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中英文處所詞倒置之比較

**Comparison of Locative Inversion  
in Mandarin and English**

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**COMPARISON OF LOCATIVE INVERSION IN MANDARIN AND  
ENGLISH**

**BY**

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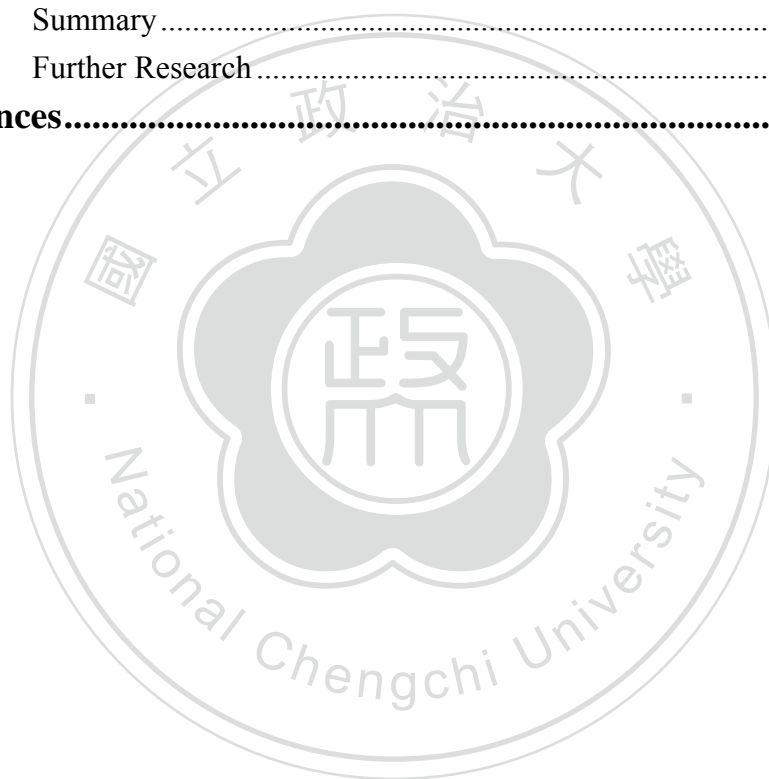
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# 國立政治大學研究所碩士論文提要

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論文提要內容：(共 1 冊，14,604 字，分 5 章 14 節)

本篇論文主要是採用詞彙功能語法以及篇章功能語法來檢視處所詞倒置的結構在中英文裡的表現，分別從四個層次來檢視，包括了語意結構、詞組結構、句法功能結構、以及信息結構。首先，能進行處所詞倒置的動詞必須要是帶有一個客體及一個方位詞的論元結構，或是帶有一個由主事者和客體所組成的複合論元以及一個方位詞的論元結構。其次，在詞組結構中，英文的前置處所詞是屬於介系詞，而中文裡的前置處所詞是屬於名詞。再者，前置的處所詞在中文裡是位於主詞的位置，但在英文裡是句法功能結構上的主詞。最後，在句子的信息結構上，考量到信息編排的方式，後置的名詞傾向是無定的名詞而非代名詞，而且傾向是比前置的處所詞還要長的詞組。就篇章信息而言，處所詞倒置必須考慮到對前的連結及對後的連結。另外在文體修飾上為了對仗的效果也會促使處所詞倒置的產生。

透過對比分析，本篇論文有系統地比較英文和中文在處所詞結構的表現，主要目的在於為學習英文的中文講者提供教學上的啟發。而將理論語法運用在教學語法上，也顯示出這兩者語法之間的關連性以及合作性。一方面理論語法可以提供教學語法一個強而有力的理論後盾；另一方面，教學語法也提供了理論語法研究的動機。總的來說，將理論語法運用在教學方面，不僅對語言教學有助益，對語言學研究的領域上也有相當的幫助。



## Abstract

This paper examines locative inversion construction by adopting Lexical Functional Grammar and discourse grammar. The examination concerns both English and Mandarin, from four structure levels, a-structure, c-structure, f-structure, and information structure. First, a locative inversion verb takes an a-structure of <theme locative> or <agent-theme locative>. Second, in c-structure, the preposed locative belongs to PP in English but to NP in Mandarin. Third, whereas the preposed locative phrase is in the subject position in Mandarin, the one in English is only a functional subject in f-structure. Finally, in information structure, given information packaging, the postposed theme is inclined to be an indefinite nominal instead of a pronoun and to be a longer constituent than the preposed locative phrase; in contextual information, a linking device, used either anaphorically or cataphorically, is necessary for locative inversion, and stylistic parallelism further facilitates the occurrence of locative inversion.

With the systematic comparison of English and Mandarin, this paper aims to provide pedagogical suggestions in regard to English learning for Mandarin speakers, by virtue of the use of Contrastive Analysis. The application of theoretical grammar to

the language teaching field indicates the correlation and cooperation between theoretical grammar and pedagogical grammar. On the one hand, the theoretical grammar provides a firm and reliable theoretical support for language teaching; on the other hand, the pedagogical grammar is the motivation to the research of theoretical grammar. All in all, the application of theoretical grammar to language teaching contributes not only to the language teaching field but also to the linguistic research.





## Chapter 1

### Introduction

The locative inversion construction concerns a postposed logical subject and a preposed locative argument, deriving from a canonical form (the un-inverted one). A typical example of English locative inversion is presented in (1).

- (1) a. John sat on the stage. (canonical form)  
b. On the stage sat John. (locative inversion)

It is well assumed that (1a) and (1b) bear the same truth value—equivalent meaning in truth condition (Rochemont and Culicover 1990)—but diverge in discourse information in regard to the focus; the focus in (1a) is the locative ‘on the stage’ while the focus in (1b) is the NP ‘John’. In regard to the assumption that they are derivationally related, numerous studies have focused on their relationship and how and why a locative inversion is formed from its corresponding canonical form.

English is not the only language in which the locative inversion construction exists; in fact, it exists in many other languages, such as French, Chichewa, and Mandarin, etc. A Mandarin locative inversion example is shown in (2), corresponding to the English one in (1).

- (2) a. 張三 坐 在 台上。  
*Zhangsan zuo zai tai-shang.*  
Zhangsan sit at stage-top  
‘Zhangsan sat on the stage.’

- (2) b. 台上 坐 著 張三。  
*tai-shang zuo zhe Zhangsan.*  
 stage-top sit ASP Zhangsan  
 ‘On the stage sat Zhangsan.’

Locative inversion and the relation to its canonical form involve numerous and sometimes conflicting issues. In regard to the relation between a locative inversion and its canonical form from the perspective of traditional transformational grammar, locative inversion is the surface structure (SS) which is derived from a canonical locative phrase by constituent movement, but it is with no change in meaning to its canonical form. That is, a locative inversion has the same D-Structure as its canonical form. However, a contrast of (3a) and (3b) reveals the inherent difference between them, which leads to the assumption that the relation between locative inversion and its canonical form may be more than purely variants in the S-Structure.

- (3) a. John intentionally sat on the stage.  
 b. \*On the stage intentionally sat John.

The second issue is relevant to the feature of a verb as a locative inversion verb.

It is widely accepted, and in fact well-established, that locative inversion verbs are unaccusative verbs, or passive verbs taking the same property as unaccusative verbs.

Under the framework of transformational grammar, unaccusative verbs are commonly described as intransitive verbs taking no external theta-role but rather an internal one which is realized as the subject in S-Structure, as in (4) and (5), respectively.



- (4) a. 張三 坐 在 台上。 (unaccusative verb)  
*Zhangsan zuo zai tai-shang.*  
 Zhangsan sit at stage-top  
 ‘Zhangsan sat on the stage.’
- b. 台上 坐 著 張三。  
*tai-shang zuo zhe Zhangsan.*  
 stage-top sit ASP Zhangsan  
 ‘On the stage sat Zhangsan.’
- (5) a. 一幅 畫 掛 在 牆上。 (passive verb)  
*yi-fu hua gua zai qiang-shang.*  
 one-CL painting hang at wall-top  
 ‘A picture was hung on the wall.’
- b. 牆上 掛 著 一幅 畫。  
*qiang-shang gua zhe yi fu hua.*  
 wall-top hang ASP one-CL painting  
 ‘On the wall was hung a picture.’

Given this, verbs other than unaccusative and passive verbs are not allowed to be locative inversion verbs. Take unergative verbs, for example; unergative verbs are intransitive verbs taking no internal theta-role but rather an external one, which is contrary to unaccusative verbs. Therefore, from the perspective of transformational grammar, unergative verbs are not permitted to undergo locative inversion, as in (6).

- (6) a. 張三 在 房裡 工作。  
*Zhangsan zai fang-li gongzuo.*  
 Zhangsan at room-inside Work  
 ‘Zhangsan worked in the room.’
- b. \*房裡 工作 著 張三。  
 \**fang-li gongzuo zhe Zhangsan.*  
 room-inside work ASP Zhangsan  
 \* ‘In the room worked Zhangsan.’

Nevertheless, some unergative verbs undergo locative inversion, also, as shown

in (7).

- (7) 操場上 跑 著 一群 學生。  
*caochang-shang pao zhe yi-qun xue-sheng.*  
 playground-top run ASP one-CL student  
 ‘On the playground are running a group of students.’

The verb *pao* ‘run’ is traditionally classified as an unergative verb in reference to its agent role, otherwise termed as external argument, which is not supposed to undergo locative inversion. However, the exception of example (7) seems to imply that those traditionally classified as unergative verbs are also allowed to undergo locative inversion.

The third issue is the lexical category of the preposed locative phrase, which performs differently across languages. As shown in (8), the preposed locative phrase is NP in Chichewa (Bresnan and Kanerva 1989) and in Mandarin (Li 1990), but is PP in English. Since the subject position is restricted to nominal phrases (Bresnan 1994), the English PP seems illegal in this position (but actually it is legal), which thus induces the necessity to undertake various analyses to solve this problem.

- (8) a. *M-mi-têngo mw-a-khal-a a-nyăni.* (Chichewa)  
 18-4-tree 18 SB-PERF-sit-IND 2-baboon.  
 ‘In the trees are sitting the baboons.’

(Bresnan and Kanerva, 1989:3)

- b. 地上 坐 著 一群 小孩。 (Mandarin)  
*di-shang zuo zhe yi-qun xiaohai.*  
 ground-top sit ASP one-CL Child  
 ‘On the ground are sitting the children.’

(8) c. On the ground are sitting the children. (English)

Another issue is the inconsistent analysis of grammatical relation in locative inversion. Some consider the postposed NP to be a subject due to its agentive role, whereas some perceive it as an object due to its postverbal position. As to the preposed locative phrase, some suggest it as a subject (Bresnan and Kanerva 1989, Her 2003), while others suggest it as a topic (Coopmans 1989).

Last, but not least, locative inversion may be concerned with more than purely syntactic analysis. A syntactically well-produced locative inversion can also be ineligible. As in (9), the degree of eligibility decreases from (9a) to (9b), and (9c) is the least eligible.

- (9) a. 台下 坐 著 一個 人。  
*tai- shang zuo zhe yi-ge Ren.*  
 stage-top sit ASP one-CL person  
 ‘On the stage sat one person.’
- b. ?台下 坐 著 張三。  
 ?*tai- shang zuo zhe Zhangsan.*  
 stage-top sit ASP Zhangsan  
 ‘On the stage sat Zhangsan.’
- c. # 台下 坐 著 我們。  
 # *tai- shang zuo zhe women.*  
 stage-top sit ASP We  
 ‘On the stage sat us.’

Nevertheless, in certain environments, (9c) gains eligibility, as evidenced in (10).

- (10) 在 美輪美奐 的 表演廳裡， 台下 坐滿了  
*zai mei-lun-mei-huan de biao-yan-ting-li, tai-xia zuo-man-le*  
 at beautiful DE concert-hall stage-down sit-full-ASP  
 欣賞 音樂 的 人， 台上 坐著 身穿  
*xin-shang yin-yue de ren, tai-shang zuo-zhe shen-chuan*  
 appreciate music DE man stage-top sit-ASP body-wear  
 中國服 的 我們。  
*zhong-guo-fu de wo-men.*  
 Chinese-clothes DE We

‘In a beautiful concert hall, while below the stage many people were sitting to appreciate the music, on the stage sat we ourselves wearing Chinese clothes.’

The contrast between (9c) and (10) reveals the necessity of taking another level of grammar into account—that is, the discourse grammar.

The purpose of this paper is thus to investigate the questions which are raised above on locative inversion and to establish a complete analysis of locative inversion, for in both English and Mandarin. By comparing locative inversion in the two languages, the similarities and differences will be illustrated, and this analysis may be used to develop systematic and effective teaching materials for the use of language learners when learning this construction.

The remainder of this paper will be organized into four chapters. Chapter 2 is a review of the literature on locative inversion, and by comparing the different theories, a more rational and complete selection of the components of locative inversion will be adopted as the framework of this paper. Based on this framework, Chapter 3 will discuss locative inversion, in both English and Mandarin, from four perspectives:

a-structure, c-structure, f-structure, and information structure, and seek to solve the problems mentioned in Chapter 1. Chapter 4 is the application of the theoretical discussion in Chapter 3 to language teaching. Finally, conclusions on the topic of locative inversion in English and Mandarin will be presented in Chapter 5.





## Chapter 2

### Literature Review

#### 2.1. Transformational Grammar

Numerous studies adopt the framework of transformational grammar and treat locative inversion as a result of derivation, with the internal and external argument being moved to the peripheral positions (Rochemont and Culicover 1990). Diverse analyses of locative inversion are proposed in line with this basic derivational principle, as follows.

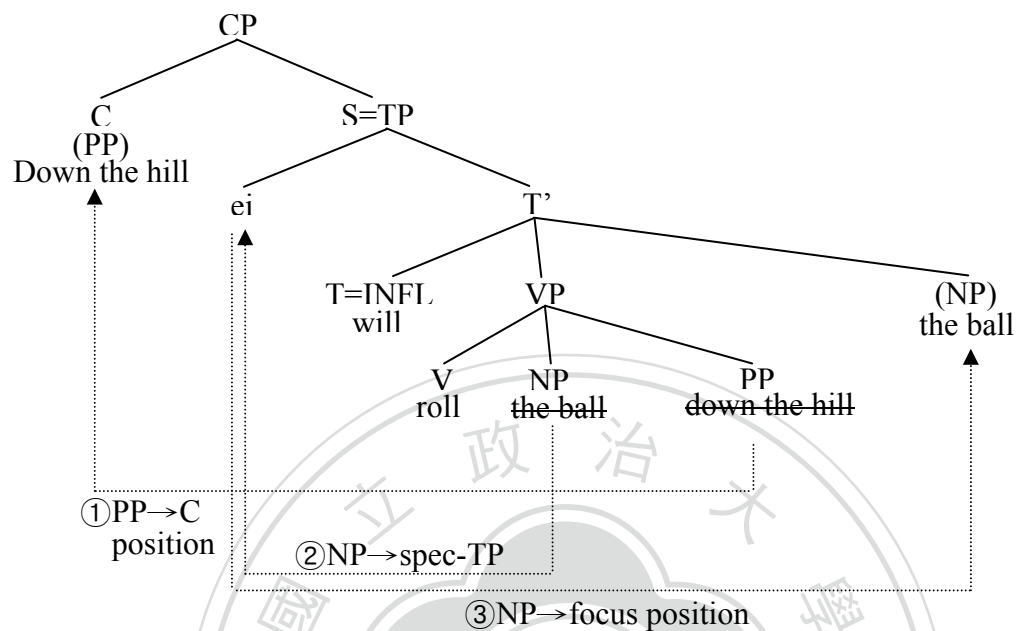
##### 2.1.1. Coopmans' Analysis (1989)

Under the framework of transformational grammar, Coopmans assumes that locative inversion verbs are restricted to unaccusative verbs, requiring a subject originating as a VP-internal argument in D-Structure, as exemplified in (11).

(11) Down the hill rolled the baby carriage. Coopmans (1989:729)

Traditional treatment of locative inversion is to prepose the VP-internal argument to the subject position, and then postpose it to the sentence-final position. (12a) shows an example of the traditional treatment of locative inversion in transformational grammar: the VP-internal NP originates in the VP-adjoined position, which is moved from the object position to the subject position to inherit Case, and then, triggered by the fronted complement PP, it is postposed to the presentational focus position.

(12) a.  $PP_j$  [  $ei$  INFL [  $V$   $ei$   $ej$  ]  $VP$   $NP_i$  ]  $s$  (Coopmans, 1989: 731)

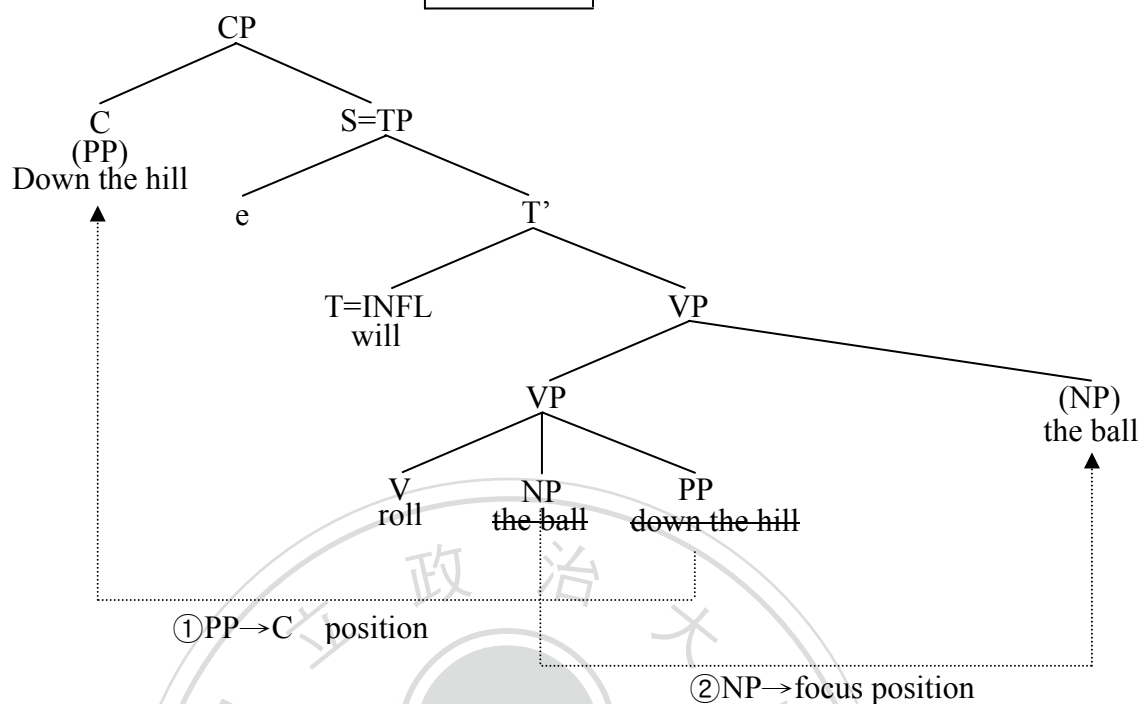


Dissatisfied with the traditional account provided for locative inversion, Coopmans suggested that the VP-internal NP is never moved to the subject position, but directly moved to the VP right-adjointed position where the NP can then be checked for presentational focus<sup>1</sup>, as shown in (12b). As for the fronted PP, it is topicalized to the C position. To meet EPP, the empty subject position is occupied by an empty expletive.

<sup>1</sup> According to Coopmans (1989) and Rochemont (1968), the VP right-adjointed position is called the 'presentational focus position'.



(12) b.  $PP_j [e \text{ INFL } [[V \text{ NP}_{ei} \text{ } e_j]_{VP}]_{VP} ]_s$  (Coopmans, 1989: 731)



One of the pieces of evidence which Coopmans uses to argue for (12b) rather than (12a) is the effect of locative inversion on control, as seen in (13).

(13) a. Two sheiks lay near the oasis [without PRO talking].

b. \*Near the oasis lay two sheiks [without PRO talking].

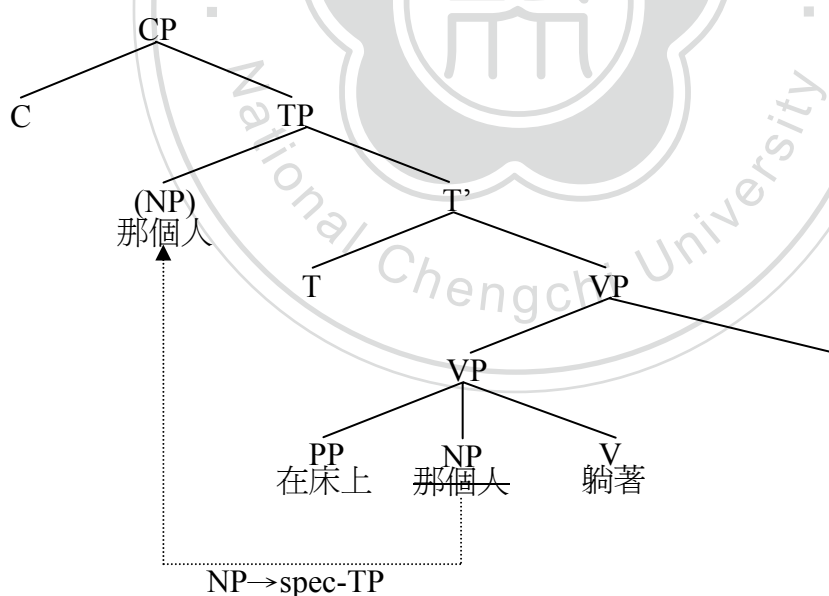
(Coopmans, 1989:732)

The VP-internal NP, 'two sheiks', can control the PRO in (13a) but not the one in (13b), which evidences that 'two sheiks' is not preposed to the subject position, in that a subject should be able to control the PRO in a without-clause while a VP-internal argument cannot. Overall, Coopmans assumes that there is no Subject Postposing involved in locative inversion, and accounts for the validity of unaccusative and passive verbs in locative inversion as relating to their non-external-argument property.

### 2.1.2. Li's Analysis (1990)

Li indicated that locative inversion verbs in Mandarin are seemingly 'ergative' (unaccusative) verbs, which take only one internal argument, but assign no theta role to the subject position. Since an internal argument originates in a Caseless preverbal position where it obtains a theta role, it is then either moved to the non-theta-marked subject position, or to the postverbal position where Mandarin usually assigns Case, as seen in (14a), (14b), and (14c).

- (14) a. 那個人<sub>i</sub> [在 床上  $t_i$  躺著]。 (Li 1990: 139)  
*nage ren zai chuang-shang tang-zhe.*  
 that man at bed-top lie-ASP  
 'That man is lying on the bed.'



In (14a), the internal argument *nage ren* 'that man' is generated in the preverbal position  $t_i$ , and is assigned a theta-role but no Case. To obtain Case, *nage ren* is moved to the subject position, where it is assigned Case but no theta-role, to meet the

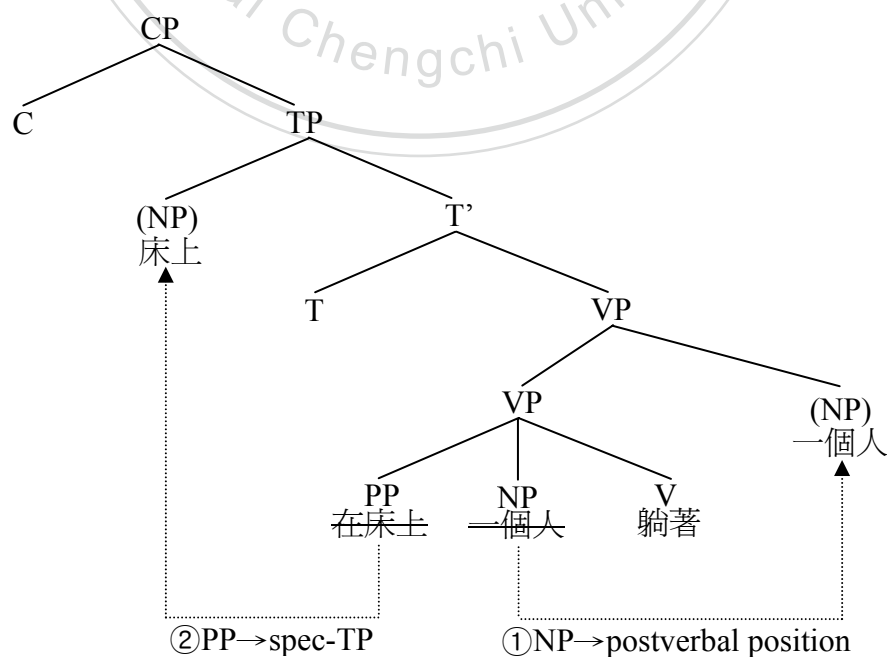
requirement of the Case Filter.

On the other hand, to obtain Case, *nage ren* can also be moved to the postverbal position, as in (14b), since Chinese tends to assign Case to the right (the postverbal) position.

- (14) b. e [( \*在) 床上  $t_i$  躺著 一個人  $_i$  ] °  
*zai chuang-shang tang-zhe yige ren.*  
 at bed-top lie-ASP one man  
 ‘On the bed is lying a man.’

However, this movement leaves the subject position, the Case position, unfilled. In order not to violate the Case Filter, the locative *zai chuang-shang* ‘on the bed’ is triggered to move to the subject position, as shown in (14c).

- (14) c. 床上  $_i t_i t_j$  躺著 一個人  $_j$  °  
*chuang-shang tang-zhe yige ren.*  
 bed-top lie-ASP one man  
 ‘On the bed is lying a man.’

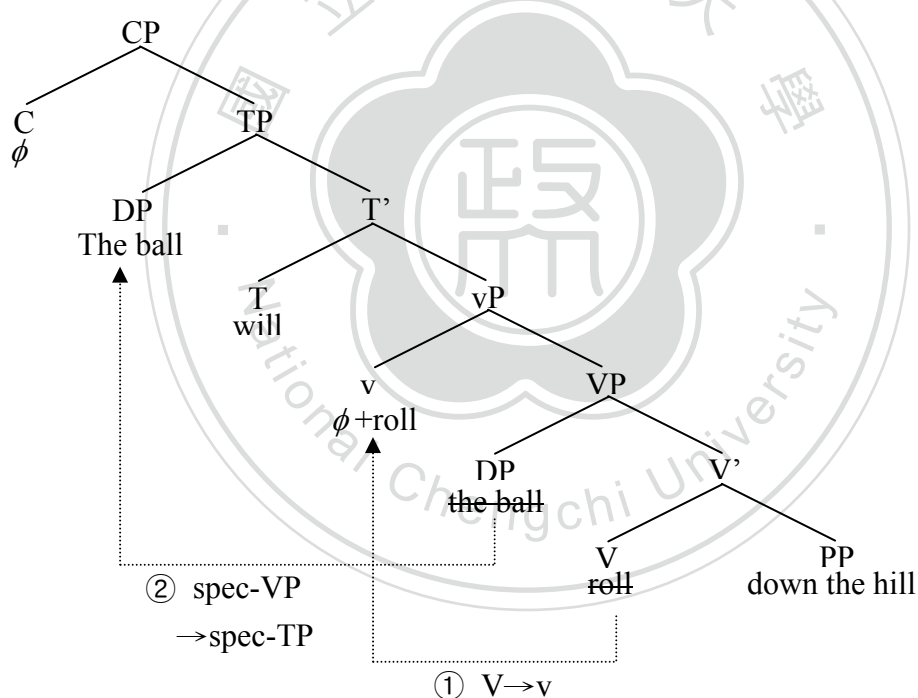


After being moved to the subject position, the locative phrase is assigned a nominative Case, which induces the disappearance of the Case marker *zai*.

### 2.1.3. Radford's Analysis (2004)

Radford (2004) suggested that unaccusative verbs can practice locative inversion, as exemplified in (15a) and (15b), being the canonical form and the inverted form, respectively.

(15) a. The ball will roll down the hill. (Radford 2004: 355)

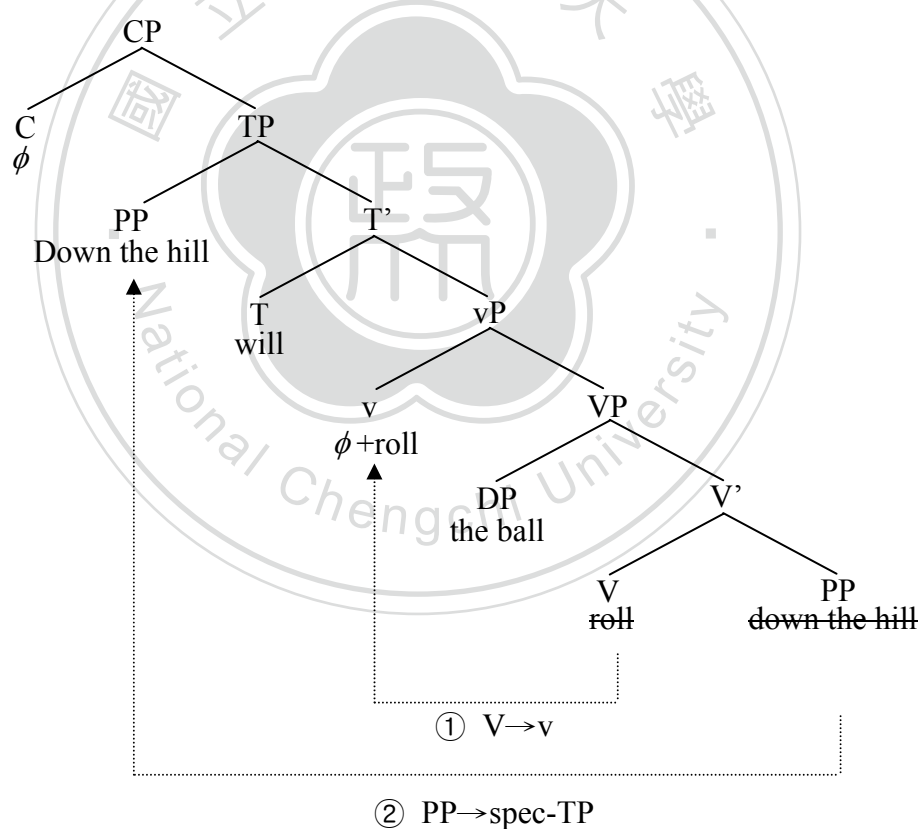


The subject 'the ball', as an argument of the lexical verb 'roll', originates within VP which is headed by a null light verb phrase termed as 'vP'<sup>2</sup>. In the transformational process, the null v first triggers the movement of the lexical verb 'roll' to v position,

<sup>2</sup> Radford claimed that the null light verb is similar to the causative verb 'make' in English.

and then, the argument ‘the ball’ is moved to spec-TP to meet the Extended Projection Principle (EPP)<sup>3</sup>. This process serves to develop the canonical form of the unaccusative verb. However, there is another way to meet EPP—that is, to move the PP ‘down the hill’ to spec-TP, but keep the noun phrase ‘the ball’ in its original position—the VP-internal position; this process thus forms the locative inversion, as shown in (15b).

(15) b. Down the hill will roll the ball.



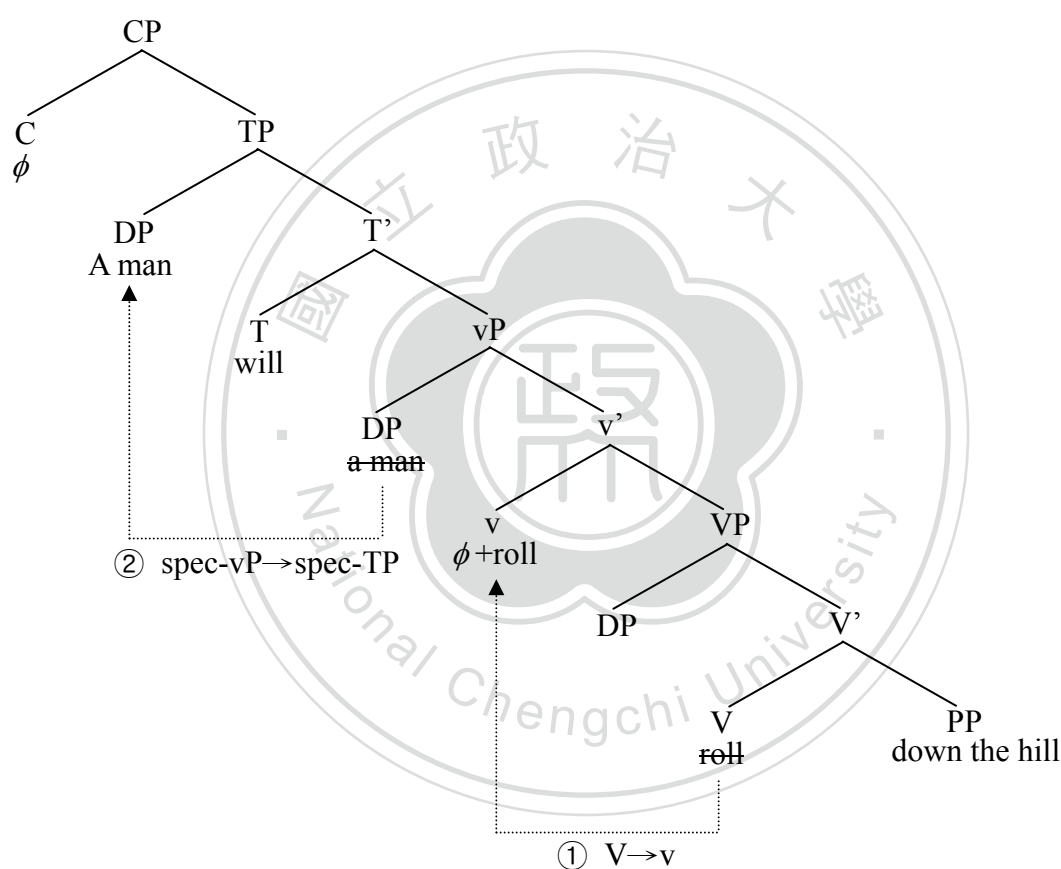
While the account Radford proposed appears applicable in the case of unaccusative verbs in English locative inversion, he fails to mention the possibility that

<sup>3</sup> The Extended Projection Principle refers to the idea that every clause requires a subject. In Carnie (2002), the definition of EPP is illustrated as follows:

*All clauses must have subjects. Lexical information is syntactically represented. (Carnie, 2002:175)*

non-unaccusative verbs may also undergo locative inversion. Take unergative verbs, which require an external argument, for example. We can speculate that a tree model of an unergative verb, based on Radford's tree model for transitive verbs, may be created as in (16a).

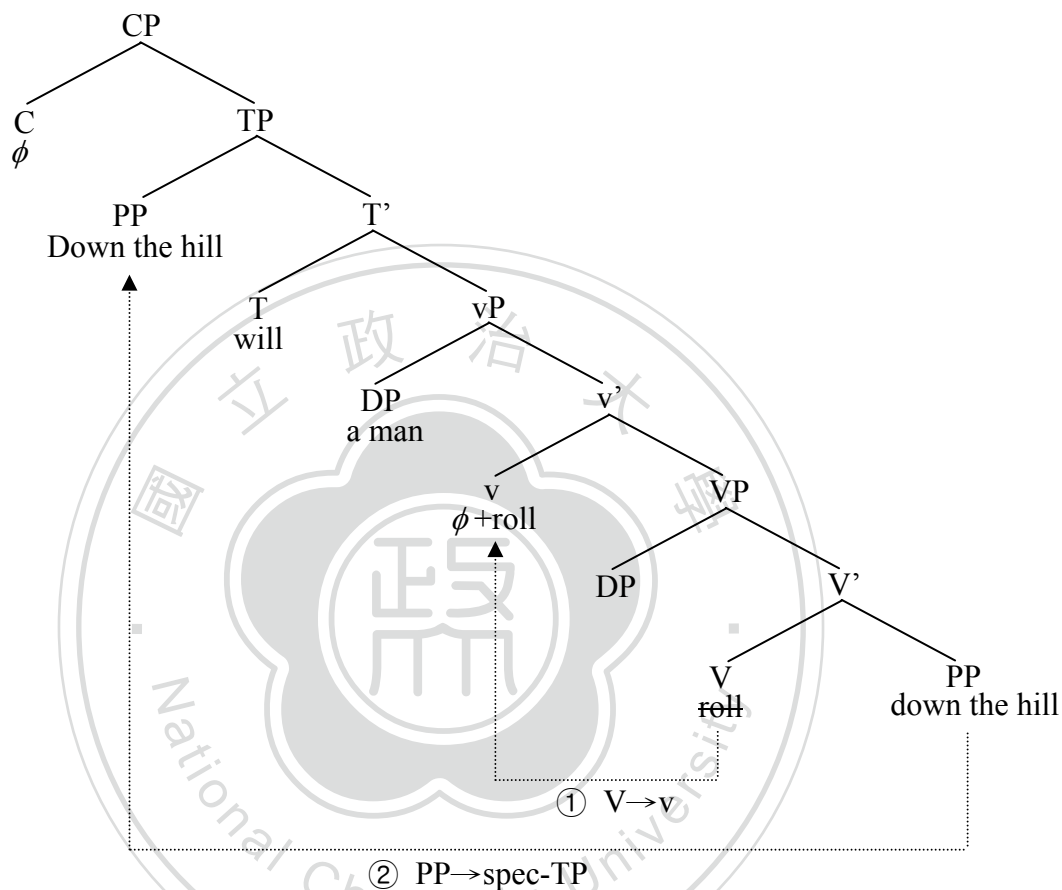
(16) a. A man will (intentionally) roll down the hill.



In that the agent-oriented adverb 'intentionally' has undergone grammatical modification, it therefore follows that the argument 'a man' must be an agent role and which role, according to Radford, originates in spec-vp position—the external argument of the light verb. Similar to the movement process of unaccusative verb, the unergative verb is moved to the null v position, as seen in (16a), and then the agentive

argument 'a man' is moved to spec-TP to fulfill the EPP principle. Again, another way to meet the EPP is to move the PP to the spec-TP, as illustrated in (16b).

(16) b. \*Down the hill will a man roll.



As evidenced in (16b), after the movement, the outcome is not that one that would be produced by a typical locative inversion at all. Given this, Radford's analysis seems unable to explain all cases of locative inversion verbs.

Another flaw in Radford's analysis is that moving PP to the subject position violates the Case Filter. Since a subject position is restricted to be occupied by a nominal phrase (NP), a prepositional phrase is not supposed to occupy the subject

position.

#### **2.1.4. Remarks on Transformational Grammar**

If we compare the three analyses above, we find that their core similarity is in regard to their view of locative inversion verbs as unaccusative verbs, which take only one VP-internal argument. They diverge chiefly in the ways of constituent movement. While Coopmans and Li suggest both left-hand and right-hand movement in locative inversion, Radford is only concerned with a left-hand movement of PP to the subject position, the spec-TP. The different treatments of locative inversion result in various identifications of the grammatical relation of the PP complement; the preposed PP in Radford's analysis is a subject, but a topic in Coopmans' analysis, as he proposed an empty expletive subject. Li's analysis, though similar to Coopmans', claims that the PP complement in Mandarin turns to NP after being preposed, and thus occupies the subject position in the inverted form. Due to the inconsistent accounts of locative inversion, we will seek to try another approach to analyze locative inversion—that of Lexical Functional Grammar (LFG).

## **2.2 Lexical Functional Grammar**

Dissatisfied with only the two levels of structures in transformational grammar, LFG suggests the coexistence of three parallel and independent levels to form a



sentence: argument structure (a-structure), functional structure (f-structure), and constituent structure (c-structure), which are correspondingly linked to each other.

The linking grammar is termed the Lexical Mapping Theory (LMT), and deals with the mapping relations between thematic roles and grammatical relations (Huang and Her 1998). In a mapping process, the thematic role of an argument (semantically) will first be mapped to a corresponding syntactic argument structure (syntactically), and form an a-structure. Then, the a-structure will be mapped to the grammatical relations (SUBJ, OBJ, etc) in f-structure, and finally be linked to the category of lexicon in c-structure.

With this framework, the proposed analysis sheds new light on a syntactic account of the locative inversion construction; the representative accounts are to be presented in the following.

### 2.2.1 Bresnan and Kanerva (1989)

According to Bresnan and Kanerva (1989), LMT is composed of four components, as illustrated in (17).

(17) Components of LMT (Bresnan and Kanerva 1989: 23-27)

a. the universal thematic hierarchy:

*ag* > *ben* > *go/ exp* > *inst* > *th/ pat* > *loc*

b. classification of grammatical functions:

1.  $\pm r$  (restricted thematically) and  $\pm o$  (objective):

SUBJ	$[-r \ -o]$	OBJ	$[-r \ +o]$
OBL <sub>θ</sub>	$[+r \ -o]$	OBJ <sub>θ</sub>	$[+r \ +o]$ <sup>4</sup>

2. markedness hierarchy: SUBJ > OBJ/OBL<sub>θ</sub> > OBJ<sub>θ</sub>

c. lexical mapping principles:

1. intrinsic classifications (IC's)

th/pat →  $[-r]$ ; ag →  $[-o]$

2. morpholexical operations:

e.g., passive:  $\hat{\theta} \rightarrow \phi$ <sup>5</sup>

3. default classifications (DC's):

$\hat{\theta} \rightarrow [-r]$ ; all others →  $+r$

4. monotonicity condition: feature assignment must be feature-preserving

d. well-formedness conditions (WF):

1. The Subject Condition: Every lexical form must have a subject.

2. Function-Argument Biuniqueness: Each expressed role must be mapped to a unique function, and conversely.

The hypothesis assumes that thematic roles, based on a universal hierarchy, descend from agent, through beneficiary, recipient/experiencer, instrument, patient/theme, to location, as in (17a). Then, as shown in (17b), Bresnan and Kanerva classify syntactic functions based on two binary features:  $[r]$  (thematically unrestricted) and  $[o]$  (objective). SUBJ and OBJ are the most unmarked and thematically unrestricted, while OBL<sub>θ</sub> and OBJ<sub>θ</sub> possess the most marked and thematically restricted feature.

<sup>4</sup> OBL<sub>θ</sub> represents multiple oblique functions, including OBL<sub>go</sub>, OBL<sub>instr</sub>, and so on. Likewise, OBJ<sub>θ</sub> represents secondary objects, including OBJ<sub>th</sub>, OBJ<sub>ben</sub>, and so on.

<sup>5</sup>  $\hat{\theta}$  refers to the highest thematic role, usually termed as thematic subject or “logical subject”.

Furthermore, considering the objective features of OBJ and OBJ<sub>0</sub>, the natural classes of grammatical functions and the markedness hierarchy are formed in (17b).

The lexical mapping principles in (17c) illustrate the relation between thematic roles and grammatical functions, by classifying intrinsic features to the thematic roles.

As to morpholexical operations, adding or suppressing thematic roles can affect

lexical argument structure; one of the examples is passivization, which suppresses the

highest thematic role in the lexical a-structure, as in (17c2). After applying

morpholexical operations, if any, the default classification applies, which is the

generalization that the highest thematic role will be the subject and the lower roles

will be non-subject. Note that the default operations apply only to those roles which

are not specified a conflicting feature, which is called the monotonicity condition in

that it aims to preserve the existing value. Finally, two well-formedness conditions on

lexical forms should also be observed in the mapping principle; every sentence must

have a subject, and every argument must be mapped to a unique function, and vice

versa.

To account for locative inversion in Chichewa and English, Bresnan and Kanerva

propose an intrinsic feature and an additional default role classification for a locative

role, as presented in (18c) and in (19a), respectively.

(18) Intrinsic role classifications (IC's):

- a. agent encoding:  $ag \rightarrow [-o]$
- b. theme/patient encoding:  $th/pt \rightarrow [-r]$
- c. locative encoding:  $loc \rightarrow [-o]$

(19) Default classifications (DC's):

- a. locative default:  $\langle [f] loc \rangle, loc \rightarrow [-r]$
- b. the highest role:  $\hat{\theta} \rightarrow [-r]$
- c. all other roles:  $\theta \rightarrow [+r]$

In (19), the locative role is classified as unrestricted when the theme role is focused and thus bears the feature focus, symbolized by [f], which is applied before other defaults. The locative default is only applied in the thematic structure where, for example in Chichewa and English, takes only a theme or patient as the highest role.

Examples in (20) demonstrate how this theory treats locative inversion in Chichewa and English.

- (20) a. *A-lendo-wo*                      *a-na-bwer-a*                      *Ku-mu-dzi.*  
 2-visitor-2 those                      2 SB-REC PST-come-IND                      17-3-village.  
 'Those visitors came to the village.'

	bewera	$\langle$	<i>th</i>	$\rangle$	<i>loc</i>	$\rangle$	'come'
IC's:			$[-r]$		$[-o]$		
DC's:					$[+r]$		
-----							
			O/S		OBL <sub>loc</sub>		
WF's:			S		OBL <sub>loc</sub>		

In (20a), IC is applied first, and the theme and the locative role are assigned  $[-r]$  and

$[-o]$ , respectively, as their intrinsic features. After that, the rule DC is applied and the locative role is assigned a  $[+r]$  feature due to its non- $\hat{\theta}$  property. However, if the theme role is assigned a focus feature, the locative default should be applied, with the assignment of a  $[-r]$  feature to the locative, rather than the assignment of another default rule, as shown in (20b).

- (20) b. *Ku-mu-dzi Ku-na-bewera a-lendo-wo.*  
 17-3-village 17SB-REC PST-come-IND 2-visitor-2 those  
 ‘To the village came those visitors.’
- |       |        |   |           |  |            |   |        |
|-------|--------|---|-----------|--|------------|---|--------|
|       | bewera | < | <i>th</i> |  | <i>loc</i> | > | ‘come’ |
| IC’s: |        |   | $[-r]$    |  | $[-o]$     |   |        |
| focus |        |   | $[f]$     |  |            |   |        |
| DC’s: |        |   |           |  | $[-r]$     |   |        |
| ----- |        |   |           |  |            |   |        |
|       |        |   | O/S       |  | S          |   |        |
| WF’s: |        |   | O         |  | S          |   |        |

Though Bresnan and Kanerva’s theory seems to account for locative inversion in Chichewa and English, it leaves some problems unsolved as noted by Huang and Her (1998). The first problem is that it cannot be applied to Mandarin locative phrases which are realized as not only an oblique and a subject, but also as an object, as exemplified in (21a) to (21c).

- (21) a. 千隻 蝙蝠 掛 在 樹上。 (OBL<sub>loc</sub>)  
*qian-zhi bianfu gua zai shu-shang.*  
 thousand-CL bat hang at Tree  
 ‘Thousands of bats hang in the tree.’

(21) b. 樹上 掛 了 千隻 蝙蝠。 (SUBJ)  
*shu-shang gua le qian-zhi bianfu.*  
 tree hang ASP Thousand-CL Bat  
 ‘Thousands of bats hang in the tree.’

c. 千隻 蝙蝠 掛 樹上。 (OBJ)  
*qian-zhi bianfu gua shu-shang.*  
 thousand-CL bat hang tree  
 ‘Thousands of bats hang in the tree.’

The use of intrinsic role classification to encode the locative as [ $-o$ ] seems to be unworkable in Mandarin since it cannot predict the object status but only the alternation between subject and oblique. A further problem is that Bresnan and Kanerva imply that a locative, if co-occurring with a focused theme, can be mapped to the subject in all languages. The assumption that locative inversion is universal wrongly predicts its existence in non-configurational languages, like Korean and Japanese. Example (22) is from Japanese (Huang and Her 1998).

(22) a. *Herikoputa ga yama no ue ni orimashita.*  
 helicopter NOM mountain POSS Top LOC land  
 ‘A helicopter landed on top of the mountain.’

b. *Yama no ue ni herikoputa ga orimashita.*  
 mountain POSS top LOC Helicopter NOM land  
 ‘On top of the mountain landed a helicopter.’

c. \**Yama no ue ga herikoputer o orimashita.*  
 mountain POSS top NOM helicopter ACC land  
 ‘On top of the mountain landed a helicopter.’

Even though the locative phrase and the subject exchange their position which leads

to different information focus, as seen in (22a) and (22b), their grammatical functions do not change, as seen in (22c), which result is unlike that in the predication made by Bresnan and Kanerva. This counterexample of locative inversion in Japanese seems to imply that locative inversion is not part of a Universal Grammar and not all human languages undergo locative inversion.

Finally, as to the focus rule [f], since it is applied between IC's and DC's, it is assumed to involve a morpholexical operation. Nevertheless, the application of focus to morpholexical operation is inappropriate in that morpholexical operation only includes adding, suppressing, and binding roles, and does not include a discourse notion such as focus.

### **2.2.2. Huang and Her (1998) and Her (2003)**

In order to redress the flaws in Bresnan and Kanerva's argument on locative inversion, Huang and Her (1998) postulate a revised lexical mapping account, which is further modified in Her (2003) as a simplified LMT.

The result of the application of simplified LMT is to enlarge the universality of intrinsic role and default classifications and to leave language-specific inversion within the morphosyntactic operation. Thus, it is different from the conventional version of LMT, proposed by Bresnan and Kaverna (1989), in several aspects. First, it argues against the underlying specification of all argument roles, but proposes that

they be unspecified, underspecified, or fully specified when assigned syntactic features, as seen in (23), where all non-patient/theme roles are unspecified. The treatment of all non-patient/theme roles as unspecified, instead of  $[-o]$  in conventional LMT, enables them to be mapped to OBJ, and explains the link of the locative in Mandarin to SUB,  $OBL_{\theta}$ , and  $OBJ_{\theta}$ .

(23) (Simplified) Semantic Classification of A-structure Roles for Function (SC):

- a. patient/theme:  $\theta$ — $[-r]$
- b. secondary patient/theme:  $\theta$ — $[+o]$

Second, the simplified LMT allows morphosyntactic operations in addition to morpholexical operations. One of the examples of a morphosyntactic operation is locative inversion, where information is only allowed to be added but not be deleted or changed, without leading to any change in the semantic meaning.

(24) Default Morphosyntactic Operation (DM):

$$\theta \rightarrow [+r] \quad \theta \neq \hat{\theta}$$

In morphosyntactic operation, as seen in (24), the default feature  $[+r]$  will be assigned to all roles except the logical subject  $\hat{\theta}$  and the theme/patient role for they have been assigned a  $[-r]$  feature from SC; see (23).

Considering (23) and (24), the logical subject,  $\hat{\theta}$ , or the patient/theme role, is supposed to be the unrestricted function—SUBJ or OBJ, whereas the other roles are



mapped to either  $OBL_0$  or  $OBJ_0$  in that they bear a  $[+r]$  feature.

Another modification, proposed by Bresnan (2001)<sup>6</sup>, is to integrate the two mapping principles and the two well-formedness conditions into a unified mapping principle (UMP), of which a modified version is presented in Her (2009b), as (25).

(25) The Unified Mapping Principle (UMP): (Her 2009b: 3)

Map each role in a-structure to the highest compatible \* AF<sup>7</sup> available+.

\*An AF is compatible iff<sup>8</sup> it contains no conflicting features.

+An AF is available iff it is not fully specified by a role and not linked to a higher role.

The UMP maintains the principle that the most prominent thematic role is mapped to the SUBJ in function. Note that the UMP poses no restriction that an argument function (AF) must be mapped to a role; however, it still obeys a strict one-to-one argument-function linking principle as in the same way that the  $\theta$ -Criterion does.

With the simplified LMT, Her further illustrates how the account is workable in the case of locative inversion. A locative inversion verb requires two roles, *theme* and

<sup>6</sup> Bresnan (2001) proposes two mapping principles and two well-formedness conditions, which are the revision to Bresnan and Kanerva (1989).

(1) Mapping Principles:

a. Subject roles:

(i)  $\hat{\theta}$  [-o] is mapped onto SUBJ when initial in the a-structure; otherwise:

(ii)  $\theta$  [-r] is mapped onto SUBJ.

b. Other roles are mapped onto the lowest compatible function in the partial ordering of the markedness hierarchy of argument functions:  $SUBJ > OBJ/OBL_0 > OBJ_0$

(2) Well-formedness Conditions:

a. Functional-Argument Biuniqueness:

Each a-structure role must be associated with a unique function, and conversely.

b. The Subject Condition:

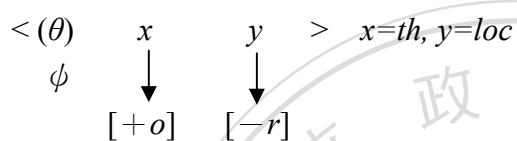
Every predicator must have a subject.

<sup>7</sup> AF represents argument function.

<sup>8</sup> 'iff' refers to 'if and only if'.

*locative*, and their functions alternate between the canonical form and the inverted form: *theme* as the subject in the canonical form while *locative* as the subject in the inverted form. To explain the alternation, Her revises Huang and Her's (1998) morphosyntactic operation and proposes a locative inversion rule, as described in (26).

(26) Locative Inversion (LI) (Mandarin, English, Chichewa...):



This rule illustrates the assignment of the features  $[+o]$  and  $[-r]$  to the two roles, respectively, and the optional  $\hat{\theta}$  must be suppressed. Note that the locative inversion rule is language-specific; that is, it occurs in Mandarin, English, Chichewa, etc., but not in some non-configurational languages like Japanese or Korean. The following (27) is the demonstration of how this rule applies to Mandarin locative inversion under the simplified LMT framework.

(27) a. 約翰 坐 在 台上。 (Her 2003: 11)

*Yuehan zuo zai tai-shang.*

John sit at stage-top

'John is sitting on the stage.'

	<i>zuo/sit</i>	<	<i>x</i>		<i>y</i>	>	<i>x=th, y=loc</i>
SC:			$[-r]$				
DM:					$[+r]$		
			S/O		OBL <sub>θ</sub> /OBJ <sub>θ</sub>		
UMP:			SUBJ		OBJ <sub>θ</sub>		

- (27) b. 台上 坐 著 約翰。  
*tai-shang zuo zhe Yuehan.*  
 stage-top sit ASP John  
 ‘On the stage was sitting John.’

	<i>zuo/sit</i>	$<$	$x$		$y$	$>$	$x=th, y=loc$
SC:			$[-r]$				
LI:			$[+o]$		$[-r]$		
DM:	-----						
			OBJ		S/O		
UMP:			OBJ		SUBJ		

In the demonstration of (27a), the SC rule applies first, assigning the patient/theme role  $[-r]$  feature, and then the DM rule assigns a  $[+r]$  feature to all the non- $\hat{\theta}$  roles.

Likewise, in (27b), the SC also applies first, but next comes the application of the Locative Inversion rule (LI) which assigns  $[+o]$  and  $[-r]$  to the two roles, respectively. Then, the DM is blocked as its  $[+r]$  feature conflicts with the existing features,  $[-r]$ , that SC and LI have assigned.

### 2.3. Overall Remarks

Comparing the two different theories above, traditional transformational grammar uses only two levels to form constituent structure: one level (the underlying level) to account for the lexical role structure of verbs, and the one (the surface level) to arrange the syntactic functions of these roles.<sup>9</sup> The grammatical functions/relations

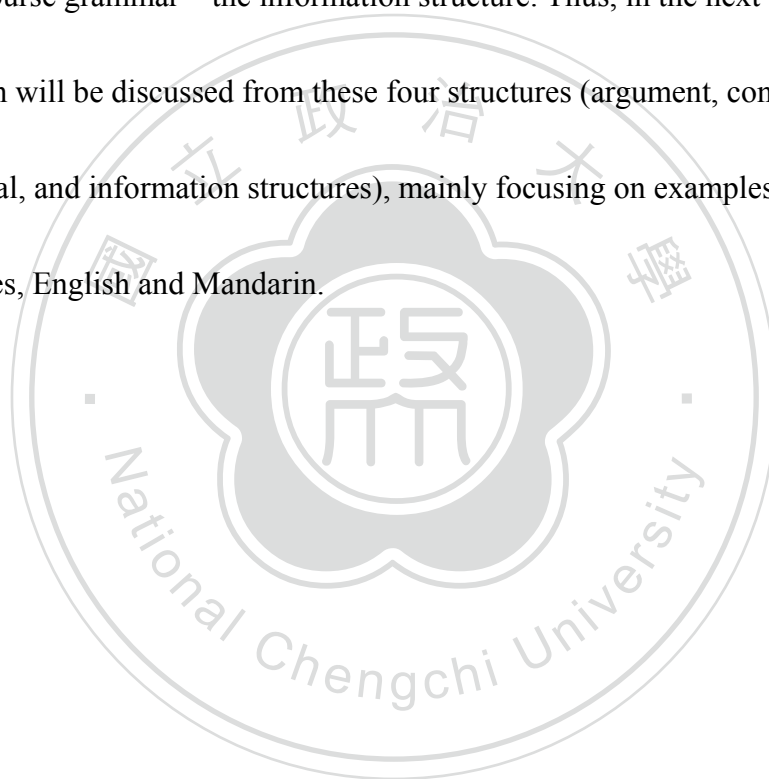
<sup>9</sup> The traditional transformational grammar here refers to the version adopted by Coopmans (1989), Li (1990), and Radford (2004), but not the modern version of transformational grammar.

are not independent but rely on the constituent structure. For example, the subject is the position higher than the verb in hierarchy structure. The two levels are related by syntactic movement operations which are restricted by syntactic principles (such as the Projection Principle, Case theory and the  $\theta$ -Criterion) so as to preserve the information of the applied movement. In addition, transformational grammar is barely concerned with lexicon in grammar but only with the derivation or movement rules. This thus induces the need for many arbitrary rules to generate locative inversion. They sort of develop them an ad hoc manner—case by case—so there is no coherence to the analyses.

However, LFG has no distinction between D-structure and S-structure, unlike transformational grammar. Instead, there is only a one-level constituent structure. And grammatical functions are abstracted from the constituent structure and presented as values or attributes in the functional structure. Functional structure appears as an underlying structure in transformational grammar; however, it involves no movement but only mapping theory, which means that it is non-derivational grammar. Moreover, LFG takes great account of lexicon. In argument structure, the thematic role is mapped to its correspondent syntactic argument function in accordance with the universal hierarchy of prominence. The mapping principle of LFG seems rational in taking universal hierarchy into consideration, and produces results which are not as

arbitrary as derivational rules.

In view of this, the present paper will account for locative inversion under the framework of LFG, and the discussion will be with regard to the three level structures LFG takes: a(rgument)-structure, c(onstituent)-structure, and f(unctional)-structure, respectively. In addition to syntactic LFG grammar, the discussion will also include the discourse grammar—the information structure. Thus, in the next chapter, locative inversion will be discussed from these four structures (argument, constituent, functional, and information structures), mainly focusing on examples from the two languages, English and Mandarin.





## Chapter 3

### Locative Inversion in English and Mandarin

#### 3.1. Argument Structure

While it is well-established that locative inversion verbs bear unaccusativity, the definition of unaccusativity varies from one theory to another. Take traditional movement theory and LFG, for example. Under the framework of syntactic movement theories, unaccusativity exists only in unaccusative verbs and passive verbs, which take an internal argument (logical object) but no external one (logical subject) in D-Structure. However, this definition cannot explain why some classified unergative verbs, taking an external argument in D-Structure, undergo locative inversion as well, as shown in (28): (28a) presenting an English example while (28b) a Mandarin one.

- (28) a. Into the room walked an old man.
- b. 洞裡 跳進 一隻 兔子。  
*dong-li tiao jin yi-zhi tu-zi.*  
cave-inside jump-in one-CL Rabbit  
'Into the cave jumped in a rabbit.'

To explain this exception, we resort to another theory—LFG to re-define unaccusativity. Instead of defining the unaccusativity within the framework of constituent hierarchy or grammatical relation, LFG defines unaccusative verbs by means of argument structure; locative inversion verbs are those unaccusative verbs taking the a-structure of *<theme locative>* (Bresnan and Kanerva 1989). Under this

assumption, such verbs as called unergative verbs in GB theory actually perform unaccusativity in possessing an a-structure of *<theme locative>*. Return to example (28a). Since the verb ‘walk’ can be interpreted as requiring a theme role, ‘an old man’, and a locative role, ‘into the room’, simultaneously, it can be a locative inversion verb without violating the unaccusativity principle.

Although the account *<theme locative>* seems workable for (28), it is not applicable in example (29).

- (29) a. John (intentionally) sat on the stage.  
 b. On the stage (\*intentionally) sat John.

In (29), the verb ‘sat’ is a locative inversion verb in that it has the inverted form in (29a). However, being modified by an agent-oriented adverb ‘intentionally’, it is predicted that the verb ‘sat’ takes an agent role, which is incompatible with Bresnan and Kanerva’s definition for a locative inversion verb: that it should take an a-structure of *<theme locative>*. In this case, the strict a-structure *<theme locative>* for a locative inversion seems to be unsatisfactory and inappropriate.

### 3.1.1. Suppressionist Approach

To solve the problem in example (29), Her (2004, 2007, 2009b) suggests suppressionist approach. Given the approach of suppressionist theory, all semantic interpretations of an argument will be taken into consideration, while, at the same



time, the strict one-to-one argument-function linking (or  $\theta$ -Criterion) is still maintained when the thematic role is mapped to a syntactic argument. According to Her (2004, 2007, 2009b), in the intrinsic thematic structure, a verb may take two composing roles, *agent* and *theme*, in a composite role, *agent-theme*. When the composite role is mapped to its correspondent grammatical function, triggered by the one-to-one  $\theta$ -Criterion that one role can only be assigned to one argument, one of the composing roles is suppressed, which allows the other to be linked to the grammatical function. See the example in (30).

- (30) a. 約翰 坐在台上。(Her 2009b: 11)  
 Yuehan zuo zai tai-shang.  
 John sit at stage-top  
 ‘John is sitting on the stage.’
- i.  $zuo/sit < \begin{matrix} x \\ \text{✗} \\ y \end{matrix} z > \quad x=ag, y=th, z=loc$
- SC: [+r]
- DM: [+r]
- 
- |      |   |  |
|------|---|--|
|      | S/O/ OBL <sub><math>\theta</math></sub> /OBJ <sub><math>\theta</math></sub> | OBL <sub><math>\theta</math></sub> /OBJ <sub><math>\theta</math></sub> |
| UMP: | SUBJ  | OBL <sub><math>\theta</math></sub>                                     |

OR ii.

- $zuo/sit < \begin{matrix} \text{✗} \\ x \\ y \end{matrix} z > \quad x=ag, y=th, z=loc$
- SC: [-r]
- DM: [+r]
- 
- |      |      |  |
|------|------|--|
|      | S/O  | OBL <sub><math>\theta</math></sub> /OBJ <sub><math>\theta</math></sub> |
| UMP: | SUBJ | OBL <sub><math>\theta</math></sub>                                     |

In the canonical form of (30a), the verb *zuo* ‘sit’ is assumed to take a composite

role of  $\langle agent-theme \rangle$  and a locative role  $\langle locative \rangle$ , which leads to an a-structure of  $\langle agent-theme locative \rangle$ . If the suppression rule is then applied, the a-structure will be either  $\langle agent-\cancel{theme} locative \rangle$  or  $\langle \cancel{agent}-theme locative \rangle$ , which leads to a separate meaning but the same grammatical relation is maintained. In the case of applied suppression, in (i), the SC rule assigns no features while DM assigns a  $[+r]$  feature to the locative role. Based on UMP, the theme is linked to the more prominent SUBJ, and similarly, the locative to the less marked  $OBL_{\theta}$ . On the other hand, in (ii), SC assigns a  $[-r]$  feature to the theme role  $\langle z \rangle$ , and DM assigns a  $[+r]$  feature to the locative role  $\langle y \rangle$ . And again, the UMP guarantees the most prominent  $OBL_{\theta}$  and SUBJ to the locative and the theme role, respectively. The two mapping processes imply two readings in the sentence (30a), *Yuehan* ‘John’ can be either an agent or a theme role.

- (30) b. 台上 坐 著 約翰。(Her 2009b: 11)  
*tai-shang zuo zhe Yuehan.*  
 stage-top sit ASP John  
 ‘On the stage was sitting John.’

<i>zuo/sit</i>	<	$\cancel{x}$ -y	z	>	$x=ag, y=th, z=loc$
SC:		$[-r]$			
LI:		$[+o]$	$[-r]$		
DM:	-----				
		OBJ	S/O		
UMP:		OBJ	SUBJ		

As for the inverted form (30b), only the suppression of the agent is allowed: the

a-structure of *<agent-theme locative>*. The theme role is assigned a  $[-r]$  feature from SC, and then the LI rule assigns feature  $[+o]$  and  $[+r]$  to  $\langle y \rangle$  and  $\langle z \rangle$ , respectively.

After the UMP, the  $\langle z \rangle$  role is mapped to the SUBJ while the  $\langle y \rangle$  role is the OBJ.

The inverted form in (30b), contrary to (30a), only induces one reading that *Yuehan* ‘John’ is a theme role.

This new account challenges the conventional concept that locative inversion verbs are restricted to a strict a-structure of *<theme locative>*, but suggests that some locative inversion verbs take also an a-structure *<agent-theme locative>*, which is evidenced in the contrast between (31) and (32).

- (31) a. \* 一疊 鈔票 故意 躺 在 地上。  
*yi-die chao-piao guyi tang zai di-shang.*  
 one-CL bill intentionally lie at ground-top  
 ‘A pile of bills is lying on the ground.’
- b. \* 地上 故意 躺 著 一疊 鈔票。  
*di-shang Guyi tang Zhe yi-die chao-piao.*  
 ground-top Intentionally lie ASP one-CL bill  
 ‘On the ground is lying a pile of bills.’
- (32) a. 一個 醉漢 故意 躺 在 地上。  
*yi-ge zui-han Guyi tang Zai di-shang.*  
 one-CL drunk intentionally lie at ground-top  
 ‘A drunk is lying on the ground.’
- b. \* 地上 故意 躺 著 一個 醉漢。  
 \**di-shang guyi tang zhe yi-ge zui-han.*  
 ground-top intentionally lie ASP one-CL Drunk  
 \*‘On the ground is intentionally lying a drunk.’

Given that the volitional adverb *guyi* ‘intentionally’ can only modify an agent role, the

sentences that bear this adverb must have an agent role. In this case, it can be inferred that the canonical form (31a) and its inverted form (31b) have the same a-structure <theme locative>. However, in (32), the canonical form (32a) and the inverted form (32b) seem to differ in a-structure: the former taking <agent locative> or <theme locative> while the latter <theme locative>. This is also true in English, as in (33) and (34).

(33) a. \*A bullet intentionally shot through the window.

b. \*Through the window intentionally shot a bullet.

(34) a. A man intentionally shot through the window.

b. \*Through the window intentionally shot a man.

The examples from (31) to (34) suggest the possibility that locative inversion and its canonical form may not necessarily have the same truth value; sometimes the canonical form may have two distinctive readings.

### 3.1.2. Resultative Compounds in Locative Inversion

Another supporting argument for the suppressionist theory concerns the resultative compound in Mandarin locative inversion, as exemplified in (35), provided by Li (1995).

- (35) 這場 饑荒 餓死了 很多人。  
*zhe-chang jihuang e-si-le henduo ren.*  
 this-CL famine hungry-dead-ASP many people  
 ‘Many people starved to death in this famine.’

In Li (1995), this sentence is interpreted as a resultative compound inversion. The compound verb *e-si* in (35) is composed of two verbs: *e* ‘hungry’, indicating the cause, and *si* ‘death’, the result; the former is termed as  $V_{\text{caus}}$  and the latter as  $V_{\text{res}}$ .  $V_{\text{caus}}$  and  $V_{\text{res}}$  both assign theta roles to the object position, but none to the subject, leaving the subject position unoccupied by roles from either  $V_{\text{caus}}$  or  $V_{\text{res}}$ . On the other hand, although acting like the cause of the starvation of the people, the argument *zhe-chang jihuang* ‘this famine’ cannot be directly linked to either  $V_{\text{caus}}$  or  $V_{\text{res}}$ . However, the argument receiving no theta roles from the compound verb turns to fill the subject position, which violates the principle of  $\theta$ -Criterion.

To solve the problem, we can alternatively interpret this sentence as a locative inversion: attaching *yu* ‘in’ to the subject *zhe-chang jihuang* ‘this famine’ and rephrase the sentence as in (36). *Yu*, in Mandarin, can refer to the time, place, or the event of the cause. In this case, ‘this famine’ can be viewed as a location, and (36) is a canonical form of a locative inversion while (35) is the inverted form.

- (36) 很多 人 餓死 於 這場 饑荒。  
*henduo ren e-si yu zhe-chang jihuang.*  
 many people hungry-dead in this-CL Famine  
 ‘Many people starved to death in this famine.’

Applying the suppressionist theory, the mapping process of locative inversion in (35) and its canonical form in (36) will be illustrated in (37a) and (37b).

- (37) a. 很多人 餓死 於 這場 饑荒。  
*henduo ren e-si yu zhe-chang jihuang.*  
 many people hungry-dead in this-CL Famine  
 ‘Many people starved to death in this famine.’

*e* ‘hungry’  $\langle x \rangle$       *si* ‘dead’  $\langle y \ z \rangle$   
*e-si* ‘hungry-dead’  $\langle x-y \ z \rangle$       ( $x=th \ y=th \ z=loc$ )

i.                       $\langle \cancel{x}-y \ z \rangle$

SC:                       $[-r]$

DM:     $[+r]$

UMP:                      S/O      OBL<sub>θ</sub>/OBJ<sub>θ</sub>  
                                     SUBJ      OBL<sub>θ</sub>

OR ii.

$\langle x-\cancel{y} \ z \rangle$

SC:                       $[-r]$

DM:     $[+r]$

UMP:                      S/O      OBL<sub>θ</sub>/OBJ<sub>θ</sub>  
                                     SUBJ      OBL<sub>θ</sub>

In the canonical form (37a), the causing verb *e* takes a theme and a locative role  $\langle x \ z \rangle$ , while the resulting verb *si* takes a theme role  $\langle y \rangle$ ; when forming a compound, the compound *e-si* then takes an a-structure  $\langle x-y \ z \rangle$  with a composite role. After applying the suppression rule, the a-structure that the compound verb takes turns to either  $\langle x-\cancel{y} \ z \rangle$  or  $\langle \cancel{x}-y \ z \rangle$ , and either of them will lead to the same reading,  $\langle \textit{theme locative} \rangle$ . In the process of operation, the theme receives a  $[-r]$  feature from SC, and the locative receives a  $[+r]$  from DM. Based on UMP, the theme is linked to the more prominent SUBJ, and similarly, the locative is mapped to the less marked OBL<sub>θ</sub>.

- (37) b. 這場 饑荒 餓死了 很多人。  
*zhe-chang jihuang e-si-le henduo ren.*  
 this-CL famine hungry-dead-ASP many people  
 ‘Many people starved to death in that famine.’

*e* ‘hungry’ <*x*>      *si* ‘dead’ <*y* *z*>  
*e-si* ‘hungry- dead’ <*x-y* *z*>      (*x=th* *y=th* *z=loc*)

i. < *x-y*      *z* >

SC: [-*r*]  
 LI: [+*o*]      [-*r*]  
 DM: -----

UMP:      OBJ      S/O  
           OBJ      SUBJ

OR ii. < *x-y*      *z* >

SC: [-*r*]  
 LI: [+*o*]      [-*r*]  
 DM: -----

UMP:      OBJ      S/O  
           OBJ      SUBJ

The inverted form in (37b) has the same a-structure after suppression. However, after receiving a [-*r*] feature from SC, the locative inversion rule (LI) is applied, assigning [+*o*] and [-*r*] features to the theme and the locative role, respectively. DM cannot assign the [+*r*] feature since it is contradictory to the [-*r*] feature which has been assigned to the <*x-y*> and <*z*> roles. Again, by UMP, the locative chooses the more prominent SUBJ while the theme has only one choice, the OBJ. Since the interpretation of locative inversion allows the phrase ‘this famine’ to fill the subject position, it is suggested that the sentence in (35) is actually a locative inversion instead

of a resultative inversion.

### **3.2. Constituent Structure**

#### **3.2.1. C-structure in English and Mandarin**

After examining the argument structure of locative inversion, this section will move on to investigate its constituent structure. Under the framework of LFG, the discussion of c-structure here focuses only on the lexical category of arguments and no grammatical functions are involved.

As noted, locative inversion verbs require two arguments, a postposed theme role and a preposed locative one. As to the former, much of the research proposes a consistent definition for it—that it is a noun phrase, which is true both in English and in Mandarin. At the same time, however, the lexical category of the preposed locative phrase varies across languages. Take English and Mandarin, for example; the former treats the locative as a prepositional phrase, while the latter treats it as a noun phrase.

The following section will discuss the different categories of locative phrase in the two languages.

#### **3.2.2. The Preposed Locative Phrase**

The preposed locative phrase of locative inversion in English is always accompanied by a preposition like ‘in’, ‘at’, ‘on’, a directional preposition like ‘into’,



‘onto’, or an adverb like ‘away’, ‘above’, etc., as exemplified in (38).

- (38) a. On the stage sat a man.  
 b. Into the pool jumped a man.  
 c. Away flew the birds.

Due to the fact that a locative phrase in English is obliged to be accompanied by a preposition, it is defined as a preposition phrase (PP).

Contrary to the PP category in English, the preposed locative phrase in Mandarin seems more like a noun phrase than a preposition phrase, in that it is composed of no preposition but a localizer. The literature has indicated the phenomenon that in Mandarin, the preposed locative phrase requires no preposition (Huang 1982, Chao 1961, Wang 2005); and few, if any, are qualified apart from *zai* ‘at’ and *cong* ‘from’ (Teng 1975)<sup>10</sup>, as seen in (39) and (40).

- (39) (?在) 空中 飄 著 一片 落葉。  
 (?zai) kong-zhong piao zhe yi-pian luo-ye.  
 in air-inside float ASP one-CL falling-leaf  
 ‘In the sky is floating a falling-leaf.’

- (40) (從) 洞裡 跳出 一隻 老虎。  
 cong dong-li tiao-chu yi-zhi lao-hu.  
 from cave-inside jump-out one-CL Tiger  
 ‘From the cave jumped out a tiger.’

However, the existence of these prepositions in Mandarin locative inversion is still under question for two reasons. First, these prepositions tend to be omitted, and even

<sup>10</sup> Teng (1975) claims that locative prepositions include 1) *zai* ‘to be located’ (to indicate Base), 2) *cong* ‘from’ (to indicate Source), and 3) *dao* ‘to’ (to indicate Goal).

need to be obligatorily deleted in some cases. Huang (1982) attributes the omission to their highly-verb-like aspect<sup>11</sup>, which is in conflict with the stative property of locative inversion. What is more, (40) is not a typical locative inversion on closer examination, for there is no corresponding canonical form, as shown in the ungrammaticality in (41).

- (41) \* 一隻 老虎 跳出 從 洞裡。  
*yi-zhi lao-hu tiao-chu cong dong-li.*  
 one-CL tiger jump-out from cave-inside  
 ‘A tiger jumped out from a cave.’

In view of this, it seems that the preposition in locative inversion in Mandarin tends to be omitted rather than be present, which provides evidence for the nominalization of the preposed locative phrase in Mandarin (Hou 1977). Another argument for the nominal property of the preposed locative is the obligatory requirement of localizer nouns, like *li* ‘inside’, *pang* ‘beside’, *hou* ‘back’, *qian* ‘front’, *wai* ‘outside’, *shan* ‘up’, and *xia* ‘down’, etc (Huang 1982).<sup>12</sup> Considering the absence of a preposition and the appearance of a localizer—that the locative phrase is headed by a noun but not by a preposition—it is suggested that the preposed locative in Mandarin is categorized as a noun phrase.

In summary, the preposed locative phrase belongs to different categories in

<sup>11</sup> Huang (1982) indicates that some prepositions in Mandarin are evolved from intransitive verbs, and thus inherit verb-like features, such as *zai* ‘in/at’, *cong* ‘from’, *xiang* ‘to’, *cao* ‘to’, and *dao* ‘to’, etc.

<sup>12</sup> Chao (1961) regards them as post-positional particles while Tang (1988) claims they are localizers. See Huang (1982).

English and Mandarin; in the former it is a preposition phrase (PP), while in the latter it is a noun phrase (NP).

### **3.3. Functional Structure**

#### **3.3.1. Literature Review**

While there is a generally-accepted understanding of the position of c-structure in locative inversion, the literature on grammatical relation lacks consistent and complete arguments. The preposed locative is regarded as a subject (Li 1990, Huang and Her 1998, Her 2003, Levin and Rappaport 1995) or a topic (Coopmans 1989), and the postposed theme is suggested as a subject (Rochemont and Culicover 1990) or an object (Coopmans 1989, Bresnan and Kanerva 1989, Li 1990, Huang and Her 1998, Her 2003). Some of these proposals are based on the word order SVO (the preposed locative as a subject), some are based on the lexical category of the preposed locative (where the preposed locative is a topic but not a subject), and still others are based on the verb-agreement rule (the postposed theme as the subject).

Recent literature is nearly all consistent in claiming that the postposed theme is an unaccusative object, which is true both in English and Mandarin. In light of this, this section will not focus on the postposed theme; instead, we will focus on the preposed locative phrase, the other argument in locative inversion, in respect to its

grammatical relation.

### 3.3.2. Bresnan's Analysis (1994)

Bresnan's analysis of the preposed locative phrase in English will be adopted to resolve the inconsistent interpretations of its grammatical function.

In c-structure, the sentence-initial position of a preposed locative phrase implies its subject grammatical status. Nevertheless, as a preposition phrase in English, the preposed locative, is unqualified to fill the nominal subject position in c-structure, as described in (42), which illustrates the mapping restriction between c-structure and f-structure.

- (42) If C is a c-structure position restricted to subjects or objects, then C is nominal. (Bresnan 1994:104)

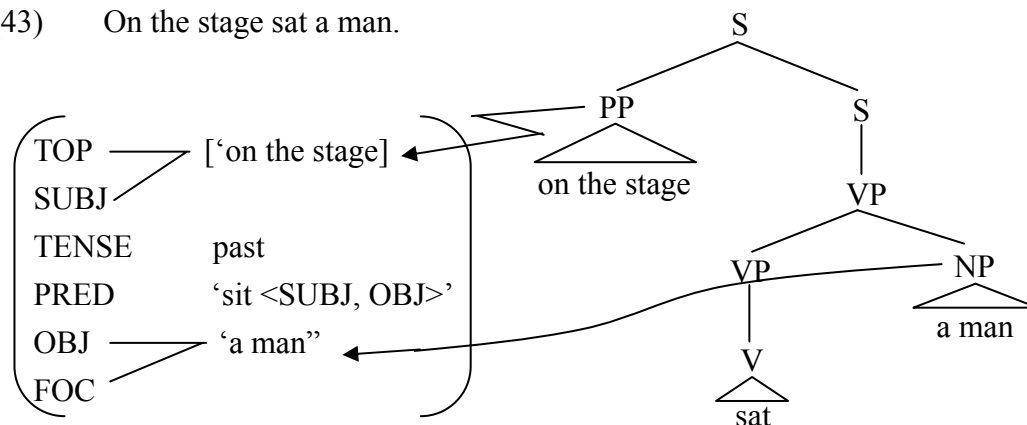
In accordance with the mapping constraint in (42), only nominals can fill the subject and object position of phrase structure. However, in English, the preposed locative is not nominal and thus is unable to fill the subject position.

To tackle this problem, we examine the c-structure and f-structure of the preposed locative phrase in English, respectively, as presented in (43)<sup>13</sup>.

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<sup>13</sup> The figure in (43) is adapted from Bresnan (1994: 105: figure 3).

(43) On the stage sat a man.



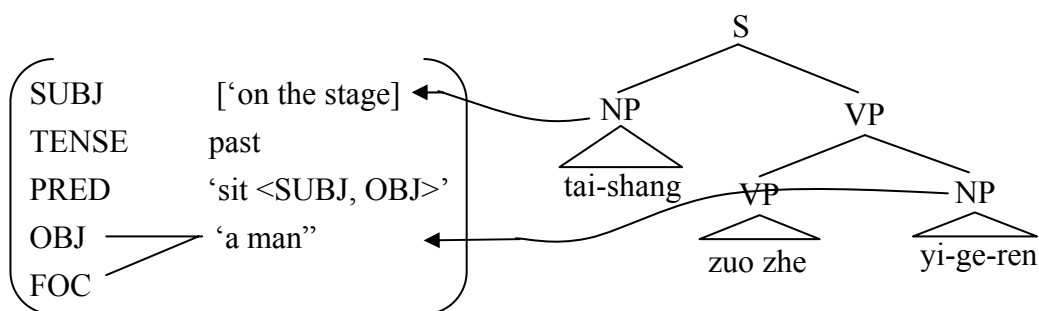
In the figures in (43), the right-side figure represents the c-structure of the sentence in (43) while the left-side figure represents the f-structure. In c-structure, the topicalized PP stays in the CP- specifier position but not in the subject position, or termed as the VP-specifier. In f-structure, the preposed PP, though filling the TOP discourse function, cannot meet the requirement of the three principles in f-structure, including the Completeness Condition, the (Extended) Coherence Condition, and the Uniqueness Condition. As to the Completeness Condition, the subject function is required to be filled by a thematic role. And the (Extended) Coherence Condition demands that the topicalized PP, the discourse function or non-argument function, be identified with an argument position such as SUBJ or OBJ. Finally, the Uniqueness Condition prohibits the topicalized PP from being identified with each of the arguments except for SUBJ since all of them (except the subject function) have assigned values. Considering this, the only way to meet the three principles simultaneously is to link the topicalized PP to the subject function in f-structure, as in

the left-hand-side figure in (43). Thus, the PP is not only a TOP but also the SUBJ in f-structure. In other words, the preposed locative in English locative inversion does not really occupy the subject position in c-structure, but is indirectly linked to the subject position in f-structure. In this case, the preposed locative in English can be indirectly linked to the functional subject without violating the nominal property of the subject position.

### 3.3.3. The Preposed Locative Phrase in Mandarin

Contrary to the English locative, the preposed locative phrase in Mandarin is a noun phrase and is qualified to occupy the subject position in c-structure. Li (1990) indicates that the Case marker *zai* 'at' is obligatory for an NP which occurs in a non-typical NP position. Seeing that the preposed locative usually drops the Case marker when preposed to the sentence-initial position, Li claims that the preposed locative is assigned a nominative Case during the movement, and thus is permitted to occupy the subject position without violating the constraint of (42). In other words, in Mandarin, the preposed locative phrase is an NP and can occupy the NP subject position, as presented in (44).

(44) On the stage sat a man.



The assumption that the Mandarin preposed locative is the subject can be evidenced by the use of a subject-raising test. As seen in (45), the locative *tai-shang* 'on the stage' can be raised before raising verbs such as *kan-qi-lai* 'seem', which suggests the subject status of the locative since only a subject can be raised before a raising verb.

(45) 台上 看起來 站 著 張三。  
*tai-shang kan-qi-lai zhan zhe Zhangsan.*  
 stage-top seem sit ASP Zhangsan  
 Lit.: 'On the stage seems standing John.'

To sum up, in locative inversion, the preposed locative phrase is the subject while the theme noun phrase is the object, which is true both in English and Mandarin.

### 3.4. Information Structure

Until now, we have examined the argument mapping process, the category structure, and the grammatical functions of locative inversion; however, some issues remain unresolved under the framework of LFG. Take (9) and (10), for example. A

purely syntactic grammar seems unable to explain why a well-produced sentence can be unacceptable, and why such an unacceptable sentence can gain eligibility in a certain environment. In view of this, discourse grammar should also be applied, in addition to syntactic grammar, when dealing with locative inversion.

Discourse contains two levels: sentential discourse and contextual discourse.

While the former concerns only the information package within the scope of a sentence, the latter involves the package of information outside a sentence—that of a contextual scope.

In this section, we will see how the discourse information influences the eligibility of a locative inversion both in regard to sentence scope and contextual scope.

### 3.4.1. The Aspect *Zai* and *Zhe*

On closer examination, a locative inversion does not seem to be perfectly correspondent to its canonical form in Mandarin; in fact, there is a difference between them on the morpheme—the aspect marker *zai* in the canonical form and the aspect marker *zhe* in the inverted form, as exemplified in (46)

- (46) a. 一個 人 坐 在 台上。  
*yi-ge ren zuo zai tai-shang.*  
 one-CL Man sit at stage-top  
 ‘A man sat on the stage.’



- (46) b. 台上 坐 著 一個 人。  
*tai-shang zuo zhe yi-ge ren.*  
 stage-top Sit ASP one-CL man  
 ‘On the stage sat a man.’

The two morphemes *zai* and *zhe* seem obligatory in the canonical form and the inverted form, respectively; without them, the sentences are incomplete and unacceptable. For this reason, we hypothesize that *zai* and *zhe* both function to enhance the acceptability of locative inversion and its canonical form in Mandarin.

*Zai*, in addition to serving as a preposition followed by a locative phrase, serves as an aspect marker as well (Teng 1975), as exemplified in (47).

- (47) a. 他 在 家裡。 (preposition)  
*ta zai Jiali*  
 he zai Home  
 ‘He is at home.’
- b. 他 在 吃飯。 (aspect marker)  
*ta zai chifan*  
 he zai Eat  
 ‘He is eating.’

Chen (1977) noticed that when the two *zai* co-occur in the same sentence, one of them (the aspect one) will be dropped, which is called haplology, as shown in example (48).

- (48) a. \*他 在 家裡 在 吃飯。  
 \**ta zai Jiali zai chifan*  
 he zai Home zai eat  
 ‘He is eating at home.’

- (48) b. 他 在 家裡 吃飯。  
*ta zai Jiali chifan*  
 he zai Home eat  
 ‘He is eating at home.’

The haplology phenomenon may imply a strong correlation between the two *zai*, which leads to the induction that they have a similar thematic meaning or function. In this case, by examining the semantic meaning and function of the aspect marker *zai*, we may derive a similar semantic meaning and function for the preposition one in locative inversion.

*Zai*, being a progressive/durative aspect marker (Chu 1998:15, Li 2003: 198), is supposed to be accompanied by an activity verb, which can highlight the progression of an activity or an event. In other words, one function of *zai* is to mark a non-stative progressive event (Teng 1975). Since the function of a locative inversion is to highlight the motionless state of a theme object, the non-stative property of *zai* is not compatible to a locative inversion. Therefore, it stands to reason that *zai* seldom exists in a locative inversion, which is proved in example (49).

- (49) (\*在) 台上 坐 著 一個人。  
 (\**zai*) *tai-shang zuo zhe yi-ge-ren*  
*zai stage-on sit zhe one-CL-person*  
 ‘On the stage is sitting one person.’

On the other hand, *zhe*, in spite of also being a progressive/durative aspect marker, can be attached to a stative verb (Pan 1996), as seen in example (50).

- (50) 他們 深愛 著 對方  
*tamen shen-ai zhe duifang*  
 they deeply-love zhe each-other  
 ‘They love each other deeply.’

In view of this, the core meaning and function of *zhe* is to emphasize the motionless nature of a state and to mark the stative progression.

Apart from stative verbs, *zhe* can also be suffixed to non-stative verbs, such as posture and placement verbs, as seen (51).

- (51) 他 穿 著 大衣 (Yeh 1993:73)  
*ta chuan zhe dayi*  
 he wear zhe overcoat  
 ‘He is wearing an overcoat.’

*Zhe* emphasizes the resultant state of the action when attached to action verbs. In other words, *zhe* provides a stative effect on these verbs and urges a reading of resultant state of the activity (Teng 1975), which makes these verbs appear stative after being suffixed to *zhe*. Chu (1998) calls this phenomenon the ‘stativizing effect’. Yeh (1993) even asserts that the core function of *zhe* is to act as a resultative aspect marker, in which role is thus compatible with both stative and durative semantic meanings.

Pan (1996) further indicates that there is strong correlation between the aspect *zhe* and locative inversion in Mandarin. As we have discussed, the locative inversion verbs must be unaccusative or passive verbs. The reason why some non-passivized

transitive verbs can also undergo locative inversion, according to Pan, is because one ability of the morpheme *zhe* is to delete the agent role in morphological operation. As noted, *zhe* semantically takes a stative property. To be compatible with the stative property, the verbs with an agent role should delete the agent so as to be compatible with locative inversion, and one example is the accomplishment verb. An accomplishment verb, proposed by Vendler (1967), refers to verbs with an agent, a theme, and a location role, taking a-structure  $\langle agent, theme, locative \rangle$ . *Zhe* can assist an accomplishment verb to undergo locative inversion by deleting its agent role. (52) presents an example of an accomplishment verb as a locative inversion verb, while (53) and (54) describe how the *Zhe* Operation works and the conditions under which it applies.

(52) 桌上 放 著 一枝 筆。 (accomplishment verb)  
*zhuo-shang fang zhe yi-zhi bi.*  
 desk-top put ASP one-CL pen  
 ‘On the desk is put a pen.’

(53) *Zhe* Operation:  $\langle agent\ theme\ location \rangle \rightarrow \langle theme\ location \rangle$  (Pan 1996: 427)

(54) The *Zhe* Operation applies if (Pan 1996: 427)

- a. the verb in question is an accomplishment verb with the argument structure:  $\langle agent, theme, location \rangle$ ;
- b. the location is predicated of the theme; and
- c. the sentence in question is [-stative].

After deleting the agent role by use of the *Zhe* Operation, an accomplishment verb

acts like an unaccusative verb in locative inversion since its a-structure turns to <theme locative>. As *zhe* bears a stative property, it creates a stative environment, which is compatible with the property of locative inversion—to emphasize a motionless state of the theme noun.

All in all, comparing the two morphemes *zai* and *zhe*, the former signals action and the actual happening of an event, while the latter a motionless state (Li 2003, Chu, 1998). From the examination of the function of the two markers, we understand the distribution of the two markers, *zai* in the canonical locative form and *zhe* in the locative inversion; the distribution of the two morphemes makes the whole sentence complete and acceptable.

### 3.4.2. Information Packaging

Information packaging refers to the information value of components in a sentence or in a context, and, according to Huddleston and Pullum (2002), contains a) the degree of the familiarity of information (either information-old/new or addressee-old/new)<sup>14</sup>, and b) the weight of the syntactic constituents (the length or complexity of the syntactic constituents). Tang (1986ab, 1988) proposed that information tends to be expressed from old to new, from known to important, or from

<sup>14</sup> Brown and Yule (1983:154) proposed that new information is the ‘information that the addressor believes is not known to the addressee’ while the old information is that ‘information that the addressor believes is known to the addressee’. However, Birner (1996) argues that the statement of presentational focus from old to new information is too strong. The preposed locative phrase, accordingly, is said to be less familiar than NP, but not necessarily new information.

lighter to heavier, since the most effective and economic method of communication is to start from the given information (Du Bois 1987), which saves time and efforts in encoding and decoding language (Tang 1986). Following the information principle, the sentence-final is liable to carry the least familiar information in a sentence, and is likely to be the focus (Rochemont 1986). As seen in (55b) and (56b), the postposed theme is “canvasses” and *Zhangsan* is the focus, which is evidenced in (55c) and (56c), since only the theme “canvasses” and *Zhangsan* can be a focus of a contrast pattern rather than the locatives “on the wall” and *tai-shang* ‘stage-top’.

- (55) a. Canvasses hung on the wall, but not paintings. (Bresnan 1994: 86)  
 b. On the wall hung canvasses, but not paintings.  
 c. \*On the wall hung canvasses, but not on the easels.
- (56) a. 台上 坐 著 張三。  
*tai-shang zuo zhe Zhangsan.*  
 stage-top sit ASP Zhangsan  
 ‘Zhangsan sat on the stage.’
- b. 台上 坐 著 張三， 不是 李四。  
*tai-shang zuo zhe Zhangsan, bushi Lisi.*  
 stage-top sit ASP Zhangsan, not Lisi  
 ‘On the stage sat Zhangsan, but not Lisi.’
- c. \*台上 坐 著 張三， 不是 台下。  
 \* *tai-shang zuo zhe Zhangsan, bushi tai-xia.*  
 stage-top sit ASP Zhangsan, not stage-down  
 ‘On the stage sat John, but not in the auditorium.’

Accordingly, it is speculated that one function of locative inversion is to

highlight or introduce the theme of the scene to be the ‘presentational focus’ (Bresnan 1994). Locative inversion changes the discourse focus from the locative to the theme by changing the word order syntactically.

### 3.4.3. Sentential Information Cohesion

In this section, we will discuss the sentential information which may influence the acceptability of a locative inversion—the definiteness of the postposed theme argument.

As mentioned in Chapter One, some syntactically well-produced sentences can be unacceptable. As exemplified in (57), the eligibility of these sentences decreases from (57a) to (57c), with the different (in)definiteness forms of the postposed themes.

- (57) a. 台上 坐 著 一個 人。  
*tai-shang zuo zhe yi-ge ren.*  
 stage-top sit ASP one-CL person  
 ‘On the stage sat one person.’
- b. ?台上 坐 著 張三。  
*?tai-shang zuo zhe Zhangsan.*  
 stage-top sit ASP Zhangsan  
 ‘On the stage sat Zhangsan.’
- c. # 台上 坐 著 我。  
*#tai-shang zuo zhe wo.*  
 stage-top sit ASP I  
 ‘On the stage sat I.’

The (in)appropriateness of these sentences can be viewed as the result of a mismatch of syntactic form and discourse information—that is, of the (in)definiteness

form of the postposed theme and of the information that it carries in the final position.

As we have mentioned in section 3.4.2, information should be expressed from familiar to unfamiliar, that is, from given to new information. As to the syntactic form, Givon (1983), in his ‘topic continuity hierarchy’ proposal, asserts that the most accessible information (old information) is expressed as a form of zero anaphora, in pronouns, and then in definite NPs, and that the least accessible information is expressed in indefinite NPs<sup>15</sup>. Gundel et al. (1993:275) provides a “Givenness Hierarchy” for English nominals in which the syntactic form in word order is from pronoun to indefinite NPs. Likewise, in Mandarin, the word order of a sentence is from definite NP to indefinite NP as well (Li and Thompson 1975, Tang 1986, Chu 1998). Speaking of the mapping between the discourse function and the syntactic form of noun phrases, Brown and Yule (1983) indicate that the old/given information is usually expressed by definite nominals while the new information is presented by indefinite ones. We can conclude that the sentence-final position is mostly restricted to be indefinite nominals, carrying new/unfamiliar information, in both English and Mandarin. In light of this, we may expect that one function of the locative inversion

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<sup>15</sup> Givon’s ‘topic continuity hierarchy’ (Givon 1983: 17-18)

*Most continuous/accessible topic*

zero anaphora

unstressed/bound pronouns or grammatical agreement

stressed/independent pronouns

definite NPs

referential indefinite NPs

*Most discontinuous/inaccessible topic*



construction is to highlight or ‘introduce unexpected important participants into the discourse’ (Givon 1993: 209).

Returning to the problem raised by example (57), in presuming that the sentence-final position implies that there is a new or unfamiliar slot for the postposed theme role, it follows that the form of the theme role of locative inversion is inclined to be an indefinite noun, as in (57a), carrying new or unfamiliar information in respect to its non-referential property. On the other hand, the use of a pronoun, usually carrying old/given information for something that has been previously introduced, will be unacceptable for the focus final position, as in (57c). The only exception whereby a pronoun can occur in sentence-final position is when the addresser is mentioning an entity and pointing to it at the same time (Bresnan 1994), as presented in (58).

(58) Among the guests of honor was sitting HER [pointing]. (Bresnan 1994: 86)

Under this circumstance, the pronoun is of deixis usage instead of an anaphora one since the pronoun is trying to inform the addressee something new and thus carries a high informative value (Chu 1998:198). That is, the using of physical pointing implies that the pronoun is not a previously mentioned old entity, but new, unfamiliar, or unexpected information.

Other than the definiteness of the theme participants, locative inversion obeys

another principle that is mentioned in section 3.4.2—the degree of weight of the syntactic constituents. According to Tang (1983: 393), information expression is usually from lighter to heavier, called the “From Light to Heavy” Principle. Two factors are involved in regard to the weight of a sentence constituent. One is that the more words a constituent has, the heavier it is; and the other is that the more a constituent behaves like a clause, the heavier it is. When a constituent is composed of many words or behaves like a clause, it is inclined to be positioned in the sentence-final instead of sentence-initial or sentence-middle.

The “From Light to Heavy” principle is explainable in the field of psycholinguistics. According to Wingfield and Titone (1993), temporary ambiguity occurs frequently when processing a sentence, for as long as the listener has yet to have received enough information or the sentence has yet to have been completed. Thus, to obtain the real meaning of a sentence, we hold the uncertainty until we obtain enough information, which, however, takes time and also space in the memory. That is, the longer a sentential-initial phrase is, the more difficult it is for listeners to comprehend the sentence. However, if we can keep the sentence-initial phrase short, we can eliminate such temporary ambiguity. Concerning the syntactic arguments, if the argument slots can be filled as early as possible, the listener realizes the boundary of a clause or a sentence, and then obtains the whole meaning of the clause or the

sentence. Take (59) for example.

- (59) a. I gave five hundred dollars to the lady.  
 b. #I gave the book that I bought yesterday from the bookstore to the lady.

In (59), the verb “gave” requires three arguments—subject, object, and oblique. In sentence (a), the three slots are filled right after the sixth word *to the lady*. However, in sentence (b), the three slots are not filled until the twelfth word *to the lady*. Since listeners have to take more memory space to hold the uncertainty in sentence (b), it is more difficult for listeners to process sentence (b) than sentence (a). Therefore, although syntactically, the two sentences in (59) are both grammatical, in terms of information packaging, sentence (b) is inappropriate for it is not economic for sentence processing.

Now, apply this rule “From Light to Heavy” to locative inversion. One motivation to perform locative inversion is that the theme is heavier than the locative phrase and thus it is inclined to be placed in the sentence-final position, as exemplified in (60).

- (60) a. On the chair sat a young woman with a baby in her arms.  
 b. ? On the sofa opposite the difficult chair sat a woman.

In (60a), the two-argument slots for the verb *sat* are filled right after the seventh word *woman*; however, in sentence (60b), they are not filled until the tenth word *woman*. In

other words, it takes more space in memory when processing (60b) than (60a). For economic principle, the inverted form (60a), is more appropriate than the canonical form (60b), since the locative phrase is a longer constituent than the theme noun.

#### 3.4.4. Contextual Information Cohesion

As we have stated, to be grammatical, a sentence needs to observe the principle of syntactic mapping and sentential information function. In addition, a sentence should also meet the requirement of contextual discourse grammar. In other words, in certain discourse environment, the inverted form and the canonical form show different degrees of appropriateness even though they both are grammatical in syntactic structure and informationally acceptable in sentential scope. For example, in the following discourse environment in (61) and (62), the inverted form is more appropriate than the canonical form; both are true in English and in Mandarin.

- (61) a. A sheaf of papers was held in his shirt *pocket* by a little fence of fountain pens and yellow pencils; and from his hip *pocket* protruded a notebook with metal covers.<sup>16</sup>
- b. ?A sheaf of papers was held in his shirt *pocket* by a little fence of fountain pens and yellow pencils; and a notebook with metal covers protruded from his hip pocket.

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<sup>16</sup> The source is from Steinbeck, J. (1969). Reprint. *The Grapes of Wrath*. Harmondsworth: Penguin. Original edition, New York: Viking, 1939. p.240

- (62) a. 當 他們倆人 來到 啤酒廣場 的 另外  
*dang ta-men-liang-ren lai-dao pi-jiu-guang-chang de ling-wai*  
 when they-two come-to beer-ground DE the-other  
 一頭 時， 遠遠 的 就 看到 一排排  
*yi-tou shi, yuan-yuan de jiu kan-dao yi-pai-pai*  
 side time Far DE then see-to one-CL-CL  
 一排排 的 長桌， 桌上 放著 滿滿  
*yi-pai-pai de chang-zhuo, zhuo-shang fang-zhe man-man*  
 one-CL-CL DE long-table table-top place-ASP full-full  
 一盤 一盤 的 棉花糖。  
*yi-pan yi-pan de mian-hua-tang.*  
 one-CL one-CL DE marshmallow

‘When they came to other side of the beer-ground, they saw long tables placed side by side, on which were placed plate after plate of marshmallows.’

- b. ?當 他們倆人 來到 啤酒廣場 的 另外  
 ?*dang ta-men-liang-ren lai-dao pi-jiu-guang-chang de ling-wai*  
 when they-two come-to beer-ground DE the-other  
 一頭 時， 遠遠 的 就 看到 一排排  
*yi-tou shi, yuan-yuan de jiu kan-dao yi-pai-pai*  
 side time Far DE then see-to one-CL-CL  
 一排排 的 長桌， 滿滿 一盤 一盤  
*yi-pai-pai de chang-zhuo, man-man yi-pan yi-pan*  
 one-CL-CL DE long-table full-full one-CL one-CL  
 的 棉花糖 放在 桌上。  
*de mian-hua-tang fang-zai zhuo-shang.*  
 DE marshmallow place-at table-top

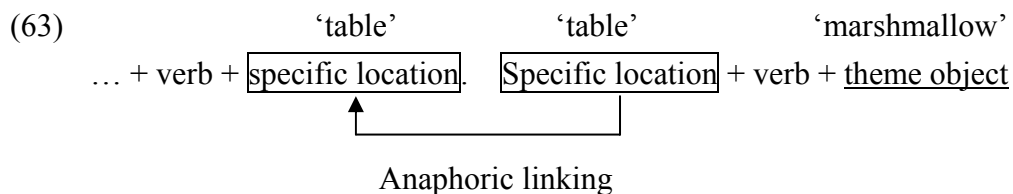
‘When they came to other side of the beer-ground, they saw long tables placed side by side, on many marshmallows in plates were placed on the tables.’

We can attribute the different degrees of appropriateness to the information packaging mentioned in section 3.4.2; the principle that information is expressed from old/given

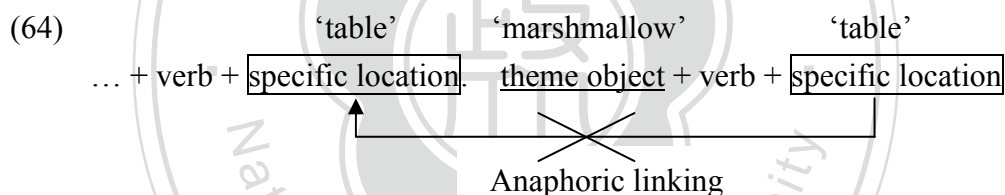
to new is also true in contextual scope. Chu (1998:366) provided that, in discourse, the information is expressed from background to foreground, termed as the Background-to-Foreground Progression (BFP) principle. Background information refers to what have mentioned in the preceding discourse, while the foreground information refers to new or unknown information. The information is also manipulated by a so-called ‘grounding’ device, which serves to link information so as to make the whole context coherent. According to Givon (1987), grounding is composed of two processes: the anaphoric grounding and the cataphoric grounding. The former is to link the information of a sentence to its ‘preceding given presupposition’, which can be presented in the form of definite articles, unstressed anaphoric pronouns and zero anaphora. On the other hand, the latter is to link the component of a sentence to its following discourse, which can be presented in the form of indefinite articles (Givon 1987).

Now back to the problem raised by example (61) and (62), the reason why the inverted sentences in (61a) and (62a) are better than the canonical sentences in (61b) and (62b) can be explained by virtue of the grounding principle. To be coherent to the preceding sentence, the underlined sentence requires an anaphoric linking as a connection. And one way is to mention an old/familiar entity in the sentence-initial position. Take (62a) for example; since the preceding sentence mentions the location

‘table’, the underlined sentence mentions it as well in sentence-initial position so as to bridge the closest thematic linking to the preceding context, as illustrated in (63).



The close thematic linking is helpful for listeners to process these sentences more efficiently and quickly. However, in (62b), when the underlined sentence tries to be anaphorically linked to the preceding sentence by means of the location ‘table’, the linking is blocked by new information, the theme object ‘marshmallow’, as in (64).



The new information—the theme object ‘marshmallow’—between the two pieces of old information would hinder the language processing in that the listener has to retrieve the old information after receive the new one.

In consideration of this anaphoric grounding function of locative inversion, locative inversion seldom appears in the discourse-initial position (Tang 1983).

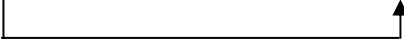
However, there are some exceptions to this, and one example is presented in (65), extracted from a story.

- (65) Once upon a time, in a faraway kingdom, lived a beautiful little girl and her widowed father.

“It’s beautiful.” A ten-year-old girl said to her father. The girl had longish blonde hair and green sparkling eyes neither of which were like those of her father.

In (65), the locative inversion sentence is in the beginning of the story, which seems to violate the principle of anaphoric grounding since the location kingdom has not been previously mentioned. However, upon closer examination, it still meets the grounding principle, but of the cataphoric one.

At the beginning of a story, the primary task is to build a time and space concept for listeners. Therefore, mentioning the general background and a location is necessary. Afterwards, the target theme object will be mentioned, which is a link to the leading character roles in the main body. In consideration of this, the word order of the first sentence in a story tends to be LP V NP, which corresponds to locative inversion, as in (66).

- (66)
- |   |                                    |                   |
|---|------------------------------------|-------------------|
| Location + verb +   | ‘girl and father’<br>theme object. | ‘girl and father’ |
|   | theme object                       |                   |
|  |                                    |                   |
| cataphoric linking  |                                    |                   |

Another influential factor of the acceptability for locative inversion in contextual scope is the rhetorical style consideration called parallelism. Parallelism refers to two



or more sentences with similar syntactic pattern and connected by conjunctions so as to make the formation of the structure neat or allow the addresser to express the subjective mood (He 1998), seen in example (67) and (68), in the English example and the Mandarin one, respectively.

(67) There were four rows of wooden seats, or benches in the body of the Church, and on the North side sat the Iron gang, while on the South side sat the invalids from the Barracks.

(68) 在 美輪美奐 的 表演廳裡， 台下 坐滿了  
*zai mei-lun-mei-huan de biao-yan-ting-li, tai-xia zuo-man-le*  
 at Beautiful DE concert-hall stage-down sit-full-ASP  
 欣賞 音樂 的 人， 台上 坐著 身穿  
*xin-shang yin-yue de ren, tai-shang zuo-zhe shen-chuan*  
 appreciate music DE man stage-top sit-ASP body-wear  
中國服 的 我們。  
*zhong-guo-fu de wo-men.*  
 Chinese-clothes DE we

‘In a beautiful concert hall, while below the stage many people were sitting to appreciate the music, on the stage sat we ourselves wearing Chinese clothes.’

The parallelism also explains the acceptability of the pronoun in sentence-final in example (68). In sentence scope, the pronoun is not allowed in the final position.

However, in discourse scope, to be parallel to the preceding sentence

structure—locative inversion construction, the pronoun theme is postposed to

sentence-final position. Moreover, the pronoun in example (68), being modified by a

seemingly relative clause ‘wearing Chinese clothes’, seems not to carry old/given

information but new and important information, which is required to be situated in the sentence-final position. Therefore, it stands to reason that the locative inversion with a pronoun in sentence-final position is allowable in example (68).



## Chapter 4

### Teaching Implications

In Chapter Three, this paper established the theoretical grammar of locative inversion and examined its performance in English and in Mandarin, in terms of the four structure levels of LFG and discourse grammar. This chapter will move on to discuss the implications of the findings in this study for teaching in the second language field, for Taiwan Mandarin speakers who learn English as the second language. Since in Taiwan, although locative inversion is included in the syllabus in senior high school, few learners have a good command of this construction and tend to either over-generalize or misuse it.

#### 4.1. The Application of LFG to Language Teaching

In regard to language teaching, LFG is a more appropriate grammar model than the traditional transformational grammar. First, transformational grammar adopts derivational approach, which is involved with various syntactic principles, as noted in Chapter 2. Some of these principles are arbitrary and difficult for learners to understand and to acquire. Second, transformational grammar deals with grammatical function and constituent structure in the same level, which leads to inconsistent identification of grammatical relations; see the different interpretations of the

preposed locative phrase in locative inversion in section 2.1. Still another, according to Celce-Murcia and Larsen-Freeman (1999), language teaching grammar is supposed to involve three dimensions—syntax (form), semantics (meaning), and pragmatics (use). However, traditional transformational grammar is mainly concerned with tree structure but seldom with semantic lexicon.

On the other hand, in LFG, there are three parallel structures—argument, constituent, and functional grammar. The argument structure takes semantic lexicon into account, which corresponds to the principle of language teaching proposed by Celce-Murcia and Larsen-Freeman. Besides, by abstracting functional grammar from c-structure, grammatical function can be dealt with separately from constituent structure. This contributes to consistent identification of grammatical relations; see section 2.2. What is more, the principles in LFG are simple and natural. That is, the LFG model gives reason, instead of various arbitrary syntactic rules. Once learners understand the reasons for why things are the way they act, learners acquire these principles easily and quickly. Although the details of theoretical principles in LFG may be too difficult for teachers and learners, the basic principle and approach of LFG aid in language teaching field.

## 4.2. Contrastive Analysis

Learning a second language usually involves the removal of some formed habits from a first language. Lai (2008) proposed that learners need to break some habits of their first language. One effective way is to compare and illustrate the similarities and differences between the first and the second language. Since locative inversion also exists in the first language, Mandarin, it is possible to compare the construction in the two languages and make use of the comparison in the teaching process. This technique is known as Contrastive Analysis. Accordingly, the adoption of Contrastive Analysis may be helpful and effective for Mandarin speakers in terms of learning locative inversion as a second language construction.

From Contrastive Analysis, we can make general predictions about the possible errors. Teng (2004) and Huang (2007) agree that Contrastive Analysis is helpful to the second language learning since it can predict certain errors. James (1980:6) even further asserts that the main purpose of Contrastive Analysis is to provide ‘insights and implications for the second language teaching’.

As noted by Chen (2007), one important part of second language learning is the first language transfer (Seliger and Vago 1991) or cross-linguistic influence (Sharwood Smith and Kellerman 1986). Contrastive Analysis believes in the effect of language transfer in second language learning—that is, the habits of the native

language will be transferred to the second language. Some habits can hinder the second language acquisition while others facilitate it. Most often, the native habits different from those of the second language will usually cause difficulties in the learning of that language, which phenomenon is called negative transfer. On the other hand, the native habits similar to those of the second language usually facilitate the learning, which phenomenon is called positive transfer.

However, the current use of Contrastive Analysis in teaching has its limitations since the ways in which it is utilized are apt to contain subjective bias and focus too much on formal structure (Chen 2007). In order not to be subjectively biased, the comparison of the two languages should be carried out under the same framework (Krzeszowski 1990).<sup>17</sup> That is why, in this paper, we compared the two languages within the same framework—from the four structure levels. Furthermore, we not only focused on formal syntax but also examined the discourse function grammar as well. Although Contrastive Analysis is not a cure-all (Lai 2008) and not all language production mistakes occur due to negative transfer, it systematically provides teaching materials and may make language learning more effective in a limited period of time.

Concerning the four structures in Chapter Three, locative inversion performs similarly in English and in Mandarin in terms of argument structure and information

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<sup>17</sup> Krzeszowski termed this as *tertium comparationis*. (Krzeszowski 1990:15)

structure, but performs differently in terms of constituent structure and functional structure. Based on Contrastive Analysis, we may expect positive transfer in a-structure and information structure, but negative transfer in c-structure and f-structure from the native language to the second language, that is, from Mandarin to English.

In the following section, this paper will adopt Contrastive Analysis to apply the theoretical grammar rules we mentioned in Chapter Three to language teaching. The similarities and differences will be organized and introduced to learners. The possible errors will be predicted and some real error data will be presented. In addition, the following discussion will take into account the basic teaching principles, including (a) proceeding from the general to details, and (b) from syntax and semantic to discourse (Lai 2008).<sup>18</sup>

#### **4.3. Argument Structure**

In argument structure, since locative inversion performs similarly in English and in Mandarin, we can predict a positive transfer from Mandarin to English. Thus, in illustrating teaching points, it will be suitable to supply Mandarin examples as well as

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<sup>18</sup> Lai (2008) indicates that senior high school students perform better in production than in comprehension when learning the second language, which violates the theory of “semantics first, syntax late” of Goodluck (1991). Considering this, the syntactic structure can be introduced to learners first, accompanied by semantics, and then the discourse function.

English ones.

Syntactically, locative inversion and its canonical form are different in the word order, which should be illustrated at the beginning of the teaching program. The unmarked form is the canonical form, characterized by the word order “NP V PP”, while the inverted form is characterized by the word order of “PP V NP”. The distinctions between the syntactic forms are the same in Mandarin and English.

Examples from both languages can be displayed simultaneously as (69) and (70).

- (69) a. 一個 年輕人 坐 在 台上。  
*yi-ge nian-qing-ren zuo zai tai-shang.*  
 one-CL young-man sit at stage-top  
 ‘A young man sat on the stage.
- b. 台上 坐 著 一個 年輕人。  
*tai-shang. zuo zhe yi-ge nian-qing-ren*  
 stage-top sit ASP one-CL young-man  
 ‘On the stage sat a young man.

(70) a. A young man sat on the stage.

b. On the stage sat a young man.

Apart from the syntactical difference in word order, the canonical form and inverted form carry slightly different information, and they are not free variations. In other words, the two forms have their own unique discourse functions and are not freely interchangeable. The canonical form is used when speakers seek to emphasize the action or the happening of the event, similar to the action of a film clip presenting a continuous motion. The inverted form is used to emphasize the description of the



state, and is thus like a photo snap shot, presenting a stative and motionless state in a picture. The semantic distinction needs to be presented to learners. Take (70) for example; while (70a) focuses more on the motion, (70b) focuses more on the state.

Another challenge to the provision of instruction in the English locative inversion involves the type of verb that can undergo locative inversion. A similar claim is made by Joo (2003) in that one of the reasons why second language learners over-generalize or misuse a construction is that they have poor command of the kind of verbs that can undergo the construction, which results from their poor comprehension of the argument structure. Therefore, it is necessary and helpful to illustrate the a-structure of a construction in second language learning. Learners must realize the concept that not all verbs can be compatible with locative inversion; that is, to undergo locative inversion, the verb has to meet some requirements—that the verb must be an intransitive verb or a passive verb, possess an inanimate noun phrase or an animate one with stative property, and take an obligatory locative phrase.

First, a locative inversion verb has to be an intransitive verb or a passive verb (Bresnan 1994: 77). Intransitive verbs include verbs of appearance/existence and verbs of posture/placement, such as “appear”, “stand”, “sit” and “live”, which undergo locative inversion commonly (Levin and Rappaport 1995: 220), as in (71).

(71) a. Over her shoulder appeared the anxious face of Mrs. Hume.

(71) b. Beside me on the bench sat the young mother and her baby.

Another candidate for a locative inversion verb is passive verbs, seen as (72).

(72) From this trench were recovered sacrificial burials and offerings dating to the final days of the Aztec empire.<sup>19</sup>

It is also necessary to notice the learners that the most unlikely candidate for locative inversion verb is transitive verbs due to their inherently carrying agent roles (Bresnan 1994, Levin and Rappaport 1995). The example in (73b) is common errors made by English learners; the transitive verb “bought” is not allowed to undergo locative inversion as shown in (73b).

(73) a. Jerry bought snacks in the shop.

b. \* In the shop bought snacks Jerry.<sup>20</sup>

Second, the requirement of a theme role in a locative inversion (Bresnan 1994, Huang and Her 1998, Her 2003) implies that a locative inversion verb usually possesses an inanimate noun phrase, as in (74a) and (74b). In other cases, an animate noun phrase is allowable if it has no intention and acts like a stative object, as the postposed theme in (74c), which obtains inanimate meaning for the stative property.

(74) a. Above the bed hang two framed pictures. (inanimate noun)

b. \* At the supermarket on Main St. shop local residents.<sup>21</sup> (animate noun)

<sup>19</sup> The source is from “Lord of the Wind: Aztec Offerings from Tlatelolco, Mexico.” 1989-1990. Exhibit sign. Museum of Natural History, Denver. 18 October 1989-28 January 1990.

<sup>20</sup> The data is collected from 2<sup>nd</sup>-grade senior-high students in Taiwan, written in English class.

<sup>21</sup> The source is from Levin and Rappaport (1995: 222).

(74) c. On the stage (\*intentionally) sat a young man. (human with no intention)

The concept that the noun phrase tends to be inanimate should be instructed to learners so as to prevent such an error as in (75), which is made by senior high school students.

(75) \*In the classroom reads the student.<sup>22</sup>

Third, a locative inversion verb has to take an obligatory locative phrase instead of an optional one (Bresnan 1994: 80). In other words, the locative phrase cannot be deleted, or else the meaning of the sentence will be incomplete or ungrammatical. An error made by a senior-high student is presented in (76).

(76) \*Along the river walks Alice.<sup>23</sup>

Likewise, the contrasting examples of grammatical and ungrammatical, and of the obligatory locative phrase and the optional one, should be presented for learners; see (77).

- (77) a. Into the room walked Mike's sister. (obligatory locative phrase)  
 b. (\*In the room walked Mike's sister. (obligatory/optional locative phrase)

In (77a), the directional locative phrase implies its obligatory status in a-structure and thus is permitted to undergo locative inversion (Levin and Rappaport 1995). In (77b), there are two senses in this sentence: one is to view the PP “in the room” as a

<sup>22</sup> The data is collected from 2<sup>nd</sup>-grade senior-high students in Taiwan, written in English class.

<sup>23</sup> The data is collected from 2<sup>nd</sup>-grade senior-high students in Taiwan, written in English class.

directional phrase, which is similar to (77a), while the other is to view the PP “in the room” as a description of existence. In the first sense, the directional phrase is taken as an obligatory complement and thus can undergo locative inversion. As to the second sense, the existence phrase is only an optional adjunct and thus is unable to undergo locative inversion.

#### **4.4. Constituent Structure and Functional Structure**

In terms of c-structure and f-structure, since locative inversion performs differently in English and Mandarin, for Mandarin speakers, the different habit in their native language may be negatively transferred to second language learning, which results in confusion and errors. The differences between the two languages require to be contrasted to prevent negative transfer, and it is recommended that ungrammatical sentences be presented to learners.

In c-structure, the preposed locative phrase in English and in Mandarin belongs to different categories: the PP category in the former but the NP category in the latter. The two category rules will compete with each other when Mandarin speakers learn English locative inversion as a second language. If the PP rule predominates, learners will produce a grammatical sentence since the preposed locative in English belongs to the PP category. However, if the NP rule predominates, the English preposed locative

phrase will turn to the nominative and ungrammatical sentences will be produced.

One typical mistake that Mandarin speakers make is as in the following sentence in

(78).

(78) \*Taiwan visits the foreigner.<sup>24</sup>

The drop of the preposition is due to the rule competition between NP and PP. To

prevent this kind of mistake, teachers can explicate the two rules of the preposed

locative phrase in English and Mandarin, and use a side-by-side presentation of both,

as illustrated in (79), to clearly present their contrastive difference.

- (79) a. 台上 坐 著 一個 年輕 女孩。 (Mandarin—NP)  
*tai-shang zuo zhe yi-ge nian-qing nu-hai*  
 stage-top sit ASP one-CL young Girl  
 ‘A young girl sat on the stage.
- b. \*在 台上 坐 著 一個 年輕 女孩。  
*zai tai-shang zuo zhe yi-ge nian-qing nu-hai*  
 at stage-top sit ASP one-CL young Girl  
 ‘A young girl sat on the stage.
- c. On the stage sat a young lady. (English—PP)
- d. \*The stage sat a young lady.

In f-structure, subject-verb agreement is a common problem for Mandarin

speakers when learning English locative inversion. On the one hand, subject-verb

agreement is a difficult concept since there is no such an agreement rule in Mandarin.

On the other hand, the idea that which argument is the subject in locative

<sup>24</sup> The data is collected from 2<sup>nd</sup>-grade senior-high students in Taiwan, written in English class.

inversion—the preposed locative phrase or the postposed noun phrase—confuses Mandarin speakers much. As we have noted, the functional subject of English locative inversion is the preposed locative phrase. In view of this, the verb form in English locative inversion, either singular or plural, depends on the number of the preposed locative phrase. The preposed locative phrase is intrinsically equipped with a singular form as a default as it is uncountable due to its non-nominal property (Al-Horais 2009, Aoun 1994), as seen in (80).

(80) That he might be wrong is a given.

Although the *that* complement phrase is non-nominal in English, it receives a singular number as a default. Accordingly, the verb in locative inversion should agree with the functional subject—the preposed locative phrase—and it thus obtains a singular form in terms of descriptive grammar. See the example in (81).

(81) On the stage is sitting some students. (descriptive)

However, in terms of prescriptive grammar, being a preposition phrase, the preposed locative phrase is uncountable due to its lack of a nominative property. Under this circumstance, the verb has to decide its form depending on the number of other arguments such as the postposed NP in that it bears a number for being nominative, as in (82).

- (82) On the stage are sitting two students. (prescriptive)

This phenomenon is similar to the subject-verb agreement in the non-referential *there* construction (or termed as dummy *there* or empty *there*.) Descriptively, the functional subject is the non-referential *there*, which thus determines the form of the verb to be singular or plural. Since the empty *there* is non-referential and thus uncountable, it intrinsically bears a default singular number. Therefore, the verb receives a singular form in the non-referential *there* construction, as seen in (83a). Or, prescriptively, the verb resorts to the other referential NP argument to meet the subject-verb agreement, as shown in (83b).

- (83) a. There is a man and a woman outside. (descriptive)  
 b. There are a man and a woman outside. (prescriptive)

The descriptive usage is commonly used in spoken English, which is proven by Recski (2006:313) by virtue of corpus evidence. According to Recski's search on Michigan Corpus of Academic Spoken English (MICASE), the instances of *there's* followed by a plural noun is up to 3,785 tokens, while the instances of *there're* followed by a plural noun are only 30 tokens,; the examples are shown in (84a) and (84b), respectively.<sup>25</sup>

<sup>25</sup> The two sentences are from Michigan Corpus of Academic Spoken English (MICASE), searched by Recski (2006).

- (84) a. ... and what you're saying is, if **there's two parallel lines**, well they're both being affected ...
- b. around the room and discuss. um, sometimes **there're errors** that occur in meiosis particularly meiosis one okay?

This corpus evidence indicates that in descriptive grammar, it is the functional subject that determines the verb form, while in prescriptive grammar, it is the referential noun phrase that determines the verb form. This non-referential *there* example can be introduced to learners as a supplement, so that learners can understand the distinction between the descriptive usage and the prescriptive one. In this case, learners will realize that in locative inversion in English, the verb agrees with the preposed locative phrase descriptively but with the postposed noun phrase prescriptively. Note that it is necessary to inform learners of the fact that the prescriptive usage is more formal and secure than the descriptive one.

#### 4.5. Information Structure

In addition to the well-formedness of syntax, the learners also need to know the influence of discourse grammar on the appropriateness of locative inversion as well, with respect to its sentential scope and its contextual scope. In respect to discourse grammar, what needs to be instructed first is the principle of information packaging, which is observed in locative inversion construction. As noted in section 4.3.2,



information packaging includes three main principles: a) from old to new (from familiar to unfamiliar), b) from lighter to heavier, and c) from known to important (Tang 1986ab, 1988). Although information packaging is an abstract concept, learners can make a positive transfer of the habit from their native language, since the principle performs alike in English and in Mandarin. Examples in Mandarin, as well as in English, can be presented to learners simultaneously to build a correct understanding of the concept.

In sentential scope, the syntactic word order is closely related to the information packaging principle. The word order in a locative inversion sentence is locative phrase (LP) first, verb next, and the theme noun phrase last, presented as “LP V NP”. Given the information packaging principle, the postposed NP, compared to the preposed LP, must carry more unfamiliar/new, heavier, or more important information for it is situated in the sentence-final position.

First, with regard to familiarity, the information of the postposed NP must be new or more unfamiliar than that of the preposed LP. New/unfamiliar information, according to Brown and Yule (1983), is usually presented by indefinite nominals, while old/given information is carried by definite nominals. In light of this, the postposed NP in locative inversion is liable to be an indefinite nominal, instead of a definite one, as exemplified in (85a) and (85b), respectively.

- (85) a. On the stage sat a young man.  
 b. ?On the stage sat this president.

In addition to definite nominals, anaphoric pronouns carry old/given information as well, usually much more even than definite nominals do<sup>26</sup>. Therefore, the anaphoric pronoun is usually forbidden as the form of the postposed NP in locative inversion (Bresnan 1994: 86), as in (86a).

- (86) a. # On the stage sat he.  
 b. On the stage he is sitting.

In order not to violate the principle of information packaging, once the NP is an anaphoric pronoun, it will stay in the preverbal position as example (86b).

Second, as to the weight principle in a locative inversion sentence, the postposed NP has to be heavier than the preposed LP (Tang 1986ab, 1988). That is, compared to the preposed LP, the postposed NP consists of more words or acts more like a sentence or clause. As in (86), since the theme NP “a lady with a baby in her arms” is a longer constituent and more like a clause than the LP “on the stage”, it is inclined to be in sentence-final position rather than the sentence-initial one, which leads to the results that the inverted form in (87a) is acceptable whereas the canonical form in (87b) is not (Tang 1986b: 42).

<sup>26</sup> Based on Givon’s ‘topic continuity hierarchy’ (Givon 1983: 17-18), pronouns are even more accessible and thus carries more familiar information than definite nominals.

- (87) a. # A lady with a baby in her arms sat on the stage.  
 b. On the stage sat a lady with a baby in her arms.

The last principle is that the sentence-final position tends to be the focus or to provide important information that addresser wants to emphasize (Rochemont 1986).

Given this, the sentence-final LP carries more important information than the sentence-initial NP in a canonical sentence such as (88a); as to the inverted sentence, the postposed NP expresses more important information than the preposed LP, as exemplified in (88b).

- (88) a. Our president is sitting on the stage.  
 b. On the stage is sitting our president.

In addition to sentence scope, learners should realize that locative inversion concerns the contextual environment as well. Being a marked construction (with marked word order), a locative inversion sentence can only be located in a specific context discourse— mostly in a discourse-middle but not discourse-initial position, and in discourse with a special style such as parallelism.

The phenomenon that locative inversion seldom appears in discourse-initial position but in discourse-middle position is related to the linking principle. Most often, the preposed locative phrase in locative inversion is to bridge a semantic linking to its preceding sentence, especially to the component in the sentence-final position or after

the verb, so as to make the discourse coherent. To explain the linking principle in locative inversion, the teacher can provide a context, such as a preceding sentence in (89a), and present its possible following sentences in a canonical form and an inverted form, respectively, as in (89b) and (89c), and ask the learners to choose the more appropriate one between the two forms.

(89) a. I found a glass case on the table. (Tang 1983:386)

b. ?Trophies were in the case.

(89) c. In the case were trophies.

Compare the two forms; (89c) is more appropriate than (89b) concerning the preceding context in (89a). The reason is that the preposed locative “in the case” in (89c) provides a backward linking to the location “case” in its preceding sentence, which is unable to be practiced by the noun phrase “trophies” in (89b). After illustrating the basic principle, some exceptions can be presented, including the phenomenon that locative inversion occurs in discourse-initial occasionally, such as in story-telling. Likewise, examples are provided for learners.

(90) a. ?Once upon a time, a beautiful little girl and her widowed father lived in a faraway kingdom.

b. Once upon a time, in a faraway kingdom, lived a beautiful little girl and her widowed father.

(90) c. “It’s beautiful.” A ten year old girl said to her father. The girl had longish blonde hair and green sparkling eyes neither of which were like those of her father.

See example (90); with a following context as in (90c), the inverted form, (90b), is more appropriate than the canonical form, (90a). The following context involves the main characters in the story. To forward link to the main character, “a girl and her father”, the preceding sentence must also situate the main characters in the sentence-final position, in order to build the closest forward linking. Therefore, the inverted form, with the noun phrase “a girl and her father” in the sentence-final position, is more appropriate than the canonical form. In conclusion, with respect to the contextual environment, the basic principle is to meet the linking requirement, either the preceding linking or the forwarding one.

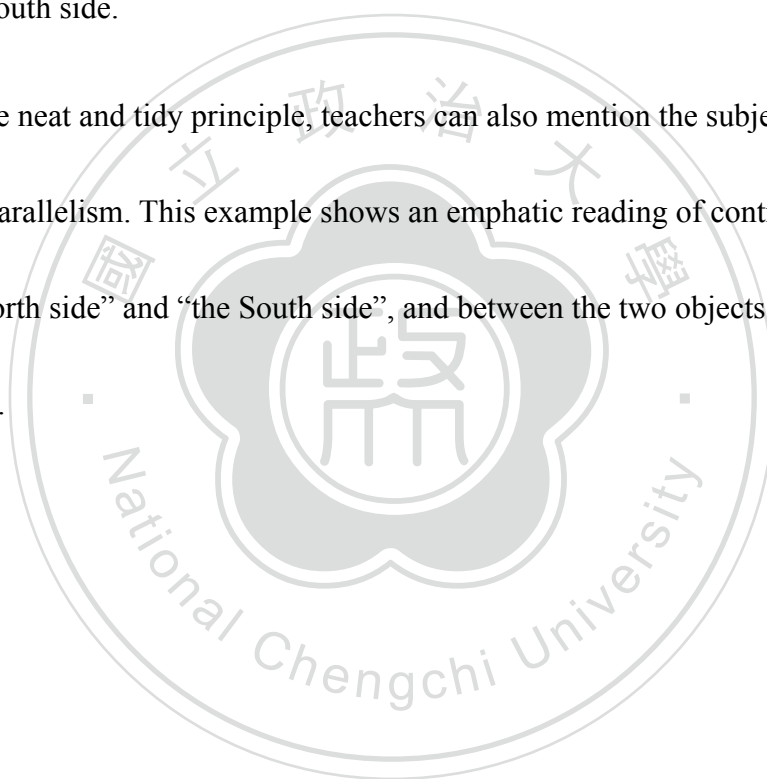
Another discourse context that facilitates the existence of locative inversion is related to rhetorical style. One typical example is parallelism, which aims to present a neat and tidy structure in a discourse and to present a subjective attitude. If the preceding sentence is a locative inversion sentence, to maintain the neatness and tidiness, the following sentence is liable to be a locative inversion one instead of the canonical form. Likewise, a contrast between an inverted form and a canonical form with certain context can be presented for learners, as seen in (91), and they are urged to think for the reason why the inverted form in (91a) is more appropriate than the

canonical form in (91b).

(91) a. There were four rows of wooden seats, or benches in the body of the Church,  
and on the North side sat the Iron gang, while on the South side sat the invalids  
from the Barracks.

b. ?There were four rows of wooden seats, or benches in the body of the Church,  
and on the North side sat the Iron gang, while the invalids from the Barracks sat  
on the South side.

In addition to the neat and tidy principle, teachers can also mention the subjective attitude in this parallelism. This example shows an emphatic reading of contrast between “the North side” and “the South side”, and between the two objects that exist on the two sides.



## Chapter 5

### Conclusion

#### 5.1. Summary

Locative inversion, discussed in numerous studies under the framework of transformational grammar, involves some conflicting and controversial issues. In view of this, this paper adopts another grammar theory—Lexical Functional Grammar—to examine the locative inversion construction. LFG, being a non-derivational lexicalist grammar, involves mapping theories instead of movements. It posits three independent and parallel levels in syntax—argument structure, constituent structure, and functional structure.

Under the framework of the mapping principle in LFG, locative inversion is examined in both English and Mandarin, from the three levels, a-structure, c-structure, and f-structure. In a-structure, the main requirement of a locative inversion verb is to take an a-structure of *<theme locative>* or *<agent-theme locative>*, which is true both in English and in Mandarin. In c-structure, while the postposed theme is a noun phrase, the preposed locative is PP in English but NP in Mandarin. Therefore, in English, the preposed locative phrase is not in the subject position in c-structure, but only a functional subject in f-structure. However, in Mandarin, the preposed locative is in the subject position in c-structure and thus is also a functional subject in

f-structure. In addition to the three structures with regard to syntactic level, we are also concerned with the discourse function level—the information structure. In information structure, given the principle of information packaging, the information is expressed from old to new. Therefore, in locative inversion, the postposed theme, in being in the sentence-final position, is inclined to be new information. Given this, the postposed theme is liable to be an indefinite noun phrase instead of a pronoun which carries old information. In addition, the constituent of the postposed theme phrase tends to be longer than the preposed locative phrase to prevent there from being a front-heavy structure. Other than sentential scope, the contextual scope also influences the appropriateness of the locative inversion. In a locative inversion, the preposed locative phrase is required to be anaphorically linked to the constituent in its preceding sentence, or the postposed theme to be cataphorically linked to the constituent in its following sentence. Finally, stylistic parallelism facilitates the occurrence of locative inversion as well, which makes the structure neat and tidy, and presents a subjective attitude or delivers an emphatic reading.

After the discussion of locative inversion in English and Mandarin in the four levels above, this paper systematically develops a comparative grammar between the two languages. For Mandarin speakers, this paper provides pedagogical suggestions in regard to English learning, by virtue of Contrastive Analysis. The similarities between



the two languages, such as the principles in a-structure and in information structure, can be positively transferred from Mandarin to English. As to the differences, such as the principles in c-structure and f-structure, the different parts need to be brought to the attention of learners so as to avoid negative transfer. What is more, ungrammatical sentences are presented to learners to avoid potential mistakes. The use of this procedure will enhance the effectiveness of language teaching in a limited period of time.

The application of theoretical grammar to the teaching field indicates the strong relation and cooperation between theoretical grammar and pedagogical grammar, instead of unrelated independence of two of them. On the one hand, the theoretical grammar is the theoretical base of the pedagogical grammar (Teng 1998) in that it provides a firm and reliable theoretical support for language teaching. On the other hand, the pedagogical grammar provides motivation for research in the theoretical grammar field (Chen 2007: 293). The cooperation between theoretical grammar and pedagogical grammar contributes not only to linguistic research but also to the development of pedagogical grammar.

## **5.2. Further Research**

In this study, we apply theoretical grammar to the teaching field by means of

Contrastive Analysis, which predicts the potential mistakes that may be made by learners. Moreover, the typical errors that Mandarin speakers are liable to make are also presented in Chapter 4. Many of them are those errors we have predicted by virtue of Contrast Analysis. However, these error examples are only anecdotal observation but not systematic. In further study, we can take advantage of Error Analysis, which is contributory to the second language teaching as well (Lai 2008).

Error Analysis is used to illustrate the typical errors that learners are inclined to make when learning the target construction in the second language, so as to prevent potential mistakes in advance. Joo (2003) mentions that one of the reasons why the second language learning is difficult for learners is that they are provided with no ‘negative input’. That is, learners are usually presented with grammatical sentences but not with ungrammatical ones, which induces the result that learners are unable to tell “what is ungrammatical”, when they make an ungrammatical sentence. In view of this, the further study may search data from learner corpora and look for typical errors made by learners systematically. By examining these errors, we can see if they match what the Contrastive Analysis has predicted in this paper, and gain insights which can be applied in the teaching field.

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