在”时点出发观察，事件的状态通常可以分为三段：一种是已经完成，一种是正在进行，一种是将要发生。上海话对这样三种事件状态都有专用的时态表示法。

### 一、现在完成时态

表示到现在为止，事件已经完成。它在动词后用“垃海”或“垃拉”、“拉”再加上表示现在时“了”组成“拉海了”或“垃拉了”表示。

如：我家生买垃海了。（家具我已经买好在那儿了。）

我决心未定拉了。（我到现在已经下定了决心。）

### 二、现在进行时态

表示事件现在正在进行。它用“垃海”或“垃拉”、“垃”置于动词前，“了”位于句末表示。

如：伊生活垃拉做了。（他现在正在做活。）

侬看，小妹伊垃拉走过来了。（你看，小妹现在正在走来。）

### 三、现在即行时态

表示从现在的观察点出发去看即将发生的事件。它在动词后用表达即行的“快”加上表达“现在视点”的“了”表示，说明从现在时间出发观察事件就将发生。

如：火车开快了。（现在火车快开。）

我个作业做好快了。（我的作业快要做完了。）

上海话的“时态句”，都用“SOV”的句子语序。

上海方言中表示“近过去”的语助词“个”，在“时态句”中可以成为“过去时”的标志。

### 四、过去完成时态

表示到过去某个时间，事件已经完成。它在动词后用“垃海”或“垃拉”、“拉”再加表过去义的“个”来表示。

如：条子我写垃海个，侬寻出来看看好了。（条子我过去已经写好了，你找出来看一下就可以了。）

医生讲拉个，一分洋钿也勿收。（医生以前就说好了的，不收一分钱。）

这句话中的“条子我写垃海个”，与“条子我写垃海了”是不一样的。句尾用“了”表示到现在为止，我已经写好条子放在这儿。但用“个”，是说明条子是在以前某时已经写好的。

### 五、过去进行时态

表示事件过去正在进行。它用“拉海”或“垃拉”置于动词前，“个”位于句末表示。

如：我看见侬垃拉写个，侬勿要赖脱。（我看见你刚才正在写，你别抵赖。）

上海方言中的复合时态，过去还有一种与宁波话相同的形式，在美国传教士Pott (1920) 的《上海方言教程》中分析上海方言时态时，曾举例说：我垃拉吃。I was eating. 区别于现在进行时态：我垃里吃。I am eating.

因为“垃拉”相对于近指“垃里”，由方所的远指进一步语法化转化为时间上表示远指，即成为表示过去的行为，放在句子动词前即表示了“过去进行”“垃里”为现在进行。现在此种用法随着表示近指的“垃里”的消失而消退，但是这种形式现在还保留在离上海不远的宁波话里。

Pott (1920,

P.13) 对上海话中“垃里”和“垃拉”的时空转换有一段具体的说明，如下：

A few word of exlanation are necessary. The use of *leh-'li* and *leh-la'* are a little difficult to understand at first. As stated '*ngoo leh-'li chuh* (我垃里吃) means, "I am eating." If, however, a third person asked your servant *Sien-sang van' chuh meh?* (先生饭吃末), "Has the Teacher eaten

his rice?” the servant would answer, if you were still eating, *yi leh-la' chuh* (伊垃拉吃) meaning “he is eating.” If you yourself said ‘*ngoo leh-la' chuh*, it would mean, “I was eating.” In the Perfect Tense the word *koo* (过) means literally “to pass over.” In the Past Perfect the words ‘*i-kyung* 已经 mean “already.” The real force of *leh-'li* (垃里) is “here,” and the real force of *leh-la'* (垃拉) is “there.”

由于汉语不断地向“孤立语”推进，上海话的“时态句”也处于慢慢消退之中。最显著的特点，就是用词汇形式取代形态，用“时间副词”慢慢取代“体”形式。如：“我参加了运动会”变为“我已经参加了运动会”，再变为“我已经参加运动会。”用“时间名词”取代“时”的形式。如：“我看见侬昨日垃拉写，侬勿要赖脱。”时间名词“昨天”可以代替了“个”。也有一种中间状态，句子末尾既有“了”或“个”，前面也有特定的时间。那种句子，句尾的“了”和“个”，就表示在前面指明的时间范围里的那个时候的“相关状态”和“当时时间”。

如：昨日早晨我去买蛋糕了。

两天以后我就垃日本了。

今朝伊拉一道到公园里去了。（今天他们一起去公园了。）

伊刚刚吃完饭个辰光，火车到上海了。（他刚吃完饭时，火车到上海了。）

上面第一句的“了”表示的相关时间是“昨天”，第二句是“两天以后”，第三句是“今朝”，第四句是“刚刚吃完饭个辰光”，都是“该时时间”。

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## Temporal Meaning of *-le* in Chinese

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The paper investigates the temporal reference of the Chinese perfective viewpoint morpheme *-le* and provides an explanation for the distribution of *-le* in the future context. I argue against Lin (2006) that *-le* has a component of semantic past tense as part of its meaning. I defend the earlier proposal of *-le* that it expresses completion of a situation (Chao 1968, Lü 1980, Smith 1991) and the view that the pastness associated with *-le* is a pragmatic inference (Smith and Erbaugh 2005). I provide evidence showing that the (un)availability of the past interpretation contributes to the (in)compatibility of *-le* with the future context.

### 1. Introduction

Chinese sentences marked with the perfective viewpoint morpheme *-le* often have a past time interpretation in out of blue context, as shown in (1) and (2) from Lin (2006).

- (1) Lisi he *-le* jiu. (Activity)  
Lisi drink PERF wine  
Lisi drank wine.

The verb constellation in (1) expresses an activity. Marked with *-le*, the sentence is interpreted to present a past situation. *-le* in sentences denoting states, achievements and accomplishments involves a change of state that also happens in the past, even though the resulting state still holds at the speech time when there is no overt time phrase in the sentence.

- (2) a. Quan xiao de ren dou zhidao-*le* zhe jian shi. (State)  
All school DE person all know PERF this CL matter  
All the people in the school have been aware of this matter.
- b. Lisi die-duan *-le* zuo tui. (Achievement)  
Lisi fall broken PERF left leg  
Lisi has broken his left leg (and the leg is still broken)
- c. Lisi zuo *-le* yi-ge qishi dangao. (Accomplishment)  
Lisi make PERF one CL cheese cake  
Lisi has made a cheese cake.



The *-le* in (2a) has an inchoative reading, indicating a change of state from not knowing to knowing, and the result state is that the matter is currently known. In (2b), the instantaneous event of breaking the left leg is understood to be in the past while the result that the leg is broke is true in the present. In (2c), the event of making a cake occurred before the speech time although the cake still exists at the time of speech. In all three sentences, the relevant state changing event took place in the past.

It has also been observed that *-le* is incompatible with future-oriented morphemes. In (3), all the sentences containing future-oriented forms become ill-formed once *-le* suffixes to the verb in their complements.

- (3) a. ta **hui** qu (\**-le*) Beijing.  
 He will go (\*PERF) Beijing.  
 He will go to Beijing.
- b. ta **xiang** qu kan (\**-le*) dianying.  
 He want go see (\*PERF) movie  
 He wants to go see movies.
- c. ta **zhun** wo qing (\**-le*) yi tian jia.  
 He allow I take (\*PERF) a day off  
 He allowed me to take one day off.

*-le* can appear in future contexts when it is in the non-final event clause of a sequence of event clauses. In (4), the future forms take a bi-clausal complement. The temporal order of the two event clauses can be overtly marked by *zai* or *jiu* ‘(and) then’, as in (a) and (b), but it does not have to be marked. In both sentences, *-le* can only attach to the first verb of the unrealized complements but not to the second verb.

- (4) a. Lisi **hui** ci *-le* xing zai dongshen (\**-le*).  
 Lisi will take PERF leave then depart (\*PERF)  
 Lisi will to depart after having taken leave.
- b. ni **keyi** chi *-le* fan jiu qu (\**-le*).  
 you may eat PERF meal then go (\*PERF)  
 You may go after eating meal.

In this paper, I investigate the temporal reference of *-le* and offer an explanation for the distribution of *-le* in the future context. I argue in line with Smith and Erbaugh (2005) that the past interpretation associated with *-le* is pragmatic. I provide evidence showing that the past time reading is unavailable in sentences of (4), which makes the appearance of *-le* in the future situation possible.

The paper is organized as follows. Section 1 is the introduction; section 2 reviews two recent analyses of the temporal reference of *-le* in the literature; section 3 provides an account for the distribution pattern of *-le* in the future context; section 4 concludes.

## 2. Previous Analyses

In this section, I will review Smith and Erbaugh (2005) and Lin (2006). The former proposes that *-le* has a temporal inference governed by pragmatic principles while the latter claims that *-le* encodes semantic past tense.

### 2.1. A Pragmatic Account

Smith and Erbaugh (2005) argue that in the lack of tense morphemes, the deictic pattern of temporal interpretation in Chinese is determined by the semantic meanings of the relevant forms such as aspectual morphemes, verb phrases and types of future forms, and by the following three pragmatic principles.

1) The Bounded Event Constraint

A bounded event locates in the past by default.

2) Simplicity Principle of Interpretation

Choose the interpretation that requires the least additional information.

3) The Temporal Schema Principle

In a zero-marked clause, interpret a verb constellation according to the temporal schema of its situation type, unless there is explicit or contextual information to the contrary.

According to them, bounded/telic situations are located in the past by default and unbounded/atelic situations are located in the present by default. The default interpretation can be overridden by explicit or contextual information. This explains why isolated sentences without any aspectual and temporal marking are in the present when expressing state; they are in the past when expressing telic events (5). This default interpretation can be overridden with the presence of overt temporal expressions (6).

(5) a. ta shi ge xuesheng.

He be CL student

He is a student.

b. ta da-po yi ge huaping.

He break one CL vase

He broke one vase.

(6) a. ta **yiqian** shi ge xuesheng.

He before be CL student

He was a student before.

- b. ta **xiang** da-po yi ge huaping.  
 He want to break one CL vase  
 He wants to break one vase.

Since the perfective morpheme *-le* presents a situation as terminated (or completed) and thus bounded (Li and Thompson 1981, Smith 1991 among others), it has past as its default interpretation. This explains why sentences with *-le* in non-future contexts are interpreted to be in the past. With this analysis, the appearance of *-le* in the future context of (4) is no longer a problem, as the aspectual meaning of *-le* is not incompatible with future contexts. However, it is a puzzle why the past interpretation of *-le*, if it is a pragmatic inference, cannot be overridden by overt future modals in simplex sentences under (3).

## 2.2. A Semantic Account

Lin (2006) takes it with Klein (1994) that the meaning of tense encodes the temporal relationship between Topic Time (TT) and Evaluation Time which is Utterance Time (UT) by default. He terms this relationship ‘semantic tense’ and argues that perfective aspect in Mandarin conveys the precedence relationship between TT and UT. The perfective morpheme *-le* is not a pure aspectual marker but incorporates both semantic tense and aspect. This proposal can easily explain why eventualities expressed by sentences in (1) and (2) are located in the past and why *-le* is incompatible with future forms in (3). As for *-le* compatible with future modals in sentences of (4), Lin briefly mentioned that it expresses relative past in such a context (cf. Ross 1994, Pan and Lee 2004).

Lin’s analysis of *-le*, although able to handle all the data presented, is undesirable on conceptual and empirical grounds. Conceptually, the idea that an aspect marker semantically encodes the temporal relationship between TT and UT disagrees with the well-accepted view that aspect concerns the internal temporal property of a situation denoted by verb phrases (Comrie 1976, Fleischman 1982, Smith 1991 and others) and encodes the temporal relationship between TT and Situation Time (SitT) only (Klein 1994). Although it is not impossible that Chinese perfective morphemes can bundle the aspect and semantic tense information together, an analysis is preferable if it can account for all of the above data without appealing to the notion of semantic tense.

Empirically, there is evidence disfavoring considering *-le* to be marking relative past in the future context. First, *-le* does not encode anteriority in some future contexts.

- (7) deng qiche dao *-le* zhan, ta kending hai zai shui.  
 wait bus arrive PERF station he definitely still PROG sleep  
 When the bus arrives at the station, he definitely will still be sleeping.

(7) with the epistemic adverbial *kending* ‘definitely’ presents the speaker’s judgment of a future situation. The first clause expresses an instantaneous event occurring after the utterance time; the second clause with the progressive morpheme *zai* expresses a state which is ongoing at the utterance time and is predicted to extend into the future. In other words, the state of his sleeping must still hold at the point in the future when the bus arrives at the station. Thus, the telic event marked with *-le* is interpreted to overlap or be included in the state of his sleeping instead of preceding it.

Second, *-le* cannot always appear in the first event clause of a bi-clausal sentence. If *-le* appearing in the first event clause of a sequence of event clauses conveys relative past, then it is unexpected that it cannot appear in the first event clause of (8).

(8) wo xiang zai Beijing zhu (\*-le) liangtian jiu qu Shanghai.

I want to in Beijing stay (PERF) two day then go Shanghai

I want to stay in Beijing for two days, then I will go to Shanghai.

Third, Lin’s analysis cannot explain why *-le* is not allowed in the second clause of (9a).

(9) a. wo hui ci *-le* xing zai dongshen (\*-le).

I will take PERF leave then depart

After having taken leave, (and only then) I will depart.

b. \*wo hui ci xing zai dongshen.

I will take leave then depart

After having taken leave, (and only then) I will depart.

In (9a) the future modal *hui* takes a clausal complement expressing two consecutive events in the future. It becomes ill-formed when the perfective *-le* is added to the second verb *dongshen* ‘depart’. Following Lin’s analysis, we may say *-le* in the first clause of the modal complement (*-le*) denotes ‘relative past’, while *-le* in the second clause (*-le2*) denotes ‘absolute past’. This is why *-le1* is allowed in the sentence but *-le2* is not. If so, *-le* in the first clause encoding pastness relative to the second clause should also obtain the ‘absolute past’ interpretation, clashing with the future context. Contrary to our expectation, *-le1* cannot be removed from the sentence, as (9b) shows.

(7) and (9) are no longer problems if *-le* in the sentences is seen as a pure aspect marker signaling completion as Chao (1968), Lü (1980) and Smith (1991) proposed. The problem with (8) seems to remain on this traditional view since *-le* as a perfective marker is expected to be able to appear in the first clause of (8), just as *-le* in the first clause of (7) and (9) does. I will show later that (8) is in fact not real counterevidence to this view.

I have shown that both analyses of the temporal reference of *-le* can explain its distribution in the future context to some extent. Yet, Smith and Erbaugh’s (2005) proposal is preferable on theoretical and empirical grounds.

### 3. Proposal

If it is true that the past reading associated with *-le* is a pragmatic inference, then how to explain the distributive pattern of *-le* in future environment? Let me start with the question why *-le* is permissible in the first event clause of (4). I posit that the first event clause of (4) expressing a sequence of events is such a context where the default past interpretation of *-le* is unavailable. The evidence is that in a sequence of clauses, the temporal interpretation of the non-final clauses with *-le* relies on that of the final clause when out of contexts. Take (10) and (11) with two event clauses in succession for example. The temporal location of the first clause with *-le* is decided by that of the second clause, regardless of the situation types the first clause expresses.

- (10) a. ta dao *-le* Beijing, *hui* gei wo da dianhua. (C1: future; C2: future)  
 he arrive PERF Beijing will to me make call  
 After arriving at Beijing, He will call me.
- b. ta dao *-le* Beijing, gei wo da *-le* ge dianhua. (C1: past; C2: past)  
 he arrive PERF Beijing to me make PERF CL call  
 After arriving at Beijing, he called me.
- (11) a. chi *-le* fan wo *xiang* kan *hui* danshi. (C1: future; C2: future)  
 eat PERF meal I want to watch a while TV  
 After eating the meal, I want to watch TV for a while.
- b. chi *-le* fan wo kan *-le* *hui* danshi. (C1: past; C2: past)  
 eat PERF meal I watch PERF a while TV  
 After eating the meal, I watched TV for a while.

In (10), the first clauses (C1) in (a) and (b) are identical. The second clauses (C2) in the two sentences are different only in the temporal location. In (10a) the future modal *hui* 'will' locates C2 in the future, while in (10b) the perfective morpheme *-le* with the default past interpretation locates C2 in the past. Accordingly, C1 in (10a) and (10b) temporally preceding C2 is interpreted to be located in the future and past respectively. The same is true of C1 in (11), i.e., the temporal interpretation of C2 conditions the interpretation of C1 with *-le*. Sentences with more than two event clauses in sequence display the same pattern. (12) exemplifies.

- (12) a. ta qi *-le* chuang, chi *-le* zaocan, jiu *hui* zou.  
 He get up PERF bed eat PERF breakfast then AUX leave  
 He will get up, have breakfast and then leave.
- b. ta qi *-le* chuang, chi *-le* zaocan, jiu zou *-le*.  
 he getup PERF bed eat PERF breakfast then leave PERF  
 He got up, had breakfast and then left.

(a) and (b) in (12) consist of three clauses with the first two containing *-le*. While *hui* ‘will’ in C3 of (12a) marks a future event, *-le* in C3 of (12b) expresses a bounded event with past interpretation. In correspondence to the temporal location of C3, C1 and C2 in (12a) are both in the future, whereas those in (12b) are in the past. (12) shows once again that without further contextual information, the non-final clauses with *-le* in a sequence of clauses are not locally interpreted but obtain their temporal interpretations on the basis of the location of the final clause. The temporal location of the final clause, however, is determined by the temporal and aspectual information conveyed in the clause. In the case of (10)-(12), it is the future modals *hui* ‘will’ and *xiang* ‘want’ and the perfective morpheme *-le* that decide the location of the final clause. While *-le* in the final clause is interpreted as in isolation, *-le* in the non-final clauses does not have any temporal interpretation. It is a pure aspect marker, marking the completion of the situation so that the Reference Time in the short discourse can be updated as the discourse progresses.

Since *-le* in the final clause of a sequence of clauses has past time interpretation, it is incompatible with the future forms scoping over it. As a result, both (13a) and (13b) are ill-formed when *-le* appears in the second clause.

- (13) a. wo *hui* ci *-le* xing zai dong (\**-le*) shen.  
 I will take PERF leave then depart (\*PERF)  
 After having taken leave, (and only then) I will depart.
- b. wo ci *-le* xing *hui* dong (\**-le*) shen.  
 I take PERF leave will depart (\*PERF)  
 After having taken leave, (and only then) I will depart.
- c. \*wo *hui* dong *-le* shen.  
 I will depart PERF  
 I will depart.

In (13a), the future form is higher scoping over both clauses, while that in (13b) is lower scoping over only the second clause. (13c) is a single event clause containing both the future form and *-le*. (13c) can be seen as either the second clause of (13b) or as the second clause of (13a) with an empty first clause. In either way, the incompatibility of the future form and *-le* in the sentence can be successfully accounted for.

There are several possible objections to the analysis. One might argue that the pattern shown in (10)-(12) does not preclude the possibility that *-le* in the non-final event clauses expresses past with respect to the final event clause. Take (10) for example. In (10a), the second event (E2) expressed by C2 with the future modal *hui* is located in the future, so it could be that the first event (E1) is located in the past of E2 because *-le* in C1 signals that E1 is prior to E2. In the same way, E1 in (10b) is in the absolute past because again, *-le* signals that E1 is before E2 which is interpreted to be in the absolute past itself. However, this account has more problems. It cannot explain why E1 in (10a) does not

have the absolute past reading, given that *-le* encodes the precedence relationship between E1 and E2. In addition, the account cannot prove that *-le* is solely responsible for the temporal order of E1 and E2. On the contrary, there are three pieces of evidence showing the sequential reading of sentences in (10)-(12) is a pragmatic inference of sequence of telic events. First, a bi-clausal sentence may not have a sequential reading when the second clause is stative. In (14) the event of bus arriving at the station expressed by C1 is included in or overlaps the stative situation of sleeping expressed by C2.

- (14) qiche dao *-le* zhan, ta hai zai shui. (C2: stative)  
 bus arrive PERF station he still PROG sleep  
 When the bus arrived at the station, he was still sleeping.

Second, in the absence of *-le* in the first clause and time connectives such as *zai* ‘and then’ and *jiu* ‘and then’, a bi-clause sentence still has the sequential reading when C1 expresses a telic/bounded event and C2 expresses an event, see (15)

- (15) a. ta dao Beijing, hui gei wo da dianhua. (C1: achievement)  
 he arrive Beijing will to me make call  
 After arriving at Beijing, He will call me.  
 b. chi -wan fan wo xiang kan huir danshi. (C1: accomplishment)  
 eat RVC meal I want to watch a while TV  
 After finish eating the meal, I want to watch TV for a while.

Third, when C1 of a bi-clause sentence denotes an unbounded event, the sentence is either ill-formed or does not have the sequential reading without *-le* or a RVC, e.g. *wan* ‘finish’, suffixing to V1, even though the meaning of the two clauses does not preclude the sequential interpretation.

- (16) a. chi \*(-le) fan wo xiang kan huir danshi. (C1: activity)  
 eat PERF meal I want to watch a while TV  
 After eating the meal, I want to watch TV for a while.  
 b. zuo \*(-wan) gongke wo qu shuijiao. (C1: activity)  
 do RVC homework I go sleep  
 I will go to sleep after finishing the homework.  
 c. ta chang-ger xie xin. (C1: activity)  
 he sing-song write letter  
 He sings songs and writes letters.

(14)-(16) demonstrate two crucial points. One, the first clause of a bi-clausal sentence with sequential reading has to express a bounded/telic event. Thus, the function of *-le* in the first clause is to mark the boundedness and closure of the first event rather than denoting semantic past tense. *-le* is optional in C1 expressing achievements and accomplishments, as in (15), since such events are already telic/bounded and do not need to be marked again. Two, the narrative sequence interpretation of (10)-(12) is imposed not by the temporal meaning of *-le* but by pragmatic knowledge which leads us to think the second event will naturally take place after the completion of the first.

The second objection to my proposal might be the question why *-le* cannot appear in C1 of (8) repeated and renumber as (17) if it simply conveys the completion of E1.

- (17) wo zai Beijing zhu (\*-le) liang tian jiu qu Shanghai.  
 I in Beijing stay (PERF) two day then go Shanghai  
 I will stay in Beijing for two days, then I will go to Shanghai.

(17) is not real counterevidence. V1 *zhu* ‘live’ in C1 expresses an atelic event. With the numeral object *liang tian* ‘two days’, the verb constellation in C1 conveys an accomplishment. In Mandarin, an accomplishment with a numeral object is interpreted to be completed when appearing with the perfective *-le* (Sybesma 1997, Soh and Kuo 2005).

- (18) a. wo zai Beijing zhu -le liang tian. # Qishi wo zhi zhu -le yitian.  
 I at Beijing stay PERF two day # in fact I only stay PERF one day  
 I stayed in Beijing for two days. In fact, I stayed only one day.  
 b. wo xie -le yi feng xin. # Qishi wo meiyou xie.  
 I write PERF one CL letter in fact I not write  
 I wrote a letter. # In fact I didn’t write any.

As (18) shows, the perfective accomplishment with a numeral object in non-future context expresses that the event has occurred and completed, and therefore cannot be cancelled. This interpretation of the perfective accomplishment remains in (17). That is to say, *-le* cannot appear in C1 of (17) because with *-le*, C1 has the absolute past reading, conflicting with the future context. This past time interpretation of C1 is not caused by the temporal semantics of *-le* but by the strong temporal reading of the particular type of accomplishment. (17) once more shows that *-le* in C1 of a sequence of future event clause does not necessarily express ‘relative past’ and that E1 in such a sentence has to be telic/bounded. If the verb constellation in C1 does not contain the numeral object *liang tian* ‘two days’, then *-le* is necessary in order to change the atelic event *zhu* ‘live’ into a telic event.



The proposal I offered also seems to be directly opposed by the behavior of *-le* suffixing to certain verbs such as *wang* ‘forget’ and *sha* ‘kill’, as sentences in (19) exemplifies.

- (19) a. ta kending *hui* chu *-le* guo, jiu *wang -le* ni.  
 He definitely will exit PERF country then forget PERF you  
 He definitely will forget you after going abroad.
- b. ta chu *-le* guo, kending *hui wang -le* ni.  
 He exit PERF country definitely will forget PERF you  
 He definitely will forget you after going abroad.
- c. ta kending *hui wang -le* ni.  
 He definitely will forget PERF you.  
 He definitely will forget you.

In all three sentences of (19), *-le* suffixing to the verb *wang* ‘forget’ is under the scope of the future modal *hui* ‘will’. The well-formedness of all the sentences suggests that *-le* after the verb *wang* ‘forget’ does not have the past interpretation, which seems to contradict my proposal. However, the contradiction is only apparent. The perfective *-le* after *wang* ‘forget’ resembles a resultative verb complement (RVC) that can appear in the future context without any restriction. The likeness of RVCs and *-le* suffixing to verbs like *wang* ‘forget’ has been recognized by Lü (1980), Shi (1990), Sybesma (1997) and Lin (2003a) among others, although only Shi (1990) provides a piece of evidence in support of the argument.

- (20) a. wo *xiang* mingtian mai-diao (\**-le*) nei liang che.  
 I want to tomorrow sell RVC (-LE) that CL car  
 I want to sell that car tomorrow.
- b. wo *xiang* mingtian mai *-le* nei liang che.  
 I want to tomorrow sell -LE that CL car  
 I want to sell that car tomorrow.

Shi shows that (20a) is unacceptable when both *-diao* ‘off, away’ and *-le* are present in the future context. This, according to Shi, is because *-le* as well as *-diao* is a resultative complement and usually only one complement is allowed in the resultative construction. Unfortunately the evidence is inadequate. The disagreement of *-le* with (20a) may as well be explained by the proposal that *-le* has a past interpretation that clashes with the future meaning of the modal verb *xiang* ‘want to’. In fact, this is a better explanation given the fact that it is not uncommon for *-le* to appear after a RVC in non-future environments, as shown in (21).

- (21) wo mai-diao *-le* neiliang che.  
 I sell RVC -LE that car  
 I sold that car.

(21) will force Shi to claim that *-le* after the RVC *diao* ‘off’ is not a RVC in the non-future context but is a RVC in the future context. This claim is not plausible.

The connection between RVC and *-le* that can co-occur with the future forms when attaching to certain verbs (e.g., *mai* ‘sell’ and *wang* ‘forget’) can be demonstrated by the following two pieces of evidence. First, the perfective *-le* does not appear with the negative morphemes *mei*(you) or *bu*, but RVCs and *-le* attaching to *mai* ‘sell’ or *wang* ‘forget’ can. Compare (22a) and (22bandc).

- (22) a. ta **meiyou/bu** qu *-le* xuexiao.  
 He not go PERF school.  
 He didn’t go to school.
- b. ni weishenme **bu** mai *-le* /-*diao* zhexie shu?  
 You why not sell -LE/RVC these book.  
 Why don’t you sell those books?
- c. ni **meiyou** wang *-le* /-*ji* wo ba?  
 You not forget -LE/RVC I SFP  
 You haven’t forgotten me, right?

The other is the dialectal evidence. Chao (1968) reports that in the dialects of Central China, RVCs like *-diao* ‘off, away’ is used to replace *-le* suffixing to some verbs like *wang* ‘forget’ and *sha* ‘kill’.

In sum, *-le* is a perfective morpheme encoding completion (or termination). It often has a past time interpretation which is pragmatically inferred. The presence or absence of this interpretation decides whether it can appear within the scope of a future form.

#### 4. Conclusion

The perfective morpheme *-le* has a past interpretation which is in conflict with the temporal meaning of future expressions, and therefore does not appear within their scope in general. However, this temporal interpretation of *-le* is only pragmatic and is not available when *-le* occurs in the non-final clause of a sequence of event clauses. In such a context, *-le* is just an aspectual marker encoding completion. The advantage of the proposal is that on the one hand, it successfully accounts for the distribution of *-le* in future situations; on the other hand, it is consistent with the standard characterization of *-le* in non-future situations that they express completion and has to do only with the relation between Reference Time and Situation Time.

I suspect that the strong past time reading associated with *-le* is a result of ‘pragmatic strengthening’ (Hopper and Traugott 1993) which enhances the temporal interpretation of the perfective marker but not yet to the point of making it part of its semantics.

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## Adjectivals and Adverbials: On the Representation of Quantities and Qualities in Chinese and Implications for Language Typology

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A distinction in the part-of-speech representation of quantities and qualities whether adverbially or adjectivally between Chinese and English is seen in sentences like:

ta jia-cuo le ren  
she marry-wrong PERF person  
?she mis-married a person (adverb quality glosses in English as  
adjective quality:  
'She married the wrong person' (Hsieh (1978)).

This preference in Chinese for representing quantities and qualities adverbially persists when Chinese native speakers write in English exemplified by sentence 'a'—where quantity is represented adverbially; compared to the more English-like alternative sentence 'b' where quantity is represented adjectivally.

- a. ?We need to study more on actual student behavior.
- b. We need more study on actual student behavior.

The extent of this adjective-adverb distinction was tested by asking Chinese native speakers, bilingual in English, to translate a set of English, 'b' type, adjectival sentences into Chinese. Results confirm the preference for adverbial representation in Chinese—suggesting a useful parameter for language typology.

### 0. Introduction

2,000 years ago Gongsun Long, in the 3<sup>rd</sup> c. B.C. Zhanguo period, set up a famous paradox that has irritated Confucianists and linguists ever since. It is, of course: 白马非马, bai-2 ma-3 fei-1 ma-3—'white horse is-not horse.' Chad Hansen (1983) says that this paradox—to make sense—casts doubt on or mitigates the ontological status of NP referents in Chinese. 'Whiteness' and 'horseness' have parity; neither object nor attribute are privileged. Both nominals and attributes in Classical Chinese refer to discontinuous mass and reference entails picking out part of the whole. Thus the combination of 'whiteness' and 'horseness' is not—just—'horseness' since the part does not instantiate the whole; i.e., one feature does not instantiate the whole referent.

However, some critics, e.g., Graham (1986), and Harbsmeier (1991) refuse to abide Hansen, in this way, anachronistically attributing Lesniewski's notion of mereological set (cf. Luschei 1962) to Classical Chinese—such that nominals and attributes refer

to essences scattered throughout Einstein's space-time continuum. Nevertheless, the idea implicit in Hansen's Mass-Noun Hypothesis that problematizes the status of NP referents is planted. Is it possible to have an ontology that does not privilege object over attribute? It is hard to imagine; but it does make one wonder about the ontological status of NP's in a mass-noun/non-count language such as Chinese.

We say that Chinese is a mass-noun/non-count language because NP's lack inflectional morphology. Modern Chinese remains a relatively isolating language—nouns in Chinese are not marked for plural; counting requires the use of classifier terms. These morpho-syntactic features suggest that reference entails picking out part of the whole (mass) rather than picking out individual members of a set. What little morphological marking there is in Chinese has to do with that other main part of speech, the verb. In Resultative Verb Compounds (RVC's), for example, there is scrupulous attention to aspectual features of activities such as entering in 1 and running in 2:

(1) ta jin-guo-lai  
he/she enter-through-come

(2) ta pao-chu-qu  
He/she run-away-go

At the sentence level, Chinese exhibits topic-prominent structures rather than subject-prominent structures—which permits zero-PRO for subject reference as in 3:

(3) nei-kuai tian; daozi zhang de hen da; suoyi hen zhiqian  
That-CL field; rice grow DE very big; therefore very valuable

Structures like this show that less attention is paid to NP's. In this light, Chinese syntax exhibits more attention to action-outcome versus agent-action; agents/subjects may or may not be represented and actions are represented by elaborated VP morphology.

With reference to another part-of-speech, the adjective, one sees that in Chinese, adjectives are usually represented as stative predicates as in 4; i.e., without any BE-form/copula paraphernalia:

(4) ta piaoliang  
She beautiful

When modifying a noun phrase, adjectives show up in the guise of pre-modifying adjective clause, and, as such, they preserve their verby, predicate character—as in 5:

(5) hen piaoliang de guniang  
very beautiful DE girl

In Li and Thompson's (1981) view, Chinese thus "[lacks] a distinct class of adjectives." In essence, adjectives have been promoted to something more verb-like. This is also the view in Wetzer (1996), who says that Chinese thus exhibits +verby adjectives, which with respect to typology is a feature of languages like Chinese that do not mark for tense. (The predominance of predicate adjectives and the absence of tense-marking is a striking correlation noticed in Wetzer's study of the world's languages.)

One could recapitulate the above sketch of broad facts about Chinese syntax by saying that Chinese thus exhibits an accumulation of features that makes it less nouny and more verby than other languages—e.g., English. The terms, 'nouny,' and 'nouniness,' of course, have a pedigree going back to John Ross (1973) and later applied to Chinese by Chan Ning-Ping in her (1985) dissertation titled, *The Nouny Alternative*. Here, we can use the term, nouny, to denote an accumulation of features that suggest, under the aegis of something like conceptual coherence, an underlying, language-internal explanation for the distribution of morpho-syntactic features, including the distribution of parts-of-speech categories. For example, if Chinese is less nouny than English, then one might predict that adjectives and adverbs might distribute differently across the two types of languages.

### 1. Adjectivals versus Adverbials

Some hints that the distribution might be different can be gotten from sentences such as 1 to 5 below—where it can be seen that quantities and qualities represented adverbially in Mandarin normally gloss adjectivally in English (example numbering restarts here at 1 for convenience of discussion):

- (1) ta jia-cuo-le                      ren  
 she marry-wrong-PERF person  
 ?she mis-married a person (adverb quality)  
 glosses in English as adjective quality:  
 'She married the wrong person.' (Hsieh 1978)
- (2) ta you    diu- le            yi-ben(r) shu  
 he again lost-PERF one-CL book  
 ?he again lost a book (adverb quantity)  
 glosses in English as adjective quantity:  
 'He lost another book.' (Tai 1982)
- (3) ta shi women xin-lai-de                      laoshi.  
 he is our new-arrive-NOM teacher  
 he is our newly arrived teacher (adverb quality)  
 glosses in English as adjective quality:  
 'He is our new teacher.'

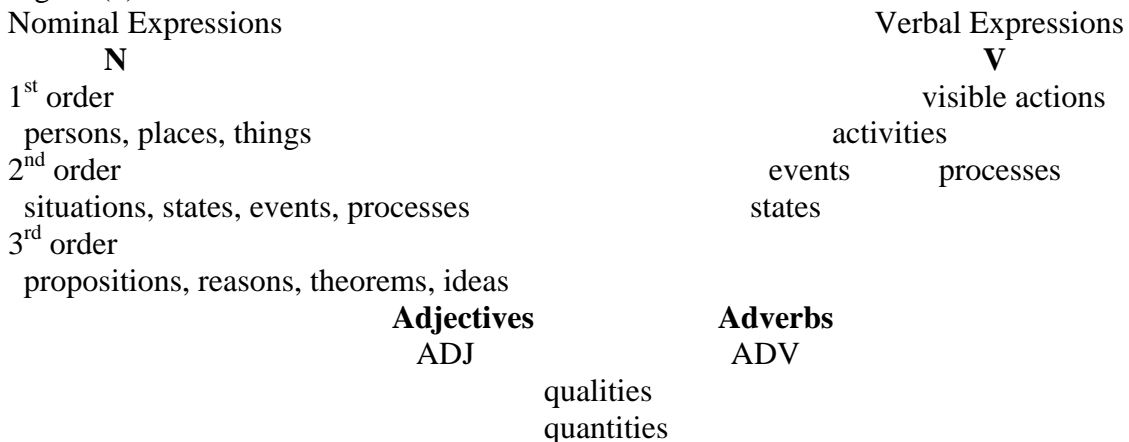
(4) ta you chi-le yi-wan fan  
 he again eat-PERF one-bowl rice (adverb quantity)  
 glosses in English as adjective quantity:  
 ‘He ate another bowl of rice.’ (Tai 1982)

(5) san-ben shu ta dou kan-le  
 three-CL book he all read-PERF (adverb quantity)  
 glosses in English as adjective quantity:  
 ‘He read all three books.’ (Tai 1982)

In 1 and 3 the qualities, ‘wrongness’ and ‘newness’ are represented adverbially in Chinese but adjectivally in the English glosses. In 2 and 4, the quantity, ‘another’ is represented adverbially in Chinese, but adjectivally in English. Similarly in 5, the quantity, ‘all’ is represented adverbially in Chinese, but adjectivally in English.

Figure (1), below, based on Lyons (1966, 1977), is our attempt to make graphic the fact that parts-of-speech categories can distribute differently across languages. From Lyons’ (1966) ‘ontologically neutral framework for parts-of-speech,’ pristine nominals, i.e., persons, places, and concrete things, anchor the left end of the continuum, while pristine verbals, i.e., visible actions, anchor the right end of the continuum. In principle, everything in between is negotiable. This schema can also be understood with reference to Givon’s (1993) notion of time-stability, such that nouns code a cluster of time-stable features—with attendant effects such as object permanence and countability—whereas, verbs code rapid changes, experiential clusters that are low on the time-stability scale, and, thus, anchor the opposite end of the ‘lexical-phenomenological scale.’

Figure (1)



What the figure should suggest is that between the two poles, the part-of-speech coding of experiential phenomena can shift across languages. In a nouny language, the

coding shifts to the left and in a verby language, the coding shifts to the right. Furthermore, when scanned from the top down, the figure is meant to represent increasing abstraction away from the prototype nominals and verbals and is also meant to suggest the increasing likelihood of overlap and convergence in the part-of-speech coding of the experiential phenomena. Thus, for example, events and processes are liable to be represented as nominals and as verbals both across and within languages (Rouzer 2003).

These notions about the mutability of part-of-speech categories are brought to mind when one looks at sentences produced by advanced writers of English whose first language is Chinese. The preference for representing quantities and qualities adverbially, described in 1 to 5 above, is manifested quite clearly in the writing of Chinese learners of English as a second language. The ‘a’ sentences, below—in which quantity and quality is represented adverbially were produced by Chinese learners of English as a second language. The ‘b’ sentences—in which quantity and quality is represented adjectivally—are the more nouny alternative.

- (6) a. I will visit interesting places as many as possible.  
b. I will visit as many interesting places as possible.
- (7) a. The authors offer a definition of fuzzy variables roughly.  
b. The authors offer a rough definition of fuzzy variables.
- (8) a. She completely resolved the matter.  
b. She resolved the entire matter.
- (9) a. Such questions can be listed a lot.  
b. Many such questions can be listed.
- (10) a. He predominately adopted Smith’s earlier methodology.  
b. He adopted most of Smith’s earlier methodology.
- (11) a. We need to study more on actual student behavior.  
b. We need more study of actual behavior.
- (12) a. Smith emphasizes more on the relationship between the two.  
b. Smith puts more emphasis on the relationship between the two.
- (13) a. Autopsies have barely revealed evidence of this linkage.  
b. Autopsies have revealed little evidence of this linkage.
- (14) a. Both of these findings cannot explain the observation.  
b. Neither of these findings can explain the observation.



- (15) a. These factors almost have no effect.  
 b. These factors have almost no effect.

The pattern of contrast in the part-of-speech representation of quantities and qualities exhibited in the above sentences raises the following questions: How durable and extensive is this distinction? Is this distinction significant enough to be considered as a typological parameter when contrasting the world's languages? In order to test the durability and extent of this distinction, four native speakers of Chinese, fluent in L-2 English, were asked to translate the nouny versions of the above 15 sentences—in which quantities and qualities are represented adjectivally—into Chinese.

## 2. Supporting Evidence

Asking native speakers of Chinese who are bilingual in English to translate the above nouny sentences into Mandarin got the following results. The four individual informants are identified by the letters a, b, c, and d for each sentence that they produced.

(1') She married the wrong person.

(1a') ta jia-cuo-le ren  
 she marry-wrong-PERF person

(1b') ta jia-cuo le ren

(1c') ta jia-cuo-le ren

(1d') ta jie-cuo hun-le  
 she tie-wrong marry-PERF

(2') He lost another book.

(2a') ta you diu-le yi-ben shu  
 he again lost-PERF one-CL book

(2b') ta you diu-le yi-ben shu

(2c') ta you diu-le yi-ben shu

(2d') ta you diu-le ben shu

(3') She is our new teacher.

(3a') ta shi women de xin laoshi  
 she is we POSS new teacher

(3b') ta shi women de xin laoshi

(3c') ta shi women de xin laoshi

(3d') ta shi women de xin laoshi

(4') He ate another bowl of rice.

(4a') ta you chi-le yi-wan fan  
 he again eat-PERF one-bowl rice

(4b') ta duo chi-le yi-wan fan  
 he more eat-PERF one-bowl rice

(4c') ta duo chi-le yi-wan fan

(4d') ta you chi-le wan mifan

(5') She read all three books.

(5a') ta san-ben shu dou kan-le  
 he three-CL book all read-PERF

(5b') ta du-guo-le san-ben shu  
 he read-through-PERF three-CL book

(5c') ta du-le quanbu de san-ben shu  
 he read-PERF total NOM three-CL book

(5d') san-ben shu ta quan du-le  
 three-CL book he all read-PERF

(6') I will visit as many interesting places as possible.

(6a') wo hui jinliang duo qu kan you-yisi de difang  
 I will as-far-as-possible more/many go look have-interest NOM place

(6b') wo yao fangwen jinkeneng duo-de yixie you-qu de difang  
 I want visit nearly-as-possible more/many-ADV some have-interest NOM place

(6c') wo hui jinliang qu baifang naxie youqu de difang  
 I will as-far-as-possible go visit some-of-those have-interest NOM place.

(6d') wo jiang jinkeneng duo-de qu you naxie jing-dian  
 I shall nearly-as-possible more/many-ADV go tour some-of-those scene-spot

(7') The authors offer a rough definition of existentialism.

(7a') zuozhe gei-le cunzaizhuyi dagai de dingyi  
 author give-PERF existentialism rough NOM definition

(7b') zuozhemen gei-le yi-ge culue de guanyu cunzaizhuyi de dingyi  
 authors give-ASP one-CL rough NOM about existentialism NOM definition

(7c') zuozhe dui cunzaizhuyi geiyu yi-ge jiandan de jieshi  
 author toward existentialism offer one-CL simple NOM explanation

(7d') zuozhemen biaoda-le culue de cunzaizhuyi gainian  
 authors convey-PERF rough NOM existentialism notion

(8') She resolved the entire matter.

(8a') ta ba shiqing quanbu chuli jieju-le  
 she take matter completely process resolve-PERF

(8b') ta jieju-le suoyou de wenti  
 she resolve-PERF all NOM question

- (8c') ta jieju-le zhe-jian shiqing  
she resolve-PERF this-CL matter
- (8d') ta jieju-le suoyou de wenti
- (9') Many such questions can be listed.
- (9a') hen duo zhei-lei de wenti dou keyi lie-chu-lai  
very many this-type NOM question all can list-out-come
- (9b') xuduo zhei-yang de wenti dou keyi lie-cheng danzi  
many this-kind NOM question all can list-become list
- (9c') xuduo leisi wenti keyi bei lie-chu  
many similar question can PASSIVE list-out
- (9d') zhei-lei wenti tai duo le  
this-type question too many EMP
- (10') He adopted most of Smith's earlier methodology.
- (10a') ta caiyong-le da-bu-fen SMITH zaoqi de fangfa  
he adopt-PERF most SMITH early NOM method
- (10b') ta caiyong-le dabufen shimisi zaoqi de fangfalun  
he adopt-PERF most Smith early NOM methodology
- (10c') ta jieshou-le dabufen shimisi de zaoqi de fangfalun  
he accept-PERF most Smith NOM early NOM methodology
- (10d') ta xiqu-le xuduo shimisi zaoqi de lilun  
he assimilate-PERF much Smith early NOM theory
- (11') We need more study of actual student behavior.
- (11a') women xuyao dui xuesheng de xingwei jinxing geng duo de yanjiu  
we need toward student ASSOC behavior carry-on still more NOM research
- (11b') women xuyao geng duo de yanjiu xuesheng de shiji xingwei  
we need still more NOM research students ASSOC actual behavior
- (11c') women xuyao dui xuesheng de shiji biaoqian jinxing geng duo de yanjiu  
we need toward student NOM actual manifest carry-on still more NOM research
- (11d') women xuyao geng duo de guanyu xuesheng xingwei de yanjiu  
we need still more NOM about student behavior NOM research
- (12') Smith puts more emphasis on the relationship between the two.
- (12a') Smith geng qiangdiao liang-zhe zhijian de guanxi  
Smith still-more emphasize two-NOM between NOM relationship
- (12b') Shimisi geng duo-de zhongshi zhe-liang-zhe zhijian de  
Smith still-more more-ADV give-importance-to these-two-NOM between NOM  
guanxi  
relationship

- (12c') Shimisi dui erzhe zhijian de guanxi you geng duo de guanzhu  
Smith toward two-NOM between NOM relationship have still-more more NOM attend-to
- (12d') Shimisi geng zhuzhong liang-zhe jian de guanxi  
Smith still-more lay-stress-on two-NOM between NOM relationship
- (13') Autopsies have revealed little evidence of this linkage.
- (13a') jiepou mei-you faxian hen-duo guanlian de zhengju  
autopsy not-PERF discover very-much be-related NOM evidence
- (13b') shijian mei-you xianshi zhengming you zheizhong shuofa de zhengju  
autopsy not-PERF discover prove have this-type formulation NOM evidence
- (13c') shijian dui zhei-ge lianxi tigong hen shao de zhengju  
autopsy toward this-CL relation provide very few NOM evidence
- (13d') huayan bing mei-gei-chu duoshao xiangguan de zhengju  
laboratory-test EMP not(PERF)-give-out how-much be-interrelated NOM evidence
- (14') Neither of these findings can explain the observation.
- (14a') zhei-liang zhong diaocha jieguo dou bu neng jieshi suojian xianxiang  
these-two type investigate result all not can explain what-is-seen phenomenon
- (14b') zhexie faxian dou bu-neng jieshi zhe-zhong xianxiang  
these discover all not can explain this-type phenomenon
- (14c') zhexie zhengju bing bu neng jieshi zhe-ge faxian  
these evidence EMP not can explain this-CL discover
- (14d') zhexie faxian dou bu neng shuoming wenti  
these discover all not can explain problem
- (15') These factors have almost no effect.
- (15a') tamen jiben mei-you renhe xiaoguo  
they basic not-have any effect
- (15b') zhexie yinsu jihu mei-you renhe xiaoguo  
these factor nearly not-have any effect
- (15c') zhexie yinsu jiben-shang mei-you renhe xiaoli  
these factor basic-on not-have any effect
- (15d') zhexie dou wuguan-jinyao  
these all of-no-consequence

As can be seen, the tendency for Chinese speakers to represent quantities and qualities adverbially appears quite strong—especially in light of the fact that the English sentence prompts, by already being adjectival in their representations, should have invited an analogous representation in Chinese, if one were available.

Out of the 15 nouny English sentences, where quantities and qualities are adjectival, 9 sentences were translated into Chinese using adverb for quantities and qualities—e.g., 1' ta jia-cuo-le ren and 2' ta you diu-le yi-ben shu. 4 sentences were

represented with adjectives; and 2 sentences split between adjectival and adverbial representations.

The two split sentences were 8' and 9'—with 8' weighted toward adjectival and 9' weighted toward adverbial. 8b' and 8d' were adjectival: ta jie jue-le suoyoude wenti. 8a' was adverbial: ta ba shiqing quanbu chuli-jie jue-le. The informant for 8c' was agnostic and did not quantify either way. For the 9' sentences, 9a' and 9b' were analyzed as adverbial: hen duo/xuduo zhei-lei de wenti dou keyi lie-chu-lai. In these two sentences, the quantifiers, *hen duo* and *xuduo*, are paired with the adverbial, *dou*. 9c', with the absence of adverbial *dou*, is analyzed as adjectival: xuduo leisi wenti keyi bei lie-chu. 9d' chose stative verb predicate: zhei-lei wenti tai duo le.

The four sentences that showed up adjectival are 3', 7', 10' and 11'. In 3', 'new teacher' is rendered as xin laoshi. In 7', 'rough definition' is rendered, for example in 7b', as culue de dingyi. In 10', 'most of Smith's earlier methodology' is rendered, for example in 10a', b', and c', as dabufen shimisi zaoqi de fangfalun. In 11', 'more research' is rendered as *gengduo de yanjiu*. However, here it should be pointed out that all the above adjectival sentences, with the notable exception of 3', include the relativizing particle *de* (coded NOM, following Li and Thompson (1981)) between the premodifying quantity/quality and the head noun. The presence of *de* means that in their analysis, these noun phrases exemplify Li and Thompson's notion that adjectival meanings generally belong to the category stative verb. That is, the predicate verbal sense of stative *culue* in *culue de dingyi* is preserved as in an adjective clause, 'definition which [is] rough.'

### 3. Discussion

Although, the evidence presented is merely suggestive, it does show that the tendency toward adverbial representation of quantities and qualities is a persistent one in Chinese. The most interesting outlier is 3', 'new teacher'—rendered adjectivally by all informants as *xin laoshi*; not as *xin-lai de laoshi* or even as *xin de laoshi*. Li and Thompson (1981) explain that *de* can be omitted when the premodifier and head form a useful category. So, *yuan zhuozi*, 'round table,' forming a useful category, is fine, but *?yuan de zhuozi* is not. Similarly *?shufu yizi*, 'comfortable chair,' sounds strange—it does not form a useful category—but *shufu de yizi* is fine. Discourse factors, of course, should be included in any analysis. For example, descriptive grammars of Chinese would, no doubt, recommend *piaoliang de guniang*, 'beautiful girl,' as the normal pattern, but if the reference is to a type—as in: *ta shi yi-ge piaoliang guniang*, 'she is a beautiful girl'—the *de* can be omitted. A fuller picture about the omission of *de*—which in this analysis changes the premodifier from a stative predicate inside a relative clause into an adjective—is needed. Prosodic factors will need to be included as well. An analysis of tagged corpus data would be a good next step.

With respect to typology, we would like to suggest that observing how qualities and quantities are represented as parts-of-speech can be a useful parameter when thinking

about natural language typology—particularly if this representation correlates with an accumulation of other well-known features of natural languages such as mass vs. count noun, topic-prominent vs. subject-prominent,  $\pm$ pro-drop,  $\pm$ tensed,  $\pm$ aspectual morphology,

Finally, from a human perspective, one can imagine that there should be some underlying conceptual coherence that would capture the ontology implicit in any accumulation features. Nouny and verby are merely labels that suggest tendencies. How best to characterize such coherence is a problem.

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## 补语小句和处所义双宾结构的句法构造<sup>1</sup>

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本文简要介绍了“小句 (SC) 理论”和补语小句分析的基本操作程序，同时采用小句理论分析了汉语处所补语结构和各种派生结构。文章根据结构中定指名词和不定指名词的对立建立了两种处所补语小句形式，从而分析证明了处所补语结构的各种派生结构特别是处所双宾结构的句法构造。这一结论对于重新认识和分析汉语双宾结构的句法构造有重要参考意义。

关于双宾结构的句法构造一直有不少争论，但无论哪种分析，前提似乎都还是承认有“双宾”，即双宾结构（三元动词结构）是与无宾结构（一元动词结构）、单宾结构（二元动词结构）并列的基础句法结构。而我们试图提出，实际上在汉语中（甚至所有语言中）可能并不存在基础或底层的双宾结构，所有表面看到的双宾结构，其实都是单宾结构的派生形式。我们以前曾从每个动词只可能支配一个成分和动词后只有一个宾语位置的句法理论角度（沈阳2005），以及单宾动词结构中动词词义“吸收”和动词形式“合并”的语言事实角度（沈阳2006），论证过由两个底层单宾结构派生一个表层双宾结构的可能性<sup>2</sup>。本文将以此汉语处所义双宾结构为例，进一步证明汉语双宾结构可能的句法构造过程。

### 1. “补语小句理论”和补语小句分析

我们曾采用Hoekstra (1988/1990) 和Sybesma (1999) 提出的“SC (小句) 理论”来处理汉语的结果补语结构 (Sybesma/沈阳2006, 彭国珍2006等)，因此也

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<sup>1</sup>本文是荷兰莱顿大学和北京大学合作项目“汉语结果补语研究”、“Variation in the marking of unaccusatives in Sinitic and its consequences” 和中国教育部项目“汉语特殊动词和复杂动词结构研究” (01JB 740003) 研究成果的一部分。该项研究得到荷兰皇家科学会 (KNAW)、荷兰莱顿大学 (LU)、荷兰国际亚洲研究院 (IIAS) 和中国教育部研究基金的资助，本文写作中得到Sybesma和郑礼珊等的补充和指正，特此一并致谢。

<sup>2</sup> 把双宾结构处理为“单宾”派生结构，也不限于本文提出的方案。另外一个很著名的处理方案就是根据 Larson (1988) 建立的“VP-Shell (双层动词结构) 理论” (包括“轻动词移位分析”等) 中关于“由底层与格结构生成表层套叠结构”的假设，把双宾 (三元) 结构看作是由两层单宾 (二元) 结构通过句法成分的移位和合并构造的。本文暂不讨论和比较这一方案。



试图用这种理论来处理汉语的双宾结构，比如处所义双宾结构。为此先要简单说说什么是SC理论以及如何采用SC理论对汉语结果补语结构进行分析。

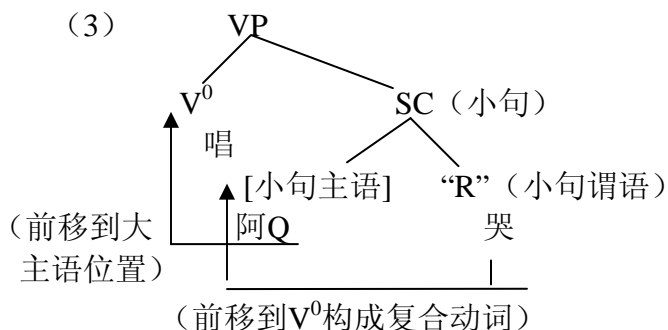
汉语的结果补语结构包括及物性结构和不及物性结构两类。根据SC分析，不及物的结果补语结构没有外部论元（external argument），而只有一个作为补语的内部论元（internal argument）。这个内部论元就表现为一个“补语小句（Small clause）”。以（1）为例：

（1）阿Q唱哭了

根据补语小句分析，（1）中主要动词“唱”表示一个开放性的动作行为，同时“唱”这个动作行为又导致了“阿Q哭”这个终点结果。这个句子在语义上可以整体分析为：有一个“唱”的动作事件和一个由“唱”所造成的“阿Q哭”这样一个结果事件。而这个句子在句法上就可以分析为：主句谓语动词“唱”带有一个表示结果的补语小句“阿Q哭”。这个结果补语小句包含有自身的主语成分“阿Q”和谓语成分“哭”，但是没有时态（tense）。如（2a）所示（暂时不考虑其中的“了”，详另文）：

（2）a. 唱<sub>[sc 阿Q哭]</sub> → (b. 阿Q<sub>i</sub> [vp 唱<sub>[sc t<sub>i</sub> 哭]])</sub>

由于补语小句没有时态，不是完整的句子结构，因此小句中的各种未获得句法允准的成份都需要分别移出以被“救活”。如（2b）所示：小句的主语“阿Q”，就需要前移到句子的大主语位置以获得“格（Case）”指派；而小句的谓语“哭”，则需要前移到主要动词V<sup>0</sup>“唱”的位置上，并最终与之合并为一个动结式复合动词（verb compound）“唱哭”。这样才生成上面（1）的句子。下面（3）是这个结构生成过程的简化树形图（同样暂时不考虑其中的“了”）：



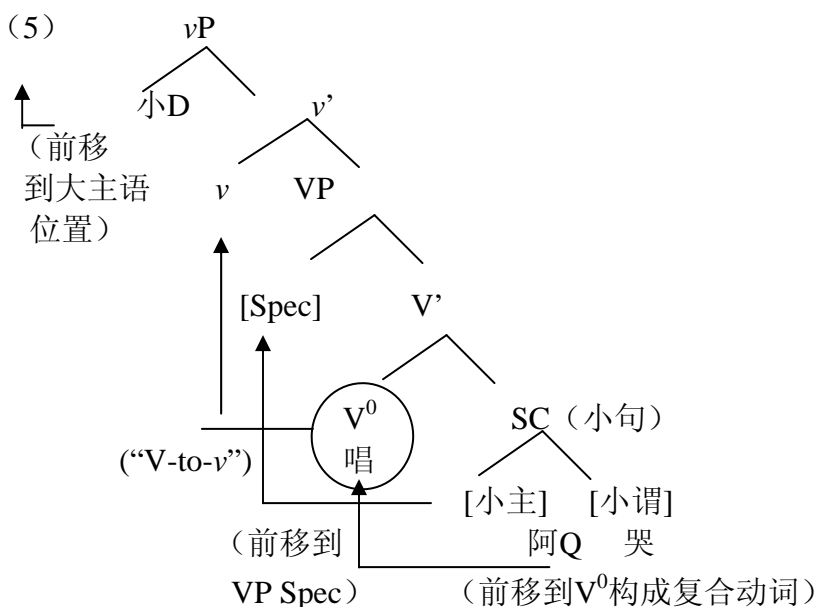
及物的结果补语结构与不及物结果补语结构最主要的区别在于，在及物性结构中存在一个包含外部论元的短语结构层。根据Chomsky（1995），这个句法层次可以称为“vP（小VP）”。这个层次主要作用，是为“VP（大VP）”表达的事件提供

一个作为“引发者”或“致使者”的外部论元。及物性结果补语结构 (4a) 的底层结构如 (4b) 所示:

- (4) a. 小D唱哭了阿Q            b. [<sub>vP</sub>小D [<sub>VP</sub>唱 [<sub>SC</sub>阿Q哭]]]

(4) 中的VP层与 (2-3) 中的VP层完全相同: 主要动词“唱”表示一个动作事件, 作为动词补语的小句“阿Q哭”则表明这个事件的终点结果。在 (4) 中主要是多了一个由vP层提供的引发“唱”这一事件的外部致使论元“小D”。这个句子在语义上可以整体分析为: 有一个由“小D”引发的“唱”的事件, 而这个事件造成的结果是“阿Q哭”。或者不严格地说, 这句话的意思就是“(小D)唱歌致使阿Q哭”。

跟 (3) 的情况相同, 由于小句没有时态, 所以小句中各种未获得句法允准的成分都需要分别移出。小句主语“阿Q”必须前移到最临近的能获得格的位置: 在 (3) 中这个最临近位置是句子的大主语位置, 而在 (4) 中由于v<sup>0</sup>的存在, 这个最邻近的位置则是VP的Spec位置。而 (4) 中前移到句子大主语位置的成分则是在vP的Spec位置生成并且作为事件引发者或结果致使者的外部论元“小D”。与 (3) 相同, (4) 中小句谓语“哭”也需要先移到主要动词V<sup>0</sup>“唱”的位置上, 并与之合并为一个动结式复合动词“唱哭”, 并且最终一起前移到vP的中心语v<sup>0</sup>位置上。这样才生成上面 (4a) 的句子。下面 (5) 是这个结构生成过程的简化树形图 (暂时不考虑其中的“了”):



“处所补语结构” (即朱德熙1982所说的“处所宾语结构”, 下同) 的形式其实很像结果补语结构, 甚至处所补语的意义也类似结果补语的意义, 所以也可以采用

SC理论来分析。因此似乎同样可以假设, 处所补语结构的底层也是一个表示动作的动词带一个表示终点处所的“补语小句”。由于小句没有时态, 所以小句内未获得句法允准的成分也就需要分别移出, 从而构成表层的处所补语结构。比较:

(6) 不及物的结果、处所补语结构:

- a. 阿Q唱哭了 (唱<sub>[sc]</sub>阿Q哭] → 阿Q [唱哭了<sub>[sc]</sub>])  
 b. 阿Q跳在桌子上 (跳<sub>[sc]</sub>阿Q在桌子上] → 阿Q [跳在桌子上<sub>[sc]</sub>])

(7) 及物的结果、处所补语结构:

- a. 小D打死一个人 (小D[打<sub>[sc]</sub>一个人死]] → 小D [打死一个人<sub>[sc]</sub>])  
 b. 小D放在桌子上的一本书 (小D[放<sub>[sc]</sub>一本书在桌子上]] → 小D [放在桌子上的一本书<sub>[sc]</sub>])

## 2. 处所补语结构的派生结构和处所补语小句

上面(6-7)说明处所补语结构可能像结果补语结构一样, 可以分析为一个主句动词后面带有一个“补语小句”。进一步说, 及物的结果补语结构和及物的处所补语结构(7)还有一点相同: 当小句的主语为定指名词(如“那个人、那本书”)时, 小句中的这个名词都必须继续前移, 从而构成“把”字结构或话题结构, 而一般不能留在动词后面。比较:

(8) 小D唱<sub>[sc]</sub>那个人哭了]

- a1. 小D把那个人唱哭了 a2. 那个人小D唱哭了  
 b1. \*小D唱那个人哭了 b2. ?小D唱哭了那个人

(9) 小D放<sub>[sc]</sub>那本书在桌子上了]

- a1. 小D把那本书放在桌子上了 a2. 那本书小D放在桌子上了  
 b1. \*小D放那本书(在)桌子上 b2. \*小D放(在)桌子上那本书

这样就可以假设, 包含定指名词的及物性处所补语结构中补语小句的结构形式似乎应该就类似结果补语小句“那个人哭”, 即整个处所补语小句是“那本书在桌子上”。而且也就可以用同样办法分析处所补语结构生成的“把”字结构和话题结构的构造: 小句主语“那本书”由于在小句内无法获得格, 所以必须前移到能被句法允准的位置: 或移入VP的Spec位置, 并通过在vP的中心语v<sup>0</sup>位置上插入轻动词“把”而构成“把”字结构; 或进一步前移至句首位置构成话题结构。而小句谓语动词“在”也需要移到主要动词V<sup>0</sup>“放”的位置上, 并与之合并为一个复合动词“放在”(构成话题结构时这个复合动词最终也要前移到vP的中心语v<sup>0</sup>位置上)。处所补语结构小句比结果补语小句还多出一个宾语“桌子上”, 该名词由于已经通过小句谓语动词“在”获得格位和题元角色因而无须移出小句。这样也就可以生成(9a)即下面(11a/b)的结构。再比较:

(10) 结果补语结构的底层结构: 小D [唱<sub>[sc1]</sub>那个人哭]] / 小D [打<sub>[sc1]</sub>那杯子碎]]

- a1. 小D把那个人<sub>i</sub> [vp唱<sub>[sc1]</sub> t<sub>i</sub>哭了]] a2. 小D把那个人<sub>i</sub> [vp唱哭了<sub>[sc1]</sub> t<sub>i</sub>]]  
 b3. 那杯子<sub>i</sub> (小D) [vp打<sub>[sc1]</sub> t<sub>i</sub>碎了]] b3. 那杯子<sub>i</sub> (小D) [vp打碎了<sub>[sc1]</sub> t<sub>i</sub>]]

(11) 处所补语结构的底层结构: 小D [放<sub>[sc1]</sub>那本书在桌子上]

- a1. 小D把那本书<sub>i</sub> [vp放<sub>[sc1]</sub> t<sub>i</sub>在桌子上]。      a2. 小D把那本书<sub>i</sub> [vp放在<sub>[sc1]</sub> t<sub>i</sub>桌子上]。  
b1. 那本书<sub>i</sub>(小D) [vp放<sub>[sc1]</sub> t<sub>i</sub>在桌子上]。      b2. 那本书<sub>i</sub>(小D) [vp放在<sub>[sc1]</sub> t<sub>i</sub>桌子上]

及物的结果补语结构和及物的处所补语结构还有一个共同点, 即与前面说的情况对立, 当结果补语小句或处所补语小句中包含有不定指名词(如“一个人”、“一本书”)时, 这个名词都不能移到主句动词之前进入“把”后位置或话题位置, 而须留在主句动词最终位置(即复合动词进入的 $v^0$ 位置)的后面(实际上是留在小句中, 详下)。只不过在这种情况下两种补语结构却有一点表现出明显不同, 即结果补语结构最终构成的还是个“单宾结构”, 如“小D打死了一个人”就还是单宾结构, 而处所补语结构最终构成的却是(12b1)的“处所与格结构(连谓结构)”和(12b2)的“处所双宾结构”了。比较:

- (12) a1. \*小D把一本书放在桌子上      a2. \*一本书小D放在桌子上  
b1. 小D放了一本书(在)桌子上      b2. 小D放(在)桌子上一本书

由于有上面说的这种由小句中包含定指名词(如“这本书”)或不定指名词(如“一本书”)造成两类派生结构的对立, 就带来一个问题, 即包含不定指名词的及物性处所补语结构中的小句形式和包含定指名词的及物性处所补语结构中的小句形式是否相同?

既然处所补语结构和结果补语结构有很大的一致性, 那么能不能说无论那种结构, 即包含定指名词的小句和包含不定指名词的小句结构形式都一样呢? 结果补语结构中的小句形式似乎可以这样说, 即无论哪种结构中的小句形式都是“NP V”<sup>3</sup>。这一方面是由于结果补语小句的论元结构(即名词和动词的位置)只可能有一种形式, 而且如(8)所示, 不管小句中的名词是否定指, 都有可能在实际结构中出现在主句动词之后, 如“阿Q打死了/唱哭了一个人/那个人/小D”, 两类派生结构的对立并不是十分明显。而处所补语结构的这种对立则显然要严格得多, 如上面(9)和(12)所示: 定指名词一定要前移, 即构成“把”字结构或话题结构; 不定指名词只能后置, 即构成与格结构或双宾结构, 二者呈现严格互补。另一方面更大问题在于, 结果补语小句中只包含一个名词和一个动词, 如前面(3)、(5)和(10)所示, 无论构成“把”字结构、话题结构, 还是动结式单宾结构, 其结构变化都很容易说明; 而由于处所补语小句中包含两个名词(一个指物名词, 一个处所名词), 其结构变化在句法规则上就不容易操作。比如如果假设包含不定指名词的处所补语结构的补语小句也跟包含定指名词的处所补语结构的补语小句一样, 即小句的形式跟“那本书在桌上”一样, 也就是“一本书在桌子上”。那么如果要得到“放一本书在桌子上”这样的处所与格结构, 至少小句的动词就无法前移与主句动词“放”合

<sup>3</sup> 其实结果补语结构的小句形式也可以有另一种分析, 即也采用下面提到的两种小句分析。详见另文。

并,这就与结果补语结构的分析不一致了。反过来说,如果要再得到“放在桌子上一本书”这样的处所双宾结构,似乎就只能让小句的谓语部分“在桌子上”整体提升与主句动词“放”合并,但这种移动形式又明显会违反 $X^0$ 位置动词必须单独提升的中心语移位原则而不被允许。

由此就只能得到一个结论:包含定指名词的补语小句,即构成处所“把”字结构和话题结构的处所补语结构中的补语小句(记作SC1),与包含不定指名词的补语小句,即构成处所与格结构和处所双宾结构的处所补语结构中的补语小句(记作SC2),一定具有不同的形式。如果说SC1是类似于结果补语结构中补语小句形式的“那本书在桌子上”,而SC2的结构形式就一定不会也是这样的。

### 3.包含不定指名词的补语小句形式和处所双宾结构的构造形式

假如上面的推论成立,即包含定指名词的补语小句SC1和包含不定指名词的补语小句SC2一定不同,就需要证明构成处所与格结构和处所双宾结构的处所补语结构中的补语小句SC2究竟是什么形式,或者说究竟是什么形式的补语小句SC2才能生成处所与格结构和处所双宾结构。目前的讨论涉及过以下几种方案:

首先一个方案是提出“空动词”假设,即SC2的形式是“一本书 $\Phi$ (there)在桌子上”。也就是说包含不定指名词的处所补语结构的小句谓语是一个空动词“there”(因为空动词不出现词语,所以采用英语的符号和类似意义),而“在桌子上”只是小句中的“附加语”(类似于英语“on the table”)。这样就可以保证仅空动词“there”提升与“放”合并,附加语“在桌子上”因为不是宾语而可以不需要移位。但由此带来的问题是,这种派生形式只能得到“放( $\Phi v_i$ )一本书 $v_i$ 在桌子上”的处所与格结构,并不能同时说明处所双宾结构“放在桌子上一本书”是怎么生成的。

其次一个方案是干脆给包含不定指名词的处所补语小句颠倒个位置,即假设SC2是“桌子上 $\Phi$ (有)一本书”。甚至不妨进一步假设这种补语小句形式是包含两个空动词的双层小句,即“放[ $_{SC1} \emptyset_{NP}$  [VP  $\emptyset_{在}$  [ $_{SC2}$  桌子上 [VP  $\emptyset_{有}$  一本书]]]]”。因为上层小句中的空动词“ $\Phi$ (在)”前一定有一个NP位置,就允许像“一本书”这样的名词提升填充(同时名词一旦填入也就有可能去激活这个空动词“在”)。由此,如果向上提升的是后一个小句中的空动词“ $\Phi$ (有)”,加上“一本书”的填充(同时也激活“在”),就可以得到“处所与格结构”,如“放[ $\emptyset_{有}$  [ $_{SC}$  一本书] $_{VP}$  在 [ $_{SC}$  桌子上] $_{VP}$   $V_{t_i}$  NP $_{t_i}$ ]]]”;如果直接提升的是前一个小句中的空动词“ $\Phi$ (在)”(这个空动词提升后可隐可现),就可以得到“处所双宾结构”,如“放[ $\emptyset_{在}$  [VP  $\emptyset_i$  [ $_{SC}$  桌子上] $_{VP}$   $\emptyset_{有}$  一本书]]]”。但这样做,除了分别提升两个小句中的空动词理论上缺乏充分理由外,还会碰到一个技术问题:“一本书”在这样的小句中处于宾语位置(是空动词“有”的宾语),而根据SC理论,非时态小句中未获得句法允准的主语名词和谓语动词才是必须移位的,而小句的宾语已经由小句谓语动词指派题元角色和赋格,因此也就不能再移动到另一个位置上去重复指派题元角色和重复赋格。换句话说,上

面这样的小句形式，即使可以让“一本书”不动位置而生成处所双宾结构，也不能又让“一本书”移动位置而生成处所与格结构。

为了摆脱上面的“两难”困境，似乎还可提出另一个“两全”之策，即让处所补语结构的两种派生结构各自有不同的补语小句形式。比如说SC2a是“一本书 $\Phi$  (there) 在桌子上”，从而提升空动词“there”生成处所与格结构，SC2b是“桌子上 $\Phi$  (有) 一本书”，从而提升空动词“有”生成处所双宾结构。但事实上很难说包含不定指名词的处所补语结构本身会有两种句法底层和语义性质，也很难说处所与格结构和处所双宾结构具有不同的句法来源和语义基础，毕竟这两种结构即使在句法上和语义上有差别，也不可能大到这个程度；更不用说这种句法操作程序实在过于繁琐，显然也不符合“最简方案”提出的句法操作的“经济原则”和“利己原则”。

为此我们试图在前面讨论的基础上提出一个新方案来处理SC2。基本假设是：SC2中的空动词还是“ $\Phi$  (有)”，但应该位于小句的前面，整个小句形式是：“放<sub>[sc]</sub>  $\Phi$  (有) 一本书在桌子上”，或者更准确地说是：“放<sub>[sc]</sub>在桌子上 $\Phi$  (有) 一本书在桌子上”。小句中的“在”并不是动词，整个“在桌子上”只是一个附加语（PP短语或NP短语），而且在小句中必须包含两个同义和同形的附加语成分“在桌子上”（也就是同一个成分的“拷贝”形式）。这样，根据SC理论，处所补语结构无论派生出处所与格结构还是处所双宾结构，向上提升与主句动词合并的都只是小句中的空动词“ $\Phi$  (有)”，而作为宾语的“一本书”和作为附加语的“在桌子上”就都可以留在小句中。二者的区别仅仅在于：生成处所与格结构时要删除前一个“在桌子上”拷贝，生成处所双宾结构时要删除后一个“在桌子上”拷贝。这个假设不但完全符合SC分析的句法操作程序，而且能合理和简单地解释包含不定指名词处所补语结构的两种派生格式。当然对于建立这一句法假设，我们还需要回答以下几个问题。

第一个问题是：为什么SC2小句的谓语动词并不是“在”，而真正的动词“有”又是“空”的。“在”在汉语中既可以作为实义动词，也可以作为介词（甚至弱化和脱落），这是汉语的事实，问题无非是要区别“在”在什么情况下是动词，在什么情况下是介词。英语“put a book on the table”的“on”或许可作为证据说明这里“在”是介词而不是动词，“在桌子上”只是附加语。但更重要的依据是Mulder (1992) 和Kung (1995) 关于汉语中副词“各”只能出现在动词之前的证明。下面(13)的处所双宾结构和处所与格结构中，“各”都可以出现在不定指名词“一本书”前，而不能出现在“在桌子上”前。这就不但可以证明“在”在这样的结构中并不是动词，而且可以证明在这种结构中不定指名词“一本书”的前面不但应该存在一个动词，而且这个动词还可以不出现显性形式（即表现为空动词）<sup>4</sup>。比较：

- |                         |                    |
|-------------------------|--------------------|
| (13) a1. *他们放各在这些桌子上一本书 | a2. 他们放在这些桌子上各一本书  |
| b1. 他们放各一本书在这些桌子上       | b2. *他们放一本书各在这些桌子上 |

<sup>4</sup> 其实还可以找到有其他一些证明，例如结构中体标记“了”的出现位置限制。但这涉及到对“了”的分析（参看Sybesma/沈阳2006，以及玄月2007等），这里暂不细说。



(16) 包含不定指名词的处所补语结构及其派生过程:

- a. 放<sub>[SC2]</sub>在桌子上(有)一本书在桌子上 → 放<sub>[SC]</sub> Vt 一本书在桌子上  
 b. 放<sub>[SC2]</sub>在桌子上(有)一本书在桌子上 → 放<sub>[SC]</sub>在桌子上 Vt 一本书

#### 4. 处所双宾结构的句法构造与双宾结构的句法分析

上面对汉语处所补语结构的分析,是建立在假设存在两种补语小句SC1和SC2的基础上的。建立两种小句形式最直接的好处当然是能更统一地分析和说明各种处所义结构的句法构造。比如本文就分析了处所义“把”字结构、处所义话题结构、处所义与格结构和处所义双宾结构的句法构造过程,实际上其他的相关结构,比如“存在句”如“桌子上放着一本书”,或“状态句”,如“那本书在桌子上放着呢”,也都可以按照这个思路做出解释。

不过本文最重要的目的还是要回到对双宾结构句法构造的分析上来。因为如果这种假设可以成立,对处所义双宾结构的分析也就完全有可能推广到其他双宾结构。上面对处所补语结构两种底层SC形式的假设,即SC1是“[那本书<sub>(定指)</sub>在桌子上]”,SC2是“[在桌子上 $\Phi$ <sub>(有)</sub>一本书<sub>(不定指)</sub> $\Phi$ 在桌子上]”,也就为分析其他双宾结构的句法构造提供了一种基本思路。不妨假设所有的双宾结构都可能存在两种底层SC形式。因为一方面事实上所有双宾结构,比如“给予义”双宾结构,两个宾语其实都可以分析为一个补语小句,因此完全可以在SC理论框架下进行句法操作;另一方面也就可以解释为什么所有双宾结构,比如“给予义”双宾结构(包括给予义与格结构),都必须包含不定指名词(因为这个名词是SC2谓语空动词“有”的宾语),而构成其他相关结构,包括给予义的“把”字结构和话题结构时,又都必须包含定指名词(因为这个名词是SC1谓语动词“给”的主语)。例如典型的给予义双宾结构的句法构造,也包括其他相关派生结构的句法构造,就可以假设为下面的(17)。比较:

- (17) a1. 我把那束花送(给)女朋友了                      a2. 那束花我送(给)女朋友了  
 底层结构: 送<sub>[SC1 NP那束花<sub>(定指)</sub> V给<sub>NP</sub>女朋友]</sub>
- b1. 我送了一束花给女朋友                                      b2. 我送了女朋友一束花  
 底层结构: 送<sub>[SC2 PP给女朋友 V $\emptyset$ <sub>(有)</sub> NP一束花<sub>(不定指)</sub> PP给女朋友]</sub>

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## The Comparative Syntax of Passive Structures in Chinese and Vietnamese

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Building on previous research on the *bei* construction in Chinese and similar forms in other East Asian languages in Huang (1999) and other works, this paper offers a further comparative perspective on Chinese-type passives and their parametric variation with a consideration of passive structures in Vietnamese, an Austroasiatic language which has received much historical influence from Chinese. The paper indicates how Chinese and Vietnamese passive forms are in many ways very similar, and also shows how passive-type forms in the two languages may diverge in significant ways, leading to a re-examination of hypotheses seeking to identify fully universal properties of passive constructions.

### 0. Introduction

Much interesting research has been carried out on the syntactic structure of Mandarin passive constructions in recent years, with significant results described in Ting (1998), Huang (1999), and Tang (2001). Huang (1999), in particular, places modern Mandarin *bei*-constructions in a broad comparative perspective, incorporating insights from the diachronic development of *bei* passives, and the synchronic realization of passive in non-Mandarin varieties of Chinese (Cantonese and Southern Min) as well as other East Asian languages such as Japanese and Korean. The present paper adds a further comparative perspective on Chinese-type passives and their parametric variation in East Asia with a consideration of passive structures in Vietnamese, a language which has been considerably influenced by Chinese due to earlier, prolonged Chinese dominance of the northern part of the country during the formative years of the language. Sections 1 and 2 of the paper establish how passive structures in Vietnamese show many clear similarities to those in Mandarin, and are closer to Chinese in surface structure than the passive in Japanese and Korean. Section 2 also introduces certain initial differences between Chinese and Vietnamese passive constructions which relate to the degree to which indirect passives are available in the two languages. Section 3 focuses more squarely on ways in which Vietnamese and Chinese passive constructions may be significantly different and highlights both the use of different passive ‘auxiliary’ verbs and the occurrence of intransitive passives in Vietnamese. This leads on to a re-consideration of properties that may be taken to be universal to the passive in section 4, and how the

patterns in Vietnamese impact on cross-linguistic characterizations of the passive. Section 4 also speculates further on certain syntactic factors that may be responsible for the variation between Chinese and Vietnamese, and why the range of forms found in Vietnamese are not all permitted to occur in Chinese.

### 1. Passive in Chinese

The Mandarin *bei* construction has been well described in a number of works in recent years, for example Shi (1997), Ting (1998), Huang (1999), and Tang (2001). Huang (1999) in particular identifies a number of important syntactic properties of sentences such as (1) which support a bi-clausal analysis of Chinese passives, in which *bei* occurs as a predicate embedding a second clause.

- (1) Zhangsan bei [Lisi da-le].  
 Zhangsan BEI Lisi hit-ASP  
 ‘Zhangsan was hit by Lisi.’

First, it is noted that a subject-oriented adverb such as ‘deliberately’ can occur preceding *bei* and be construed as referring to the action of the initial NP in the sentence (‘Zhangsan’ in (1)), identifying this NP as an Agent. This is taken to suggest that the initial NP may be base-generated as the Agent subject of a higher clause, rather than being raised to this position from a lower object position, where it would receive a Patient theta role. Movement between two independent theta positions is assumed to be unavailable due to restrictions imposed by the Theta Criterion.

- (2) Zhangsan shi guyi            bei Lisi da-de.  
 Zhangsan BE deliberately BEI Lisi hit-DE  
 ‘Zhangsan deliberately got hit by Lisi.’

Second, it is observed that either the NP preceding *bei* or the NP following *bei* can bind the subject-oriented anaphor *ziji* in sentences such as (3). The interpretations available in (3) therefore suggest that both the NPs *Zhangsan* and *Lisi* are in subject positions, and hence that (3) contains two clauses, each with its own subject.

- (3) Zhangsan<sub>i</sub> bei Lisi<sub>k</sub> guan zai ziji<sub>i/k</sub>-de-jia-li.  
 Zhangsan BEI Lisi shut in self’s house  
 ‘Zhangsan was locked up by Lisi in his/her own house.’

This leads to an analysis in Huang (1999) in which the ‘gap’ position present in examples such as (1-3) results from movement of an empty operator base-generated in the object-of-verb position to a clause-initial position, where it converts the subordinate clause into a secondary predicate construed as referring to the subject of *bei*, through co-indexation of this NP and the empty operator, as schematized in (4):

- (4) Zhangsan<sub>i</sub> bei [<sub>IP</sub> Op<sub>i</sub> Lisi da-le t<sub>i</sub> ]

The operator-trace dependency posited in passive sentences such as (1-3) is argued to be potentially unbounded and able to span multiple clauses, as illustrated in (5). It is also constrained by syntactic islands, as shown in (6). Both of these observations support the view that passive sentences may involve A'-movement – for Huang (1999) the A'-movement of an empty operator.

- (5) Zhangsan bei Lisi pai jingcha zhua-zou-le.  
Zhangsan BEI Lisi send police grab-away-ASP  
'Lisi sent the police to seize Zhangsan and take him away.'
- (6) \*Zhangsan bei wo tongzhi Lisi ba [<sub>RC</sub> zanmei \_ de shu dou mai-zou-le].  
Zhangsan BEI I inform Lisi BA praise DE book all buy-off-ASP  
'I told Lisi to buy up all the books that praised Zhangsan.'

Such a conclusion receives further support from two other patterns. First, the particle *suo* which otherwise only occurs in relative clauses (and hence is associated with A'-operator movement) may occur in *bei* sentences of the form considered so far, where *bei* is followed by an overt NP agent. This is illustrated in (7).

- (7) zhe-xie shiqing bu neng bei ta suo liaojie.  
these thing not can BEI he SUO understand  
'These things cannot be understood by him.'

Second, it is possible for a resumptive pronoun to occur in the position of the object gap, when a frequency adverbial also appears, as shown in (8). The potential occurrence of resumptive pronouns is a property which is cross-linguistically associated with instances of A'-movement rather than A-movement.

- (8) Zhangsan bei Lisi da-le ta yi-xia.  
Zhangsan BEI Lisi hit-ASP him one-time  
'Zhangsan was hit by Lisi once.'

The above-noted patterns all characterize *bei* sentences in which an agent subject of the main descriptive verb is overtly present in the sentence. In addition to such forms, Mandarin also allows for there to be no overt realization of the agent of the main verb, as illustrated in (9):

- (9) Zhangsan bei da-le.  
Zhangsan BEI hit-ASP  
'Zhangsan was hit.'

Interestingly, such agentless passives, which Huang (1999) refers to as the 'short passive' form, have certain different syntactic properties from the 'long passive' where an agent is present. These differences, observed in Huang (1999), are summarized in (10), and are argued to call for a somewhat different analysis from that of the long passive:

## PROPERTIES OF THE MANDARIN SHORT PASSIVE (Huang 1999)

- a. No resumptive pronouns (even when frequency phrases appear)
- b. No particle *suo* possible.
- c. No unbounded dependencies possible.

Because subject-oriented agentive adverbs are possible in the short passive, as in the long passive, Huang concludes that the pre-*bei* NP is base-generated as a subject in a higher clause and related to the gap position by an occurrence of A-movement (hence no resumptive pronouns, *suo*, or unbounded dependencies). In the short passive, *bei* is suggested to select for a VP construed as a secondary predicate of the pre-*bei* NP through co-indexation of a PRO which undergoes movement from the object gap position to SpecVP, as indicated in (10):

(10) Zhangsan<sub>i</sub> bei [<sub>VP</sub> PRO<sub>i</sub> da-le t<sub>i</sub> ]

Both long and short passive constructions are consequently analyzed as having bi-clausal structures, with a simple difference in the size of the constituent that occurs as the secondary predicate combined with *bei* – either a full clause with an overt subject and the occurrence of A'-operator movement, or a VP with A-movement of a PRO.

## 2. Passive structure in Vietnamese

Turning now to consider Vietnamese, sentences with a passive meaning similar to the Chinese examples in section 1 are in many cases constructed with the morpheme *bị*, possibly borrowed from Chinese *bei*. As in Mandarin, there are both 'long' and 'short' passive patterns, and the appearance of the agent NP associated with the main verb is quite optional:

(11) Nam bị (Nga) đánh.  
 Nam BI Nga hit  
 'Nam was hit (by Nga).'

Similar to Chinese (as pointed out by Huang 1999), the passive morpheme and the following agent NP cannot undergo any repositioning as a sequence (12), hence do not pattern like a PP constituent, unlike English passive 'by-phrases'. Combined with the observation that the NP following *bị* is able to bind an anaphor (13), this would seem to favor a bi-clausal analysis of *bị*-sentences in which *bị* embeds a subordinate clause (at least in cases of overt-agent long passive structures). Anaphors in Vietnamese such as *minh* are regularly only bound by subjects, as shown in (14). The post-*bị* NP in passive sentences like (13) therefore patterns like a subject, similar to its Chinese counterpart::

(12) \*Bị Nga Nam đánh.  
 BI Nga Nam hit  
 Intended: 'Nam was hit by Nga.'

- (13) Nam<sub>i</sub> bị Nga<sub>k</sub> nhốt trong phòng ngủ của mình<sub>i/k</sub>.  
 Nam BI Nga lock in room sleep of self  
 ‘Nam was locked by Nga in his/her own room.’
- (14) Nga<sub>k</sub> nhốt Nam<sub>i</sub> trong phòng ngủ của mình<sub>k/\*i</sub>.  
 Nga lock Nam in room sleep of self  
 ‘Nga locked Nam in her own (Nga’s) room.’

Long passive sentences in Vietnamese are also characterized by A’-dependency-like restrictions on the possible embedding of a Patient gap position, as in Mandarin. Long-distance dependencies similar to those in the *bei*-passive are possible, but only in long-passive structures (i.e. where the Agent is overt), and never into island constituents.

- (15) Nam bị \*(Nga) báo cảnh sát đến bắt.  
 Nam BI Nga call police come arrest  
 ‘Nga called the police to come and arrest Nga.’

With regard to a range of passive-like sentence forms, Vietnamese therefore shows patterns which clearly parallel those found in Chinese. This seems to suggest that the analysis of passive phenomena in Vietnamese and Chinese should be similar, and a bi-clausal treatment of both Vietnamese and Chinese appears to be warranted, at least in the instance of overt agent long passive structures.

Parallels between Vietnamese and Chinese also extend further, with the occurrence of ‘indirect passive’ sentences in both languages. The term ‘indirect passive’ is commonly used to refer to instances of passive in which the ‘passivized’ surface subject does not correspond to any direct argument NP of the main descriptive verb such as the direct object, or indirect object. In both Chinese and Vietnamese, it is found that the subject of *bei/bị* may correspond to the possessor of the object of the main verb, when the action of the verb clearly affects the possessor through action being applied to the object, which is frequently a body-part or some item closely associated with the subject:

- (16) Lao Zhang bei da-diao-le ya-chi.  
 old Zhang BEI hit-lose-ASP teeth  
 ‘Zhang had his teeth knocked out.’ (Shi 1997)
- (17) Ta bei jingcha mo-shou-le zhi-zhao.  
 he BEI police confiscate-ASP driving license  
 ‘He had his driving license confiscated by the police.’ (Shi 1997)
- (18) Zhangsan bei tufei da-si-le fuqin.  
 Zhangsan BEI bandit hit-dead-ASP father  
 ‘Zhangsan’s father was killed.’ (Huang 1999)



- (19) Tôi bị Nga làm gãy một ngón tay.  
 I BI Nga make snap 1 finger  
 ‘Nga broke one of my fingers.’
- (20) Nga bị Nam giật tóc.  
 Nga BI Nam pull hair  
 ‘Nga had her hair pulled by Nam.’
- (21) Nam bị cảnh sát tịch thu ra đô của Nam.  
 Nam BI police confiscate radio of Nam  
 ‘Nam had his radio confiscated by the police.’ (Le 1976)

The full distribution of indirect passives in Vietnamese is, however, rather more restricted than that in Mandarin (and Taiwanese - Huang 1999), in two distinct ways. First, where the object of the main verb is a kin term and refers to a relative of the subject (e.g. ‘son’, ‘father’ etc), an indirect passive structure is licensed in Chinese (ex. 18) but not in Vietnamese (even with a resumptive possessor):

- (22) \*Nga bị một người gangster xọ giết ba (của Nga).  
 Nga BI 1 CL gangster kill father (of Nga)  
 Intended: ‘A gangster killed Nga’s father.’

Second, Chinese permits the occurrence of certain ‘adversity passives’ in which the subject of *bei* does not appear to correspond to any obvious argument or possessor gap position in the clause following *bei*, as for example in:

- (23) Lisi you bei Wangwu jichu-le yi-zhi quanleida  
 Lisi again BEI Wangwu hit-ASP 1-CL home-run  
 ‘Lisi again had Zhangsan hit a home run on him.’ (Huang 1999)
- (24) wo bei ta zheme yi zuo, jiu sheme dou kan-bu-jian-le  
 I BEI he thus one sit then everything all cannot-see-ASP  
 ‘As soon as he sat this way on me, I couldn’t see anything at all.’ (Huang 1999)

This kind of passive structure licensed purely by the adverse effect of the action on the subject does not seem to be possible in Vietnamese:

- (25) \*Cảnh sát bị tên sát nhân trốn thoát.  
 police BI murderer escape  
 Intended: ‘The murdered escaped from the police (and this adversely affected the police).’

In section 4, we will return to consider how such differences might be accounted for in an extension of the analysis of indirect passives in Huang 1999. First, though, we will present two other sets of differences between Vietnamese and Chinese passive forms, one which is primarily lexical and not difficult to accommodate in existing treatments of East

Asian passives, and another which is clearly syntactic, and which has more serious consequences for characterizations of the passive as a cross-linguistic construction.

### 3. Lexical and syntactic variation in Chinese and Vietnamese passives.

#### 3.1 Negative and positive effect passives in Vietnamese

An interesting lexical difference between Vietnamese and Chinese is that Vietnamese regularly makes use of two different functional morphemes in its ‘passive’ structures. In addition to the morpheme *bị*, present in all of the Vietnamese examples thus far, a second verbal element *được* also frequently occurs in fully parallel sentence forms. The key semantic difference between *bị* and *được* is as follows:

- (26) a. *bị* is used in sentences where the event depicted by the main verb is understood as affecting the subject in a generally negative way.  
 b. *được* occurs in parallel sentence forms where the event depicted by the main verb is understood to affect the subject in a generally positive way.

*Được* itself appears to be cognate with Chinese *得* 得 ‘to get’ (Cantonese *dak*), and has a main verb use ‘to get/receive’, as well as a post-verbal use as a modal meaning ‘to be able to’ (similar to Cantonese *dak*; Simpson 2001). Example (27) illustrates the use of *được* in a passive frame parallel to *bị*.

- (27) Nam bị thầy giáo phạt.  
 Nam BI teacher punish  
 ‘Nam was punished by the teacher.’
- (28) Nam được thầy giáo khen.  
 Nam DUOC teacher praise  
 ‘Nam was praised by the teacher.’

Structurally, *được* ‘passives’ correspond fully to *bị* passives and allow for the same kinds of syntactic patterns. *Bị* and *được* therefore seem to simply be two (semantically different) values of the same functional verb type used to encode passive in Vietnamese. Example (29) shows how *được* can occur in an indirect passive-type use (with beneficial effect), similar to the use of *bị* in (21):

- (29) Tôi được Nga đọc lá thư của tôi.  
 I DUOC Nga read letter of I  
 ‘I had Nga read my letter.’

In terms of meaning and patterns of use, *bị* most commonly occurs with verbs which encode an obviously unpleasant action on their objects, hence verbs such as ‘criticize’, ‘hit’ etc, rather than verbs indicating a positive effect on their objects, e.g. ‘praise’, which naturally occur with *được*. However, verbs such as ‘praise’ can in fact occur with *bị* if the effect of the action of the verb is contextually understood as being negative (e.g.

creating embarrassment for the subject), and verbs such as ‘punish’ may occur with *được* if the action of ‘punishing’ is somehow contextually understood to be positive for the subject:

- (30) Nam bị thầy giáo khen.  
 Nam BI teacher praise  
 ‘Nam was praised by the teacher.’
- (31) Nam được thầy giáo phạt.  
 Nam DUOC teacher punish  
 ‘Nam was punished by the teacher.’

Consequently, interpretations of the subject being negatively or positively affected by the action of the verb in the Vietnamese passive are primarily a function of the choice of *bị* and *được*, and not principally dictated by the content of the main descriptive verb.

### 3.2 Passives of intransitive verbs

A second, particularly striking syntactic property of Vietnamese *bị* passives, which distinguishes them from Chinese *bei* sentences and passives in most other languages is the occurrence of *intransitive verbs* in the *bị* passive frame. This is frequently found with intransitive verbs referring to unpleasant states or actions. Examples (32) and (33) below refer to sickness:

- (32) Nga bị ốm/bệnh.  
 Nga BI sick/ill  
 ‘Nga got sick.’
- (33) Nga bị bệnh ung thư.  
 Nga BI ill cancer  
 ‘Nga got cancer.’

Verbs of this type often occur with *bị*, but it is important to note that they also can occur without *bị* in non-passive clauses:

- (34) Tôi nghe nói là Nam ốm/bệnh lắm.  
 I hear say C Nam sick/ill much  
 ‘I heard that Nam is very ill.’
- (35) Nam đang ốm/bệnh (lắm).  
 Nam PROG ill/sick much  
 ‘Nam is very sick.’

Examples (36-40) provide further illustration of intransitive passives referring to bodily conditions and actions which are viewed as negative. Both new, long-term states such as ‘blindness’ and ‘becoming crippled’ as well as short-term physical experiences such as

‘coughing’ and ‘vomiting’ occur naturally in these passive-of-intransitive verb structures, and terminal negative events such as ‘drowning’ may also be represented with a passive structure:

- (36) Nam bị mù.  
 Nam BI blind  
 ‘Nam is/became blind’
- (37) Nam bị tàn tật.  
 Nam BI crippled  
 ‘Nam is/became crippled.’
- (38) Nam bị ho.  
 Nam BI cough  
 ‘Nam coughed.’
- (39) Nam bị ói.  
 Nam BI vomit  
 ‘Nam vomited.’
- (40) Nam bị chết đuối.  
 Nam BI drown  
 ‘Nam drowned.’

This kind of passive structure embedding intransitive verbs is not at all possible in Chinese, as illustrated in (41) and (42), and represents a very clear difference between Chinese and Vietnamese:

- (41) \*Ta bei bing-le.  
 he BEI sick-ASP
- (42) \*Ta bei kesou-le  
 he BEI cough-ASP

Presently, it will be seen that the occurrence of intransitive passive forms in Vietnamese also has significant consequences for any characterization of ‘passive’ in terms of universal, cross-linguistic properties.

#### **4. Significance of the patterns for functional and theoretical approaches to passive**

The Vietnamese patterns presented above, and particularly those in section 3.2, are significant for both formal and functional analyses of the passive as a construction having clearly definable, cross-linguistic properties. Functional descriptions of the passive frequently claim that passive constructions exist to fulfill either one or both of the following manipulations of perspective/viewpoint:

AGENT DEMOTION - removal of the Agent from prominent subject position and demotion to a less salient role in the syntactic structure (or full elimination of the Agent from the sentence)

PATIENT PROMOTION – promotion of the Patient from object to subject position

In the Vietnamese passive of intransitive verbs, however, there is neither any agent demotion, nor any patient promotion, and the prominence of the single argument of the verb is not changed by the use of a passive structure. The function of the use of passive morpheme *bi* in such sentences is to signal and emphasize the negative impact of the event on the subject of the verb. The extension of passive *bi* to such intransitive verbs thus poses a clear challenge to current, heavily restrictive classifications of passive morphology and syntactic structure in terms of their functional use.

With regard to the formal, generative modeling of the passive within Government and Binding Theory and various of its ‘Principles and Parameters’ successors, the surface syntactic properties of passive sentences in European languages such as Italian, English and German have been suggested to be due to two common underlying features of passive (Burzio 1986, Haegeman 1991):

- (43) a. Passivization eliminates the accusative case assigning potential of the verb
- b. Passivization eliminates the external theta role of the verb

The interaction of (43a) and (43b) is suggested to cause the Patient/Object argument of a passivized verb to undergo movement to the subject position of a finite clause to be assigned/check case. As pointed out by Huang (1999), however, the patterning of passive constructions in Chinese and other East Asian languages necessitates a re-assessment of (43a/b) when considered as putative cross-linguistic properties of the passive.<sup>1</sup> In Chinese-type passives, there is no evidence that any accusative case assigning potential of the verb is lost, and overt NP objects may still occur in canonical post-verbal positions in passive sentences. This is illustrated in the ‘retained object’ indirect passive examples (16-18). In Chinese long passives, the Agent argument of the verb is also not eliminated, and may surface overtly, as in examples (1-3, 5, 7, 8). Neither of the core properties of passive identified on the basis of Romance and Germanic languages seem to be relevant for languages such as Chinese. While East Asian languages therefore clearly question the validity of (43a/b) as potentially definitive, cross-linguistic properties of passive structures, Huang (1999:67) suggests that it may still be possible to identify certain basic shared features of passive constructions across typologically diverse languages:


- (44) ‘..there is nevertheless a universal notion of passivization that can be maintained, namely that all passives involve intransitivization and a dependency relation between the surface subject and underlying object position..’

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<sup>1</sup> See also Simpson (1990) for similar conclusions based on Thai.

Such a revised perspective on the passive needs a little further explanation before we consider the relevance of the patterns found in Vietnamese. Specifically, with regard to indirect passives, where the direct object of the verb is overtly present and not directly linked to the surface subject position (examples 16-18), Huang (1999) suggests that the surface subject is actually linked to an ‘outer object’ position in the embedded clause. It is proposed that an empty operator originates in a higher object position within VP, raises to a clause-periphery position as in other instances of long passive, and binds a pro in the possessor position of the direct object/Patient NP, as illustrated in (45).

(45) Zhangsan bei [Op<sub>i</sub> tufei [VP t<sub>i</sub> da-si-le [pro<sub>i</sub> fuqin]].



The possible occurrence of such structures is attributed to the ability of Chinese to case-license the outer object base position of the empty operator, which in turn is argued to correspond with the occurrence of overt NPs in outer object positions introduced by *ba*.<sup>2</sup>

(46) tufei ba Zhangsan da-si-le baba  
 bandit BA Zhangsan hit-die-ASP father  
 ‘The bandits killed Zhangsan’s father.’

Huang notes that similar outer objects in Korean are clearly case-marked, and only possible where the outer object is affected by the action of the verb, as in Chinese:

(47) Mary-ka John-ul tali-lul cha-ess-ta/\*po-ess-ta.  
 Mary-NOM John-ACC leg-ACC kick-PAST-DEC/see-PAST-DEC  
 ‘Mary kicked/\*saw John in the leg.’

Concerning those *bei* sentences referred to as adversity passives (examples 23 and 24), Huang (1999) suggests that these are similarly derived by the movement of an empty operator from a *higher* outer object position. NPs base-generated in such a position are

<sup>2</sup> Similar suggestions that such indirect passives may be related to *ba*-constructions are given in Shi (1997), who points to the parallelisms between many ‘retained object’ indirect passives and *ba*-forms:

- |   |  |
|---|--|
| <p>(i) hua bei wo jiao-le shui<br/>             flower BEI I add-ASP water<br/>             ‘The flowers were watered by me.’</p>                                 | <p>(ii) wo ba hua jiao-le shui<br/>             I BA flower add-ASP water<br/>             ‘I watered the flowers.’</p>  |
| <p>(iii) na kuai di bei tamen zhong-le gua<br/>             that CL land BEI they plant-ASP melon<br/>             ‘They planted melons in that bit of land.’</p> | <p>(iv) tamen ba na kuai di zhong-le gua<br/>             they BA that CL land plant-ASP melon<br/>             ‘They planted melons in that bit of land.’</p> |

suggested to receive a theta role with the meaning of ‘entity adversely affected by the action of the verb’.<sup>3</sup>

Such an analysis of indirect and adversity passives has two immediate consequences, both of which seem to be positive. First, Huang is able to maintain that passive sentences in Chinese uniformly incorporate a dependency between the surface subject position and some underlying object position – either the direct object position, or one of the two outer object positions. This subsequently allows for the statement of (44) as a putatively general property of passive both in Chinese and other languages. Second, the case-theoretic approach to indirect passives allows for a principled way to describe and possibly even predict cross-linguistic variation in the occurrence of such structures. Earlier it was noted that ‘non-gap’ adversity passives do not occur in Vietnamese, unlike Chinese. This difference between Chinese and Vietnamese might now be attributed to differences in the availability of abstract case in the two languages. The objective case which is suggested to license higher outer objects in adversity passives in Chinese may be suggested to be unavailable in Vietnamese, accounting for the unacceptability of forms such as (23) and (24) in Vietnamese.<sup>4</sup>

Having clarified the status of indirect passive ‘retained object’ passives, we are now in a position to reflect on how Vietnamese and certain of its passive structures may impact on (44). This redefined, cross-linguistic characterization of passive as minimally and necessarily involving a dependency between a surface subject and an underlying object position, inspired by differences between languages such as Chinese and English, Italian etc, would seem to require further reconsideration as a result of the Vietnamese data presented in section 3.2. Vietnamese significantly seems to extend the use of passive structures from the canonical linking of a subject with an underlying object position to other dependencies which connect a surface subject and a second underlying *subject* position. This highly distinctive use of the passive was illustrated in section 3.2, where it was shown that the subjects of intransitive verbs may participate in passive constructions in a way parallel to the objects of transitive verbs. The occurrence of such patterns therefore calls into question whether a restriction can be placed on characterizations of the passive limiting it to cases where the surface subject of a passive

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<sup>3</sup> Due to this theta-related restriction on interpretation, indirect passives with no clear meaning of adversity implied by the predicate are not possible in Mandarin:

(i) \*Zhangsan bei Lisi pao hui jia qu le.

Zhangsan BEI Lisi run return home go ASP

Intended: ‘Zhangsan had Lisi run away home on him.’

<sup>4</sup> The fact that Vietnamese permits indirect passives with retained objects that are possessed body-parts but not kin terms, unlike Chinese, may call for a finer understanding of the hypothesized case-licensing of outer objects. It may be that ‘kin term’ retained object passives are licensed in the same way as adversity passives, both as *higher* outer objects, hence the availability of the former may be linked to that of the latter: both licensed in Chinese, neither possible for speakers of Vietnamese.

structure is connected (by movement or operator-mediated secondary predication) only to underlying *object* positions. Rather, it would seem that the possible boundaries of what is commonly referred to as passive may need to be recognized as less narrowly defined, and may in theory also connect a surface subject to other syntactic/argument positions located in the same clause or alternatively an embedded clause in various East Asian languages.

The ‘subject passive’ patterns found with *bị* and intransitive verbs denoting an unwelcome outcome/experience for their subjects can additionally be noted to extend further in Vietnamese, in two directions. First, there are instances where the surface subject of a *bị* sentence can form a dependency with the subject gap position of a *transitive* verb, when the latter describes an action that is obviously unpleasant and which may involve suffering on the part of the subject, as illustrated in (48) and (49):

- (48) Nam bị xem một phim kinh dị.  
 Nam BI watch one film horror  
 ‘Nam watched a horror film (and this was unpleasant for Nam).’

- (49) Sắp bị lọt vào miệng con quái vật thì ...  
 ASP BI fall enter mouth animal odd creature then  
 ‘He was about to fall into the monster’s mouth when...’ (Daley 1998:92)

Second, the ‘positive experience passive’ verb counterpart to *bị* in Vietnamese - *được* - also regularly occurs with its subject linked to a lower subject position:

- (50) Nam được đi Pari.  
 Nam DUOC go Paris  
 ‘Nam went/got to go to Paris’.

Therefore with both *bị* and *được* both subject-to-object and subject-to-subject dependencies are possible in structures which are built with these negative/positive passive morphemes. This is schematized in (51), where square brackets around an NP in the embedded clause indicate the gap position linked to the subject of the sentence.

(51) **subject-to-object dependencies**

NP<sub>i</sub> bị/được NP<sub>k</sub> verb [NP<sub>i</sub>]            transitive passive

**subject-to-subject dependencies**

NP<sub>i</sub> bị/được [NP<sub>i</sub>] verb            intransitive passive

NP<sub>i</sub> bị/được [NP<sub>i</sub>] verb NP<sub>k</sub>            transitive passive

Vietnamese thus makes use of an extensive array of linking options in the projection of passive-related structures, challenging assumptions about the necessary limits of such forms and raising new questions for both the formal and functional modeling of the passive. Previously, initial cross-linguistic characterizations of the passive based on patterns in European languages have been modified by the observation of non-





- (56) a. Computer của anh ấy bị virus.      b. Mỹ bị nạn lụt.  
           computer of he BI virus                      USA BI flood  
           ‘His computer got a virus.’                ‘The US was flooded.’

Note that the item ‘virus’ above can be modified by a quantifier and by adjectives or PPs, confirming its nominal status:

- (57) Computer của anh ấy bị nhiều/mấy loại virus nặng lắm/ từ nước Đức.  
           computer of he BI many/several type virus serious very from Germany  
           ‘His computer got many/several types of very serious virus from Germany.’

- (58)    bị + adjective  
           bị nghèo đi = be impoverished      nghèo = Adj: poor  
           bị hư = be damaged                      hư = Adj: damaged

This ability of *bị* to combine with a range of complement types may possibly be connected with and underlie the marked occurrence of ‘subject passives’ in Vietnamese. If *bị* is able to select for a wider array of clausal and semi-clausal predicate constituents than Mandarin *bei*, this may open up different possibilities of passivization and the occurrence of subject-to-subject passive dependencies, with *bị* selecting a constituent type which will permit subject passivization (perhaps through licensing of the extraction-site of empty operator movement). This line of investigation will be pursued in future research.<sup>5</sup> For present purposes and reasons of space, however, we will restrict ourselves

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<sup>5</sup> A primary goal of future work on passive in Vietnamese and Chinese will actually be to account for why Chinese does NOT allow for subject passives in the way that Vietnamese does, i.e. why forms such as (41) and (42) are ill-formed in Chinese. It is difficult to see why an empty operator should not be able to move to a clause-peripheral position from the subject position of a clause embedded by *bei* and so create structures such as (41), (42), (48) and (49), yet these Vietnamese sentences would be completely ill-formed in Chinese. In English, a related question occurs with regard to *tough* sentences, which only seem to permit dependencies between embedded objects and the surface subject, and not subject-to-subject dependencies:

- (i) John<sub>i</sub> is easy [Op<sub>i</sub> PRO to please t<sub>i</sub>].  
 (ii) \*John is easy [Op<sub>i</sub> t<sub>i</sub> to be happy].

The English *tough* patterns can arguably be accounted for with reference to case – an empty operator may only undergo movement from a position that receives case, hence not from the subject of a non-finite clause. Such a straightforward explanation of the unacceptability of Chinese (41) and (42) is not available, however, as the subject position of clauses embedded by *bei* would seem to be a case position, supporting overt subjects in instances of long passive. The question why (41/42) are ungrammatical in Chinese is consequently non-trivial, and would also not seem to be attributable to any reasons of semantic ill-formedness - the subject of *bei* simply needs to be understood as undergoing an unwelcome mental/physical experience, and this should be satisfied by a subject-to-subject dependency in (41/42).

here to providing a simple summary of the principal similarities and differences between Chinese and Vietnamese passive structure thus far reported in the paper.

## 5. Summary of similarities and differences in Chinese and Vietnamese passives

### Parallel patterning in Chinese and Vietnamese

- occurrence of short and long passives
- evidence for a bi-clausal structure in passives
- evidence for an A'-movement analysis of gaps in the lower clause linked to the surface subject in long passive structures
- retained object 'possessor-passives' in addition to simple object-gap passives, involving body-parts and certain other nouns

### Differences between Chinese and Vietnamese

- Chinese permits pure 'adversity passives' with no gap corresponding to either the object of the verb or a possessor of the object; Vietnamese does not appear to license such structures.
- Vietnamese makes productive use of two different morphemes in passive structures, one for events with negative impacts/outcomes (*bị*), the other for positive impact events (*được*).
- Vietnamese permits subject-gap passive structures, both with intransitive verbs and transitive verbs.
- The Vietnamese passive morpheme *bị* can combine with a range of complement types with a similar passive-like meaning of being negatively affected.

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## **Non-Referential Verb Use in Chinese: A Unified Verb Copying Analysis**

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This paper examines issues related to transitivity in Chinese, looking in particular at verb use in non-referential contexts. Four variants of non-referential verb use involving generic bare nouns and postverbal manner adverbs are analyzed. It is suggested that in these cases of non-referential verb use, the verb is first merged with an adverbial complement, and then copied to yield the verb copying construction. Following verb copying, conditions on linearization are proposed to determine the spellout of verb copies at the PF interface, resulting in the four variants. Cheng's (2007) analysis of the verb copying construction is adopted in proposing a unified analysis for the four variants of non-referential verb use.

### **0. Introduction**

A great deal of the literature on Mandarin Chinese has been devoted to the study of transitivity in the language, much of it focused on the fact that Chinese is a topic-drop language with referential null objects. Though there has not been any uniformly agreed upon consensus as to the exact properties of the referential null object, it is generally agreed that a referential reading in Chinese is achieved when the referential object is topicalized or dropped. The transitive verb is interpreted as taking a referential object, and the gap is interpreted as having referential properties.

In contrast, much less attention has been paid to the non-referential complements of Chinese. Non-referential, indefinite interpretations are typically achieved through the use of an overt generic bare noun in Chinese, as in (1).

- (1) Lisi zai chang ge  
Lisi PROG sing song  
'Lisi is singing'

The verbs that appear with generic bare nouns are generally the Chinese equivalents of optionally transitive verbs in English. Further examples can be seen in Table 1, taken from Cheng and Sybesma (1998).

Table 1 (Cheng &amp; Sybesma 1998): Dummy objects

English	Mandarin
eat	chi-fan 'eat-rice=eat'
read	kan-shu 'read-book=read'
sing	chang-ge 'sing-song=sing'
speak	shuo-hua 'speak-speech=speak'
write	xie-zi 'write-character=write'
drive	kai-che 'drive-car=drive'
run	pao-bu 'run-step=run'
walk	zou-lu 'walk-road=walk'

According to Cheng and Sybesma's (1998) account of the generic bare noun, any empty category in Chinese is interpreted as referential, obligatorily referring to something specific or definite that has either a linguistic antecedent or a referent that can be identified in the discourse context. Based on this assumption, the only way to achieve a non-referential reading in Chinese is to insert the overt bare noun, so as to block *pro*. In other words, the bare noun behaves as a syntactic dummy; its insertion is for purely structural reasons and has no semantic effect on the sentence.

But the situation is not quite so simple, as becomes apparent when we look at cases where speakers pronounce another postverbal constituent in addition to the object, such as a postverbal manner adverbial phrase. In such cases, speakers often drop the generic bare noun, as seen in the contrast between (2) and (3).

- (2) ta zai pao bu  
 he PROG run step  
 'He is running'
- (3) ta pao (\*bu) de hen kuai  
 he run step DE very fast  
 'He runs very fast'

This suggests that speakers can indeed achieve a non-referential reading through the use of a null object, as is the case in English. Therefore, both English and Chinese can express non-referentiality through the use of a null object, but only Chinese has an overt instantiation of this non-referential object.

## 1. Background

### 1.1 Phrase Structure Constraint

The contrast between (2) and (3) reveals an interesting constraint on phrase structure in Mandarin Chinese that has been observed by many Chinese linguists, and one





The verb copying construction in (6) expresses the generic action of running, as well the manner in which the agent typically does the action of running. The *de* particle is treated as a secondary predicator that introduces the manner adverbial phrase as an inner adverbial complement of the verb (Huang 1988, Cheng 2007).

Another way to express the verb non-referentially is through the use of a null object, which yields the same interpretation as that in (6).

- (7) ta pao de hen kuai  
 he run DE very fast  
 'He runs very fast'

The construction in (7) is analyzed as containing a non-referential null object, as in the English counterpart of the same sentence. As will be detailed in subsequent sections, the verb is analyzed as merging with the adverbial complement, copying via sideward movement, and then merging with the null object in order to satisfy the verb's theta-feature. A constraint on linearization at the PF interface then ensures that only copy of the verb is pronounced, yielding (7).

The third variant of non-referential verb use that will be analyzed is a case of object fronting, and appears to work better with some verbs than with others. The sentence in (8) is deemed to be questionable by native speakers (some find it acceptable, others find it ungrammatical); (9) is judged to be perfectly acceptable by the same native speakers.

- (8) ?ta bu pao de hen kuai  
 he step run DE very fast  
 'He runs very fast'
- (9) ta ge chang de hen hao  
 he song sing DE very good  
 'He sings very well'

Finally, the variant in (10) is judged to be unacceptable by most native speakers of Mandarin Chinese; the sentence contains two postverbal constituents and violates the Phrase Structure Constraint in (4) and the thematic hierarchy in (5).

- (10) \*ta pao bu de hen kuai  
 he run step DE very fast  
 'He runs very fast'

This ungrammaticality does not exhibit lexical variation; any verb followed immediately by both its generic bare noun and an adverbial phrase yields an unacceptable sentence.

Before moving on to the analysis, the next section briefly details the theoretical assumptions behind the analysis.

### 1.3 Theoretical assumptions

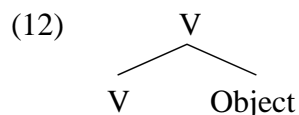
Before detailing the analysis of the four variants introduced above, I briefly discuss the theoretical assumptions that underlie the present analysis.

First, I assume the Phrase Structure Constraint in (4) and the Thematic Hierarchy in (5). Only the lowest branching node in the VP is right-branching; that is, only one complement may be pronounced following the verb. The result is that in cases where speakers must use a postverbal adverbial phrase that falls under Huang's obliques, either the verb will be copied, the bare noun will be fronted, or the non-referential null object will be selected instead of the overt bare noun.

The second assumption is that the manner adverbs studied in this paper are merged as the innermost complements of the verb<sup>1</sup>.

Third, I assume Roberge's (2002) Transitivity Requirement which (much like the EPP forces the projection of a subject at the clausal level) forces an obligatory object projection. Roberge argues that effects similar to those of the EPP force an obligatory VP-internal object position, as phrased in his Transitivity Requirement:

- (11) Transitivity Requirement (Roberge 2002)  
An Object position is always included in VP, independently of lexical choice of V.



Another crucial assumption is that the sentences in (6) through (10) have the same underlying syntactic structure – that of the verb copying construction. The syntactic structure of the four variants is essentially the same, and it is constraints that apply at the syntax-phonology interface that interact to yield the observed spellout patterns.

Finally, I appeal to Nunes' (2004) copy+merge theory of movement in accounting for the spellout of verb copies at the PF interface. Under Nunes' copy+merge theory of movement, there are generally two mechanisms that interact to yield the observed patterns of spellout. In the copy theory of movement, one copy is generally privileged over the other at the PF interface, preventing linearization contradictions at the point of spellout that would otherwise require that the moved element simultaneously precede and

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<sup>1</sup> According to Kim (2004), the adverbs tested in this study are selected by the verb and must appear in complement position. I leave aside the discussion of why these adverbs in particular occur only postverbally. Readers interested in adverbial licensing are directed to Kim (2004).

follow some intervening element. To prevent linearization problems, Nunes (2004) proposes that chain reduction must occur as follows:

- (13) Chain Reduction (Nunes 2004)  
Delete the minimal number of constituents of a nontrivial chain CH that suffices for CH to be mapped into a linear order in accordance with the LCA.

The second mechanism is the elimination of formal features in the phonological component. Since formal features are not legible at PF, there must be some operation of the phonological component that applies after Morphology to eliminate formal features that are visible at PF (Nunes 2004, citing Chomsky 1995). Nunes refers to this operation as formal feature elimination, formalized as follows:

- (14) Formal Feature Elimination (FF-Elimination) (Nunes 2004)  
Given the sequence of pairs  $\sigma = \langle (F,P)_1, (F,P)_2, \dots, (F,P)_n \rangle$  such that  $\sigma$  is the output of Linearize, F is a set of formal features, and P is a set of phonological features, delete the minimal number of features of each set of formal features in order for  $\sigma$  to satisfy Full Interpretation at PF.

The mechanism in (14) formalizes the difference between the phonetic realization of the head of a chain and the phonetic realization of its traces in terms of number of checking relations (Nunes 2004). In the general case, it is the highest copy or chain link that is pronounced, since it is engaged in more checking relations and therefore requires fewer applications of FF-Elimination than lower chain links (Nunes 2004).

In summary, the instances of verb copying that we will look at in the following section are analyzed as undergoing the processes of chain reduction and formal feature elimination. Chain reduction must occur in order to avoid violations of the LCA, and is mediated by formal feature elimination, which applies the minimal number of times to result in the phonetic realization of the copy that participates in the greatest number of checking relations. The next section appeals to these two mechanisms to propose a unified analysis for the four variants of non-referential verb use.

## 2. Analysis

This section adopts Cheng's (2007) analysis of the verb copying construction to propose a unified analysis for the four previously introduced variants of non-referential verb use.

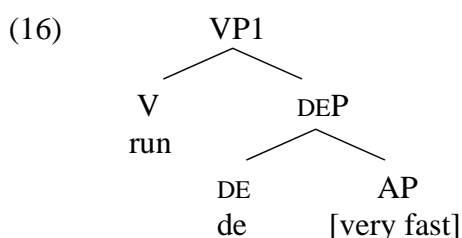
### 2.1 The verb copying construction

The first variant of non-referential verb use is the verb copying construction, in which both copies of the verb are pronounced.

- (15) ta pao bu pao de hen kuai  
 he run step run DE very fast  
 'He runs very fast'

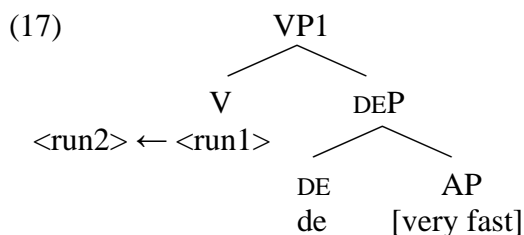
Cheng (2007) uses Nunes' (2004) Copy+Merge theory of movement and sideward movement to analyze Chinese verb copying constructions involving *de*-resultatives. Cheng's analysis can be applied to sentences like (15), which involve a postverbal manner adverbial phrase rather than a resultative phrase.

Assuming that the adverbial phrase introduced by the secondary predicator *de* is treated as the innermost complement of the verb, the verb *pao* 'run' has two complements with which to merge: *bu* 'step' and *hen kuai* 'very fast', introduced by the *de* particle. The verb is first merged with the *de* phrase containing the adverb, as in (16).

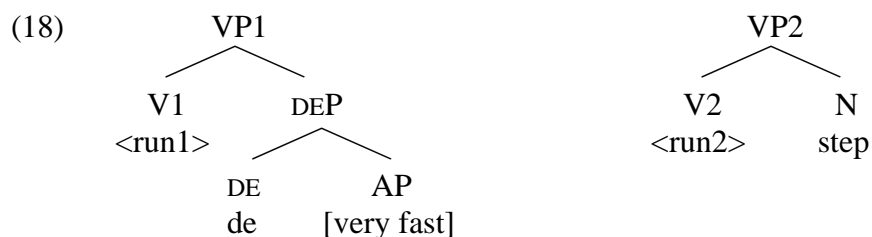


According to the Transitivity Requirement, there are two requirements pertaining to the verb. One is the structural requirement for a complement; the second requirement is the checking of the verb's theta-feature. In most cases, a verb will merge with an object complement that satisfies both the requirement for a complement and for an argument to check the theta-feature of the verb. The derivation in (16) satisfies the structural requirement for a complement, but leaves the verb's theta-feature unchecked.

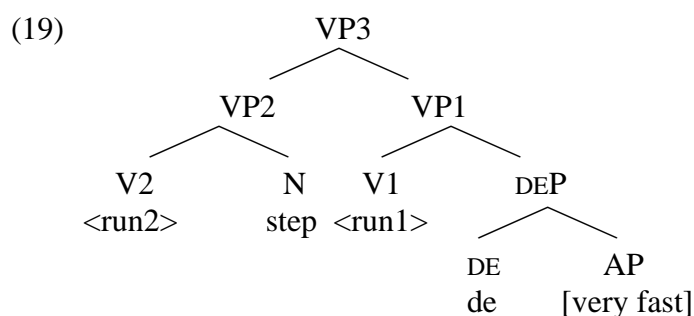
Following Cheng's analysis, we appeal to the operation Copy, which is subject to the Last Resort condition, satisfied by formal feature checking (including theta-role assignment/checking) (Hornstein and Nunes 2002). The verb has an unchecked theta-feature, which can be checked by the object *bu* 'step'; it copies in order to check the feature and to assign a theta-role to the object *bu* 'step', as in (17).



Next, we have an instantiation of sideward movement as the copy of the verb merges with the object *bu* 'step', resulting in a second VP, as in (18).



Following this, the newly formed VP2 adjoins to the rest of the structure, resulting in the verb copying construction, as in (19).



The structure in (19) yields the surface string in (15), in which both copies of the verb are pronounced, each followed by a single constituent.

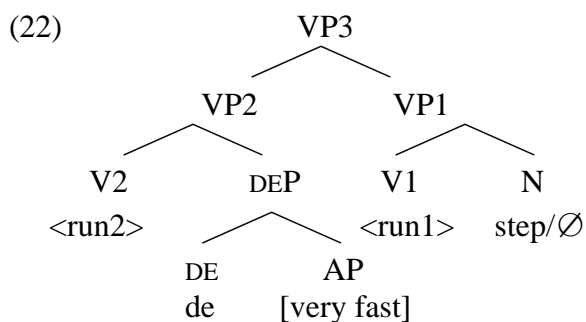
### 2.1.1 Order of Merge

At this point in the analysis, a question might arise as to the order of merge of the two postverbal constituents. In the analysis presented above, it is the adverbial phrase that is merged first, followed by verb copying and a subsequent merge with the verb's thematic object. One might question why merging the object first, as in (20) and (21), is prohibited.

(20) \*ta pao de hen kuai pao bu  
 he run DE very fast run step  
 'He runs very fast'

(21) \*ta pao de hen kuai pao Ø  
 he run DE very fast run Ø<sub>step</sub>  
 'He runs very fast'

These ungrammatical sentences would have the following structure:



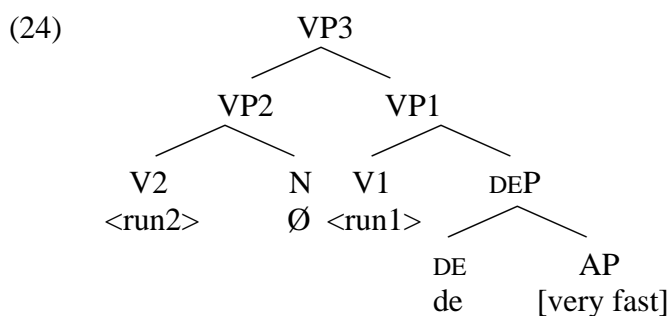
A quick inspection of the derivation leads us to what prohibits the above structure. Recall that the verb needs to merge with a complement and to check its theta-feature. If the verb is first merged with the bare noun, both requirements have been satisfied, and there is no formal feature to trigger verb copying, thus ruling out (20) and (21). However, if the verb is first merged with the adverbial phrase, we have satisfied the need for a complement but not the checking of the theta-feature. It is this formal theta-feature that triggers verb copying. If the formal feature is checked, Last Resort ensures that there is no unnecessary verb copying, and we are unable to derive (20) or (21).

## 2.2 Null object variant

Of the four variants of non-referential verb use, the null object variant is most similar to its English counterpart, containing a null object rather than an overt bare noun.

- (23) ta pao de hen kuai  
 he run DE very fast  
 'He runs very fast'

In this case, rather than it being the overt bare noun that can check the verb's unchecked theta-feature, it is the null object that is merged with the copied verb and that checks its theta-feature.



This results in a PF representation such as that in (25), which is unacceptable, as it yields the ungrammatical sentence in (26).

(25)  $[_{VP} [_{VP} <run> \emptyset ] [_{VP} <run> de\ very\ fast ]]$

(26) \*ta pao pao de hen kuai  
 he run run DE very fast  
 'he runs runs very fast'

To account for the unacceptability of (26), I appeal to Richards' (2001, 2006) Distinctness condition on linearization, outlined in the following section.

### 2.2.1 Distinctness condition on linearization

Richards (2001, 2006) posits a constraint on linearization that acts at the syntax-phonology interface and prevents the linearization of syntactically adjacent categories with the same label. Under his analysis, linearization statements make reference only to node labels, not to particular nodes of the tree, and thus cannot impose an ordering on two nodes with the same label. For example, one ordering statement for (27) is that in (28).

(27)  $[_{TP} [_{DP}\ John] [_{T'} [_{T}\ has] [_{VP}\ eaten\ the\ macaroni]]]$

(28)  $\langle DP, T \rangle$

The linearization statement in (28) is such that the image of DP (*John*) precedes the image of T (*has*). However, according to Richards' analysis, the LCA does not see the lexical material *John* or *has*, but only the node labels. Richards hypothesizes that this is most likely because lexical insertion for functional heads takes place after linearization; therefore, Richards' Distinctness condition acts on functional heads, which supposedly undergo Late Insertion. Lexical heads on the other hand seem to freely violate Distinctness, possibly because they undergo Early Insertion; the differing lexical material that is inserted in each head allows the LCA to distinguish between otherwise identical adjacent categories. However, in the case of the verb copying sentences, the two copies of the verb are lexical heads, and therefore undergo Early Insertion. We are therefore still left with the challenge of explaining the unacceptability of (26), which corresponds to the PF representation in (29). What we need to rule out is the linearization statement in (30).

(29)  $*[_{VP} [_{VP} <run> \emptyset ] [_{VP} <run> de\ very\ fast ]]$

(30)  $*VP2 (run) > V1 (run) > DE > AP (hen\ kuai)$

Because Distinctness does not distinguish between maximal and minimal projections (Richards 2006), we expect Distinctness to rule out VP2>V1 because it consists of two adjacent identical categories; at the same time, we expect Distinctness to fail because V is a lexical head.

The crucial observation here is that in the case of verb copying, it is irrelevant whether lexical insertion occurs before or after linearization. VP2>V1 is ruled out on the basis of adjacent identical category as well as adjacent identical lexical material, since the lexical material inserted in both heads is nondistinct. The LCA therefore sees the following:

(31) <VP2 (*run*), V1 (*run*), De, AP (*very fast*)>

Since VP2 (*run*) and V1 (*run*) are adjacent and identical in category and in lexical and phonetic content, the Distinctness condition on linearization is violated.

Given that only one copy of the verb can be pronounced here, we appeal to formal feature elimination to determine which copy is privileged at PF. While the originally merged copy <run1> has an unchecked theta-feature (triggering Copy), the adjoined copy <run2> has its theta-feature checked by the object *bu* ‘step’. Therefore, it is this copy (<run2>) that is phonetically spelled out at PF.

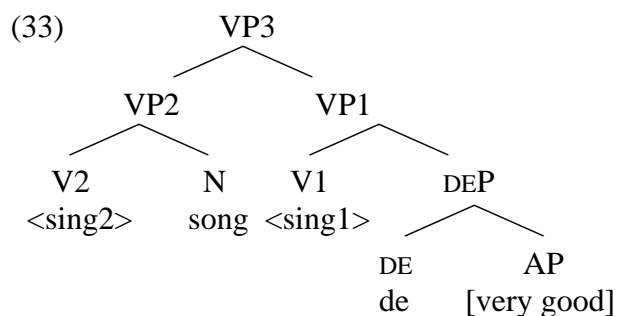
### 2.3 The object fronting variant

Next, we analyze the object fronting variant, repeated below.

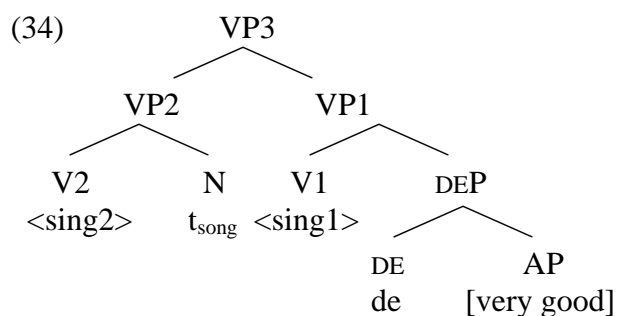
(32) ta ge chang de hen hao  
 he song sing DE very good  
 i. ‘He sings very well’  
 ii. ‘He sang it very well’

The object fronting construction can be analyzed as an instance of sentence-internal topicalization. The syntax behind the construction is that of the verb copying construction, and the derivation up to the point of topicalization proceeds much like that discussed in section 2.1. The verb is merged with the adverbial phrase, and verb copying is triggered by the verb’s unchecked theta-feature. After verb copying occurs, the copy of the verb merges with the bare noun object, and the newly created VP adjoins to the original structure:

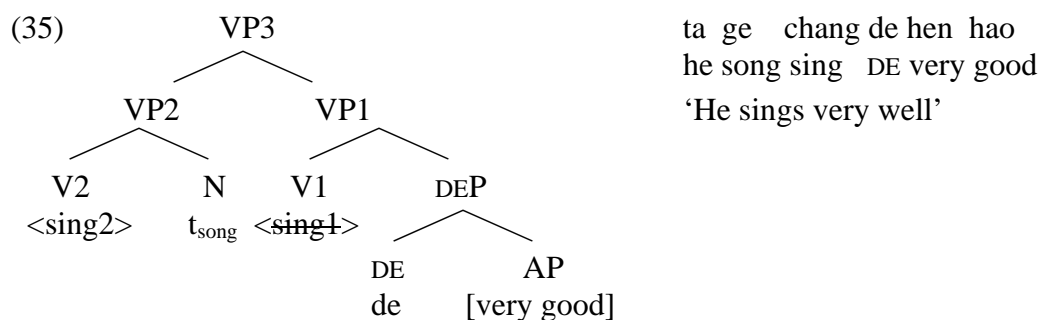




What follows is sentence-internal topicalization, wherein the object moves to a position located between the subject and the verb. In the next section, I discuss a *ba*-fronting analysis of this construction. For now, it suffices to say that following the topicalization of the object, we are left with two adjacent copies of the verb:



Again, we appeal to the Distinctness condition on linearization to rule out this structure. The V2 copy is privileged, as it carries fewer unchecked formal features; consequently one copy of the verb is overtly realized, resulting in the correctly spelled out form at PF.



The next section discusses the variable grammaticality judgements that seem to arise from the object fronting construction, and what these judgements can tell us about the appropriate use of the construction, as well as the landing site of the fronted bare noun. I

also suggest a preliminary analysis in which the construction is analyzed as containing a null *ba* particle.

### 2.3.1 *Ba*-topicalization of generic bare nouns

The issue of topicalizing generic bare nouns is one that has not been touched upon in the literature, owing to the generalization of topicalized objects as definite, specific, and affected. Generic bare nouns, at least on the surface, carry none of these properties; they are indefinite, non-specific, and unaffected. The very lack of such properties have allowed analyses such as Cheng and Sybesma (1998) to regard these objects as mere syntactic dummies. But regardless of the variability of the judgements on object fronting, native speakers somehow have the intuition that object fronting lends more emphasis and focus to the object than to the action denoted by the verb.

In cases where a single native speaker judges it acceptable for some verbs to appear with fronted objects and unacceptable for others, we can glean insight into the properties of object fronting on the basis of these judgements. For example, a Taiwanese Mandarin speaker found that object fronting was acceptable for all the verbs in Table 1, with the exception of *pao bu* ‘run step’ and *zou lu* ‘walk road’.

The patterns of acceptability seem to suggest the following unusual properties: i) the generic bare noun requires a potential referent; ii) this potential referent is affected by the action. These are problematic for two reasons. First, generic bare nouns are typically analyzed as prototypical, indefinite, non-referential themes of the verbs that select them, while topicalization typically occurs only with referential, definite objects. Second, only definite, specific objects are typically analyzed as affected objects. The generic fronting construction therefore represents a conundrum for these conventional analyses.

A strikingly similar construction is the *ba* construction, which contains a fronted definite, affected object through the use of the *ba* particle, as seen in the following examples, taken from Sybesma (1999):

(36) wo ba hua cha zai huaping-li le  
I BA flower stick at vase-inside LE  
‘I stuck the flowers into the vase’

(37) wo ba huaping cha-man-le hua  
I BA vase stick-full-LE flower  
‘I stuck the vase full of flowers’

*Ba*-sentences have been analyzed as describing the particular action made upon an object (Li 1974:205, cited by Sybesma 1999). Because of the focus on the action’s impact on the *ba*-fronted object, *ba*-NPs tend to be specific; while it has been argued that they cannot be ‘non-specific indefinite’, they can be indefinite as long as they are specific (Sybesma 1999). Under conventional analyses, *ba*-fronting is typically reserved for

definite, affected objects. However, *ba*-fronting also seems to be available with the generic bare noun *hua* ‘speech’, as in (38).

- (38) ta ba hua shuo de hen nan ting  
 he BA speech speak DE very difficult hear  
 ‘He spoke (it) in a nasty way’

According to one native speaker, the sentence in (38) can be uttered with or without the *ba* particle, and the object *speech* can be interpreted as referential or non-referential, depending on the context. This is particularly interesting in light of the fact that every *ba*-construction has a non-*ba* counterpart (Sybesma 1999).

I propose that the object fronting construction is an instantiation of the *ba*-construction, only with a null *ba* particle. While generic bare nouns are typically indefinite and non-specific, if a bare noun is fronted via the *ba* particle, and a referent can be found from the discourse context, the object is interpreted as referential (definite and specific). That is, when “Zhangsan drive-car fast”, there is implicitly assumed to be some car that he causes to move quickly; but when “Zhangsan car-drive fast”, *car* occupies SpecVP, its referentiality is both syntactically and contextually represented, and the interpretation is that a specific car is being made to move quickly. Nouns that cannot have referents in the real world, such as *bu* ‘step’, cannot be fronted because there is no such SpecVP position available for the bare noun.

Syntactically speaking, Sybesma (1999) analyzes the *ba* particle as occupying the head of *v*, and the fronted object as raising from its complement position to the Specifier of VP. I suggest that this is also the case of the generic bare noun which, when raised to the SpecVP position, is interpreted as specific and definite – if and only if a referent can be found from the discourse context. In cases where no referent can ever be found from the context (which is true in most cases of the use of *run-step* and *walk-road*), there is no SpecVP position available for the bare noun, and the *ba*-construction cannot be formed.

What has been proposed above is only a preliminary analysis based on the grammaticality judgements of two native speakers. The object fronting construction is not very commonly used in non-referential contexts and there are few analyses that have been provided for the non-referential use of the construction. A more specific and detailed study of the construction and its use by native speakers will certainly lead to a more comprehensive analysis of the construction as well as a better understanding of bare noun use in general.

## 2.4 The double-complement variant

As discussed in section 1, sentences that contain a verb followed immediately by both its generic bare noun and a postverbal adverbial phrase, as in (39), are unacceptable in Chinese.

- (39) \*ta pao bu de hen kuai  
 he run step DE very fast  
 'He runs very fast'

I analyze (39) as an instance of the verb copying construction, but one in which only one copy of the verb is pronounced. To account for the unacceptability of such a construction, I propose that there are at least three reasons why both copies of the verb must be pronounced, discussed in the following sections.

#### 2.4.1 Chain reduction

According to Nunes (2004), chain reduction takes place in order to prevent linearization contradictions. For example, Nunes provides the following to demonstrate how nontrivial chains are linearized:

- (40) [John<sup>i</sup> [was [kissed John<sup>i</sup>]]]

Because the higher copy of *John* asymmetrically c-commands the copula *was*, *John* should precede *was*, giving us the order <John<sup>i</sup>, was>. Furthermore, because the copula *was* asymmetrically c-commands the lower copy of *John*, we should obtain the order <was, John<sup>i</sup>>. Because the two copies of *John* are nondistinct, we should predict that *John* must precede itself, a contradictory linearization statement that results in a PF crash.

Returning to the case of verb copying in Chinese, we might expect similar linearization problems if both copies of the verb are pronounced. That is, the following linearization problem might arise: <run> must both precede and follow *step*. But in the case of verb copying, we are actually dealing with an instantiation of sideward movement rather than standard movement. Crucially, in sideward movement, neither copy of the verb actually c-commands the other. As a result, we avoid linearization problems and chain reduction does not occur.

#### 2.4.2 Morphological reanalysis

Another reason for the realization of both copies can be found in morphological fusion, the timing of which can determine whether single or multiple copies are spelled out at PF. Crucially, fusion involving one copy (after Copy/Move has already occurred) renders the fused copy distinct from the non-fused one. Cheng (2007) proposes that the *de* particle incorporates into <run1> after verb copying has already taken place, resulting in a *V-de* complex that allows the LCA to treat V2 as distinct from the [<sub>v</sub> V1-DE] complex. Because of fusion, we have two distinct copies that are both overtly realized at PF.

### 2.4.3 *de*-enclisis

One final account for the overt realization of both verb copies appeals to enclisis of the *de* particle. While Nunes' (2004) proposal for Formal Feature Elimination works for general cases in which all things being equal, it is the higher copy that is engaged in more checking relations and is therefore privileged at PF, there are cases where the phonetic realization of the head of the chain violates other well-formedness conditions of the phonological component.

Our verb copying constructions in Chinese present just such a case, wherein copy spellout is determined by phonological well-formedness. Assuming that *de* is an enclitic that phonologically incorporates into <run1>, we have what appears to be enclisis across a prosodic boundary in the case where only one copy of the verb is pronounced. If both copies of the verb are pronounced, *de* has no problem encliticizing to V1, as in (41a). However, if only the V2 copy of the verb is pronounced, *de* must encliticize across a prosodic boundary, as in (41b), which results in a prosodically ill-formed structure.

- (41)a. *pao* bu # *pao* **de** hen kuai                      where # = prosodic boundary  
 b. \**pao* **bu** # ~~*pao*~~ **de** hen kuai

As we can see in the above example, appealing to enclisis across prosodic boundaries provides yet another reason why both copies of the verb must be overtly realized.

### 2.4.4 Summary

We have provided three reasons why the double-complement variant does not exist in Chinese. These reasons account for the obligatory spellout of both copies of the verb. First, chain reduction does not necessarily occur because neither copy of the verb c-commands the other. Second, the *de* particle can be analyzed as incorporating into <run1>, resulting in a V-*de* complex that is linearized as an element distinct from V2. Third, the enclisis of the *de* particle across a prosodic boundary results in a prosodically ill-formed structure, such that both copies of the verb must be pronounced.

In summary, once verb copying happens, constraints at the PF interface determine the spellout of the construction, and result in the realization of both copies, as long as there is an intervening element between the two copies of the verb. If the spellout of both copies is obligatory, then (39) is unattested in the language because it does not spell out both copies.

## 3. Conclusion

The verb copying analysis allows us to account for the distribution of generic bare nouns in Chinese. This analysis proposes that all instances of non-referential verb use in which the verb first merges with a non-thematic complement (such as an adverbial phrase) are underlying instances of the verb copying construction. It is proposed that constraints on linearization, distinctness, and phonetic realization of verb copies at the PF interface

determine which variant of non-referential verb use surfaces. The PF representations for the four variants are as follows:

- (42) [VP [VP <run> step ] [VP <run> de very fast ]]  
 (43) [VP [VP <run> Ø ] [VP <run> de very fast ]]  
 (44) [VP [VP <run> t<sub>step</sub> ] [VP <run> de very fast ]]  
 (45) \*[VP [VP <run> step ] [VP <run> de very fast ]]

This type of analysis suggests that even in variants where only one copy of the verb surfaces, there are in fact two copies of the verb in the syntax. This is supported by the Transitivity Requirement, as well as by Cheng and Sybesma's (1998) analysis. According to the Transitivity Requirement, we must satisfy both the structural requirement for a complement, and the checking of the verb's theta-feature. Assuming that there is a postverbal adverbial phrase that must be merged, verb copying will always be triggered to check the theta-feature. Furthermore, Cheng and Sybesma's (1998) analysis suggests that the verbs that appear with overt generic bare nouns are always transitive in Chinese. Their evidence is that a null object in Chinese is *pro*, and non-referential readings can therefore only be achieved "transitively". While the present analysis proposes that the null object in Chinese can also be the non-referential bare noun, it maintains the proposal that the verbs in question are always transitive in Chinese, and therefore always have a theta-feature to be checked.

The crucial differences between English and Chinese that lead to different non-referential structures seem to be related to the existence of the overt generic bare noun in Chinese, the Phrase Structure Constraint, and differing thematic hierarchies in English and Chinese. Crucially, non-referential themes and manner adverbials are in complementary distribution in Chinese, appearing as complements of the verb. As a result, verb copying always occurs in cases where a postverbal adverbial phrase is merged, and we obligatorily end up with only one constituent pronounced following each copy of the verb. A verb is therefore only ever first-merged with a single complement, deriving the Phrase Structure Constraint proposed in Huang (1982).

The analysis proposed in this paper also hinges on the assumption that verbs are, at least in their syntactic representation, obligatorily transitive, as per Roberge's (2002) Transitivity Requirement. Chinese and English seem to exhibit a mirror image pattern of object distribution in this respect, with overt realization of non-referential objects and null realization of referential objects in Chinese, and null realization of non-referential objects and overt realization of referential objects in English. The overt realization of non-referential objects in Chinese appears to support Roberge's Transitivity Requirement. While the non-referential use of verbs has traditionally been analyzed as "intransitive" based on languages such as English, the data from Chinese seem to suggest that there is in fact an object position that can be filled, even in the most "intransitive" of cases.

In conclusion, the proposed analysis accounts for the four variants of non-referential verb use in Chinese, and has larger implications for the study of transitivity as well as the study of how verbal complementation differ typologically in English and Chinese.

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## Branching Consistency as a Syntactic OCP Constraint to Hakka Relative Construction

Yu-Ching Tseng

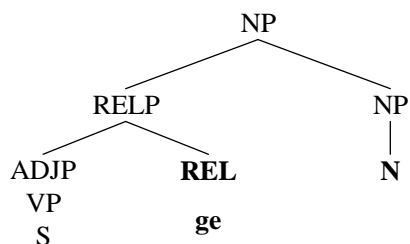
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The OCP is traditionally recognized as a phonological constraint which bans the adjacency of two linguistic elements that share some identical phonological properties. This paper adopts an OT approach and shows a sub-type of OCP that is triggered by purely syntactic configurations. Knowing that the OCP can be used as a cooccurrence restriction prohibiting the multiple occurrences of some marked construction, this paper adopts the constraint to prevent the marked branching direction from occurring more than once if the basic word order shows the reversed direction. In Hakka, the basic word order of NP is head-final and left-branching, which gives way to right-branching as the marked configuration to indicate topicalization. It is argued that the syntactic OCP effect is observable when more than one nominal constituent within the so-called multiple embedded relative constructions receive a topicalized interpretation, and thus yielding an ungrammatical pattern where the marked right-branching order occurs at two levels of branching within the tree of NP, which is strictly disallowed by the OCP.

### 1. Hakka Relative Construction

According to Li & Thompson (1981), relative construction in Mandarin Chinese is constructed simply by placing a nominalized clause in front of a noun to modify it. Similarly in Hakka, a noun may be preceded by a relative modifier (REL<sub>P</sub>), which consists of a phrasal projection, could it be an ADJP, S, or a VP, in front of the modificational head morpheme *ge*. The structure is represented by the form (1):

(1)





According to (1), both NP and RELP are head-final. As a nominal modifier, the RELP functions as an adjunct adjoining to the left of NP, and within the RELP, the head relativizer selects either a phrasal (2a) or a clausal (2b, c) complement, which also precedes the head. A few examples are given in the following:

(2) a. Ngai tok bun gi [NP [RELP [AP ka ho] ge] ng-e]  
 I select to him more good REL fish  
 ‘I picked the fish that is in better quality for him.’

b. [NP [RELP [S Gi cong go-e] ge] sang] dong ho-tang  
 He sing song REL voice really harmonious  
 ‘The voice with which he sings is very good to listen to.’

c. [NP [RELP [VP siit fan] ge] cien] ma-ngin oi cut  
 eat meal REL money who will pay  
 ‘Who will pay the money which is for the meal?’

By adopting an Optimality Theoretic (abbreviated as OT) (Pince and Smolensky 1993) approach, the predominately right-headed order can be generated by proposing a directional Generalized Alignment Constraint (McCarthy and Prince 1993), formally expressed by **ALIGN-R (Head, NP/RELP)**. This constraint aligns the head of NP or RELP to the right edge, ensuring that the structure of NP must be head-final and left-branching.

Tableau 1

RC: [XP REL] N	<b>ALIGN-R</b>
↺ [XP REL] N	
[REL XP] N	*!
N [XP REL]	*!

As illustrated in tableau 1, in order to avoid violating ALIGN-R, the word order of NP must be as follows: Modifying Phrase-Relativizer-Head Noun, with this order the head of RELP and NP both occurs at the right edge.

## 2. Restrictive v.s. Non-Restrictive Relative Construction

Most languages divide relative clauses into two types, restrictive and non-restrictive. The restrictive RELP restricts the referent of the head noun it modifies to a subset of a larger domain, while the non-restrictive RELP simply add parenthetical information to the head noun.

As suggested by Tiee (1986), in Chinese languages the restrictive and non-restrictive distinction is made by the placement of relative clause with respect to the classifier

phrase (CLP) when they modify the same noun. Compare the two Hakka examples in (3) below:

(3) a. gi mai-tet [dong tai ge] [ge gien] vuk  
 He sell-off really big REL that CL house

b. gi mai-tet [ge gien] [dong tai ge] vuk  
 He sell-off that CL really big REL house

‘He sold that very big house.’

The two sentences in (3) present the two different orders between CLP and RELP. In (3a) the RELP precedes the CLP, while in (3b) the word order is reverse. As I will argue, some slight semantic difference actually exists to distinguish between their meanings. The reading of (3a) implies that “he owns more than one house, and among them the one he sold is the specific one that has a unique property as a very big one, which distinguishes this house from all the others.” But such implication is much weaker in (3b). This contrast of semantic meaning can be obtained by providing the following question-answer test (4):

(4) Q: Ge sam gien vuk gi mai-tet nai gien?  
 That three CL house he sell-off which CL  
 ‘Which of those three houses is the one he sold?’

**Ans 1: (✓ better)** Gi mai tet [dong tai ge] [ge gien] vuk.....(3a)

**Ans 2: (# worse)** Gi mai tet [ge gien] [dong tai ge] vuk.....(3b)

An appropriate answer to (4) ought to precisely single out one from the three houses that both speakers have common knowledge about. The first answer successfully attains this goal by emphasizing the size of a specific house, but the reading of the second answer simply describes his selling that big house as an event. Therefore, the first answer is considered more adequate as an appropriate response to the proposed question. As shown in (5), if a given question requires some general description about what he has done, in this situation the question can be answered by describing an event as explanation, the second answer in (4) that corresponds to (3b) then becomes a good answer.

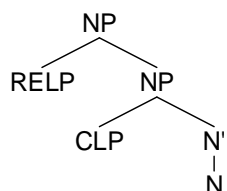
(5) Q: Gi ngiong-voi con an-do cien no  
 He how come make so much money PART  
 ‘How could he make so much money?’

**Ans:** (✓ good) yin-vi gi mai-tet [ge gien] [dong tai ge] vuk  
 Because he sell-off that CL really big REL house  
 ‘It is because he sold that very big house.’

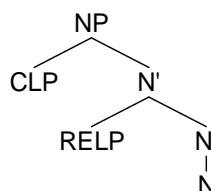
The semantic contrast described above can be observed in NP when the order between the modifier RELP and CLP varies. As maintained by Tiee (1986), the different order decides whether a relative clause is restrictive or non-restrictive. Generally speaking, a relative clause is restrictive when it precedes the CLP, and which is non-restrictive when it follows the CLP. As I will argue in this paper, the phrase structure for the two types of relative clause is fundamentally different, reflected in the following (6):

(6)

Restrictive Relative Clause



Non-Restrictive Relative Clause



The RELP adjoins to the higher NP in restrictive relative construction; while in non-restrictive construction, the RELP adjoins to the lower N'. The derived word order between RELP and CLP is thus opposite; that is, for restrictive clauses, the RELP precedes the CLP; while in non-restrictive clauses, the RELP follows the CLP.

### 3. Topicalization and Non-restrictive Interpretation

In Hakka another alternative to mark the non-restrictive reading for a restrictive relative construction is through topicalization. See the following examples (7). Given a restrictive relative construction (7a) as described by the left form in (6), the process takes place by fronting the topicalized N (7c, d) or the lower NP (7b) to the leftmost position. When the fronted element is recognized as the center of discussion, it turns out to be the most salient part in the entire NP, and the following modifiers merely offer additional information about the referring topic.

(7) a. ngai gau gi gong [mi-guet ngin gong ge] [ge zung] yin-vun  
 I teach he speak America people speak REL that CL English  
 ‘I taught him to speak that kind of English which the American uses.’

- b. ngai gau gi gong **ge zung yin-vun**, [mi-guet ngin gong ge]  
 I teach him speak that CL English America people speak REL  
 ‘I taught him that kind of English, which the American uses.’
- c. ngai gau gi gong **yin-vun**, [mi-guet ngin gong ge] [ge zung]  
 I teach him speak English America people speak REL that CL  
 ‘I taught him English, that kind which the American uses.’
- d. ngai gau gi gong **yin-vun**, [ge zung] [mi-guet ngin gong ge]  
 I teach him speak English that CL America people speak REL  
 ‘I taught him English, that kind which the American uses.’

The Above three sentences (7b-d) correspond to (7a). They contain a topicalized information expressed by a fronted nominal, which converts the following modifier into non-restrictive. Note that when the topic is presented simply by a head noun, the order between its modifier RELP and CLP is syntactically free, as contrasted by (7c) and (7d). To make the process of topicalization a possible solution for restrictive relative clauses to acquire the non-restrictive reading, another generalized alignment constraint **ALIGN-L (TOP, NP)** must be proposed, which functions to locate the topicalized element to the leftmost position of NP. As shown by the following tableaux 2 and 3, this constraint must outrank the **ALIGN-R (Head, NP/RELP)** proposed in the previous section.

Tableau 2

R.RC: RELP [CLP N]	ALIGN-L (TOP, NP)	ALIGN-R (Head, NP/RELP)
(a) RELP <b>CLP N</b>	*!	
(b) <b>CLP</b> RELP N	*!	
(c) [N <b>CLP</b> ] RELP		**!
(d) N RELP <b>CLP</b>	*!	**
(e) RELP N <b>CLP</b>	*!	*
↷ (f) [ <b>CLP N</b> ] RELP		*

Provided with an input of restrictive construction, in tableau 2 the lower NP is presented as the topic (**marked by bold text**) that carries some kind of pragmatic prominence. Since the constraint ALIGN-L outranks another constraint ALIGN-R, knowing that the topicalized constituent in candidate (c) and (f) has been fronted to the leftmost position of NP, without violating ALIGN-L, the two candidates win over all the other candidates. Candidate (f) beats candidate (c) in candidate competition because by preserving the head-final structure for the topicalized NP, candidate (f) incurs only one violation on ALIGN-R, while in (c) the head noun stands at the left of both CLP and

RELP, thus, it incurs two violations on ALIGN-R. Since Alignment constraints are accumulative, (c) triggers more serious violation on ALIGN-R than (f) does.

Tableau 3

R.RC: RELP CLP N	ALIGN-L (TOP, NP)	ALIGN-R (Head, NP/RELP)
(a) RELP CLP N	*!	
(b) CLP RELP N	*!	
☞ (c) N CLP RELP		**
☞ (d) N RELP CLP		**
(f) RELP N CLP	*!	*
(g) CLP N RELP	*!	*

In tableau 3 only the head noun receives the topic reading, by assigning high ranking to ALING-L, the head noun may not stay at phrase final when it is highlighted as the center of interest in the phrase. In this tableau, candidate (c) and (d) are the winning candidates even though each of them gets double violations on ALIGN-R, a constraint that requires the head noun to appear at the far right of NP. The violations are tolerated since all the other candidates place the topicalized noun in position other than the left edge of NP, which leads to a worse violation on the higher ranked ALIGN-L.

#### 4. Multiple Embedded Relative Construction

A multiple embedded relative clause refers to a complicated construction where a noun within a relative clause is further modified by another relative clause. An example is shown in the following (8):

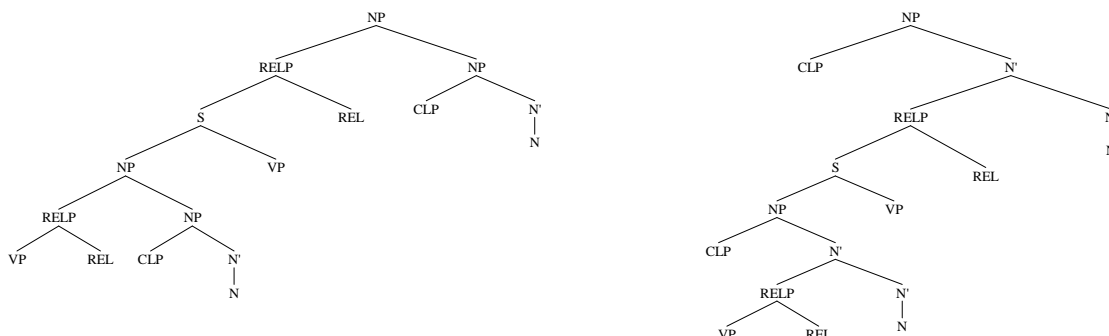
(8) a. gi bun ngai [[hi mi-guet ge] [ge zhak] sei-lai kon go ge] [ge bun] su  
 He give I go America REL that CL boy read ASP REL that CL book  
 ‘He gave me the book which had been read by the boy who went to the U.S..’

b. gi bun ngai [ge bun] [[ge zhak] [hi mi-guet ge] sei-lai kon go ge] su  
 He give I that CL that CL go America REL boy read ASP REL book  
 ‘He gave me that book, which that boy, who went to the U.S., had read before.’

In (8a), a restrictive RELP is embedded into another restrictive RELP, while in (8b) the two RELPs are both non-restrictive. The distinction is made by the different order between CLP and RELP. (8a) exhibits the order in which the RELP precedes the CLP, while in (8b) the order is opposite.

The following diagrams (9) illustrate the structure for the two object NPs in (8). The left diagram corresponds to the NP in (8a), and the right diagram corresponds to the NP in (8b).

(9)



As indicated in the preceding section, topicalization provides an alternative to express the non-restrictive interpretation. All sentences presented in (10) below are examples of multiple-embedded construction. Each of them contains a non-restrictive modifier that follows the topicalized N/NP. Notice that (10a, a') actually sound more natural than (10b, b') even though both of them are accepted as grammatical. The reason is that for an NP that contains such heavy-loaded information, it takes more time for a Hakka speaker to understand the meaning conveyed by sentences (10b, b'), since in such cases the topic and the head of the object NP are not coherent. As to the first pair of sentences (10a, a'), the topicalized information that states the key point of the sentence is in coherence with the head of NP, which makes it easier to understand what the complex NP is about.

- (10) a. gi bun ngai [ge bun su, [hi mi-guet ge ge zhak sei-lai] kon go ge]  
 He give I that CL book go America REL that CL boy read ASP REL  
 'He gave me that book, which had been read by the boy who went to the US.'
- a'. gi bun ngai [su, [hi mi-guet ge ge zhak sei-lai] kon go ge ge bun]  
 He give I book go America REL that CL boy read ASP REL that CL  
 'He gave me the book, that one which had been read by the boy who went to the US.'
- b. gi bun ngai [[ge zhak sei-lai, hi mi-guet ge] kon go ge ge bun su]  
 He give I that CL boy go America REL read ASP REL that CL book  
 'He gave me the book which that boy, who went to the US, had read before.'
- b'. gi bun ngai [[sei-lai, hi mi-guet ge ge zhak] kon go ge ge bun su]  
 He give I boy go America REL that CL read ASP REL that CL book  
 'He gave me the book which the boy, that one who went to the US, had read before.'

However, if we need both embedded RELPs to be non-restrictive, the process of topicalization may not occur to both RELPs, this can be shown by the ungrammatical sentence in (11):

- (11) \*gi bun ngai [ge bun su, [ge zhak sei-lai, hi mi-guet ge] kon go ge]  
 He give I that CL book that CL boy go America REL read ASP REL  
 ‘He gave me that book, which that boy, who went to the U.S., had read before.’

To account for why is the ungrammaticality of (11), an OT-based proposal will be developed in the next section.

## 5. Toward a New Type of Syntactic OCP

The Obligatory Contour Principle (OCP) (Leben 1973, Goldsmith 1976, McCarthy 1981, 1986), a well-known linguistic constraint which prohibits the juxtaposition of two identical elements, was originated around 1970s and used predominately in the field of phonology. Even though linguists including Mohanan (1994), Golston (1995), Yip (1995, 1998), Anttila and Fong (2000) and others have implemented the principle in their research to deal with morph-syntactic phenomena, the concept of OCP is still phonological in nature, which started from a sense of disfavor of phonological identity of some kind, and the trigger of effects are elements that share identical phonological property. In the following I will introduce a new type of syntactic OCP which differs from all the previous approaches in that it places identity restriction on purely syntactic configurations.

### 5.1. Branching Consistency and the Markedness OCP

Linguists generally agree on the hypothesis which argues for a systematic correlation between the basic word order and the ordering of other phrasal categories. The Greenbergian word order typology is termed the “Head-Dependent Theory (HDT)” by Dryer (1992), who proposed an alternative account to the HDT, which is termed the “Branching-Direction Theory (BDT)”. This paper will not go over the detail of these two theories, all relevant discussions can be found in their original research.

Based on these typological theories, it is generally accepted that there exists a tendency for right-branching languages to have recursive branching on its right; while in left-branching languages, the recursive side normally occurs on the left. This is also suggested by Broadwell (2002), according to him, syntactic structures tend to have consistent branching direction. Therefore, relating the idea of branching consistency with the markedness theory, it is considered marked for a right-branching language to have left-branching constructions in the scope; in contrast, for a left-branching language, right-branching constructions are considered the marked configuration. The typology of branching direction is recapitulated in the following (12):

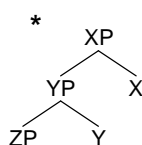
(12) Correlations of Branching Direction and Markedness Configuration

	<b>Marked</b>	<b>Unmarked</b>
<b>Right-branching (head-initial)</b>	Phrasal elements precede non-phrasal elements	Phrasal elements follow non-phrasal elements
<b>Left-branching (head-final)</b>	Phrasal elements follow non-phrasal elements	Phrasal elements precede non-phrasal elements

This paper adopts the concept of OCP developed by Alderete (1996, 1997) as well as Itô and Mester (1996, 1998). Following their suggestion, the OCP can be used as a cooccurrence restriction which bans the multiple occurrences of some marked constructions, enhanced by the idea of self-conjunction of markedness constraints. The issue of structural consistency therefore has potential to be identified as an OCP-related phenomenon. The basic idea is that the multiple occurrences of marked configuration should be recognized as ill-formed in the language where the basic word order shows opposite branching direction. That is, the issue related to structural consistency may be identified as an OCP-triggered effect, which prevents the branching direction that is considered marked in the target language from occurring multiple times if its basic word order shows the reversed direction, an illustration of this idea is provided in (13):

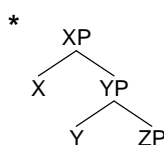
(13) Branching Consistency and OCP Violation

**Right-branching languages**



**OCP violation**

**Left-branching languages**



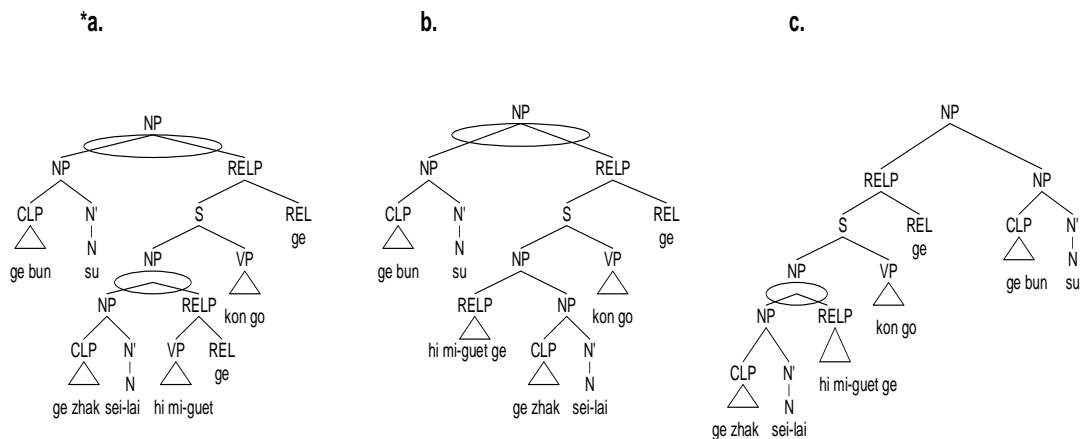
**OCP violation**

**5.2. The Case of Hakka**

We have described in earlier sections that the Hakka noun phrases are characterized by the “head-final” and “left-branching” rule. Following the inferences drawn from the prior paragraph, inside an NP, a branching modifier is supposed to precede the head noun to conform to the unmarked left-branching rule. If the modifier phrase follows the head noun, the construction is regarded as marked by having the recursive side on the right of the head. Now compare the following three diagrams:



(14)



The forms in (14) display the structure for the three cases of multiple-embedded clauses. (14a) corresponds to the previous example (11); (14b) and (14c) correspond respectively to (10a) and (10b). In (14b) and (14c), only one of the NPs in the tree, the upper one in tree (b) and the lower one in tree (c), undergoes topicalization, and they are both well-formed. In contrast, (14a) is ungrammatical because this diagram contains two topicalized NPs at different layers in the tree. That is to say, since “left-branching” is considered the unmarked rule for the Hakka NP, when topicalization applies to an NP, the syntactic process triggers right-branching configuration by fronting the head noun to the left of its modifier RELP, the resulting marked construction is allowed if it only appears once within an NP, but the construction becomes ill-formed if two of them cooccur in the same NP.

Going into the analysis, a sub-constraint of the OCP must be proposed, the constraint is written as **OCP-RightBranching (NP)**, which penalizes the repeated occurrence of the marked right-branching configuration in two depths of branch within the same NP. This OCP manifestation must rank above the previously proposed **ALIGN-L (TOP, NP)**, which demands topicalization to take place at the left edge of NP. The constraint interaction is illustrated in the following tableau 4, which show the established constraint ranking, **OCP-RB (NP) >> ALIGN-L (TOP, NP) >> ALIGN-R (Head, NP/RELP)**:

Tableau 4

[[hi mi-guet ge] [ge zhak sei-lai] kon go ge] [ge bun] su] Go America REL that CL boy read ASP REL that CL book 'that book, which had been read by that boy, who went to the U.S.'	OCP-RB (NP)	ALIGN-L (TOP)	ALIGN-R (Head)
ge bun su, ge zhak sei-lai, hi mi-guet ge kon go ge	*!		**
☞ ge bun su, hi mi-guet ge ge zhak sei-lai kon go ge		*	*
☞ ge zhak sei-lai, hi mi-guet ge, kon go ge ge bun su		*	*
hi mi-guet ge ge zhak sei-lai kon go ge ge bun su		**!	

When (14a, b, c) are candidates for the examination of multiple-embedded relative construction, with the two nominal constituents in both NPs marked by some topicalized salience, the evaluation is presented in tableau 4. As it shows, the first candidate, corresponding to (14a), is constantly ruled out as ungrammatical due to its violation of the high-ranking OCP; and the last candidate, in which both topicalized nominals stay in situ, is also ruled out since it collects double violation on ALIGN-L.

From the analysis we see that syntactically we should be able to topicalize the most salient element in both NPs when one of them is embedded into another; however, as demonstrated in this tableau, the OCP constraint proposed in this section against inconsistent branching direction crucially disallows multiple nominal constituents being topicalized within an NP domain. We can choose only one element that is emphatically stronger in discourse prominence to be aligned leftward preceding all the other constituents in the NP, at the risk of ALIGN-R, a constraint that assures the head-final configuration for NP and RELP; as well as ALIGN-L, which requires all the topicalized elements to be preposed in the leftmost position.

## 6. Conclusion

While the OCP is traditionally recognized as a universal phonological constraint, in which the trigger of violation are elements containing some identical phonological properties. This paper shows another type of OCP in which the triggers are purely syntactic configurations. The OCP is argued to be bound with the markedness theory, given the fact that marked features usually incur more serious OCP violation than unmarked features; if it is true that syntactic structures tend to be consistent in branching direction, phrases that disobey the tendency would be identified as marked configuration which, when applies to the OCP theory, may cause ungrammaticality if it occurs repeatedly in some defined domain.

In Hakka, since right-headed and left-branching is considered the unmarked rule to configure the structure of NP. The marked right-branching configuration triggered by the process of topicalization is prohibited to occur more than once within the domain that is defined to be the top NP in a multiple embedded relative construction. This Hakka case study is presented in this paper as a demonstration for the new type of syntactic OCP effect based on the idea of structural consistency and markedness theory.

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## The Semantics and Pragmatics of *Lian...dou/ye*, *Lian, Dou, and Ye*

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*Lian...dou* is taken as a construction in much of the research literature. However, the possibility still remains whether we can derive the meaning of a *lian...dou* sentence compositionally from *lian*, *dou*, and what is asserted. This paper explores this possibility and formalizes the semantics and pragmatics of *lian*, *dou*, and *ye* in Context Change Semantics. It is shown that the compositional treatment of *lian...dou/ye* can not only account for all their implications but also explain the shades of meaning difference between these two synonymous constructions.

### 0. Introduction

*Lian...dou* sentences have been a hot topic over the last few decades. Traditional studies have concerned themselves with the part of speech of *lian* and *dou*, the structural description of *lian...dou* sentences and the pre-theoretical enunciation of their meaning (Song 1981, Zhu 1982, Wang 1983, Cui 1984, Wang 1988a, 1988b, Zhou 1990). Cui (1993) provides a pragmatic analysis of the presuppositions, conversational implicatures, and inferences of a *lian...dou* sentence. Fang and Fan (2002) provides a lattice-theoretical treatment of its semantics. Portner (2002) grants *lian...dou* the face value of “even...all” and Shyu (1995, 2004) renders it as “including...all” and takes it as a focus marker. Chen (2005) makes a contrastive study of *lian...dou* and *lian...ye*, which are near-synonyms, and finds that they are actually asymmetric if we scrutinize their presuppositions.

What is common to the above mentioned researches is that *lian...dou* is treated as a construction. This “wholesale” treatment of *lian* and *dou* reveals many interesting facts about Mandarin, but the possibility still remains whether we can describe and account for these facts through separate semantic treatment of *lian* and *dou*. In other words it needs to be figured out whether we can give a compositional semantic treatment to the so-called *lian...dou* construction. This study is mainly motivated by the theoretical attraction to explore this possibility.

Jiang (1998) and Pan (2006) are among the first endeavors to formalize the meaning of *dou*. They argue that *dou* in Mandarin has only one sense, namely a universal quantifier. Though appealing with formal rigor, this semantics of *dou*, we believe, is too strong to be held.

We will take the first step in our argumentation against taking *lian...dou* as a construction in the remaining of this introductory section. In Section 2 we detail the implications of a *lian...dou* sentence which prepares the ground for the separate treatment of the semantics and pragmatics of *lian* and *dou* in Section 3. In Section 4 we try to reinforce our stance through a discussion of *lian...ye*, the near synonym of *lian...dou*, especially the subtle difference between these two, based on a semantic study of *ye*. In Section 5 we try to formalize *lian*, *dou*, and *ye*. Section 6 concludes the paper.

In this paper, we take the definition of constructions by Fillmore, Kay & O'Connor (1988:501) and argue that *lian...dou* is not a construction. These writers list four criteria for a construction and the fourth one is:

“...constructions may be idiomatic in the sense that a large construction may specify a semantics (and/or pragmatics) that is distinct from what might be calculated from the associated semantics of the set of smaller constructions that could be used to build the same morphosyntactic object.”

Shyu (2004) puts forward two arguments to justify the status of *lian...dou* as a construction: 1) “there is the adjacency requirement of *lian* with the focused element”; 2) “*lian* and *dou* together contribute to *even* reading”. We believe the first argument cannot be maintained if we take the following data into consideration:

- (1) a. Ta lian gen ziji de [nüer]<sub>F</sub> dou bu jianghua.  
He LIAN with self de daughter DOU not speak  
‘He even didn’t speak with his daughter.’
- b. Ta lian gen [ziji]<sub>F</sub> de nüer dou bu jianghua.  
He LIAN with self de daughter DOU not speak  
‘He even didn’t speak with his daughter.’
- c. Ta lian gen [ziji de nüer]<sub>F</sub> dou bu jianghua.  
He LIAN with self de daughter DOU not speak  
‘He even didn’t speak with his daughter.’

In none of these sentences is *lian* adjacent to the narrow focus. If we extract the focused NP and put it between *lian* and *dou*, ungrammatical sentences result:

- (2) \*Ta gen ziji de lian [nüer]<sub>F</sub> dou bu jianghua.  
He with self de LIAN daughter DOU not speak  
‘He even didn’t speak with his daughter.’

The reason is that *lian* and *dou* still preserve their membership in the respective classes of prepositions and adverbs and a preposition cannot intervene between a *de*-phrase and the

head noun it modifies. A possible remedy is to say that the narrow foci in the above sentences can be projected to the whole phrases between *lian* and *dou* if we apply the principles of focus projection as explicated in Selkirk (1984). However, the focus can be what is asserted by the whole sentence rather than some element between *lian* and *dou*:

- (3) (Heliu jiedong le, xiao shu faya le,) *lian* taohua *dou* kai le.  
 (River thaw Perf, small tree sprout Perf,) LIAN peachblossom DOU open Perf.  
 ‘(Rivers have thawed, small trees sprouted,) and even peach trees have blossomed.’

Here the focus is the assertion “Peach trees blossom.” This fact also argues against taking *lian...dou* as a focus maker since whether acting separately or concertedly, neither of the two words can position the locus of the focus without the assistance of phonology.

If by the second argument the writer means that the *even* reading results from fusing the meanings of *lian* and *dou* together rather than through a compositional process, it can not be maintained as well. For one thing, it is widely acknowledged that *lian* can be omitted without impairing the *even* reading (as the reader can test with the sentences so far we have presented). For another, there are *dou* sentences with the *even* reading in which there seems to be no place to restore *lian*; in other words, we cannot take these sentences as cases of omitting *lian*:

- (4) Ta ba wo-de shengri *dou* wang le.  
 He ba my birthday DOU forget Perf.  
 ‘He even forgot my birthday.’
- (5) Xiao Wang bi Xiao Li *dou* gao.  
 Xiao Wang compared-with Xiao Li DOU tall  
 ‘Xiao Wang is even taller than Xiao Li.’
- (6) Zhangsan gei Lisi *dou* mei le yi-jian liwu.  
 Zhangsan to Lisi DOU buy Perf one-Cl. present  
 ‘Zhangsan even bought Lisi a present.’

What is common to these sentences is that there is a preposition before *dou*: *ba*, *bi*, and *gei* respectively. They show, first, that syntactically *lian* performs its regular duty as a preposition in *lian...dou* sentences and second, that semantically *dou* can convey the meaning of *even* all by itself. In other words we can arrive at the *even* reading by calculating the semantics of *lian* and *dou*, which is the task we are now turning to.



### 1. *Lian...dou* sentences and their implications

Let's look at the following *lian...dou* sentence and its implications:

(7) (Context: Zhangsan is trying to solve three mathematical problems. The first and second ones are fairly easy while the third one is really challenging.)

Zhangsan *lian* [di san ti]<sub>F</sub> *dou* jie chulai le

Zhangsan LIAN the third problem DOU solve out Perf.

'Zhangsan even solved the third problem.'

- a. Zhangsan solved the third question.
- b. It is against the speaker's expectation that Zhangsan solved the third question.
- c. Zhangsan solved some question(s) other than the third one: it can be the first one, the second one or both.
- d. It is the least possible for Zhangsan to solve the third question.

Implication (7a) is what is asserted by the speaker. (7b) is a conventional implicature in the sense of Stalnaker and Peters (1979). On the one hand, it has nothing to do with the truth conditions of the sentence: (7) and (7a) simply have the same truth conditions. On the other, it cannot be canceled under any context. It is contradictory for one to say:

(8) \*Zhangsan *lian* di san ti *dou* jie chulai le, zhe shi yiliao zhizhong de shiqing.

Zhangsan LIAN the third problem DOU solve out Perf., this is expectation in de thing

\*'Zhangsan even solved the third problem, and this is what is expected.'

Implication (7c) is a conversational implicature since it is cancellable, the defining feature of conversational implicatures:

(9) (mei xiang dao) Zhangsan *lian* [di san ti]<sub>F</sub> *dou* jie chulai le, jingran mei jie chu diyi he dier ti.

(Not expect) Zhangsan LIAN the third problem DOU solve out Perf., surprisingly not solve out the first and the second problem.

'(It is unexpected that) Zhangsan solved even the third problem but did not solve the first and the second problems.'

Implication (7d) is called the end-of-scale reading of *lian...dou* sentences, which means that the assertion is the most informative item on a pragmatic scale. In this case, the concerned scale is the probability of Zhangsan's solving different problems. This is a strong position in the pragmatics of *lian...dou* and *even*. We agree with the analysis of *even* in Kay (1990) and believe that *lian...dou* conventionally only evokes a contrast between two items on the scale with one of them being more informative than the other in

the sense that the former is expected by the speaker to come true while the latter is against her expectation. The end-of-scale reading is just a conversational implicature which can be canceled as shown in (9) and in many cases it simply does not arise or does not matter much in the context. For example:

- (10) Lian Zhangsan dou ba di san ti jie chu lai le, ni weishenme jie bu chulai?  
 LIAN Zhangsan DOU ba the third problem solve out Perf., you why solve not out?  
 ‘Even Zhangsan solved the third problem, why are you not able to solve it?’
- (11) Lian Zhangsan dou neng jie chu disan ti, Lisi yinggai shenme shiqing dou neng zuocheng.  
 LIAN Zhangsan DOU able solve out the third problem, Lisi should any thing DOU able accomplish  
 ‘Since even Zhangsan was able to solve the third problem, Lisi should be able to accomplish anything.’

In (10) the focus is local. The speaker makes a contrast between the possibility for Zhangsan and for the hearer to solve the third question. It is unnecessary for both the speaker and the hearer to establish a scale of possibility of different people solving the third question so as to felicitously make this utterance or to correctly understand it. This explains why *lian...dou* sentences are often used for the purpose of encouragement. In (11) the focus is global and it is impossible for us to establish a scale of possibility since it will involve all the people concerned in the context and all the deeds they possibly do. Yet this does not preclude the successful use of *lian...dou*, which simply spotlights the contrast between Zhangsan’s solving the third question and the possibility for Lisi to achieve any goal. In other words, implication (7d) is just the same as (7c).

We will argue in the following section that these implications of a *lian...dou* sentence is not uncalculable from the semantics and pragmatics of *lian* and *dou*.

## 2. The semantics and pragmatics of *lian* and *dou*

We will discuss the syntax, semantics, and pragmatics of *lian* and *dou* in this section. We hope it shall become evident that the implications of a *lian...dou* sentence can be calculated from *lian*, *dou*, and what is asserted. Syntactically each behaves the same way when they are used together as when they are used separately.

## 2.1. The semantics and pragmatics of *lian*

*Lian* is a preposition in Mandarin:

- (12) *Lian* Zhangsan yigong wu-ge ren.  
 LIAN Zhangsan altogether five-Cl. person  
 ‘Including Zhangsan, there are altogether five people.’

It is usually translated into “including”, yet this is not the whole picture of its semantics: it means more than that. In a normal situation of use, a regular member in a set need not have its membership justified; therefore, through the explicit indication of the membership in a certain group of its object, *lian* implicates that its object is an exceptional member in the group and deserves special attention. For example, Zhangsan in (12), for some reason or other, is kind of an irregular member in the group of people the speaker is counting, so it is brought to the hearer’s center of attention to reduce her cost of processing. The point is clearer in the following semantic anomaly:

- (13) \**Zhe-ge pingguo, Zhangsan lian guorou yiqi chi diao le.*  
 This-Cl. apple, Zhangsan LIAN pulp together eat off Perf.  
 \*‘This apple, Zhangsan ate up including the pulp.’

It is anomalous because we eat an apple for its pulp if we eat one at all. The consumption of pulp is what we take for granted in the event of eating an apple. It is not the same for the skin though, as shown by:

- (14) *Zhe ge pingguo, Zhangsan lian pi yiqi chi diao le.*  
 This-Cl. apple, Zhangsan LIAN skin together eat off Perf.  
 ‘This apple, Zhangsan ate up including the skin.’

That the implication of exceptionality or unusualness of *lian* is presuppositional in nature is shown clearly by the family of sentences test:

- (15) a. *Zhe ge pingguo, Zhangsan meiyou lian pi yiqi chi diao.*  
 This-Cl. apple, Zhangsan not LIAN skin together eat off  
 ‘This apple, Zhangsan did not eat it up together with the skin.’  
 b. *Zhe ge pingguo, Zhangsan ruguo lian pi yiqi chi diao, ta hui weiteng de.*  
 This-Cl. apple, Zhangsan if LIAN skin together eat off, he can stomachache  
 Part.  
 ‘If, Zhangsan ate up this apple together with the skin, he will suffer from stomachache.’

- c. Zhangsan ba na-ge pingguo lian pi yiqi chi le ma?  
 Zhangsan ba that-Cl. apple LIAN skin together eat Perf. Part.?  
 ‘Did Zhangsan eat that apple together with its skin?’

The proffered<sup>1</sup> content of Zhangsan eating the apple in question together with its skin is negated, conditionalized, and interrogated in (15a)--(15c) respectively. But the implication that the skin is exceptionally involved in the consumption of an apple remains intact. In many cases, the set of entities in which the member denoted by the object of *lian* is exceptional is context-dependent:

- (16) Zhangsan lian zhuozi yikuaier ban zou le  
 Zhangsan LIAN table together move away Perf.  
 ‘Zhangsan moved the table away together with other things.’

What Zhangsan moved away besides the table is clear to the interlocutors or self-evident in the context. When uttered out of blue, we can infer from the sentence that the table is a special member in the set of things moved away by Zhangsan.

Shyu (2004) proposes a restriction on the optionality of *lian*: *lian* can be optional only when the following focus is an indefinite singular NP or a minimizer like *yi dianer* (a little), *ban kou* (half mouthful), *yi yan* (a glance). If the focused constituents are plural or bare NPs, the *even* reading is gone and *dou* merely acts as a distributive marker. We think this restriction is too strict to be maintained:

- (17) Zhangsan (lian) piao dou ti women mai hao le.  
 Zhangsan (LIAN) tickets DOU for us buy good Perf.  
 ‘Zhangsan has even bought tickets for us.’
- (18) Zhe-kuai shitou (lian) san-ge xiaohuozhi dou ban bu dong.  
 This-piece stone (LIAN) three-Cl. young men DOU lift not move  
 ‘This stone, even three young men cannot move it.’

In (17) *piao* is a bare plural NP, referring to the tickets Zhangsan bought for his friends. In (18) *san ge xiaohuozhi* is an indefinite plural NP, referring to any three young men.

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<sup>1</sup> The term “proffered” is borrowed from Roberts (1996), which is a generalization of the notion of “being asserted” and intended to cover the core at-issue content not only of indicative sentences but also of interrogative and imperative sentences.

## 2.2. The semantics and pragmatics of *dou*

### 2.2.1. Three senses of *dou*

*Dou* is an adverb in Mandarin. Generally, it has three senses. First, it means that the predication is true of each member in the set denoted by the subject of the sentence. Therefore it is often called distributive marker. *Dou* in this sense must be stressed (or at least must not be phonologically reduced):

- (19) Xiao Zhang he Xiao Wang dou shi yanjiusheng.  
 Xiao Zhang and Xiao Wang DOU be graduate students  
 ‘Xiao Zhang and Xiao Wang are both graduate students.’

Obviously this *dou* carries the force of universal quantification.

The second sense is “already”, in which *dou* can not carry an emphatic stress:

- (20) Ta dou si sui le (hai bu hui shuohua).  
 Ta DOU four years Perf. (still not can speak)  
 ‘He is already four years old (but still cannot speak).’

However, this definition of *dou* is too vague to be of much help. Also, *dou* is not an aspect marker in Mandarin as “already” suggests it would be. We will argue in 3.2.2 that this *dou* expresses the speaker’s attitude toward the proposition and the sense of “already” is actually marked by the particle *le*. The third sense is “even”. To convey this meaning, *dou* often goes together with *lian* though the latter can be omitted in most cases.

### 2.2.2. A unified account of the three senses of *dou*

Jiang (1998) and Pan (2006) give a unified account of the three senses of *dou* and argue that it is a universal quantifier. For a *lian...dou* sentence and its *even* reading, Pan (2006) argues with the following sentence:

- (21) Ta lian [diannao]<sub>F</sub> dou mai le  
 3rg. LIAN computer DOU buy Perf.  
 ‘He even bought the computer.’

that the focus semantic value of the NP *diannao* (“computer”), which is a contextually constrained set including the computer and other entities, forms the range of quantification for *dou*. He goes on to argue that because the members in the concerned set are ordered in terms of probability and the ordinary semantic value of the NP, namely *diannao* is the lowest extreme in the relation, the *even* reading comes as a natural result. In other words, the *even* reading relies on the alternative set triggered by the focus. This is obviously an extension of the semantics of focus as explicated in Rooth (1985, 1992,

1996). It serves well in the case of *lian...dou* but unfortunately, we should say, it's too strong for the focus phenomenon in general. For example:

- (22) A: Zhangsan mai le shenme?  
 Zhangsan buy Perf. what?  
 'What did Zhangsan buy?'  
 B: Zhangsan mai le [diannaο]<sub>F</sub>.  
 Zhangsan buy Perf. computer  
 'Zhangsan bought the computer.'

In a normal situation of use where we assume that the interlocutors abide by the conversational principles and the quantity maxims in particular, B's utterance means that to her knowledge Zhangsan only bought the computer since this is the strongest statement she can make.

Another counterargument against this universal quantification explanation of *dou* in *lian...dou* sentences is that it amounts to Lycan (1991)'s strong position about the semantics and pragmatics of *even*. According to Lycan (1991), *even* in English is a universal quantifier and contributes to the truth-conditional meaning of a sentence. Therefore the following sentence entails that everyone in the context who are more likely to eat chili than Granny have tried it:

- (23) Even [Granny]<sub>F</sub> tried the chili.

As this semantics of *even* can be easily refuted, it is not hard for us to find counterexamples of the unified account of *lian...dou*:

- (24) Zhangsan lian diannaο dou mai le, juran shebude mai ge shubiao.  
 Zhangsan LIAN computer DOU buy Perf., surprisingly unwilling buy Cl. mouse  
 'Zhangsan even bought the computer, but was unwilling to spend the money for a mouse.'

As for the second sense of *dou*, namely "already", Jiang proposes that it is a variation of *lian...dou* construction. For example, (25a) can be paraphrased as (25b):

- (25) a. Dou [shier dian]<sub>F</sub> le (Zhangsan hai mei huilai)  
 DOU 12 o'clock Perf. (Zhangsan still not come back)  
 'It is already 12 o'clock (but Zhangsan still has not come back).'  
 b. Lian [shier dian]<sub>F</sub> dou guo le  
 LIAN 12 o'clock DOU pass Perf.  
 'It was even past 12 o'clock.'

However, not all sentences of this type can be converted into a *lian...dou* sentence. For example, (26b), the paraphrase of (26a), is ungrammatical:

- (26) a. Fan dou [liang]<sub>F</sub> le (ni hai bu kuai chi)  
 Meal DOU cold Perf. (you still not quick eat)  
 ‘The meal has got cold (why haven’t you had it?)’
- b. \*Fan lian [liang]<sub>F</sub> dou liang le  
 Meal LIAN cold DOU cold Perf.  
 ‘The meal has got cold.’

### 2.2.3. The non-truth-conditional meaning of *dou*

We argue that *dou* in the second and third senses is neither a distributive marker nor an aspect marker of “already”; rather, it expresses the speaker’s attitude towards the eventuality described by the sentence in question. It plays no role in determining the truth conditions and simply signifies that the eventuality is against her expectation. To be more exact, it is not the eventuality itself that violates the speaker’s expectation but the eventuality in conjunction with another eventuality salient in the context. In (25) for example, it is not the fact that it was midnight itself which is out of the speaker’s expectation but Zhangsan’s not coming back at midnight occurs unexpectedly.

In Section 2 we have scrutinized the different implications of a *lian...dou* sentence. As we can see from the following example, sentences with only *dou* can have the same implications:

- (27) Zhangsan [dazi]<sub>F</sub> dou bu hui.  
 Zhangsan type DOU not can  
 ‘Zhangsan even cannot type.’
- a. Zhangsan cannot do typing.  
 b. It is against the speaker’s expectation that Zhangsan cannot do typing.  
 c. Zhangsan cannot do any other thing that is more sophisticated than typing.

(27a) is an assertion; (27b) is a conventional implicature; and (27c) is a conversational implicature, which is canceled in:

- (28) Zhangsan [dazi]<sub>F</sub> dou bu hui, juran hui bian chengxu.  
 Zhangsan type DOU not can, surprisingly can write programs  
 ‘Zhangsan even cannot type, but can write programs.’

We argue that *dou* itself can be held responsible for the meanings of so-called *lian...dou* construction. But the fact that we can insert a *lian* in front of the focus makes our argument dubious. This doubt could be dispersed if we look at the following sentences:

- (29) a. Zhangsan dou bu hui [dazi]<sub>F</sub>.  
 Zhangsan DOU not can type  
 ‘Zhangsan even cannot type.’
- b. Zhansan [dazi]<sub>F</sub> dou bu hui.  
 Zhangsan type DOU not can  
 ‘Zhangsan even cannot type.’
- c. Zhansan lian [dazi]<sub>F</sub> dou bu hui.  
 Zhangsan LIAN type DOU not can  
 ‘Zhangsan even cannot type.’
- (30) a. Zhangsan dou hui jie [disan ti]<sub>F</sub>.  
 Zhangsan DOU can solve the third problem  
 ‘Zhangsan even can solve the third problem.’
- b. Zhangsan [disan ti]<sub>F</sub> dou hui jie.  
 Zhangsan the third problem DOU can solve  
 ‘Zhangsan even can solve the third problem.’
- c. Zhangsan lian [disan ti]<sub>F</sub> dou hui jie.  
 Zhangsan LIAN the third problem DOU can solve  
 ‘Zhangsan even can solve the third problem.’

In (29a) and (30a) there is no place for us to restore *lian*. There may be subtle differences in meaning between (29a) and (29b) and between (30a) and (30b) but the point is that no implication in (29c) and (30c) is missing from (29a) and (30a) respectively.

In view of the semantic behavior of *lian* and *dou* as explicated above, it’s easy to see that there is overlap between their meanings. Marking an entity as an exceptional member in the discourse range of a predicate entails the potential of violating one’s expectation when applying the predicate to the entity. This is why *lian* can often be safely removed from a *lian...dou* sentence without affecting its implications. This is also the key to the contrast as well as the similarity between *lian...dou* and *lian...ye* sentences.

### 3. The semantics and pragmatics of *ye*, and *lian...ye*

*Lian...ye* is normally taken as a synonym of *lian...dou* and therefore a construction as well. If we are to stick to the exposition so far we have made about *lian...dou*, we have to explicate how the meaning of *lian...ye* grows out of the separate meanings of *lian* and *ye*. We set out for this task in this section.

A puzzle with *lian...dou* and *lian...ye* is that though they are interchangeable in most cases, they are not in all cases. Chen (2005) records his intuitive judgment about the following sentences:



- (31) a. Lian yuehan dou jiao le zuoye le, geng-bie-shuo banshang qita tongxue le.  
 LIAN John DOU hand-in Perf. homework Perf., more-NEG-mention  
 in-the-class other students Perf.  
 ‘Even John handed in the homework, not to mention other students in the class.’
- b. ?/# Lian yuehan ye jiao le zuoye le, geng-bie-shuo banshang qita tongxue le.  
 LIAN John YE hand-in Perf. homework Perf., more-NEG-mention  
 in-the-class other students Perf.  
 ‘Even John handed in the homework, not to mention other students in the class.’

We’ll try to solve this puzzle in this section as well.

*Ye* is similar to *dou* in two aspects: first, both are adverbs; second, both make no contribution to the truth-conditional meaning of a sentence. Now let’s look at an example:

- (32) Zhangsan lian [disan ti] ye jie chulai le.  
 Zhangsan LIAN the third problem YE solve out Perf.  
 ‘Zhangsan even solved the third problem.’
- a. Zhangsan solved the third question.  
 b. It is against the speaker’s expectation that Zhangsan solved the third question.  
 c. Zhangsan solved some question other than the third one.

(32a) is what is asserted and (32b), a conventional implicature due to *lian*. Different from *lian...dou*, implicature (32c) is a conventional implicature instead of a conversational implicature (Cf. (7c, d)). In other words, it cannot be cancelled, which explains the oddity of the following sentence:

- (33) ??Zhangsan lian [disan ti] ye jie chulai le, jingran mei jie chu di yi ti he dier ti.  
 Zhangsan LIAN the third problem YE solve out Perf., surprisingly not solve out  
 the first and the second problem  
 \*‘Zhangsan even solved the third problem, but failed to solve the first and the  
 second problems.’

This is due to the difference in meaning between *dou* and *ye*. *Dou* expresses the speaker’s surprise at the eventuality: in this case, she finds it unexpected that Zhangsan solved the third question, the most challenging one. The reason for her surprise may be that to her knowledge Zhangsan is not an intelligent student or that the third question is very challenging or both. It is subjective, so to speak. Yet *ye* is objective. It is the speaker’s indirect report about, or secondary assertion of, the existence of another state of affair which is parallel to the asserted state of affair in some aspect.

The point is made much clearer by the fact that sentences with the focus preceding *ye*, namely those in which we can insert *lian* in front of the focus are

ambiguous while those with the focus following *ye* has only one reading, namely that of secondary assertion.

- (34) a. Zhangsan [disan ti]<sub>F</sub> ye jie chulai le.  
 b. Zhangsan ye jie chulai le [disan ti]<sub>F</sub>.  
 Zhangsan YE solve out Perf. the third problem  
 ‘Zhangsan also solved the third problem.’  
 i. Zhangsan solved the third problem.  
 ii. Zhangsan solved some problem other than the third one.

As the reader can check themselves, (34a) has two readings: one is the same as (33) and the other, the same as (34b) which primarily asserts that Zhangsan solved the third problem and secondarily asserts that he solved some other problem(s) as well.

The semantic component of (32b)-kind implication in a *lian...ye* sentence is attributable to *lian* which conventionally implicates that its argument is an exceptional member in a contextually relevant set. Thus we get all the implications of a *lian...ye* sentence through calculating the meaning of *lian* and *ye*.

Now let’s look at (31). Both have the implication that the other students in the class have handed in the homework. The reason for the difference in meaning between *lian...dou* and *lian...ye* as reflected in their respective extension is that the implication of the other students in the class having handed in their homework is a conversational implicature in the former and a conventional implicature, or a secondary assertion in the latter. We can reinforce a sentence by explicitly asserting its conversational implicature due to its cancelability, but the same technique is not applicable to an implication which has been asserted, no matter whether it has been done primarily or secondarily.

#### 4. Formalization of the semantics and pragmatics of *lian, dou, and ye*

In this section, we try to pin down the meaning of *lian, dou, and ye* in context change semantics. Context change semantics takes the context as a set of possible worlds. To be more exact, it is the intersection of all propositions that form the context set in the sense of Stalnaker (1978). The meaning of a sentence, a set of possible worlds in which the proposition it denotes is true, is represented as a context change potential, which updates the context by ruling out the possible worlds in which the sentence is false. Let’s look at the meaning of *dou* first:

- (35) Zhangsan [disan ti]<sub>F</sub> dou jie chulai le  
 Zhangsan the third problem DOU solve out Perf.  
 ‘Zhangsan even solved the third problem.’

- a. Zhangsan solved the third problem.
- b. Zhangsan didn't solve the third problem.

As we have argued in 3.2, *dou* basically has two senses and it is used in (35) in the sense of expectation violation. If something violates the speaker's expectation, it is because she predicted that the course of event should have taken the opposite direction in view of what she has known up to the moment when she makes the utterance. In other words, Zhangsan's NOT solving the third problem is more predictable than his solving it, which means (35b) is less informative than (35a), because technically, the more predictable a sentence is the bigger the cardinality of the intersection of the context and the set of possible worlds it expresses. That is, it rules out less possible worlds than the unpredictable one. Let *c* be the context when (35) is uttered and *p* the proposition it expresses. We can define *dou* as:

$$(36) |c+\neg p| > |c+p|$$

It might have been noticed that it follows from this proposal that *dou* is insensitive to focus. What is at issue is the contrast between the expectation-violating sentence and its negation, namely the expectation-satisfying one. The negation here operates over the whole sentence rather than part of it. This is welcomed since as we have explicated in Section 3, *dou* does not operate as a universal quantifier which takes the focus semantic value as its range.

Now let's look at the meaning of *lian*. Syntactically it is a preposition, but semantically it is an operator which is sensitive to the focus. By sensitive we mean its interpretation depends on the focal structure of the sentence. Here we adopt the focal structure representation in Rooth (1996) and represent the meaning of (37a) as (37b) (Q1, Q2, Q3 are the shorthand expressions of the first question, the second question, and the third question):

- (37) a. Zhangsan *lian* [*disan ti*]<sub>F</sub> *dou* *jie chulai le*  
 Zhangsan LIAN the third problem DOU solve out Perf.  
 'Zhangsan even solved the third problem.'
- b. *dou*(*lian*([<sub>S</sub>[<sub>NP</sub>*disan ti*]<sub>F</sub>(Q1, Q2, Q3), C)[ $\lambda e_2$ [Zhangsan *jie chu le e\_2*]]))

{Q1, Q2, Q3} denotes the focus semantic value of the NP in focus. *Lian* implicates that what a focus constituent denotes is an exceptional member in its focus semantic value. Technically this means *lian* partitions the set into a singleton set which has the ordinary semantic value as its only member and a set which includes the rest of members. We could have said that *lian* poses a relation of probability scale on this set but we believe it is not of much linguistic significance. In most cases, what is at issue is not the accurate

ordering of alternative probabilities but that the actual course of event described by the ordinary semantic value is exceptional in a relevant sense. For (37a) which member in {Q1, Q2} is more difficult than the other has no bearing on its felicitous utterance. Generally, an exceptional state of affair is less predictable than a “normal” one. Let *q* be any member in the focus semantic value of a sentence except its ordinary semantic value and let *p* be the ordinary semantic value of the sentence. We can define *lian* as:

$$(38) |c+q| > |c+p|$$

It should be obvious that to say something is unpredictable is almost the same as saying what it negates is predictable, so we can represent the similarity between the meaning of *lian* and that of *dou* as:

$$(39) |c+\neg p| \approx |c+q|$$

(37b) illustrates how we get the meaning of *lian...dou* compositionally. The following shows the semantic role *lian* plays in a sentence without *dou*:

$$(40) \text{Lian}([s[\text{NPguopi}]_{F(\{\text{skin, pulp}\}, C)}[\lambda e_2[\text{zhege pingguo, Zhangsan chidiao le } e_2]]])$$

Let *q* stand for “Zhangsan eats the pulp of the apple” and *p*, “Zhangsan eats the apple including its skin”,  $|c+q| > |c+p|$ .

Now let’s look at the meaning of *ye*:

$$(41) \text{Zhangsan ye jie chu le [disan ti]}_F.$$

Zhangsan YE solve out Perf. the third problem  
‘Zhangsan also solved the third problem.’

Different from *dou*, *ye* is objective in the sense that its conventional implicature has nothing to do with the speaker’s attitude but is related to the actual state of affair. For a speaker to legitimately utter (41), the context must entail that Zhangsan solved other problems. *Ye* establishes the parallelism between the actual statement and the entailed proposition by signaling that the two are equally informative since they are equally predictable as judged by the speaker. Let *c* be the context when (41) is uttered and *q*, any proposition in the focus semantic value except the ordinary semantic value of the sentence and *p*, the ordinary semantic value of the sentence. The meaning of *ye* is:

$$(42) |c+q| = |c+p|$$

As for the relative scope of *lian* and *ye*, we suggest that *lian* has a wider scope than *ye* in accordance with the monotonic principle of compositionality put in Cann

(1993:4): “the meaning of an expression is a monotonic function of the meaning of its parts and the way they are put together”. It predicts that a syntactic/semantic operation can only add but not reduce the meaning of the expression on which it operates. For a *lian...ye* sentence, after the operation of *ye* on the proposition “Zhangsan solved the third question”, we know that it is equally informative with a parallel proposition which is entailed by the context. In other words, they may rule out the same number of possible worlds from the context. After applying the meaning of *lian* to the *ye* sentence, the semantic load of the sentence increases since the resultant proposition turns out to be able to rule out more possible worlds than the parallel proposition.

## 5. Conclusion

In this paper, we mainly explore the theoretical possibility of deriving the meanings of a *lian...dou* sentence compositionally from the meanings of *lian*, *dou*, and what is asserted. This treatment obviously has an advantage over taking it as a construction from the acquisition point of view. The syntactic and semantic behavior of *lian* and *dou* seem to favor this compositional treatment. We have also studied the semantics of *ye* and *lian...ye*, a near-synonym of *lian...dou*, and discerned the shades of meaning difference between these two. It lends further support to our arguments. The semantics and pragmatics of *lian*, *dou*, and *ye* are formalized in context change semantics.

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## Locative Inversion<sup>1</sup> and Aspect Markers *le* and *zhe* in Mandarin Chinese

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Abstract: Bresnan (1994), based on data in English and Chicheŵa, proposes that the discourse function of locative inversion construction (LIC) is presentational focus, in which the referent of the NP 'is introduced or reintroduced on the (part of the) scene referred to by the preposed locative'. Pan (1996) suggests that the discourse function of LIC in Chinese is the same. In this paper, I investigate two different aspect markers *zhe* and *le* in LIC and argue that the different aspect markers occurring in LIC affect the discourse functions of the structure in Chinese. Only with the durative resultative marker *zhe* does the structure express presentational focus. When the perfective aspect marker *le* appears, however, its function is to comment on the scene referred to by the locative (Du, 1999). Evidence for this claim is provided by demonstrating the contrast between LIC with the two different aspect markers. In so doing, I also support the claim that the two aspect markers are fundamentally different, which is against the proposal by Sybesma (1997) where they are both categorized as resultative.

### 1. Introduction

Locative inversion construction (LIC) refers to the structure shown in (1b), where a locative expression precedes the predicate and an existential NP follows it.

- (1) a. A picture was hung on the wall.  
b. On the wall was hung a picture. (Loc+V+NP)

(1b) contrasts with the canonical word order illustrated in (1a), in which the locative expression is in the post-verbal position.

Two of the main issues that previous research on locative inversion has been concerned with are: a) the characteristics of the verbs appearing in LIC; and b) the discourse function of LIC. Regarding the verbs in this structure, even though it is clear that they are not restricted to unaccusative verbs only (Levin, et al, 1995), they do have to

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<sup>1</sup> Locative inversion is used to refer to sentences with a surface Loc+V+NP order in this paper, and it does not necessarily imply that inversion was involved during the derivation.



conform to the following argument structure shown in (2), as proposed by Bresnan (1994):

(2) verb < th loc>  
 |  
 S

(2) demonstrates that ‘Locative Inversion can occur just in case the subject can be interpreted as the argument of which the location, change of location, or direction expressed by the locative argument is predicated---a THEME’. In example (3) below for instance, through the action of sleeping the initial locative serves to locate the inverted NP <a little girl>, and only in such cases can locative inversion occur.

(3) On the bed slept a little girl.

According to Bresnan (1994), locative inversion has a discourse function of presentational focus, in which the referent of the inverted subject is ‘introduced or reintroduced on the (part of the) scene referred to by the preposed locative’. In other words, postverbal NP bears the focus. In example (3), the postverbal NP <a little girl> is introduced on the scene. Therefore, <a little girl> should represent relatively new information compared to the locative (Levin et al, 1995).

Though Chinese locative inversion structure shares some similarities with English, it also displays its own characteristics. First of all, not all the verbs in Chinese locative inversion match the argument structure proposed by Bresnan (1994). Secondly, the aspect markers *le* and *zhe* play an important role in the structure. This paper will first show that some agentive verbs such as *xie* ‘write’ or *yin* ‘print’, etc. can undergo locative inversion as long as they co-occur with the aspect markers *le* or *zhe*. The apparent interchangeability of the two aspect markers in this case seems to support Sybesma’s (1999) proposal that the two are both resultative markers. However, one crucial difference between the two aspect markers is that the agent can appear with *le* in LIC, but cannot appear at all with *zhe*, as pointed out by Pan (1996). Pan (1996) proposes that *zhe* has the function of deleting the agent roles of such verbs because of its stative interpretation. If Sybesma’s proposal that *le* can also stativize is adopted, then it is not clear why *le* cannot delete the agent role in this case. The paper will then explore further the differences between LIC with *le* and LIC with *zhe*, and propose that the different aspect markers occurring in LIC affect its discourse functions: whereas LIC with *zhe* serves as presentational focus, just as the English locative inversion structure does, LIC with *le* serves the function of commenting on the locative. Evidence for this claim comes from the fact that the postverbal NP can be omitted in LIC with *le*, but usually not in LIC with *zhe*. Such differences are derived from the different aspectual meanings between *le* and *zhe*. Following Smith

(1991), I propose that *le* presents a closed event, whereas *zhe* is a resultative stative marker.

The paper is organized as follows: after presenting the basic data and previous analysis in section two, section three explores the differences between LIC with *le* and LIC with *zhe*. It shows that there are two major differences: one is whether to allow the agent to appear optionally, as pointed out by Pan (1996); and the other is whether to allow the postverbal NP to be omitted. The differences between the two lead to the conclusion that the two structures serve different discourse functions, which is discussed in section four. Section five concludes that the differences between the two structures are due to their different aspectual meanings.

## 2. Previous analysis on Chinese agentive verbs in LIC

In Chinese, apart from some verbs such as *lai* ‘come’ and *zhan* ‘stand’ which are often associated with the locative inversion structure, some transitive verbs such as *xie* ‘write’, *fang* ‘put’, or *yin* ‘print’ etc. can also occur in LIC, even though they typically assign an agent role to an argument, as pointed out by Pan (1996). This is exemplified in (4) and (5):

(4) verb < ag th loc >

(5) zhi shang (\*bei) xie zhe yi ge zi  
 paper on PASS write DUR one CLS character  
 ‘On the paper was written a character.’

(4) shows that the argument structure of such verbs does not match what Bresnan (1994) has proposed due to the presence of an agent role. As (5) demonstrates, these verbs can nonetheless occur in LIC in Chinese. In addition, if the verb is changed to a passivized form by adding the passive marker *bei* ‘by’, the sentence becomes unacceptable. This proves that the verb did not lose its agent role through passivization, unlike its English equivalent.

To account for such data, Pan (1996) proposed that verbs in this case have undergone a morphological operation: the aspect marker *zhe* deletes their agent roles and the verbs are therefore compatible with the argument structure shown in (2). Such an operation is shown in (6):

(6): *Zhe* operation: <agent, theme, location> → <theme, location>

The reason that *zhe* has this function, according to Pan (1996), is because of its ‘semantic property’---‘*zhe* presents a state’, and ‘since a verb without agent is more stative than one with it, deleting the agent role is one way to satisfy the semantic property of *zhe*.’ He argues further that examples like (5) in Chinese serve the same discourse

function as English LIC as proposed by Bresnan (1994): to (re)introduce the referent of the NP into the scene, the NP being the presentational focus.

However, what makes the Chinese LIC picture more complicated is that *zhe* is not the only aspect marker that enables such verbs to appear in LIC. As the following example shows, the aspect marker *le* seems to be interchangeable with *zhe*. Without at least one of these two aspect markers, the sentence becomes unacceptable:

- (7) zhi shang xie \*(le/zhe) yi ge zi  
 paper on write LE/ZHE one CLS character  
 ‘On the paper was written a character.’

Sybesma (1997) proposed that both *le* and *zhe* are resultative, and they have a similar effect, which is to ‘stativize the event’ and to ‘halt the action and indicate that the resulting state remains’. Support for this proposal comes partly from examples such as (7) in which the two aspect markers appear to be equally acceptable. If *le* is stative, just as *zhe* is, then we would expect *le* to be able to delete the agent role the same way that *zhe* does, since being stative is the requirement for such a morphological operation in Pan’s (1996) analysis. In this way, we seem to be able to account for examples such as (7). However, as this paper will show, *le* and *zhe* actually perform different functions in LIC. This will further prove that *le* and *zhe* denote different aspectual meanings.

### 3. Different effects of *le* and *zhe* on Chinese LIC

Even though *le* and *zhe* are interchangeable in examples such as (7), closer examination reveals that in two aspects they are actually very different in LIC as regards: a) whether the agent can appear; b) whether the postverbal NP can be omitted. This section will present these differences in detail, which will lead to the conclusion that the two structures serve different discourse functions as discussed in section 4.

#### 3.1. Deletion of the agent role

Pan (1996) noted that a crucial difference between the two aspect markers is that *zhe* does not allow an agent to co-occur in LIC, whereas *le* does. For example,

- (8) a. zhi shang Zhangsan xie le yi ge zi  
 paper on Zhangsan write LE one CLS character  
 ‘On the paper Zhangsan wrote a character.’

- b. zhi shang (\*Zhangsan) xie zhe yi ge zi

In (8a), the aspect marker *le* co-occurs with the agent <Zhangsan>, whereas in (8b) the aspect marker *zhe* cannot.

In addition, the passive marker *bei* ‘by’ in Chinese can also appear with the agent when *le* is used, while this is not allowed with *zhe*:

- (9)a. zhi shang bei Zhangsan xie **le** yi ge zi  
 paper on by Zhangsan write LE one CLS character  
 Lit: 'On the paper was written a character by Zhangsan.'
- b. \*zhi shang bei Zhangsan xie **zhe** yi ge zi

The contrast between (8a), (8b) and (9a), (9b) proved to Pan that transitive verbs appearing in Chinese LIC must have undergone a specific agent deletion rule triggered only by *zhe*. He noted briefly that in terms of LIC with *le*, it is the result of argument dropping when the agent is not present.

Such contrasts between (8a), (8b) and (9a), (9b) are unexpected following Sybesma's (1997) proposal that *le* can 'stativize an event' and Pan's (1996) proposal that the stative aspect marker deletes the agent role. There are two possible approaches to solve this problem: we either reject the proposal that *le* is stative to explain why the agent role can appear optionally; or allow that *zhe* can delete the agent role due to some reason other than being stative. As we will show in the following sections, more contrasts between LIC with *le* and LIC with *zhe* prove that *le* is not stative in the same way as *zhe*.

### 3.2. Omission of the postverbal NP

In addition to the difference between LIC with *le* and LIC with *zhe* regarding whether to allow agent roles to appear with verbs such as *xie* 'write', a previously unnoticed difference is whether to allow the postverbal NP to be omitted. In LIC with *le*, the postverbal NP does not have to appear when it can be recovered from discourse; whereas in LIC with *zhe*, the postverbal NP has to be present. This is demonstrated in example (10):

- (10) a. zhe zhang zhi shang (yijing) xie **le** (zi), ni xie na zhang ba.  
 this CLS paper on already write LE character, you write that CLS particle  
 'This piece of paper is already written on. You write on the other one.'
- b. zhe zhang zhi shang xie **zhe** \*(zi), ni xie na zhang ba.

In (10a) where *le* occurs, the postverbal NP can be left out, leaving a surface Loc+V+*le* structure, and the sentence is still acceptable. On the other hand, in (10b) where *zhe* occurs, the sentence becomes unacceptable when the postverbal NP does not appear.

It may be observed that a surface Loc+V+*zhe* structure can occur in the following environment:

- (11) a. Ni zenme zhidao zhe ge xiaoxi de?  
 You how know this CLS news particle  
 How did you know about this news?

b. Baozhi shang xie zhe \*(ne)

Newspaper on write *zhe* particle

Lit: 'On the newspaper was written' (It is written in the newspaper.)

To serve as an answer to (11a), (11b) could omit *zhege xiaoxi* 'this news', leaving a surface Loc+V+*zhe* order. However, I propose that *zhege xiaoxi* was actually left out of the sentence initial position rather than the postverbal position, and it is not a locative inversion structure to begin with. This is because sentences such as (11b) can only appear as answers to questions or comments on the information denoted by the NP such as *zhege xiaoxi*, and the sentence final particle *ne* has to be present. *Ne* used in this situation is a 'response to expectation' (Li and Thompson, 1989); that is, it serves the function of noting the sentence as a response to the hearer's claim or belief and 'has the effect of calling on the hearer to pay particular attention to the information conveyed by the sentence' (ibid). Take (11b) for example. It is used as a response to the hearer's inquiry about the news, and the speaker is telling the listener to pay particular attention to the information that the news was written in the newspaper. As a result, sentences with *ne* are never used to initiate a conversation. In the case of a surface Loc+V+*zhe* order such as (11b), the NP cannot denote new, indefinite information but only old, definite information since it has to be what the conversation is about. Therefore, it functions as the topic of the conversation and a topic usually occupies the sentence initial position. That is to say, sentences such as (11b) are not derived from a locative inversion structure. They are in fact derived through topic-dropping.

LIC with *le*, on the other hand, does not have this restriction. It does not have to serve as a response. For example:

(12) a. baozhi shang xie **le**, suoyi wo zhidao.

newspaper on write *le*, so I know

Lit: 'On the newspaper writes (it), that is why I know.'

b. \*baozhi shang xie **zhe**, suoyi wo zhidao.

Even when it serves as a response, it cannot co-occur with *ne*. This is shown in (13):

(13) a. Ni zenme zhidao zhe ge xiaoxi de?

You how know this CLS news particle

How did you know about this news?

b. Baozhi shang xie *le* (\*ne)

Newspaper on write *le* particle

Lit: 'On the newspaper was written' (It is written in the newspaper.)

Example (13b) demonstrates that Loc+V+*le* cannot co-occur with *ne*.

The above examples prove that Loc+V+*zhe* can only leave out the NP when the sentence final particle *ne* is present. The NP represents information already known and serves as a topic. This contrasts with Loc+V+*le*, which can omit the postverbal NP even when we do not know what the NP refers to specifically. In (10a) above, for instance, the speaker does not have to point out which characters were written on the paper. Indicating that there were already some characters on the piece of paper is enough. It can serve to initiate a conversation, unlike (11b). Therefore, LIC with *le* and LIC with *zhe* are different regarding whether to allow the postverbal NP to be omitted. This leads to the discussion in the next section that the two structures have different discourse functions.

#### 4. Discourse functions

Pan (1996) proposes that Chinese LIC with *zhe* has the same discourse function as English, which is to (re)introduce the postverbal NP into the scene referred to by the locative. I further propose that LIC with *zhe* and LIC with *le* in fact serve different discourse functions: whereas the postverbal NP in LIC with *zhe* is the presentational focus; the structure of LIC with *le* is to comment on the initial locative (Du, 1999)<sup>2</sup>.

Evidence to support this comes from the data presented in the section above. We have seen that post-verbal NP can be omitted in LIC with *le*, as in (10a). This suggests that the post-verbal NP cannot be presentational focus, since it does not even have to appear. Thus the discourse function of the sentence cannot be to introduce such a non-required NP onto the scene. Instead, the sentence is used to comment on the initial locative. Take (10a) for example: the sentence makes the comment that the piece of paper is already written on and suggests the listener use another piece of paper. It is not important what is written on it though.

Such a difference in discourse function also explains why agent roles can appear in LIC with *le* but not in LIC with *zhe*. LIC with *zhe*, just as the locative inversion structure in English proposed by Bresnan (1994), serves to introduce or reintroduce the postverbal NP on the scene referred to by the locative. Such a discourse function imposes a <theme, location> argument structure on the verb, with the postverbal NP being the theme. Therefore, *zhe* has to delete the agent role of the verbs such as *xie* 'write' for it to conform to such an argument structure. On the other hand, LIC with *le* does not serve the same discourse function and the verbs do not, therefore, have to conform to such an argument structure. An agent can thus appear, as shown in (8a) and (9a) above.

To summarize, we have shown that in locative inversion structure with the special agentive verbs such as *xie* 'write', even though aspect markers *le* and *zhe* seem to be interchangeable, they also demonstrate crucial differences. In addition to the difference of obligatorily deleting the agent role, they also differ in terms of whether to allow the

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<sup>2</sup> We may argue that LIC with *le* in Chinese does not involve any inversion at all: the initial locative, which is a NP configuration (Li, 1990), is the sentence topic. Such a conclusion, however, may require further research on the other types of verbs such as *lai* 'come' or *zhan* 'stand' that co-occur with *le* in locative inversion.

postverbal NP to be omitted. The contrast between the two leads to the conclusion that the two structures do not serve the same discourse functions. Whereas the LIC with *zhe* serves to introduce the postverbal NP into the scene, the LIC with *le* serves to comment on the locative. More specifically, it is to show how the action expressed by the verb affects the locative. These differences cannot be explained if Sybesma's proposal is adopted, which states that both *le* and *zhe* are resultative and have the function to stativize<sup>3</sup>. Following Smith (1991), I will now argue that *zhe* is a resultative stative marker, whereas *le* is a perfective marker denoting a closed event.

### 5. The semantics of *le* and *zhe*

Section 4 has shown that LIC with *le* and LIC with *zhe* perform different discourse functions. Whereas with *zhe* the structure focuses on the result which is to introduce the postverbal NP on the scene, with *le* the structure serves to comment on the initial locative. For example,

- (14)a. zhi shang xie **zhe** yi ge zi  
 paper on write ZHE one CLS character
- b. zhi shang xie **le** yi ge zi  
 paper on write LE one CLS character  
 'On the paper was written a character.'

(14a) emphasizes that through the action of *xie* 'write', the character is on the paper and such a result is maintained. On the other hand, (14b) does not emphasize such a result at all. It simply comments that this piece of paper is already written on. That is to say, it does not include the span of time after the action was performed.

Such a contrast between (14a) and (14b) is derived from the different aspectual meanings between *le* and *zhe*. Whereas *zhe* can denote that a result after an action is stativized and maintained; *le* can only focus on as far as the ending point of the action. This is compatible with Smith's (1991) analysis of *le* and *zhe*. Smith (1991) classifies *le* and *zhe* as being perfective and imperfective markers respectively. As aspectual markers, they denote different perspectives a speaker takes on a situation. Being a perfective marker, *le* focuses on the span between the initial and final endpoints of the situation, including the two endpoints. The schema for *le* given by Smith (1991) is shown below:

- (15) Temporal schema for the *-le* perfective
- |                    |                 |
|--------------------|-----------------|
| <i>I</i> (initial) | <i>F</i> (inal) |
| /                  | /               |

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<sup>3</sup> Sybesma states that the only difference between *le* and *zhe* is that *zhe* signals success, whereas *le* signals delimitation. While I agree with him that *le* can signal delimitation, I disagree that *le* is resultative or stative.

*Le* presents a situation that spans the initial and final endpoints. It does not take account of the stage after the final endpoint. That is to say, *le* represents a closed situation. Therefore, LIC with *le* does not extend to the period after the action is completed, which is to introduce the postverbal NP on the scene.

*Zhe*, on the other hand, expresses an imperfective viewpoint without regard to endpoints. Instead, it could focus on any internal or resultative stage. The schema for *zhe* is demonstrated in (16):

(16) The *-zhe* viewpoint

I.....  
 /// State

- a. *Zhe* presents a moment or interval of a situation S that neither its initial nor final endpoints; and that does not precede the initial point.
- b. Intervals focused by *zhe* have the [+State] property.

In sum, the basic meaning of *zhe*, according to Smith (1991), is resultative stative. In LIC with *zhe*, *zhe* focuses on the stage after the action of the verb is performed. In example (14a), it focuses on the period after the result of the action of *xie* 'write', which is the character being on the paper and stays on it.

To summarize, this paper investigates the differences between the locative inversion structures with special agentive verbs appearing with two aspect markers: *le* and *zhe*. It shows that in addition to differing whether they allow the agent to appear, they also differ regarding omitting the postverbal NP. These differences lead to the conclusion that the two serve different discourse functions, which suggests further that *le* and *zhe* denote different aspectual meanings, as Smith (1991) has categorized.

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## The Negative Auxiliary in Chinese Imperatives

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The negative auxiliary in Chinese imperatives is a much more important and complex area of linguistic study than might be indicated by the seeming simplicity of its surface grammatical formation, due to the variation in its meaning affects its usage in different contexts. This paper attempts an explanation of the variation in meanings and uses of the negative auxiliary, and the co-occurrence of the polite imperative marker 请 in the context of Chinese imperatives. The survey data were mainly derived from a medium-length novel and a record of spontaneous speech. The analysis has strong implications for teaching foreign language learners of Chinese how to use negative auxiliaries correctly in Chinese imperatives.

### 0. Introduction

The negative auxiliary in Chinese imperatives is a much more important and complex area of linguistic study than might be indicated by the seeming simplicity of its surface grammatical formation, due to the variation in its meaning when it is used in different contexts. These discrepancies often cause non-native speakers of Chinese to misunderstand and improperly handle the negation of Chinese imperatives. Unfortunately, very little research seems to have been done in this particular area of Chinese linguistics.

This study attempts an explanation of the variation in meanings and uses of the negative, and the co-occurrence of the polite imperative marker 请 'please' with the negative auxiliary in the context of Chinese imperatives. The polite imperative marker 请 can co-occur with 不必 'not need' and 不用 'not use' in negative imperatives.

The findings of the present study are based on the survey responses of 20 native speakers of Mandarin Chinese. All of the informants had at least an undergraduate college degree, and ranged in age from twenty-five to fifty. The questionnaire for the survey contained 68 sample negative imperatives in a multiple choice format. The samples were mainly derived from a medium-length novel 夜与昼 'Days and Nights' (He 1986) and a record of spontaneous speech. The analysis offered by this study is very useful for teaching Chinese language learners how to use negative imperatives.

### 1. The use of 别 'not' and 不要 'not want'

The meaning of both negative auxiliaries 别 'not' and 不要 'not want' is similar since 要 in 不要 has lost its original meaning when used as auxiliaries. This can be seen in 1.

(1) a. 别 管 我, 救 火 要 紧。  
*not bother me save fire important*

不要 管 我, 救 火 要 紧。  
*not bother me save fire important*  
'Don't bother about me! Put out the fire first.'

In these sentences, both 别 and 不要 are correct, but 不要 is not as casual as 别. People tend to use 别 when they know each other well, such as family members, good friends and peers. The context in 2 is that of a father wanting to smoke one more cigarette for the day. His daughter pretends to hide the cigarette package because his doctor has forbidden him to smoke. The father asks his son to lend him a cigarette (jokingly). His daughter tries to stop her brother from giving a cigarette to her father (He 1986:73).

(2) 哥, 你 别 借 给 他。  
*Older Brother you not lend him*  
'Older brother, don't lend him that.'

Here one part of the humor is that of course one cannot lend a cigarette to someone, just as one cannot lend food: it is consumed, therefore not returnable. However, people tend to use 不要 in sentences such as the following:

(3) 你们 不要 考虑 礼貌 不 礼貌。  
*you not think politeness not politeness*  
'Don't think about politeness or impoliteness.'

(4) 你 不要 再 来 纠缠 我 了。  
*you not again come entangle me (PERF<sup>1</sup>)*  
'Don't get me entangled again.'

(5) 阿姨, ... 不要 这么 急 嘛。  
*Aunt not this anxious (PERF)*  
'Aunt, ...don't be anxious like this.'

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<sup>1</sup> PERF is the abbreviation for "perfective marker".

In 3 (He 1986:48), an old man of high social status is talking to his son's classmates. Here 不要 implies that the old man does not know this group of young people well. In 4(He 1986:246), two lovers break up. The man does not want to be involved with his ex-lover. Therefore his use of 不要 implies the emotional distance between the two, in addition to the man's intonation. In 5 (He 1986:290), the conversation is between a young girl and a maid, in an apartment where the girl comes to visit her father's friend. The girl's use of 不要 implies her ritual politeness to the maid because the maid is a stranger.

## 2. The use of 不要 'not' and 不必 'not need'

To the native speaker, 不要 means only 'not to do something' since its literal meaning of 要 'want' is lost. However, the meaning of 必 'need' in 不必 'not need' still remains in this negative auxiliary. This can be seen from the meaning that 不必 conveys in 6 and 7.

- (6) a. 不要 再 说谎.  
*not again lie*  
 'Don't lie again.'
- b. 不必 再 说谎.  
*not need again lie*  
 'You don't need to lie again.'

For all intents and purposes, 不要 in 6a simply means 'not'. The speaker tells the listener to stop lying. The imperative is simply a request. However, 不必 in 6b means 'not have to'. The difference is that the imperative in 6b indicates that the listener lied before, to cheat the speaker. Now the speaker knows the truth. It is unnecessary for the listener to lie any more. This can also be seen in 7.

- (7) a. 不要 来 我们 家.  
*not come our home*  
 'Don't come to our home.'
- b. 不必 来 我们 家.  
*not need come our home*  
 'You needn't come to our home.'

不要 in 7a means only that the speaker forbids the listener to come to her home. But 不必 'not need' in 7b implies that the speaker has spoken to the listener about coming to her home before. They probably even made an appointment. Now something has happened. The listener needn't come to the speaker's home. Perhaps the speaker has cancelled the

plan, or she will meet the listener somewhere else. The following are contrasting examples.

- (8) a. 不要 解释. 我 理解.  
*not explain I understand*  
 'Don't explain. I understand.'
- b. 不必 解释. 我 理解.  
*not need explain I understand*  
 'You don't need to explain. I understand.'

In 8a the wife tries to explain why she is returning late. The husband tries to stop her. 不要 shows the husband trying to persuade his wife not to say any more about the matter. In 8b the husband tries to explain what he has done. His wife stops him: 不必 indicates that there is no need for him to talk about the matter any more, because the wife is clear about it. 不必 here also implies the wife's dissatisfaction with her husband. However, these examples still sound like natural sentences to native speakers of Chinese. But the example in 9 sounds odd, with 不要 replacing 不必.

- (9) 不要 再 抽 烟 了.  
*not again smoke cigarette (PERF)*  
 'Don't smoke any more.'

In 9 a young lady persuades her father not to smoke too much because the doctor does not allow it. In 9 no native speaker of Chinese would accept the sentence if 不要 is replaced with 不必 because it sounds unnatural and strange. If 不必 is used, the implication is that the father has been smoking for some purpose. Now the smoking task is over. He does not have to smoke anymore. It is only in a sarcastic tone that the sentence would make sense. But Chinese culture dictates that a daughter would not speak like that to her father. That is why this sentence is not acceptable to native speakers in normal conversation. Therefore, the examples in 7, 8, and 9 show clearly that 不要 and 不必 are not interchangeable negative auxiliaries in Chinese imperatives.

### 3. The use of 不必 'not need' and 不用 'not use'

The meaning of 用 'use' in 不用 'not use' is lost when 不用 is used as a negative auxiliary. In fact, 不用 means 'not need', which is similar to the meaning of 不必, but 不必 is a much stronger negative than 不用. In addition to 'not need', 不必 also has the meaning of 'not have to' or 'mustn't,' meanings which 不用 does not have.

- (10) 不用 去 找 小丽 了.  
*not use go look for (name) (PERF)*  
 'You don't need to look for Xiao-Li.'

- (11) 不必 去 看 他.  
*not need go visit him*  
 'You don't need to go and visit him.'

In example 10, 不用 indicates that the speaker had persuaded the listener that she does not need to do something. But in 11 不必 has two possible meanings: firstly, 不必 itself implies a command. The speaker leaves the listener no choice, although the English translation 'You don't need to go and visit him' doesn't indicate this on the surface. Secondly, the speaker gives the listener a hint. The listener does not have to do something that he is not willing to do.

Another difference between 不必 and 不用 is that 不必 shows that the speaker is superior to the listener, while 不用 is a neutral term, so that the speaker's choice to use it shows a gentle, polite and amiable attitude. The use of 不必 and 不用 in 12 shows this difference.

- (12) 不必 打搅 我. 你 看着 办 吧.  
*not need disturb me you look handle (PERF)*  
 'You don't need to bother me.  
 You may decide what to do.'

In 12, a secretary is asking her boss about instructions for a report format. The boss thinks that the format of the report is not important. He wants his secretary to decide the matter herself. Here 不必 implies that the boss is superior to the secretary. If 不用 were used in this situation, it would indicate that the boss was speaking to his secretary in an egalitarian fashion. In Chinese culture, this would not occur. Two examples of this contrast are given in 13 and 14.

- (13) 不必 客气.  
*not need polite*  
 'You don't need to be polite.'

- (14) 不用 客气.  
*not use polite*  
 'You don't need to be polite.'

Both 13 and 14 illustrate the context of a host trying to make his guests feel comfortable. When 不必 is used, it implies a certain distance between the host and the guests. The host sounds formal and superior to the guests, though he doesn't have to be in the higher social position. But when the host uses 不用 'not use', he sounds amiable and casual. Then the host makes him equal to the guests, though he may in actuality be a member of a much higher ranked social group or level of society.

#### 4. The use of 不许 'not allow'

The original meaning of 许 'allow' is lost when 不许 'not allow' is used as an auxiliary. 不许 only denotes a very strong 'not' in a negative imperative. It carries a strong sense of a command that leaves no option for the listener to disobey. Usually the speaker is in the superior position when 不许 is used. Consider 15 and 16.

- (15) 不许 哭.  
*not allow cry*  
'Don't cry.'
- (16) 不许 大声 说话.  
*not allow aloud talk*  
'Don't talk aloud.'
- (17) 爸爸, 不许 说话.  
*Dad not allow talk*  
'Dad, don't talk.'

In 15 a mother is speaking to her little child. In 16 a teacher is talking to a boy in her class in a primary school. Both of these imperatives constitute very strong orders from people in superior positions. In 17 a child is speaking to his father. However, culturally this sounds rude and odd in a child's speech. The proper negative would be 不要.

#### 5. The use of 甬 'not' and '勿'

In addition to the above mentioned negative auxiliaries, there are two other commonly used negative auxiliaries in Chinese imperatives. One is 甬 'not', which is the request form resulting from the fusion of 不 'not' and 用 'use', as in 18.

- (18) 甬 提 了.  
*not mention (PERF)*  
'Don't mention it.'

Originally 甬 belonged only to northern dialects of Mandarin Chinese, typically in Beijing. But more and more native Chinese speakers have come to accept it and use it in their speech. For instance, my informants from Sichuan, Xian all use it.

勿 'not' is another negative, this time a residue of Classical Chinese still lingering in modern Chinese. Usually 勿 is used exclusively in written Chinese.

- (19) 勿 踩 花 草.  
*not tread flower grass*  
 'Don't walk on the flowers and the grass.'
- (20) 我 一 切 都 好. 请 勿 念.  
*I everything all good please not worry*  
 'Everything is fine with me. Please don't worry.'

Example 19 is commonly seen on park signs. Example 20 is often used at the end of a letter. In both examples, 勿 is used in a frozen written language frame, to meet the needs of the succinct and formal style called for in a particular situation.

### 6. The position of 请 'please'

请 is a polite imperative markers used to soften a command given in Mandarin Chinese. It can occur in initial position or after the subject 你 'you' in a positive imperative sentence. Consider 21 and 22.

- (21) 请 (你) 喝 杯 茶.  
*please (you) drink cup cha*  
 'Please have a cup of tea.'
- (22) 你 请 喝 杯 茶.  
*you please drink cup cha*  
 'Please have a cup of tea.'

The negative imperative 请 can only occur in initial position, as in 23. It cannot be used after the subject 你 'you' in an imperative such as 24.

- (23) 请 (你) 别 去 了.  
*please (you) not go (PERF)<sup>2</sup>*  
 'Please don't go.'

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<sup>2</sup> The examples without citations are from the data of spontaneous speech.



- (24) \*你 请 不要 去 了.  
*you please not go (PERF)*  
 \*'You please do not go.'

### 7.请 co-occurring with 不必 and 不用

In checking with authoritative sources, Li and Thompson (1981:456) claim that “only 别, but not 不用 or 不必 may co-occur with the polite imperative marker 请.” However, all the informants in the survey agreed that 请 can co-occur in some cases with 不必 and 不用. One example is in 25.

- (25) 请 你 不必 着急.  
*please you not need anxious*  
 ‘Don't be anxious, please.’

Although Li and Thompson (1981:457) claim that the example in 25 is unacceptable, all the informants in this study accepted it. In this example the speaker is politely trying to persuade the listener not to worry about somebody or something. Another example is 26.

- (26) 请 不用 客气. 随便 吃.  
*please not need polite casually eat*  
 ‘Please make yourself at home. Help yourself.’

The context of 26 is that of a hostess entertaining her friends. The hostess uses 请 with 不用 to be polite to her friends. Two more examples are in 27 and 28.

- (27) 请 不必 为 我 担心.  
*please not need for me worry*  
 ‘Please don't worry about me.’

- (28) 请 不必 惊慌.  
*please not need panic*  
 ‘Please don't panic.’

In 27, 请 softens the command by beginning with 不必. In fact, the speaker is trying to persuade the listener not to worry about her. When 请 is used in 28, a certain degree of politeness is implied in the command. It shows that the speaker is trying to calm and comfort the listener in a gentle way.

Through further investigation of the 请 + 不必/不用 structure with the informants in individual interviews, the data shows that in addition to the politeness factor, two kinds

of conversational contexts cause informants to use 请+不必/不用 in imperatives, as in 29 and 30.

- (29) 请 不必 啰嗦.  
*please not need long-winded*  
 'Please don't talk any more.'
- (30) 请 不用 再 操心 了.  
*please not need again worry (PERF)*  
 'Please don't worry about me.'

The context of 29 is that of a person who keeps on talking although the other person is not interested. The speaker tries to stop her. Here 请 does not show the speaker's politeness, but together with 不必 shows that the speaker is tired of listening to her. In 30 a husband is telling his wife to take care of this and that. The wife tells the husband that it is not his business to worry about those things. In this example 请 does not signify politeness. On the contrary, it implies a satire of the former utterance.

#### 8. 请 'please' and 不许 'not allow'

请 does not co-occur with 不许 because 不许 is such a strong auxiliary that it allows for no sense of politeness. In 31 请 is not appropriate:

- (31) 请 不许 撒谎.  
*please not allow lie*  
 'Please don't lie.'

In the survey 请 'please' was placed in the initial positions of all the imperative sentences beginning with 不许, but none of the informants approved of the changes.

#### 9. Conclusion

This study discusses the variation in meanings and uses of the negative auxiliaries and their co-occurrence with the polite imperative marker 请 'please' in Chinese negative imperatives. The results show that 别 and 不要 are the two most common negative auxiliaries, which carry the meanings of persuade someone not to do something. They are for the most part synonymous, though 不要 implies a social distance between the speaker and the listener. 不必 means there is 'no need' to do something. So 不要 and 不必 are not interchangeable in meaning. For one thing, 不用 means 'need not,' which is similar to 不必 in meaning. However, it is different from 不必 because it lacks the meaning 'not have to', which 不必 has. In addition, 不用 expresses a speaker's polite and amiable

attitude, while 不必 implies the speaker's superior attitude to the listener. The use of 不许 implies that the speaker is in a superior social position or situation. It is a very strong command that the listener cannot disobey. On the other hand, 甬 is a negative auxiliary originally from northern dialects. Now more and more speakers use it in spoken Mandarin Chinese. Lastly, 勿 is a negative auxiliary from classical Chinese, which is only used, in formal writing. 请 is one of the polite imperative markers of Mandarin Chinese. It is only placed in the initial position of a negative imperative sentence. 请 not only co-occurs with 别 and 不要, but also with 不必 and 不用 in negative imperatives. In particular contexts in imperatives beginning with 不必 or 不用, 请 expresses sarcasm or impatience rather than politeness. That is to say, the literal meaning of 请 and the actual meaning the speaker wants to convey in the imperative are in contrast. 请 cannot co-occur with 不许 in negative imperatives because it is such a strong command that it cannot convey politeness.

The implications of this study are such that, in teaching Chinese to nonnative speakers, it is very important for instructors to teach the meaning of a negative auxiliary as a whole so that learners will not misunderstand the characters, whose original literal meanings have been lost. In addition, instructors should inform students that the choice of negative auxiliaries depends on language contexts, not on the grammatical structure. Furthermore, 请 can usually co-occur with 不必 and 不用, but sometimes it cannot because of the speaker's attitude and intonation in a given context.

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## Structural Persistence in Mandarin Chinese Preschoolers

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The phenomenon of structural persistence has been intensively investigated in speakers of English and in speakers of other Germanic languages. However, few studies have been reported on Chinese, especially on preschooler population. In addition, the SVO-*ba* alternation and dative alternation have not been discussed in terms of this perspective. The purpose of this study is to investigate whether Chinese 4- and 5-year-olds can also exhibit this effect in the production-to-production and comprehension-to-production conditions, and whether it is a transient short-term memory effect or an implicit memory/learning effect. 96 preschoolers were tested individually by using the animation depiction paradigm. The results indicated that they also exhibited structural persistence in both conditions. This effect was much stronger in the production-to-production condition, suggesting that Chinese preschoolers' structural persistence was more associated with the cognitive procedures of production. In addition, structural persistence involved a learning process. Structural persistence could be obtained despite the distance across language families.

### 0. Introduction.

Studies regarding syntactic priming have been conducted intensively over the past twenty years (Bock, 1986). Syntactic priming or structural persistence refers to the phenomenon such that when a speaker comprehends or repeats a sentence, s/he tends to utilize the structure just encountered for the subsequent speech production. For example, a speaker may hear and/or produce a ditransitive sentence such as 'John gave Mary a book' and then sees a picture involving a scene where a bird is sending a letter to a lion. S/he will tend to reproduce the structure just produced to describe this scene as 'A bird is sending the lion a letter' more often than 'A bird is sending a letter to the lion'. If this occurs, the person is syntactically primed. The terms 'structural persistence' or 'syntactic priming' will be used alternatively for subsequent discussion. This phenomenon has been extensively investigated in Germanic languages such as English, Dutch and German. Also, it has been found that structural persistence can occur in a variety of conditions, populations, structures and techniques. Findings from these conditions have demonstrated the multifaceted aspects of syntactic priming. Whenever a different population, different language or different structure is utilized to study syntactic priming, one can uncover different facets of syntactic priming.

However, no studies of syntactic priming in Chinese have been reported or systematically studied. *Ba*-construction has been considered the center of Chinese grammar. The property that it can alternate with the SVO structure in the bounded event can be one of the representative structures in Mandarin Chinese to study the syntactic priming as in (1).

- (1) a. Zhangsan ba Lisi tuidaole. (ba-construction)  
       Zhangsan Ba Lisi push-down Asp  
       b. Zhangsan tuidaole Lisi. (SVO structure)  
       Zhangsan push-down Lisi  
       Zhangsan pushed-down Lisi.

In addition to this alternation, the Chinese dative alternation, the prepositional dative vs. double object dative, which are parallel to the English counterpart as in (2), will be also employed to investigate a similar issue.

- (2) a. Zhangsan songle yiben shu gei Lisi.  
       Zhangsan gave CL-a book to Lisi  
       Zhangsan gave a book to Lisi.  
       b. Zhangsan songgeile Lisi yiben shu.  
       Zhangsan gave-to Lisi CL-a book  
       Zhangsan gave Lisi a book.

The addition of this alternation serves as a replication and comparison for the extensively studied English and Dutch dative alternations. How this effect will be realized and its magnitude is will shed light on the existing syntactic priming literature. Although syntactic priming in current research is defined according to how speakers tend to exhibit this phenomenon either in hearing or hearing and repeating the prime, accounts for syntactic priming are still at issue. One purpose is to investigate under which circumstances syntactic priming will robustly occur. As a result, the production-to-production condition where the speakers comprehend and repeat the prime, and the comprehension-to-production condition where the speakers simply comprehend the prime without repeating it, will be tested. Besides, the durability of the effect of syntactic priming is also of interest in this study.

### 1. Experiments for Chinese Preschoolers' Structural Persistence.

The following experiments regarding the priming effects have been conducted with the English-speaking preschoolers of ages from 4;6 to 5;8. Children selected at this age are assumed to have abstract syntactic knowledge (Snedeker & Thorthathiri, 2008), and therefore, results obtained in these studies are less likely to incur debates over whether children have abstract knowledge. Previous experiments with English speakers

have shown that children at this age also manifest syntactic priming effects (Huttenlocher, Vasilyeva, & Shimpi, 2004) in two types of alternations, the active-passive alternation and the dative alternation, in both comprehension-to-production and production-to-production experiments. In addition, several developmental psycholinguists (Savage, et al., 2003) have reported that if younger children such as 3- and 4-year-olds exhibit priming effects only if the prime and the target in the experiments were overlapped significantly, i.e., with identical lexical items, and pronouns occurring in both prime and target, while this effect was found among older children 6-year-olds without high lexical overlap between prime and target. They also reported that 4-year-olds exhibited the syntactic priming effect in the comprehension-to-production condition. Recently, Thorthathiri and Snedeker (2008a; b) reported that English-speaking 3-year-olds exhibited abstract syntactic priming without lexical overlap between prime and target. All these studies argue against the shared-representation account where syntactic priming draws on the different syntactic representations in comprehension and in production but these representations are intricately intertwined and favor the same-representation account where syntactic priming draws on the same syntactic representation in both comprehension and production. However, when scrutinizing these studies, one can see that the robustness of the abstract syntactic priming in the comprehension seems dubious. It seems inevitable to test young children in a short experimental list which includes no fillers and use the face-to-face manipulation, a confederate-scripting-like paradigm for elicitation of syntactic production.

Huttenlocher et al. (2004) arranged the same types of alternations of primes and targets in a block, i.e., active-passive in one block and prepositional dative and double object dative in the other. This arrangement might lead to an accumulation of the priming effect for the alternation. As a consequence, the priming effect is strengthened and occurs in the comprehension-to-production condition. Savage et al. (2003) reported that 4-year-olds exhibited syntactic priming in the comprehension-to-production condition with the high lexical overlap between prime and target. Lexical overlap between prime and target will lead to a lexical boost in the priming effect (Branigan et al. 2000), and Van Gompel and colleagues (2007; 2008) reported that verb repetition between target and prime plays a critical role in the priming effect for comprehension. Thorthathiri and Snedeker (2008a), using the act-out manipulation and dialogue between two participants might induce young children to activate the syntactic rules for the subsequent visual search in a visual word paradigm design. In sum, all these studies employ multiple boosts and manipulations to induce the priming effect occur in comprehension.

Furthermore, it is still unknown whether the priming effects were a transient effect or a long lasting effect for the Chinese preschoolers. The effect of syntactic priming was once considered a transient memory effect (Wheeldon & Smith, 2003), whereas Bock and Griffin (2000) found that structural persistence was an implicit learning process in adults, and Huttenlocher et al. (2004) obtained a similar effect in a preschooler population whereby the priming effect among English preschooler effect could persist over 10

trials without the experimenter's further input of the structure. Savage et al. (2006) reported that English-speaking 4-year-olds can persist in using the previously encountered structure more than 1 week if the children are primed with multiple verbs, i.e., variation in the prime types with reinforcement of the picture description within a 1-week interval. Mandarin-speaking 4- and 5-year-olds should also persist in using the prime after several lags. The priming effect will reflect the learning effects.

The first two studies below were conducted to investigate whether Mandarin-speaking 4- and 5-year-olds exhibit robust and abstract syntactic priming in the two aforementioned alternations in both production-to-production and comprehension-to-production conditions with no lexical overlap between prime and target. Previous studies in Indo-European languages have reported that adult and children speakers manifest the robust priming effects independent of lexical items in the production-to-production experiment, but there exist controversies in comprehension or in the comprehension-to-production condition. The following two experiments utilized the Chinese SVO-*ba* alternation and dative alternation to explore the first three questions below. The third experiment was conducted to investigate the durability of the priming effect.

1. Will the preschoolers at ages 4;6 to 5;8 show priming effects independent of lexical priming in these two alternations?
2. Will structural persistence occur in both from production-to-production and from comprehension-to-production conditions?
3. Will any language specific effects be obtained in the Chinese preschooler population?
4. Will the effect of syntactic priming can persist over a period of time or will it diminish quickly just as a short term memory effect?

### **1.1 Experiment 1: Chinese Preschoolers' Structural Persistence in the Production to-Production Condition.**

#### **Method.**

**Participants.** 32 preschoolers (17 boys and 15 girls) were recruited from two kindergartens from the Zhanghua community with their parents' consents and their assent. Their ages ranged from 4;4 to 5;8 with an average age of 4;11. They were all native speakers of Mandarin Chinese, but 27 of them were also Chinese-Taiwanese bilingual speakers. However, all of them were Mandarin-dominant. All the children in this experiment were very cooperative and all their data were included for analysis. None was excluded for subsequent analysis.

**Materials.** There were two sets of 16 animations for each sentence type: the SVO and *ba* transitive, and the prepositional and double object datives. One set of the animations either depicted the SVO structure or the S *ba* O V structure, while the other set of animations could be described with the prepositional datives or double object

datives. They were created in Flashplayer 9. Half of each set of the animations, or eight animations were used by the experimenter for his own descriptions and the other eight were used to let the children describe the animations the experimenter presented to them. For example, an animation with a dog moving to hug a cat could be described as *xiaogou baozhule xiao mao*, ‘little dog hugged the little cat.’ or *xiao gou ba xiaomao baozhule*, ‘little dog hugged the little cat.’ The child also saw different animations which were compatible with both structures.

The eight sets of transitive target animations involve an agent and a patient, both of which are animate. The eight dative set of target animations involve an agent, a theme, and a receiver. The agent and the patient were animate and the theme was an object that could be transferred from the agent to the receiver. For example, one animation showed a dog throwing a ball to a cat and the cat receiving the ball.

Two lists consisting of 32 animations were constructed in order to counterbalance the design. Each animation used to elicit children’s production was paired with two primes of different structures in the two lists. No consecutive set of animations involved the same alternation type. That is, what followed the set from one of the transitive structures would be one of the two dative structures but not a set for the other transitive structure.

**Procedures.** The experimenter visited the kindergarten and the teacher spared a room for the experimenter to interact with the children. The children were tested individually. When the child came to the room, the experimenter first asked the child whether s/he wanted to play an animation description game with the experimenter. If the child said yes, the whole experiment started. The experimenter told the child that s/he would describe the animations in turn, and asked the child to repeat his description before proceeding to describe his/her own animations. The experimenter asked each child the names of the characters in the animation for the first four trials to help them know how to describe the animation. For example, when the animation showed a dog is embracing a cat, the experimenter asked the child the name of characters in Chinese, such as *zhe shi shei*, ‘Who is it?’ *Na zhi yige you shi shei*, ‘this one, who is it?’ *Zhe yige dongzuo shi sheme*, ‘What is this action called?’ Then the experimenter proceeded to ask, *zhige donghua li fasheng le sheme shi*, ‘What happened in the animation?’ After the child finished describing his/her own animation, the experimenter continued describing his own in turn until the end of all the animations.

**Coding and Scoring.** Children’s descriptions of the animations were coded according to the syntactic structures they produced. A sentence would be coded as an SVO structure if it contained a subject, a verb and an object and would be coded as an S *ba* O V structure if it contained a subject, a *ba* marker, an object and a verb. A sentence would be coded as a prepositional dative if the structure contained a subject, a verb, a theme, a *gei* ‘to’ word and a recipient and as a double object if the sentence contained a



subject a verb with or without *gei* ‘to’, depending on the properties of the verb, recipient, and theme. Other sentences did not fall into these categories were coded as ‘other’.

**Results.**

Table 1 displays the raw count and the percentages for the four structures in each priming condition in the production-to-production condition. Table 1 shows the total raw number in that condition and the percentage in parentheses. The results indicate reliable priming effects across both alternations. After the preschooler repeated the prime uttered by the experimenter, they tended to reuse the repeated structure for describing the animations. They tended to use SVO structures more after they repeated an SVO structure, and incidence of SVO transitive in the SVO priming condition increased 18 percent, compared to the *ba* transitive priming condition ( $t_{31}=2.30, p<.05$ ). They also tended to use the *ba* transitive more often after producing the *ba* transitive uttered by the experimenter, and the incidence of the *ba* transitive increased 20 percent in the *ba* transitive priming condition, compared to the SVO transitive priming condition ( $t_{31}=2.71, p<.05$ ). Similarly, the preschoolers tended to reuse the prepositional dative after repeating the prepositional prime uttered by the experimenter, and the incidence of the prepositional dative increased 25 percent in the prepositional dative priming condition ( $t_{31}=3.484, p<.001$ ), compared to the double object dative priming condition. Similar results were obtained for double object dative production. The preschoolers tended to reuse the double object primes after repeating this structure used by the experimenter, and the incidence of the double object dative increased 23 percent in the double object dative priming condition ( $t_{31}=4.27, p<.001$ ), compared to the prepositional dative priming condition.

**Table 1.** Preschoolers’ Syntactic Priming Effect by Sentence Forms: Raw Numbers and Percentages of Utterances for Four Syntactic Forms Following Priming Sentences in Production-to-Production Condition.

Priming Condition	Utterance	Form	Total
	SVO transitive	BA transitive	
SVO transitive	80 (63%)	42 (33%)	122 (95%)
<i>ba</i> transitive	57 (45%)	68 (53%)	125 (98%)
Difference	23 (18%)*	26 (20%)**	
	Prepositional dative	Double object dative	
Prepositional dative	90 (70%)	33 (26%)	123 (96%)
Double object dative	58 (45%)	63 (49%)	121 (95%)
Difference	32 (25%)**	30 (23%)**	

### Discussion.

Mandarin-speaking 4- and 5-year-olds exhibited abstract syntactic priming in both Chinese syntactic alternations, the SVO-*ba* and dative alternations in production-to-production priming. Most importantly, Mandarin-speaking preschoolers were primed in the unattested transitive SVO-*ba* alternation. The positive results obtained here contributes further cross-linguistic evidence for an abstract syntactic representation among children of age 4, which allow syntactic priming (Fisher, 2002b; Huttenlocher, Vasilyeva, & Shimpi, 2004; Savage et al., 2003; Snedeker & Thorthathiri, 2008; Tomasello, 2000; 2003).

Preschoolers seem to have no preference for one of the two alternate structures for both alternations in the animation description task. They tended to produce more SVO targets in the SVO priming condition and more *ba* targets in the *ba* construction priming, and similar patterns were obtained for the dative alternation. This indicates two implications. First, the animations were appropriate materials for studying these two alternations. Children showed no priori preference for the animations displayed to them. Second, children may not be entrenched in using one structure to the extent as the adults do. They tended to use the previously produced structure more for subsequent productions. Of course, the explanation of the decreasing the on-line cognitive load is also applicable to this tendency in such a dialogue-like paradigm.

As mentioned earlier, whether children at this age exhibit abstract syntactic priming without the intervention of the potential confounds due to high lexical overlap or other manipulations in comprehension is still at issue. The following experiment is conducted to address this issue.

### 1.2 Experiment 2: Chinese Preschoolers' Structural Persistence in the Comprehension-to-Production Condition.

This experiment investigated whether the preschoolers in this experiment would manifest priming effects if they did not repeat the prime uttered by the experimenter with no lexical overlap between the prime sentences and target animations.

#### Method.

**Participants.** 32 preschoolers (16 boys and 16 girls) were recruited from two kindergartens from the Zhanghua community with their parents' consents and children's assent. Their ages range from 4;6 to 5;8 with an average age of 5;0. They were all native speakers of Mandarin Chinese, but 26 of them were also Chinese-Taiwanese bilingual speakers. Three children did not say anything in the experiment, even though they agreed to play the game: they were replaced with three other children for the experiment.

**Materials.** The materials were identical to those in Experiment 1.

**Procedures.** The procedures were almost identical to those in the Experiment 1 except one step. After the experimenter described the animation, i.e., uttering the prime, the child was not asked to repeat what the experimenter said, but directly proceeded to describing his/her own animations.

**Coding and Scoring.** The coding and the scoring were identical to those in Experiment 1.

### Results.

Table 2 displays the raw numbers and percentages for the four structures in each priming condition in the comprehension-to-production condition. The numbers denotes the total raw number in that condition, with percentages in parentheses. The results indicate that reliable priming effects only showed up in the dative alternation. After the preschoolers heard the prime uttered by the experimenter, they tended to reuse the same structure for describing the animations. The preschoolers tended to reuse the prepositional dative after hearing this structure, and the incidence of the prepositional datives increased 21 percent in the prepositional dative priming condition ( $t_{31}=2.227$ ,  $p=.033<.05$ ), compared to the double object dative priming condition. The preschoolers tended to reuse the double object dative after hearing this structure, and the incidence of the double object datives was 22 percent greater in the double object dative priming condition ( $t_{31}=2.143$ ,  $p=.04<.05$ ) than in the prepositional dative priming condition.

Although preschoolers tended to use the SVO structures more after hearing the SVO structure, and the incidence of the SVO transitives in the SVO priming condition increased 13 percent compared to the *ba* transitive priming condition, the statistics were not reliable ( $t_{31}=1.559$ ,  $p=.129>.05$ ). Again, although they also tended to use the *ba* transitive more often after hearing the *ba* transitive, and the incidence of the *ba* transitive increased 14 percent in the *ba* transitive priming condition compared to the SVO transitive priming condition, the statistics were not reliable ( $t_{31}=1.502$ ,  $p=.143>.05$ ). Again, children in this experiment did not show any preference for using one of the two alternate structures for the subsequent production.

Compared with the effects in previous study, the priming effect of both alternations seems smaller in this experiment. Furthermore, the SVO-*ba* alternation did not exhibit a reliable priming effect. Altogether, the results indicated that the effects in the comprehension-to-production are smaller or even unreliable, as opposed to those in the production-to-production condition.

**Table 2.** Preschoolers' Effect of Syntactic Priming for Sentence Forms: Percentages of Utterances for Four Syntactic Forms Following Priming Sentences in the Comprehension-to-Production Condition

Priming Condition	Utterance	Form	Total
	SVO transitive	BA transitive	
SVO transitive	74 (58%)	49 (38%)	123 (96%)
Ba transitive	58 (45%)	67 (52%)	125 (98%)
Difference	16 (13%)	18 (14%)	
	Prepositional dative	Double object dative	
	Prepositional dative	Double object dative	
Prepositional dative	87 (68%)	31 (24%)	118 (92%)
Double object dative	60 (47%)	59 (46%)	119 (93%)
Difference	27 (21%)*	28 (22%)*	

**Discussion.**

Unlike the production-to-production experiment, children did not show reliable priming effects for the transitive SVO-*ba* alternation, or showed smaller effect on the dative alternation, though they did produce more previously heard structures for the subsequent animation description. The null effect of the SVO-*ba* alternation should not be attributed to children not having abstract syntactic knowledge. Adults definitely have abstract syntactic knowledge but they do not exhibit any reliable syntactic priming effect with no lexical overlap between target and prime in the comprehension-to-production condition (see this authors' another study in Chinese-speaking adults' syntactic priming). Preschoolers at this age as well as adults may deploy syntax differently in comprehension. This might stem from transitive forms of the SVO-*ba* alternation being more entrenched in their linguistic repertoire, and from being confident and comfortable in using the structure they have in mind without reusing a previously heard structure to decrease the on-line cognitive burden or align the syntactic structure in the dialogue.

In this between subject and dialogue-like manipulation, Chinese preschoolers manifested the reliable effects of structural persistence in the dative alternation, suggesting that Chinese preschoolers were also sensitive to the function of structural persistence in dialogue, i.e., it was a form of alignment in the dialogue to smooth the conversational context for the ongoing dialogue (Ferreira & Bock, 2007; Pickering & Garrod, 2004). Due to this alignment function, structural persistence can take place without repeating the prime. The interlocutors' or respondents' reuse of a previously encountered structure lessened the on-line processing load for subsequent production in the dialogue. In addition, another reason for the preschoolers exhibiting the structural persistence effect may be because it is relatively difficult for them to retrieve a set of multiple syntactic constructions compatible with the animations for subsequent productions with their limited linguistic repertoire in such a short time.

However, the asymmetry of the transitive vs. dative alternations that have been found in the literature (Bock, 1986; Bock & Griffin, 2000; Branigan et al., 2000; Hart-suiker & Kolk, 1999) suggest that the dative alternation seems to be more sensitive to the syntactic priming than the transitive alternation in English, Dutch and now in Mandarin Chinese. The effect of syntactic priming may be construction-sensitive or due to the more restricted structural distributions of the syntactic alternations (Bock et al., 2007).

These effects are incompatible with the previous English-based studies showing preschoolers exhibit reliable and abstract syntactic priming effects in the comprehension-to-production condition (cf. Vasilyeva, & Shimpf, 2004; Savage et al., 2003). Preschoolers as well as adults deployed syntax differently in the production-to-production and comprehension-to-production conditions. They showed robust and abstract syntactic priming effects in the former condition, but the effect may not be robust in the latter condition. The results are compatible with the shared-representation account rather than the same-representation account.

### **1.3 Experiment 3: Durability of Preschoolers' Syntactic Priming.**

#### **Method.**

*Participants.* 32 preschoolers (16 boys and 16 girls) were recruited from two kindergartens from the Zhanghua community with their parents' consents and their assent. Their ages ranged from 4;6 to 5;8 with an average age of 5;1. They were all native speakers of Mandarin Chinese, but 26 of them were also Chinese-Taiwanese bilingual speakers. However, all of them were Mandarin-dominant. All the children in this experiment were very cooperative and all their data were included for analysis. None was excluded for subsequent analysis.

*Materials.* These were identical to those used in the previous experiments.

*Procedures.* The children were tested individually. When the child came to the room, s/he was asked whether s/he wants to play a game with the experimenter. If s/he said yes, the experiment began. The child was told that s/he and the experimenter would describe a set of eight animations in turn. After the experimenter finished describing his own set of eight animations, the child proceeded to depicting her/his own set of eight animations. For example, after the experimenter used the S *ba* O V structure to describe his own sets, he asked the children to describe their own sets. Each child was asked to describe one set of transitive animations and one set of dative animations from one of the four lists employed to counterbalance the design.

*Scoring.* This was identical to the previous two experiments.

**Results.**

Table 3 displays the raw count and the percentages for the four structures in each priming condition in the production-to-production condition. Table 3 shows the total raw number in that condition and the percentage in parentheses. The results indicate reliable priming effects across both alternations. After the preschooler heard the prime with a lag of eight trial uttered by the experimenter, they tended to reuse the structure of the prime to describe their own set of the animations. They tended to use SVO structures more after they repeated an SVO structure, and incidence of SVO transitive in the SVO priming condition increased 26 percent, compared to the *ba* transitive priming condition ( $t_{30}=2.803$ ,  $p<.05$ ). They also tended to use the *ba* transitive more often after producing the *ba* transitive uttered by the experimenter, and the incidence of the *ba* transitive increased 26 percent in the *ba* transitive priming condition, compared to the SVO transitive priming condition ( $t_{30}=3.230$ ,  $p<.05$ ). Similarly, the preschoolers tended to reuse the prepositional dative after hearing the prepositional prime with an eight-trial lag uttered by the experimenter, and the incidence of the prepositional dative increased 17 percent in the prepositional dative priming condition ( $t_{30}=2.225$ ,  $p<.05$ ), compared to the double object dative priming condition. Similar results were obtained for double object dative production. The preschoolers tended to reuse the double object primes after hearing this structure used by the experimenter, and the incidence of the double object dative increased 17 percent in the double object dative priming condition ( $t_{30}=2.223$ ,  $p<.05$ ), compared to the prepositional dative priming condition.

**Table 3.** Preschoolers’ Syntactic Priming Effect by Sentence Forms: Raw Numbers and Percentages of Utterances for Four Syntactic Forms Following Priming Sentences in the Experiment of the Durability of Effect of Syntactic Priming.

Priming Condition	Utterance	Form	Total
	SVO transitive	BA transitive	
SVO transitive	88 (69%)	34 (27%)	122 (95%)
<i>ba</i> transitive	55 (43%)	68 (53%)	123 (96%)
Difference	33 (26%)*	34 (26%)*	
	Prepositional dative	Double object dative	
Prepositional dative	75 (59%)	48 (38%)	123 (96%)
Double object dative	54 (42%)	71 (55%)	125 (98%)
Difference	21 (17%)*	23 (17%)*	

**Discussion.**

Whether the effect of syntactic priming reflects a learning process or is a short-term memory effect was controversial in the literature. Wheeldon and Smith (2003) reported that when there is one irrelevant trial/filler intervening between the prime and

the target, the effect disappears. However, Bock and Griffin (2000) and Bock et al. (2007) found that the effect of syntactic priming can persist over a lag of ten filler trials and even more the magnitude was comparable between 0 lag and 10 lag in both production-to-production and comprehension-to-production experiments. Huttenlocher et al. (2004) and Savage et al. (2006) found a similar long-lasting effect of syntactic priming. The former found that English-speaking 4- and 5-year-olds can endure over 10 trials while the latter found that this effect can persist over weeks if the children are reinforced. The finding from this experiment suggests that the effect of syntactic priming reflects a learning process. Chinese-speaking children as well as English-speaking children exhibit long lasting effect in the Chinese SVO-*ba* alternation and dative alternations. Taken together, these studies suggest that types of construction do not impose an impact on the durability of the syntactic priming effect.

## 2. General Discussion and Concluding Remarks

The three experiments above were conducted primarily to explore the four questions proposed in Section 2.0. The results from the experiments 1 provide us with evidence that Chinese 4- and 5-year-olds exhibit robust and abstract syntactic priming in production-to-production condition from the SVO-*ba* alternation and dative alternation. This finding is compatible with a great number of findings from studies in Germanic languages such as Dutch and English in the adult population (Bock, 1986; Bock & Loebell, 1990; Bock et al., 1992; Hartsuiker & Kolk, 1998 and many others). It also provides a new piece of evidence that preschoolers at this age exhibit robust and abstract syntactic priming in a language from English (Huttenlocher et al., 2004; Savage et al., 2003). However, the results from the experiment 2 draw a different picture from English studies. Chinese-speaking preschoolers did not consistently exhibit robust and abstract syntactic priming in the comprehension-to-production condition. No reliable effect of syntactic priming was found in the transitive SVO-*ba* alternation in contrast to the dative alternation. This finding contradicts the representational account or the same representation account that syntactic priming draws on the same syntactic representation common for both comprehension and production (Branigan et al., 2000; Chang et al., 2007) but favors a shared-representation account on syntactic priming. This asymmetric finding between SVO-*ba* alternation and dative alternation suggests that syntactic priming may be construction/alternation sensitive. For several conditions, the internal difference between these two alternations will be reflected in the syntactic priming.

Nonetheless, the interpretation and the findings should be cautious at this moment. From Table 2, it is found that there is a trend that Chinese-speaking preschoolers tend to reuse the previously heard structure for the subsequent animation description, though it does not reach the reliable statistics. A reasonable conjecture can be inferred that if more children are tested in this experiment, a reliable statistical effect can be obtained in the transitive SVO-*ba* alternation. Therefore, the interpretation of the experiment two should be withheld to some extent.

The experiment three reports the fact that Chinese-speaking preschoolers also exhibit long-lasting syntactic priming, suggesting that syntactic priming involves the learning mechanism. The activation of the syntactic structures makes adaptation to the learning system which would adjust itself with the incoming experience, leading to learning or a long lasting effect. This hypothesis has been simulated in Chang et al.'s (2007) computational model.

These three experiments add new pieces of evidence to the multifaceted syntactic priming that syntactic priming can be robustly occur in spite of the distance across different language families. The properties we discuss so far seem to be parallel to the procedural memory in the literature. The findings suggest that this effect goes beyond short-term memory and have the characteristics of implicit learning.

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## Investigating Filler-Gap Dependencies in Chinese Topicalization

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The present study explored the on-line process of constructing filler-gap dependencies in Chinese topic structures. In a topic structure, extracting the topic from within a sentence is subject to *locality constraints*; for instance, gaps inside islands such as adverbial clauses are prohibited. Interestingly, similar to the parasitic gap (PG) construction in English, a gap in an adverbial clause can be saved if there is a gap in the main clause. Based on the results of a moving-window self-paced reading experiment that investigated the processing of transitive verbs and coverbs inside adverbial clauses, we suggest that filler-gap dependencies are constructed during real-time processing of Chinese topicalization structures. Our results suggest that the parser actively searches for a gap site and is also sensitive to the syntactic restrictions on parasitic gap constructions in Chinese. Our findings are compatible with a movement analysis of Chinese topicalization and provide further support for the existence of parasitic gaps in Chinese.

### 1. Introduction \*

It has been proposed that Chinese topic structures may be derived by A'-movement and thus involve a filler-gap dependency between the topicalized noun (filler) and its trace (gap). The present study aims to answer two questions. First, if Chinese topic structures involve movement, can we find evidence during real-time processing for the construction of a dependency between the filler and the gap? Such evidence would lend support to a movement analysis of Chinese topicalization, suggesting that a topic is actually a fronted element extracted from within the main clause. Second, to what extent is real-time parsing constrained by syntactic and semantic information? To put it in

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another way, do Chinese readers make use of both semantic meanings and grammatical knowledge simultaneously when processing sentences? In all, the findings may shed light on the theoretical inquiries into Chinese topic constructions from a processing perspective.

### 1.1. On-line processing of filler-gap dependencies

Existing research on on-line sentence comprehension has provided abundant information about the real-time processing of filler-gap dependencies. Most results point towards the conclusion that human parsers are ‘active searchers’. That is to say, after encountering a filler (i.e., a fronted element such as a *wh*-phrase in English questions), the parser posits a gap at the earliest possible gap site, without waiting to confirm that the gap site is not occupied. This strategy can sometimes lead to an incorrect expectation, as demonstrated by the so-called ‘filled-gap’ effect observed in sentences like (1) (adapted from Crain & Fodor 1985).

(1) *Who*<sub>i</sub> did the children **force** ^ us to sing the song for *\_t<sub>i</sub>\_* yesterday?

When reading (1), the fronted *wh*-phrase foretells an incoming gap, and readers are inclined to posit a gap at the earliest possible grammatical position (indicated by a wedge sign ^ in (1)), that is, right after the verb *force*. However, as reading proceeds, the upcoming *us* indicates that the object position of *force* is not an available gap site, so a filled-gap effect is reflected by slower reading times at this point compared to a control sentence. Filled-gap effects at verb positions have been attested by different experimental methods, including reading-time studies (Crain & Fordor 1985; Stowe 1986), eye-tracking studies (Traxler & Pickering 1996), and event-related potential (ERP) measures (Felsler et al. 2003, Phillips et al. 2005).

Furthermore, various studies have shown that the parser is sensitive to island constraints. For example, Stowe (1986) concluded that no gap site is posited inside islands based on the fact that no filled-gap effects are observed in subject islands compared with gapless sentences. Traxler and Pickering (1996) also argued for island sensitivity based on the fact that slower reading times caused by an implausible verb-object combination can be found where the verb is associated with a grammatical gap site, while this effect disappears where the gap site is embedded in a relative clause inside a subject island. The idea that gaps are only posited where they are syntactically licensed is also supported by the results from studies on languages other than English, such as French complex NPs (Bourdages 1992) and Japanese relative clauses (Yoshida et al. 2004).

In sum, although the parser actively searches for a possible gap site as early as possible probably due to the goal of processing efficiency (c.f. Hawkins 1999), grammatical knowledge also plays a role in constraining this process, which suggests that the parser aims at both efficiency and accuracy, as Phillips (2006) concluded.

## 1.2. On-line processing of parasitic gap constructions

Parasitic gap (abbreviated hereafter as PG) constructions are intriguing linguistic phenomena and have inspired extensive discussion in syntactic theories for more than two decades (see Culicover 2001 for an overview). A PG is an illicit gap inside a syntactic island, which can be rescued by a licit gap in the main clause, as shown in (2) (from Phillips 2006). In (2a), a gap inside a subject complex NP island results in ungrammaticality. In contrast, (2b) contains only a main-clause (MC) gap and is grammatical. Interestingly, in (2c), a PG inside an island is rescued by a MC gap linked to the same *wh*-phrase.

- (2) a. \* What did the attempt to repair \_\_\_ ultimately damage the car?  
 b. What did the attempt to repair the car ultimately damage \_\_\_?  
 c. What did the attempt to repair PG ultimately damage \_\_\_?

From the perspective of on-line processing, PG constructions like (2c) represent an exception to the generalization that gaps may not occur inside islands. They also pose a ‘look-ahead’ problem (Phillips 2006) for incremental parsing since the PG in (2c) occurs *before* the MC gap that licenses it. Since parsing proceeds from left to right, how does the parser decide whether the PG is a possible gap site or not before it encounters the subsequent licensing gap?

It is important to note that the distribution of PGs is restricted. For example, a gap in a finite clause inside a subject island (see (3a)) cannot be rescued by a MC gap. Unlike (2c), (3c) remains ungrammatical even if a MC gap is present.

- (3) a. \*What did the reporter that criticized \_\_\_ eventually praise the war?  
 b. What did the reporter that criticized the war eventually praise \_\_\_ ?  
 c. \*What did the reporter that criticized PG eventually praise \_\_\_ ?

Phillips (2006) accounts for the difference between (2c) and (3c) in terms of the strength of the island environments where the PGs occur. In (2c), the only island is the subject NP. Infinitival clauses typically do not give rise to island effects. In contrast, in (3c), in addition to the subject NP island, the finite relative clause is an island itself, and thus their combination creates a strong island effect.

Phillips hypothesizes that if the parser aims at both incrementality and accuracy, it should actively posit a gap only inside islands that support a PG (e.g. (2c)), but not inside islands where a PG is impossible (e.g. (3c)). The results of a self-paced reading study (Phillips 2006) support this. In this experiment, the factors of *finiteness* (infinitival vs. finite clauses) and *plausibility* between the *wh*-phrase and its subcategorizing verb were manipulated. A sample item is shown in Table 1. Note that although none of the experimental items contained actual PGs, a PG could potentially have occurred after the verb in the infinitival conditions ((i) and (ii)) but not in the finite conditions ((iii) and

(iv)).

	Plausible	Implausible
Infinitival	(i) The school superintendent learned <b>which schools</b> the proposal to <b>expand</b> [PG?] drastically and innovatively upon the current curriculum would overburden ____ during the following semester.	(ii) The school superintendent learned <b>which high school students</b> the proposal to <b>expand</b> [PG?] drastically and innovatively upon the current curriculum would overburden ____ during the following semester.
Finite	(iii) The school superintendent learned <b>which schools</b> the proposal that <b>expanded</b> drastically and innovatively upon the current curriculum would overburden ____ during the following semester.	(iv) The school superintendent learned <b>which high school students</b> the proposal that <b>expanded</b> drastically and innovatively upon the current curriculum would overburden ____ during the following semester.

Table 1. Sample set of experimental conditions in Phillips (2006).  
(Boldface indicates *wh*-phrase and verb inside subject island)

Phillips found that if the clause containing the verb before the possible PG site was an *infinitival* complement of the subject NP ((i) and (ii)), the implausible condition had slower reading times at the verb region compared to the plausible condition. He attributes this slowdown to a semantic mismatch between the *wh*-phrase and the verb that arises as a result of the parser positing a PG after the verb. On the other hand, if the clause containing the critical verb was a *finite* clause modifier of the subject NP ((iii) and (iv)), there was no plausibility-related slowdown in the implausible condition compared to the plausible condition, suggesting that the parser did not posit a PG in a finite clause at all.

### 1.3. Parasitic gaps in Chinese topicalization

The canonical word order in Chinese is SVO (e.g. 4(a)), but a sentence with a topicalized object has OSV order (e.g. 4(b)).

- (4) a. Zhangsan hen xi-huan zhe-ben shu. (SOV)  
 Zhangsan very like this-Cl book  
 ‘Zhangsan likes this book very much.’
- b. Zhe-ben shu, Zhangsan hen xihuan. (OSV)  
 This –Cl. book, Zhangsan very like.  
 ‘This book, Zhangsan likes (it) very much.’

Although Chinese does not have *wh*-movement, and *wh*-words normally stay *in-situ*, it has been proposed that Chinese topic structures are derived by movement (Qu, 1994; Shyu, 1995) due to the following facts. First, reconstruction effects can be found if the topic (i.e., the filler) is placed back to its original position (i.e., the gap). For example, in

(5), although *Zhangsan* does not bind the reflexive *ziji* ‘self’ on the surface, it is proposed that the anaphor forms a chain with the object where it is originated and thus can be bound by an antecedent in the main clause through chain-binding (see Huang, Li & Li (in preparation) for an overview).

- (5) *Ziji<sub>i</sub> de shu, Zhangsan<sub>i</sub> hen xi-huan t<sub>i</sub>.*  
 Self DE book Zhangsan very like  
 ‘Self’s book, Zhangsan likes (it) very much.’

Second, extraction of topics must respect various locality constraints (Shi 1992, 2000). For example, in (6), extraction of *Lisi* is not possible from within a complex NP island, suggesting that movement is involved.

- (6) \**Lisi<sub>i</sub>, wo ren-shi [hen-duo [[xi-huan t<sub>i</sub> ] de ren]].*  
 Lisi I know many like DE people  
 ‘Lisi, I know many people who like (him).’

Extraction of topics from within an adverbial clause is also ungrammatical (e.g. (7a)), whereas extraction of topics from within a main clause is fine (e.g. (7b)). This asymmetry suggests that sentence-initial topics reach their final position by movement and are not base-generated there. Interestingly, similar to the PG constructions in English, an illicit gap in the adverbial clause can be saved if there is a licit gap in the main clause (e.g. (7c)). Sentences like (7c) have been argued to be PG constructions licensed by topicalization in Chinese (Ting & Huang 2008).

- (7) a. \**Na-ge yuan-gong [zai lao-ban **jian-guo** \_\_ zhi-hou] da-jia ji-xu kai-hui.*  
 That-Cl. employee at boss meet-ASP after everyone continue meeting  
 ‘That employee, after the boss met (him) , everyone continued the meeting.’
- b. *Na-ge yuan-gong ,[zai lao-ban **jian-guo** jing-li zhi-hou],\_\_ li-ke jiu bei kai-chu le.*  
 That-Cl. employee at boss meet-ASP manager after immediately was fired PAR  
 ‘That employee, after the boss met the manager, (he) was immediately fired.’
- c. *Na-ge yuan-gong [zai lao-ban **jian-guo** PG zhi-hou] \_\_li-ke jiu bei kai-chu le.*  
 That-Cl. employee at boss meet-ASP after immediately was fired PAR  
 ‘That employee, after the boss met (him), (he) was fired immediately.’

Furthermore, just as in English, Chinese PGs are sensitive to the island strength. For example, inside an adverbial clause, PGs are possible at the object position of a *transitive* verb (e.g. (7c)), but not possible if at the object position of a *coverb*<sup>1</sup>(e.g. (8)). In a

<sup>1</sup> Coverbs refer to a class of verbs that are described as having grammatical properties of both verbs and prepositions. They resist extraction of their objects by topicalization, a fact which is

non-island environment, the object of a transitive verb is allowed to be fronted to the topic position, while the object of a coverb is not. Similar to Phillip's infinitival and finite conditions, we claim that a PG in sentences like (7c) occurs in a weak island, while a PG in sentences like (8) occurs in a strong island that violates multiple constraints.

- (8) \* Na-ge yuan-gong [zai lao-ban **tong** PG jian-guo zhi-ho] \_\_\_ li-ke bei kai-chu le.  
 That-Cl. employee at boss with meet-ASP after immediately was fired PAR  
 'That employee, after the boss met with (him), (he) was fired immediately.'

However, despite the locality constraints and reconstruction effects in topicalized structures, and what looks like a striking similar ability of a main clause gap to license an illicit gap in both Chinese and English, it is not universally agreed that topicalization in Chinese involves movement. Proponents of the non-movement analysis argue that the topic is syntactically base-generated, and is not subcategorized by the verb of the main clause. In other words, the topic is not syntactically related to a position inside the main clause (e.g. Li & Thompson 1981, Tsao 1990, Ning 1993). However, given that the topic is nevertheless interpreted as connected to a position in the main clause, non-movement analyses face the challenge of explaining how this takes place. Huang's (1984) proposal that there is no object *pro* in Chinese rules out the possibility of the topic being connected to a null pronoun in the main clause, and it has been suggested that the empty category in question is instead a 'free empty category' that does not need to be licensed by a gap (Xu 1990) or an 'empty resumptive pronoun' (Kim 2001). In addition to facing questions regarding the status of the empty category, non-movement analyses do not offer a straightforward way of capturing the reconstruction effects and island sensitivity patterns discussed above. In contrast, a movement analysis is able to capture these patterns straightforwardly.

## 2. Research questions

The present study aims to investigate Chinese PG constructions licensed by topicalization from a processing perspective. We want to answer the following questions. First, can we find evidence for the construction of a filler-gap dependency between a topic and its trace? Given that evidence from island effects and reconstruction effects suggests that Chinese topicalization may involve A'-movement, we expect to find evidence for constructing a dependency between the topic and its trace during on-line processes. Results from Phillips (2006) indicate that the human parser posits gaps inside islands only in environments where PGs are acceptable. Following his approach, we compare reading times between impossible and possible gap sites in Chinese.

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often explained in terms of a preposition-stranding constraint (e.g. Huang, 1982; Li, 1990). Six coverbs were included in the present study: *dui* 'to', *xiang* 'to', *gen* 'with', *yong* 'use', *tong* 'with', *rang* 'allow'.

Second, if construction of filler-gap dependencies does take place in Chinese topicalized sentences, where is the gap posited? If it appears after a transitive verb inside an adverbial clause (i.e., the possible site for PG), this suggests that the parser acts incrementally, without waiting for top-down information to confirm the presence of a licensing gap (i.e., the site for a gap in the main clause).

Third, is the parser able to distinguish between syntactic environments that support PGs and environments that do not license PGs? If the parser aims at accuracy as well as efficiency, construction of filler-gap dependencies should be found at transitive verbs but not at coverbs inside adverbial clauses, since only the former supports PGs.

### 3. Method

#### 3.1. Participants

Participants were thirty-two graduate students aged from 20-30, with normal or corrected to normal eyesight. Twenty were males and twelve were females. All were native speakers of Mandarin Chinese living in Taiwan.

#### 3.2. Materials

The experiment had a 2x2 factorial design, crossing factors *verb type* (transitive verb vs. coverb inside an adverbial clause) and *plausibility* (whether or not the topic is a plausible object of the verb in the adverbial clause). In Chinese, transitive verbs allow PGs, but, crucially, PGs are ungrammatical in the coverb conditions. Following Phillips, we also manipulated plausibility: the topicalized object was either a plausible or implausible object of the verb inside the adverbial clause. (Recall that if the parser posits a PG, the PG would be posited right after the verb in the adverbial clause.)

Twelve target items were distributed among four lists in a Latin Square design, along with 24 filler items. Each participant was presented with one of the four versions composed of 12 target items and 24 fillers in pseudorandom order.

A few things need to be mentioned about the design of target items. First, all target items were topicalized sentences. Since topicalized sentences might sound odd out of context, each target item was preceded by a sentence serving as background information. The background sentence was identical across conditions within each item. Furthermore, in the topicalized sentences, the number of Chinese characters before the verb associated with a (potential) PG was the same across four conditions within each item, in order to minimize any spill-over effect. Most important of all, following the design of Phillips (2006), possible sites for a PG inside adverbial clauses were always filled with a plausible object. In other words, none of the trials actually involved PGs. For example, as shown in (9a), in the sample sentence the potential PG site after the verb ‘try’ in the adverbial clause was actually occupied by the plausible object ‘many brands’. Thus, globally speaking, the topic ‘German imported car’ was only related to the MC gap before the main verb ‘make’. This setup had two advantages: First, it ensured that each target item was grammatical, since PGs are not supported in the coverb conditions. Moreover, since



PGs did not exist in the target items, any evidence for actively constructing gaps inside adverbial clauses cannot be attributed to a priming effect (Phillips 2006).

(9) Sample item

(Note: the bar sign illustrates word segmentation and doesn't appear on the screen)

(9a) Transitive plausible condition:

王先生|的|老爺車|已經|開了|十多年|了。王太太|一直|要|他|換|一部|新車。  
那輛|標榜|高科技|的|德國|進口車,在|王先生|試過|許多|廠牌|的|車子|之後|令|他|最|心  
動。

Mr. Wang |DE| old car |already| run-ASP| more than ten years.| Mrs. Wang| keep| ask| him| change| one-CI |  
|.new car. | That-CI |advertise| high-tech| DE |German |**imported car**,| at | Mr .Wang | **try-ASP**  
V-4 V-3 V-2 V-1 V  
many| brands |DE | car | after| make |him |most | desire  
V+1 V+2 V+3 V+4

'Mr. Wang's old car has run for more than a decade. Mrs. Wang keeps telling him to buy a new car. The high-tech imported **car** from German, after Mr. Wang **tried** many brands, \_\_\_ made him want most.'

(9b) Transitive implausible condition:

王先生|的|老爺車|已經|開了|十多年|了。王太太|一直|要|他|換|一部|新車。  
陪著|王先生|四處|看|車|的|王太太,在|王先生|試過|許多|廠牌|的|車子|之後|勸|他|買|日本  
車。

Mr. Wang |DE| old car |already| run-ASP| more than ten years.| Mrs. Wang| keep| ask| him| change| one-CI |  
| new car. |Accompany | Mr. Wang | everywhere| look | car |DE| **Mrs. Wang** ,| at | Mr. Wang | **try-ASP**  
V-4 V-3 V-2 V-1 V  
| many | brands | DE | car | after | persuade | him | buy | Japanese car.  
V+1 V+2 V+3 V+4

'Mr. Wang's old car has run for more than a decade. Mrs. Wang keeps telling him to buy a new car. **Mrs. Wang**, who has hunted for cars all around with Mr. Wang, after Mr. Wang **tried** many brands, \_\_\_ persuaded him to buy a Japanese car.'



throughout the experiment, a comprehension question was presented after each item. Participants answered yes/no by pressing buttons on the keyboard and received immediate visual feedback. Each experimental trial took about 15-20 minutes. Analyses were conducted on both comprehension accuracy and reading times.

#### 4. Predictions

If the parser posits parasitic gaps whenever syntactically possible, we expect to see a plausibility effect in the transitive conditions but not in the coverb conditions. More specifically, in the transitive conditions, if the topicalized object is an implausible object of the verb inside the adverbial clause (ex.(9b)), positing a PG is predicted to trigger a semantic mismatch between the verb and the object. This mismatch is expected to disrupt processing, resulting in slower reading times than in conditions where the topicalized object is a plausible object of the subcategorizing verb (ex.(9a)). In contrast, no plausibility effect is expected in the coverb conditions. If the parser is indeed sensitive to syntactic constraints, we expect that it will not posit a PG in the coverb conditions and no semantic mismatch will arise.

### 5. Results

#### 5.1. Comprehension accuracy

Mean accuracy rate on the yes/no comprehension questions for the experimental items was 90.1%.<sup>2</sup>

A 2x2 repeated measures ANOVA on accuracy scores showed that there were no main effects of verb type or plausibility in either the items or the participants analyses. Also, there was no interaction of verb type and plausibility.

It is noteworthy that the accuracy on the transitive implausible condition (84.4%) was somewhat lower than the other three conditions (92% on average). It seems likely that the semantic mismatch between the topic and the subcategorizing verb in the adverbial clause caused difficulty in comprehension. Interestingly, such an effect was not found in the coverb implausible condition.

#### 5.2. Self-paced reading

Mean reading times in milliseconds for all four conditions are shown in Figure 1. Region (V) is the verb inside the adverbial clause (i.e., the critical verb region associated with a potential PG). Regions (V-1), (V-2), (V-3) and (V-4) are the four words before the verb, and (V+1) through (V+4) are the four words after the verb. For each target item, the (V-2) region corresponded to *zai* “at”, marking the beginning of an adverbial clause; the (V-1) region corresponded to the subject of the adverbial clause; the (V) region corresponded to the transitive verb or coverb, and the (V+1) position corresponded to the

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<sup>2</sup> All of the participants except two achieved an accuracy rate equal to or higher than 75%. The experimental data of all 32 participants have been included in the analysis of reading times.

object NP or part of the object NP. Furthermore, for each item, the adverbial clause (i.e. from (V-2) to (V+4)) was identical within the transitive conditions (e.g. (9a) and (9b)) and within the coverb conditions (e.g. (9c) and (9d)). The remaining positions (V-3) and (V-4) varied in parts of speech from item to item.

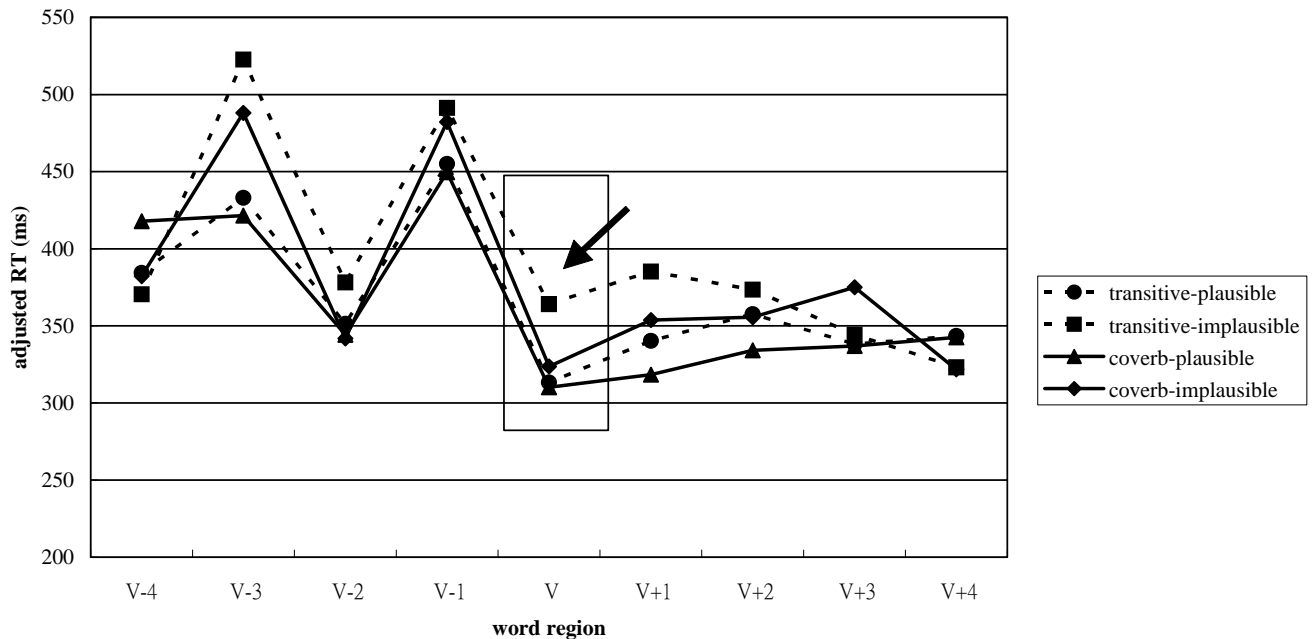


Figure 1. Mean reading times in four conditions

The reading times for regions (V-2), (V-1), (V) and (V+1) were entered into a 2x2 repeated measures ANOVA for the participants analysis (n=32), with the factors *verb type* (transitive verb vs. coverb) and *plausibility* (plausible vs. implausible). At the **(V-2) region**, the preposition *zai* ‘at’ introduced the parser into the domain of an adverbial clause, an island for topicalization in Chinese. At this position, there were no significant effects of verb type or plausibility and no interaction. Paired samples t-tests showed no significant effects of plausibility in either the transitive conditions or the coverb conditions.

At the **(V-1) region**, the parser encountered the subject of the adverbial clause, which was always an animate noun. The overall increase in reading times at this region, relative to the preceding region, may be due to word length (average length of characters=3, whereas the preceding region was only 1 character in length). Nevertheless, like the (V-2) position, there were no significant effects of verb type or plausibility and no

interaction.<sup>3</sup> Paired samples t-tests revealed no effects of plausibility in either the transitive conditions or the coverb conditions

In Phillips's study, evidence for constructing dependencies between *wh*-phrases and PGs appeared at the verb inside subject islands. In the present study, the **(V) region** was where we expected to find the same evidence in Chinese. At this region, we found significant main effects of verb type and plausibility (both  $p$ 's  $<.05$ ), as well as a marginal interaction between verb type and plausibility ( $p=.076$ ). Crucially, mean reading times for the (V) region in the transitive-implausible condition were significantly longer than those in the transitive-plausible condition, suggesting that the verb associated with a PG was read significantly slower in the implausible condition than in the plausible condition. In contrast, the mean reading times for the (V) region were not significantly different between the coverb plausible and coverb implausible conditions, suggesting that there was no plausibility effect.

At the **(V+1) region**, which corresponded to the direct object NP or part of the object NP, both verb type and plausibility were found to have significant main effects ( $p$ 's  $<.05$ ), but there was no significant interaction. Paired sample t-tests showed that transitive-plausible and transitive-implausible did not differ significantly from each. However, somewhat unexpectedly, coverb-plausible and coverb-implausible showed a marginally significant difference ( $p=0.056$ ). We address this issue in the Discussion section.

## 6. Discussion

Participants' reading times showed sensitivity to the plausibility manipulation in transitive conditions, as we predicted. Specifically, the transitive-implausible conditions had significantly slower reading times at the (V) region than the transitive-plausible conditions, but these two conditions did not differ significantly from each other before or after the critical verb region. The slowdown at the verb in the transitive-implausible condition fits with the idea that the parser was trying to construct a filler-gap dependency but faced a semantic mismatch between the fronted object and the subcategorizing verb. Our results are compatible with those of Phillips's study in regard to the critical region where a gap is being constructed, that is, at the verb associated with a PG. This suggests that in both English and Chinese, the parser actively searches for a gap site without waiting to confirm the gap site is available. In other words, the parser does not wait until the point when it encounters an empty object or, in the case of PG construction, a licensing gap in the main clause.

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<sup>3</sup> There is a marginal main effect of plausibility at positions (V-2) and (V-1) ( $p=.08$ ), indicating that regardless of verb type, plausible conditions are read slightly faster than implausible conditions in the (V-1) and (V-2) regions. This is unexpected, because the plausibility manipulation does not become apparent until the verb. The reasons underlying this marginal effect are not clear, and we leave it as a question for future investigation.

Could one argue that the difference between the transitive-plausible and transitive-implausible conditions is simply a plausibility effect, and has nothing to do with syntactic dependency formation? The fact that we did not find a plausibility effect in the critical region in the coverb conditions argues against this conclusion. If semantic implausibility necessarily leads to a slowdown, we should have found a slowdown at the verb in *both* the transitive and in the coverb conditions.

We would like to suggest that a possible explanation of the asymmetry between the transitive and coverb conditions is that, in contrast to the transitive conditions, no gap was being constructed at the coverb, and thus whether the fronted object was semantically compatible with the coverb or not did not make a difference. In other words, the asymmetry between the transitive conditions and the coverb conditions suggests that the parser is sensitive to the syntactic information or grammatical knowledge that a PG is not allowed after a coverb inside an adverbial clause due to a strong island effect. Thus, the parser not only actively searches for a gap, but also manages to avoid making mistakes. This conclusion converges with Phillips (2006): the human parsing mechanism is both incremental and accurate.

An alternative explanation is that the parser constructs a gap inside the adverbial clause even in the coverb conditions, but due to spill-over effects, the plausibility effect does not show up till a later point, namely at the direct object of the coverb. So-called spill-over effects are known to occur in self-paced reading, and refer to a situation where a particular effect is not detectable at the critical word itself but appears later – in other words, ‘spills over’ onto the following word(s). This explanation would account for the marginal plausibility effect we found at the (V+1) region in the coverb conditions. However, it seems rather unlikely that the transitive conditions and coverb conditions would result in such different amounts of spill-over, if we assume that human parsers function consistently. Nevertheless, the marginal plausibility effect at the (V+1) region in the coverb conditions still requires explanation. This is an important issue for future research.

In addition to highlighting the incremental nature of the parsing process, the finding of the present study seems to support a movement analysis of Chinese topic structures. In contrast, it is not clear how a non-movement analysis could account for the observed island sensitivity. As a whole, our findings are compatible with Ting & Huang’s claim (2008) that a PG exists inside an adverbial clause, which is connected to the topic via a filler-gap dependency.

## 7. Conclusions

The results of the present study suggest that when parsing topic structures, native speakers of Chinese tend to construct a filler-gap dependency incrementally (i.e., after a transitive verb in an adverbial clause, a possible site for PG), instead of waiting for top-down information (i.e., the licensing gap site in the main clause). Evidence for this comes from the asymmetrical sensitivity that transitive verbs and coverbs exhibited to the

plausibility manipulation in our self-paced reading experiment. In the transitive conditions, where PGs are possible, the critical verb region in the implausible condition exhibited a slowdown relative to the plausible condition. In addition, the absence of such a plausibility effect at the same region in the coverb conditions suggests that although the parser actively constructs a gap, it is also sensitive to syntactic information, and thus does not posit a gap in the coverb conditions, where PGs are not supported. Although more research is needed to further test these observations, in particular the behavior of the coverb conditions, our findings nevertheless support the view that the parsing mechanism aims at achieving both accuracy and efficiency, and also provide further evidence for a movement analysis of Chinese topicalization and the existence of parasitic gaps in Chinese.

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## **An Active Gap Strategy in the Processing of Filler-Gap Dependencies in Chinese<sup>1</sup>**

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This study investigates how filler-gap relations are processed on-line in Chinese, in constructions where the relation is driven by the gap rather than by the filler. The specific issue is whether there is an Active Gap Strategy analogous to the Active Filler Strategy that has been well-documented by data from English, Italian and other languages. Results of a self-paced word-by-word reading experiment on Mandarin Chinese indicate that when a gap is encountered first, and a possible filler then presents itself, the parser prefers to adopt that potential filler without waiting to see whether there are other or better alternatives later in the sentence. This is one of several on-line phenomena that would follow from an Active Gap Strategy.

### **Introduction**

The Active Filler Strategy, first proposed by Frazier (1987), is well-established for the real-time processing of filler-gap dependencies (Crain and Fodor 1985; Frazier 1987; Frazier and Clifton 1989; Frazier and Flores D'Arcais 1989; Stowe 1986). It depicts a parser that, after identifying a filler (e.g., a *wh*-question word), will actively look for a gap position to assign the filler to. An active search process means that in processing subsequent words the parser ranks the option of a gap above the option of a lexical noun phrase. In other words, when a potential gap position appears, the parser will immediately associate it with the filler, which will require reanalysis if the next word it receives reveals that there was no gap in that position after all. Processing difficulty typically accompanies filler-gap revision.

The present study investigates the processing of filler-gap dependencies from another angle; it examines filler-gap associations that are initiated by the gap. The question of interest is: Is there an Active Gap Strategy analogous to the Active Filler Strategy? In other words, if a gap is detected before its filler is encountered, will the parser actively seek out its filler later in the sentence? The Minimal Chain Principle ("Avoid postulating unnecessary chain members at surface structure, but do not delay required chain members") of De Vincenzi (1991) is formulated in a symmetric fashion,

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<sup>1</sup> I would like to thank Janet Dean Fodor, Eva M. Fernández and Marcel den Dikken for their insightful comments on the experimental design, data analysis and drafts of this paper.

treating fillers and gaps alike and implying active parsing for both. While the filler-gap dependency studied here is a semantic relationship, not technically a chain in the sense of a syntactic binding, it is worthwhile to consider the broader hypothesis that *all* filler-gap associations follow the same imperative of completing the association as rapidly as possible in on-line processing.

Active search for a filler could manifest itself in several ways. The parser might show a preference for a filler in the left context (i.e., previously processed material in the discourse or sentence) if there is a candidate there, since that is already accessible and requires no waiting. If there is no prior filler, the parser might seek out a filler in the incoming material, adopting the first available candidate without waiting to see if there are other or better ones; that is, it would rank the option of a filler analysis above the option of a non-filler hypothesis on-line. Or the parser might locally assign a generic ('arbitrary') interpretation to the gap, which avoids the need to locate a filler at all. These 'active gap behaviors' are not mutually exclusive, of course. So in looking for evidence pertaining to the psychological reality of an Active Gap Strategy we should be on the watch for any and all of these signs. The experiment reported here focuses on the second of these indicators of active gap processing: the greedy acceptance of the first-found potential filler that follows the gap. In a self-paced reading experiment on Mandarin Chinese, the experimental sentences offered an early but incorrect filler – a 'decoy' filler – which, if adopted, would require revision of the filler-gap association later in the sentence.

Chinese has an abundance of constructions containing gaps. The focus of investigation in the present experiment is a construction with a clausal subject whose own subject is phonologically null (a gap). Its counterpart in English would be a sentence such as *To go on safari would be too risky for Tim*, where the point of interest is how the phonologically null subject of *To go on safari* is interpreted on-line. The usual word order of a Chinese sentence is SVO, as in English. Thus, the clausal subject precedes the main clause predicate, which may or may not contain a filler for the gap. Relevant to this experiment is that Chinese has a pre-nominal possessive construction which can create a temporary ambiguity as to which noun in the main clause predicate is the filler for the gap. For instance, in an English rendering of the Chinese sentence *To go on safari would be too risky for Tim*, the filler is *Tim* but in *To go on safari would be too risky for Tim's cousin* the filler is the cousin. An important difference from English is that the Chinese possessive marker *de* is a separate character, graphemically independent of the preceding word (even though phonologically it leans on that word).<sup>2</sup> Therefore, when *Tim* is

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<sup>2</sup> Note that although *de* functions like the possessive marker 's in English, it occurs more broadly since it follows all kinds of pre-nominal modifiers including even relative clauses. Also, in the possessive *de* construction, animate and inanimate nouns are equally acceptable in the role of possessor, unlike in English which is less tolerant of inanimates. For example, *the charm of his smile* is acceptable in English but *his smile's charm* is much less acceptable, whereas the latter construction is perfectly fine in Chinese.

encountered in word-by-word reading, there is no indication yet that it is a possessor. In Chinese, the parser cannot know whether or not *Tim* is the filler until it receives the next word or a period (。 in Chinese) following *Tim*. If *Tim* is sentence-final, or is followed for instance by an adverb such as *tomorrow*, then *Tim* is clearly the filler. However, if the word following *Tim* is *de*, the marker of a nominal modifier, then *Tim de* is a possessive modifier, and the head noun (e.g., *cousin* in the English example above) that it modifies is the true filler for the gap.<sup>3</sup>

### **Previous studies on gap-driven processing of filler-gap dependencies**

A gap may be identified before its filler is even if the gap does not precede the filler in linear word order. The category of gap-driven filler-gap dependencies includes situations in which a filler precedes its gap but is not immediately recognized as a filler when it is encountered but only later, often not until the gap is subsequently encountered. This is the case for passive, raising and control constructions in many languages, since the filler is just an ordinary nominal in subject position (e.g., *Sue was photographed by the journalist*, where *Sue* is the filler for the gap created after *photographed* by passivization). Sometimes the matrix verb offers a clue that this is a filler-gap construction, as in *Sue appeared to be fainting* or *Jill promised Sam to drive him home*, where *appear* is a typical raising verb and *promise* is a familiar control verb; but this is far from reliable in view of *Sue appeared in the mirror* or *Jill promised Sam a present*. Many previous studies have investigated constructions such as these, with a variety of processing questions in mind, including: the strategy used to select a preceding filler; the time course of gap resolution; and the time course of use of verb and plausibility information. For a recent review, see MacDonald and Seidenberg (2006), and Shapiro (2000). However, the possibility of an Active Gap Strategy for gap-first constructions has been explored, to my knowledge, only by Hsu and Bruening (2003).

In their investigation Hsu and Bruening employed Chinese sentences containing relative clauses. Chinese noun phrases are head-final; hence the relative clause precedes the head noun it modifies, which means that the gap in the relative clause also precedes the head noun, which is the gap's filler. Hsu and Bruening argued in favor of an 'Active Gap' hypothesis on the grounds that the parser can be shown to anticipate the head noun before encountering it, as evidenced by a 'surprise' effect when other words intervene. An example of the test sentences is shown in (1). (CL=classifier)

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<sup>3</sup> In certain cases it is possible for the modifier, rather than the head noun, to be the filler. See discussion below.

- (1) a. Na-wei lao-taitai zuotian bianzhi-le<sup>4</sup> yi-jian maoyi songgei ta-erzi.  
 That-CL old-lady yesterday knit-PAST one-CL sweater give-to her-son  
 ‘That old lady knitted a sweater to give to her son yesterday.’
- b. Na-wei [*e*<sub>i</sub> zuotian bianzhi-le yi-jian maoyi songgei ta-erzi] de  
 That-CL yesterday knit-PAST one-CL sweater give-to her-son DE  
 lao-taitai<sub>i</sub> shenbing-le.  
 old-lady get-sick-PAST  
 ‘That old lady who knitted a sweater to give to her son yesterday got sick.’

Sentence (1a) serves as the baseline; it does not contain a filler-gap dependency. The sentence in (1b) contains a relative clause with a subject gap. The fact that it is a relative clause is cued by the preceding demonstrative and classifier, both of which are typical components of a noun phrase; thus, if what follows them is not a noun that is compatible with the classifier, as *zuotian* ‘yesterday’ is in (1b), it signals the likely presence of a relative clause embedded in the noun phrase. (The classifier *wei* signifies a person.) If the parser actively tries to interpret the gap as rapidly as possible, it might anticipate the presence of *de* and the head noun as soon as it has processed *maoyi* ‘sweater’ because the relative clause could terminate there. In fact, the relative clause continues for two more words in (1b), where *songgei ta-erzi* is an optional adjunct clause inside the relative. Hsu and Bruening report a reading slowdown on those words, and attribute this to the unexpected delay in locating the filler for the gap. They call this the ‘missing-filler effect’, seeing it as analogous to the ‘filled-gap effect’ which is a major source of evidence for active filler parsing (Crain and Fodor 1985; Stowe 1986). They conclude that the human parser follows an Active Gap Strategy as well as an Active Filler Strategy.

This evidence is not decisive, however, because the reading time results are open to alternative interpretations. One very natural explanation would be an increase in memory cost due to the prolonged prenominal relative clause. The parser has to build the tree structure within the relative clause, and has to maintain the gap in working memory as it does so. In addition, a lengthy relative clause may not be very frequent in Chinese so there may be a reasonable expectation that it will terminate without including an additional clause inside of it. All this could significantly increase the processing load in the latter part of the relative clause, resulting in the observed reading slowdown.

In short: an Active Gap Strategy is only one possible reason for the finding of Hsu and Bruening, so the validity of that strategy is left uncertain by this evidence. No study to date, to the best of my knowledge, has provided unambiguous evidence either for or against active gap processing. The present study will employ a different Chinese gap-filler construction and other types of argument in order to address this issue. The

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<sup>4</sup> *Le* seems to be taken as a past tense marker in Hsu and Bruening. But it is more commonly considered to be a perfective aspect marker.

experiment explored whether the parser adopts the first potential filler it encounters after a gap is identified, or whether it waits to find out what alternatives there might be later in the sentence and then selects the strongest candidate.

### Design and Methodology

One way to test for an ‘active’ gap energetically seeking out its filler is to create a ‘decoy’ filler that precedes the real filler. In Chinese, this can be achieved by exploiting the head-final property of the noun phrase: the decoy filler looks like a plausible filler but turns out to be a modifier of the subsequent head noun which is the real filler. The test sentences were designed based on this principle, as illustrated in (2). The regions for presentation and data analysis are shown in Table 1; the target regions of interest are regions 2-5. (CAU: causative marker)

(2) a. **Plausible Decoy Filler**

[*e*<sub>i</sub> Nonghuile jige wanju] bingweishi **xiaohaizi de baomu<sub>i</sub> gengxiaoxin**.  
 broke a-few toy not-CAU child DE nanny more-careful  
 ‘Having broken a few toys did not make the child’s nanny more careful.’

b. **Implausible Decoy Filler**

[*e*<sub>i</sub> Nonghuile jige wanju] bingweishi **youeryuan de baomu<sub>i</sub> gengxiaoxin**.  
 broke a-few toy not-CAU kindergarten DE nanny more-careful  
 ‘Having broken a few toys did not make the kindergarten’s nanny more careful.’

Table 1: Regions of target sentences for presentation and data analysis.

	<b>N<sub>1</sub></b>	<b>de</b>	<b>N<sub>2</sub></b>	<b>N<sub>2</sub>+1</b>	
<b>Region 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
All words prior to N <sub>1</sub>	<b>xiaohaizi youeryuan</b>	<b>de</b>	<b>baomu</b>	<b>gengxiaoxin</b>	All words and period following N <sub>2</sub> +1 <sup>5</sup>

The clausal subject (the Chinese counterpart of English *Having broken a few toys*) in the sentences in (2) has a null subject; it is not overtly specified who broke the toys. On recognizing the gap at the beginning of the sentence, an active gap parser would take its referent to be *xiaohaizi* ‘child’ in (2a), which is the first candidate filler it encounters. By contrast, *youeryuan* ‘kindergarten’ in (2b) is not a plausible subject for the verb *break*, thus not a good filler for the gap. For an active gap parser that makes use of plausibility information on-line, this could be expected to increase the reading time for *youeryuan*, relative to *xiaohaizi* and also leave the parser seeking a better referent in the remainder of the sentence. When it encounters *baomu* ‘nanny’ in (2b) it would accept this as the

<sup>5</sup> Region 6 contained just the period in some sentences, but other sentences had additional words following region 5. This variation is unimportant since the design of the experiment was such that region 6 played no role in the data analyses.

plausible filler it needs. In (2a), by contrast, when the parser encounters *baomu* ‘nanny’ it must recognize that its first hypothesis was wrong: *xiaohaizi* ‘child’ cannot be the filler after all, since it is only a modifier of the real filler *baomu*.<sup>6</sup> So for (2a) the parser must dissolve the link between the gap and the decoy filler *xiaohaizi*, and establish a new link between the gap and the real filler *baomu*. This would make *baomu* more difficult to process in (2a) than in (2b) where (we are assuming) no gap-filler link was previously established.

There were 16 target sentences, each in two conditions as illustrated in (2a,b). These were combined with 32 sentences of different construction related to another experimental hypothesis, and 48 distracter sentences of assorted structure but roughly comparable in complexity. A total of 56 native Mandarin speakers (age: 18-33; mean age: 22; 38 female) from Mainland China successfully participated in this experiment. After reading each sentence, participants were presented with a comprehension question with two answers offered. The question did not directly ask about the gap and its referent in the sentence; its purpose was to exclude inattentive participants. Two participants whose accuracy rates fell at or below 85% were excluded. The average accuracy rate of the remaining 56 participants on the comprehension questions was 95.3 %.

### Results and Discussion

Reading times more than 3 standard deviation units away from the mean reading time of an individual participant for each region were discarded. This affected 2% of all the data points. The data analyses reported are all one-tailed *t*-tests performed on participant- and item-based reading time means. Summary values for the four relevant regions (regions 2 to 5) are presented in Table 2 and graphically in Figure 1.

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<sup>6</sup> In both Chinese and English, the modifier may be the real filler in some contexts (though not in the experimental materials), as noted above. For example, in an English sentence such as *Breaking a few toys was Jim’s idea*, the filler is clearly not *idea* but is *Jim* (or some group with whom Jim is associated). The same is true for the Chinese counterpart of this sentence. But in both Chinese and English, if what follows the possessive marker is a plausible filler, the modifier cannot be the filler. For example, in the sentence *Breaking a few toys was Jim’s sister’s idea*, the filler can be *Jim’s sister* but it cannot be *Jim* (though nothing excludes Jim from being among those who broke the toys). Because of this, the word *de* in (3a) could alert the parser to the likelihood that the real filler will be the noun that follows *de*, not *xiaohaizi* after all, but *de* is not a definitive predictor of this since the meaning of the noun could also matter. (Note that the variability and meaning-sensitivity of filler choice in this construction is part of the evidence that it does not constitute a true syntactic chain; see Hornstein 1999; Landau 2001.)

Table 2: Mean reading times (ms) for regions 2-5, as a function of Decoy Filler Type (plausible, implausible)

	Plausible Decoy Filler	Implausible Decoy Filler
Region 2	557	566
Region 3	433	465
Region 4	477	457
Region 5	512	495

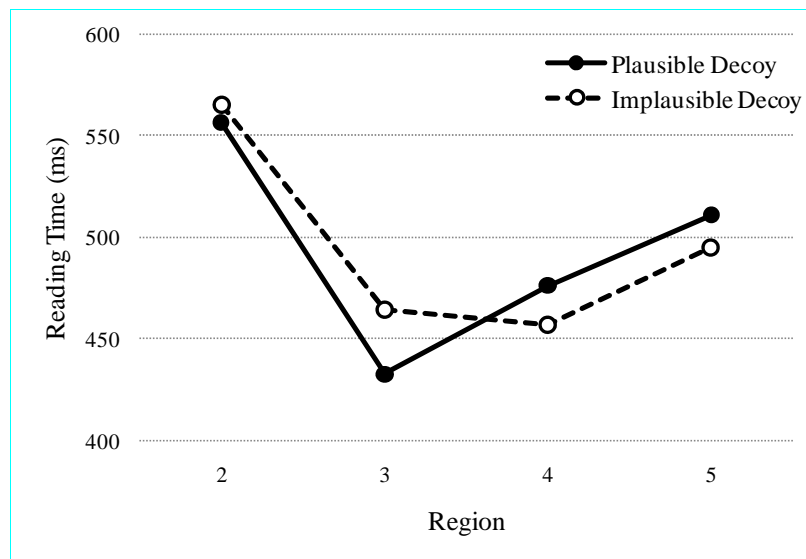


Figure 1: Mean reading times (ms) for regions 2-5, as a function of Decoy Filler Type (plausible, implausible)

Before examining the data in detail, it will be useful to consider the phenomenon of ‘spillover’ in self-paced reading studies. It is commonplace to find that an effect predicted for one region is observed instead at the following region, especially if each region is just one word long as in this experiment (see Mitchell 2004). It has not been clearly documented whether this is so for all levels of processing, though it is usually integrative processing that is cited as giving rise to spillover phenomena. In this experiment and others that I have conducted in Chinese using the same experimental paradigm as here (Ng and Fodor, in press), I have found that lexical differences are registered in reading times for the region where the stimuli were actually presented, without spillover, while syntactic and semantic integration difficulties typically show up one word later. The results of the experiment reported here are more intelligible if the likelihood of this systematic one-region delay is borne in mind. For readers’ convenience, I include here a



brief tabulation of which predicted effects are expected to manifest themselves in which regions.

Table 3: Summary by region of where processing events are expected to contribute to reading times, due to one-word ‘spillover’ of integration costs

	Word presented		Processes contributing to reading times
Region 2	plausible decoy noun	implausible decoy noun	Lexical processing of decoy nouns. Integration of last word of region 1, which makes the transition from subordinate to main clause.
Region 3	<i>de</i>		Lexical processing of <i>de</i> . Integration of decoy nouns into sentence meaning.
Region 4	head noun		Lexical processing of head noun. Integration of <i>de</i> , which marks a complex NP that will contain another noun.
Region 5	first word following the complex noun phrase (unrestricted category, but matched across sentence versions)		Lexical processing of first word following the complex noun phrase. Integration of head noun. Filler-gap assignment for implausible decoy filler sentence. Reanalysis of filler-gap assignment for plausible decoy filler sentence.

**Region 2 (2-4 characters, mean: 3):** This region follows the verb or causative marker at the onset of the main clause predicate. It is the first structural position that provides a filler for the gap. Plausibility dictates whether a nominal that occurs in this region is a good filler. The plausible and implausible decoy fillers, though distinct words, were matched in length, that is, in number of characters in Chinese orthography. They differed both lexically and in their plausibility in context. Any difference between them with respect to the difficulty of lexical processing should be apparent at this region (without spillover). In fact, the two decoy types elicited reading times (561 ms on average) that were not reliably different from each other ( $t_1(55) = -0.68, p > .20, t_2(31) = -0.47, p > .30$ ). It can be concluded that the plausible and implausible decoy fillers were well matched, such that their lexical differences did not deflect reading times. A difference in the integration difficulty for these two nouns was predicted, with an advantage for the plausible filler, but it was expected that this would not emerge here but only in the following region, due to spillover.

**Region 3 (1 character):** This region contains only *de*, whose lexical processing is expected to be minimal, since it is a short (one character) function word. Its integration into the on-going sentence is likely to be more complex. *De* indicates that the noun in region 2 is a modifier, and that the head noun that it modifies will occur next. This has consequences for the identity of the filler. Although the modifier may remain as the filler in some cases (see footnote 6), the head noun is by far the most likely filler for the gap. The appearance of *de* would therefore be a strong hint to the parser that the previous noun (in region 2) was not the true filler. This would be easier for the parser to adjust to following the implausible decoy filler than following the plausible decoy filler, on the assumption that the parser had already rejected the implausible filler as not the true filler. Thus the integration of *de* is predicted to be more costly in plausible decoy sentences than in implausible decoy sentences. Once again, however, the integrative cost of *de* is expected to be manifested only in the following region.

Reading times in region 3 were expected to exhibit the difference in integration difficulty of the two nouns presented in region 2. Results showed an average 433 ms reading time for plausible decoy filler sentences, significantly faster than the average 465 ms for implausible decoy filler sentences ( $t_1(55) = -3.25$ ,  $p < .001$ ,  $t_2(31) = -1.92$ ,  $p < .05$ ). In support of the decision to construe this as a spillover effect from processing the nouns, rather than a local effect of *de*, there are several considerations. One is that the reading times in this region are high for a function word like *de*; per character, they are the highest in the whole experiment. As a reflection of integration of the preceding noun, however, these times are understandable. Also, the reading time difference between versions observed here in region 3 is in precisely the direction predicted given the plausibility difference between the nouns in region 2: it is the plausible decoy filler that is easier to process. This is explicable as a reflection of the parser's active search for a filler for the gap: a plausible noun could be readily adopted as filler, while an implausible noun (apparently in just the location in the sentence where the parser could expect the filler to be) would cause surprise and frustration. It is reasonable to conclude, then, that the reading slowdown in region 3 for the implausible decoy filler sentences does indeed reflect the predicted integration difficulty for the implausible noun.

**Region 4 (2-3 characters, mean: 2.1):** This region contains the head noun, which the parser must recognize as the real filler for the gap. If the parser previously associated the plausible decoy filler with the gap, it has to dissolve that link and co-index the gap with this new noun. This would be expected to increase reading time. Such reanalysis is not needed for the implausible decoy filler sentences, assuming that no filler-gap dependency was established before. Anticipating spillover, this predicted difference between the sentence types would be expected to manifest itself one word later, in region 5. Any contrast observed in region 4 would be due instead to integration of the *de* presented in region 3. (It could not be due to local differences in lexical processing, since the head noun was identical in the two sentence versions.)

While no fully reliable difference was observed in the data at region 4, there is a trend in the expected direction ( $t_1(55) = 1.50$ ,  $.05 < p < .10$ ,  $t_2(31) = 1.11$ ,  $p > .10$ ) with slower reading in the plausible decoy filler sentences than in the implausible decoy filler sentences. If this trend does signify a disadvantage for the plausible decoy filler, it is of interest because the contrast is in the reverse direction compared with the preceding region; the plausible filler that was easy to process at first is now making the sentence harder to process. This is as predicted at the point at which *de* is integrated. The occurrence of *de* as a harbinger of another noun to follow could have been anticipated by the parser in the implausible decoy filler sentences, where a good filler has yet to be found, but it would be unanticipated in the plausible decoy filler sentences. It could also be unwelcome in the latter case, as noted earlier, if the parser is sensitive to the fact that the new noun that will inevitably follow *de* could disrupt its current filler-gap association.

**Region 5 (1-4 characters, mean: 2.3):** In the experimental sentences this region always contained the first word following the end of the complex noun phrase, confirming the noun in region 4 as the head noun and hence the filler of the gap. Lexical content was identical across sentence versions, so no lexical processing differences could show up here. Instead, the reading times in this region are expected to reflect the integration of the head noun presented in region 4. The results show a trend in the same direction as in region 4 ( $t_1(55) = 1.38$ ,  $.05 < p < .10$ ,  $t_2(31) = 1.11$ ,  $p > .10$ ), with plausible decoy filler sentences once again eliciting longer reading times than implausible decoy filler sentences. If this is indicative of a genuine difference in processing cost, it is as predicted as a reflection of the cost of filler-gap reanalysis, as the parser now rejects the plausible decoy filler and adopts the head noun as filler instead.

### General discussion

The pattern of data observed was fully consistent with predictions, though delayed by one word due to spillover. The major prediction had been that there would be a reading time disadvantage for the plausible decoy filler sentences later in the sentence, when *de* was encountered unexpectedly, and/or when reanalysis of the filler-gap relation, foreshadowed by *de*, was undertaken on receipt of the correct filler noun following *de*. This plausible filler disadvantage was predicted to be detectable in regions 4 and 5. A difference in the predicted direction was indeed observed there, in both regions, though it was not statistically robust (marginally significant by participants, but unreliable by items).

Supposing that the experimental hypothesis of Active Gap processing were correct, is there any explanation for why the disadvantage of the plausible decoy filler sentences is not fully reliable in regions 4 and 5? A natural explanation would be that the predicted effect was weakened by being divided between these two regions, with variability between trials and between participants as to whether the reanalysis process is initiated by *de* (showing up in region 4 reading times) or only on encounter with the head

noun (showing up in region 5 reading times). Recall that *de* is a strong but not decisive cue that the noun that will follow will be a better filler than the one already in hand. It may be that in some cases, the process of breaking the earlier filler-gap association with the plausible filler began at *de*, thereby reducing the workload at the next region where the revised filler-gap association would be formed. A test of this speculation must await further experimental investigation.

However, the persistent one-word spillover effect provides an unexpected bonus for the present experiment, concerning the interpretation of the strong difference at region 3 in which the implausible decoy filler sentences are at a disadvantage. This had not been the focus of a planned prediction, because the two decoy nouns necessarily differed lexically as well as in their plausibility as fillers. However, the spillover phenomenon has the effect of separating out the lexical and integrative costs of these words. The nouns were presented in region 2. On the basis of past findings, any difference in lexical processing cost should be evident in that same region, while the cost of integrating the implausible decoy filler would be evident in region 3. We noted earlier that the clear lack of difference between sentence versions in the region 2 data indicates that the nouns in the two versions were quite well-matched in their lexical processing costs. But it can also be inferred that the strong difference evident in the region 3 data was not due to any purely lexical processing cost difference between the nouns – both because region 2 indicates that there was no such difference, and because even if there had been it would not have spilled over into region 3. In consequence, the difference in region 3 can be attributed to the cost of integrating the plausible/implausible noun into the meaning of the sentence. This reliable difference thus becomes legitimate evidence in favor of the parser's preference for the plausible filler, prior to its demotion when the developing sentence provided a rival, just as would be expected in active gap parsing.

With this in place, the experimental outcomes exactly mirror the predictions of the Active Gap Strategy, though statistically less than robust in some respects. An active-gap parser would seek out a filler to provide an interpretation for the gap and would adopt the first acceptable candidate without waiting to check for any alternatives. It would thus succumb to the lure of the plausible decoy filler, finding processing easy at that stage but paying the price later in the need for reassignment of the gap interpretation.

Of additional interest is that this active-gap processing is observed even in the absence of a syntactic chain. The construction tested in this study (commonly referred to as non-obligatory control; see Landau 2001) involves no chain relation. The filler and gap are linked through inference and co-indexation, depending to a large extent on the meanings of the particular words and phrases in the sentence (see examples in footnote 6). The results nevertheless show that the parser actively seeks out a filler for this kind of gap. It is possible that this broad applicability is also the case for the Active Filler Strategy, though additional research would be needed to establish that. In general, it may be found that the linguistic mechanism underpinning a filler-gap relation is less important

than the basic fact that there are two elements in a sentence whose interpretations are interdependent.

Finally, we may raise the question of what motivates an active-gap parser. For an active-filler parser there is the need to assign a thematic role to a fronted phrase, which is determined by whatever thematic role is assigned at the position of its associated gap (see discussion in Aoshima, Phillips and Weinberg 2004). But when a gap is identified before its filler is, its syntactic position and also its thematic role are perfectly evident to the parser, just as much so as in the case of a phonologically overt item. What it lacks is simply a semantic or referential interpretation, and a filler-assignment satisfies this requirement. Thus, even though active-filler processing and active-gap processing appear to have a great deal in common, they may differ in their driving force.

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#### APPENDIX: EXPERIMENTAL SENTENCES

Items are shown in Chinese as presented in the experiment, with English translations here for convenience. (The bolded part is the target regions 2 - 5.) (NOM: nominalizer)

课后进修是这个学生 / 这个学校的老师应该做的。

class-after study was **this student / this school DE teacher should** do NOM  
 ‘To study after class was what the student’s / the school’s teacher should do.’

打错了一份文件使我妹妹 / 我公司的秘书很担心。

typed-wrong one document CAU **my sister / my company DE secretary worried**  
 ‘Having made a typo in a document worried my sister’s / my company’s secretary.’

常常出国访问令这个皇帝 / 这个国家的大公主很疲倦。

often go-overseas visit CAU **this emperor / this nation DE first-princess tired**  
 ‘To often pay official visits overseas tired out the emperor’s / the nation’s first princess.’

加入公司的新部门给副经理 / 财政部的翻译更多工作。

join company DE new department gave **assistant-manager / finance-department DE translator more** work  
 ‘Having joined the new department of the company increased the workload of the assistant manager’s / the finance department’s translator.’

收到裁员的消息教他们 / 美国的同事无法集中精神工作。

received layoff DE notice CAU **they / America DE colleagues unable** focus-on work  
'Having received the layoff notice made their / America's colleagues unable to focus on their work.'

看护这些孩子把那个朋友 / 那个灾区的医生累坏。

look-after these children BA **that-friend / that-disaster-area DE doctor exhausted**  
'Looking after the children exhausted that friend's / that disaster area's doctor.'

习惯新的教学法要求留学生 / 文学院的教授很大的耐心。

get-used-to new DE teaching-method demanded **foreign-student / Arts-Faculty DE professor much** DE patience  
'To get used to the new teaching method demanded a lot of patience from the foreign student's / Arts Faculty's professor.'

经常忘记了入帐是这个朋友 / 这个公司的老板应该改掉的坏习惯。

often forgot enter-transaction was **this-friend / this-company DE boss should** change DE bad-habit  
'To often forget to enter the transactions into the ledger was the bad habit this friend's / this company's boss should change.'

喜欢邻居的小狗并未使这个大狗 / 这个房子的主人喜欢她的邻居。

adore neighbor DE puppy not-CAU **this-big-dog / this-house DE owner liked** her neighbor  
'Adoring the neighbor's puppy did not make the big dog's / this house's owner like her neighbor.'

买了旁边的单位令这个业主 / 这个公寓的租客终于拥有自己的地方。

bought neighboring DE unit CAU **this-landlord / this-apartment DE tenant finally** own self DE place  
'Having bought the neighboring unit allowed the landlord's / the apartment's tenant to finally own a place of his own.'

工作至深夜往往令富豪 / 房车的司机失去与家人欢聚的时间。

work till late-night often CAU **tycoon / limousine DE chauffeur lose** with family happy-gather DE time  
'To often work until late night made the tycoon's / the limousine's chauffeur sacrifice valuable time he could spend with his family.'

收到政府的收地通知令**这些村民 / 这个渔村的领导很愤怒。**

received government DE land-use-change notice CAU **these-villages / this-fishing-village DE leader angry**

‘Having received the government’s notice for a change in land use angered the villagers’ / the fishing village’s leader.’

执行这个危险的工作要求**政府官员 / 公家银行的护卫接受更多的训练。**

implement this dangerous DE job required **government-official / public-bank DE security-guard receive** more DE training

‘To implement this dangerous job required the government officials’ / the public banks’ security guards to receive more training.’

学习用这个电脑程式弄得**我爸爸 / 我们系的学生头昏脑胀。**

learn use this computer program CAU **my-father / our-department DE student flumoxed**

‘Learning this new computer program flumoxed my father’s / our department’s students.’

拥有出众的口才增加**这个原告人 / 这个律师行的律师对赢得这个案件的信心。**

own outstanding DE eloquence increased **this-plaintiff / this-law-firm DE attorney to win this case DE confidence**

‘Owning outstanding eloquence increased the confidence of the plaintiff’s / the law firm’s attorney to win this case.’

弄坏了几个玩具并未使**小孩子 / 幼儿园的保姆更小心。**

broke a-few toy not-CAU **child / kindergarten DE nanny more-careful**

‘Having broken a few toys did not make the child / the kindergarten’s nanny more careful.’





## Context Coercion in Sentence Processing: Evidence from Chinese

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This study investigates the on-line processing of context coercion in Mandarin Chinese. Context coercion is a kind of situation shift that is implicitly and contextually governed by the semantic reinterpretation process. We hypothesize that the coercion constructions are syntactically and semantically complicated than transparent sentences and should be more difficult to process. A self-paced reading experiment was carried out to test this hypothesis. The results of the experiment indicate that there is a strong coercion effect in reaction time and coercion constructions are more difficult to process than concord constructions (transparent constructions) in Chinese. This finding is also consistent with the commitment account of sentence processing. In addition, this study provides psycholinguistic evidence that supports a situational account for the meaning of the Chinese aspect marker *le*: the default meaning of the Chinese aspect marker *le* is perfectivity when it is used in dynamic situations and its meaning will be inchoativity when it is used in stative situations.

### 1. Introduction: Aspectual Coercion and On-Line Sentence Processing

Many studies have examined the on-line processing of sentences involving aspectual coercion in English, and most discussions focus on the processing cost of coercion. Piñango *et al.* (1999) argue that aspectual coercion is a combinatorial semantic operation invoked in real-time processing, and they claim that this operation is more computationally costly than parsing a syntactically transparent counterpart. For example, consider the following sentences:

- (1) a. The girl slept until dawn.
- b. The girl jumped until dawn.

Sentence (1)a is a syntactically and semantically transparent composition (construction) because the meaning of the sentence is the combination, via syntactic processes, of the meanings of the lexical items. However, sentence (1)b can only be interpreted as “the girl jumped repeatedly until dawn”; otherwise, it will be ungrammatical because “jump” is a point-action activity, and is not compatible with any imposed temporal boundary. In order to achieve the compatibility between the head of the verb phrase “jump” and its aspectual modifier—the prepositional phrase “until dawn”—there

has to be an aspectual coercion that will introduce the repetition function. This kind of operation is said to consist of a set of lexicosemantic compositional operations, collectively called *enriched semantic composition* (Jackendoff, 1997, 2002; Pustejovsky, 1991, 1995). Using a cross-modal lexical decision experiment, Piñango *et al.* (1999) found that reaction times were much longer when the primary task required enriched composition than in cases where the primary task involved processing of transparent sentences. The results support their claim that enriched semantic composition is more computationally costly than syntactically transparent semantic composition.

Along the same lines, Traxler *et al.* (2002) and Traxler *et al.* (2005) point out that verbs such as *begin*, *enjoy*, and *finish* usually take events as their arguments in order to be felicitous sentences, for example with the event *reading*, as in *begin reading*. However, such verbs also often take noun phrases whose literal interpretations denote entities such as *the book*, as in *begin the book*. According to these studies, this verb phrase may require more computations to interpret because the attempt to comprehend the sentence involves using lexical and contextual information to coerce the default interpretation from an entity (*the book*) to an event (*begin the book*), which are two different semantic categories. This coercion process involves the following operations (from Traxler *et al.*, 2005: 4):

- (a) When encountering the noun *book*, comprehenders access the word's lexical entry and attempt to integrate various stored senses of this word into the evolving semantic representation of the sentence.
- (b) The mismatch between the verb's selectional restrictions and the stored senses of the noun triggers a coercion process.
- (c) Comprehenders use salient properties associated with the complement noun and other relevant discourse elements (including but not necessarily limited to the agent phrase) to infer a plausible action that could be performed on the noun.
- (d) Comprehenders incorporate the event sense into their semantic representation of the VP by reconfiguring the semantic representation of the complement, converting [begin [the book]] into [begin [reading the book]].

The coercion cost is due to the operation in (d) because it requires time to build an eventive representation of the complement. *Begin the book* should be more difficult to process than *read the book* and *begin reading the book* because the mismatch between the verb and NP in *begin the book* triggers a coercion operation that type-shifts the NP *the book* (entity) into a compatible type *reading the book* (event), and this process will require time in order to generate the additional structures that are semantically equivalent to the explicit expression *begin reading the book*. For these reasons, the enriched form of interpretive processing is more time costly.

Using eye-tracking and self-paced reading experiments, Traxler *et al.* (2002, 2005) found that entity noun phrases take a longer time to process when they follow verbs that require event arguments, as opposed to when they follow verbs that do not require them. Difficulty does not appear when verbs such as *began* has arguments that refer to events, because this processing does not involve semantic coercion and type-shifting. The following examples are the tested sentences in one of their experiments:

- (2) a. The secretary began the memo about the new office policy.  
 b. The secretary typed the memo about the new office policy.  
 c. The secretary read the memo about the new office policy.

In Sentence (2)b and (2)c, the verb specifying the activity and the default interpretation of the object *memo* is compatible with the verb's selectional restrictions. The eye-tracking experiment results suggest that readers had difficulties with the coerced condition in Sentence (2)a soon after they encountered the noun phrase, when they would re-fixate the verb. Overall, their experiment results indicate that entity-denoting NPs were more difficult to process when they followed verbs that require event complements; the observed difficulty of processing was attributed to the costly operation of coercion.

Other similar experiments provide additional support for the hypothesis that semantic coercion engenders a processing cost in reading because it slows the interpretation process (Pickering, *et al.*, 2005; McElree, *et al.*, 2006a and McElree, *et al.* 2006b). These studies also demonstrate that semantic coercion can cause more interpretation errors (McElree *et al.*, 2006b). However, studies on the coercion phenomenon are relatively rare, and no study has been done on the coercion effect in Chinese sentence processing.

## 2. Context Coercion Hypothesis

Drawing on de Swart's (1998, 2000) coercion theory and Traxler *et al.*'s (2002, 2005) experimental paradigm, the present experiment attempts to see whether there is a coercion effect in Chinese *le* sentences in which situation shifts take place due to context, which is indicated by inter-sentential elements. Note that this experiment is different from the experiments discussed above. The coercion phenomenon that occurs in English with phrases such as *begin the book*, etc. does not apply in Chinese, since in Chinese, expressions such as 开始书 *kaishi shu* 'to begin a book' are ungrammatical. However, context coercion in Chinese is also a case of enriched composition in the sense of Jackendoff (1997), who claims that in coerced sentences, the linguistic content not expressed lexically in the coerced sentence has to be composed to achieve the well-formedness of a composition and to satisfy the pragmatics of the discourse or extralinguistic content.

The coercion operation in Chinese that is hypothesized to be more difficult for subjects to process is more like the situation seen in Sentence (3):

- (3) 我 修 这 辆 车 了, 以 前 一 直 不 愿 意 修 理.  
*Wo xiu zhe liang che le, yiqian yizhi bu yuanyi xiu li*  
 I repair this CL car LE, before always not want repair  
 I want to fix the car, (but) I did not want to before.

Sentence (3) involves a coercion operation that is triggered by context. In this coercion construction, there is a mismatch between *le*'s default meaning-perfectivity<sup>1</sup> and the conjoined clause (an intersentential element) because the conjoined clause indicates that *le*'s meaning should be inchoativity, per the requirements of the override principle: if a lexical item is semantically incompatible with its morphosyntactic context, the meaning of the lexical item conforms to the meaning of the structure in which it is embedded (Michaelis, 2004: 25).

To eliminate the mismatch, *le*'s meaning has to be shifted from perfectivity to inchoativity and the dynamic situation has to be coerced into a stative situation in order to accommodate the inchoative-encoding *le* because situation type has to be compatible with *le* (Wang, 2007). Following Traxler *et al.* (2005), such a coercion process is posited to consist of the following operations:

- (a) When comprehenders encounter the aspect marker *le*, they access the word's lexical entry and try to integrate various stored senses of the word into the sentence presentation.
- (b) When comprehenders encounter the conjoined clause 以前一直不愿意修理 *yiqian yizhi bu yuanyi xiu li* 'I did not want to fix it before', they find a mismatch between the conjoined clause and *le* because perfectivity is the default and the preferred interpretation for *le* in accomplishment situations, whereas the conjoined clause leads comprehenders to interpret *le* as inchoative marker.
- (c) To solve the mismatch, the situation of the first clause has to be shifted from dynamic to stative so that *le* can encode inchoativity.
- (d) Comprehenders reconfigure the semantic representation of the first clause 我修这辆车了 *wo xiu zhe liang che le*, 'I have fixed the car' in order to incorporate the inchoative meaning into the clause by changing 我修这辆车 *wo xiu zhe liang che* 'I fix the car' into 我想修这辆车 *wo xiang xiu zhe liang che* 'I want to fix the car' implicitly. Namely, they change the accomplishment situation into a stative situation.

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<sup>1</sup> Wang (2007) argues that *le*'s meaning is determined by situation type and *le*'s default meaning is perfectivity in dynamic situations and its default meaning is inchoativity in stative situations

Note that shift operators such as 想 *xiang* ‘to want’ are not expressed linguistically, but are implicit, and have to be presented in lexical conceptual structures so that the sentence can be well-formed. If this account is correct, then this kind of sentence may constitute another form of enriched composition and should therefore be difficult to process on-line.

I would hypothesize that operation (d) will in fact be costly relative to concord constructions (as in Sentence (4) below) because it requires comprehenders to reconfigure the semantic representations of the sentence. Specifically, I hypothesize that comprehenders will take a longer time at the end of the second clause, namely at the last word of the second clause, because that is where they become aware of the mismatch and where they must then reinterpret the meaning of *le* and coerce the situation type.

- (4) 我 修 这 辆 车 了, 但是 没有 把 车 修 好。  
*wo xiu zhe liang che le, danshi meiyou ba che xiu hao*  
 I repair this CL car LE, but not BA car repair well  
 I tried to fix the car, but did not succeed.

---concord construction

Sentence (4) is a concord construction in that there is no shift of situation and no change in *le*'s meaning because the conjoined clause conforms to *le*'s default meaning (perfectivity), and thus does not trigger any coercion. The concord constructions are syntactically and semantically transparent sentences. Therefore, it is hypothesized that there will be less processing cost and shorter time for the concord construction than for the coercion construction.

This reasoning is also in line with arguments by Duffy *et al.* (1988) and Rayner and Duffy (1986), who claim that lexical ambiguity is costly only for balanced words with two meanings of roughly comparable frequency, or for biased words where context supports the non-preferred meaning. Sentence (3) is clearly the latter case, in which *le* is a biased word because it has a default or preferred meaning of perfectivity, while the conjoined clause that serves as a context supports the non-preferred meaning of inchoativity; as a result, it is lexically ambiguous and thus costly.

In short, I hypothesize that it will take longer time for comprehenders to process the sentences involving coercion or reinterpretation of *le*'s meaning. Specifically, more time will be required to process sentences with *le* encoding inchoativity in dynamic situations (achievement, accomplishment, and activity) than processing sentences with *le* encoding perfectivity in dynamic situations.

### 3. Methodology

#### 3.1. Participants

35 Mandarin Chinese native speakers from China participated in the experiment. Their average length of U.S residence was 4.1 years, while their average age was 31.1.

Among the 35 subjects, 18 were female and 17 were male. All participants had normal or corrected-to-normal vision.

### 3.2. Stimuli

There are a total of five groups of situational constructions that involve coercion: achievement verb with a definite NP object, achievement verb with a generic NP object, accomplishment verb with a definite NP object, accomplishment verb with a generic NP object, and activity. For each stimulus sentence, there are three clauses. The first clause contains the aspect marker *le*, occurring either at the end of the sentence (*le*2), or immediately after the verb (*le*1), or in two different positions (double *le*). The second clause is called a conjoined clause, and it serves as a context for the interpretation of *le* in the first clause. The second clause is consistent, inconsistent, or neutral with the first clause in terms of *le*'s meaning. The neutral clause does not attempt either to shift or to conform to the first clause. These sentences serve as controls to compare with other constructions for the experiment. The following examples are the stimulus sentences in an achievement situation for this experiment:

#### Control

- (5) a. 小李 打败 那个 对手 了, 他的 心情 非常 激动, 我也 很 激动。  
*Xiao Li da-bai na ge duishou le, ta de xinqing feichang jidong, wo ye hen jidong*  
 little Li defeat that CL opponent LE, his DE feeling very excited, I also very excited  
 Little Li defeated the opponent, he is very excited, and I am excited too.

#### Concord 1 (*le* at the end of the sentence)

- b. 小李 打败 那个 对手 了, 观众 为他 热烈 鼓掌, 他 非常 自豪。  
*Xiao Li da-bai na ge duishou le, guanzong wei ta relie guzhang, ta feichang zihao*  
 little Li defeat that CL opponent LE, audience for him warmly applaud, he very proud  
 Little Li defeated the opponent, the audience applauds loudly for him, he is very proud of himself.

#### Concord 2 (*le* immediately after the verb)

- c. 小李 打败 了 那个 对手, 获得 了 世界 冠军, 他 特别 兴奋。  
*Xiao Li da-bai le na ge duishou, huode le shijie guanjun, ta tebie xingfen*  
 little Li defeat LE that CL opponent, won LE world championship, he especially happy  
 Little Li defeated the opponent, and won the world championship, he is especially happy.

#### Coercion

- d. 小李 打败 那个 对手 了, 过去 总是 被他 击败, 小李 高兴 极 了。  
*Xiao Li da-bai na ge duishou le, guoqu zongshi bei ta jibai, Xiao Li gaoxing ji le*  
 little Li defeat that CL opponent LE, before always BEI him defeat, Xiao Li happy extreme LE.  
 Little Li defeated the opponent, he had always been defeated by him, Xiao Li is extremely happy.

The effect regions, namely the last words of the second clauses, are underlined in the sentences here. They are all two-character words (or phrases) in length.

As seen in the above sentences, the stimuli are designed under four conditions: concord 1 (with *le2*-sentence final *le*), concord 2 (with *le1*-verb final *le*), coercion construction, and control. Note that the difference between concord 1 and concord 2 is that the sentences in the concord 1 condition contain *le2*, while the sentences in the concord 2 condition have *le1*. There are 32 stimulus sentences and 34 fillers in total. Of the 32 stimulus sentences, there are 11 sentences each for achievement and accomplishment situations, 4 sentences for activity situations, and 6 sentences for stative situations.

One of the difficulties with the design is that comprehenders can anticipate the next item in the coercion condition because of the regularity of sentence patterns in the second clause. In the coercion condition the second clause has a fixed sentence pattern, 以前...不...(it was not ... before), which can enable respondents to anticipate the next item. This anticipation may thus speed up processing or attenuate the coercion cost. To reduce the repetition effect, I tried to vary the second clause in the coercion condition by using different words; however, the structural repetition problem is not possible to solve completely, thus there are still a few repeated words and patterns in the stimuli. Another difficulty concerns having an equal number of key presses for the second clause in order to avoid a possible length effect of the last word on the interpretation. It proved very difficult to construct the second clause with the same number of key presses while making each press a single word. There are four key presses for every second clause, but sometimes one key press may be not a word, but a phrase. As a result, for the last word of the second clause, there are two phrases in concord construction and two phrases in coercion in total. This will even out or balance the design, out of the concern that a phrase may be more time consuming to process than a word. The two phrases are both commonly used, so their frequency of occurrence is comparable with the two words.

In order to avoid sentence wrap-up effects, we added a third clause to each sentence. The third clause is either neutral or concordant, and does not attempt to contradict the first clause. Since it follows the target effect region (the last word of the second clause), and will not affect the reaction time for our target word. That is to say, how it is processed is not related to the current study, the reaction time data for third clauses were discarded.

### 3.3. Procedure

The participants were instructed to read at a normal pace such that they would be able to answer comprehension questions correctly after each sentence. Sentences were presented through a self-paced moving window method using the DMDX experiment generator (Forster & Forster, 2003). A “ready” prompt appeared before the first word of the sentence appeared, and then the subject could begin to press the spacebar to elicit subsequent words until the entire sentence had appeared. When a new word appeared, the preceding word would disappear immediately. Each word appeared on the screen from left to right, in terms of its sentential position. A statement sentence as a probe would immediately follow each stimulus sentence; for these probes, participants were asked to



make true/false judgments based on the information they had received from the previous stimulus sentence. Subjects received feedback (correct or incorrect) on their true/false responses. The computer recorded the time from when a word was first displayed until the next press of the space bar. Half of the answers for the probe sentences were true, while the other half were false. It took subjects between 25 and 40 minutes to complete the test.

## 4. Results and Discussion

### 4.1. Results

The mean accuracy in sentence comprehension for all subjects is 98.5% (2331 out of 2376) for all sentences (including the fillers) and 98.2% (1132 out of 1152) for stimulus sentences.

Firstly, only the reaction times for the middle 4 items of each second clause were kept, and only the reaction times for the last word in the second clause were used for analysis since this is the only effect region that was considered. The rest of the data were discarded. Recall that in my hypothesis, the last word in the second clause is the point at which the readers realized the mismatch; thus, this is where the coercion operation is thought to take place: it is at this point in the sentence that readers have to reinterpret *le*'s meaning and coerce the dynamic situation into a stative situation.

Secondly, if the reaction time for a given word was extremely fast (less than 100 milliseconds) or slow (more than 2 standard deviations above the group mean for the word type) or if the subject made a wrong answer to the probe sentence, then for that trial the group mean reaction time will be used instead of the individual reaction time. This procedure allows us to eliminate outliers but keep the rest of the reaction time data for the sentences and the subjects. As a result, 1.38% of the entire data was replaced.

A paired sample correlation test indicates that the correlation between word frequency of the last word and reaction time is not significant ( $r = -0.125, p < 0.495$ ).

### 4.2. Coercion Effect

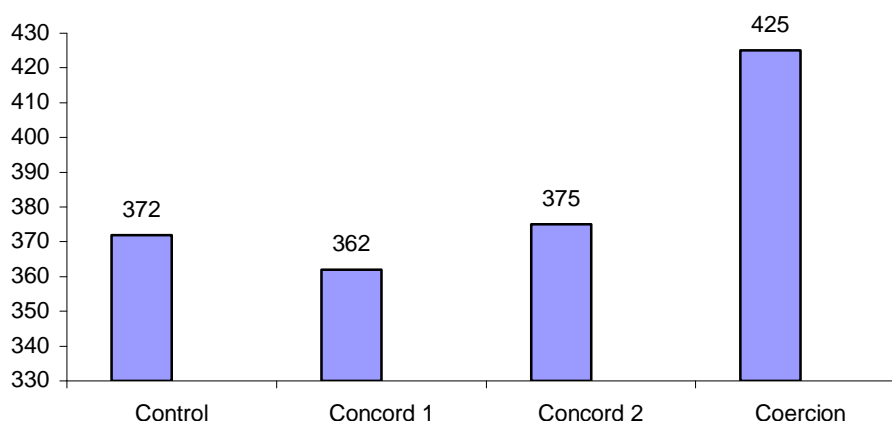
Recall from the stimulus design, there are four conditions: control, concord 1, concord 2, and coercion for each group. Comparing the coercion with the other three conditions in reaction time will determine whether there is a coercion effect. Table 2 depicts mean reaction times of the last words in the second clauses by condition.

Table 2. Mean reaction times (in ms.) of the target words by condition

Condition	Mean	Standard Deviation	N
Control	372	93	35
Concord 1	362	101	35
Concord 2	375	126	35
Coercion	425	135	35

Table 2 demonstrates that the coercion condition has a numerically higher mean reaction time than the other three conditions, while the other three conditions look numerically closer to each other in reaction time. In the coercion condition, the reaction time is 50 milliseconds longer than in the concord 2 condition, 63 milliseconds longer than in the concord 1 condition, and 53 milliseconds longer than in the control condition. Thus, coercion stands out among the four conditions. The contrast is clearer in Figure 1.

Figure 1. Mean reaction times ( in ms.) of the target words by condition



The results of a repeated measures ANOVA with condition as factor show that there is a main effect of condition ( $F(1,34)=7.753, p<0.000$ ). The results of the Tests of Within-Subjects Contrasts suggest that there is a significant difference between control and coercion ( $F(1,34)=12.619, p<0.001$ ), between concord 1 and coercion ( $F(1,34)=18.315, p<0.000$ ) and between concord 2 and coercion ( $F(1,34)=14.125, p<0.001$ ).

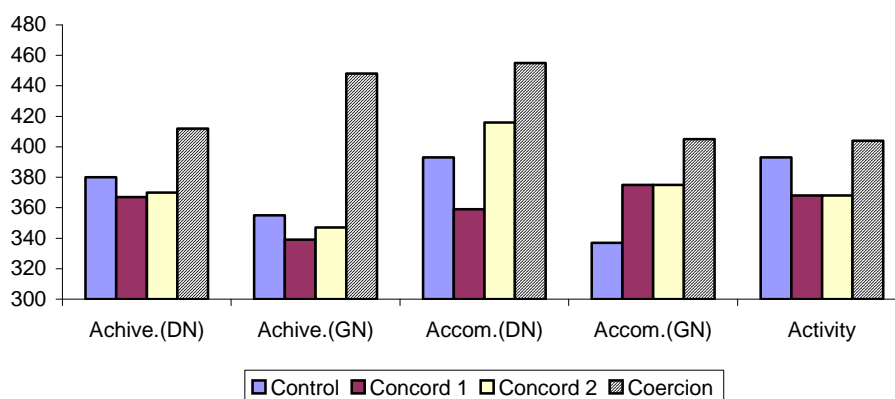
If we examine each group, we can make a more detailed comparison by condition and situation. Table 3 illustrates the comparison between situations and conditions for the five situations.

Table 3. Mean reaction times (in ms.) by situation and condition

Situation type	Control	Concord 1	Concord 2	Coercion
Achievement (DN)	380	367	370	412
Achievement (GN)	355	339	347	448
Accomplishment (DN)	393	359	416	455
Accomplishment (GN)	337	375	375	405
Activity	393	368	368	404

As seen in Table 3, the coercion column is all above 400 ms.; all other conditions are below 400 ms. (except one: achievement DN in the concord 2 condition). Figure 2 further illustrates the contrast.

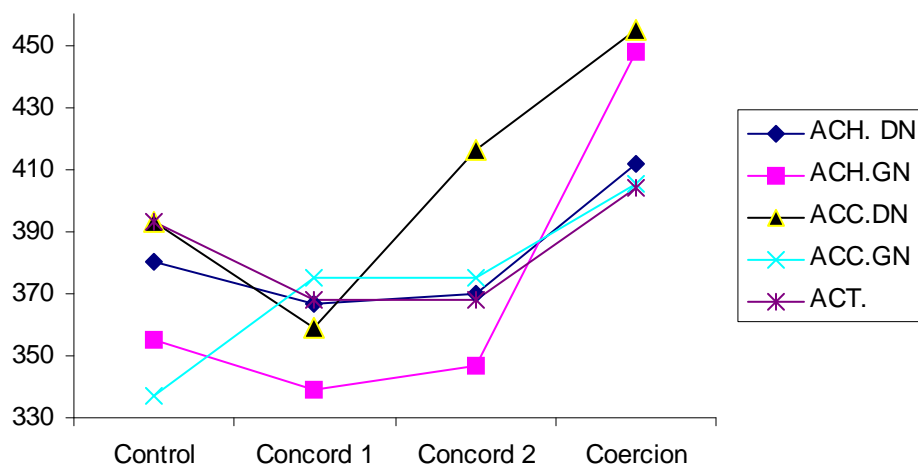
Figure 2. Mean reaction times (in ms.) by situation and condition



A 4x5 repeated measures ANOVA (with 4 levels by condition and 5 levels by situation) indicates that there is a main effect of condition ( $F(1, 34) = 8.988, p < 0.000$ ). The result of the Tests of Within-Subject Contrasts show that there is a significant difference between coercion and concord 1 ( $F(1, 34) = 19.656, p < 0.000$ ), coercion and concord 2 ( $F(2, 34) = 17.805, p < 0.000$ ), and coercion and control ( $F(3, 34) = 12.681, p < 0.001$ ). This shows that coercion constructions are processed significantly more slowly than control and concord constructions. This result is consistent with the findings on coercion cost by Traxler *et al.* (2005) and many others and is consistent with the enriched composition hypothesis (Jackendoff, 1997; Pustejovsky, 1991, 1995).

However, there is no main effect of situation ( $F(1,34) = 1.743, p > 0.140$ ) and no interaction between condition and situation ( $F(1,34) = 1.224, p > 0.260$ ). Even if we look into the specific comparisons, there are no further significant effects or interactions. Figure 3 gives us a better view of the contrasts and the general pattern of results.

Figure 3. Mean reaction time comparison between conditions and situations.



The roughly spoon shape of the lines shows that coercion has the longest mean reaction time and control has the second longest mean reaction time, while the concord construction has the shortest mean reaction time. For all sentences in the four conditions, constructions in the coercion condition appear to be more difficult to process than the constructions in the other three conditions, although sentences in the coercion condition are rated as being as plausible as the other sentences in control and concord. The naturalness rating scores for the four conditions are comparable: control is 1.22, concord 1 is 1.28, concord 2 is 1.36, and coercion is 1.21. Thus, difference in the naturalness of the constructions is not likely the reason that the coercion construction is more difficult to process. This leads us to consider the reinterpretation process as the reason for the difficulty in the coercion condition. As we discussed in the previous section, coercion is a multi-step interpretation process in which comprehenders need to change their initial interpretation, retrieve previous semantic and syntactic information to recover an appropriate expression, and add an additional structure (a shift operator such as 想 *xiang*, ‘want to’) to form a coherent interpretation or to make sense of the mismatched sentence and/or expression that is not explicitly expressed in the text. This all entails a more complicated, multi-step form of processing which is both difficult and time costly. Such additional operations do not appear to be necessary for concord constructions.

However, a few questions remain. For instance, is coercion the only reason for the longer reaction time? Could this increased reaction time not also be due to the interpretation commitment<sup>2</sup> that readers are required to make at the end of second clause?

<sup>2</sup> Interpretation commitment means to make interpretation decisions about the meanings or references of certain lexical and syntactic items.



object information to draw boundedness inferences; rather, they waited until they reached the final segment of the sentence. In other words, readers are holding off on making costly inferences of telicity until they are forced to make them. This result is consistent with the minimal commitment hypothesis.

In the case of coercion in this experiment, if the minimal commitment hypothesis is correct, then comprehenders of Chinese will not specify or interpret *le*'s aspectual meaning in the first clause until they get to the last word of the second clause or even to the very end of the sentence. Because they have not committed to any specific interpretation of *le*, the coercion and reinterpretation operations will not take place. Since the interpretation has not gone in any specific direction before they reach the end of the second clause, this interpretation process will be normal, and will not cost any extra time. Thus, this coercion process should not be different from the processes for the concord and control structures.

However, the task demands of this experiment and the results of the statistical analyses favor the commitment account (for detailed discussions, see Marslen-Wilson and Tyler, 1980; Just and Carpenter, 1980; Grain and Steedman, 1985; Frazier and Rayner, 1990). The experiment design may require comprehenders to make decisions earlier because the probe questions and comprehension questions are statements regarding the sentences they just read. Some of the statements are directly related to the telicity of the event described in the target sentences, and the comprehenders may have to be fully committed to the interpretation of the aspectual meaning of *le* before it is too late (they will not be able to go back to read the sentence again, and participants are reminded of this in the beginning of the test).

Moreover, if Chinese comprehenders were not committed to *le* in the first clause, they would not be committed to the last word in the second clause either (it is not the end of the sentence) because they would not realize the clash between *le* and its context; thus, there would be no increased cost in processing for the second clause—they could just wrap it up at the very end of the sentence—the end of the third clause. Therefore, it is very likely that the Chinese comprehenders were committed to *le*'s interpretation and that they later realized the mismatch between the second clause and first clause, forcing them to reinterpret the sentence and reconstruct the first clause by coercing the situation.

Finally, the test results also suggest that *le* encodes perfectivity in dynamic situations and inchoativity in stative situations by default. For dynamic situations, if *le*'s default meaning were inchoativity and if the comprehenders were completely committed to that interpretation of *le*, then they should not have spent a longer time processing the last word of second clause in coercion sentences since the construction would be a concord construction and everything would be straightforward. The only reason that can explain why the comprehenders processed the last word of the second clause in the coercion condition with great difficulty is that *le*'s default meaning is not inchoativity but perfectivity, and thus it involves a coercion process.

Similarly, if native speakers of Chinese had interpreted *le* as perfective in stative situations and were fully committed to *le*'s interpretation early on, they would have to go through a reinterpretation process when they read a *le* sentence in a stative situation, and they should have taken a longer time to read such sentences in stative situations. However, the results do not support this hypothesis. Rather, the reaction times for the sentences in stative situations are the same as in dynamic situations in concord conditions (namely, in sentences where the conjoined clause indicates that *le* is an inchoative; stative situations cannot be coerced into dynamic by contexts, and therefore this kind of coercion construction is not felicitous and not in the test). For example,

12. 天气 冷 了, 你们 多 穿 点 儿 衣服. –stative situation  
*tianqi leng le, nimen duo chuan dianr yifu*  
 weather cold LE, you more wear little clothes  
 The weather is becoming cold now, you guys should wear more clothes.

The first clause in Sentence 12 is a stative situation. When the comprehenders read 天气冷了 *tianqi leng le* 'the weather is becoming cold now', they would not interpret *le* as a perfective marker; if they were to do so, their interpretation would clash with the second clause 你们多穿点儿衣服 *nimen duo chuan dianr yifu* 'you guys should wear more clothes', which is signifying inchoativity or change of state. Clearly, the situation type makes the comprehenders interpret *le* as an inchoative marker in stative situations, and since the following clause matches well with it and is a concord construction, the readers would not spend extra time attempting to encode the last word of the second clause.

## 5. Conclusion

The self-paced reading experiment provides psycholinguistic evidence from Chinese that supports the enriched composition hypothesis. The test results indicate that sentences in coercion conditions are more difficult to process than sentences in control and concord conditions; this is because the processing of context-coerced sentences involves a multi-step reinterpretation process, thus make them more time consuming. These results also suggest that comprehenders are committed to *le*'s interpretation as soon as they encounter *le*, and support the commitment account of sentence processing. In addition, the experiment provides us with another way to examine the relationship between situation type and *le*'s meaning, as well as the relationship between context coercion and *le*'s meaning ambiguity. The experimental results support the situational proposal that situation type affects *le*'s meaning and *le* encodes perfectivity in all dynamic situations and encodes inchoativity in all stative situations. When *le* is used in dynamic situations, it can encode inchoativity through context coercion. The ambiguity of *le*'s meaning in dynamic situations can be explained through context coercion.

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## Chinese Requests in Academic Settings

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Requests can be made direct or indirect depending on the situations. A questionnaire was created to test how Chinese students make requests in academic settings. Several strategies are available to make core requests in Chinese and as well various external and internal modifications are utilized. It has been concluded from the results of the questionnaire data that possibility strategy, inquiry strategy and command strategy are the most preferred strategies used in issuing requests. It provides a clue for Chinese instructors to reflect how to teach students to make appropriate requests in Chinese.

### **0. Introduction**

Pragmatics has been defined as the study of how utterances have meanings in speech situations with speakers and hearers involved (Leech 1983). Utterance meaning is the main research object in pragmatics, whereas sometimes focuses on sentence meaning. For instance, from a pragmatic point of view, a statement like ‘It is hot today’ can be an assertion about the weather, a request to turn on the air conditioner, or some other speech acts, depending on the intention of the speaker in specific situations. By contrast, from a semantic point of view, it has only a single meaning.

Requests can be direct (Pass me that newspaper.) or indirect (Are you finished with that newspaper?). In English in most situations, people are making indirect requests. “People are often indirect in conveying what they mean (Leech 1983: 80).”

Searle (1979) considers speech acts indirect when one illocutionary act is performed indirectly by way of performing another. For instance: “It is hot today.”

The secondary illocutionary act of the utterance is a statement of weather conditions. However, depending on specific contexts, the primary illocutionary act might be making a request to the addressee to turn on the air conditioner. An indirect speech act is made when the primary illocutionary act is performed by means of issuing a secondary illocutionary act.

Leech (1983) relates indirectness to sense and force. The degree of indirectness varies in terms of the length of the inferential path by which the force is derived from the sense.

However, indirect requests seem to contradict what Grice (1983) deems as effective ways of communicating. Grice (1983) proposes a Cooperative Principle (CP), which is constituted by 4 maxims:

- A: Quantity:
  - 1: make your contribution as informative as required
  - 2: do not make your contribution more informative than is required.
- B: Quality: Supermaxim: Try to make your contribution one that is true.
  - 1. Do not say what you believe to be false.
  - 2. Do not say that for which you lack adequate evidence.
- C. Relation:
  - 1. Be relevant.
- D. Manner: Supermaxim: Be perspicuous.
  - 1. Avoid obscurity of expression.
  - 2. Avoid ambiguity
  - 3. Be brief (avoid unnecessary prolixity)
  - 4. Be orderly.

In indirect requests, especially in hints the maxims of quantity and manner: are flouted. The explanation of how the speakers can mean more than they actually say lies, according to Grice, in conversational implicatures. The hearer has to “search for the specific point that was intended by the speaker but not explicitly stated” (Sifianou 1992: 16).

### **1. Politeness and Requests**

Because requests ask people to do something, they inherently constitute face-threatening acts (FTA) (Brown and Levinson 1978). The chief reason for avoiding using direct requests is politeness (Searle 1979; Brown and Levinson 1989). Therefore, studies on requests have traditionally been connected with the research on politeness (Brown and Levinson 1978; Blum-Kulka 1989).

Brown and Levinson (1978) propose five graded hierarchical strategies of politeness, ranging from bald on record (the most direct), through positive politeness aiming at enhancing the addressee’s positive face and negative politeness caring for the addressee’s negative face (conventional politeness), to off-record (non-conventional indirectness, hints) and not performing the FTA altogether.

Depending on the situation, different strategies will be used in performing requests. “Orders and requests are those acts that primarily threaten the addressee’s negative-face want” (Brown and Levinson 1987: 65), because, by performing this speech act, the speaker indicates that he wants the addressee to do or refrain from doing something. These potential face-threatening acts issued by the speaker to the addressee might evoke disobedience from the addressee; thus they are also threats to the speaker’s face wants. So in order to protect the mutually vulnerable face needs and minimize the negative effect the speaker will select the most appropriate strategy of the 5 by measuring the actual situations and taking three general social variables suggested by Brown and

Levinson into consideration: 1: the social distance (D) between the speaker and addressee; 2: the relative power (P) of the speaker and addressee; 3: the ranking of the imposition (R). The weight of the imposition (W) is measured by the formula  $W = D + P + R$ . So eventually the single index W becomes the motive for the selection of one of the five strategies. In some situations, a need for urgency or efficiency tremendously influences the selection of strategy too.

As the assessment of cultural context and social variables varies cross-culturally, different societies may utilize different strategies even for the same activities. There is cross-cultural variation in the preferences for orientation towards positive or negative politeness (Brown and Levinson 1987). It is generally stated that English reflects a negative politeness orientation; English speakers consider keeping one's distance as the way of being polite and prefer using indirect strategies when making requests.

Chinese culture is sometimes assumed to have a negative politeness orientation (Young 1982). However, Lee-Wong (1994) demonstrates in her empirical study that imperative, direct strategies are the dominant ways of making requests in Chinese culture. This may contradict the stereotype that Chinese people are inscrutable (Young 1982). In Chinese, it is typical to "always state one's request or one's main point last, after first articulating the reasons for it. The lack of precision and the failure to address the point directly lead to suspicion that the Chinese speakers were beating around the bush" (79). The contradiction may result from the different points on which the two researchers focus: Lee-Wong (1994) only analyzes the construction of head act (the minimal unit, or the core request) of the requests, while Young (1982) focuses more on the way requests are introduced: the fact that supportive moves are extensively issued before the core requests are made may lead to impression that Chinese people are inscrutable.

Gu (1990) points out the inappropriateness of accounting for politeness phenomena based on the studies of English speech acts. For example, in cultures like Chinese, negative face is not threatened when inviters persist even after the invitees have declined a couple of times. Gu (1990) emphasizes the normative function of politeness in Chinese society. Failure to observe politeness leads to social sanctions. "Society is more than a total sum of its individual constituents when collectivism is more valued than individualism." (Gu 1990: 242)

Gu (1990) suggests that Leech's Politeness Principles (PP) are better able to account for the interaction between Chinese face and politeness. Leech (1983: 132), adopting the concept 'maxim' from Grice's CP, proposes 6 maxims of politeness, each with 2 submaxims:

Tact maxim (in impositives and commissives): (a) Minimize cost to other  
[(b) Maximize benefit to other]

Generosity maxim (in impositives and commissives): (a) Minimize benefit to self  
[(b) Maximize cost to self]

Approbation maxim (in expressives and assertives): (a) Minimize dispraise of other [(b) maximize praise of other]

Modesty maxim (in expressives and assertives): (a) Minimize praise of self [(b) maximize dispraise of self]

Agreement maxim (in assertives): (a) Minimize disagreement between self and other [(b) maximize agreement between self and other]

Sympathy maxim (in assertives): (a) Minimize antipathy between self and other [(b) maximize sympathy between self and other]

## **2. Request Strategies**

CCSARP (The Cross-Cultural Speech Act Realization Project) has been the most extensive cross-cultural study of speech acts. It investigated two speech acts, requests and apologies, across 7 different languages and cultures: in American, Australian, British, and Canadian English, Danish, German, and Israeli, in the same 16 social situations: 8 for requests and 8 for apologies.

In this research I will identify the request as 'request utterances' including the core request, internal and external modifications. Head act will not be used to avoid the confusion because sometimes the head act does not necessarily occupy the beginning position of the request utterances.

It is dangerous to define request utterances as a whole direct or indirect solely based on the directness levels of the core request without considering the internal and external modifications, so I will analyze the request utterances' components such as core request, internal modification and external modification separately.

This study endeavors to investigate the pragmatic aspects of speech act--- requests in Chinese.

## **3. Data Collected From DCT (Written Questionnaires)**

### **3.1. Participants**

25 Chinese students studying at the Ohio State University were asked to complete the questionnaire by providing 14 requests based on the 14 request situations and to rate the weight of each of the 14 requests on a 5-point scale. General information about the subjects, such as their age, gender, education and place of birth, and for the non-Americans, the duration of their residence in America was also been obtained.

The researcher is aware that the linguistic behavior of the Chinese may be affected by their exposure to American culture. In order to minimize this effect, it was emphasized in the questionnaire that situations were taking place in China or Russia respectively and that they were expected to respond in a real Chinese way.

### 3.2. Analysis of Chinese Data

25 Chinese students studying at The Ohio State University participated in the research by filling out the questionnaire containing 14 request situations in Chinese. 345 request utterances were obtained instead of 350. One participant declined to produce a specific request utterance due to the possible excessive imposition of the request. In two cases, individual participants left blanks instead of answering a question. In two cases, the researcher discarded responses that reflected misunderstanding of the situation. Of the 345 request utterances, 125 solely comprise core requests, 220 request utterances with external modifications. Within these 220 request utterances there are 133 request utterances where the external modifications are prior to the core requests and there are 56 request utterances where the external modifications are subsequent to the core requests. There are 31 request utterances which include external modifications both prior and subsequent to the core request. As a result, the total number of external modifications exceeds the number of utterances with external modifications. When the number of the modifications prior or subsequent to the core requests is counted, all the prior modifications are considered as one in the request utterance if the same strategy is used. For instance:

老师，有一本书我急用。但是在图书馆没借到。听说你有，方便借我看看吗？用完就还给你。

Instructor, I need a book urgently. But the library does not have it. I heard that you have it. Is it convenient for me to take a look at it? Once I finish, I will return it to you promptly.

This request utterance has external modifications both prior and subsequent to the core request. Two grounders are used before the core request (“I need a book urgently.” “The library does not have it.”) and are considered as one prior modification. The preparatory “I heard that you have it.” is considered another prior external modification and “Once I finish, I will return to you promptly.” is treated as one subsequent external modification, so in this request, two prior modifications and one subsequent modification are used.

Table 1: Chinese request utterances:

Total number of request utterances	Core requests only	Request utterances with external modifications
345	125	220

Table 2: External modifications of the utterances

Requests with prior modification(s)	133
Requests with subsequent modification(s)	56
Requests with both prior and subsequent modification(s)	31

Among the external modifications, one group of modifications is semantically-oriented, based on the meaning of the sentence, and another group is lexically-oriented, based on specific lexical phrases. 7 types of strategies belong to the semantically-oriented group, and 5 types of strategies are categorized into the lexically-oriented group.

Among the external modifications, one group of modifications is semantically-oriented, based on the meaning of the sentence, and another group is lexically-oriented, based on specific lexical phrases. 7 types of strategies belong to the semantically-oriented group, and 5 types of strategies are categorized into the lexically-oriented group.

The 7 strategies which belong to semantic-oriented group are:

1. Grounders: reasons or justifications for the requests issued.  
同学，有几个单词我不认识，你的字典能借我用一会吗？  
Classmate, I do not know a couple of words. Can you lend me your dictionary for a moment?
2. Preparators: the availability of conditions which make the requests more likely to realize.  
你带钱了吗？借我十元左右。  
Do you have any money with you? Lend me 10 Yuan.
3. Compliments: praise the hearer  
您好，我想找一本书，但就是找不到。这里您比较熟悉，能帮我一下吗？  
I want to find a book, but can not find it. You are pretty familiar with the surroundings. Can you help me a bit?
4. Promise of reward: Promise to offer something in return of the favor.  
我周六要搬家，你过来帮我吧，我请你吃大餐。  
I am going to move this Saturday. Come help me. I will treat you to a feast.
5. Imposition minimizers: to minimize the imposition of the request.  
亲爱的，周末去俱乐部玩，可以借你的照相机用一下不？我给你好好保管哈。  
Dear friend, this weekend I am going to a club. Can I borrow your camera? I will take good care of it.
6. Avoiding (warning) consequence:  
老师，我正在找工作，现在缺少一份推荐信，您看，您也不希望您的学生失业吧。

## DONG: CHINESE REQUESTS

I am looking for a job right now. I need a letter of reference. You do not want your students to be unemployed.

7. Favor: the requester will do a favor for the requestee.

我周末有个活动，你那个贵重的照相机拿来，我替你试用一下?

This weekend I have a party. Lend me your expensive camera. I will try it out for you.

Table 3: The distribution of the semantic-oriented group of external modifications

Total number of external modifications	293
Total number of semantically-oriented external modifications	233
Grounder	164
Preparator	39
Imposition minimizer	17
Compliment	6
Promise of reward	3
Avoiding ( warning ) consequence	3
Favor	1

In this semantic-oriented group of external modifications the two main strategies utilized are grounders and preparators. Grounders are the dominant means that accompany the core requests, used far more than other strategies in issuing the requests. In an addition, grounders occur most often before a request utterance. Among these 164 grounders, 122 occur prior to the request utterance and 42 are subsequent to the request utterance.

Table 4: The distribution of the grounders utilized

Total number of grounders used	164
Grounders prior to the request utterance	122
Grounders subsequent to the request utterance	42

The 5 strategies which belong to the lexical-oriented group are the following:

1. Appreciation. It is expressed by the words 谢谢 “Thank you”.

请问现在几点了? 谢谢!

What time is it now please? Thank you!



2. Causing inconvenience. Words such as 麻烦您，麻烦您一下 “Bother you” or 打搅一下 “bother a little” are used.

麻烦您一下，请问现在几点了？

Bother you once, what time is it now?

打搅一下，你能借我用一下你的笔吗？

Bother you a little, can you lend me your pen?

3. Embarrassment. It is expressed by the specific words such as 不好意思 “I am embarrassed” or 不好意思打搅一下 “I am embarrassed to bother.”

同学，不好意思打搅一下，请问校医院怎么走啊？

Tongxue, I am embarrassed, how to get to university hospital?

老师，不好意思，能不能请您帮忙找一本书啊？找了好久都没有找到。

Teacher, I am embarrassed, can you help me find a book? I can not find it.

4. Apology. The phrase 对不起 “I am sorry” is used.

老师，对不起，由于我个人的原因，作业可能无法按时交了。我可不可以晚一点交啊？谢谢！

Teacher, I am sorry. Because of my personal reasons, I could not turn in the homework in time. Can I turn in later? Thank you!

5. Would you help. The phrase 劳驾 or 方便 is used.

劳驾，问一下，去校医院怎么走？

Would you help, how to get to university hospital?

老师，有一本书我急用，但是图书馆没借到。听说你有，方便借我看看吗？用完就还你。

Teacher, I need a book urgently, but I could not find it in the library. I hear that you have it. Is it convenient to lend it to me? When I have done, I will return it back to you.

The phrase “麻烦您” ‘bother you’ in the strategy of external modification causing inconvenience can stand out as an independent request utterance. For example,

老师，这本书对我很重要。我没找到。麻烦您了！

Teacher, this book is so important to me. I did not find it. Bother you!

Table 5: The distribution of the lexically-oriented group of strategies

Total number of external modifications	294
Total number of lexically-oriented external modifications	61
Appreciation	26
Causing inconvenience	18
Embarrassment	9
Apology	7
Would you help	1

Among the core requests, the distribution of perspectives of the conventional indirect requests is following:

Total number of conventional indirect requests	165
Speaker's perspective	60
Hearer's perspective	105

Speaker's perspective	60
Covert speaker's perspective	42
Overt speaker's perspective	18

Hearer's perspective	105
Covert hearer's perspective	68
Overt hearer's perspective	37

In Chinese, within the conventional indirect requests, requests with inclusive and impersonal perspectives do not occur in the data. The requests attested are either from the speaker's perspective or from the hearer's perspective. Requests with the hearer's perspective occupy a dominant position in the indirect requests. Conventional indirect requests are usually with covert subjects no matter whether they are from the speaker's or hearer's perspective. It is characteristic of Chinese culture that most requests use the unexpressed "you" or "I" as subjects. For instance,

你好，能告诉我现在几点了吗？

Hi, can (you) tell me what time it is now?

导师，这本书我在图书馆找不到，可否借您的用一下？

Advisor, I could not find this book in the library. Can (I) borrow your book for a little while?

The usage and the distribution of the request strategies in the core requests will be discussed next. The request strategies are defined by combining the functional and syntactical structure of the requests. The main strategies utilized in the data are the followings:

1. Command strategy: The speaker commands the hearer to do something. The syntactic structure is bare imperative.

你带钱了吗? 借我十元左右。

Do you have money with you? Lend me ten Yuan.

2. Possibility strategy: The speaker is asking for the possibility that if the hearer can perform the request. The syntactic structure usually is interrogative. This strategy is traditionally termed as conventional indirect strategy.

你好，能告诉我怎么才能到校医院吗?

Hello, can (you) tell me how to get to university clinic?

3. Plea strategy: the syntactic structure of the plea strategy is Qing (please) plus bare imperative.

请借我用一下词典。

Please lend me the dictionary.

4. Inquiry strategy: the speaker usually uses this strategy to ask for some information.

你好，系主任在不在?

Hello, is dean of the department in?

请问Qingwen ‘please ask’ plus inquiry strategy:

你好，请问校医院怎么走啊?

Hello, please how to get to the university clinic?

Politeness elements plus Qingwen plus inquiry strategy:

Those politeness elements considered as external modifications are, for instance:

不好意思，不好意思打搅一下，麻烦一下，劳驾。

同学不好意思，请问现在几点了?

Classmate, I am embarrassed to ask, what time it is now?

5. Desire strategy: The speaker expresses his or her desire, want. The syntactical structure of the desire strategy usually is statement.

对不起，老师，因为家里发生了一些事情，所以我的作业没有按时完成。我希望你能够再给我些时间，这次我会按时完成。

## DONG: CHINESE REQUESTS

Sorry, teacher, because there are some things happening at home, so I have not finished homework on time. I hope you can give me more time. This time I will have it done on time.

Politeness elements (external modifications) plus desire strategy: 麻烦你一下 plus desire strategy.

老师有时间吗? 麻烦你一下, 有个问想向你请教!

Teacher, do you have time. Sorry to bother you. I want to ask you something.

Desire strategy plus permission:

老师, 我想向您借一本书, 不知可以么? 那本书我在图书馆借不到。

Teacher, I want to borrow a book from you. I do not know if I can. I was not able to borrow it from library.

6. Hint Strategy: The speaker does not request directly.

老师, 我正在找工作, 现在缺少一份推荐信。您看, 您也不希望你的学生失业吧。

Teacher, I am looking for a job now. There is a letter of recommendation lacking. You do not want your student under unemployment, don't you?

7. Consultation strategy: The speaker states about what he or she will do and then asks for consultation or permission.

老师, 我的作业不能按时交给你了。 晚一些给你, 行吗?

Teacher, I can not turn in the homework on time. I will give it to you later, is it possible?

8. Need strategy: The speaker expresses his or her needs.

老师, 请问你最近有时间吗? 我的论文里面有一些问题需要请教您。

Teacher, do you have time? I need to ask you some question about the thesis.

Table 6: The distribution of the strategies used in the Chinese questionnaire

Total number of request utterances	345
Possibility strategy	165
Inquiry strategy	69
Command strategy	64
Desire strategy	20
Hint strategy	8
Plea strategy	6
Consultation strategy	6
Need strategy	6

#### 4. Conclusion

When making requests, Chinese students prefer using possibility strategy, inquiry strategy and command strategy. External and internal modifications are utilized elaborately as well. Grounders and preparators are the preferred external strategies used in making requests. The grounders are often provided prior to the core requests introduced. Under different situations one strategy is more preferable than the other. This research provides insights for Chinese instructors to reflect how to better teach students to appropriately make requests in Chinese.

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## DONG: CHINESE REQUESTS

### Chinese Questionnaire:

感谢您参加我们的这次问卷调查.调查中设置了14个情景.请设想这些情景是真实发生的.请您写出在这些情景下您会如何表达您的请求.

#### 第一部分: 您的信息:

年龄: 18 19 20s 30s 40s

性别: 男 女

您的出生地:

您的教育程度: 博士 研究生 大学生

您来美国多久了:

#### 第二部分: 14 个情景:

<b>1:</b> 你是一名学生.你最好的朋友最近买了一个比较贵重的照相机.你想借他(她)的照相机用一用.因为你这个周末要去参加一个俱乐部的活动.你对他(她)说:
<b>2:</b> 你是一名学生。现在是午餐时间，你发现你今天忘带饭卡了，钱包也忘带了，你想向你的好友借点儿钱(5-10块). 你对他(她)说:
<b>3:</b> 你是一名新生.你要去校医院但不知怎么走.于是你问一位正从对面走过来的男生校医院在哪儿. 你对他说:
<b>4:</b> 你是一名学生.你正在一计算机房上网查寻信息.你发现你忘带笔了.但是你需要记下一个重要的信息，你发现做在你旁边的女同学有多余的笔，于是你对她说:
<b>5:</b> 你下周末要搬家.你想请你的一位朋友来帮忙，你对他(她)说:
<b>6:</b> 你想知道现在几点了，你看到坐在你后面的一位同班女生戴着手表，你跟她并不十分熟悉，只不过说过几次话而已，你对她说:
<b>7:</b> 在一语言阅读课上，你在读一篇文章时遇到几个生单词，你看到坐在你旁边的同班男生的桌子上有一本简明外语词典，你想借来用用，于是你对他说:
<b>8:</b> 因为家里发生了一些事情，所以你无法按时交上作业，你想请你的任课男老师能给你延长一些时间.于是你对你的任课男老师说:
<b>9:</b> 你因为生病了所以无法参加期中考试，你想请你的任课老师给你一次补考机会.你对她说:
<b>10:</b> 你的导师是一位男教授，你想向他借一本书. 因为这本书无法在图书馆借到，而你知道你的导师有这本书，于是你找到你的导师，对他说:
<b>11:</b> 你的导师是一位女教授.你想与她约一个时间请教一下有关论文的一些问题.你的导师正巧走过来，你对她说:
<b>12:</b> 你正在找工作，你想请你的任课老师(他是一位教授)帮你写一封推荐信.你对他说:
<b>13:</b> 你是一名学生，你想请一位中年男图书管理员帮你找一本书，你在书架旁已找了很久，但没有找到. 你对他说:
<b>14:</b> 你要问系主任办公室里的一位女工作人员，系主任现在是否在他的办公室里，你对她说:

## **Humor in Discourse: A Linguistic Study of the Chinese Dialect Film, *Crazy Stone* (疯狂的石头)**

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This paper is a corpus study on humor in discourse of the film, *Crazy Stone* (疯狂的石头). Three levels of humor are examined. The first level is strictly linguistic in the study of humor. The second level is from the societal perspective. The third level is the interaction between language and the socio-political context. According to these three levels, three basic findings are (1) the linguistic devices used for creating humorous effect in verbal interactions include phonetic, lexical and discourse devices, (2) irony to current societal situation in China results from the social interactions among interlocutors, and (3) language choice and language form as dialects which contrast with standard and connection with local culture in the socio-political context of modern China are used to create humor.

### **1. Introduction**

Humor is an important tool to achieve certain purposes. Humor is at first a type of language behavior. Attardo defines humor by two criteria (Attardo 2003). The first one is whether the event elicits laughter or smiling. The second one is whether it was produced with the intention of eliciting laughter or smiling.

Even though humor, as a linguistic and interactional process, appears to be a universal human phenomenon, it is more obviously embedded in situated sociocultural context than most other communication. Discourse analysis has recently begun to explore humor in discourse from both the linguistic and socio-cultural perspective. In western context, an approach to humor grounded in interactional sociolinguistics starts not with reified abstractions such as “humor”, “wit”, or “irony”, but rather with the situated interpretation of humor as a speech activity (Davies 2003). However, in the Chinese sociocultural context, there is not as much linguistic data for analyzing humor as in the western context (Chan 2006).

Boxer and Cortes-Conde (1997) analyzed different types of humor in conversational joking, such as teasing, joking about others and self-denigrating. In their article they raised one main question, namely, what are the functions and outcomes of verbal interactions and social interactions that involve conversational joking. Based on their question, three levels of questions are developed to examine humor in discourse in the analysis of the film, *Crazy Stone* (疯狂的石头). The first level is strictly linguistic in the study of humor. The second level is from the societal perspective. The third level is the



interaction between language and the socio-political context. With respect to the three levels, three questions are posed. (1) What linguistic devices are used for creating humorous effect in verbal interactions? (2) What humorous effects result from the social interactions between (or among) the interlocutors? And (3) how does the script writer or director manipulate language choice and language form in the socio-political context of modern China to create humor?

## 2. Methodology

### 2.1 Data

The data of this study is a DVD version of *Crazy Stone* (疯狂的石头), which was released by China Film Group & Warner & Hengdian Film Company (中影华纳横店影视有限公司) in 2006.

The film *Crazy Stone* is made in 2005, directed by a young Chinese director Ning Hao (宁浩). Film setting is in current Chongqing, China, and the film duration is 100 minutes and 26 seconds.

The story is set in the current situation in Chongqing. A valuable jade is discovered in a factory which is going bankrupt. The factory director decides to hold an exhibition of this jade in order to save the factory. He sends two guards, Bao Shihong (包世宏) and San Bao (三宝) to guarantee the safety of the jade. Meanwhile, there are three groups of people who want to steal this jade. One is Xie Xiaomeng (谢晓盟), the son of the factory director, who wants to get the jade in order to pursue a girl. The second is a group of thieves, who are “professional”, while the third is an “international academic” thief, Mike (麦克), who is a Cantonese. The movie is mainly about these three groups of thieves trying to steal one jade in an exhibition, while two guards take measures to stop them. After a series of coincidences, finally a good girl, who is the girlfriend of the protagonist Bao Shihong (包世宏), gets the jade unexpectedly.

This film impressed numerous people in Mainland China. On the one hand, some film critics of Mainland China consider it as “black humor” and reflecting “ridiculous reality”, which means the scenes and the plot in this film not only reflects but also satirizes some current social and cultural problems of China through comedy. This method, namely, using comedy to satirize current situations, definitely intensify the degree of irony in this film. On the other hand, besides the opinions of these critics, the audiences consider this film as humorous, which could make them laugh every five to ten minutes during the movie.

Last but not the least, the outstanding characteristic of this film is the use of all kinds of Chinese dialects, which is also an essential factor to create humor in this movie. In recent Mainland China, the films in which the characters use certain dialects to express certain purposes, such as using a dialect to resist the mainstream discourse, or using a dialect to reflect regional features, are quite popular. In *Crazy Stone*, the director also adopts dialects. Because the story in this film takes place in a big city of China,

Chongqing, the actors' line in this film is mainly in Chongqing dialect, such as the protagonists Bao Shihong (包世宏) and San Bao (三宝). Besides the dominant Chongqing dialect, other thieves in this movie use other dialects. For example, Brother Dao, the leader of the group thieves, speaks Tangshan dialect, which is a type of Hebei dialect. For example, here is a brief list for other dialects used in the movie.

Beijing dialect: Spoken by Xiao Jun (小军)

Qingdao dialect: Spoken by Hei Pi (黑皮)

Tangshan dialect: Spoken by Brother Dao (道哥)

Cantonese: Spoken by Mike (麦克)

Chengdu dialect: Spoken by Secretary Qin (秦秘书)

There are three reasons why the film *Crazy Stone* is chosen. The first reason is it is a comedy. It is a feasible way to analyze humor in comedies. The second reason is this film is the most popular dialect film (so-called 方言电影 in Chinese) in China in 2006. The third reason is this film addresses social and political aspects of life in today's China through humor.

## 2.2 Analysis

In previous studies there are many researches which are based on text corpus or media corpus. This study takes an analytical of speaking approach to the data. The problem for analyzing the humor in a film is that it is difficult for the analyzer to decide whether the conversation is humorous or not, for the reason that the response of the audience is hidden and there is no concomitant laughter in the film. An online list contains most of the humorous conversations in this film, which is picked out and decided by the audience. This list is a representative of most audience's opinion towards humor. Thus I follow this opinion to define humor in this film.

In discussing how humor is built up in the movie, first I analyze the linguistic devices which constitute humor. Then at the discourse level, I employ the approach of discourse analysis. I also examine two factors that are both deeply related to cultural background and essential to humor building up, that is, the irony and the use of dialects.

## 3. Humor in Three Levels

### 3.1 Linguistic Level

Although humor can be considered as the interaction between linguistic process and contextualized reality and highly depended on the situated context, first of all, it is a kind of speech activity. Linguistic devices, such as the vocalization, the lexis and the syntax, are the important factors that construct humor. I divide linguistic devices into four levels: humor at the phonetic level, humor at the lexical level, and humor at the discourse level.

### 3.1.1 Phonetic Devices

Humor at the phonetic level is based on the homophones, the laughter particle, and some vocalization.

(1) 派出所民警：这个事情，我们一定会查清楚。

Policeman: We will figure it out.

包世宏：查查查，擦皮鞋吗！

Bao Shihong: Figure it out...you are the people who brush shoes?

In (1), the homophones cha 查 and ca 擦 in Chongqing dialect raises the humorous effect. There is no difference between the sounds of cha 查 and ca 擦 in Chongqing dialect. Bao Shihong associates the vulgar thing “brush shoes” with the serious job of these police men, through the same sound of the two characters. The contradictory between “figure it out” and “brush shoes” bring out humor.

Another strategy found to creating humor at the phonetic level is using dialect. The regular language in films or TV of Mainland China is the Standard Mandarin, which represent a serious and formal style. However, in recent years, a trend of using dialects in films or TV has become popular, which resists the dominant cultural discourse and conveys the tastes of ordinary people. Moreover, using dialects in films or TV and humor always take place simultaneously. According to this function of using dialect, it gradually becomes an important measure to achieve humorous purpose in films and TV.

By using phonetic devices, both the dialectal sounds contrasting with the pronunciations in Standard Mandarin and the laughter particles are the main trigger of humor.

(2) 包世宏：就这么搞，就这么搞！

Bao Shihong: This is how we do it!

In (2), jiu 就 and zhe 这 are pronounced as [tɔu3] and [lɔŋ3], which is quite different from the Standard Mandarin. The contradictory provides a vivid image of the ordinary people who experience his own life and do not care things which have no relationship with him.

### 3.1.2 Lexical Devices

Humor created by lexical devices includes words and phrases. Most humor is based on two strategies: using word substitution and using vernacular dialectal slangs. Word substitution indicates that changing certain words in an established sentence in order to provide humor.

- (3) 谢晓盟: 翡翠代表我的心.  
Xie Xiaomeng: This jade represents my heart.  
女孩: 花心.  
The girl: Playboy.

There are a series of word substitution in (3). First, Xie Xiaomeng changes the word 月亮 “the moon” in the set phrase 月亮代表我的心 “the moon represents my heart”. Then according to this change, the girl responds by changing another word 心 “heart” in this set phrase as 花心 “flower heart” which means the person is a playboy in Chinese. The similarity in the form but different meanings of the two sentences “the moon represents my heart” and “the jade represents my heart” elicits smiles.

- (4) 谢晓盟: 与爹地斗, 其乐无穷啊!  
Xie Xiaomeng: It's funny to fight with your father.  
(5) 朋友: 搞定没?  
Friend: Have you done?  
谢晓盟: 要浪漫, 先浪费嘛!  
Xie Xiaomeng: To be romantic, be extravagant fist!

In (5), the same strategy is used to create humor. 浪漫 “romantic” and 浪费 “extravagant” have the similar form but unrelated meanings. Through combining them together into one sentence, the discrepancy between the two words are more obvious, making this sentence humorous.

- (6) 包世宏: 敢在太岁爷头上动土!  
Bao Shihong: You dare to touch the soil on the head of the God!  
三宝: 是太岁爷脑壳上.  
San Bao: It's on the “nao ke” of the God!  
包世宏: 是你脑壳上!  
Bao Shihong: It's on your “nao ke”!

Example (6) has already contains the strategy of using dialectal words. Using 脑壳 instead of 头 “the head” increase the humorous effect. In dialect-used film, vernacular dialectal slangs are important linguistic devices for rendering humor at the lexical level. For example:

- (7) 麦克: 我顶你个肺!  
Mike: Demit!
- (8) 黑皮: 我都不稀说你!  
Heipi: I don't even want to criticize you!
- (9) 包世宏: 你娘!  
Bao Shihong: Your mother!

The three examples are all dialectal slang of certain regions. (7) is in Cantonese, (8) is in Shanxi dialect and (9) is in Chongqing dialect. They are also the spoken tags for each character in the movie, which are considered as the symbols of characters. Each of the three has its regional characteristic. When the characteristic is related to a specific cultural and the image of regional people, the audience will feel humorous.

### 3.1.3 Discourse Devices

Discourse devices are rendered in the interaction between the initial sentence and the response to this initiation. Moreover, humor at the discourse level is extremely depended on the context. The approach to examine humor at the discourse level is to examine how one character initiates a discourse and how another character responds to it and to examine the context in which this conversation takes place.

- (10) 小军: 道哥你看, 这个真厉害, 简直就是007!  
Xiao Jun: See, Brother Dao, it's smart! Like 007!  
道哥: 007...还008呢!  
Brother Dao: 007...It's more like 008!

In (10), when Xiao Jun opens Mike's box and see all kinds of professional tools for stealing, he says the box is really like the one belongs to 007. Brother Dao responds by modifying Xiao Jun's term 007 to 008, which indicates that he is laughing at Xiao Jun for his limitation.

- (11) 包世宏: 在我这里, 就值四千八.  
Bao Shihong: It's only worth four thousand and eight hundred yuan.  
三宝: 我给你八千四, 你把它给我吧!  
San Bao: Give it to me! I will give you eight thousand and four hundred yuan!

In (11), the different attitudes towards this precious stone between Bao Shihong and San Bao are presented by the contrast 四千八 “four thousand and eight hundred” and

八千四 “eight thousand and four hundred”. However, the fact is that even San Bao’s gives Bao Shihong 八千四 “eight thousand and four hundred”, Bao Shihong still won’t sell this stone to him. After Bao Shihong denigrated the value of this stone, San Bao actually was teasing him by use the strategy of self-denigrating.

### 3.2 Societal Perspective

In this movie, there are two essential factors in constructing humor. One is irony or satire which is a response to current social and economical situations; another is the use of dialect. The two factors are almost contained in every humorous conversation in the movie. They are the main strategies the director uses to achieve humorous effect and to express critical views towards current social reality.

Irony in the movie can be divided into two categories according to its content. The first category is using irony to satirize the so-called popular culture and modern artists in the society.

- (12) 谢晓盟: 每当我从这个角度看这个城市的时候, 我就强烈地感觉到, 城市是母体, 而我们是生活在她的子宫里面...

Xie Xiaomeng: Every time when I see our city from this perspective, I strongly feel that it’s like the mother’s body, while we are in her venter...

- (13) 谢晓盟: 杀人不见血...在创作这部作品的时候, 有时候真的感觉到, 美像一把利刃一样, 瞬间把我的心灵穿透了...

Xie Xiaomeng: Kill a man without seeing blood...During the period that I create this work, sometimes I really feel that beauty is a sword, which pierces my heart suddenly...

In (12) and (13), the irony is used to satirize the so-called modern artists. The term “the body” and “the beauty”, and the metaphors “the city is like mother’s body” and “beauty is a sword” make these sentences sound like produced by a modern artist, who has a specific modernism or even postmodernism perspective. However, these expressions come from a little scoundrel, Xie Xiaomeng, who has little art education background. The elimination of the boundary between an elegant modern artist and an illiteracy youth shows the audience an irony, that is, the appearance of art, without its essence can be acquired through popular culture and also be used as a symbol of literacy.

Another category of irony in the movie is using irony to reflect the reality, namely, the social and economical problems which the director observes in current China. In the political and ideology context, these problems could only be implied through irony in a comedy.

- (14) 秦秘书: 老谢, 八个月都没发工资了, 搞得有声有色的嘛! 要我说啊, 早点喊大家下岗, 这个才是做善事, 早死早超生呀.

Secretary Qin: Lao Xie, you haven't paid your employees for eight months. You did a good job! ...In my opinion, I would have done a good deed if I had fired all of them. The sooner they die, the sooner they go to the heaven!

In (14), the way for this factory to get rid of the pain caused by the economic development of China is to get rid of the employees; the situation here is already very ironic. However, the more ironic thing is that though we can understand the purpose of getting rid of workers is to save this factory, for the workers in this factory, even losing their job is better than receiving no pay for eight months. It has not achieved its purpose and is ridiculed by the people

- (15) 黑皮: 这纯属道德问题.

Heipi: It's only a moral problem.

道哥: 黑皮, 还是你说得对啊, 道德...

Brother Dao: Heipi, you are right, it's a moral problem...

黑皮: 节哀顺变, 大哥.

Heipi: Take care, Brother.

Example (15) implies another social problem in current China. Some critics argue that there is a tendency in China that the moral standard of Chinese people is declining, due to the growth of mammonism and the implemental orientation. In (15) Brother Dao is crying for the loss of morality, which seems ironic because Brother Dao himself is a thief who lacks basic moral.

### 3.3 Interaction Between Language And the Socio-political Context

Dialect using also plays an important role in creating humor in this movie. The first role is contrasting with standard. Dialects are vernacular languages and considered as informal. The default language in films or TV in Mainland China is the Standard Mandarin, which represent a serious and formal style. The contrast between dialects and the Standard Chinese can easily bring a sense of humor. When the characters use their dialects in a particular context, even just their own spoken tags, these usages can achieve humorous affects. The second role is conveying underlying messages. The director of this film tries to resist the standard political discourse of China in an alternative way and to convey the voice of the masses. Thus we can say that dialect using in *Crazy Stone* indicates that the director tries to resist the standard, the dominant political or cultural discourse in China by deconstructing the respectability, solemnity and seriousness of Chinese films, and also conveys the tastes of ordinary people, such as their complain

about the government, their observations towards all kinds of social problems. The third role is associating with local cultures. The background of this dialectal region and culture is significant to the perception of humor. The knowledge about the dialect and the imagination of the regional people will influence the humorous effect aroused by the dialect. Besides the examples that are given in humor using phonetic devices and lexical devices, there are more examples:

- (16) 黑皮: 咱还费那事干嘛!  
Heipi: Why do we do this to waste our energy?
- (17) 三宝: 抽奖开始了.  
San Bao: The lottery prize begins!  
包世宏: 你要是能中奖, 老子就光起屁股在解放碑跑三圈!  
Bao Shihong: I will run three circles around Jiefang Stele without having pant if you get the prize!

All the humorous effects in these examples have relationship with using dialect. In (16) Heipi speaks in Shanxi dialect. In (17) Bao Shihong not only uses Chongqing dialect but also mentions a symbolic sculpture in Chongqing, Jiefang Stele.

- (18) 谢厂长: 两百多个职工全靠你了! 关键时刻, 你可不要拉稀摆带啊!  
Factory Chief Xie: Two hundred works all rely on you! At this particular moment, you should not have mistakes!
- (19) 包世宏: 小船要过千番浪, 大水不淹一家人, 袍哥从不拉稀摆带!  
Bao Shihong: Tiny boat needs to overcome thousands of waves, while the flood ever submerges its relatives. The brothers never betray their brotherhood!

Here the word “la xi bai dai 拉稀摆带” actually came out from the culture of a kind of brotherhood organization in Sichuan history from Qing dynasty, called “ge lao hui 哥老会.” The members in this organization referred themselves as “pao ge 袍哥,” and “la xi bai dai 拉稀摆带,” means never break any promise. Then this kind of language remained in Sichuan and Chongqing people’s daily use. So for dialect using, the background of this dialectal region and culture is significant to the perception of humor. The knowledge about the dialect and the imagination of the regional people will influence the humorous effect aroused by the dialect.

#### 4. Conclusion

In this paper I examine the humor in the film *Crazy Stone* from three levels, namely, the linguistic level, the societal perspective and the interaction between language



and the socio-political context. The linguistic devices used for creating humorous effect in verbal interactions include phonetic, lexical and discourse devices. Irony to current societal situation in China results from the social interactions among interlocutors. Language choice and language form as dialects which contrast with standard and connection with local culture in the socio-political context of modern China are used to create humor.

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## **A Discourse Analysis of Code-Switching in *Falling Leaves* and *Luoyeguigen* (落葉歸根)**

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This study examines two language versions of Adeline Yen Mah's autobiography, namely, an English version, *Falling Leaves*, and a Mandarin Chinese version, *Luoyeguigen* 落葉歸根. Unlike many other translated autobiographies, the writer herself translated her English work (*Falling Leaves*) into Chinese for Taiwanese readers. Thus, this study can examine how the writer intentionally code switches between Chinese and English to reveal her different identities to readers in Taiwan, on the one hand, and to readers in the United States, on the other. Three phenomena are analyzed in detail and compared across the two versions of the autobiography: 1) frequency of code-switching, 2) different patterns of code-switching, and 3) different functions of code-switching. The preliminary results of this study suggest that code-switching offers a meaningful approach to examine other genres, such as autobiographies and other written texts where a writer may reveal different identities depending on their readers.

### **1. Introduction**

This study investigates how Adeline Yen Mah, a Chinese American writer, utilizes Chinese-English code-switching in her autobiography *Falling Leaves* (written in English) and 落葉歸根 *Luoyeguigen* (written in Chinese) to reveal her cultural and ethnic identity. Many Chinese American writers (i.e., Maxine Hong Kingston and Amy Tan) have vividly illustrated the reality of the Chinese immigrant community through incorporating Chinese-English code-switching in their works. However, it seems that researchers have not shown enough interest in examining the use of Chinese-English code-switching in Chinese American literature.

The closest code-switching study of Chinese American literature is Li (2004), who analyzed the Pidgin English-English code-switching of a Chinese American writer, Maxine Hong Kingston (Li 2004). Li (2004) claims that Maxine Hong Kingston uses Pidgin English-English code-switching in Chinese immigrants' speech so that she can capture the life of Chinese immigrants. Furthermore, Pidgin English-English code-switching helps her demonstrate how Chinese immigrants construct their Chinese American identity. The findings of Li (2004) are valuable because it is the first code-switching study of a Chinese American writer. There is a need to expand Li's (2004) study to Chinese-English code-

switching because it is more commonly used in Chinese American literature than Pidgin English-English code-switching. Furthermore, her study only used code-switching theory and did not fully apply discourse analysis, which provides data of writers' code-switching intentions. Discourse Analysis is able to reveal significant changes of relationships between characters. Therefore, it will be meaningful to investigate Chinese American writers' Chinese-English code-switching with discourse analysis.

## 2. Adeline Yen Mah and the Story of *Falling Leaves* and 落葉歸根 *Luoyeguigen*

Since this paper analyzes the code-switching by Adeline Yen Mah and how code-switching helps to reveal her identity, it is important to first discuss her language and family background. Adeline Yen Mah was born in Tianjin, China on November 30, 1937. She was born into a wealthy and prestigious family. Most of her adolescent years were spent in Shanghai where she attended missionary schools to learn English at an early age. She graduated from a high school in Hong Kong and then went to the United Kingdom to study medicine. After receiving a Medical Doctoral (MD) Degree, she worked at a hospital in Hong Kong. One year later, she immigrated to the United States where she was hired for a medical position. Based on her educational background and her life in the U.K. and in the U.S., she can be considered as bilingual with multicultural background.

Yen Mah's first book, *Falling Leaves*, was published in 1997 and became a New York Times best-seller. This book sold over a million copies world-wide and has been translated into eighteen languages. In 1999, the Chinese version of *Falling Leaves*, 落葉歸根 *Luoyeguigen* was published in Taiwan. *Chinese Cinderella*, the Chinese children's book version of *Falling Leaves*, was published in 1999 sold over a half of million copies world-wide. It received an award from the Children's Literature Council of Southern California in 2000 for Compelling Autobiography. It also received the Lamplighter's Award from the National Christian School Association in June 2002, for the contribution to Exceptional Children's Literature.

*Falling Leaves* is about the journey of an unwanted daughter and how she overcomes many hardships in her life to realize her dreams. Adeline Yen Mah's own mother died after giving birth to her. Because of this, she is considered as "bad luck" and tormented by her siblings as well as mistreated by her father. Shortly after her mother's death, her father remarried a beautiful, young Eurasian woman (whose father is French and mother is Chinese) who was cruel and manipulative. She treated all five of her stepchildren badly, but saved her real hatred for Adeline. Yet, Adeline's Aunt Baba and Grandfather emotionally supported and guided her so that she could focus on her studies. During her adolescent years, her family moved from Tianjin to Shanghai, and then from Shanghai to Hong Kong in order to escape the civil war between the Communist party and the Nationalist party. After she graduated from high school, she went to the United Kingdom and became a doctor. After a one year internship in Hong Kong, she got a job in the United States.

In the U.S., she struggled with her job and her marriage. In the hospital, she was a minority among minority (being Asian female doctor). At home, she lived with a controlling husband. Despite her husband's abusive behavior toward her and her son, she tried to save her marriage. She divorced him, however, upon advice from family. Later, she met her current husband and tried to reconcile with her father and stepmother. However, her stepmother forged her father's will and excluded her from other family members. At the end of her book, Adeline found her father's real will after her stepmother's funeral was finally able to reconcile with her late father.

### 3. Methodology and Research Questions

For this study, I applied the definition of Winford's (2003) code-switching to analyze the use of code-switching and how it reveals the writer's identity. Many scholars have debates on the definition of code-switching. Winford (2003) explains that code-switching is the alternating use of relatively complete utterances from two different languages, alternation between sentential and/or clausal structures from the two languages, and the insertion of (usually lexical) elements from one language into the other. Depending on the purpose of code-switching studies, scholars may further separate the code mixing from the code-switching. However, the purpose of this paper is to investigate the function of code-switching in relation to the writer's identity. Therefore, I applied Winford's (2003) broad definition of code-switching to analyze the language of the writer in two autobiographies.

This paper also draws three theories from discourse analysis theories: functionalist paradigms (Hymes 1974), discourse theory (Gee 2005) and contextualization cue (Gumperz 1982). Functionalists study the use of the speech in acts and events rather than the grammar of the speech. They understand the speech community as the matrix of code-repertoires or speech style (Schiffrin 1994). According to the functionalist paradigms, I consider the speech community of *Falling Leaves* as the writer and American readers, and that of *落葉歸根 Luoyeguigen* as the writer and Taiwanese readers.

Based on my definition of two speech communities of Adeline Yen Mah's autobiography, I applied Gumperz's (1982) contextualization cue and Gee's (2005) discourse analysis theory to studying the Adeline Yen Mah's use of code-switching. Gumperz (1982) explains that contextualization cues (as the constellations of surface features of message form) are the means by (a) which speakers signal and listeners interpret what the activity is, (b) how semantic content is to be understood, and (c) how each sentence relates to what precedes or follows. Gee's (2005) discourse analysis theory further elaborates the contextualization cue in relation to the identity. Gee (2005) states that discourse involves (a) situated identities; (b) ways of performing and recognizing characteristic identities and activities; (c) ways of coordinating and getting coordinate by other people, things, tools, technologies, symbol systems, places, and times; and (d) characteristic ways of social interactions.

Gee (2005)'s understanding on the relationship between discourse and identity matches the social constructionist view of the identity in which I use in this paper. The social constructionist defines that the identity (1) takes place in concrete and specific interaction occasions, (2) yields constellations of identities instead of individual monolithic constructs, (3) does not simply emanate from the individual, but results from processes of negotiation, and contextualization that are eminently social (4) entails discursive work (Fina et al 2006 p. 2). The social constructionist and Gee (2005) claim that the identity is not a set of attributes of speakers. Both argue that identity is constructed through social interaction and negotiation processes.

Based on the above framework, this paper investigates 1) how Adeline Yen Mah utilizes code-switching in her two autobiographies; 2) how the patterns of code-switching is different from *Falling Leaves* and *落葉歸根 Luoyeguigen*; and 3) how different and similar code-switching patterns in two autobiographies help reveal her identity if there is a difference of the use of code-switching between the Chinese and English versions.

#### 4. Findings

There are a total of fifty-one English Chinese code-switching<sup>1</sup> in *落葉歸根 Luoyeguigen* while 110 code-switching occurred in *Falling Leaves*. Also, the code-switching in *Falling Leaves* is not limited to English and Chinese code-switching. There are three French English code-switching and one Cantonese English code-switching. There are two unique patterns of code-switching in Mah's works. One pattern is the use of Chinese family terms in both versions. In her Chinese version, she mainly used Chinese family terms for elders AND her siblings. However, in her English version, she mainly used Chinese family terms for elders but not for her siblings. The other pattern is that the listeners of code-switching narrations and conversations are different in both versions. In the English and Chinese versions of her autobiographies, most of code-switching occurred when she narrated her story. However, in her English version, the code-switching also appeared when the characters have conversations, which is different from her Chinese version. The code-switching patterns used in the Chinese version are the insertion of English proper nouns such as a person's name and the titles of schools or movies. Therefore, most of code-switching is intrasentential code-switching in her Chinese version. Additionally, unlike the literary works from other Chinese American, she uses Chinese idioms written in Chinese characters for her chapter titles and code-switching.

##### 4.1 *落葉歸根 Luoyeguigen*

The Chinese version of the autobiography does not have many code-switching compared with her English version. The code-switching is used when she states the

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<sup>1</sup>When the same code switching appear multiple times in the same context, it is counted as one.

names of places, her siblings English names, medical terms, and the names of songs and movies.

Example 1:

...發現並提煉出麻黃葉的精華，也就是麻黃素 (Ephedrine)。

(Mah 1999, p. 18)

Example 2:

...後來三哥為他們的臥室起了個綽號叫“聖殿” (Holy of Holies)。

(Mah 1999, p. 52)

As the two examples showed, it seems that Mah cannot find the suitable words in Chinese so she borrowed English words to express her thoughts. Also, the English insertion is limited to the proper nouns. For this reason, her Chinese English code-switching in her Chinese version does not have metaphorical functions (e.g., revealing her bilingual and bicultural identity).

I also analyzed the speakers and the listeners when she uses English Chinese code-switching in her Chinese version. Besides the code-switching in siblings' names which her stepmother used, other code-switching does not involve with the change of situation or change of characters or writer's emotions.

Type of CS words	Example	Speaker	Listener	Change of Situation/Emotion
Name of sibling	Lydia, Gregory, Edgar, James, Adeline	Adeline, (once), Parents	Adeline and reader	New stepmother and change of the writer's status
Name of Place	School names Place in U.K. and U.S.	Adeline	Reader	N/A
Name of Medicine	麻黃素(Ephedrine), CAT	Adeline	Reader	N/A
New cultural items	Gone with wind, Singing in the rain	Adeline	Reader	N/A

Table 1: Code-switching patterns in *落葉歸根 Luoyeguigen*

In the case of using English names of the writer's siblings, Mah uses them when her parents call their children's names. Her father previously did not give them English names even though they were attending missionary schools. However, after the arrival of her stepmother, her parents started calling their children's names in English. This indicates

that the change of her father's attitude toward his children. However, as the youngest child in her family, the writer uses Chinese family terms such as 大哥 dage (the eldest brother), 二哥 erge (the second elder brother), 三哥 sange (the third elder brother) and 姐姐 jiejie (the elder sister). By not using their English names, the writer reveals that she is following the Chinese custom when she interacts with her family members. It also illustrates that the writer situated herself as an obedient Chinese daughter despite of her parents' ill treatment.

#### 4.2 *Falling Leaves*

Different from her Chinese version, Adeline Yen Mah uses more Chinese English code-switching in her English version. First, she uses Chinese idioms for the titles of thirty-two chapters<sup>2</sup>. Secondly, she uses Chinese family terms for those who are older than her such as 爺爺 Ye Ye (grandfather) and 娘 Niang (mother for stepmother) except for her siblings. Yet, in her English version, after the chapter five, she calls older brothers and older sisters' names in English. Third, when she describes her emotions such as sadness and conflicts with family members, she uses Chinese English code-switching. Lastly, she inserts Chinese words for the name of places and Chinese cultural items (e.g., food name and political units) in English utterance. The function of the insertion of Chinese proper noun is the same as that of English insertion in Chinese version. She cannot find the appropriate terms in English so she borrows Chinese words in her narration.

The chapter titles in Chinese idioms have many functions in the English version of Adeline Yen Mah's autobiography. First, it signals the reader about the mood of following chapters and how she situates herself in the story of Chinese idioms. Later, she uses the idioms again within her narration or indirect quotes of characters to explain how her Chinese idioms should be interpreted. Appendix 1 shows how Adeline Yen Mah utilizes Chinese idioms for the titles of chapters and in her narration. One pattern of Chinese English code-switching is that Chinese idioms are used in her narration for explaining her emotion, such as sadness and anger towards her family members. For instance, except the title of chapter thirteen 有何不可? *You he bu ke?*, chapter twenty-one 天作之合 *Tian zuo zhi he*, and chapter thirty-two, 落葉歸根 *Luo ye gui gen*, the meanings of Chinese idioms are related to sadness and negative meaning. She also uses these idioms for the negative situations such as fighting between family members. Furthermore, the chapters deal with the struggle among family members.

Another interesting finding in her use of Chinese English code-switching is that the chapters involving negative changes in her life (e.g. chapter six, seven, and seventeen) contain most of the Chinese English code-switching. In chapter six, the writer describes her first struggle between her siblings and her stepmother. Edgar and James, her older

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<sup>2</sup> Please refer to Appendix 1.

brothers, encounter an unfair situation but they realize that they cannot do anything to change their stepmother's treatment.

Example 3:

As we stood side by side mourning her, James glanced at my tear-stained face and murmured sympathetically, 'It won't be like this all the time. Things are bound to get better ... *Suan le!*' (Mah 1997 p.63)

In example 3, the writer uses code-switching in a metaphorical way. Twice she uses the Chinese sentences "*Suan le* (Let it be!)" to describe their hopeless life. In the chapter seven, when her father scolds at his first-born son about his misbehavior, he yells at his son "胡說八道 *Hu shuo Ba Dao!* (Don't talk nonsense eight ways!)". However, the reality is that the parents are mistreating their own children. Specifically, the father only listens to his young, new wife and emotionally neglects his children. Adeline Yen Mah metaphorically uses the Chinese phrase "胡說八道 *Hu shuo Ba Dao!* (Don't talk nonsense eight ways!)" and vividly describes her father's abuse.

In the chapter seventeen, the writer narrates her conflict between her and her first husband. She uses the phrase "嫁雞隨雞， 嫁狗隨狗 *Jia ji shui [sui] ji, jia gou shui [sui] gou* (marry a chicken, follow a chicken; marry a dog, follow a dog)" and "夫妻相敬如賓 *fu qi xiang jing ru bin* (husband and wife should respect each other like honored guests)" in her husband's speech to reveal his personality.

Example 4:

(Mah): 'what's this, a dictatorship? Are we husband and wife or mater and slave? Why can't we talk things over in a calm and logical way?'

(Mah's first husband): '嫁雞隨雞， 嫁狗隨狗 *Jia ji shui [sui] ji, jia gou shui [sui] gou* (marry a chicken, follow a chicken; marry a dog, follow a dog)' (Mah 1997 p.161)

Example 5:

Byron and I kept our distance. This was how he wanted the marriage to be. Heart-to-heart conversations made him acutely uncomfortable. He often quoted the Chinese proverb 夫妻相敬如賓 *fu qi xiang jing ru bin* (husband and wife should respect each other like honored guests). (Mah 1997, p. 163)

These two phrases in examples 4 and 5 mean that a wife has to follow no matter how badly her husband treats her. Her first husband is not a responsible person and only asks her to perform a wife's duty according to the Chinese tradition. By using these two Chinese phrases, Adeline describes her husband as a male chauvinist.



In *Falling Leaves*, she uses family terms in Chinese, such as Ye Ye (grandfather), and Niang (mother-stepmother). However, she does not use Chinese family terminology for her siblings after chapter five. This does not match with her use of family terminology in her Chinese version. One possible reason is that she follows the speech style of American readers. Another possibility is that she wants to feel free in criticizing her sibling's behavior in English. From chapter twenty-four to chapter thirty-one, she discusses how her siblings betray her in order to receive their father's inheritance. If she uses the Chinese family term to indicate her siblings, she needs to situate herself in the Chinese family culture, which does not allow her to criticize them.

## 5. Conclusion

I expected the same amount of Chinese English code-switching in her Chinese and English versions of the autobiography at the beginning of this study. However, Mah only used Chinese English code-switching for the proper nouns such as place names and medical terms in her Chinese version. One of the possible reasons is that the speech community (the writer and Taiwanese readers) does not allow many code-switching patterns in the Chinese autobiography. According to Hymes' (1974) functionalist paradigms, the speech community is the matrix of speech style. In order to follow the matrix of speech style, the writer uses less code-switching in the Chinese version than the English version. Another reason is that her story deals with her family and their conflicts. Since her family's first language is Chinese, they mainly use Chinese in their communications. Therefore, in order to reflect the reality, the writer may not use Chinese English code-switching in her Chinese version except proper nouns.

On the other hand, Adeline Yen Mah utilizes Chinese English code-switching in the English version. Unlike the speech community in Taiwan, the speech community in the U.S. views the code-switching as one rule of Chinese American writer's linguistic repertoire. She uses Chinese idioms as her chapter titles and her narration to show her changes of emotion and situations. The Chinese idioms have two functions in her discourse: the situated identity (Gee 2005) and the contextualization cue (Gumperz 1982). The first function is that it allows Mah to situate herself in the Chinese culture. By identifying herself to the Chinese culture, she can reveal her Chinese identity to the American readers. The second function is that it signals the readers to expect the change of situation and emotion. Furthermore, it shows how each chapter is related to each other.

This is a very preliminary study; as a result, there are a number of limitations of this study. One limitation is that I did not cross-check with the writer's intention of code-switching with the writer. I assume that the writer considers the readers to use different code-switching patterns in Chinese and English versions. In order to improve upon this paper, an interview with the writer would be desirable. Nevertheless, this study can serve to explain the function of Chinese English code-switching in *Falling Leaves*. It also shows how the writer reveals her Chinese identity by locating herself in the Chinese culture through the use of Chinese English code-switching in *Falling Leaves*.

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Appendix 1: Code-switching in *Falling Leaves*: Chinese idioms in chapter titles and utterance

Chapter	Title	Meaning	Speaker/Listener	The Change of Situation/Emotion
1	門當戶對 <i>mendanghudaui</i>	Appropriate door fist the frame of the correct house	Adeline Yen Mah to the reader	Grandfather's marriage
2	點鐵成金 <i>Dian tie cheng jin</i>	Converting iron into gold	Adeline Yen Mah to the reader	Description of her father's ability
3	如影隨形 <i>Ru ying sui xing</i>	Inseparable as each other's shadows	Adeline Yen Mah to the reader	Marriage of her biological mother and her father
4	秀色可餐 <i>Xiu se ke can</i>	Surpassing loveliness good enough to fast upon	Adeline Yen Mah to the reader	Description of her stepmother

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	小巧玲瓏 <i>xiao qiao ling long</i>	petite, vivacious and interesting	Adeline Yen Mah to the reader	description of her biological mother
5	一場春夢 <i>Yi Chang Chun Meng</i>	An episode of a spring dream	Adeline Yen Mah to the reader	The feeling of Aunt Baba after her grandmother's funeral
6*	家醜不可外揚 <i>Jia chou bu ke wai yang</i>	Family ugliness should never be aired in Public, it means Adeline is ugliness in the house	Father to Adeline	Father scolds Adeline because her friend came to her house.
7*	緣木求魚 <i>Yuan mu qiu yu</i>	Climbing a tree to seek for fish	Grandfather to Aunt Baba	Grand father's complaint about stepmother
8	一視同仁 <i>Yi shi tong ren</i>	Extend the same treatment to all	Aunt Reine to Adeline	Aunt Reine's nice personality
9	人傑地靈 <i>Ren jie di ling</i>	Inspired scholar in an enchanting land	Adeline to the reader	Describing her lonely life in boarding school
10	度日如年 <i>Du ri ru nian</i>	Each day passes like a year	Grandfather to Aunt Baba	Describing his loneliness in Hong Kong
11	自出機杼 <i>Zi chu ji zhu</i>	Original ideas in literary composition	Father to Adeline	Father's recognition of Adeline's talent
12	同床異夢 <i>Tong chuang yi meng</i>	Same bed, different dreams	Adeline to the reader	The conflict between father and her sister
13	有何不可? <i>You he bu ke?</i>	Is anything impossible	James (second older brother) to Adeline	Life in the U.K.
14	一琴一鶴 <i>Yi qin yi he</i>	One lute, one crane	H.H (friend who went back to PRC) to Adeline	Hardship during the cultural revolution

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15	釜中游魚 <i>Fu zhong you yu</i>	Fish swimming in a cauldron	Adeline to the reader	Her life in Hospital in Hong Kong (loneliness)
16	匹馬單槍 <i>Pi ma dan qiang</i>	One horse, single spear	Father to the Adeline	Adeline is handing to the U.S.
17*	嫁雞隨雞 <i>Jia ji sui ji</i>	Marry a chicken, follow a chicken	Husband to Adeline	Argument between Adeline and her husband
18	種瓜得瓜 <i>Zhong gua de gua</i>	You plant melons, you reap melons	Father to Adeline	Father's advice about divorce.
19	心如死灰 <i>Xin ru si hui</i>	Hearts reduced to ashes	Adeline to the reader	Sad feeling about parents and her stepsister
20	腹中鱗甲 <i>Fu zhong lin jia</i>	Scales and scales in her belly	Adeline to the reader	Describing disloyal Miss Chen
21	天作之合 <i>Tian zuo zhi he</i>	Heaven-made union	Adeline to the reader	Happiness of finding right person for her
22	四面楚歌 <i>Si mian chu ge</i>	Besieged by hostile forces on all sides	Father to Adeline	Father describing his situation
23	粗茶淡飯 <i>Cu cha dan fan</i>	Coarse tea and plain rice	Aunt Baba to Adeline	Aunt Baba's negative feeling toward Adeline's stepmother
24	飲水思源 <i>Yin shui si yuan</i>	While drinking water, remember the source	Lydia (the oldest sister) to Adeline	Lydia shows her appreciation for Adeline's help
25	一刀兩斷 <i>Yi dao liang duan</i>	Let's sever this kinship with one whack of the knife	Adeline to Lydia	Adeline's anger toward Lydia
26	無風起浪 <i>Wu feng qi lang</i>	Create waves without wind	James (second older brother) to Adeline	James is indicating they can't do anything about their stepmother

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27	近朱者赤，近墨者黑 <i>Jin zhu zhi chi, jin mo zhi hei</i>	Near vermilion, one gets stained pink, near the ink, one gets stained black	Gregory (first older brother) to Adeline	Indicating James is stepmother's side
28	酒肉朋友 <i>Jiu rou pengyou</i>	Wine and meat friends	Father's friend to Adeline	Stepmother has no one around her
29	無頭公案 <i>Wu tou gong an</i>	Headless and clueless case	Lydia to Adeline	Lydia is upset because of Adeline
30	開門揖盜 <i>Kai men yi dao</i>	Opened the door to salute the thief	Adeline to the reader	Her feeling toward Lydia
31	掩耳盜鈴 <i>Yan er dao ling</i>	Steal the bell while covering your ears	Adeline to James	Confront him with her father's real will
32	落葉歸根 <i>Luo ye gui gen</i>	Falling leaves return to their roots	Adeline to the reader	She found her peace in her mind

“\*” indicates the chapter has more than three Chinese English code-switching utterance.

## **Making Requests: A Pragmatic Study of Chinese Mother-Child Dyads**

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The purpose of this study is to investigate different types of requests made by either mother or child in their daily interactions within family environment. The study also aims at addressing how different grammatical structures are used in contextualized situations as well as how a certain pragmatic intent is expressed within a specific context. Data were collected from mother-child interactions in different daily routine activities which were audio-recorded within Chinese family environment. The descriptive analysis system is employed to describe the flow of mother-child dyads. The results show that mothers tend to make both direct and indirect requests, using a wide range of linguistic forms and communicative strategies in different contexts with their children. However, children use more direct requests than indirect ones when they communicate with their mothers, but they do use indirect requests with out-group members such as peers and other adults.

### **0. Introduction**

The interactionist approach suggests that children acquire language through their attempts to communicate with the world around them. A number of researchers have investigated the characteristics of mother-child dyads, and a large number of quantitative and qualitative studies have been conducted to examine the acquisition of different languages in the last two decades. According to Bruner (1983), there are three aspects of children's language acquisition: the first is in terms of well-formedness: that he or she is becoming able to make utterances that conform to the rules of grammar. The second aspect of language is its capacity to make references and to have meaning. The third is pragmatics. "When we say that a child is acquiring language, we must account for another aspect of what is being acquired—that is, its function or communicative intent or how to get things done with words" (Bruner, 1983: 18). Ochs (1988:14) described the relationship among these three aspects as "given that meanings and functions are to a large extent socioculturally organized, linguistic knowledge is embedded in sociocultural knowledge." There appear to be two factors that influence maternal speech: sentence structure and cultural variation (Lee and Nakayama, 2000).

However, very few studies have been done to investigate how Chinese is used in the interactions between young native speakers and their parents and teachers with an eye on its applications to foreign language education. The purpose of this study is to investigate different types of requests made by either mother or child in their daily interactions within a family environment. The study also aims at addressing how different sentence structures are used in contextualized situations as well as how a certain pragmatic intent is expressed within a specific context. In addition, the present study presents some linguistic forms as well as the underlining moral and social norms Chinese mothers would emphasize through the speech act of making requests.

### **1. Literature Review: the Speech Act of Making Requests**

Among the numerous speech acts studied, requesting has continually been the focus for many decades because of both the complexity of the relationship among form, meaning, and pragmatics in requests, and the high social stakes involved for interlocutors when choosing among linguistic options. Bach and Harnish (1984: 48) define the term “request” as “a speech act expressing the speaker’s desire for the hearer to do something with the added proviso that the hearer takes this expressed desire as the reason to act.” In short, a request is basically a face threatening speech act which demands for action of some kind from the other person. Requests may contain the following components according to Zuraidah (1997): address terms, supporting moves, the request proper and internal modifications and the choice of what to include and exclude depends on sociological variables like social distance, power and degree of imposition.

Based on Bach and Harnish’s definition, Kuang et al. (2006) redefined requests as verbal instructions performed by the speaker expressing a desire for the addressee to do a particular thing and usually aim for the addressee to intend to do it and actually to do it. They examined the many varied forms that the speech act of request takes in children’s language use from 5 Malaysian families. They found young children are capable of employing different strategies when making requests in English, but the choice of strategies is dependent on the variable of the addressee, i.e. whether it is the mother, father, sibling (brother/sister) or maid. Their result illustrated that these five Malaysian children tend to be more direct when it comes to getting things done for themselves. However, it is clear that even young children are aware of power differentials and language used for solidarity as contrasted to language used to show distance and power.

Many studies have been conducted to investigate how children with various cultural backgrounds make requests using different forms from this perspective. Children have at their disposal a range of both direct and indirect forms for requesting (Ervin-Tripp, 1977), and although indirect requests increase with age, younger children have as many ways of expressing requests as the older children (Read and Cherry, 1978). It is believed that children use the imperative directives more frequently than requests in the form of questions or hints (Papafragou, 2000).

Zhang summarized (1995) that in the Western literature, requests have been defined as acts by means of which one attempts to get someone else to do something. Zhang (1995) categorized requests in Chinese into two types: direct and indirect. Even direct ones can be viewed at different direct levels. She described indirectness in modern conversation between Chinese as being “associated with information sequencing. . . . The more one beats around the bush, the more indirect one’s speech becomes” (1995:82). Zhang’s study focused on the strategies used by adult speakers driven by politeness concerns in order to redress face. Zhang claimed that in Chinese culture, requests are often regarded as signs of a good relationship and even respect.

Different from these studies which examined requesting as a speech act, Li (2000) advocated that requesting is not only a speech act realized in a single utterance or pair of utterances but should be a pragmatic activity that is achieved sometimes over a series of utterances or accomplished only after an extended period of time. Thus she adapted an ethnographic approach to collect data from the full context of the speech act, and drew heavily on self-reports or narrative accounts of speech acts, not just observed events. The contextualized examples provided in this research illustrated how, through exposure and participation in social interactions and with the assistance of experts or more competent peers, an immigrant woman came to internalize target language and cultural norms and developed communicative competence in ESL in the workplace. More specifically, she learned to make requests more directly than she had been accustomed to doing by adopting certain sociolinguistic strategies and expressions.

## **2. Research Method**

### **Subjects**

The participants were mothers and children from eight Chinese families. Seven Chinese mother-child pairs were from a university-based family-housing community of a mainstream American university. The community is established for students’ and visiting scholars’ families—undergraduate and graduate, Americans and international. Located in a sound area and having Chinese, Korean, Arabic, Indian, Russian and other ethnic groups, the community is internationally diverse and friendly. The Chinese represent one of the largest ethnic groups in the community. The other mother-child pair was from a Chinese community in a middle-size city in the Eastern United States. Four of the children were girls, and four were boys (Figure 1). The age range is from thirty-eight months to ninety-six months as shown on Figure 2 (mean=57). Two mothers were full time employees of the university. Four were full time graduate students with either Teaching Associate or Research Associate positions which require twenty hours of work per week. The other two mothers were housewives.

Four children were only-children, and the other four had siblings. Among these four with siblings were two first-borns and two second-borns. None of them had more than one sibling. Six of the children were born in the United States, and the other two were born in Canada and China respectively. Six children had the experience of living in



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China for more than six months before the age of three. One had only been in China for a couple of months during summer vacations, and one had never been back to China. All of them had the experience of living with their grandparents; six of them had such an experience for more than one year. All the children attend daycare for the whole day, starting at the age of two or three. Two children went to half-day kindergarten. All of the eight children had many Chinese classmates and friends, and seven of the mothers said their children spent a significant amount of time after school playing with Chinese friends. For most of their time at home, all eight children used Chinese to communicate with their parents. Two mothers said their children spoke some English with their siblings at home.

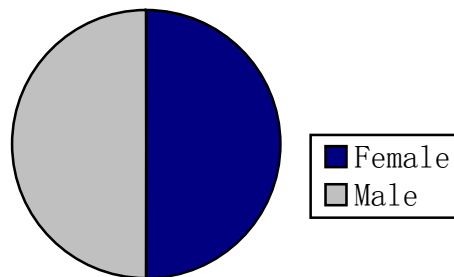


Figure 1 Gender of the children participants

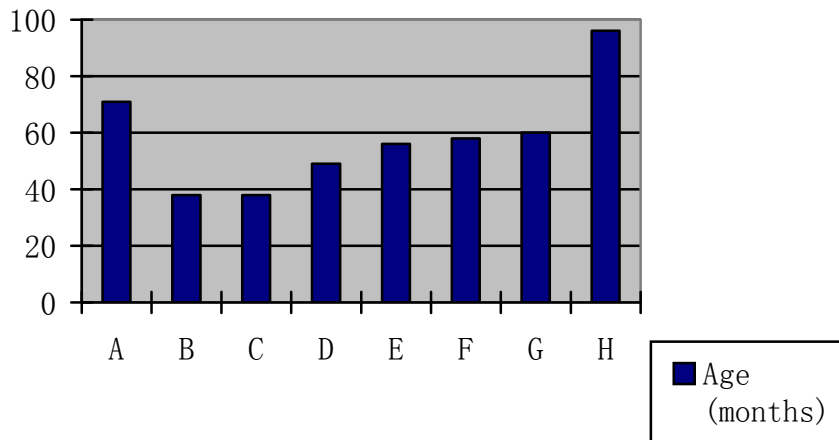


Figure 2 Age range of the children

### **Data Collection**

Daily conversations between children and parents in five families were audio-recorded for a total of more than twenty-five hours. The age range of these five children is thirty-eight to fifty-eight months with the mean of fifty-six. Two were boys and three were girls. Two had siblings, but no conversations between siblings were recorded. The researcher conducted a 20-25 minute interview with each mother in their apartment about the family background and language use in their family. The researcher also explained the research purpose and audio-recording procedure to the mother. The audio-recording equipment, an MD HD digital recorder (model unknown) was set in their living room which is in conjunction with the kitchen, and the instructions of operating the recorder were given to the mother. Even though the recorder was sensitive enough to catch the sound when it is put at a distance from the child, mothers were told to move the equipment near the children and to try to forget about the recording since it was emphasized that the conversations that happened at home should be recorded in as natural a way as possible. The mothers were also told to explain the recording to the child and other family members so that they understood what was going on and did not pay much attention to the recording when they were talking. The mothers were asked to start recording whenever they were at home with their children and felt comfortable to do the recording. It could include any kind of interactions, parent-to-child, child-to-child, child-to-siblings, or child-to-other adults, and any event, from daily routine activities, such as eating dinner, getting ready for shopping, or story telling before bed, to special events, such as a birthday party or friends coming over. The memory card in the recorder has the capacity of about ten hours recording in high quality, but the mothers were asked to record as much as they liked. When the equipment was picked up after about a week, there was about five hours of recording in the memory card. The equipment was then sent to the multi-media studio where the recording was converted onto CD or DVD.

The interactions in the recording were transcribed roughly for the larger project, and for this study, only the speech act of making requests between mothers and children in the recording was selected and re-transcribed.

In the current study, microethnographic analysis is employed to investigate the speech act of requesting in mother-child dyads by examining the moment by moment unfolding of the event and how people build on each others' actions and language and literacy practices in order to achieve the research aims. The data is categorized following Zhang's framework in her study conducted in 1995. The descriptive analysis system, proposed by Green and Wallat (1981), is also employed based on theoretical constructs from the fields of sociolinguistics, conversational analysis, and the study of teaching. The microethnographic analysis help to describe the flow of mother-child dyads, to identify the social cultural ideologies which shape the conversation, to produce maps of the mother-child power relationship, and to provide insights from the basic message units for the identification of social norms and conversational contexts (Green and Wallat, 1981).

### Data Analysis and Results

The data was categorized into four major types: mother-initiated direct requests, mother-initiated indirect requests, child-initiated direct requests, and child-initiated indirect requests.

#### **1. Mother-initiated direct requests:**

Wang (2005; 2001) proposes that Chinese mothers tend to use more didactic speech to help children regulate emotions and behavior, and focus more on conflict resolutions and moral lessons in order to establish social harmony and proper conduct. When asked what were the most commonly used utterances in daily conversations, six mothers mentioned how they asked their children to eat more at dinner: 好好吃饭 *hǎohǎo chīfàn*, to eat in an appropriate way (or to eat more). It seemed eating is very important for the Chinese mothers, and so is sleeping. Several mothers mentioned that children are likely to be told about consequences of not eating well:

不好好吃饭你就长不高  
*Bù hǎohǎo chīfàn nǐ jiù zhǎng bù gāo*  
 You cannot grow tall if you do not eat well.

赶紧睡觉了。  
*Gǎnjǐn shuìjiào le.*  
 Hurry up and go to bed.

An important underlining cultural value in Chinese is social harmony and group solidarity. Mothers constantly emphasize maintaining and keeping good relationships with others when they educate their children. To maintain a good relationship within the group, Chinese parents often tell their children to be polite and not aggressive or offensive. In the interview, most mothers mentioned that they educated their children not to fight or argue with other children at school or at the playground. They also tell their children to be modest in order to keep harmony in the group. For example, this is what a mother told her son before they went to the playground.

不要这样。要好好跟小朋友相处。  
*Bùyào zhèyàng, yào hǎohǎo gēn xiǎopéngyou xiāngchǔ.*  
 Stop that. You'd better get along with your friends.

要好好跟小朋友玩，不许打架。  
*Yào hǎohǎo gēn xiǎopéngyǒu wán, bùxǔ dǎjià.*  
 You should get along with your friends. Do not fight with each other.

不许 *bùxǔ*, together with 别 *bié*, 不要 *bùyào* and 不能 *bùnéng*, are often used by the mothers when they prohibit children from doing something. In the following example, the mother thought her son talked too much during dinner, so she started “table etiquette” education.

别说话，吃饭的时候不能说话。  
*Bié shuōhuà, chīfàn de shíhòu bùnéng shuōhuà.*  
Don't talk. Don't talk while eating.

Chinese children are expected to be good at various aspects. Their parents want them to follow their way for their being good: eating a fair amount of vegetables, going to bed on time, and being good in class. There are many stories in the recording in which mothers make requests in order to set the schedule for children, and arrange the sequence of the actions by telling them to do this first and then that. For example:

今天吃完饭睡觉。  
*Jīntiān chīwánfàn shuìjiào.*  
You will go to sleep after lunch today.

One of the important criteria of judging if a child is good or not within Chinese families is if he/she is obedient. The following request appeared several times in the recording made by different mothers.

乖，听话。  
*Guāi, tīnghuà.*  
Be good. Do what you are told.

The other important theme emphasized by Chinese parents is to recognize hierarchy in the group. They teach their children to use the appropriate term of address in order to recognize the hierarchy among people. The most common type of didactic speech mentioned in the interviews and found in the recordings was to ask their children to greet others using appropriate terms of address. For example,

叫叔叔好  
*jiào shūshu hǎo*  
Say hello to Uncle.

## 2. Mother-initiated indirect requests:

As mentioned above, Chinese mothers make requests to coach their children how to address people appropriately. In another example, the mother made her request

indirectly by checking if her son had said hello to his grandmother during a videoconference when they tried to correspond through the internet. Her son responded negatively using the sentence-final particle 呢 *ne* to soften the confrontation.

妈妈：你跟姥姥打招呼了吗？

*Māma: Nǐ gēn lǎolǎo dǎ zhāohū le ma?*

Mom: Did you say hi to your grandma?

儿子：没有呢。

*Érzi: Méiyǒu ne.*

Son: Not yet.

Mothers use 好吗? *hǎoma?* OK? or the sentence particle 吧 *ba* to make their requests indirect. The following two examples sound like suggestions, but they are the indirect requests mothers made to have their children wash their hands and eat dinner. In the second example, the mother was making a request to eat dinner by adding a sentence-final particle 吧 *ba*, together with the first person plural 咱们 *zánmen*, to “achieve the effect of soliciting the approval or agreement of the hearer” (Li and Thompson, 1981: 307).

先去把手洗了好吗？

*Xiān qù bǎ shǒu xǐle hǎoma?*

Go wash your hands first, okay?

走吧，咱们吃饭去吧。

*Zǒu ba, zánmen chīfàn qù ba.*

Come on, let's eat dinner.

For many cases, there is no clear distinction between suggestion and request. However, the indirect requests made by mothers sound more like suggestions because of the power relationship between mother and child. For example, in the following example, the mother was stating using the collective pronoun, which indicates both the listener and the speaker will go to school together, but actually it was the son who was going to school.

妈妈：儿子咱们要上学了。

*Māma: Érzi zánmen yào shàngxué le.*

Mom: Let's go to school, son.

In the following example of the interactions between mother and daughter, the mother used an “A-not-A” question with the sentence-final particle 啊 *a*, to request her

daughter to draw a picture. “啊 *a*”, unlike “吧 *ba*”, used in this kind of question, has the semantic effect of softening the query.

妈妈：那你现在想不想画画啊？  
*Māma: Nà nǐ xiànzài xiǎngbùxiǎng huàhuà a?*  
 Mom: Then do you want to draw a picture now?

### 3. Child-initiated direct requests:

Children often make their “intentional” statement directly, which fosters a communicative world that is much simpler than that of adults. The verbs 想, *xiǎng*, and 要 *yào* “want” are often used when children make direct requests. For example:

妈妈我要吃冰激凌。  
*Māma, wǒ yào chī bīngjīlíng.*  
 Mom, I want to eat ice cream.

我要吃酸奶。  
*Wǒ yào chī suānnǎi.*  
 I want to eat yogurt.

吃完饭我要出去玩，和文文一起玩。  
*Chīwánfàn wǒ yào chūqù wán, hé Wénwén yīqǐ wán.*  
 After I eat, I want to go out to play with Wenwen.

### 4. Child-initiated indirect requests:

In order to maintain good relationships within a group, Chinese children are often educated to be polite when making requests. They also imitate the requests made by their mothers: the strategies and the linguistic forms. Here are three examples:

妈妈你跟我一起打车标呗。  
*Māma nǐ gēn wǒ yīqǐ dǎ chēbiāo bei.*  
 Mom, let's play chebiao together, will you?

我用这个行不行啊？  
*Wǒ yòng zhègè xíngbùxíng a?*  
 Can I use this?

Without the power, the indirect requests made by children sound more like suggestions. However, children know when, how and to whom to use power in order to make such requests. For example, a girl was asking if another girl wanted to play at her house, but she made it an indirect request by adding the term of address 姐姐 *jiějie*,

older sister, which indicates she was requesting the other girl to come because she is older. In the other examples, one girl was assigning roles in a pretend game, using very simple statements. But with the imbalanced power between the addressee, her play date, and her, she was requesting him to play the role of Daddy and arranging everything in the scene for him without any negotiation. Her play date, understanding her intentions very well, did not say anything and followed her request.

甜甜你要不要到姐姐家来玩呀？

*Tiántián nǐ yào bú yào dào jiějiě jiā lái wán ya ?*

Tiantian, are you coming to play at my (your older sister's) place?

我来做妈妈，你来做爸爸。

*Wǒ lái zuò māma, nǐ lái zuò bàba.*

I will be the mother, and you'll be the father.

这是商店。这是你的书包。好了，走吧。

*Zhèshì shāngdiàn. Zhèshì nǐde shūbāo. Hǎole, zǒu ba.*

This is the store. Here is your bag. OK, let's go.

### 3. Conclusion

The results show that mothers tend to make both direct and indirect requests, using a wide range of linguistic forms and communicative strategies in different contexts with their children. However, children use more direct requests than indirect ones when they communicate with their mothers, but they do use indirect requests with out-group members such as peers and other adults. The results of this study illustrates what Kuang et al. (2006) found that even young children are aware of power differentials and language used for solidarity as contrasted to language used to show distance and power. They know how to choose the appropriate strategies and linguistic forms based on different situations recognizing sociological variables like social distance, power and degree of imposition.

Children learn linguistic forms and communicative strategies from their mothers by imitating the way they make requests; more importantly, they are educated about the sociocultural norms which shape people's behavior in daily interactions with their mothers. Therefore, language acquisition is also a language socialization process. Language socialization theory considers language learning as the simultaneous acquisition of linguistic knowledge and sociocultural knowledge (Ochs, 1993). As Li (2000) advocated, because sociocultural information is encoded in the organization of conversational discourse, language learners acquire tacit knowledge of principles of social order, systems of belief, and sociolinguistic conventions through exposure to and participation in language-mediated interactions. Language-in-use, then, is a major tool for conveying sociocultural knowledge and a powerful medium of socialization.

In addition, as discussed in the data analysis section, there is no clear distinction between suggestion and request. When speech acts of suggestion or request is examined, social variables such as power relationship, social distance, and age have to be considered and analyzed.

#### 4. Discussion

As language teaching professionals, we must therefore deepen our understanding of contexts of language use, developmental pragmatic processes, and ways in which second language learners can be equipped to use language both appropriately and strategically. Teaching them useful linguistic forms within context is as important as teaching certain types of behavior, communicative strategies and sociocultural norms. Therefore, in teaching Chinese as a foreign or a second language, it is important to present the authentic models in the context to the learners. In addition, learners should be trained to recognize the context, and be able to choose appropriate forms, strategies based on the contextualized cues; and teachers should provide opportunities for students to practice using what they have learned. So it is crucial for the teachers to set up the context for the practice, assign roles, and explain the relationship between the roles students are playing.

As for the limitations, first some mothers use English from time to time, or code-switching and code-mixing when they talk to their children, especially when they tell stories. It would be better if the research is done in a pure Chinese environment, such as with families in China. Second, the audio-recording keeps the records of the sound of what has happened, but sometimes there are not enough cues for the context. The researcher has to depend on the linguistic elements and background noise to figure out what was going on when transcribing the recordings. It is always difficult to record what the children are doing since they keep moving around and making all kinds of noise. Some of their talking is only comprehensible for their parents within a specific context. In this sense, audio-recording is not as good as video-recording in terms of keeping records of performances. It would be better if future studies examining the language use in children's interactions or child-adult interactions use video-recording to collect data.

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## Projecting the Unanticipatory: The Mandarin Particle *Ei* and its Projectability in Daily Conversation

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In daily interaction, one of the most important human conducts is to constantly foreshadow or project what unit or action will come next in the unfolding speech. The present paper deals with one such minimal component in Mandarin Chinese, the particle *Ei*, in rising contour, and its projectability in everyday conversation. By taking a conversation-analytic approach, this study attempts to explore the sequential environments in which the particle *Ei* regularly occurs and the interactional actions it accomplishes in talk-in-interaction. Based on interactional data, it is found that the particle commonly occurs in two major sequential environments: in turn-initial position and in a storytelling or reporting. It is proposed that *Ei*-prefacing serves as a turn design, projecting the upcoming unit to be something unanticipatory.

### 1. Introduction

In daily interaction, one of the most important human conducts is to constantly foreshadow or project what unit or action will come next in the unfolding speech (Sacks et al. 1974; Schegloff 1980, 1990, 2007; Streeck 1995). By such projection, the interactants prepare one another for possible trajectories in speech, allowing them to collaborate with each other to organize coordinated actions in the subsequent course of interaction, and to ensure that the interaction can be successfully accomplished. The components available to foreshadow or project, aka ‘prefaces’, can range from non-verbal resources, such as gesture or eye gaze (Kendon et al. 1976; Goodwin 1986), to verbal resources; the latter can range from minimal units like *uh* and *well* (Pomerantz 1984; Schegloff & Lerner 2004) to fully developed pre-sequences such as, *can I ask you a question?* (Drew 1984; Schegloff 1980, 1990).

The present paper deals with one such minimal component in Mandarin Chinese, the particle *Ei*, in rising contour<sup>1</sup>, and its projectability in everyday conversation. The

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<sup>1</sup> This particle can be pronounced in different intonation contours: rising, falling and flat contours. The target particle under investigation in this study is *ei* with a rising contour. *Ei* with flat contour is usually understood to be a hesitation marker and falling *ei* an attention getter or a response token.

particle *Ei*, as a minimal non-lexical token<sup>2</sup>, is commonly characterized as an interjection, showing speaker's inner state of mind, and is regarded as an independent unit from the other parts of the speech. In terms of its function, it has been described as a token that shows a speaker's puzzlement, doubt or surprise (Chao 1968; Liu et al. 1996; Liu 2002). However, as it is used in spontaneous conversation, the particle *Ei* cannot be fully captured without considering its interactional function. By taking a conversation-analytic approach, this study attempts to explore the sequential environments in which the particle *Ei* regularly occurs and the interactional actions it accomplishes in talk-in-interaction.

This study is based on two hours of video data consisting of recordings of ordinary conversations and some short clips taken from television shows or news report. All of the participants are native speakers of Mandarin Chinese from Taiwan. The video recordings consist of the conversations taking place in natural social settings, mostly in gatherings among friends. Through the conversation-analytic approach, this study attempts to address an interactional issue of pervasive relevance, both to participants and to analysts, namely: 'Why that now?' (Schegloff and Sacks 1973; Schegloff 2007). That is, why is the particular token, in this case the Mandarin particle *Ei*, produced in certain particular sequential environment. In order to answer this question, this study will address the following questions: (1) Are there any specific sequential environments in which the particle occurs? (2) In such environments, what particular interactional action does the particle implement?

## 2. Previous analysis and the particle *Ei* in conversation

In previous studies of Chinese linguistics, the particle *Ei*, is traditionally characterized as a *yuqi ci* 'mood particle' or *tan ci* 'interjection' (Chao 1968; Liu et al. 1996; Liu 2002), which is proposed as a token expressing a speaker's emotion and inner state of mind, and as a unit that is naturally independent from the other parts of the talk. Like many other interjections, the particle *ei* is a non-lexical vocal token. As such, it has not been the subject of much research and has received nothing more than a few oversimplified general descriptions.

Chao (1968) characterizes the token as 'indicating puzzling surprise' (p404). Liu (2002), with a focus on the acquisition of Mandarin interjections by non-native speakers, enumerates several interjections and classifies *Ei* as a token 'indicating surprise, astonishment or doubt and disbelief toward a thing or a person'. Liu et al. (1996) focus more on its interactional function, considering it a token that 'do[es] greeting and draw[s] people's attention' (p238). Among previous studies, Wu (1997) first deals with minimal

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<sup>2</sup> The particle is considered as non-lexical in the sense that *ei* is not a conventionalized meaningful sound in Mandarin and there is no character to represent this sound in the Mandarin writing system. Even though some characters with similar pronunciations have been borrowed to represent it, there is no accepted systematic way of doing so. In written texts, this token can be represented by several following Chinese characters '嘖', '欸' and '誒', which none of them is listed with the pronunciation *ei* in the dictionary.

tokens like *Ei* by reference to their sequential position and the actions they complement in talk-in-interaction. On the basis of the turn-initial particle *Ei* and *A*, she notes that a turn-initial particle plus an additional turn component serve as a linguistic resource for a marginal party to make themselves focal or for participants to incorporate a not actively participating party. Following this line, in this article I examine a specific turn-design in which *Ei* is produced.

The major finding of this study concerns the projectability of the particle and evidence from the conversational sequences shows that the particle *Ei* projects the upcoming talk to involve in some kind of shift and to be something unanticipated. It is proposed that by using the turn-initial particles *Ei*, the speakers show their orientation and alert the co-participants to such projection. Based on conversational data, the corpus shows us two common recurrent environments in which the particle *Ei* figures: in a turn-initial position and in storytelling or reporting. It should also be noted that the particle *Ei* in these two environments is usually followed within the same intonation contour by additional elements<sup>3</sup>. The proposal will be demonstrated by considering the particle's placement in the two major distinguished types of conversational environments mentioned above.

### 3. The Particle *Ei* in turn-initial position

A major sequential environment in which the particle *Ei* frequently occurs is in a turn-initial position. In addition, particle *Ei*, as mentioned earlier, is followed within the same intonation contour by additional elements and the follow-up element in this environment commonly appears in an interrogative form. That is to say, turn-initial *Ei* very often prefaces questions, projecting a particular type of inquiry. In this article, I treat *Ei*-prefacing as a turn design and try to explicate and exemplify one of the practices of *Ei*-prefacing: projecting an unanticipated line of talk, an inquiry that concerns affiliated but non-focal aforementioned issues. Therefore, the *Ei*-prefaced question exhibits close association with the inquiries that build on the preceding talk, yet explores certain previously non-focal part/ dimension of what has just been produced. Let us first take a look at example (1).

Example (1) is taken from a dinner table conversation among four participants: Bill, Ann, Irene and Jack. The conversation takes place at Bill and John's residence in LA, with Ann and Irene as their guests. Ann is Irene's friend, visiting from other state. Before the excerpt, Ann mentioned that she transferred at St. Louis when she fled to LA. Bill thus in the beginning of the excerpt asks Ann about interesting places in St. Louis.

(1) Winter Break Dinner\_A concert place<sup>4</sup>

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<sup>3</sup> It should be noted that the Mandarin particle *Ei* can be a free standing token and produced as a complete Turn Constructional Unit (TCU) in its own right.

<sup>4</sup> 1/2/3 S= first/ second/ third single pronoun; 1/2/3 PL= first/second/third plural pronoun; ASP= aspect marker; CL= classifier; COM= complement; COP= copular; FP= final particle;

TSAI: PROJECTING THE UNANTICIPATORY

- 01 Bill: St. Louis shenme haowan.  
St. Louis what interesting  
‘What’s interesting in St. Louis?’
- 02 (0.5)
- 03 Ann: ta you yige [nage:-  
3S have one that  
‘It has uhm-’
- 04 Bill: [<sup>></sup>ta you yige nage yuande nage  
3S have one that round that  
‘It has uhm the round thing.’
- 05 Ann: dui a. ranhou chang zai nali ban yinyuehui.  
right FP then often in there hold concert  
‘Right. And there are concerts there very often.’
- 06 [jiushi nage qiao. haoxiang hen youming.  
COP that bridge seem very famous  
‘That bridge ((arch)) seems to be very famous.’
- 07 Bill: [oh::.  
‘Oh.’
- 08 Ann: =naci wo wen nage uncle de. ta jiushi nian na de.  
that\_time 1S ask FILL uncle FP 3S COP study there FP  
‘I asked Uncle last time. He used to study there.’ ((To Irene))
- 09 Irene: oh, ta shi nian St. Louis de ou.  
Oh 3S COP study St. Louis DE FP  
‘Oh, he studied at St. Louis?’
- 10 Ann: hm.  
‘hm.’
- 11 Irene: oh::.  
‘Oh.’
- 12 Bill: chule nage jiu meiyou shenme haowan de.  
besides that then NEG something interesting NOM  
‘Besides that, is there anything else interesting (there)?’
- 13 (1.6)
- 14 Ann: renjia gen wo jiang hen piaoliang. keshi wo mei [qu guo.  
people to 1S tell very beautiful but 1S NEG go ASP  
‘I heard that (it’s=St. Louis is) very beautiful. But I haven’t been there.’
- 15 Bill: [°hen piaoliang.  
very beautiful  
‘Very beautiful.’

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FILL=filler; NEG= negator (negation words); NOM= nominalizer; PAR= particle; PROSS= progressive

- 16 (3.7)
- 17 Jack:→ °*ei*: bushi (.) you yi-ge difang guding hui you nage-  
ei NEG have one-CL place fixed will have FILL
- 18 (2.3) um: (tsk) <E hip hop E> de nage  
um hip hop NOM FILL
- 19 (1.2) haishi <E rock E> yinyuhui.  
or rock concert  
'Ei, isn't there a place which regularly has um- um: (tsk) hip  
hop- or rock music concerts.'
- 20 (0.8)
- 21 Jack: lu- lutiande.  
outdoor.  
'Outdoor.'
- 22 Bill: ((shaking his head.))

((Jack continues to describe the concert in his mind and the participants extensively engage in identifying the place thereafter.))

The target lines are line 17-19 in which Jack selects himself, initiating the turn with the particle *Ei* and posing a question with several hitches, seeking help from the others to locate a supposedly famous place that regularly holds music concerts. Lines 1-7 comprise the first spate of talk, in which Bill and Ann talk about interesting places in St. Louis and reach a consensus that the Gateway Arch is a landscape of St. Louis ('the round thing' in Bill's line 4 and 'the bridge' in Ann's line 6). Bill makes another attempt to seek more information (line 12), to which Ann fails to respond, resulting in a long pause of 1.6 seconds (line 13). In the end, Ann offers a concluding remark, referencing a general second-hand description and demonstrating her lack of authority to answer the question (line 14). Bill registers the receipt of Ann's remark by repeating *hen piaoliang* 'very beautiful' and closes the current sequence. No one proactively selects themselves to talk afterwards and thus a long silence of 3.7 seconds follows (line 16). After the silence, Jack poses the target *Ei*-prefaced question (lines 17-19) at this juncture. Failing to get any response (0.8 seconds in line 20), Jack adds *lutian de* 'outdoors' as additional information in line 21. Bill in the end responds to Jack by shaking his head, showing his lack of the knowledge required to answer.

Considering the fact that the earlier line of talk has recognizably focused on St. Louis, Jack's action of launching a new sequence on a particular place famous for outdoor concerts can arguably be said to be rather unanticipatory. Yet the line of talk is not totally out of blue since the idea of outdoor concerts does not come from nowhere, but is mentioned by Ann when she introduces famous spots in St. Louis in line 5, in which she describes the Gateway Arch as an interesting spot and a place that often holds concerts. The element *yinyunhui* 'concerts' in line 5 is recognizably reused in the



TSAI: PROJECTING THE UNANTICIPATORY

- 011 Linda: kukude. hh. ((talking about the food))  
bitter  
'(It tastes) bitter.'
- 012 (.)
- 013 Irene: → ei: xiang Susan nage fangzu, ta haoxiang shuo  
ei like Susan that rent 3S seem say
- 014 shibushi liu bai haishi qi bai.  
Q six hundred or seven hundred  
'Ei: like Susan's rent, did she say it's about six or seven hundred dollars?'
- 015 Linda: liu qi wu, suoyi [qishi-  
six seven five so actually  
'Six seventy five, so (it's) actually-'
- 016 Irene: [liu qi wu.  
six seven five  
'Six seventy five.'
- 017 (.)
- 018 Linda: chabuduo.  
about\_the\_same  
'about the same (as our rent).'
- 019 Irene: keshi tamen- tamen jiuhui shuo, ni kan ni yi-ge yue  
but 3PL 3PL then say 2S see 2S one-CL month
- 020 sheng liang bai ye. hh.  
save two hundred FP  
'But people will say, look, you can save up to two hundred a month.'
- 021 Linda: keshi qishi meiyou shengdao liang- mm.  
but actually NEG save two mm  
'But you won't save up to two-'
- 022 Jess: yinwei ta [haiyou utility.  
because 3S plus utility  
'Because the utility is not included.'
- 023 Linda: [haiyou utility.  
plus utility  
'Utility not included.'

In line 1, Jess poses a question regarding why some students are able to find a residence with a monthly rent as low as five to six hundred dollars. In line 3 Linda offers a possible explanation for this phenomenon, after which Jess shows her alignment with Linda by uttering agreement token *dui* 'yeah' (line 5) and attempting in line 7 to collaboratively complete Linda's line 6 (Lerner 1987, 1991, 1998). Since Jess's question was responded to and both participants reached a consensus as well, the sequence launched by Jess in line 1 seems to come to a possible closure in line 7. It is likely that Linda has reached such a conclusion; she begins to comment on the food they are eating



(lines 8 and 10), a line of talk that receives no uptake or feedback from Irene and Jess. After a micro pause (line 11), which ostensibly indicates the possible closure of the comments about food, Irene undertakes to lead the talk back to the discussion of monthly rent.

Note that Irene accomplishes such undertaking by an *Ei*-prefaced question (line 12-13). In this case, Irene's inquiry into Susan's monthly rent stays within the same framework of the previous discussion on rent prices. In addition, if we look into the details of the utterance, as in Examples (1), we can observe the reuse of the element in the prior utterances (*Susan nage fangzu* 'Susan's rent' in line 12 versus *fangzu* 'rent' in line 6). Nevertheless, the question shifts the focus to concern an affiliated issue to the preceding talk, i.e. Susan's rent and leads the talk from the discussion of how some people can find a residence with low rent (line 1-6) to a new direction of discussion of whether the rent they are currently paying is reasonable or not: while Irene expresses the idea that Susan's rent is much cheaper than theirs (lines 18-19), Linda insists that the amount does not differ that much since utility is not included in Susan's rent (lines 20, 22).

It is interesting to note that examples cited above occur in a post-completion position, i.e. after the previous line of talk comes to a completion. When the *Ei*-marked question builds on part of the preceding talk in the post-completion position, it is based on the prior talk but advances the conversation at the same time. The new/different take on the earlier talk very often make the utterance the next topic. Such phenomenon of drawing on the prior utterances to move the conversation forward to the next topic is considered being done in a 'stepwise' fashion (Jefferson 1984).

Besides post-completion, turn-initial *Ei*-prefaced question can also occur in post-telling or post-informing position. In the post-telling or post-informing position, the *Ei*-initiated question shifts to address a particular aspect of the earlier talk in order to reconfirm or to clarify. Following this line, such inquiry particularly figures in the contexts where a misunderstanding or lack of shared knowledge is involved. In terms of the sequences, the *Ei*-prefaced questioner very often withholds their responses to the telling or informing, for example, information uptake or assessments, addressing the immediately preceding talk in order to secure a level of relevant understanding among the participants and establish the resources necessary to proceed with the conversation.

Example (3) and (4) illustrate this. Example (3) involves two participants, Hans and Lucy, at an afternoon get-together. Before the excerpt, Hans has been complaining about a mutual friend of theirs, Rachel, and venting his rage about her being inconsiderate and selfish. Attempting to comfort Hans, Lucy suggests that he take it lightly and let it go (lines 1 and 3). Nevertheless, Hans continues his complaining and calls attention to the last time they met Rachel (lines 4-5) – at a gathering in which they were eating Taiwanese cuisine.

TSAI: PROJECTING THE UNANTICIPATORY

(3) Movie\_ Rachel [00:35:52]

001 Lucy: na jiu suan le a.  
then then forget\_it ASP FP  
'Then, forget it.'

002 Hans: [zuihou yi ci-  
last one time  
'The last time-'

003 Lucy: [na ye bu yiding yao lian[luo a.  
then also NEG have\_to need contact FP  
'(You two/ we) don't have to stay in touch.'

004 Hans: [zuihou yi ci  
last one time

005 jianmian jiushi zai- zai taicai na ci. wo=  
meet COP in in Taiwanese\_cuisine that time 1S

006 jiu jide. > ni hai jide ma.<  
just remember 2S still remember FP  
'The last time we met (her), it's- we were having Taiwanese  
cuisine. I remembered. Do you remember?'

((10 lines deleted, in which the two participants are trying to reach a consensus which gathering of Taiwanese cuisine Hans is talking about))

017 Hans: na shi women zuihou yici gen ta jianmian.  
that COP 1PL last time with 3S meet

018 shi qunian [xx.  
COP last\_year  
'That's the last time we saw her (Rachel). That's last year.'

019 Lucy: → [ei: na yici, (0.4) na yici=  
ei that time that time

020 =Rachel you qu ma?  
Rachel have go FP  
'Ei, that time, (.) did Rachel go that time?'

021 (0.8) ((Hans nodding vigorously))

022 Han: Wendy jiushi yao qu shopping. Sheila ye shi a.  
Wendy just want go shopping Sheila also COP FP  
'(That time) Wendy wanted to go shopping. Sheila did, too.'

023 >ranhou, (.) jiushi na yici, ta bushi jiu  
then COP that time 3S NEG then

024 yizhi baoyuan sanmin xinshui hen di.=  
keep complain Sanmin salary very low  
'And then that's the time that she (Rachel) complained how  
low her salary was.'

- 025            =ranhou Sheila hen shengqi a.  
                  then Sheila very angry FP  
                  ‘And Sheila was mad.’
- 026 Luc:        shi ou. ((smiling))  
                  COP FP  
                  ‘Really.’
- 026 Han:        hm ((nodding)) Sheila gen wo baoyuan ma.  
                  hm Sheila to me complain FP  
                  ‘Hm, Sheila complained to me.’
- 027            ta shuo, (.) ta xinshui bi wo hai gao ye.  
                  3S say 3S salary more 1S even higher FP
- 028            ranhou Sheila hen shengqi a  
                  then Sheila very angry FP  
                  ‘She said, her (Rachel’s) salary is even higher than mine (but she complained to me).’

As soon as the agreement regarding which gathering Hans is referring to is reached in line 16, Hans instantly resumes the line of conversation that was left off and continues his telling in lines 17 and 18, concluding that the gathering in question was the last time they saw Rachel and that it has been one year since then. Hans’ telling in lines 17-18 seems to be designed as a return to the on-going activity (complaining about Rachel) that has been interrupted, and this return presumably attempts to solicit Lucy’s uptake or alignment. Nevertheless, Lucy poses an *Ei*-prefaced question in lines 19 and 20. As in other examples Lucy uses a topicalizing device to bring that particular gathering - the one on which a consensus has just been reached - into focus, and turns to ask with specific interest whether Rachel showed up. It seems that it is essential for Lucy to confirm that Rachel did in fact show up at the event before she can respond to Hans’s telling.

Lacking the feedback from the recipient, the speaker of the telling usually relapses to an earlier telling after the *Ei*-prefaced question and makes another attempt to seek the relevant next. In this case, right after mentioning one episode reminiscent of that gathering (Wendy and Sheila, two participants in the gathering, wanted to go shopping (line 22)), Hans immediately relapses into his complaining about Rachel by the connector *ranhou* ‘then’ (line 23) and brings up an episode in that particular gathering in which Rachel complained about her salary and made the co-present Sheila uncomfortable (line 23-25), thereby demonstrating the selfishness of which Hans accuses Rachel.

Example (4) is taken from a dinner table conversation among the same four participants as in example (1); in this excerpt, however, Bill does not participate.

(4) Winter Break Dinner\_April Rhapsody

- 001 Ann:        biye            deshihou women tongxue    dajia    you-  
                  graduate    time            1PL    classmate    all       ASP

TSAI: PROJECTING THE UNANTICIPATORY

- 002            jiu kaihui jiu qu pai.  
 then discuss then go shoot  
 ‘When (we were) graduating, my class decided to take photos there.’
- 003            ranhou women jiu shuo, wow, haoxing ren(h)ji(h)ansiyue[t(h)ian. hhh.  
 then 1PL then say wow like April\_Rhapsody  
 ‘And we said, wow, it’s just like April Rhapsody (a TV drama).’
- 004 Irene:    dui a, na paiqilai hai bucuo ye.  
 right FP that shoot quite good FP  
 ‘Yeah, it’s quite nice to take photos there.’
- 005 Ann:      dui a. jiushi nage men, hai man guseguxiang.  
 right FP that\_is that door still pretty antique\_style  
 ‘The door is really antique.’
- 006 Irene:    dui. jiushi ni pai- wo shangci shi kan guo shui  
 right that\_is 2S shoot 1S last\_time COP see ASP who
- 007            de. bu zhidao shi wo yi-ge tongxue haishi shui,  
 NOM NEG know COP 1S one\_CL classmate or who  
 ‘Right. If you take- Last time, I saw someone’s (photos). I don’t know it’s my  
 classmate or whoever it is,’
- 008            [ta jiu zai-  
 3S just in  
 ‘S/he (took the photos) in-’
- 009 Jac: →    [en: nimen nage shihou ganghao shi renjiansiyuetian  
 PAR 2PL that time happen\_to\_be COP April\_Rhapsody
- 010            deshihou.  
 time  
 ‘En, that was at the time April Rhapsody was on?’
- 011            (0.8)
- 012 Ann:      [chabuduo.  
 close  
 ‘(It’s) about that time.’
- 013 Ire:       [yanjiusuo.  
 graduate\_school  
 ‘(Around) graduate school.’
- 014 Ann:      dui dui dui.  
 right right right  
 ‘yeah, yeah, yeah.’
- 015 Jac:       yanjiusuo.  
 ‘Graduate school.’

((5 lines deleted, in which Irene and Ann are collaboratively trying to figure out which specific year in graduate school the drama was broadcast on TV))

021 Jac:           ni   zhidao nage shihou, nage- ehem yiqian   Zhang-  
                   2S   know that time       that ehem before   Zhang  
                   Zhangzhongmou shi   taijidian   de   dongshizhang.  
                   NAME                   COP NAME   POSS chairman  
                   ‘You know, around that time, um ehem Zhang used to- Zhang was the founding  
                   Chairman of Taiwan Semiconductor Manufacturing Company.’

((Storytelling continues and the story is about how the celebrated businessman, Chairman Zhang, who was famous for working long hours, had to rush home by 8 o’clock at night to join her wife to watch the TV drama – April Rhapsody.))

Before this conversation takes place, Ann and Irene talk substantially about places that are good for taking photos, especially university campuses. In lines 1-4, Ann describes her experience of taking photos with her classmates on a campus famous for its scenery. Aligning with Ann, Irene chimes in, from lines 4 to 8, to appraise with Ann conjointly the famous campus for taking the photos. Irene’s line 8 somehow becomes weaker and slower, and this is the juncture that Jack comes in. Interrupting Irene’s utterance, Jack in target line 9 launches his turn by the particle *Ei*<sup>5</sup> and poses a question to confirm a piece of background understanding- that is, the temporal relation between *nage shihou* ‘that time’ and *Renjian Siyuetian deshihou* ‘the time of April Rhapsody’; the former refers to Irene and Ann’s graduation time (line 1) and the latter the time the drama *Renjian Siyuetian April Rhapsody*’ (line 4) aired on TV. Although Ann has mentioned these two elements earlier, their temporal relation is implicit and obscure. As a result, Jack poses the question, dealing with this aspect of prior talk and marks this type of question by the turn-initial particle *Ei*. Faced with Jack’s questioning, Ann and Irene collaborate to respond (lines 12-14).

It is interesting to note that while Jack brings up the question, he at the same time withholds his response to Ann and Irene’s talk about photo taking. As a matter of fact, the line of photo taking has never been taken up afterwards, even though there are opportunities, in line 21 with short silence of 0.3 seconds and in line 24 with a long silence of 4.2 seconds, for the participants to do so. In the end, Jack launches a story, from line 26, about the TV drama and a celebrated businessman. Similar to example (1) and (2), the *Ei*-initiated question seems to serve as a device to shift the topic in a stepwise fashion from photo taking to the TV drama. In this case, however, the prior sequence has not naturally come to a completion, rather it is intercepted by the *Ei*-prefaced question. In addition, it should be noted that this case also involves a shift in the participation framework (Goodwin 1986, 2000)<sup>6</sup>. Given that Ann and Irene talk exclusively to each

<sup>5</sup> In the example, the token *Ei* is transcribed as *en* (line 9) since it is hearably produced in a reduced form. The token is so transcribed in attempt to capture the reduced fashion of the production, yet it is considered as the same token as *Ei*.

<sup>6</sup> Similar phenomena have been proposed in Egbert (1997) and Wu (1997). In Egbert (1997), it is proposed that other-initiated repair can be used as “an entry and exit device to a conversation and to transformations in the participation framework” (p611). Wu (1997) suggests that, in terms of

other before Jack joins the conversation, Jack plays a relatively peripheral role in the current talk. Therefore, when he takes the initiative to interrupt Irene and raise the question, he seems to become a more focal participant in the current talk and what his question addresses is oriented to as prominent as well.

In this section, examples illustrate how participants orient to the turn-initial *Ei*-prefacing. Turn-initial *Ei* can occur in post-completion position or in post-telling/post-informing position. The particle *Ei* in these segments serves as a device to alert the recipients and make projection: *Ei*-prefacing projects the upcoming unit to be a question with an unanticipated feature - that is, it projects an inquiry that shifts to concern particular non-focal element or aspect of the prior talk and pursues less anticipatory conversational trajectory. In such context, the *Ei*-marked question observably builds on the preceding talk but advances the conversation at the same time.

#### 4. The Particle *Ei* in storytelling or reporting

The second major environment in which the particle *Ei* occurs is to be produced amidst a storytelling or a reporting, both of which involve an extensive sequence of narration. One observation is that the vocal token *Ei* are produced in a much clear manner in storytelling than those in the turn-initial position and *Ei* in storytelling always precedes a statement. Similar to the proposal mentioned earlier, the particle *Ei* also registers and projects an unanticipated talk to come. Such upcoming unit can be something unexpected twist in terms of the story line or something uncommon, which sometimes serve to be the climax of the story or the important point in the reporting. By using the particle, the speaker also indicates their stance towards the upcoming unit and prepares the participants to treat the unit in the same way. Example (5) and (6) demonstrate this type of particle *Ei*.

In example (5), participants are talking about that the search engine Google can be a very good resource in learning a foreign language. Will in lines 1-4 shares his experience in using Google to facilitate his English writing: when he is not sure if his English expression is ok or not, he types in his expression and search in Google to see if anyone else uses the same expression. Iris, as the main recipient, actively aligns with Will by the agreement token *dui* 'yeah' in line 2 and 4.

(5) Scholarship\_Google

001 Will: [wo ye hui. [wo xianzai da yingwen. [wo ye jiu zhijie-  
 1S also will 1S now type English 1S also then directly  
 'I do (that), too. Now (when) I type in English, I just (go) right to(Google)-'

---

particles *ei* and *a*, a turn-initial particle plus an additional turn component serve as a linguistic resource for a marginal party to make itself focal or for participants to incorporate a not actively participating party.

TSAI: PROJECTING THE UNANTICIPATORY

- 002 Iris: [dui dui dui. [wo ye hui. wo hui- [wo ye shi.  
yeah yeah yeah 1S also will. 1S will 1S also COP  
'Yeah. Yeah. Yeah. I (do that), too. I'll- Me, too.'
- 003 Will: wo jiu bu- bu queding zheyangzi yingwen kebukeyi.  
1S then NEG NEG sure such English Q (ok)  
'When I am not- not sure if English like that is ok or not,
- 004 (.) de shihou, jiu da jingqu kan youmeiyou ren zheyang [yong.  
DE time then type enter see Q (have) people such [use  
'I will type it in and see if anyone uses (the word) that way.'
- 005 Iris: [dui a.  
right FP.  
'Yeah.'
- 006 Will: kexi wo mei-ci da de dou shi, birushuo, in the street.  
pity 1S every\_CL type DE all COP for\_example in the street  
'The sad thing is every time I type, for example, "in the street".
- 007 → ranhou, ei, jiu zhi shengxia ^str(h)eet,  
and\_then ei just only leave street  
'And then, ei, only "street" gets searched.'
- 008 Iris: [huhuh.
- 009 Sean: [huhuh.
- 010 Will: [yinwei in gen [the dou b(h)ei shan(h)diao le huhuh.  
because in and the all PASS delete ASP  
'because "in" and "the" are all dropped (by the search engine).'
- 011 wo yao street zuo shenme.  
1S get street do what  
'I don't need the usage of 'street' at all.' (Lit: What do I have 'street' for?)

From line 1 to line 5, Iris and Will observably align with each other that searching the English expression in Google is a very useful way to check their English writing. Will, however, turns to launch a short telling as to illustrate that this kind of search can also fall short of expectation and the search result can be disappointing. In fact, Will frames the story in the very beginning by starting the story with *kexi de shi* 'the sad thing is..' (line 6) to indicate that the story will be a counter example to the benefits of Google they have talked about. The target line is line 7, in which, right after the time adverb *ranhou* 'and then', Will introduces an unexpected result that we might get from the search engine: the words are not searched as the word string that has been keyed in (*in the street*) but the search engine separates the words and only some words get searched (*street*). Note that the introduction of the surprising search result is preceded by the particle *Ei*. The particle *Ei* in this case is believed to serve as a token to project and prepare the recipients for such surprising and unanticipated result.

The projection nature of the token can be further underscored by a close look at the manner the token is produced and the gesture that accompanies it. First, the token is produced in high pitch and in a very clear manner. Also, when producing the token, Will puts his index finger up in the air in somewhat exaggerated way. This shows that Will has designed this small part of his telling to embody a stance towards the type of the story he is telling. By using the token *Ei* along with the prosody and gestures, Will frames the story as a laughable story with a laughable unexpected ending.

The final example is taken from a clip of a piece of TV news, which reports the recovery status of a celebrity who was severely injured in a car accident a while ago. In the news report, a doctor is being interviewed to comment on the recovery of the patient.

(6) New report\_recovery

001 Reporter: buzhi jiyili huifu, xianzai geng jinbu dao (.) na bi xiezi.  
 not\_only memory recover now even improve reach take pen write  
 'Not only did she regain her memory but also she is well enough to take pens and write something.'

((The shot is switched from the celebrity patient to the doctor))

002 Doctor: ta ^lian xie:zi (.) dou xiangdang bucuo. suoyi zhengge-  
 3S even write all pretty good so whole  
 'She can even write pretty well. So the whole-'

003 → (.) suoyi wo ganggang jiang shuo, ei, ruguo da fenshu dehua,  
 so 1S just talk say ei if give grade if

004 dagai keyi dao, dagai jiushi fen le la hon. dangran  
 about can give about 90 point ASP FP FP of\_course

005 haimei dao man fen de jingjie.  
 not\_yet reach full point DE level  
 'So I just said that, ei, if I need to give her a grade, I can give her about 90 points.  
 Of course, it's not 100 points yet.'

The target line is in the doctor's talk in line 3 when he is commenting on the patient's recovery. In this case, the *Ei*-prefaced clause is embedded in a self-reported speech, which observably does not genuinely recite what has been said before but serves to illustrate the recovery status of the patient. That is, the doctor seems to attempt to give the audience a more specific idea about the patient's condition by analogy with the grading system. Since grading is not normally the way a doctor does to the patient, the doctor seems to produce the utterance in a humorous way and he marks such unanticipated analogy by the particle *Ei*.

In short, the particle *Ei* can also occur amidst a storytelling or a reporting. In such environment, the particle *Ei* appears to register and project an unanticipated line of talk to come, which is commonly an unexpected twist in a story or something uncommon. By using the token, the speaker at the same time indicates their stance towards the upcoming unit and prepares the participants to treat the unit in the same way.



## 5. Conclusion

This study investigates Mandarin speakers' practices of employing the turn-initial particle *Ei* in ordinary conversations, with special regard to the kind of interactional work that they accomplish through these practices. This paper demonstrates that, unlike previous analyses which treat the token *Ei* as an interjection, reflecting speaker's inner state of mind and emotions, it is more frequent for the token to be manifest in two sequential environments: in turn-initial position and in a storytelling or reporting. It is proposed that *Ei*-prefacing in daily conversation should be considered as a turn design to indicate conversational projection and achieve a variety of interactional actions. The study suggests that turn-initial *Ei*-prefacing projects and launches a particular type of inquiry - an inquiry that shifts to concern certain aspect of prior talk and pursues an unanticipatory line of talk. The particle *Ei* in the story or reporting, on the other hand, is constructed and projects an unanticipatory outcome of the story or something uncommon. The speaker places such token in order to indicate their stance towards the upcoming unit and orient the recipient to such stance taking.

The findings of this study indicate that the particles like *Ei*, are far from being mere reflections of a speaker's inner state of mind; instead, the deployment of such non-lexical interjections should be examined in reference to the sequential environments in which they figure and the interactional jobs they accomplish in daily talk-in-interaction. This further implies that we may better understand these interjections or non-lexical minimal tokens if we can revisit them within an interactional framework to study the interactional actions they can accomplish.

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## **How to Say ‘No’ in Chinese: A Pragmatic Study of Refusal Strategies in Five TV Series**

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This paper analyzed situations in which refusal will occur and examined the refusal strategies and corresponding linguistic forms that can be employed to react to various refusal situations in Chinese culture. Since refusal is an act in response to other acts, acts that prompt refusals play an important role in the choices of refusal strategies. Therefore, this paper categorizes situations of refusal according to the initiating acts of refusal. Based on 160 video clips collected from five television series, this paper found that refusal is initiated by four types of acts: request, offer, invitation, and suggestion. Each type can be subcategorized in terms of their different communicative functions. The study can facilitate the instruction of refusal to learners of Chinese from multiple perspectives.

### **0. Introduction**

Although there are a number of studies of refusal, most of them deal with either English or Japanese (e.g., Morrow 1995, Gass & Houck 1999). Only a handful of studies focus on Chinese (e.g., Liao 1994, Chen & Zhang 1995, Chen 1996), and these studies tend to analyze refusal from the perspective of semantic content. Although examples of refusal strategies are given, the contexts in which these strategies were used are not analyzed in detail. For example, they did not study the contextual restriction of each strategy and hence may make over-generalizations. Furthermore, these studies have focused primarily on the person who conducted the refusal so that the party who responded to the refusal is not analyzed. Considering these limitations, it is necessary to examine when, where, and as well as the roles of the interlocutors (“initiator” and “refuser”). This is the kind of knowledge that learners of Chinese most need when they encounter situations of refusals. This paper therefore analyzes situations in which refusal will occur and examines the refusal strategies and corresponding linguistic forms that can be employed to react to certain refusal situations.

Since refusal is an act in response to other acts, acts that prompt refusals play an important role in the choices of refusal strategies. Therefore, this paper categorizes situations of refusal according to the initiating acts of refusal. The data for analysis is collected from five television series. Compared with previous data collection methods,

such as discourse completion tests or role plays, this data collection method has its own advantages for pragmatic study (see section 3).

Based on 160 video clips collected from five television series, this paper found that refusal is initiated by four types of acts: request, offer, invitation, and suggestion. Each type can be subcategorized in terms of their different communicative functions. Based on the data, 12 subcategories were identified (solicited suggestions, unsolicited suggestions, requests for favor, requests for permission/acceptance/agreement, requests for information/advice, requests for action, ritual invitations, real invitations, offers of gifts/favors, offers of drinks/foods and offers of opportunities). A pragmatic analysis was conducted to examine the refusal strategies and corresponding linguistic forms employed to deal with different types of initiating acts.

Both Chinese language instructors and learners of Chinese can benefit from this analysis. For Chinese language instructors, this analysis provides a rationale to select, organize and present examples of refusals in classroom instruction. For learners of Chinese, this analysis functions as a guide to learners on differentiating various refusal situations and directs them to make appropriate linguistic moves when encountering certain initiating acts of refusal.

### **1. Previous Studies on Chinese Refusal**

As previously mentioned, although there are a number of studies of refusal, most of them deal with either English or Japanese (e.g., Morrow 1995, Gass & Houck 1999). Only a handful of studies focus on Chinese (e.g., Liao 1994, Chen & Zhang 1995, Chen 1996). Liao (1994) conducted a qualitative and quantitative study based on data collected from a realistic conversation writing test. English teachers, undergraduates and junior high school students in Taiwan (age, 18-55 yr.), were asked to develop three or four conversations dealing with requests and refusals. Through a qualitative analysis of the collected data, she found 22 refusal strategies and proposed six maxims (sincerity, agreement, tact, address, modesty and economy) underlying these strategies. Liao's analysis was primarily based on the semantic classification of refusal strategies. Although 22 refusal strategies are identified, when, where and to whom these strategies are directed to was not mentioned. In addition, the influence of power, social distance, and rank of imposition on refusal strategies were not examined.

Chen and Zhang (1995) also analyzed Chinese refusal by means of a written discourse completion test with 100 native speakers of Mandarin (50 men and 50 women, who had lived in the U.S. for an average of 2.4 years at the time of the study). Compared with Liao's study (1994), Chen and Zhang (1995) paid more attention to context. They examined the distribution of refusal strategies in response to four types of initiating acts: request, invitation, suggestion, and offer. In addition, they examined the distribution of refusal strategies in relation to social status. However, their data-collecting method determined that the refusal scenarios included in this study were limited. The questionnaire contained only 16 refusal situations. This restricted the analysis to the four general

types of initiating acts. In fact, the four initiating acts could be subcategorized according to the intentions the interlocutors wanted to establish or to the setting where the refusal took place. Different refusal strategies can be used in response to each of these subcategories. For example, the strategies used to refuse a suggestion by a salesman will be quite different from the strategies used to refuse a request by a close friend

Chen (1996) compared how native speakers of English and Chinese EFL learners differ in their perception of what is pragmatically appropriate for refusal and discussed the patterns, characteristics, and beliefs embedded in the differences. Like most previous studies, Chen used a written discourse completion test to collect refusal data from twenty-six native and nonnative speakers of English. The questionnaire in this study contained eight scenarios covering the four initiating acts. The scenarios involved interlocutors of various social statuses, but were limited to acquaintances only. None of the scenarios deal with refusals between strangers and intimates. After the analysis, she concluded that there was a pattern with each language group and for each scenario, and context factors triggered the pattern difference in some scenarios. Chen's study demonstrated that the importance of context to understand and implement refusal. However, due to the limitation of the data-collection method, only eight scenarios were included in this study, which does not provide a comprehensive view of the patterning of refusal strategies.

## 2. Methodology

Considering the limitations of previous studies, this paper tried to answer two research questions: 1) what kinds of refusal strategies are used by Chinese native speakers? 2) When, where and to whom are these strategies used? What attitudes and themes seem to be embedded in these strategies? In order to resolve the first question, this study employed the refusal formula classification first proposed by Takahashi, Beebe and Uliss-Weltz (1990), the most comprehensive and widely used system, to identify the refusal strategies used in Chinese culture. In order to answer the second question, this paper categorized situations of refusal according to the initiating acts of refusal. For each initiating act, other factors influencing the selections of refusal strategies were examined, such as the relationship between the interlocutors, the Chinese concept of "face" and general characteristics of Chinese communication. In this way, situations in which refusals occur will be easily identified and functions conveyed by each strategy can be analyzed.

## 3. The Data

The data for analysis is collected from five television series: *Qīngniǎo de tiānkōng* (青鳥的天空) 'The Sky of the Green Bird,' *Qīngchūn bùjiě fēngqíng* (青春不解風情) 'Youth does not understand amorous feelings,' *Yùwàng* (欲望) 'The Desire,' *Biānjíbù de gùshì* (編輯部的故事) 'Stories in the Editors' office' and *Yī dì jī máo* (一地雞毛) 'Trifles over the ground.' 160 clips of refusals have been selected from these

television series. All these television series are produced after 1990s, which represent modern Standard Chinese.

Compared with previous data collection methods, such as discourse completion tests or role plays, this data collection method has four advantages: 1) clips from television series provide contextual information, which is essential for pragmatic analysis. Most television series present ongoing stories about a specific set of people at specific locations doing certain things in culture. The contextual factors of a refusal instance, such as time, place, and the roles of the participants, can be easily identified in a television series. 2) Video clips from television series record both the verbal and nonverbal behaviors of participants in interactions. This will facilitate the examination of non-verbal behaviors of refusal. 3) Clips from television are materials that are readily adaptable for foreign language learning. They present not only linguistic expressions but also how these expressions are actually uttered in certain contexts by native speakers. 4) From the operational perspective, contextual variables are easier to control in produced video clips data, because researchers can more easily select the genre, the topics and the main characters of the television series. Compared with discourse completion tests which are short segments of realistic interactions, video clips from television series record the whole interaction process of refusal, which includes the information of the turn-taking mechanism and the negotiation strategies. Compared with role plays, data involving more situations can be collected in a relatively short time by means of video clips from television series.

#### 4. Refusal Strategies in Chinese Culture

Based on the classification system by Takahashi, Beebe and Uliss-Weltz (1990), twelve refusal strategies and four adjuncts were identified in the data. Two adjuncts that do not appear in the classification by Takahashi, Beebe and Uliss-Weltz (1999) were observed: address forms and ritual politeness statements. The strategies and adjuncts that appeared in the data are illustrated in the following:

**I. Direct Refusal:** direct denial using denying vocabulary or statements showing unwillingness or inability.

1. Using denying vocabulary

不行。 *bùxíng* 'No'

不可以。 *bù kěyǐ*. 'Can't be done.' / 'Can't be allowed.'

2. Statements showing unwillingness or inability

不用。 *bùyòng* 'Not necessary.'

不要。 *bùyào* 'Don't want.'

算了。 *suànle* 'Forget it.'

## II. Indirect Refusal

1. Statement of regret  
對不起. *duìbùqǐ*. 'Sorry.'  
不好意思. *bùhǎoyìsī*. 'Feel embarrassed.'
2. Excuse, reason, explanation  
我還有事兒。 *wǒ hái yǒu shier*. 'I still have some things to do.'
3. Statement of alternative  
我來吧。 *wǒ lái bā*. 'Let me do it.'  
你可以明天再來。 *nǐ kěyǐ míngtiān zài lái*. 'You can come tomorrow.'
4. Set condition for future or past acceptance  
他去我就去。 *tā qù wǒ jiù qù*. 'If he comes, I will come.'
5. Promise of future acceptance  
下次我一定來。 *xiàcì wǒ yīdìng qù*. 'I will certainly come next time.'
6. Statement of principle  
我丈夫從不收禮。 *wǒ zhàngfū cónglái bù shōulǐ*.  
'My husband never accepts gifts.'
7. Statement of philosophy  
幫人幫到底。 *bāng rén bāng dào dǐ*.  
'Help one, help all.'
8. Attempt to dissuade interlocutor  
你不想做，你可以辭職。 *nǐ bùxiǎng zuò , nǐ kěyǐ cízhí*.  
'If you don't want to do it, you can quit the job.'  
你想過這樣做的後果嗎？ *nǐ xiǎng guò zhèyàng zuò de hòuguǒ ma ?*  
'Have you ever thought about the consequences of acting this way?'
9. Acceptance that functions as a refusal  
你的要求我們會考慮的。 *nǐ de yàoliú wǒmen huì kǎolù de*.  
'We will think over your requests.'
10. Avoidance
  - Nonverbal
    - Silence
    - Hesitation
    - Physical departure



o Verbal

▪ Topic switch

▪ Joke

我不能找你買保險。看到你這麼漂亮的保險推銷員，我一定把我的工資都買了保險。

*wǒ bùnéng zhǎo nǐ mǎi bǎoxiǎn. kàndào nǐ zhème piāoliàng de bǎoxiǎn tuīxiāoyuán, wǒ yīdìng bǎ wǒ de gōngzī dōu mǎi le bǎoxiǎn.*

‘I can't buy insurance from you. Seeing such a pretty insurance saleswoman like you, I will certainly spend all my salary on insurance.’

▪ Repetition of part of request

借錢? jiè qián? ‘Borrow money?’

▪ Postponement

讓我們研究研究。ràng wǒmen yánjiū yánjiū.

‘Let’s think it over.’

▪ Hedge

我試一試吧，但不保證。

*wǒ shìyīshì bā, dàn bù bǎozhèng.*

‘Let me try it, but I can’t guarantee anything.’

這個問題我不太清楚。

*zhègè wèntí wǒ bù tai qīngchǔ.*

I’m not sure about this problem.

**III. Adjuncts:** expressions that accompany a refusal but cannot be used to fulfill a refusal alone.

1. Statement of positive opinion/feeling or agreement

好是好... *hǎo shì hǎo* ‘It’s good, but...’

我很想去, *wǒ hěn xiǎng qù*, ‘I would like to go...’

2. Statement of empathy or understanding

我理解你的處境很難。 *wǒ lǐjiě nǐ de chǔjìng hěnnán.*

‘I realize you are in a difficult situation.’

3. Pause fillers

嗯 *en* ‘uhh’/ 哦, *ò*, ‘oh’ / 那 *nà* ‘well’

4. Gratitude/appreciation

謝謝。 *xièxiè*. ‘Thanks.’

5. Address form

王經理 *wáng jīnglǐ* ‘Manger Wang’

大姐 *dàjiě* ‘Big Sister’

6. ritual politeness statement

別客氣。 *bié kèqì*. 'Don't be polite/ That's OK.'

你太客氣了。 *nǐ tai kèqì le*. 'You are too polite.'

## 5. The Classification of Chinese Refusals

As previously mentioned, this paper tried to analyze refusal strategies in terms of the various types of initiating acts. In the data, refusal is initiated by four types of acts: request, offer, invitation, and suggestion. Each type can be subcategorized in terms of their different communicative functions. The categorization of initiating acts in refusal sequences is shown in the following:

### 1. Invitation

**1) Ritual invitation:** ritual invitation often occurs at the end of the interactions. It functions as a leave-taking act between interlocutors. Through unspecific expressions of invitation, the inviter shows the willingness of maintaining relationship with the listener in the future. For example,

有空到我家來玩兒。

*yǒu kōng dào wǒjiā lái wánér.*

'Come to visit me sometime.'

**2) Real invitation:** it shows speakers' sincere intention to treat the listener and functions as an invitation

### 2. Offer

**1) Gift offer**

**2) Favor offer** (e.g. giving a ride)

**3) Food / drink offer**

**4) Opportunity offer** (e.g. job, promotion)

### 3. Suggestion

**1) Solicited suggestion:** the suggestions asked by the interlocutor

**2) Unsolicited suggestion:** the suggestions voluntarily given by the interlocutor

**A. Personal suggestion:** the suggestions given by the speaker to establish or / and maintain the relationship between the listener.

- Show concern:

天氣涼了，你最好多穿些衣服。

*tiānqì liáng le , nǐ zuìhǎo duō chuān xiē yīfú.*

'The weather is getting cold. You'd better wear more clothes.'

- Develop conversation rapport:

時間不早了，早點回家吧！

*shíjiān bù zǎo le , zǎodiǎn huíjiā bā !*

'Time is running late. Go home earlier!'

- Establish or show membership in a group:

把你當自己人，我才建議你別去的。

*bǎ nǐ dāng zìjǐ rén , wǒ cái jiànyì nǐ biéqù de.*

‘Because I consider you as my insider, I suggested you not go.’

**B. Commercial suggestion:** suggestions to guide others’ commercial thoughts or behaviors, such as the suggestions to buy by salesmen or advertisements.

#### 4. Request

- 1) **Request for favor** (e.g. borrowing or help)
- 2) **Request for permission / acceptance / agreement** (e.g. job application)
- 3) **Request for information/advice** (e.g. product information)
- 4) **Request for action** (e.g. payment)

#### 5.1 Refusal of Invitations

In Chinese culture, sometimes speakers will offer invitation in a ritual way to show politeness. This type of invitation often occurs at the end of the interactions and functions as a leave-taking act between interlocutors. Through unspecific expressions of invitation, the inviter shows his/her willingness of maintaining relationship with the listener in the future. In this paper, this type of invitation is called “ritual invitation,” while the invitation that expresses the addresser’s sincere intention to treat the addressee is called “real invitation.” Different strategies are employed by Chinese speakers to deal with the two types of invitations.

Ritual invitations often occur between acquaintances as a way to show the willingness to maintain relationships with each other. Compared with real invitations, the inviter will not give many details about the invitation. Normally, the invitee tends to accept the invitation without asking for further information. There are no expectations of subsequent actions for both the inviter and invitee. As shown in the following example, A offered a ritual invitation “come and visit us sometime” as a way to indicate the termination of their conversation. Correctly interpreting the intention of A, B accepted the invitation without asking for the details and took leave after the acceptance. Sometimes, when the invitee is not sure whether the invitation is real or ritual, the invitee will ritually refuse the invitation to ascertain the real intention of the inviter.

(A and B are two old friends. One day, they ran into each other on the street. After an exchange of information, A planed to terminate their conversation through a ritual invitation.)

A: 有空去我們家。

B: 行，打電話吧。我有事先走了。

A: 好，拜拜。

A: *yǒukōng qù wǒmén jiā .*

B: *xíng , dǎ diànhuà ba . wǒ yǒushì xiān zǒu le .*

A: *hǎo , bàibài .*

## YANG: CHINESE REFUSAL

- A: Come and visit us sometime.  
B: OK. Call me. I have to leave because of some stuff.  
A: OK. Bye.

From *Yùwàng* (2000) 'The Desire,' episode 8

There are two types of refusals in Chinese culture. One is real refusal when the addressee says "no" directly or indirectly and means "no". The other is ritual refusal when the addressee says "no" directly or indirectly, but in fact the addressee is willing to accept the initiating act. Ritual refusal functions as a polite act to show refuser's considerations of the initiator. The two types of refusals both occur when dealing with real invitation. Different strategies are used in these two types of refusals.

Sometimes, it is difficult to judge whether an invitation is real or ritual. In this case, ritual refusal can be used to infer the real intention of the inviter, except for showing concerns about the costs that the inviter will bear. If the inviter doesn't insist on inviting, the invitation can be interpreted as a ritual one. Then, declining is an appropriate way to respond to this invitation. On the other hand, if the response of the inviter indicates that the invitation is a serious and real one, ritual refusal will lead to a final acceptance. For example,

(After work, two roommates are at home.)

- A: 我們一塊去吃飯吧，我請客！  
B: 幹嘛亂花錢啊，今天還是我做吧！  
A: 哎喲，別做了，難得高興嘛！  
B: 那好吧！  
A: *wǒmén yīkuài qù chīfàn bā , wǒ qǐngkè!*  
B: *gànma luàn huāqián ā , jīntiān háishì wǒ zuò bā !*  
A: *āiyō , bié zuò le , nándé gāoxīng ma !*  
B: *nà hǎo bā !*  
A: Let's dine out together. I'll take care of the bill.  
B: Why waste money? Let me cook today.  
A: Hey, don't cook. It's my pleasure (to treat you).  
B: Alright.

From *Qīngchūn bù jiě fēngqíng* (2001) 'Youth does not understand amorous feelings,' episode 9

In this example, the first response of B is a ritual refusal in response to the invitation by A. In this ritual refusal, B employed a negative opinion "Why waste money?" to show her concern about the cost of A. Then B used an alternative "Let me cook today" to infer whether the invitation is a real one. A declined the alternative and stated the reason of invitation. Therefore, B was certain of the sincerity of the invitation and finally accepted it. As shown in the example, ritual refusal of invitation generally has two functions. On the one hand, it ritually functions as a polite behavior to show concerns about

the costs of the inviter, and indicates gratitude to the inviter. On the other hand, it is also a way to infer whether the invitation is ritual or real. According to the responses by the inviter, the invitee is able to choose appropriate strategies to respond. Normally, the invitee will not give specific reasons, excuses or explanations in ritual refusal. Formulaic expressions to express concerns about the inviter are often employed, such as *tai máfán* (太麻煩) ‘too much trouble’ and *zhēn bùhǎoyìsī* (真不好意思) ‘I am embarrassed.’

When dealing with real invitations, specific reasons, excuses, explanations or alternatives are the primary strategies. The relationship between interlocutors, such as the social status of the inviter, the social distance between the inviter and the invitee, determines whether other strategies are accompanied with the reason. When refusing invitations by acquaintances or people of unequal status, statements of regrets or appreciation will be favored. When refusing invitations by intimates, these statements are infrequently used.

Following are three examples dealing with real invitations by people who are in different relationship with the invitee. Reasons, excuses or explanations are employed as the main refusal strategy in all the three examples. However, various adjuncts are employed in response to different relationships between the interlocutors. Example 1 deals with an invitation by a business partner. Except for a reason, the invitee used an adjunct of gratitude and appreciation (“Thanks for your kindness”) to show thanks for the invitation, since the banquet is specially prepared for the invitee. In Example 2, when dealing with an invitation by a coworker, the invitee used a statement of regret *bùhǎoyìsī* (不好意思) ‘I’m embarrassed’ to soften the refusal. Example 3 deals with an invitation by a close friend. No adjuncts are employed in addition to a specific reason.

Example 1:

(At the end of a work day, two business partners are in the office)

A: 今天晚上公司的管理層為你設宴洗塵。

B: 多謝葛總美意，可是今天不行，晚上六點我還有一個重要的約會。

A: *jīntiān wǎnshàng gōngsī de guǎnlǐcéng wéi nǐ shèyàn xǐchén.*

B: *duōxiè Gězǒng měiyì, kěshì jīntiān bùxíng, wǎnshàng liùdiǎn wǒ háiyǒu yīgè zhòngyào de yuēhuì.*

A: The management level of the company will hold a welcome banquet for you tonight.

B: Thanks for your kindness, Manager Ge, but today doesn’t work. I have an important appointment at six tonight.

From *Qīngchūn bù jiě fēngqíng* (2001) ‘Youth does not understand amorous feelings, episode 1

Example 2:

(at the end of a work day, two coworkers are in the office)

A: 今天晚上有時間嗎? 我請你吃飯。

B: 不好意思，今天晚上我約了人了。

A: 好，好，算了，明天吧!

A: *jīntiān wǎnshàng yǒu shíjiān ma? wǒ qǐng nǐ chīfàn.*

B: *bù hǎo yìsī, jīntiān wǎnshàng wǒ yuē le rén.*

A: *hǎo, suànle, míngtiān bā!*

A: Are you free tonight? I will invite you to dinner.

B: I feel sorry. I have an appointment with others tonight.

A: Well, well, let it be. (Let's have dinner) tomorrow!

From *Yùwàng* (2000) 'The Desire,' episode 25

Example 3:

(In the evening, two roommates are at home)

A: 我們明天要去找工作。你明天不是沒事？跟我們一塊兒去吧！

B: 我明天有事，我要去接我男朋友。

A: *wǒmén míngtiān yào qù zhǎo gōngzuò. nǐ míngtiān bù shì méishì? gēn wǒmén yīkuàier qù bā!*

B: *wǒ míngtiān yǒushì, wǒ yào qù jiē wǒ nán péngyǒu.*

A: We are going to look for jobs tomorrow. Aren't you free tomorrow? Go with us!

B: I have something to be done tomorrow. I am going to pick up my boyfriend.

From *Qīngchūn bù jiě fēngqíng* (2001) 'Youth does not understand amorous feelings, episode 1

## 5.2 Refusal of Offers

According to what is offered, there are four types of offers: "gift offer", "favor offer", "food / drink offer" and "opportunity offer". Except for opportunity offer, both ritual refusal and real refusal will occur when dealing with other three types of offers.

Chinese people tend to decline gifts multiple times before final acceptance. It is a ritual way to show modesty and to avoid indications of personal greed. Usually, some formulaic politeness expressions will be used to refuse gifts ritually, such as *nǐ tai kèqì le* (你太客氣了) 'You are too polite' and *bùhǎo yìsī* (不好意思) 'I am embarrassed.' These expressions can be considered as signs of ritual refusals. Sometimes, questions to blame the gifts giver will be used in this type of refusal, such as *gànma dài dōngxī lái?* (幹嘛帶東西來?) 'Why do you bring gifts?' or *gànma mǎi zhème duō dōngxī ne?* (幹嘛買這麼多東西呢?) 'Why do you buy so many things?' These strategies started as a way to indicate negative opinions about gift offering and eventually became a ritualistic way to respond to any gift offers. For example,

(A and B are business partners. After a business negotiation, A prepared a banquet for B. The following conversation occurs on the way to the banquet.)

A: 吃完了飯我開車送你們回去，走的時候帶幾箱汽水，可樂什麼的。

B: 哎喲，那不用了，你們太客氣了。

A: 沒什麼。別客氣，別客氣。

YANG: CHINESE REFUSAL

A: *chī wán le fàn wǒ kāichē sòng nǐmén huíqù, zǒu de shíhòu dài jǐxiāng qìshuǐ , kěle shíme de.*

B: *āiyō , nà bù yòng le , nǐmén tai kèqì le.*

A: *méishénme. bié kèqì , bié kèqì.*

A: After the dinner, I will drive you back. Why don't you take some soda back with you?

B: Oh, it is not necessary. You are too polite!

A: It's no big deal! Don't be polite. Don't be polite.

From *Biānjíbù de gùshì* (1992), 'Stories in the Editors' office,' episode 13

There are always possibilities that Chinese people genuinely intend to refuse a gift. Normally, a long negotiation process will be involved in real refusals of gift offer. The two parties of the negotiation will both employ several strategies to dissuade each other before arriving at a final agreement. According to the data, alternatives, statements of principle and direct refusals are the primary strategies to genuinely refuse gifts. Except for direct refusal, these strategies are seldom employed in ritual refusals of gift. Although direct refusal occurs in both real and ritual refusals of gifts, its usage is different in these two types of refusals. Direct refusal is normally accompanied by other strategies (e.g. alternatives or reasons) in real refusals while direct refusal is accompanied by formulaic expressions in ritual refusals. In addition, statements of the costs that the gift giver will bear usually appear in real refusals, while these statements seldom occur in ritual refusals.

Like gift offers, Chinese people tend to decline favors multiple times. In Chinese culture, this behavior is a polite way to show modesty, because it indicates the willingness of not putting many troubles on others. As shown in the following example, specific reasons, alternatives and other strategies will not appear in ritual refusal. Usually, direct refusal, e.g. *bùyòng le* (不用了), 'not necessary' and formulaic politeness expressions e.g. *tai máfán nǐ* (太麻煩你) or *gòu máfán nǐ le* (夠麻煩你) 'I bothered you so much' are common ways to ritually refuse favors.

(Two old school friends are chatting on the street)

A: 回家還是回飯店，我開車送你吧！

B: 不用，不用，我已經夠麻煩你的了。

A: 跟老同學你還客氣啊？

A: *huíjiā háishì huí fàndiàn , wǒ kāichē sòng nǐ bā!*

B: *bù yòng , bù yòng , wǒ yǐjīng gòu máfán nǐ de le.*

A: *gēn lǎo tóngxué nǐ hái kèqì ā?*

A: Go home or go to the hotel. Let me give you a ride.

B: It is not necessary, not necessary. I have already bothered you so much.

A: Why are you so polite to your old school friend?

From *Yùwàng* (2000) 'The Desire,' episode 4

Because favor offers often benefit the addressee at the expenses of increasing the costs of the addresser, an immediate direct refusal avoids any suspicion of the addresser and decreases the trouble or costs the addresser will bear. Hence, direct refusal is mostly favored for refusing favors. These direct refusal expressions include *bùyòng le* (不用了) 'not necessary,' *suànle* (算了) 'forget it,' *bùxíng* (不行) 'no way' and *bù* (不) 'no.' From the perspective of Chinese, offering favors means the addresser is giving face to the addressee. If the favor is refused, the favor giver will feel like he / she has lost face. In order to save the face of the favor giver, when genuinely refusing favor offers, direct refusal is often accompanied by other strategies, such as alternatives and reasons, excuses or explanations.

Like ritual refusals of favors and gifts, Chinese people tend to decline food or drink offers multiple times before final acceptance, especially when the food or drink are offered by unfamiliar people. Formulaic politeness expressions, such as *bié kèqì* (別客氣), or *bùyòng kèqì* (不用客氣) 'don't be polite', are often used alone in ritual refusal of drink or food. Sometimes, direct refusal like *bùyòng le* (不用了) 'not necessary' and *biémáng le* (別忙了) 'don't be busy' is employed to ritually refuse foods or drinks.

A lot of Westerners complain that it is very difficult for them to refuse food or drink offer in China. Chinese people often interpret their refusal as ritual way to show politeness. However, in Chinese culture, there really exist some situations when Chinese people genuinely refuse food or drink. In these situations, a persuasive reason, excuse or explanation or a statement of principle is necessary. As shown in the collected data, a safe guard may state the principle "No smoking while working" to refuse an offer of a cigarette from the customer. Allergy could be a persuasive reason to refuse an offer of foods from coworkers.

Unlike gifts, favors or food / drink offers, there are no ritual refusals of opportunity offers in Chinese culture. The speaker sincerely intends to decline the opportunity when he/she refuses the opportunity directly or indirectly. According to the data, reasons, excuses or explanations and alternatives are the most preferred strategies to refuse opportunity. Direct refusal is also employed to clarify the intention of refusal.

### 5.3 Refusal of Suggestions

A suggestion occurs when one person uses utterances to propose some actions or at least changes on the part of the addressee. According to whether the suggestions are required by the listener, there are two types of suggestions: solicited suggestions and unsolicited suggestions.

#### 5.3.1 Refusal of Solicited Suggestions

Solicited suggestions refer to suggestions needed by the listener. The speaker gives suggestions in response to the listener's needs. For example, a subordinate comes to the manager and asks for the manager's suggestions about the new business plan. A graduate asks for advisors' suggestions about his / her paper.



In my data, solicited suggestions only occur between acquaintances or intimates, since people are more likely to trust suggestions given by acquaintances or intimates. Four refusal strategies are used to refuse solicited suggestions: direct refusal, giving a reason, excuse or explanation, statement of alternative, and attempts to dissuade the interlocutor. Three types of adjuncts are observed: pause filler, address form and statement of positive opinion or feeling. The relationship between the interlocutors also influences the choices of strategies. In the data, when dealing with solicited suggestions by intimates, the most frequently used strategy is the attempt to dissuade the interlocutor, followed by excuse, reason and explanation. The close relationship allows the refuser to have more freedom to dissuade the suggestion giver. However, when dealing with solicited suggestions by acquaintances, excuse, reason or explanation are still the most frequently used strategies, followed by alternatives or attempts to dissuade the interlocutor.

### 5.3.2 Refusal of Unsolicited Suggestions

Unsolicited suggestions are suggestions that are voluntarily given by the speaker without the request of the listener. Hinkel (1994) claims that speakers of Chinese or Japanese often utilize giving advice / suggestions as a rapport-building strategy, with various intentions akin to the purpose of small talk and/or conversation-making devices, which show solidarity and affirmation. In this paper, suggestions used to establish or maintain relationships are termed as personal suggestions. Unsolicited suggestions given by salesmen or peddlers to influence others' purchase behavior are called commercial suggestions.

When dealing with personal suggestions that show concern, the primary strategies include explanation, excuse or reason, direct refusal and alternative. Because unsolicited suggestions often occur between acquaintances, correct choice of the form of address is very important in mitigating the uncomfortable feelings caused by refusal, for example:

(Jinzi is an hourly rate maid for Xuhui. Jini had been doing housework for several hours, and her hostess asked her to rest a while and drink some water.)

主人：金枝，時間到了，過來喝點水吧！

金枝：不用了，徐慧姐，我幹完了我再喝。

*zhǔrén* : *Jīnzhī*, *shíjiān dào le*, *guòlái hē diǎn shuǐ bā* !

*Jīnzhī* : *bùyòng le*, *Xúhuì jiě*, *wǒ gàn wán le wǒ zài hē* .

Hostess: Jinzi, work-time is over! Come here and drink some water.

Jinzi: That's OK, sister Xuhui. After I am finished, I will have something to drink.

*From Qīngniǎo de tiānkōng* (2003) 'The Sky of Green Bird,' episode 1

In this example, the maid used the form of address *xúhuì jiě* (徐慧姐) 'Older Sister Xu Hui' to maintain and strengthen their relationship. Heavily influenced by Confucian tradition, Chinese people believe family relationship is the most solid and loyal relationship. People who are related by blood are inherently in-group members who

trust each other and help each other. Gradually, these kinship terms have been extended to people who do not share blood relationships, particularly when the addresser wants to establish a friendly and reciprocal relationship with the addressee.

Unsolicited personal suggestions are also used to build conversational rapport and elicit more information. Following is an example of this type of refusal:

(Gu and Hao are in-laws. One day, Hao went to visit Gu.)

顧：您工作這麼忙，應該我去看您。

郝：哪里，您太客氣了。

*Gu: nín gōngzuò zhème máng, yīnggāi wǒ qù kàn nín.*

*Hǎo : nǎlǐ, nín tai kèqì le.*

Gu: You are so busy. I should come to visit you.

Hao: Not at all. You are too polite.

From *Yùwàng* (2000) 'The Desire,' episode 14

The suggestion "I should come to visit you" is a ritual way to build conversational rapport and to show respect for the addressee, although Gu may not truly want to visit Hao. This kind of suggestion often functions as a small talk between two acquaintances after they greet each other. Because the expression "I should come to visit you" raises the position of the addressee and lowers the speaker's position, it also functions as a compliment to the addressee. Therefore, formulaic, polite expressions are used to deal with this kind of suggestion. *nǎlǐ* (哪里) 'not at all' is a ritual expression used to respond to a compliment. *nǐ tai kèqì le* (你太客氣了) 'You are too polite' is used to show the acceptance of the politeness indicated by the speaker.

Sometimes, Chinese speakers use unsolicited suggestions to establish or show membership in the same group as the listener. As Shepherd states (2005: 215), "in a group-oriented culture such as China's, syncing plays a much more obvious role than in the more individually-oriented culture of the United States. Chinese behavior is often determined by what others do or not do." Therefore, establishing or showing an inside group relationship is an efficient strategy in developing relationships with interlocutors. Refusing suggestions to show membership may cause awkward situations and embarrassment because the refusal indicates the addressee refuses to acknowledge the suggestion giver as an in-group member. Special efforts should be made to make up any damage to the relationship. Elaborated reasons and/or alternatives are apparently necessary in order to refuse these kinds of suggestions.

Unsolicited commercial suggestions are often used by salespeople or advertisements when suggesting a purchase. The social distance between the interlocutors plays an important role in the refusals of commercial suggestions. When refusing commercial suggestions by strangers, a direct refusal is acceptable. When dealing with acquaintances, excuses and/or postponements like *kǎolù kǎolù* (考慮, 考慮) 'think over' are often observed.

#### 5.4 Refusal of Requests

According to what is requested, refusal of requests can be subcategorized into 1) request for favors (e.g. borrowing or help); 2) Request for permission / acceptance / agreement (e.g. job application); 3) Request for information/advice (e.g. product information); 4) Request for action (e.g. payment). Different refusal strategies are selected for these four types of requests.

Requests for favors entail doing activities that require some time and/or effort on the part of the addressee or involve asking for something outside the addressee's daily routine. According to the data, excuse, reason or explanation is the primary strategy in refusing requests for favors, followed by alternatives and attempts to dissuade the interlocutor. Statements of negative consequences to the initiator, statements of negative opinion about the requests and self-defense are often employed to dissuade the interlocutor. Compared with strategies to deal with suggestions, strategies of avoidance, such as postponement or repetition of the request, are often used in this type of refusal. In addition, the social status of the interlocutor has some impact on the choice of strategy for this type of request. Compared with a requester of equal status, more alternatives and strategies of avoidance are employed to refuse a requester of unequal status, i.e. a requester of high or low status. Alternatives are the most frequently used strategy in dealing with a requester of unequal status, while reasons, excuses or explanations are the major strategies used to deal with a requester of equal status

Requests for permission, acceptance or agreement include situations such as job applications, business negotiations or informal discussions. According to the data, direct refusal, alternatives, and reason, excuse or explanations are employed to refuse this type of request. Social status is an important factor influencing the choice of refusal strategies in this situation. Since this type of request is seldom addressed to a person of high status, instances of high status requester are not observed in the data. When dealing with a requester of equal status, alternatives are the most frequently used strategy. However, when dealing with a requester of low status, direct refusal is the primary strategy. However, direct refusal is seldom used alone in this situation. It is often accompanied by other strategies to mitigate the imposition of direct refusal. For example,

(A subordinate is trying to get her supervisor's permission)

下級：老張，從明兒起，我得請幾天假，我姑媽從外地來了，我得陪她玩兒幾天。

主管：唉，好。姑媽來了嘛，陪她玩玩，這是應該的。但是現在是不行啊，你手頭上有材料沒寫完嘛，啊，等寫完了，你再去陪你姑媽。

*xiàjí : lǎozhāng , cóng míngér qǐ , wǒ dé qǐng jǐtiān jiǎ , wǒ gūmā cóng waidì lái le , wǒ dé péi tā wánér jǐtiān .*

*zhǔguǎn : āi , hǎo . gūmā lái le ma , péi tā wánwán , zhè shì yīnggāi de . dànshì xiànzài shì bùxíng ā , nǐ shǒutóu shàng yǒu cáiliào méi xiěwán ma , ā , děng xiěwán le , nǐ zài qù péi nǐ gūmā .*

Subordinate: Old Zhang, starting tomorrow, I have to take off several days. My aunt is coming here. I have to show her around.

Supervisor: Well, good. When your aunt comes, it is proper to show her around. But not now. You have some unfinished work. Ah, after finishing it, then you can accompany your aunt.

From *Yī dì jīmáo* (1994) 'Trifles over the ground,' episode 2

When dealing with requests for information or advice, the addressee usually employs a verbal avoidance strategy, such as topic switch, postponement (see the following example) or dodging, such as *wǒ bù tài qīngchǔ* (我不太清楚) 'I am not really sure.'

Request for action refers to an act that the addresser requires the addressee to complete certain actions. Compared with the requests for favors, the actions involved in this type of request may not benefit the addresser. According to the data, reasons, excuses or explanations, attempts to dissuade the interlocutor and alternatives are the common strategies used to refuse this type of request. For example,

(A hotel receptionist is requiring a customer to check out.)

服務員：請您現在結賬。

顧客：對不起，我現在沒有那麼多現金，我走的時候再結，可以嗎？

服務員：不行，我們有規定。

*fúwùyuán: qǐng nín xiànzài jiézhàng.*

*gùkè: duìbùqǐ, wǒ xiànzài méiyǒu nàme duō xiànjīn, wǒ zǒu de shíhòu zài jié, kěyǐ ma?*

*fúwùyuán: bùxíng, wǒmén yǒu guīdìng.*

Receptionist: Please check out right now.

Customer: Sorry, I do not have so much cash. Can I check out when I leave?

Receptionist: Won't work. We have policies.

From *Yùwàng* (2000) 'The Desire,' episode 6

## 6. Pedagogical Application

European (Western) learners of Chinese often report that refusal in Chinese culture is confusing and often causes misunderstandings. They report that Chinese speakers sometimes say "yes" when they really mean "no," or mean "no" without saying the word "no". On the other hand, learners of Chinese often feel that they have difficulty making refusals in Chinese. They find it impossible to refuse offers of food, cigarettes, tea, and so forth, since no one may take their "no" for a real refusal. Their comments suggest the necessity of teaching refusal performances to learners of Chinese. The analysis in this paper may facilitate the instruction of refusal from multiple perspectives. First of all, it provides a rationale to select, organize and present examples of refusals in classroom instruction. Secondly, the data collected in this study are readily adaptable for foreign language learning. Most important of all, this study analyzed the selection of refusal strategies in response to various initiating behaviors. For each initiating act, other factors influencing the selections of refusal strategies was examined, such as the relationship between the interlocutors, the Chinese concept of "face" and general characteristics of

Chinese communication. With such contextual parameters understood, learners of Chinese can begin to see what strategies can be used to respond to different kinds of initiating acts, and what social and cultural factors influence the choices of strategies. As a result, they are able to make appropriate linguistic moves in response to different initiating acts.

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PUBLICATIONS OF E. G. PULLEYBLANK

ABBREVIATIONS

AHR	<i>American Historical Review</i>
ALH	<i>Acta Linguistica Hafniensia</i>
AM	<i>Asia Major</i>
APSR	<i>American Political Science Review</i>
BEFEO	<i>Bulletin de l'Ecole Française d'Extreme-Orient</i>
BIHP	<i>Bulletin of the Institute of History and Philology, Academia Sinica</i>
BSOAS	<i>Bulletin of the School of Oriental and African Studies</i>
CLS	<i>Chicago Linguistics Society</i>
CTL	<i>Canadian Journal of Linguistics</i>
EB	<i>Encyclopaedia Britannica</i>
EC	<i>Early China</i>
EHR	<i>English Historical Review</i>
IUAS	<i>Harvard Journal of Asiatic Studies</i>
HR	<i>History of Religion</i>
IA	<i>International Affairs</i>
IHR	<i>International History Review</i>
JAAS	<i>Journal of African and Asian Studies</i>
JAOS	<i>Journal of the American Oriental Society</i>
JAS	<i>Journal of Asian Studies</i>
JCL	<i>Journal of Chinese Linguistics</i>
JCLTA	<i>Journal of the Chinese Language Teachers Association</i>
JESHO	<i>Journal of the Economic and Society History of the Orient</i>
JIES	<i>Journal of Indo-European Studies</i>
JRAS	<i>Journal of the Royal Asiatic Society</i>
LTBA	<i>Linguistics of the Tibeto-Burman Area</i>
MS	<i>Monumenta Serica</i>
OLZ	<i>Orientalische Literaturzeitung</i>
PA	<i>Pacific Affairs</i>
RBS	<i>Revue Bibliographique de Sinologie</i>
SLS	<i>Sign Language Studies</i>
SMJ	<i>Sarawak Museum Journal</i>
TG	<i>Tōyō Gakuhō</i>
THHP	<i>Tsinghua Hsueh-pao</i>
TLS	<i>Times Literary Supplement</i>
TP	<i>T'oung Pao</i>
TRSC	<i>Transactions of the Royal Society of Canada</i>
SZ	<i>Shigaku zasshi</i>
UAJ	<i>Ural-Altliische JahrbUcher</i>
ZDMG	<i>Zeitschrift der Deutschen Morgenlindischen Gesellschaft</i>



