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漢語與臺灣閩南語比較詞素之對比分析

A comparative study of Mandarin and Taiwanese comparative morphemes

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摘要

在漢語及臺灣閩南語的比較句之中，比較詞素可為隱性或顯性成分。隱性比較詞素及顯性比較詞素如漢語的「更」及臺灣閩南語的「較」在比較句中皆為必要的成分，因為比較詞素主要功能是在比較句中提供比較的語意概念，故不能省略。顯性與隱性比較詞素具有功能上之差異；具體來說，隱性比較詞素只在比較句中表達單純的比較語意，而顯性比較詞素情況較為複雜。某些顯性比較詞素如臺灣閩南語「較」，只有提供比較語意之功能，其他顯性比較詞素則包含其他功能，例如，漢語的「更」不僅能表達比較語意，還能傳遞隱含的前提意味。舉例來說，在「張三比李四更高」之中，「更」帶有一個前提為「張三和李四都是高的人」(C.-S. Liu 2010b)。 而漢語「還」同樣也不只具有比較語意，「還」在文獻上也分析為反預期標記 (Wu 2004, Wu 2009, Tsai 2013)，且帶有主觀性 (Wu 2009, Tang 2009)。根據以上敘述，我們認為當漢語使用者不只想表達比較語意，也想表達其他額外的語意時，他們傾向採用顯性比較詞素；否則，他們將選擇使用隱性比較詞素來表達比較語意。因此，漢語比較詞素在中文通常為隱性成分，而臺灣閩南語比較詞素通常為顯性成分。

關鍵字：臺灣閩南語、比較詞素、比較基準、差值度量詞組、強化修飾語

Abstract

The comparative morphemes in both Mandarin Chinese (MC henceforth) and Taiwanese Southern Min (TSM thereafter) can be either covert or overt. Crucially, in both MC and TSM, either covert comparative morphemes or overt comparative morphemes such as *geng* ‘even-more’ in MC and *khah* ‘more’ in TSM are required in the comparative constructions to express the comparative semantics. Overt comparative morphemes differ from covert comparative morphemes in terms of function. On the one hand, the covert comparative morpheme only expresses the comparative meaning in the comparative constructions. On the other hand, while some overt comparative morphemes such as *khah* ‘more’ in TSM only convey the comparative meaning, others such as *geng* ‘even-more’ in MC not only provide the comparative meaning but also carry some presupposition. For instance, in ‘Zhangsan bi Lisi geng gao.’ (*Zhangsan* is even taller than *Lisi*), *geng* ‘even-more’ presupposes that both *Zhangsan* and *Lisi* are tall (C.-S. Liu 2010b). Moreover, *hai* ‘even-more’ in MC not only provides the comparative semantics but also functions as a counter-expectation marker (Wu 2004, Wu 2009, and Tsai 2013) and bears some sense of subjectivity (Wu 2009 and Tang 2009). Given these, it is found that the overt form of the comparative morpheme in MC is usually preferred when the speaker wishes to indicate the additional meanings besides the comparative construal. Otherwise, speakers tend to use the covert comparative morpheme in

MC to merely express the comparative meaning. Therefore, while the comparative morpheme in MC is often in a covert form, the TSM counterpart is usually in an overt form.

Key words: Taiwanese Southern Min (TSM), comparative morpheme, comparison standard differential measure phrase, intensifier.

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Chapter1 Introduction

The comparative constructions have been extensively studied in a great number of languages in the literature. However, the comparative constructions in Taiwanese Southern Min (TSM henceforth) have not been paid enough attention to. The comparative constructions in TSM are similar to those in Mandarin Chinese (MC thereafter). Nevertheless, the comparative constructions in these two languages are not identical. Therefore, the difference between MC and TSM comparative constructions is interesting since it reveals how speakers in MC and in TSM express the comparative meaning in the comparative constructions.

In this thesis, I will investigate the comparative morphemes in MC and TSM in four types of comparative constructions (*bi*-comparative, transitive comparative, *guo*-comparative, and intransitive comparative) and focus on their similarities and differences, with an aim to provide a satisfactory characterization of the comparative morphemes in these two languages.

The rest of the thesis is structured as follows. First, the previous analyses of the four types of comparatives and their problems are introduced in section 2. Second, the comparative constructions in TSM are presented in section 3. Third, the analysis will be discussed in section 4. Last but not the least, I will provide a summary of the comparative morphemes in the two languages in section 5.

Chapter 2 Previous Analyses and Their Problems

In the literature, comparative structures in Mandarin have been widely discussed and have at least four types of comparative structures – the ‘*bi*-comparative’, the ‘transitive comparative’, the ‘*guo*-comparative’, and the ‘intransitive comparative’. In this section, I’ll review some important works and introduce some important facts in accordance with the classification of comparative structures.

2.1 Four types of comparative structures

To begin with, I’ll introduce the definition of the two basic terms (i.e. comparison standard, differential measure phrase) as well as the brief introduction to the classification of the four comparative constructions – the *bi*-comparative, the transitive comparative, the *guo*-comparative, and the intransitive comparative.

First of all, the meaning of the two basic terms, (i.e. comparison standard and differential measure phrase), are given below.

Comparison standard: Someone or something that is compared to the subject in the comparative constructions such as *Lisi* in (1).

Differential measure phrase: The difference between the comparison standard and the subject in the sentence like *san gongfen* ‘three centimeters’ in (1).[1]

Second, the four types of comparatives are introduced with some typical examples.

The four types of comparatives

The *bi*-comparative (X *bi* Y A D comparative[2])

(1)	張三	比	李四	高	(三	公分)
	Zhangsan	bi	Lisi	gao	(san	gongfen)
	Zhangsan	than	Lisi	tall	three	centimeter

‘Zhangsan is three centimeters taller than Lisi.’

The transitive comparative (‘**X A (Y) D comparative**’ / **bare comparative**[3])

(2)	張三	高	李四		*(三	公分)
	Zhangsan	gao	Lisi		*(san	gongfen)
	Zhangsan	tall	Lisi		three	centimeter

‘Zhangsan is three centimeters taller than Lisi.’

1 Comparison standard and differential measure phrase are named differently in various works. I’ll use the term comparison standard and differential measure phrase in my research.

2 The *bi*-comparative is defined as X *bi* Y A D Comparative in C.-S. Liu (2007). In my research, I use the term, the *bi*-comparative. Note that the *bi*-comparative in this thesis is restricted to the *bi*-comparative with adjectival predicate such as (1), in which the predicate is the adjective *gao* ‘tall’. In my research, since my aim is not to focus on the *bi*-comparative but to compare the four types of comparatives, I do not focus on the *bi*-comparative with verbal predicate or other subtypes of the *bi*-comparative defined in the literature.

3 The transitive comparative is the term used by Erlewine (2007) and Grano & Kennedy (2012). The transitive comparative is also defined as the X A (Y) D comparative in C.-S. Liu (2007) and called the bare comparative in C.-M. Liu (2010). In my study, I use the term, the transitive comparative.

The *guo*-comparative (X A-*guo1* Y (D) comparative[4])

(3)	張三	高過	李四	(三	公分)
	Zhangsan	gao-*guo*	Lisi	(san	gongfen)
	Zhangsan	tall-exceed	Lisi	three	centimeter

‘Zhangsan is three centimeters taller than Lisi.’

The intransitive comparative[5]

(4)	張三	高
	Zhangsan	gao
	Zhangsan	tall

‘Zhangsan is taller (than someone known from the context).’

As can be seen in (1), the *bi*-comparative is marked by the word, *bi* ‘than’ which occurs before the comparison standard *Lisi* and the optional differential measure phrase *san gongfen* ‘three centimeters’.

As explicitly illustrated in (2), the transitive comparative contains the adjective such as *gao* ‘tall’, which precedes the comparison standard *Lisi* and the obligatory differential measure phrase *san gongfen* ‘three centimeters’.

[4] The *guo*-comparative is called the X A-*guo1* Y (D) comparative in C.-S. Liu (2007). In my thesis, I use the term, the *guo*-comparative defined by C.-M. Liu (2010). Note that the term, -*guo1* is defined as an overt suffix in C.-S. Liu (2007). The overt suffix -*guo1* is grammaticalized as a covert suffix -*guo2* in the transitive comparative. Please refer to the section 2.3 for further information.

[5] The works related to the intransitive comparative are related to the discourse and are of little relevance to my research. Thus I do not discuss this classification of comparative structures in my research.

As demonstrated in (3), the *guo*-comparative includes the word *guo* ‘exceed’, which follows the adjective such as *gao* ‘tall’. Note that the differential measure phrase such as *san gongfen* ‘three centimeters’ is optional.

As revealed in (4), the intransitive comparative has no comparison standard and differential measure phrase. The comparison standard is supposed to be known in the context. Also, the differential measure phrase is optional.

After the brief introduction to the classifications of comparative structures, I’ll introduce each of them except the intransitive comparative with the related discussions and different viewpoints from several studies as follows.

2.2 The *bi*-comparative (X *bi* Y A D comparative)

The *bi*-comparative may be defined as the comparative structure involving the word *bi* ‘than’ placed before the comparison standard and the optional differential measure phrase. The typical instance of the *bi*-comparative can be seen in (1), which is repeated as (5) below.

(5)	張三	比	李四	高	(三	公分)
	Zhangsan	bi	Lisi	gao	(san	gongfen)
	Zhangsan	than	Lisi	tall	three	centimeter

‘Zhangsan is three centimeters taller than Lisi.’

The *bi*-comparative structure has been analyzed in several ways in the literature. I’ll introduce some important analyses of the *bi*-comparative in this section.

2.2.1 The meaning and the function of *bi* ‘than’

In the *bi*-comparative, one of the greatest differences between the *bi*-comparative and the other types of comparatives is the marker *bi* ‘than’. I’ll do a brief introduction to the discussion of the marker *bi* ‘than’ in the literature.

To begin with, Lin (2009) suggests that *bi* ‘than’ can provide the comparative semantics. This function is equal to the function of the English comparative morpheme *-er*. The marker *bi* ‘than’ in Lin (2009) is analyzed as a degree word. Nevertheless, C.-S. Liu (2011) mentions that Lin’s analysis will cause some problems.

First of all, generally speaking, the adjunct degree modifier in Mandarin should be followed by the gradable constituent immediately. However, C.-S. Liu suggests that *dui wo* ‘to me’ in the following example can intervene between the degree phrase *bi Lisi* ‘than Lisi’ and *keqi* ‘courteous’.

(6)	張三	比	李四	**對**	**我**	客氣
	Zhangsan	bi	Lisi	**dui**	**wo**	keqi
	Zhangsan	than	Lisi	to	I	courteous

‘Zhangsan is more courteous to me than Lisi is.’ (C.-S. Liu 2011)

Besides, according to C.-S. Liu, a degree phrase can not be placed in the position higher than a locative phrase. Thus the degree adverb *geng* ‘even-more’ should be lower than the locative phrase *zai meiguo* ‘at America’ as (7) indicates.

(7) a.	張三	在	美國	**更**		吃得開
	Zhangsan	zai	meiguo	geng		chidekai
	Zhangsan	at	America	even-more		influential

‘Zhangsan is even more influential in America.’ (C.-S. Liu 2011)

b.	*張三	**更**		在	美國	吃得開
	*Zhangsan	geng		zai	meiguo	chidekai
	Zhangsan	even-more		at	America	influential.

(C.-S. Liu 2011)

Therefore, C.-S. Liu suggests that the *bi*-phrase should not precede the locative phrase if it is considered to be a degree phrase. Nonetheless, the *bi*-phrase can even precede the locative phrase *zai meiguo* ‘at America’ in the following sentences. C.-S. Liu makes this claim by providing the following examples.

(8)	張三	**比**	**李四**	在	美國	吃得開
	Zhangsan	bi	Lisi	zai	meiguo	chideki
	Zhangsan	than	Lisi	at	America	influential

‘In America, Zhangsan is more influential than Lisi.’ (C.-S. Liu 2011)

Based on the above discussion, C.-S. Liu suggests that *bi* ‘than’ is not a degree word. The function of *bi* ‘than’ is to introduce the comparison standard rather than expressing the comparative meaning that is provided by the English word *than*. The comparative semantics in the *bi*-comparative, instead, is provided by the comparative degree adverb such as *geng* ‘even-more’ in (9a) or its covert version ***geng*** ‘even-more’ in (9b).

(9) a. 張三 比 李四 更 高

Zhangsan bi Lisi **geng** gao

Zhangsan than Lisi even-more tall

'Zhangsan is even taller than Lisi.' (C.-S. Liu 2010b)

b. 張三 比 李四 高

Zhangsan bi Lisi ***geng*** gao

Zhangsan than Lisi even-more tall

'Zhangsan is taller than Lisi.' (C.-S. Liu 2010b)

Furthermore, there is a close relationship between the marker *bi* 'than' and the overt comparative morpheme *geng* 'even-more' as well as its covert counterpart ***geng*** 'even-more'. According to C.-S. Liu, a gradable adjective in MC can be a predicate only when it co-occurs with a degree term. Also, the marker *bi* 'than' is not a degree word.

Based on the above two conditions, C.-S. Liu (2012) suggests that in Mandarin Chinese *bi*-comparatives that include an adjectival predicate, the overt comparative morpheme *geng* 'even-more' in (9a) or its covert version ***geng*** 'even-more'must be present. Besides, when the overt or the covert comparative morpheme appears in the *bi*-comparative with adjectival predicate, the *bi*-phrase such as *bi-Lisi* in (9) should be present in the sentence.

This implies that the occurrence of the *bi*-phrase in the Mandarin Chinese *bi*-comparative with an adjective predicate guarantees the appearance of an overt or covert comparative morpheme. On the other hand, when the overt or covert comparative morpheme is found in the Mandarin Chinese *bi*-comparative with adjectival predicate, the *bi*-phrase is also found in the sentence.

We follow C.-S. Liu's analysis and suggest that seeing the *bi*-phrase in the TSM *bi*-comparative with an adjective predicate also entails that an overt or covert comparative morpheme should be present in the sentence. Also, the appearance of an overt or covert comparative morpheme in the TSM *bi*-comparative with an adjective predicate indicates that the *bi*-phrase can also be found. This phenomenon can be seen in the following TSM paradigms.

(10) a. 阿榮 比 阿狗 **較** 懸

A-ing pi A-kao **khah** kuan

A-ing than A-kao more tall

'A-ing is taller than A-kao.'

b. 阿榮 比 阿狗 懸

A-ing pi A-kao kuan

A-ing than A-kao tall

'A-ing is taller than A-kao.

As can be seen in (10), the *bi*-phrase, *pi-A-kao* 'than A-kao' is found in the TSM *bi*-comparative with the comparative predicate. This entails that the overt comparative morpheme such as *khah* 'more' in (10a) or its covert ccounterpart in (10b) can be found.

Besides, the presence of the overt comparative morpheme *khah* 'more' in (10a) or its covert counterpart in (10b) requires the appearance of the *bi*-phrase, *pi A-kao* 'than A-kao' in (10), the TSM *bi*-comparative with the comparative predicate.

In addition, the overt comparative morpheme *geng* 'even more' is associated with presupposition. C.-S. Liu (2010b) suggests that Chinese overt comparative morpheme *geng* 'even-more' presupposes that the compared objects' properties are true in the absolute sense, whereas the covert counterpart ***geng*** 'even-more' does not have this presupposition.

(11) a. 張三 (今天) (在 家 裡)

Zhangsan (jintian) (zai jia li)

Zhangsan today at home inside

比 李四 (昨天) (在 學校) **更** 開心

bi Lisi (zuotian) (zai xuexiao) **geng** kaixin

than Lisi yesterday at school even-more happy

'Zhangsan (today) is even happier (at home) than Lisi was (in school) (yesterday), **and both of them are happy**.' (C.-S. Liu 2010b)

b. 張三	(今天)	(在	家	裡)
Zhangsan	(jintian)	(zai	jia	li)
Zhangsan	today	at	home	inside

比	李四	(昨天)	(在	學校)		開心
bi	Lisi	(zuotian)	(zai	xuexiao)	***geng***	kaixin
than	Lisi	yesterday	at	school	even-more	happy

‘Zhangsan (today) is even happier (at home) than Lisi was (in school) (yesterday).’

As can be seen in (11a), the overt comparative morpheme *geng* ‘even-more’ presupposes that both of the two compared objects, *Zhangsan* and *Lisi*, are happy. In contrast, the covert counterpart ***geng*** in (11b) has no such presupposition that both of them are happy to some degree.

Moreover, both the overt and covert comparative morphemes respectively take two arguments. Both of the compared objects must be greater than the other in some dimension. Take (11a) and (11b) for example, *Zhangsan* and *Lisi* are two compared objects. Also, *Zhangsan* must be happier than *Lisi*.

Therefore, the covert comparative morpheme ***geng***, like the English comparative morpheme -*er*, can express the comparative meaning in the comparative constructions. In contrast, the overt comparative morpheme *geng* ‘even-more’ not only can express the comparative semantics but can also bear presuppositional meanings.

After examining the TSM data with C.-S. Liu's proposal as above, I suggest that the presupposition that the compared objects' properties are true in the absolute sense can not be found in the TSM overt and covert comparative morpheme. For instance, the overt comparative morpheme *khah* 'more' and its covert counterpart in (10a) and (10b) do not presuppose that both *A-ing* and *A-kao* are tall. Hence, while the overt comparative morpheme *geng* 'even-more' in MC has the presupposition that the compared objects' properties are true in the absolute sense, the overt comparative morpheme *khah* 'more' expresses no such presupposition. This fact implies that *geng* 'more' and *khah* 'more' does not have the identical semantics.

Some further discussions about the syntactic features of *bi*-comparative in Mandarin Chinese are provided by C.-S. Liu (2010) as follows.

First of all, *bi* 'than' and the comparison standard such as *Lisi* in (12) together create a prepositional adjunct phrase *bi Lisi* 'than Lisi'. This adjunct phrase is placed after subject and before the predicate.

(12) 張三	**比 李四**	或者	**(比) 王五**	都	還要	高
Zhangsan	**bi Lisi**	huozhe	**(bi) Wangwu**	dou	haiyao	gao
Zhangsan	than Lisi	or	than Wangwu	all	even	tall

‘Zhangsan is taller than either Lisi or Wangwu.’

In addition, as C.-S. Liu (1996) and Lin (2009) mentioned that the two *bi*-phrases, *bi Lisi* ‘than Lisi’ and *bi-Wangwu* ‘than Wangu’ in the above example can be connected by the coordinator *huozhe* ‘or’. In general, the coordinator takes two constituents in both its left and right. Hence, the above example shows that *bi*-phrase such as *bi-Lisi* and *bi-Wangwu* can form a constituent by itself.

Second, Liu claims that a *bi*-phrase is an adjunct so it can only be adjoined to the left of the gradable predicate. As can be seen in the following sentences, a *bi*-phrase is only attached to the left of the predicate.

(13) a. 張三	**比**	**李四**	高
Zhangsan	**bi**	**Lisi**	gao
Zhangsan	than	Lisi	tall

‘Zhangsan runs faster than Lisi does.’ (C.-S. Liu 2011)

b.	張三	**比**	**李四**	跑得	快
	Zhangsan	**bi**	**Lisi**	pao-de	kuai
	Zhangsan	than	Lisi	run-DE	fast

‘Zhangsan runs faster than Lisi does.’ (C.-S. Liu 2011)

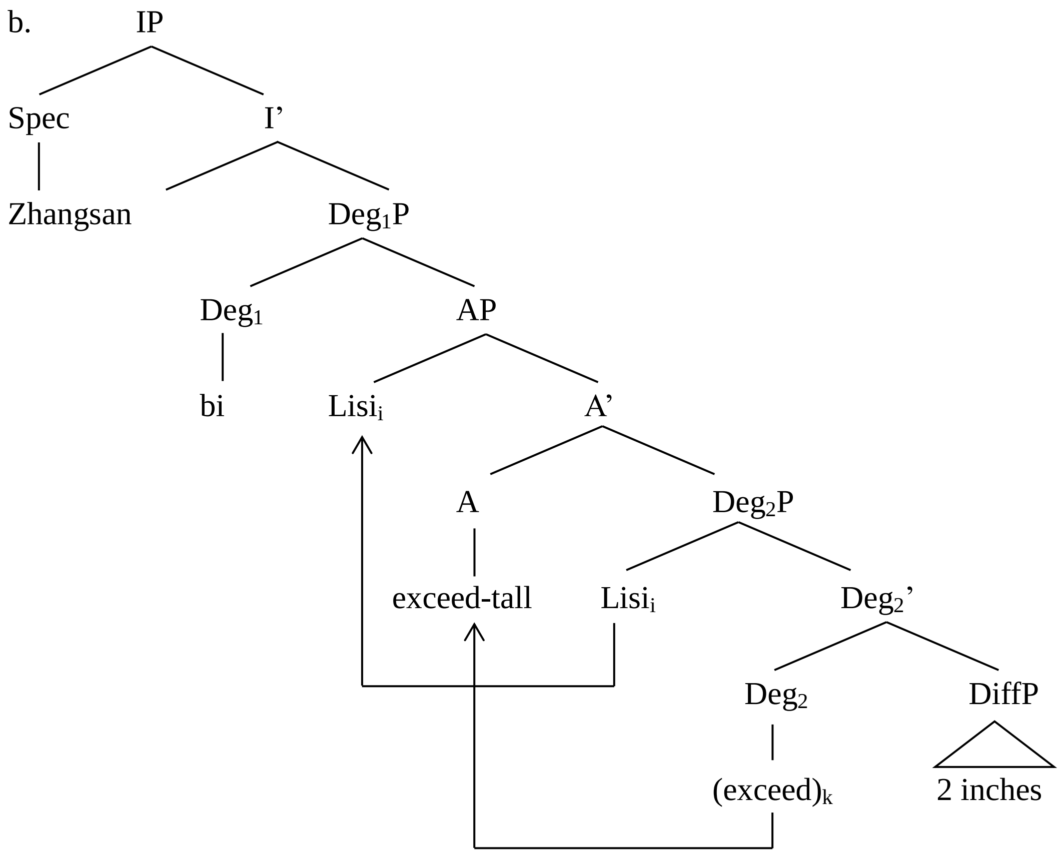
2.2.2 The analysis of the *bi*-comparative

In addition to the analysis of the *bi*-comparative provided by C.-S. Liu (2011), Xiang (2005) and Erlewine (2007) also give their own analysis with tree diagrams to discuss the structure of the *bi*-comparative.

In Xiang (2005), she suggests that the comparative construction in Mandarin is analogous to the double object construction (DOC thereafter) in English. Thus she uses the concept of VP-shell proposed by Larson (1988) to analyze Mandarin *bi*-comparative. The related analysis can be found in (14).

(14) a.	張三	比	李四	高	兩	吋
	Zhangsan	bi	Lisi	gao	liang	cun
	Zhangsan	than	Lisi	tall	two	inch

“Zhangsan is two inches taller than Lisi.” (Xiang 2005) b.



(Xiang 2005)

In the above *bi*-comparative structure, Xiang (2005) assumes that there is a phonological null element called *exceed*, which is preceded by the comparison standard *Lisi* and followed by the differential measure phrase *2 inches*. The Deg_2 head *exceed* merges with *Lisi* and *2 inches* and forms Deg_2P. Next, *exceed* is raised to the head of AP and merges with the adjective. Also, the comparison standard *Lisi* is required to move to the [Spec, AP] position for checking the EPP feature. At last, the head of the Deg_1P is occupied by the marker *bi* ‘than’, which merges with AP to project Deg_1P.

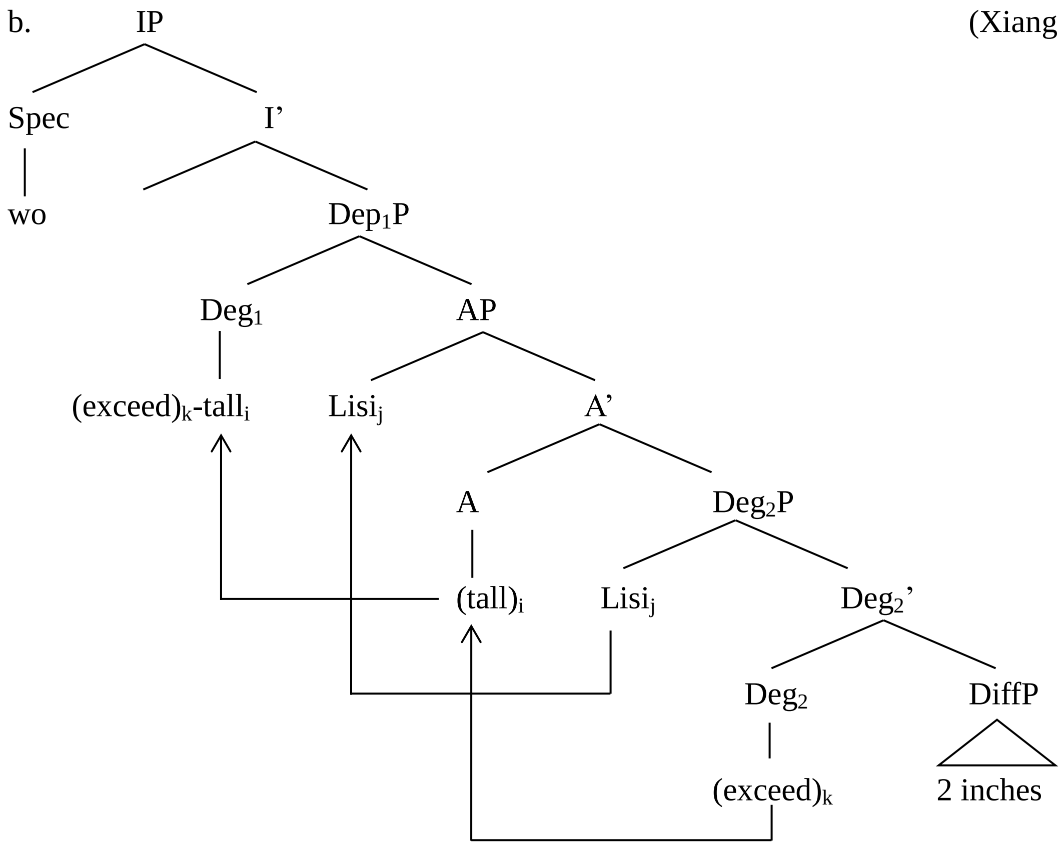
Furthermore, the transitive comparative can be derived from the *bi*-comparative by raising the combination of *exceed* and *tall* (*exceed-tall*) to the empty [Spec, Dep_1P] position as the following tree diagram shows. The word *bi* 'than' is absent in the transitive comparative thus [Spec, Dep_1P] position is empty and *exceed-tall* is allowed to be moved in this position. Besides, *exceed-tall* is required to be moved to the Deg_1 position to introduce the external argument *wo* 'I' in the [Spec, IP] position.

(15) a.

我	高	李四	兩	吋
wo	gao	Lisi	liang	cun
I	tall	Lisi	two	inch

"I am 2 inches taller than Lisi." (Xiang 2005)

b. (Xiang 2005)



However, Lin (2009) provides the following examples of *hai* 'more' to argue that Xiang's analysis is problematic. In the transitive comparative, the addition of *hai* 'more' before the adjective in (16b) is ungrammatical whereas the insertion of *hai* 'more' prior to the entire predicate in (17b) is grammatical. Therefore, Lin (2009) discusses why (16b) is ungrammatical to challenge Xiang's (2005) viewpoint.

(16) a. 他 比 我 **還** 重 三 公斤

ta bi wo **hai** zhong san gongjin

he than I more heavy three kilogram

'He is three kilograms heavier than I am.' (Lin 2009)

b. *他 重 我 **還** 三 公斤

*ta zhong wo **hai** san gongjin

he heavy I more three kilogram (Lin 2009)

(17) a. 他 **還** 比 我 重 三 公斤

ta **hai** bi wo zhong san gongjin

he more than I heavy three kilogram

'He is three kilograms heavier than I am.' (Lin 2009)

b. 他 **還** 重 我 三 公斤

ta **hai** zhong wo san gongjin

he more heavy I three kilogram

'He is three kilograms heavier than I am.' (Lin 2009)

The transitive comparative in (16b), according to Xiang's (2005) analysis, is expected to be derived by moving the adjective *zhong* 'heavy' from the adjective head position to the position occupied by *bi* 'than' in (16a), the *bi*-comparative. Nevertheless, adding the word *hai* 'more' into (16) will make (16b) be ungrammatical but (16a) remains grammatical. Therefore, Lin (2009) bases on the ungrammaticality of (16b) to argue that transitive comparatives are not derived by raising the adjective to the position of *bi* 'than'.

Lin (2009) points out that Xiang's (2005) DegP-shell analysis has a disadvantage that the marker *bi* 'than' and the comparison standard can not form a constituent as suggested by C.-S. Liu (1996). In C.-S. Liu (1996), he provides the sentence below for coordination test and found that the coordination *huozhe* 'or' can take two constituents, *bi*-*Lisi* 'than-*Lisi*' and *bi*-*Wangwu* 'than-*Wangwu*'. Therefore, bi-Lisi 'than-Lisi' is a constituent formed by *bi* 'than' and *Lisi*. Likewise, *bi* 'than' and *Wangwu* form a constituent *bi*-*Wangwu* 'than-Wangwu'.

(18) 張三	**比**	**李四**	或者	**(比)**	**王五**	都	還	高
Zhangsan	**bi**	**Lisi**	huozhe	**(bi)**	**Wangwu**	dou	hai	gao
Zhangsan	than	Lisi	or	than	Wangwu	all	even-more	tall

'Zhangsan is taller than either Lisi or Wangwu.' (Lin 2009)

Another problem of Xiang's (2005) analysis is associated with Tsao's (1989) multiple-topic comparison such as double-topic and triple-topic comparison as demonstrated in the following sentences.

Double-topic comparison

(19) 他	英文	比	我	法文	說得	好
Ta	yingwen	bi	wo	fawen	shuo-de	hao
he	English	than	I	French	speak-part	good

'He speaks English better than I speak French.' (Lin 2009)

Triple-topic comparison

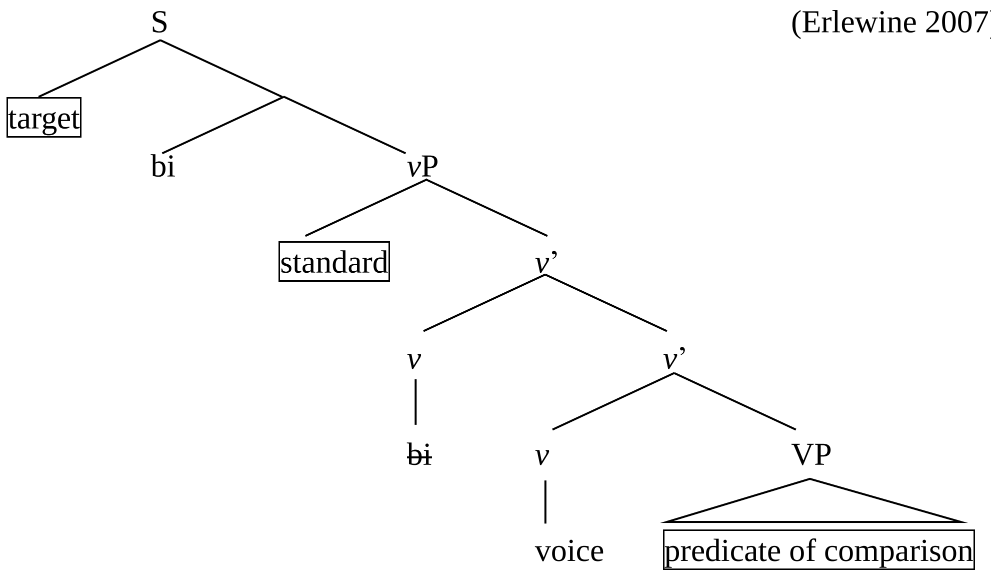
(20) 他	昨天	在	學校	比	我	今天	在	家裡	開心
Ta	zuotian	zai	xuexiao	bi	wo	jintian	zai	jiali	kaixin
he	yesterday	at	school	than	I	today	at	home	happy

'He was happier at school yesterday than I am at home today.' (Lin 2009)

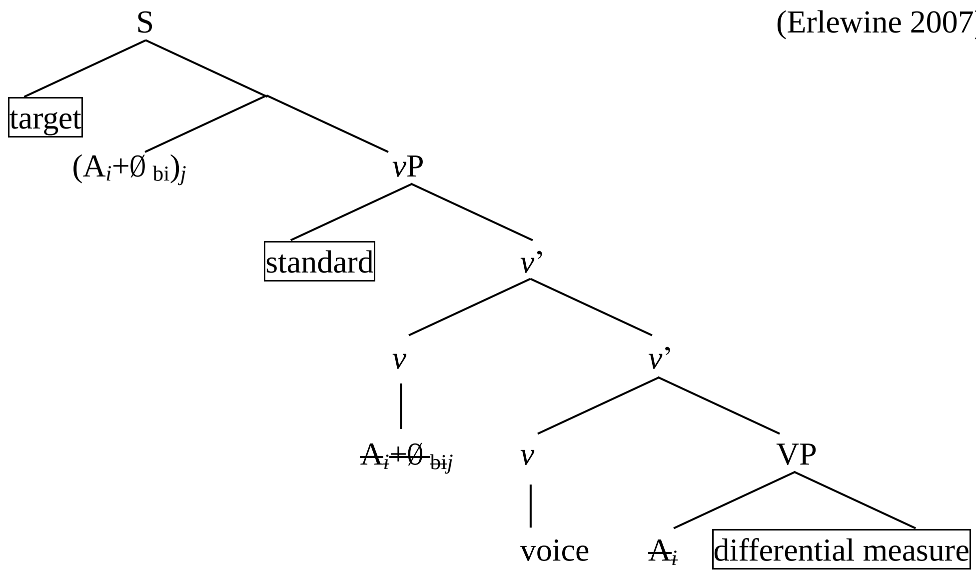
According to Lin (2009), the DegP-shell and adjective phrase may become too complicated in these multiple-topic comparison sentences. The movement of the constituent in multiple-topic comparison is not clear enough because Xiang (2005) does not discuss the adoption of DegP-shell analysis in the multiple-topic comparison. Also, we don’t know if some conditions will be violated when adopting the DegP-shell in the multiple-topic comparison.

Erlewine (2007) also discusses the structures for the *bi*-comparative and the transitive comparative in the following tree diagrams. In (21), *bi* ‘than’ is the functional head and takes *v*’ as its complement. Also, the correct word order of the *bi*-comparative is generated by moving the word *bi* ‘than’ out of *v*P. In (22), $Ø_{bi}$ is the phonologically-null version of *bi* ‘than’. $Ø_{bi}$ can trigger an adjective to be raised to *v*. Subsequently, the combination of adjective and $Ø_{bi}$ (A+ $Ø_{bi}$) will be moved out of *v*P to form the correct word order for the transitive comparative.

(21) (Erlewine 2007)



(22) (Erlewine 2007)



Both of the analyses provided Xiang (2005) and Erlewine (2007), as C.-S. Liu (2011) suggests, have the same problem: Their arguments can not explain why the differential measure phrases are obligatory in the transitive comparative, whereas they are optional in the *bi*-comparative. Given that their analyses both have the assumption that these two comparatives share the same structure, differential measure phrases in these two structures should have the same distributions.

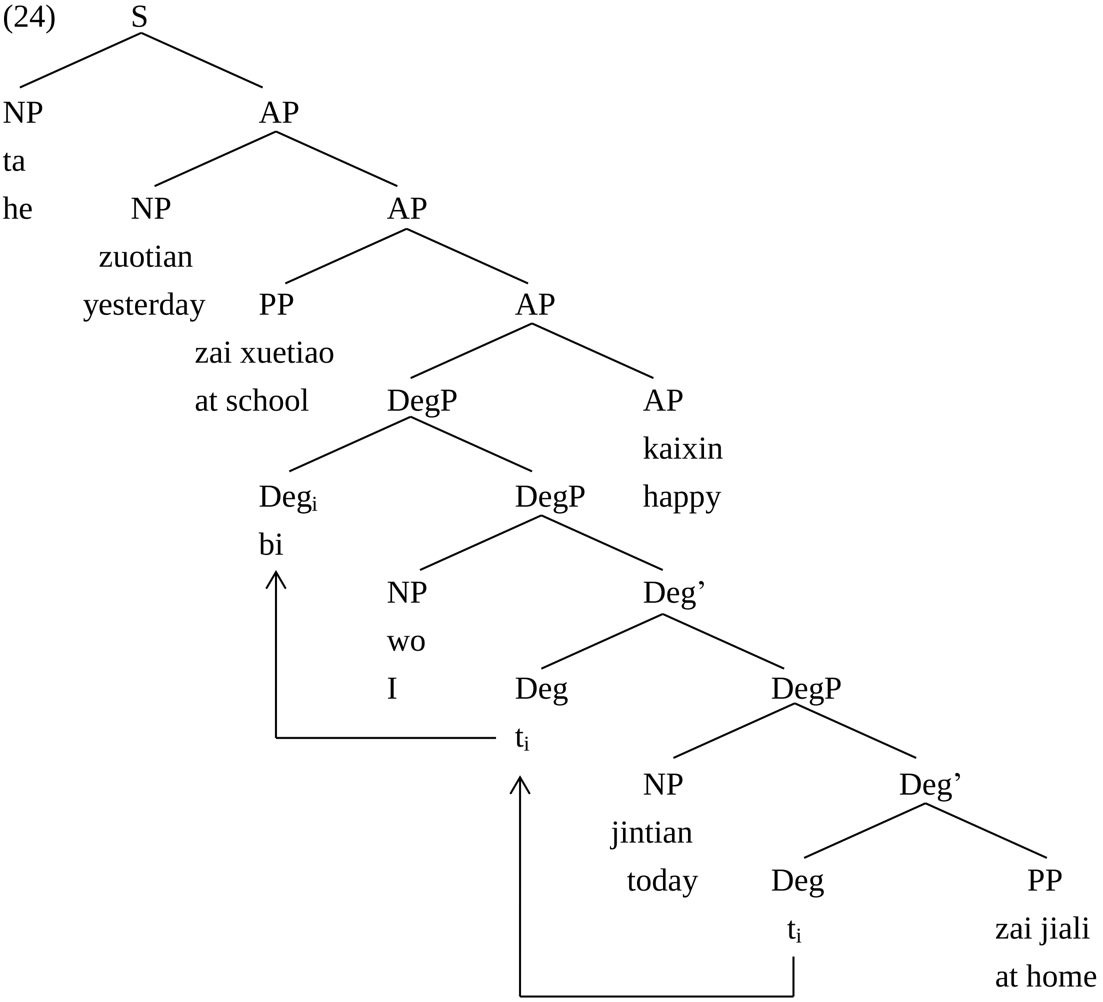
In addition, Lin (2009) points out that in both Xiang's and Erlewine's analysis, the marker *bi* 'than' and the comparative standard can not form a constituent. Lin also gives his own revision of Xiang's DegP-shell. Unlike Xiang's and Erlewine's analyses where *bi*-constituent is treated as a functional projection, Lin suggests that the *bi*-constituent is an adjunct which adjoins to the comparative predicate such as *kaixin* 'happy' in the following tree diagram, Lin's revised DegP-shell structure.

Lin (2009)'s dydadic DegP-shell analysis

(23)	他	昨天	在	學校	比	我	今天	在	家裡	開心
	Ta	zuotian	zai	xuexiao	bi	wo	jintian	zai	jiali	kaixin
	he	yesterday	at	school	than	I	today	at	home	happy

'He was happier at school yesterday than I am at home today.' (Lin 2009)

(24)



In Lin's dydadic DegP-shell analysis, all elements in the whole DegP form a constituent. In that DegP, the marker *bi* 'than' moves from the lowest Degree head position to the higheset Degree head position by cyclic movement. Also, the individual argument *wo* 'I' and the time argument *jintian* 'today' are respectively placed in the specifiers of the two recursive DegP. Besides, the location argument *zai jiali* 'at home' is put in the complement of the lowest Degree head position.

2.3 The transitive comparative (X A (Y) D comparative / bare comparative)

The transitive comparative can be considered as the comparative structure expressed by the transitive predicate followed by the comparison standard and the obligatory differential measure phrase. The canonical example of the transitive comparative is (2) and repeated as (25) below.

(25)	張三	高	李四	*(三	公分)
	Zhangsan	gao	Lisi	*(san	gongfen)
	Zhangsan	tall	Lisi	three	centimeter

‘Zhangsan is three centimeters taller than Lisi.’

The research of a transitive comparative is often compared to a *bi*-comparative in the literature. One of the influential works relating to this matter is Xiang (2005)’s “DegP Shell” analysis for Mandarin comparatives. Her analysis is discussed in the previous section 2.2.2 with the tree diagrams in (14) and (15). Grano and Kennedy (2012) base on her analysis to discuss some phenomenon in the transitive comparative.

Grano and Kennedy (2012) discuss the transitive comparative from the aspect of the case assignment. They suggest that Mandarin comparative constructions have at least two case assigners for comparison standards. The first case assigner is *bi* 'than' in the *bi*-comparative. The second case assigner is the covert morpheme μ in the transitive comparative. In their research, they focus on the second case assigner – the covert comparative morpheme μ.

The aim of their research is to account for the following two constraints stated by Xiang (2005). First, why is the differential measure phrase obligatory in the transitive comparative? As (26) shows, the lack of differential measure phrase in (26a) will cause the sentence become ungrammatical, whereas the presence of differential measure phrase *yi dian* 'one dot' or *san gongfen* 'three centimeters' in (26b) will make the sentence grammatical.

(26) a.	*張三	高	李四					
	*Zhangsan	gao	Lisi					
	Zhangsan	tall	Lisi					
b.	張三	高	李四	**一**	**點**	/	**三**	**公分**
	Zhangsan	gao	Lisi	**yi**	**dian**	/	**san**	**gongfen**
	Zhangsan	tall	Lisi	one	dot	/	three	centimeters

(26a) *Intended*: 'Zhangsan is taller than Lisi.' (Grano and Kennedy 2012)

(26b) 'Zhangsan is a bit/three centimeters taller than Lisi.'

(Grano and Kennedy 2012)

Second, why should the gradable predicate in the transitive comparative use the scale with the conventional measurement system such as inches and centimeters? As (27) demonstrates, the gradable predicate *gao* 'tall' in (27a) uses a scale of height, which is one of the conventional measurement system. Thus *san cun* 'three inches' or *san ge shouzhi* 'three fingers' in (27a) can be compatible with *gao* 'tall'. In contrast, *piaoliang* 'beautiful' uses the scale of beauty, which is not the conventional measurement system. Therefore, *san du* 'three degree', the conventional measurement system, is not compatible with *piaoliang* 'beautiful' in (27b).

(27) a.

張三	比	李四	**高**	三	公分	/
Zhangsan	bi	Lisi	**gao**	san	gongfen	/
Zhangsan	than	Lisi	tall	three	centimeters	/

三	吋	/	三	個	手指
san	cun	/	san	ge	shouzhi
three	inches	/	three	CL	finger

'Zhangsan is three centimeters/three inches/three fingers taller than Lisi.'

(Grano and Kennedy 2012)

b. *張三 比 李四 **漂亮** 三 度

*Zhangsan bi Lisi **piaoliang** san du

Zhangsan than Lisi pretty three degree

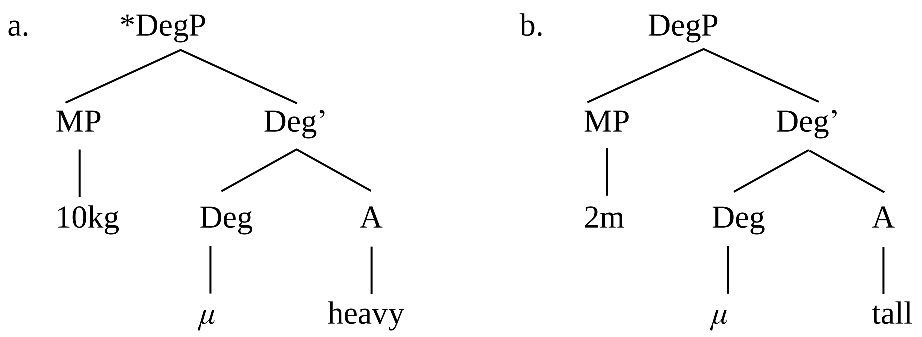
Intended: ‘Zhangsan is three degrees prettier than Lisi.’

(Grano and Kennedy 2012)

Grano and Kennedy (2012) claim the above constraints are related to the fact that Mandarin comparison standard should be case-marked. The Chinese comparison standard in the *bi*-comparative and the transitive comparative are respectively assigned case by the preposition *bi* ‘than’ and the covert morpheme μ.

The features of μ are introduced as follows. Svenonius and Kennedy (2006) propose that the phonologically null head μ can introduce a degree argument. The covert morpheme μ can freely combine with any comparative adjective. However, it is idiosyncratic when it comes to combining with non-comparative adjectives. For instance, μ in German is compatible with *schwer* ‘heavy’ while μ in English can not be allowed to combine with non-comparative adjective ‘heavy’. As displayed in (28a), the word order *10kg heavy* is hot acceptable in English.

(28)



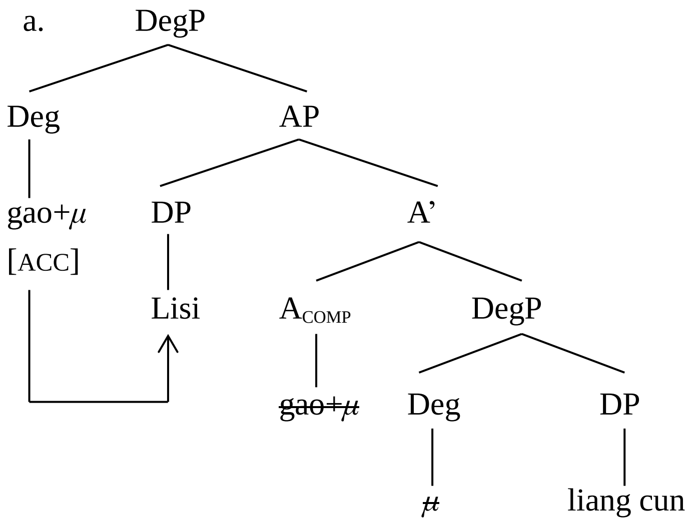
(Grano and Kennedy 2012)

In order to account for Xiang’s analysis, Grano and Kennedy (2012) adopt the concept of μ in their study. Their analysis has two steps. The first step adopts the assumption that ‘the move from the measure function to the difference function’ is done by means of the affix or lexical feature. The second step is based on the analysis of Svenonius and Kenndy. Their analysis describes the fact that the differential measure phrase must be present when μ exists, and vice versa.

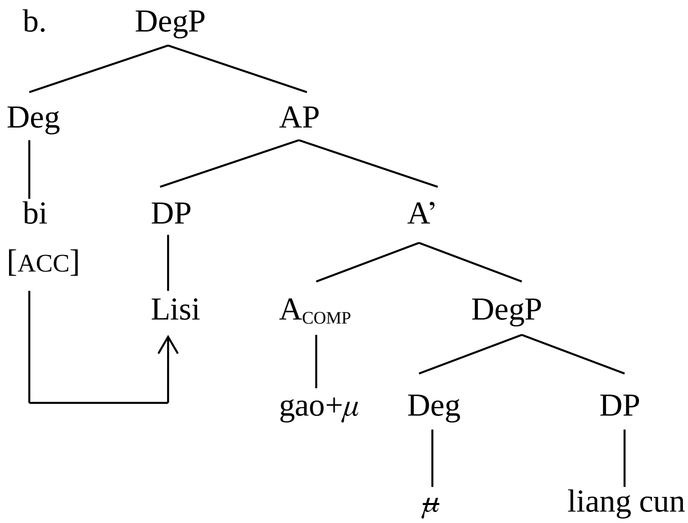
Grano and Kennedy (2012) subsequently hypothesize that the comparison standard’s Case feature is valued either by μ or *bi*. The possible tree structure of the above analysis can be seen in (29a) and (29b), which demonstrate both the absence and presence of the word *bi* ‘than’. As can be seen in (29a), the case of the comparison standard *Lisi* should be valued by μ which is combined with *gao* ‘tall’. On the other hand, the case of *Lisi* is assigned by the insertion word *bi* ‘than’ in (29b).

(29)

a. (Grano and Kennedy 2012)



b. (Grano and Kennedy 2012)

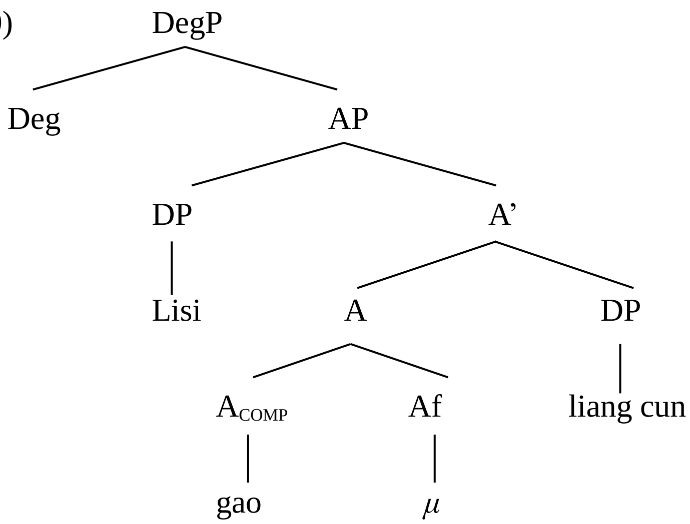


In (29a), μ is raised to A_{COMP} position and combines with *gao* 'tall'. Next, the combination of *gao* 'tall' and μ (gao+μ) is moved to the Degree head position and assigns ACC case to the comparison standard *Lisi*.

In (29b), on the other hand, the combination of *gao* 'tall' and μ (gao+μ) should not be raised to the Degree head position because it is preoccupied by *bi* 'than' which can value the case of the comparison standard *Lisi*.

In addition to the above structures, Grano and Kennedy (2012) also provide another implementation of their analysis. In this implementation, μ in Mandarin can not become a head of the functional projection. Instead, it is an affix adjoined to the adjective. This phenomenon in Mandarin is different from those in English. The related structure of this type is presented below.

(30) (Grano and Kennedy 2012)



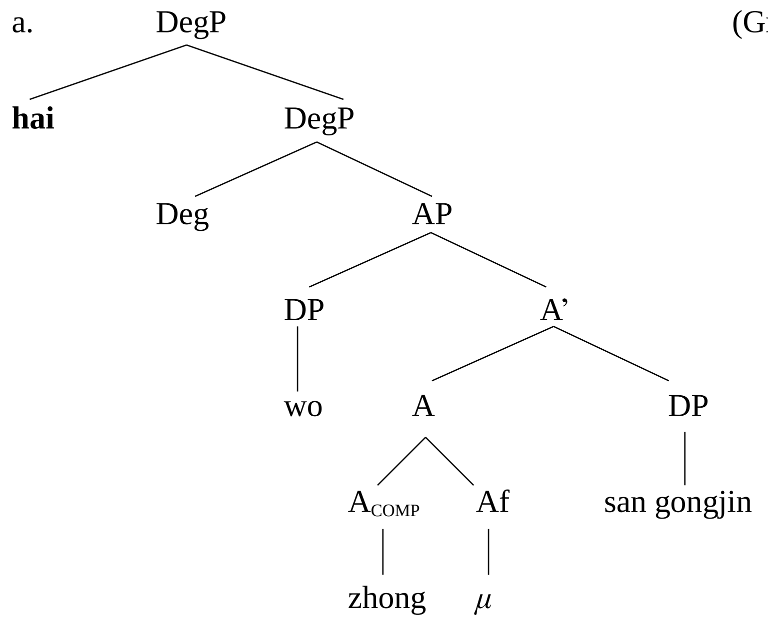
Grano and Kennedy (2012) choose the structures (30) in their analysis. They claim the advantage is that the difference of μ between Mandarin and English will become smaller. To make it explicit, μ in English is functional head of AP and that in Mandarin is an affix adjoined to the lexical category.

The brief summary of Grano and Kennedy's analysis is presented as follows. First of all, the presence of differential measure phrase requires the presence of μ. Likewise, the appearance of μ also needs the appearance of the differential measure phrase. Second, μ has the capacity to case-mark the comparison standard. Moreover, Grano and Kennedy (2012) also suggest that transitive comparatives are allowed in the following two conditions: (1) Only when comparative adjectives are defined with the conventional measurement and (2) only when the differential measure phrase is present.

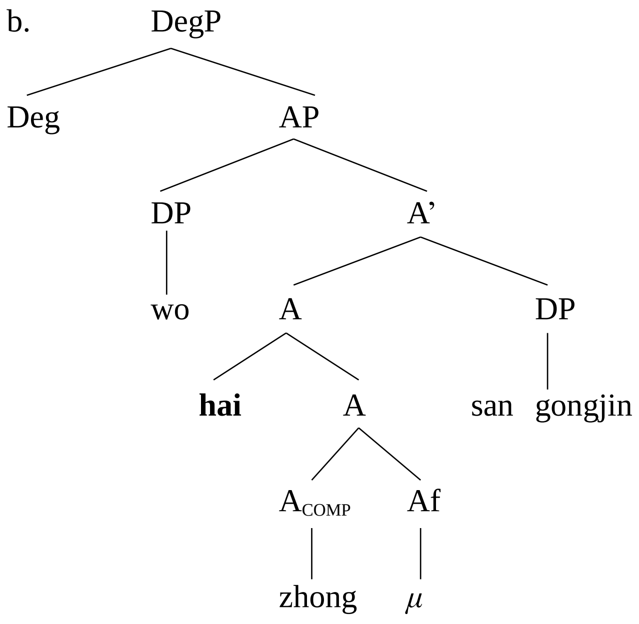
Grano and Kennedy (2012) further add that their analysis can also solve the problem for Xiang (2005) in (14) and (15) in the previous section 2.2. Remember that Lin (2009) does not support Xiang's (2005) viewpoint that a transitive comparative is derived from a *bi*-comparative. This is because adding *hai* 'even-more' before the adjective in a *bi*-comparative and a transitive comparative will only make a transitive comparative be ungrammatical.

Grano and Kennedy (2012) provide two solutions as follows. The first solution is assuming Lin's (2009) viewpoint that *hai* as an adjunct is right. The word *hai* 'more' can be attached to the Degree phrase in (31a) or the adjective head in (31b) as the following tree diagrams demonstrated.

(31) a. (Grano and Kennedy 2012)



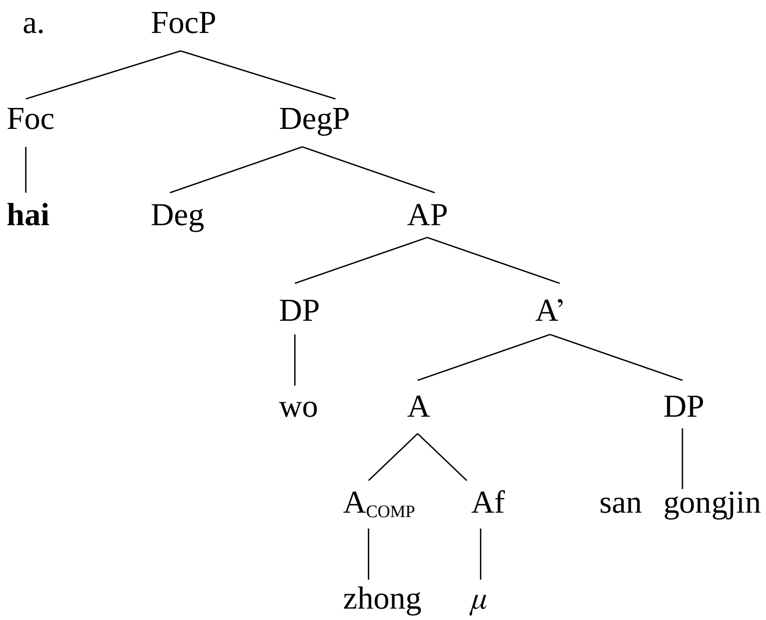
b. (Grano and Kennedy 2012)



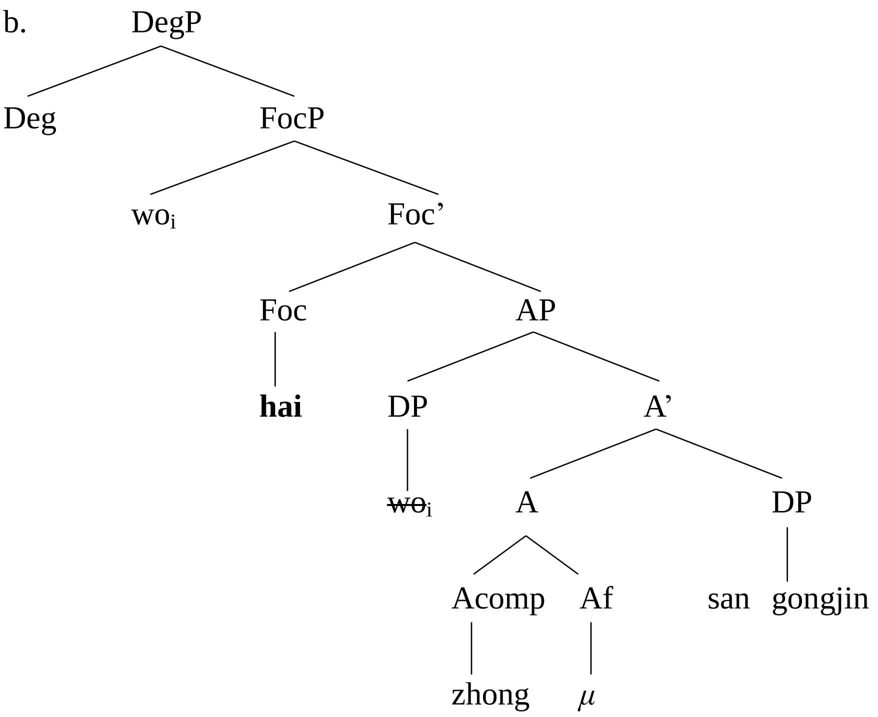
As stated in (31a), *hai* ‘more’ adjoins to the DegP. The addition of *bi* ‘than’ to the Degree head position will create the *bi*-comparative. In contrast, the raising of *zhong* ‘heavy’ to the Degree head position will produce the transitive comparative. As for (31b), the structure states the phenomenon that *hai* ‘more’ is attached to the adjectival head. Adding *bi* ‘than’ to Degree head position also results in a *bi*-comparative. On the other hand, the movement of *zhong* ‘heavy’ to the Degree head position will make the sentence ungrammatical because this movement will break the combination structure of *hai* ‘more’ and *zhong* + μ.

The second solution is viewing *hai* ‘more’ as a Focus head which can be placed above the DegP or AP as (32a) and (32b) respectively demonstrated below.

(32) a.



b.



As stated in (32a), the FocP is placed above the DegP. The Degree head can be occupied by *bi* 'than' to produce the *bi*-comparative or by *zhong* 'heavy' to create the transitive comparative. On the contrary, FocP in (32b) is put above the AP. In this case, only *bi* 'than' be placed in Degree head position to bring forth the *bi*-comparative. The word *zhong* 'heavy' can not be raised to the Degree head position in that the Focus *hai* 'more' will block the way. To make it explicit, the movement of *zhong* 'heavy' will violate the Relativized Minimality proposed by Rizzi (1990).

In addition, Grano and Kennedy claim that the covert morpheme μ has an overt counterpart *chu* 'surpass' in the transitive comparative. Similarly, *chu* 'surpass' requires the differential masure phrase to be present in the transitive comparative. The following examples explicitly show these facts.

The transitive comparative with *chu* 'surpass'[6]

(33) a.	張三	高	**出**	李四	**兩**	**吋**
	Zhangsan	gao	**chu**	Lisi	**liang**	**cun**
	Zhangsan	tall	surpass	Lisi	two	inch
	'Zhangsan is two inches taller than Lisi.'				(Grano and Kennedy 2012)	
b.	*張三	高	**出**	李四		
	*Zhangsan	gao	**chu**	Lisi		
	Zhangsan	tall	surpass	Lisi	(Grano and Kennedy 2012)	

As can be seen in the above example, *chu* 'surpass', like the covert morpheme μ, is allowed in the transitive comparative only when the differential measure phrase such as *liang cun* 'two inches' in (33a) is present. In contrast, the appearance of *chu* 'surpass' will make (33b) ungrammatical because the differential measure phrase *liang cun* 'two inches' can not be found in the sentence.

Eventually, Grano and Kennedy do a briefly summary for the analysis in (34) and (35) and provide some criticisms for C.-S. Liu (2007).

[6] The transitive comparative including the word *chu* 'surpass' is defined as the *chu*-comparative in C.-M. Liu (2010). However, this construction is simply considered a transitive comparative in Grano and Kennedy (2012). In my analysis, I consider the *chu*-comparative as the transitive comparative since *chu* 'surpass' can not be placed after the comparative predicate in TSM. In other words, TSM has no *chu*-comparative. Thus, I do not consider the *chu*-comparative as a type of comparative construction in my analysis. Please refer to the appendix to see the related comparative sentences.

(34) *Adjectives with measurable scales* e.g., *gao* 'tall'

a. bi DP_{stnd} $A_{[COMP]}$($+\mu$ DP_{means}) *bi* assigns Case to DP_{stnd}

b. $A_{[COMP]}+\mu$ DP_{stnd} DP_{means} μ assigns Case to DP_{stnd}

c. *$A_{[COMP]}$ DP_{stnd} DP_{stnd} does not get Case

(35) *Adjectives without measurable scales* e.g., *piaoliang* 'beautiful'

a. bi DP_{stnd} $A_{[COMP]}$ *bi* assigns Case to DP_{stnd}

b. *$A_{[COMP]}+\mu$ DP_{stnd} DP_{means} μ cannot combine with A

c. *$A_{[COMP]}$ DP_{stnd} DP_{stnd} does not get Case

In (34a), the Case assigner is *bi* 'than'. In (34b), the Case is assigned by μ or *chu* 'surpss', the overt counterpart of μ. In (34c), the sentence is ungrammatical because all the potential case assigners, *bi* 'than', μ and *chu* 'surpass' are absent.

In (35), adjectives such as *piaoliang* 'beautiful' or *gaoxing* 'happy' are not related to the measurable scale. As (35b) indicates, those adjectives can not be compatible with μ and *chu* 'surpass'. In contrast, they can still be compatible with *bi* 'than' in (35a). Also, (35c) is ungrammatical because the case is not valued.

We suggest that Grano and Kennedy's (2012) analysis is able to capture the relationship between the TSM comparative morphemes and the differential measure phrase. As argued by Grano and Kennedy, in the transitive comparative, the case assigner for the comparison standard can be the covert morpheme μ and its overt counterpart *chu* 'surpass'. Both μ and *chu* 'surpass' should be present only when the differential measure phrase appears, and vice versa. Based on Grano and Kennedy's case-assigning theory, I suggest that the TSM overt and covert comparative morpheme in the transitive comparative with the intensifier *ke* 'add' should be present only when the differential measure phrase appears. The following examples are provided to illustrate this point.

(36)	阿榮	加	較	懸	阿狗	**三**	**公分**
	A-ing	ke	khah	kuan	A-kao	**sann**	**kongfun**
	A-ing	add	more	tall	A-kao	three	centimeter

'A-ing is even three centimeters taller than A-kao.'

(37)	阿榮	加		懸	阿狗	**三**	**公分**
	A-ing	ke		kuan	A-kao	**sann**	**kongfun**
	A-ing	add		tall	A-kao	three	centimeters

'A-ing is even three centimeters taller than A-kao.'

(38)	*阿榮	加	較	懸	阿狗
	A-ing	ke	khah	kuan	A-kao
	A-ing	add	more	tall	A-kao

'A-ing is even taller than A-kao.'

(39) *阿榮 加 懸 阿狗

A-ing ke kuan A-kao

A-ing add tall A-kao

'A-ing is even taller than A-kao.'

As can be seen in (36) and (37), both the overt comparative morpheme *khah* 'more' and its covert counterpart are allowed in the sentences because these two sentences contain the differential measure phrase *sann kongfun* 'three centimeters'. On the contrary, neither the overt nor the covert comparative morpheme in (38) and (39) is able to occur in the sentence without the differential measure phrase.

However, adopting Grano and Kennedy's analysis may cause a problem: One may doubt why both *khah* 'more' and *chu* 'surpass' should have the same requirement that the differential measure phrase should be present since *khah* 'more' and *chu* 'surpass' are different in some aspects. First of all, *khah* 'more' is a comparative morpheme whereas *chu* 'surpass' is not. Besides, C.-M. Liu (2010) even defines the comparative structure with *chu* 'surpass' as the *chu*-comparative, which is a type of comparative construction in MC. On the other hand, *khah* 'more' is an overt comparative morpheme that appears in all types of TSM comparatives. Therefore, *khah* 'more' and *chu* 'surpass' may not have the same requirement.

Nevertheless, the *chu*-comparative defined by C.-M. Liu (2010) is only restricted to the

Mandarin Chinese. This construction can not be found in a TSM comparative as the following contrast suggests. Moreover, the fact that *chu* ‘surpass’ and *khah* ‘more’ are different can not be used to argue that *khah* ‘more’ can not have the same requirement that *chu* ‘surpass’ bears.

(40)	張三	高	**出**	李四	*(三	公分)
	Zhangsan	gao	**chu**	Lisi	*(san	gongfen)
	Zhangsan	tall	surpass	Lisi	three	centimeter

‘Zhangsan is three centimeters taller than Lisi’

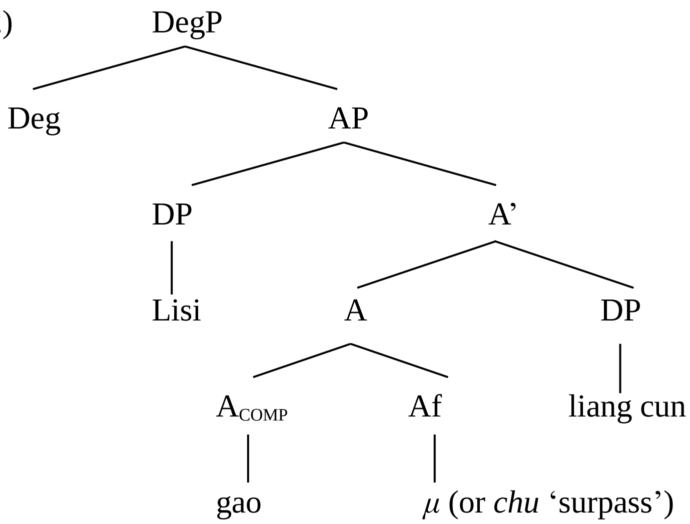
(41)	*阿榮	懸	**出**	阿狗	(三	公分)
	*A-ing	kuan	**tshut**	A-kao	sann	konghun
	A-ing	tall	surpass	A-kao	three	centimeter

‘A-ing is three centimeters taller than A-kao.’

Furthermore, some little change in the word order is needed for Grano and Kennedy’s analysis to account for the data in TSM. According to Grano and Kennedy, the covert morpheme μ and its overt counterpart *chu* ‘surpass’ is placed after *gao* ‘tall’. However, the TSM overt and covert comparative morpheme is followed by *kuan* ‘tall’. Therefore, we suggest that while the affix is adjoined to the right of the comparative adjective such as *gao* ‘tall’ in MC, the affix can also be attached to the left of the comparative adjective like *kuan* ‘tall’ in TSM. The different tree structures of the transitive comparatives in MC and TSM are presented below respectively.

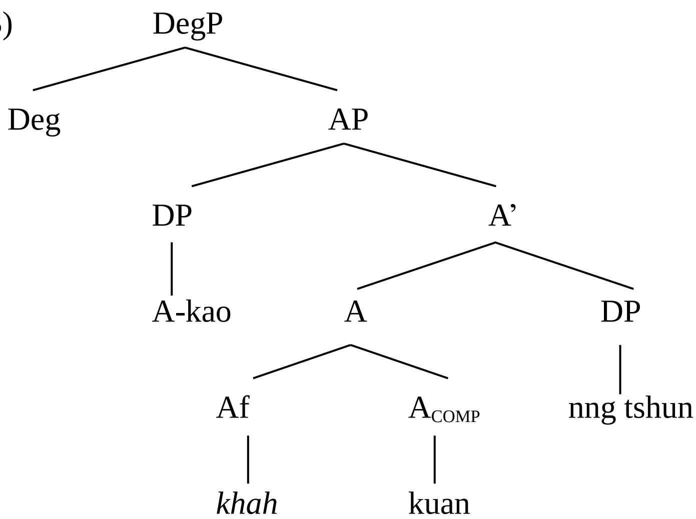
The transitive comparative in Mandarin Chinese

(42) (Grano and Kennedy 2012)



The transitive comparative in Taiwanese Southern Min

(43)



Taken together, a brief summary is provided below of the overt and covert morpheme in the transitive comparatives in both MC and TSM.

First, the presence of the overt or covert comparative morpheme requires the appearance of the differential measure phrase in MC transitive comparative and TSM transitive comparative with *ke* ‘add’.

Second, the covert morpheme μ or its overt counterpart *chu* ‘surpass’ in MC adjoins to the right of the comparative predicate such as *gao* ‘tall’. In contrast, both the overt and covert comparative morphemes in TSM can be attached to the left of the comparative adjective such as *kuan* ‘tall’.

2.3.1 The differences between a *bi*-comparative and a transitive comparative

Xiang (2005) suggests that the generic reading of the comparison standard can only be found in the *bi*-comparative rather than the transitive comparative. This fact can be seen in the following sentences.

The *bi*-comparative

(44) a.

這	隻	剛出生	的	小	駱駝
zhe	zhi	gang-chusheng	de	xiao	luotuo
this	CL	just-born	DE	little	camel
比	**馬**	大	(一點)		
bi	**ma**	da	(yidian)		
than	horse	big	(a little)		

‘This new-born camel is a little bigger than a horse.’ (Xiang 2005)

b.

這	隻	剛出生	的	小	駱駝
zhe	zhi	gang-chusheng	de	xiao	luotuo
this	CL	just-born	DE	little	camel
比	**那匹馬**	大	(一點)		
bi	**na-pi-ma**	da	(yidian)		
than	that-CL-horse	big	(a little)		

‘This new-born camel is a little bigger than that horse.’ (Xiang 2005)

The transitive comparative

(45) a. *這　隻　剛出生　的　小　駱駝

*這	隻	剛出生	的	小	駱駝
*zhe	zhi	gang-chusheng	de	xiao	luotuo
this	CL	just-born	DE	little	camel
大	馬	一點			
da	**ma**	yidian			
big	horse	a little			

Intended: ‘This new-born camel is a little bigger than a horse.’ (Xiang 2005)

b.

這	隻	剛出生	的	小	駱駝
zhe	zhi	gang-chusheng	de	xiao	luotuo
this	CL	just-born	DE	small	camel
大	**那匹馬**	一點			
da	**na-pi-ma**	yidian			
big	that-CL-horse	one-dot			

This new-born camel is a little bigger than that horse.’ (Xiang 2005)

As shown in (44a) and (45a), the generic reading of the comparison standard *ma* ‘horse’ is compatible in the *bi*-comparative in (44a), whereas it is incompatible in the transitive comparative in (45a). In (44a), the comparison standard *ma* ‘horse’ has the generic reading that this horse is equal to every horse. In other words, this new-born camel in (44a) is a little bigger than every horse in the world. Also, (44b) means the new-born camel is a little bigger than a specific horse. On the contrary, the generic reading of the comparison standard can not be found in (45a), the transitive comparative. In the transitive comparative, only the specific reading of the comparison standard such as *na-pi-ma* ‘that horse’ in (45b) is allowed.

Besides, both C.-S. Liu (2007) and Grano & Kennedy (2012) discuss the compatibility of *geng* ‘even-more’ in the *bi*-comparative and transitive comparative.

According to C.-S. Liu (2007), *geng* ‘even-more’ is compatible with a *bi*-comparative but incompatible with a transitive comparative.

(46) a. 張三 比 李四 **更** 高

Zhangsan bi Lisi **geng** gao

Zjamgsan than Lisi even-more tall

‘Zhangsan is even taller than Lisi.’ (C.-S. Liu 2007)

b. *張三 **更** 高 李四 兩 吋

*Zhangsan **geng** gao Lisi liang cun

Zhangsan even.more tall Lisi two inch (C.-S. Liu 2007)

Grano and Kennedy (2012) claim that that difference between these two comparatives is due to the pheonomenon that *geng* ‘even-more’ can not be compatible with differential measure phrase as the following instance suggests.

(47)

*張三	比	李四	**更**	高	兩	吋
*Zhangsan	bi	Lisi	**geng**	gao	liang	cun
Zhangsan	than	Lisi	even-more	tall	two	inch

(Grano and Kennedy 2012)

However, C.-S. Liu doesn’t agree with this statement by presenting the following sentences. He mentions that *geng* ‘even-more’ can co-occur with the differential measure phrase *yi-xie* ‘a little bit’ in the *bi*-comparative as (48a) indicates.

(48) a.

張三	比	李四	**更**	高	一些
Zhangsan	bi	Lisi	**geng**	gao	yi-xie
Zhangsan	than	Lisi	even-more	tall	a-little.bit

‘Zhangsan is a little bit taller than Lisi.’ (C.-S. Liu 2007)

b. *張三	**更**	高	李四	一些	
*Zhangsan	**geng**	gao	Lisi	yi-xie	
Zhangsan	even-more	tall	Lisi	a-little.bit	(C.-S. Liu 2007)

C.-S. Liu further states that *geng* ‘even-more’ can not occur in a transitive comparative in that the phonological null version of dynamic verb, *guo* ‘exceed’, exists in a transitive comparative and it is incompatible with the stative *geng* ‘even-more’.

In Grano and Kennedy’s (2012) viewpoints, C.-S. Liu’s analysis is problematic because the synchronic and empirical evidence that a transitive comparative has a dynamic reading can not be found. In other words, C.-S. Liu (2007) does not provide enough evidence for the dynamic reading in the transitive comparative. Moreover, Grano and Kennedy (2012) suggest that *yi-xie* ‘a little bit’ is ambiguous. One interpretation of *yi-xie* ‘a little bit’ in (48a) is the degree modifier due to the presence of *geng* ‘even more’. The other reading of *yi-xie* ‘a little bit’ in (48b) is the differential measure phrase due to the requirement of the transitive comparative. Since *yi-xie* ‘a little bit’ is ambiguous that it can be either a degree modifier or a differential measure phrase, the fact that *geng* ‘even-more’ is compatible with *yi-xie* ‘a little bit’ does not mean that *geng* ‘more’ is compatible with the differential measure phrase. Therefore, Grano and Kennedy (2012) claim that *geng* ‘more’ is incompatible with the differential measure phrase.

2.4 The *guo*-comparative (X A-*guo1* Y (D) comparative)

The *guo*-comparative looks like the mere addition of the word *guo* 'exceed' after the predicate in the transitive comparative as (49), the repetition of (3), demonstrated.

(49) 張三	高過	李四	(三	公分)
Zhangsan	gao-*guo*	Lisi	(san	gongfen)
Zhangsan	tall-exceed	Lisi	three	centimeter

'Zhangsan is three centimeters taller than Lisi.'

Nevertheless, the structure of the *guo*-comparative has been analyzed in different ways in the literature. In fact, the *guo*-comparatives are often compared with the other classifications of comparative in analyzing its structure. One of the most important works related to this matter is C.-S. Liu (2007). He discusses the comparison between the *guo*-comparative and the transitive comparative.

2.4.1 The comparison between a *guo*-comparative and a transitive comparative

In C.-S. Liu (2007), C.-S. Liu examines the *guo*-comparative and the transitive comparative. C.-S. Liu suggests that an overt suffix *-guo1* exists in the *guo*-comparative. Also, a covert suffix *-guo2* exists in the transitive comparative. According to C.-S. Liu, the transitive comparative is derived from the *guo*-comparative by grammaticalization. Besides, the covert suffix *-guo2* in the transitive comparative is derived from the overt suffix *-guo1* in the *guo*-comparative. In order to prove this argument, C.-S. Liu (2007) discusses some features of the *guo*-comparative and the association between a *guo*-comparative with a transitive comparative.

First, the suffix *-guo1* in the *guo*-comparative has the the meaning 'exceed' or 'surpass'. Hence, the suffix *-guo1* is transitive and takes the comparison standard such as *Lisi* in (50a) and differential measure phrase like *san gongfen* 'three centimeters' in (50a) as its arguments. Similarly, the transitive comparative such as (50b) provides the meaning 'exceed' or 'surpass' even though the overt suffix *-guo1* can not be found in the sentence.

(50) a. 張三 高**過** 李四 (三 公分)

Zhangsan gao-**guo1** Lisi (san gongfen)

Zhangsan tall-guo1 Lisi thee centimeter

'Zhangsan's height exceeds Lisi's by three centimeters.' (C.-S. Liu 2007)

b.	張三	高	(李四)	三	公分
	Zhangsan	gao	(Lisi)	san	gongfen
	Zhangsan	tall	Lisi	three	centimeter

‘Zhangsan’s height exceeds Lisi’s by three centimeters.’ (C.-S. Liu 2007)

Second, only the adjective with [+pole] feature[7] or positive value can be the adjective in the *guo*-comparative. For instance, *chang* ‘long’ in (51) has [+pole] feature. Hence, it is compatible with -*guo1*. On the contrary, *duan* ‘short’ in (52) does not have such feature. Thus, it is incompatible with -*guo1*.

(51)	這條	繩子	**長**過	那條	兩	英吋
	Zhe-tiao	shengzi	**chang**-guo1	na-tiao	liang	yingchi
	this-CL	rope	long-guo1	that-CL	two	inch

‘The length of this rope exceeds that of that rope by two inches.’ (C.-S. Liu 2007)

(52)	*這條	繩子	**短**過	那條	兩	英吋
	*Zhe-tiao	shengzi	**duan**-guo1	na-tiao	liang	yingchi
	this-CL	rope	short-guo1	that-CL	two	inch

(C.-S. Liu 2007)

[7] In Liu (2007), [+pole] feature for the adjective describes the adjectives with the positive value. For instance, *chang* ‘long’ has the [+pole] feature, whereas *duan* ‘short’ has the [-pole] feature.

On the other hand, adjectives with either [+pole] or [-pole] properties can be the adjectives of transitive comparatives[8]. Note that the adjectives in the transitive comparative should be the dimension adjectives. The meaning of dimension adjective is the adjective with the dimension which can be measured by the standard measure unit such as *gongfen* 'centimeter', *gongjin* 'kilogram', and *gongsheng* 'liter'.

As the following instances suggest, the adjective *pianyi* 'cheap' is the dimension adjective. Thus, *pianyi* 'cheap' can be measured by the standard measure unit *yi-bai-kuai-qian* 'one hundred dollars' and can occur in the transitive comparative. In contrast, *piaoliang* 'beautiful' is not dimension adjective. Hence, *piaoliang* 'beautiful' can not be measured by the standard measure unit *san du* 'three degree' and can not present in the transitive comparative.

(53) a.	這本	書	**便宜**	那本	書	**一百塊**	**錢**
	Zhe-ben	shu	**pianyi**	na-ben	shu	**yi-bai-kuai**	**qian**
	this-CL	book	cheap	that-CL	book	one-hundred-CL	money

'This book is one hundred dollars cheaper than that one.' (C.-S. Liu 2007)

[8] The adjective with [+pole] feature such as *chang* 'long' and the adjective e with the [-pole] feature like *duan* 'short' are compatible with the transitive comparative as the following examples illustrate.

(i)	這條	繩子	**長/短**	那條	一	公尺
	zhe-tiao	shengzi	**chang/duan**	na-tiao	yi	gongchi
	this-cl	rope	long/short	that-cl	one	meter

'This rope is one meter longer/shorter than that one.' C.-S. Liu (2007)

b.	*這個	女孩	**漂亮**	那個	女孩	**三**	**度**
	*Zhe-ge	nuhai	**piaoliang**	na-ge	nuhai	**san**	**du**
	this-CL	girl	beautiful	that-CL	girl	three	degree

‘This girl is three more degrees beautiful than that one.’ (C.-S. Liu 2007)

Third, in the *guo*-comparative, only the definite, specific or referential noun phrase can be the comparison standard. On the contrary, only the non-referential constituent can be the differential measure phrase. Besides, the comparison standard should precede the differential measure phrase.[9] The following sentences can demonstrate the discussion mentioned above.

(54) a.	張三	高過	李四	十	公分
	Zhangsan	gao-guo1	Lisi	shi	gongfen
	Zhangsan	tall-guo1	Lisi	ten	centimeter

‘Zhangsan is ten centimeters taller than Lisi.’ (C.-S. Liu 2007)

b.	*張三	高過	兩	米	十	公分
	*Zhangsan	gao-guo1	liang	mi	shi	gongfen
	Zhangsan	tall-guo1	two	meter	ten	centimeter

(C.-S. Liu 2007)

[9] C.-S. Liu (2007) might provide these facts to suggest that the phenomenon that the referential comparison standard precedes the non-referential differential measure phrase in the transitive comparative can also be found in the *guo*-comparative. In other words, the referential comparison standard precedes the non-referential differential measure phrase in both the transitive comparative and the *guo*-comparative. The examples can be found in (50a) and (50b) above. Therefore, those features shared by both *guo*-comparative and transitive comparative can support the possibility that the transitive comparative is derived from the *guo*-comparative.

c. *張三	高	十	公分	李四	
*Zhangsan	gao	shi	gongfen	Lisi	
Zhangsan	tall	ten	centimeter	Lisi	(C.-S. Liu 2007)

As revealed in (54), the comparison standard *Lisi* in (54a) is the definite, specific or referential noun phrase whereas *liang mi* 'two meters' and *shi gongfen* 'ten centimeters' in (54b) and (54c) are not. Therefore, (54a) is grammatical while (54b) and (54c) are ungrammatical. Besides, the differential measure phrase in (54c) is not *shi gongfen* 'ten centimeters' but *Lisi*, which is referential rather than non-referential. Hence (54c) is ungrammatical.

Fourth, the comparison standard is obligatory in a *guo*-comparative whereas it is optional in a transitive comparative. On the other hand, the differential measure phrase is optional in a *guo*-comparative while it is obligatory in a transitive comparative. C.-S. Liu (2007) suggests thst the suffix -*guo1* is transitive thus the comparison standard such as *Lisi* in (55a) is introduced by -*guo1*.

(55) a. 張三 高過 李四 (十 公分)

(55) a.	張三	高過	李四	(十	公分)
	Zhangsan	gao-guo1	Lisi	(shi	gongfen)
	Zhangsan	tall-guo1	Lisi	ten	centimeter

‘Zhangsan’s height exceeds Lisi’s by ten centimeters.’ (C.-S. Liu 2007)

b.	張三	高過	*(李四)	十	公分
	Zhangsan	gao-guo1	*(Lisi)	shi	gongfen
	Zhangsan	tall-guo1	Lisi	ten	centimeter

‘Zhangsan’s height exceeds Lisi’s by ten centimeters.’ (C.-S. Liu 2007)

(56) a.	張三	高	(李四)	十	公分
	Zhangsan	gao	(Lisi)	shi	gongfen
	Zhangsan	tall	Lisi	ten	centimeter

‘Zhangsan’s height exceeds Lisi’s by ten centimeters.’ (C.-S. Liu 2007)

b.	張三	高	李四	*(十	公分)
	Zhangsan	gao	Lisi	*(shi	gongfen)
	Zhangsan	tall	Lisi	ten	centimeter

‘Zhangsan’s height exceeds Lisi’s by ten centimeters.’ (C.-S. Liu 2007)

As can be seen the *guo*-comparative example (55), the optional item is the differential measure phrase *shi gongfen* ‘ten centimeters’, whereas the obligatory constituent is the comparison standard *Lisi*. As illustrated in the transitive comparative instance (56), the optional component is the comparison standard *Lisi,* while the obligatory unit is the differential measure phrase *shi gongfen* ‘ten centimeters’.

Fifth, a degree adverb can not modify the adjective in both the *guo*-comparative and the transitive comparative as (57a) and (57b) suggest.

(57)	a.	*張三	很/更	高過	李四	三	公分
		*Zhangsan	hen/geng	gao-guo1	Lisi	san	gongfen
		Zhangsan	very/more	tall-guo1	Lisi	three	centimeter
	b.	*張三	很/更	高	李四	三	公分
		*Zhangsan	hen/geng	gao	Lisi	san	gongfen
		Zhangsan	very/more	tall	Lisi	three	centimeter

(C.-S. Liu 2007)

Sixth, if quantifiers involve in both the *guo*-comparative and the transitive comparative, neither of them is acceptable as (58) indicates.

(58) a. *張三 高過 其他/這些 人 三 公分

*Zhangsan gao-guo1 qita/zhexie ren san gongfen.

Zhangsan tall-guo1 other/these person three centimeter

'??Zhangsan is three centimeters taller than everyone else/these persons.'

b. *張三 高 其他/這些 人 三 公分

*Zhangsan gao qita/zhexie ren san gongfen

Zhangsan tall other/these person three centimeter

'?? Zhangsan is three centimeters taller than everyone else/these persons.'

(C.-S. Liu 2007)

In his paper, C.-S. Liu (2007) raises four questions and answers them afterwards. First, why must the referential comparison standard such as *Lisi* must precede the non-referential differential measure phrase like *san gongfen* 'three centimeters' in the transitive comparative as presented in the following examples?

(59) 張三 高/矮 李四 三 公分

Zhangsan gao/ai Lisi san gongfen

Zhangsan tall/short Lisi three centimeter

'Zhangsan is three centimeters taller/shorter than Lisi.' (C.-S. Liu 2007)

(60) *張三 高 三 公分 李四

*Zhangsan	gao	san	gongfen	Lisi	
Zhangsan	tall	three	centimeter	Lisi	(C.-S. Liu 2007)

To answer this question, C.-S. Liu states that the relationship between the comparison standard and the differential measure phrase is similar to the referential theme and non-referential theme. Non-referential theme is placed in V', while the referential them is put in a higher position such as [Spec, VP].

Second, as the following sentences suggest, why is the differential measure phrase such as *san gongfen* 'three centimeters' obligatory in the transitive comparative?

(61) 張三 高 李四 三 公分

Zhangsan	gao	Lisi	san	gongfen
Zhangsan	tall	Lisi	three	centimeters

'Zhangsan is three centimeters taller than Lisi.' (C.-S. Liu 2007)

(62) 張三 高 三 公分

Zhangsan	gao	san	gongfen
Zhangsan	tall	three	centimeters

'Zhangsan is three centimeters taller (than Lisi).' (C.-S. Liu 2007)

(63) *張三　　高　　李四

*Zhangsan　　gao　　Lisi

Zhangsan　　tall　　Lisi　　(C.-S. Liu 2007)

According to C.-S. Liu (2007), the semantics of the covert suffix *-guo2* in the transitive comparative is bleached thus can not be the predicate to describe or restrict the interval argument of adjectives. Moreover, since the comparison standard such as *Lisi* in (61) is also not a degree term in the transitive comparative, the differential measure phrase like *san gongfen* 'three centimeters' in (61) and (62) is the only constituent to restrict or describe the interval argument of the adjective *gao* 'tall' in (61) and (62). As a result, a differential measure phrase in the transitive comparative is required.

Third, why can't the adjective such as *gao* 'tall' in (64a) be modified by the degree adverb like *geng* 'more' in (64b) in the transitive comparative?

(64) a. 張三　　高　　李四　　三　　公分

Zhangsan　　gao　　Lisi　　san　　gongfen

Zhangsan　　tall　　Lisi　　three　　centimeter

'Zhangsan is three centimeters taller than Lisi.'　　(C.-S. Liu 2007)

b. *張三	很/更	高	李四	三	公分
*Zhangsan	hen/geng	gao	Lisi	san	gongfen
Zhangsan	very/more	tall	Lisi	three	centimeter

(C.-S. Liu 2007)

In order to answer this question, Liu discusses the structure of both the *guo*-comparative and the transitive comparative in (65) and (66) below to account for this phenomenon.

The *guo*-comparative

(65) 張三高過李四三公分

Zhangsan [$_{GuolP}$ [$_{Guo1'}$ [$_{Guo1}$ gao$_{i}$-**guo1**] [$_{AP}$ Lisi [$_{A'}$ [$_{A}$ t$_{i}$] [san gongfen]]]]]

Zhangsan tall-**guo1** Lisi three centimeter

'Zhangsan is three centimeters taller than Lisi.' (C.-S. Liu 2007)

The transitive comparative

(66) 張三高李四三公分

Zhangsan [$_{Guo2P}$ [$_{Guo2'}$ [$_{Guo2}$ gao$_{i}$-**guo2**] [$_{AP}$ Lisi [$_{A'}$ [$_{A}$ t$_{i}$] [san gongfen]]]]]

Zhangsan tall-**guo2** Lisi three centimeter

'Zhangsan is three centimeters taller than Lisi.' (C.-S. Liu 2007)

In the above structure, the overt suffix *-guo1* and the covert suffix *-guo2* are three-place predicates that take the adjective phrases as their complements. The comparison standard *Lisi* in both of these comparatives occupy the [Spec, AP] position. The differential measure phrase *san gongfen* 'three centimeters' in these two structures are placed inside A'.

Because of the affixal property of the suffix *-guo1* and *-guo2*, the adjective *gao* 'tall' is raised to the *guo* head positions that are respectively occupied by *-guo1* in the *guo*-comparative and *-guo2* in the transitive comparative. According to C.-S. Liu, the suffix *-guo1* has the full-fledged meaning 'exceed', making the comparison standard be obligatory. Moreover, *-guo1* can be the predicate to restrict or describe adjective's interval argument.

According to C.-S. Liu (2007), the adjective *gao* 'tall' moves from AP head position to the *guo* head position and combines with it, creating the agglutinated form gao-*guo1* 'tall-*guo1*' or gao-*guo2* 'tall-*guo2*'which is considered the variant of the dynamic verb *exceed*. The degree adverb such as *geng* 'more' can not modify the dynamic forms. Thus, the degree adverb *geng* 'even-more' can not modify the dynamic agglutinated form gao-*guo2* 'tall-*guo2*' in the transitive comparative. Note that Grano and Kennedy (2012) point out that C.-S. Liu (2007) does not provide sufficient evidence for the dynamic reading for gao-*guo1* 'tall-*guo1*' in the *guo*-comparative and gao-*guo2* 'tall-*guo2*' in the transitive comparative.

Fourth, what's the syntactic and semantic difference between a transitive comparative and a *bi*-comparative?

To begin with, the comparison standard is respectively introduced by the *bi*-phrase in the *bi*-comparative and by the differential measure phrase in the transitive comparative. The following example demonstrates this fact.

(67) a.

張三	比	李四	高	三	公分
Zhangsan	bi	Lisi	gao	san	gongfen
Zhangsan	than	Lisi	tall	three	centimeter

‘Zhangsan is three centimeters taller than Lisi.’ (C.-S. Liu 2007)

b.

張三	高	李四	*(三	公分)
Zhangsan	gao	Lisi	*(san	gongfen)
Zhangsan	tall	Lisi	three	centimeter

‘Zhangsan is three centimeters taller than Lisi.’ (C.-S. Liu 2007)

Second, in the transitive comparative, the covert comparative morpheme -*guo2* is too weak and can not restrict the interval argument of adjectives. Also, the comparison standard is not a degree term thus it can not do this job. Thus the differential measure phrase can restrict or describe the interval argument of adjectives. On the other hand, in a *bi*-comparative, not only the differential measure phrase but also the *bi*-phrase can restrict the interval argument of adjective because they are degree terms.

Third, the affixal feature of *-guo2* can make the adjective move from the head of AP to the *-guo2* position. In this way, the adjective in the transitive comparative must precede or c-command the comparison standard. In contrast, the *bi*-phrase in a *bi*-comparative must precede the adjective in that *bi*-phrase is the adjunct and should be placed before predicate in Mandarin.

Grano and Kennedy (2012) indicate three disadvantages of C.-S. Liu's (2007) analysis.

First, C.-S. Liu has no well definition on the concept of 'weak' and 'bleached'.

Second, C.-S. Liu's analysis of the overt *guo* 'exceed' will predict that and *guo* 'exceed' and the word *chu* 'surpass' pattern together and they are different from the covert *guo* 'exceed' in the transitive comparative. However, Grano and Kennedy (2012) suggest that *guo* 'exceed' and *chu* 'surpass' can not pattern together in that the differential measure phrase is optional in the *guo*-comparative, whereas it is obligatory in the *chu*-comparative. This contrast can be seen in the following paradigms.

(68)	張三	高	過	李四	(兩	吋)
	Zhangsan	gao	guo	Lisi	(liang	cun)
	Zhangsan	tall	exceed	Lisi	two	inch

'Zhangsan is (two inches) taller than Lisi.' (Grano and Kennedy 2012)

(69)	張三	高	出	李四	*(兩	吋)
	Zhangsan	gao	chu	Lisi	*(liang	cun)
	Zhangsan	tall	surpass	Lisi	two	inch

‘Zhangsan is two inches taller than Lisi.’ (Grano and Kennedy 2012)

Unlike C.-S. Liu’s (2007) analysis, Grano and Kennedy (2012) claim that a transitive comparative can pattern with a transitive comparative with *chu* ‘surpass’. In other words, the covert morpheme μ can pattern with *chu* ‘surpass’. As the following sentences indicate, the presence of *chu* ‘surpass’, like the covert morpheme μ, requires the appearance of the differential measure phrase. That is to say, *chu* ‘surpass’ is acceptable only when the differential measure phrases *liang cun* ‘two inches’ is present.

(70) a.	張三	高	出	李四	**兩**	**吋**
	Zhangsan	gao	chu	Lisi	**liang**	**cun**
	Zhangsan	tall	surpass	Lisi	two	inch

‘Zhangsan is two inches taller than Lisi.’

b.	*張三	高	出	李四
	*Zhangsan	gao	chu	Lisi
	Zhahgsan	gao	surpass	Lisi

(Grano and Kennedy 2012)

(71) a.	張三	比	李四	高	出	兩	吋
	Zhangsan	bi	Lisi	gao	chu	liang	cun
	Zhangsan	than	Lisi	tall	surpass	two	inch

‘Zhangsan is two inches taller than Lisi.’

b.	*張三	比	李四	高	出	
	*Zhangsan	bi	Lisi	gao	chu	
	Zhahgsan	than	Lisi	tall	surpass	(Grano and Kennedy 2012)

Third, C.-S. Liu doesn’t account for the reason of using the differential measure phrase but not the differential expression in his analysis. Grano and Kennedy indicate that the differential measure phrase is a larger sub-category of differentials thus a differential expression is a more general term. Therefore, we can not explain why (72a) is ungrammatical while (72b) is grammatical.

(72) a.	*張三	**聰明**	李四	一	點
	Zhangsan	**congming**	Lisi	yi	dian
	Zhangsan	smart	Lisi	one	dot

‘Zhangsan is (a little) smarter than Lisi.’ (Grano and Kennedy 2012)

b. 張三 **高** 李四 一 點

Zhangsan **gao** Lisi yi dian

Zhangsan tall Lisi one dot

'Zhangsan is one meter / a little taller than Lisi.' (Grano and Kennedy 2012)

2.4.2 The comparison between a *bi*-comparative and a *guo*-comparative

C.-M. Liu (2010) suggests that *guo* 'exceed' can introduce a comparison standard to its complement in the *guo*-comparative. Also, C.-S. Liu (1996) states that *bi* 'than' can introduce the comparison standard to its complement. From these two arguments, C.-M. Liu (2010) predicts *bi* 'than' and *guo* 'exceed' can not co-occur in that only one comparison standard can be allowed in the comparative construction. The following examples can prove these facts.

(73) a. *約翰 比 瑪莉 高 過

*Yuehan bi Mali gao guo

John than Mary tall VSUR

"John is taller than Mary." (C.-M. Liu 2010)

b. *約翰 比 過 瑪莉 高

*Yuehan	bi	guo	Mali	gao
John	than	VSUR	Mary	tall

"John is taller than Mary." (C.-M. Liu 2010)

c. *約翰 過 比 瑪莉 高

*Yuehan	guo	bi	Mali	gao
John	VSUR	than	Mary	tall

"John is taller than Mary." (C.-M. Liu 2010)

C.-M. Liu claims that *bi* 'than' and *guo* 'exceed' are both base-generated and occupy the same position. This suggestion can account for why these two elements can not co-occur in the sentence. On the other hand, *bi* 'than' and *chu* 'surpass' are placed in different positions thus they can co-occur in the sentence. This phenomenon can be seen in (74) below.

(74) 約翰 **比** 瑪莉 高**出** 五 公分

Yuehan	**bi**	Mali	gao-**chu**	wu	gongfen
John	than	Mary	tall-VEXC	five	centimeter

"John is 5-cm taller than Mary." (C.-M. Liu 2010)

2.4.3 The comparison between a *guo*-comparative and a *chu*-comparative[10]

C.-M. Liu (2010) compares the *guo*-comparative and the *chu*-comparative with explicit examples and tree diagrams. The typical examples of the *guo*-comparative and the *chu*-comparative can be seen in (75a) and (75b) below.

(75) a. **The *guo*-comparative**

約翰	高**過**	瑪莉	(五	公分)
Yuehan	gao-***guo***	Mali	(wu	gongfen)
John	tall-VSUR	Mary	five	centimeter

"John is (5-cm) taller than Mary." (C.-M. Liu 2010)

b. **The *chu*-comparative**

約翰	高**出**	瑪莉	*(五	公分)
Yuehan	gao-***chu***	Mali	*(wu	gongfen)
John	tall-VEXC	Mary	five	centimeter

"John is taller than Mary by 5-cm." (C.-M. Liu 2010)

[10] The term, *chu*-comparative is defined by C.-M. Liu (2010). In my research, I do not classify *chu*-comparative as a type of comparative constructions. This is because *chu* 'surpass' is only compatible with Chinese comparatives, whereas it is incompatible with TSM comparatives. Therefore, I regard *chu*-comparative as the transitive comparative with *chu* 'surpass'. In this section, I use the term, *chu*-comparative only for the ease of referring this construction.

Both the *guo*-comparative and the *chu*-comparative have the obvious comparative markers *guo* ‘exceed’ and *chu* ‘surpass’. The difference between these two comparative constructions lies in the presence of the differential measure phrase. To make it explicit, a differential measure phrase is optional in the *guo*-comparative but obligatory in the *chu*-comparative.

In fact, the meanings of these two comparatives are different. The differences in meaning can be seen in (76a) and (76b).The differential measure phrase *Yi bai gongfen* ‘100 centimeters’ in (76a) is the differential value, while it is a comparison standard in (76b). *Chu* ‘surpass’ in (76a) chooses the differential value *yi bai gongfen* ‘100 centimeters’ as an argument, whereas *guo* ‘exceed’ in (76b) selects a comparison standard *yi bai gongfen* ‘100 centimeters’ as an argument.

(76) a.	約翰	高出	一百	公分
	Yuehan	gao-*chu*	yibai	gongfen
	John	tall-VEXC	100	centimeter

“John is taller than someone/something by 100-cm.” (C.-M. Liu 2010)

b. 約翰 高過 一百 公分

Yuehan gao-*guo* yibai gongfen

John tall-VSUR 100 centimeter

"John is taller than 100 centimeters." (C.-M. Liu 2010)

The fact that *chu* 'surpass' selects the differential value as its argument will lead to the ungrammaticality of (77b) which contains no differential value. In contrast, (77a) is grammatical because *guo* 'exceed' chooses the comparison standard *shei* 'who' as its argument.

(77) a. 約翰 高過 誰?

Yuehan gao-*guo* shei?

John tall-VSUR who

"Whom is John taller than?" (C.-M. Liu 2010)

b. *約翰 高出 誰?

*Yuehan gao-*chu* shei?

John tall-VEXC who

"Whom is John taller than?" (C.-M. Liu 2010)

Likewise, (78a) is ungrammatical in that a comparison standard, the argument required by *guo* ‘exceed’, can not be found in the sentence. On the other hand, (78b) is grammatical because *chu* ‘surpass’ selects the differential measure phrase *duoshao* ‘how-much’.

(78) a. *約翰 高過 多少?

*Yuehan gao-*guo* duoshao?

John tall-VSUR how-much

“Intended reading: How much is the difference between John and someone else in height?” (C.-M. Liu 2010)

b. 約翰 高出 多少?

Yuehan gao-*chu* duoshao?

John tall-VEXC how-much

“Intended reading: How much is the difference between John and someone else in height?” (C.-M. Liu 2010)

C.-M. Liu (2010) bases on the above arguments to provide the structure of the transitive comparative as (79) illustrates.

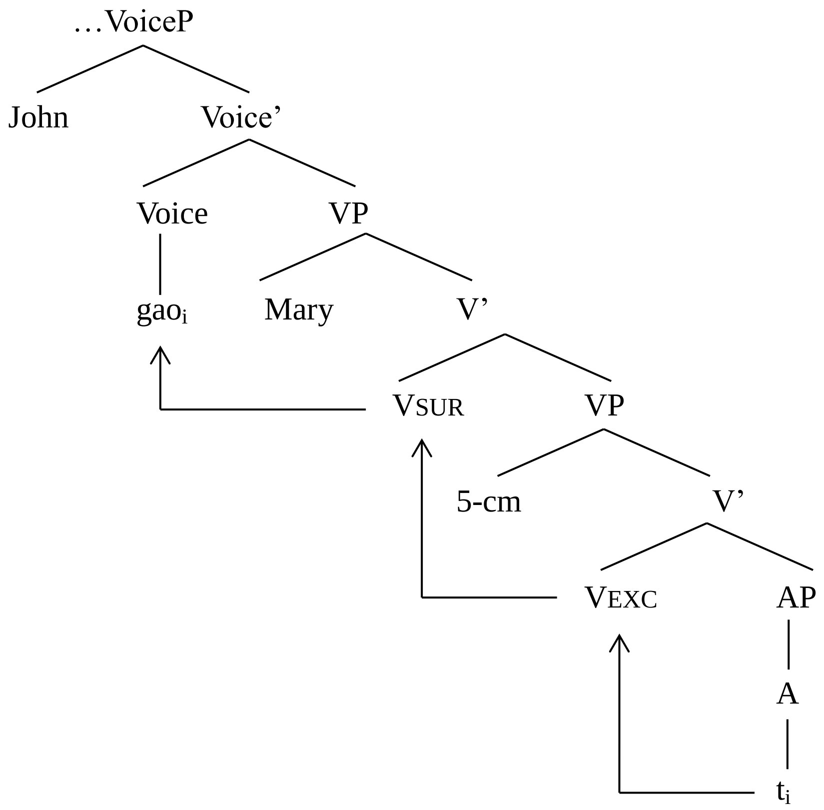
(79) a. 約翰 高 瑪莉 五 公分

Yuehan gao Mali wu gongfen

John tall Mary five centimeter

"John is taller than Mary by 5-cm." (C.-M. Liu 2010)

b.



(C.-M. Liu 2010)

C.-M. Liu proposes that the differential measure phrase and the comparison standard are not arguments of the adjective such as *gao* 'tall' in the transitive comparative construction. Instead, the differential measure phrase and comparison standard are the arguments of VEXC and VSUR, which are respectively occupied by *chu* 'surpass' and *guo* 'exceed'. Due to the affixal features of VEXC and VSUR, adjective must be raised to the head of the VoiceP.

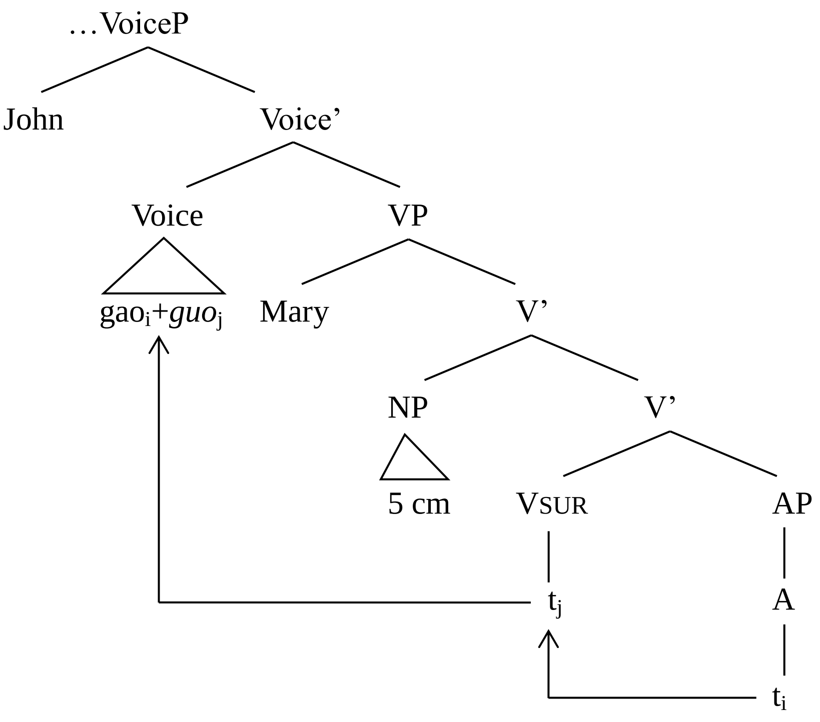
In addition, C.-M. Liu further discusses the structures of the *guo*-comparative and the *chu*-comparative with tree diagrams. In the *guo*-comparative, the differential measure phrase such as *wu gongfen* 'five centimeters' in (80b) is not an argument but an adjunct which is adjoined to V-bar. Also, the adjective *gao* 'tall' in (80b) is moved to VSUR and combines with *guo* 'exceed' to form *gao-guo* 'tall-exceed', which is subsequently raised to Voice head.

(80) a. 約翰 高**過** 瑪莉 (五 公分)

Yuehan	gao-***guo***	Mali	(wu	gongfen)
John	tall-VSUR	Mary	five	centimeter

"John is (5-cm) taller than Mary." (C.-M. Liu 2010)

b.



(C.-M. Liu 2010)

The structure of the *chu*-comparative is similar to that of the *guo*-comparative. The only difference is that the position occupied by VSUR in the *guo*-comparative is replaced by VEXC in the *chu*-comparative. The structure of the *chu*-comparative is presented as follows.

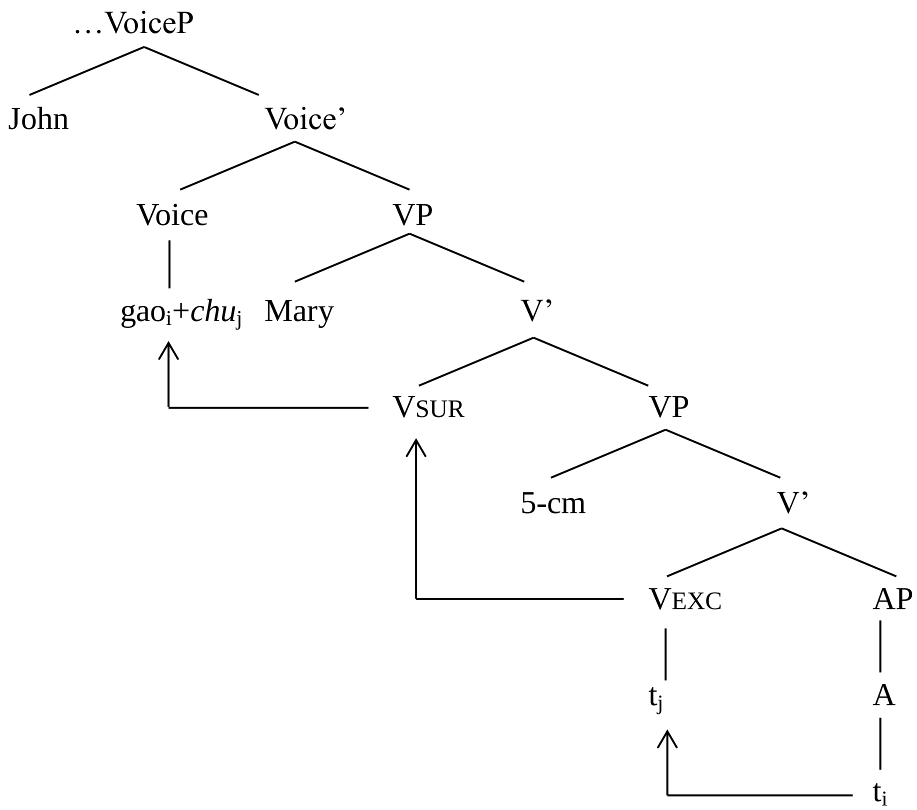
(81) a. 約翰 高**出** 瑪莉 五 公分

Yuehan gao-***chu*** Mali wu gongfen

John tall-VEXC Mary five centimeter

"John is taller than Mary by 5-cm." (C.-M. Liu 2010)

b.



(C.-M. Liu 2010)

In addition, C.-M. Liu mentions that the adjectives of the transitive comparative, the *chu*-comparative and the *guo*-comparative will always be raised to the higher position to combine with the head with verbal status. The following instances can provide persuasive evidence.

(82) a.

約翰	高了	瑪莉	五	公分
Yuehan	gao-**le**	Mali	wu	gongfen
John	tall-PERF	Mary	five	centimeter

“John is taller than Mary by 5-cm.” (C.-M. Liu 2010)

b.

約翰	高出了	瑪莉	五	公分
Yuehan	gao-chu-**le**	Mali	wu	gongfen
John	tall-VEXC-PERF	Mary	five	centimeter

“John is taller than Mary by 5-cm.” (C.-M. Liu 2010)

c.

約翰	高過了	瑪莉
Yuehan	gao-guo-**le**	Mali
John	tall-VSUR-PERF	Mary

“John is taller than Mary.” (C.-M. Liu 2010)

In the above examples, *le* ‘PERF’ combines with *gao-chu* ‘tall-surpass’ and *gao-guo* ‘tall-exceed’. Due to the fact that Mandarin *le* can only combine with verb, *gao* ‘tall’ in this place must bear the verbal status. In other words, *gao* ‘tall’ originally is an adjective and becomes a verb after the movement.

2.5 The discussion about TSM *khah* 'more'

The word *khah* 'more' is generally considered a degree adverb in the literature. However, different scholars have various analyses of *khah* 'more'. In this part, I will introduce different types of approaches and provide my own comment on them.

2.5.1 Chang (2012)

In Chang (2012), she suggests that *khah* 'more' in TSM is a special constituent that can not be found in Mandarin Chinese. Therefore, Chang claims that TSM has a peculiar comparative construction that differs from MC, namely, the *khah*-comparative. Besides, she further classifies the *khah*-comparative as three subtypes – the *khah*-comparative with *bi* 'than', the *khah*-comparative without *bi* 'than' and the *khah*-comparative without the comparison standard.[11]

The *khah*-comparative with *bi* 'than'

As long as the *bi*-comparative contains *khah* 'more', it is called the *khah*-comparative

[11] These three subtypes of the *khah*-comparatives are respectively considered to be the *bi*-comparative, transitive comparative, and the intransitive comparative in our study. We do not use the term *khah*-comparative since *khah* 'more' is regarded as a comparative morpheme that is responsible for providing the comparative meaning in all the comparative constructions.

with *bi* ‘than’ in Chang (2012). For instance, the following sentence with *bi* ‘than’ is referred to as the *khah*-comparative instead of the *bi*-comparative.

(83)	阿榮	比	阿狗	**較**	懸	(三	公分)
	A-ing	pi	A-kao	**khah**	kuan	(sann	kongfun)
	A-ing	than	A-kao	more	tall	three	centimeter

‘A-ing is (three centimeters) taller than A-kao.’

The *khah*-comparative without *bi* ‘than’

The transitive comparative with *khah* ‘more’ is defined as the *khah*-comparative without *bi* ‘than’. As the following sentence suggests, the adjective *kuan* ‘tall’ is preceded by *khah* ‘more’ in the sentence. This is a typical example of the *khah*-comparative without *bi* ‘than’.

(84)	阿榮	*(較)	懸	阿狗
	A-ing	*(**khah**)	kuan	A-kao
	A-ing	more	tall	A-kao

‘A-ing is taller than A-kao.’

The *khah*-comparative without the comparison standard

The *khah*-comparative without the comparison standard is equivalent to the intransitive comparative defined in this thesis. The typical instance of the *khah*-comparative without the comparison standard is introduced below.

(85)	阿榮	*(較)	懸
	A-ing	*(**khah**)	kuan
	A-ing	more	tall

‘A-ing is taller (than someone known from the context).’

In Chang (2012), she provides insightful views that *khah* ‘more’ is a peculiar constituent in TSM and can not be found in Mandarin Chinese. Nevertheless, her analysis is not without problem.

In Chang (2012), she mentions that the comparative marker *khah* ‘more’ can only be found in TSM but not in Mandarin. In contrast, the marker *bi* ‘than’ exists in both Mandarin and TSM. Therefore, *khah* ‘more’ is considered a marked comparative marker, whereas the Mandarin Chinese comparative marker *bi* ‘than’ is viewed as an unmarked comparative marker. The following sentences can reflect the fact provided in the above discussion.

(86)	張三	**比**	李四		高
	Zhangsan	**bi**	Lisi		gao
	Zhangsan	than	Lisi		tall

‘Zhangsan is taller than Lisi.’

(87)	阿榮	**比**	阿狗	**較**	懸
	A-ing	**pi**	A-kao	**khah**	kuan
	A-ing	than	A-kao	more	tall

‘A-ing is taller than A-kao.’

In addition, Chang (2012) discusses the differences between the two comparative markers, the TSM *khah* ‘more’ and the Mandarin *bi* ‘than’. On the one hand, the marker *bi* ‘than’ can introduce the comparison standard such as *Lisi* in (86), while *khah* ‘more’ can introduce the comparative predicate like *kuan* ‘tall’ in (87). The phenomenon that these two comparative markers respectively have different functions can explain why both of them can co-occur in a TSM comparative sentence. Sentence (87) demonstrates this fact.

Nevertheless, the comparative predicate such as *kuan* ‘tall’ is not necessarily introduced by *khah* ‘more’ since the comparative construction without *khah* ‘more’ is also grammatical as the following sentences suggest.

(88)	阿榮	**比**	阿狗	**較**	懸
	A-ing	**pi**	A-kao	**khah**	kuan
	A-ing	than	A-kao	more	tall
	'A-ing is taller than A-kao.'				

(89)	阿榮	**比**	阿狗		懸[12]
	A-ing	**pi**	A-kao		kuan
	A-ing	than	A-kao	more	tall
	'A-ing is taller than A-kao.'				

Unlike the sentence in (88), *khah* 'more' does not overtly appear in (89). Hence, *kuan* 'tall' does not need to be introduced by *khah* 'more'.

The other crucial point mentioned in Chang is that the comparative marker *khah* 'more' is optional in the comparative with *bi* 'than'. The meaning of a sentence won't be changed even *khah* 'more' is omitted. Besides, Chang further adds that the comparative sentences with *khah* 'more' sound more ancient-like than those without *khah* 'more'. The optionality of *khah*

[12] The covert comparative morpheme in (90) is acceptable. However, the comparative morpheme in the following sentences should not be covert. In other words, the comparative morpheme must be overt. Replacing *kuan* 'tall' in (90) with *tua* 'old' will make the sentence be ungrammatical as (ii) suggests. This phenomenon reveals that the speakers' grammatical judgement may be influenced by the lexicon.

(i)	阿榮	比	阿狗	較	大
	A-ing	pi	A-kao	khah	tua
	A-ing	than	A-kao	more	old
	'A-ing is older than A-kao.'				
(ii)	*阿榮	比	阿狗		大
	*A-ing	pi	A-kao		tua
	A-ing	than	A-kao	more	old
	'A-ing is older than A-kao.'				

‘more’ can be seen in (88) and (89) above.

However, the statement that the comparative marker *khah* ‘more’ is optional can not explain why the comparative meaning is also found in (89). I suggest that the comparative meaning in the TSM comparatives is provided by the comparative morpheme which can be expressed either in an overt or covert form. In other words, the comparative morpheme is required to express the comparative meaning in the comparative constructions.

In (88), *khah* ‘more’ is an overt comparative morpheme providing the comparative meaning for the sentence. In contrast, the comparative semantics in (89) is given by a covert comparative morpheme which is placed in the same position that is occupied by *khah* ‘more’. Namely, the overt comparative morpheme *khah* ‘more’ in (88) can be replaced by a covert counterpart in (89) to express the comparative meaning. This analysis can capture why *khah* ‘more’ can be omitted in (89).

Moreover, Chang also gives an account for the following sentences. As shown in (90), the comparative marker *bi* ‘than’ can introduce the comparison standard *Lisi*. Besides, as revealed in (91) and (92), if the comparison standard is not introduced, the sentence will be ungrammatical unless the degree adverb *jiao* ‘more’ is inserted to modify the comparative predicate such as *gao* ‘tall’ in (92).

(90)

張三	**比**	李四	高
Zhangsan	**bi**	Lisi	gao
Zhangsan	than	Lisi	tall

‘Zhangsan is taller than Lisi.’

(91)

*張三	**比**		高
*Zhangsan	**bi**		gao
Zhangsan	than		tall

Lit: ‘Zhangsan is taller than someone in the context.’

(92)

張三	比	**較**	高
Zhangsan	bi	**jiao**	gao
Zhangsan	than	more	tall

‘Zhangsan is taller than someone in the context.’

According to Chang, the degree adverb *jiao* ‘more’ can express the degree difference that the marker *bi* ‘than’ fails to bring to the sentence. Therefore, the insertion of *jiao* ‘more’ can improve (91) and make it become the grammatical sentence (92).

However, if we assume Chang’s analysis, then we wll encounter the difficulty in accounting for why the marker *bi* ‘than’ fails to introduce the comparison standard. According to Chang, if the comparison standard is not introduced, the sentence will be ungrammatical unless the degree adverb *jiao* ‘more’ is inserted to modify the comparative predicate. In other word, the appearance of *jiao* ‘more’ in (92) allows the comparison standard not to be introduced by the preposition *bi* ‘than’.

Nevertheless, the preposition *bi* ‘than’ can assign the accusative case to its NP complement. According to the Case Theory, the case-marked NP should be visible. The comparison standard, as a case-valued NP complement of the preposition *bi* ‘than’, should be visible rather than invisible. Nonetheless, the appearance of both the comparison standard and *jiao* ‘than’ will be problematic. We can see this fact in (93).

(93)	*張三	比	**李四**	**較**	高
	*Zhangsan	bi	**Lisi**	**jiao**	gao
	Zhangsan	than	Lisi	more	tall

Lit: ‘Zhangsan is taller than Lisi.’

In order to solve this problem, I suggest that we analyze *bijiao* ‘more’ as a constituent since *bi* ‘than’ and *jiao* ‘more’ is unseparable. The constituent *bijiao* ‘more’ can be used in the intransitive comparative as is displayed below.

(94) 張三 **比較** 高

Zhangsan **bijiao** gao

Zhangsan more tall

'Zhangsan is taller than someone in the context.'

(95) 張三 **較** 高

Zhangsan **jiao** gao

Zhangsan more tall

'Zhangsan is taller than someone in the context.'

(96) 張三 高

Zhangsan gao

Zhangsan tall

'Zhangsan is taller than someone in the context.'

I propose that the intransitive comparative bears comparative meaning provided by either the overt comparative morpheme such as *bijiao* 'more' in (94) and *jiao* 'more' in (95) or the covert comparative morpheme in (96). In other words, the comparative morpheme can be either phonologically realized as *bijiao* 'more' or *jiao* 'more' or has no phonological realization. Regardless of being overt or covert, comparative morphemes can express comparative meaning.

2.5.2 W. Su (2011)

In W. Su (2011), she studies the comparatives without *bi* 'than' in MC and TSM. The comparatives discussed in her paper are the X *Duo* V (Y) D comparative in MC and the X *Ke* V/A (Y) D comparative in TSM. The typical examples of these two comparatives are given below for the convenience of discussion.

The X *Duo* V (Y) D comparative

(97)	張三	多	讀	(李四)	*(兩	本	書)
	Zhangsan	duo	du	(Lisi)	*(liang	ben	shu)
	Zhangsan	much	read	Lisi	two	CL	book

'Zhangsan read two more books than Lisi did.' W. Su (2011)

The X *Ke* V/A (Y) D comparative:

1. The X *Ke* V (Y) D comparative

(98)	王仔	加	讀	(李仔)	*(三	本	冊)
	Ong-e	**ke**	thak	(Li-e)	*(sann	pun	tsheh)
	Ong-e	much	read	Li-e	three	CL	book

'Ong-e read three more books than Li-e.' W. Su (2011)

2. The X *Ke* A (Y) D comparative

(99) 王仔	**加**	懸	(李仔)	*(三	吋)
Ong-e	**ke**	kuan	Li-e	(sann	tshun)
Ong-e	much	tall	Li-e	three	one-third decimeter

‘Ong-e is one decimeter taller than Li-e.’ W. Su (2011)

As can be seen in (97), the X *Duo* V (Y) D comparative involves the comparative morpheme *duo* ‘much’ which is the semantic nucleus that provides the comparative meaning. Besides, the X *Duo* V (Y) D comparative contains the optional comparison standard such as *Lisi* and the obligatory differential measure phrase like *liang ben shu* ‘two books’.

The TSM X *Ke* V/A (Y) D comparatives can be divided as the X *Ke* V (Y) D comparative in (98) and the X *Ke* A (Y) D comparative in (99). Both of these two comparatives bear the comparative morpheme and the semantic nucleus *ke* ‘add’ which expresses the comparative meaning. In addition, the optional comparison standard such as *Li-e* and obligatory differential measure phrase like *sann pun tsheh* ‘three books’ and *sann tshun* ‘one decimeter’ can be found in both of these two comparatives. The difference between them is the predicate – The X *Ke* V (Y) D comparative involves the verbal predicate whereas the X *Ke* A (Y) D comparative includes the adjectival predicate.

The X *Duo* V (Y) D comparative in MC and the X *Ke* V/A (Y) D comparative in TSM have several features in common. First of all, the predicate after *duo* ‘much’ must be a verb whereas the predicate preceded by *ke* ‘add’ can be either a verb or an adjective. Therefore, the X *Ke* V/A (Y) D comparative in TSM can be further classified as X *Ke* V (Y) D comparative and the X *Ke* A (Y) D comparative. This fact can be seen in the following sentences. Note that all the examples listed below are taken from W. Su (2011).

The X *Duo* V (Y) D comparative

(100)	張三	多	讀	李四	*(兩	本	書)
	Zhangsan	duo	du	Lisi	***(**liang	ben	shu**)**
	Zhangsan	much	read	Lisi	two	CL	book

‘Zhangsan is read two more books than Lisi did.’

(101)	*張三	多	高	李四	三	公分
	Zhangsan	duo	gao	Lisi	san	gongfen
	Zhangsan	much	tall	Lisi	three	centimeters

‘Zhangsan is three centimeters taller than Lisi.’

The X *Ke* V (Y) D comparative

(102)	王仔	加	讀	李仔	*(三	本	冊)
	Ong-e	ke	thak	Li-e	*(sann	pun	tsheh)
	Ong-e	much	read	Li-e	three	CL	book

‘Ong-e read three more books than Li-e.’

The X *Ke* A (Y) D comparative

(103)	王仔	加	懸	李仔	*(三	吋)
	Ong-e	ke	kuan	Li-e	(sann	tshun)
	Ong-e	much	tall	Li-e	three	one-third decimeter

‘Ong-e is three decimeters taller than Li-e.’

Second, *duo* ‘much’ must be placed before the verb and no constituent can intervene between them. Similarly, *ke* ‘add’ should be followed by the verbal or adjectival predicate and they can not be separated by any element. This fact can be seen in the following sentences.

The X *Duo* V (Y) D comparative

(104)	張三	**多**	**吃**	李四	兩	碗	飯
	Zhangsan	**duo**	**chi**	Lisi	liang	wan	fan
	Zhangsan	much	eat	Lisi	two	CL	rice

‘Zhangsan ate two more bowls of rice than Lisi did.’

(105)	*張三	**吃**	**多**	李四	兩	碗	飯
	Zhangsan	**chi**	**duo**	Lisi	liang	ben	fan
	Zhangsan	eat	much	Lisi	two	CL	rice
(106)	*張三	**多**	李四	**吃**	兩	碗	飯
	Zhangsan	**duo**	Lisi	**chi**	liang	ben	fan
	Zhangsan	much	Lisi	eat	two	CL	rice
(107)	*張三	**吃**	李四	**多**	兩	碗	飯
	Zhangsan	**chi**	Lisi	**duo**	liang	ben	fan
	Zhangsan	eat	Lisi	much	two	CL	rice

The X *Ke* V (Y) D comparative

(108)	王仔	**加**	**食**	李仔	三	粒	蘋果
	Ong-e	**ke**	**tsiah**	Li-e	sann	liap	phongko
	Ong-e	much	read	Li-e	three	CL	apple

‘Ong-e ate three more apples than Li-e.’

(109)	*王仔	**食**	**加**	李仔	三	粒	蘋果
	Ong-e	**tsiah**	**ke**	Li-e	sann	liap	phongko
	Ong-e	eat	much	Li-e	three	CL	apple
(110)	*王仔	**加**	李仔	**食**	三	粒	蘋果
	Ong-e	**ke**	Li-e	**tsiah**	sann	liap	phongko
	Ong-e	much	Li-e	eat	three	CL	apple
(111)	*王仔	**食**	李仔	**加**	三	粒	蘋果
	Ong-e	**tsiah**	Li-e	**ke**	sann	liap	phongko
	Ong-e	eat	Li-e	much	three	CL	apple

The X *Ke* A (Y) D comparative

(112)	王仔	**加**	**懸**	李仔	三	吋
	Ong-e	**ke**	**kuan**	Li-e	sann	tshun
	Ong-e	much	tall	Li-e	three	one-third decimeter

‘Ong-e is three decimeters taller than Li-e.’

(113)	*王仔	**懸**	**加**	李仔	三	吋
	Ong-e	**kuan**	**ke**	Li-e	sann	tshun
	Ong-e	tall	much	Li-e	three	one-third decimeter

(114)	*王仔	**加**	李仔	**懸**	三	吋
	Ong-e	**ke**	Li-e	**kuan**	sann	tshun
	Ong-e	much	Li-e	tall	three	one-third decimeter
(115)	*王仔	**懸**	李仔	**加**	三	吋
	Ong-e	**kuan**	Li-e	**ke**	sann	tshun
	Ong-e	tall	Li-e	much	three	one-third decimeter

Third, a transitive or intransitive verb after the *duo* 'much' can take two complements, namely, the referential NP such as *Lisi* in (116) as well as the non-referential differential measure phrase like *liang ben shu* 'two books' in (116). Likewise, these two complements can also be selected by the verb or the adjective after *ke* 'add' in TSM. For instance, *Li-e* and *sann pun tsheh* 'three books' are the referential NP and the non-referential differential measure phrase in (118), the X *Ke* V (Y) D comparative. In the X *Ke* A (Y) D comparative (120), the referential NP is also *Lisi* whereas the non-referential differential measure phrase is *sann tshun* 'one decimeter'. Also, these three comparatives share one feature – the referential NP must precede the non-referential differential measure phrase. The reverse word order will cause ungrammaticality as the following comparison suggests.

The X *Duo* V (Y) D comparative

(116)	張三	多	讀	**李四**	**兩**	**本**	**書**
	Zhangsan	duo	du	**Lisi**	**liang**	**ben**	**shu**
	Zhangsan	much	read	Lisi	two	CL	book

‘Zhangsan read two more books than Lisi did.’

(117)	*張三	多	讀	**兩**	**本**	**書**	**李四**
	*Zhangsan	duo	du	**liang**	**pen**	**shu**	**Lisi**
	Zhangsan	much	read	two	CL	book	Lisi

The X *Ke* V (Y) D comparative

(118)	王仔	加	讀	**李仔**	**三**	**本**	**冊**
	Ong-e	ke	thak	**Li-e**	**sann**	**pun**	**tsheh**
	Ong-e	much	read	Li-e	three	CL	book

‘Ong-e read three more books than Li-e.’

(119)	*王仔	加	讀	**三**	**本**	**冊**	**李仔**
	*Ong-e	ke	thak	**sann**	**pun**	**tsheh**	**Li-e**
	Ong-e	much	read	three	CL	book	Li-e

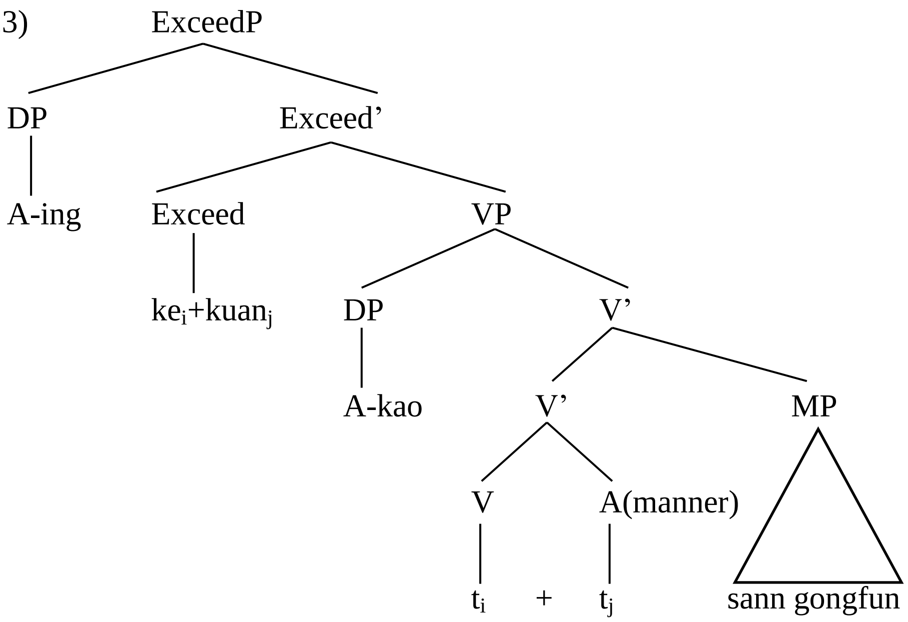
The X *Ke* A (Y) D comparative

(120)	王仔	加	懸	**李仔**	**三**	**吋**	
	Ong-e	ke	kuan	**Li-e**	**sann**	**tshun**	
	Ong-e	much	tall	Li-e	three	one-third decimeter	
	‘Ong-e is one decimeters taller than Li-e.’						
(121)	*王仔	加	懸	**三**	**吋**		**李仔**
	*Ong-e	ke	kuan	**sann**	**tshun**		**Li-e**
	Ong-e	much	tall	three	one-third decimeter		Li-e

Based on Larsonian VP-shell structure (1998) and Huang’s analysis of V-*de* construction (2006), W. Su (2011) proposes the tree structure for the X *Ke* A (Y) D comparatives in TSM, which is the comparative construction involving *ke* ‘add’. A typical example and its tree diagram are provided below.

(122)	阿榮	加	懸	阿狗	三	公分	
	A-ing	ke	kuan	A-kao	sann	gongfun	
	A-ing	add	tall	A-kao	three	centimeter	
	‘A-ing is three centimeters taller than A-kao.’						

(123)



According to W. Su, the main verb *ke* 'add' is a comparative morpheme placed in the V head position. It combines with the adjective *kuan* 'tall' to form the compound word *ke-kuan* 'add-tall'. Next, the compound word is subsequently raised to the Exceed head position to check the feature to form the comparative structure.

However, the statement that *ke* 'add' is a comparative morpheme may be problematic when it co-occurs with the comparative morpheme *khah* 'more'. The phenomenon can be seen in the following sentences.

(124)	阿榮	**較**	懸	阿狗	三	公分
	A-ing	**khah**	kuan	A-kao	sann	gongfun
	A-ing	more	tall	A-kao	three	centimeter

'A-ing is three centimeters taller than A-kao.'

(125)	阿榮	**加**	**較**	懸	阿狗	三	公分
	A-ing	**ke**	**khah**	kuan	A-kao	sann	gongfun
	A-ing	add	more	tall	A-kao	three	centimeter

‘A-ing is three centimeters taller than A-kao.’

As the above sentences suggest, the comparative morpheme *khah* ‘more’ can provide the comparative meaning in (124) and (125). However, *ke* ‘add’, according to W, Su, is also a comparative morpheme which can express the comparative semantics. Therefore, two comparative morphemes, *ke* ‘add’ and *khah* ‘more’ co-occur in (125) and cause the redundancy in the sentence. Thus it is curious why the two components that have the same functions need to occur in a sentence.

Thus, I suggest that the comparative morpheme in (125) is *khah* ‘more’ rather than *ke* ‘add’. In contrast, the comparative morpheme is not overtly realized in (122). The comparison between (122) and (125) is repeated as (126) and (127) below.

(126)	阿榮	加		懸	阿狗	三	公分
	A-ing	ke		kuan	A-kao	sann	gongfun
	A-ing	add		tall	A-kao	three	centimeter

‘A-ing is three centimeters taller than A-kao.’

(127)

阿榮	加	**較**	懸	阿狗	三	公分
A-ing	ke	**khah**	kuan	A-kao	sann	gongfun
A-ing	add	more	tall	A-kao	three	centimeter

‘A-ing is three centimeters taller than A-kao.’

As demonstrated in (126) and (127), the difference between these sentences is that the comparative morpheme in (126) is covert, whereas it is overly realized as *khah* ‘more’ in (127). Both the overt and covert comparative morpheme in (126) and (127) can provide the comparative meaning.

As for *ke* ‘add’, it is not a comparative morpheme since the comparative meaning in (126) and (127) is not provided by *ke* ‘add’. Furthermore, the comparative semantics in (126) below is expressed by the covert comparative morpheme rather than *ke* ‘add’.

(128)

阿榮	懸	阿狗	三	公分
A-ing	kuan	A-kao	sann	gongfun
A-ing	tall	A-kao	three	centimeter

‘A-ing is three centimeters taller than A-kao.’

If we follow W. Su's suggestion that *ke* 'add' is a comparative morpheme, then the addition of *ke* 'add' in (128) will form the sentence like (126), making the sentence contain two comparative morphemes and lead to the redundancy phenomenon in the sentence.

Some could argue that the covert comparative morpheme may be overly realized as either *ke* 'add' or *khah* 'more' in TSM. However, both *khah* 'more' and *ke* 'add' are overt in (127). One comparative morpheme can not have two overt realizations. Besides, *ke* 'add' is optional in (124) and (125). The appearance of *ke* 'add' will reinforce the degree of the adjective. Therefore, I regard *ke* 'add' in (126) and (127) as merely an intensifier rather than a verb or comparative morpheme. This suggestion yields another benefit in that we can prevent the function of *ke* 'add' from simultaneously serving multiple functions for being a verb and also a comparative morpheme.

Moreover, the example in (127) shows that *ke* 'add' and adjective *kuan* 'tall' can be separated. This finding is contrary to W. Su's suggestion that *ke* 'add' and adjective can not be separated. As a result, W. Su's claim that *ke* 'add' and adjective should form a compound word is also problematic. The adjective *kuan* 'tall' in (127) is adjacent to *khah* 'more' instead of *ke* 'add'. In other words, the overt comparative morpheme *khah* 'more' or the covert counterpart should be closer to the adjective than *ke* 'add', or the sentence will be ungrammatical as the following sentence suggests. This example supports the view that *ke* 'add' and an adjective can indeed be linearly disassociated.

(129)	*阿榮	**較**	**加**	懸	阿狗	三	公分
	*A-ing	**khah**	**ke**	kuan	A-kao	sann	gongfun
	A-ing	more	add	tall	A-kao	three	centimeter

‘A-ing is three centimeters taller than A-kao.’

As explicitly illustrated in (129), it is the comparative morpheme that should be immediately adjacent to the adjective. The intervention of *ke* ‘add’ between the comparative morpheme and the adjective is not allowed. That is, the intensifier *ke* ‘add’ should be followed by the comparative morpheme and the adjective.

2.5.3 Xiong (2007)

In Xiong (2007), he claims that the comparative constructions in both Mandarin and the other Chinese dialects have three functional categories: **Target**, **Com(parative)**, and **Deg(ree)**. These three functional categories have their own projections, TargetP, ComP, and DegP. Also, all types of comparatives share the same hierarchical structure TargeP > ComP > DegP > AP. In order to provide a clearer account of Xiong’s structure, I base on Xiong’s analysis and hierarchical structure TargeP > ComP > DegP > AP to draw the tree diagrams for each example provided by Xiong below. (Xiong does not provide the tree structures.)

Xiong (2007) discusses the overt realizations of the Target head, Comparative head, and the Degree head below. These three types of realizations respectively generate the three kinds of comparatives structure – the *bi*-comparative, the *shi*-comparative[13] and the *guo*-comparative. Note that the transitive comparative will be derived only when the Target head has no overt realization.

The overt realization of the Target head, *bi* 'than' (The *bi*-comparative)

(130) 張三 比 李四 高 三 釐米

Zhangsan bi Lisi gao san limi

Zhangsan than Lisi tall three centimeter

'Zhangsan is three centimeters taller than Lisi.' (Xiong 2007)

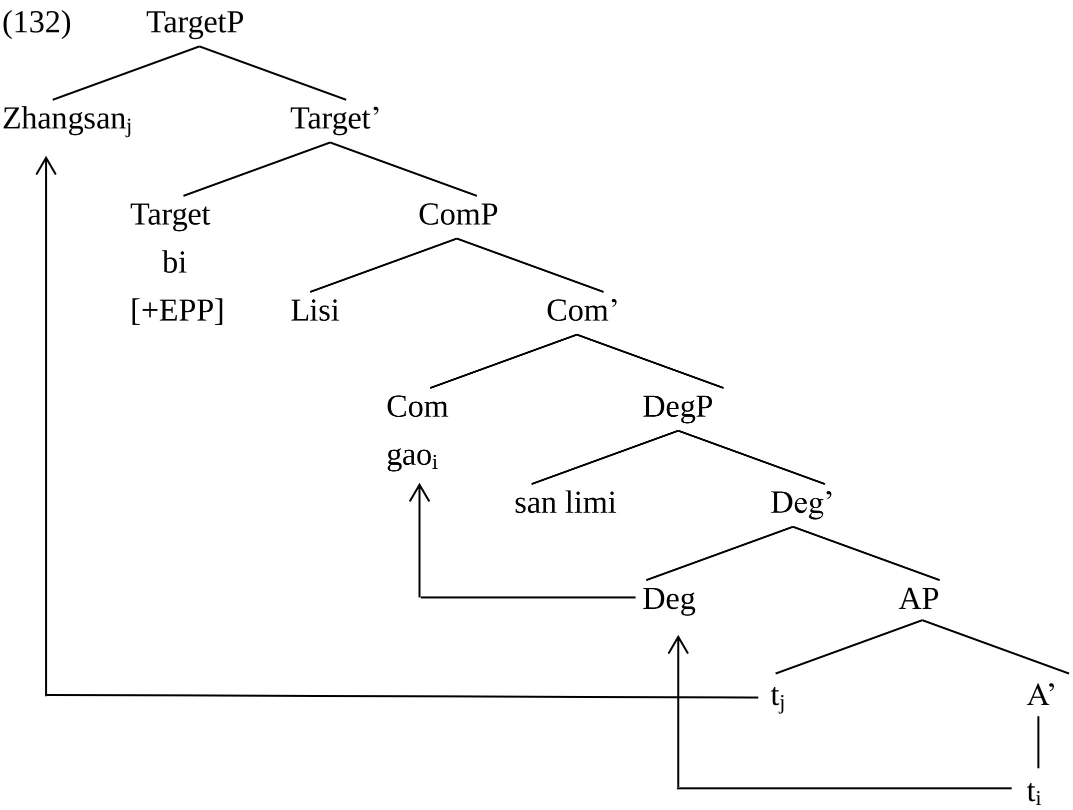
(131) a. 張三**比**李四高三釐米

b. [$_{\text{TargetP}}$[ ][$_{\text{Target'}}$[$_{\text{Target}}$ 比][$_{\text{ComP}}$[李四][$_{\text{Com'}}$[$_{\text{Com}}$][$_{\text{DegP}}$[三釐米] [$_{\text{Deg}}$]
[$_{\text{AP}}$[張三高]]]]]]]

[$_{\text{TargetP}}$[張三][$_{\text{Target'}}$[$_{\text{Target}}$ 比][$_{\text{ComP}}$[李四][$_{\text{Com'}}$[$_{\text{Com}}$ 高][$_{\text{DegP}}$[三釐米][$_{\text{Deg}}$ ~~高~~]
[$_{\text{AP}}$[~~張三高~~]]]]]]] (Xiong 2007)

[13] The term *shi*-comparative is referred to as the comparative construction with the comparative marker *shi* 'is'. According to Xiong (2007), this comparative is found in the Chinese dialect, Tiantai. Xiong does not use the term *shi*-comparative. I use this term only for the ease of referring this structure.

(132)



(Xiong 2007)

In the above example, both the Degree head and the Comparative head are empty. Thus, the adjective *gao* 'tall' can move from the AP head position to the head of DegP and is subsequently raised to the head of ComP position. Besides, because of the EPP feature on the Target head position, *Zhangsan* moves from the [Spec, AP] position to the Spec of TargetP which is headed by the marker *bi* 'than'. Therefore, the correct word order is generated. Note that the Target head position may be realized as different words in diverse Chinese dialects, as will be deomonstrated soon later.

No overt realization in the Target head (The transitive comparative)

(133) 張三 高 李四 三 釐米

Zhangsan gao Lisi san limi

Zhangsan tall Lisi three centimeter

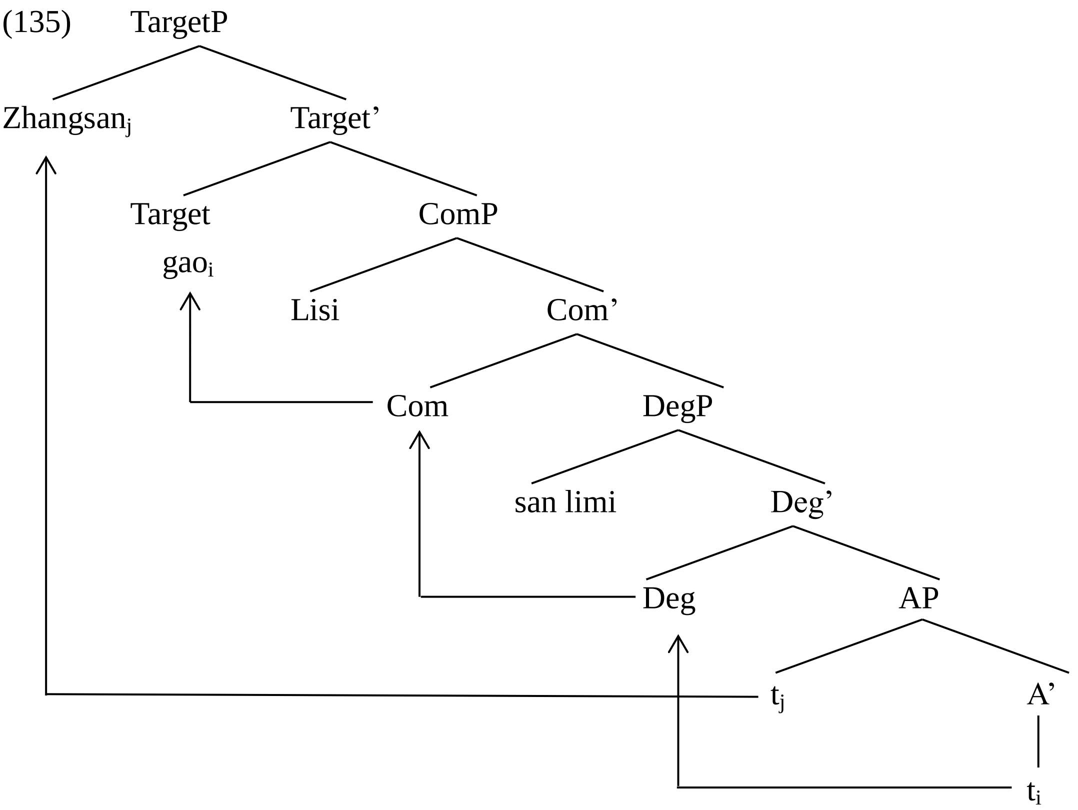
'Zhangsan is three centimeters taller than Lisi.' (Xiong 2007)

(134) a. 張三**高**李四三釐米

b. [$_{\text{TargetP}}$[ ][$_{\text{Target'}}$[$_{\text{Target}}$][$_{\text{ComP}}$[李四][$_{\text{Com'}}$[$_{\text{Com}}$][$_{\text{DegP}}$[三釐米] [$_{\text{Deg}}$] [$_{\text{AP}}$[張三高]]]]]]]

[$_{\text{TargetP}}$[張三][$_{\text{Target'}}$[$_{\text{Target}}$ 高][$_{\text{ComP}}$[李四][$_{\text{Com'}}$[$_{\text{Com}}$ ~~高~~][$_{\text{DegP}}$[三釐米][$_{\text{Deg}}$ ~~高~~] [$_{\text{AP}}$[~~張三高~~]]]]]]] (Xiong 2007)

(135)



(Xiong 2007)

When the Target head has no overt realization and the Comparative head as well as the Degree head are also unoccupied, the adjective *gao* 'tall' can be raised to the Target head by cyclic movement. Similarly, the word *Zhangsan* is allowed to be moved to the [Spec, TargetP] position. After these operations, the sentence will be the transitive comparative defined by Grano and Kennedy (2012).

The overt realization of the Comparative head, *shi* 'is'

In the Chinese dialect, Tiantai, the Comparative head has an overt realization, *shi* 'is', as shown below. As illustrated in (136), the comparison standard is *Xiaowang* intead of *Xiaoli*. This is because the comparison standard such as *Xiaowang* precedes the comparative subject like *Xiaoli* in Tiantai. Therefore, it is *Xiaoli* that is taller than *Xiaowang* in (136). This word order is different from the other types of comparative constructions in MC.

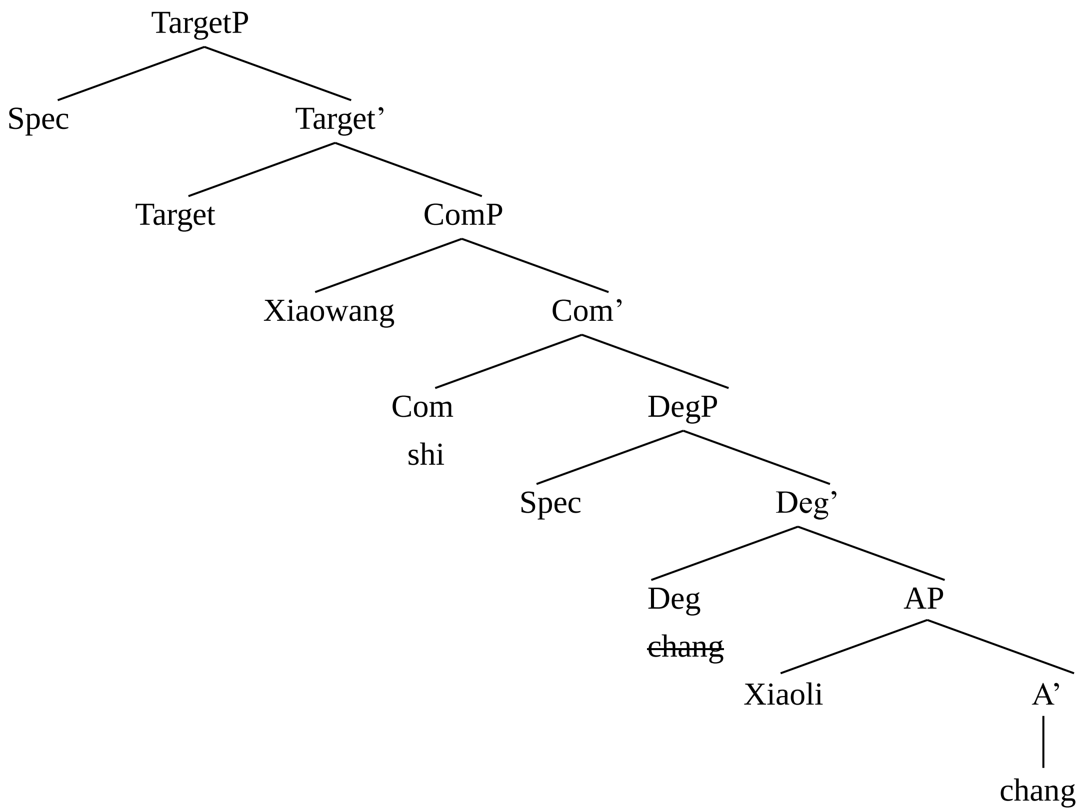
(136)	小王	是	小李	長
	Xiaowang	shi	Xiaoli	chang
	Xiaowang	is	Xiaoli	tall

'Xiaoli is taller than Xiaowang.' (Xiong 2007)

(137) a. 小王是小李長 (=小李高)

b. [$_{\text{ComP}}$[小王][$_{\text{Com'}}$[$_{\text{Com}}$ 是][$_{\text{DegP}}$[$_{\text{Deg}}$][$_{\text{AP}}$[小李 長]]]]]

[$_{\text{ComP}}$[小王][$_{\text{Com'}}$[$_{\text{Com}}$ 是][$_{\text{DegP}}$[$_{\text{Deg}}$ ~~長~~][$_{\text{AP}}$[小李 長]]]] (Xiong 2007)



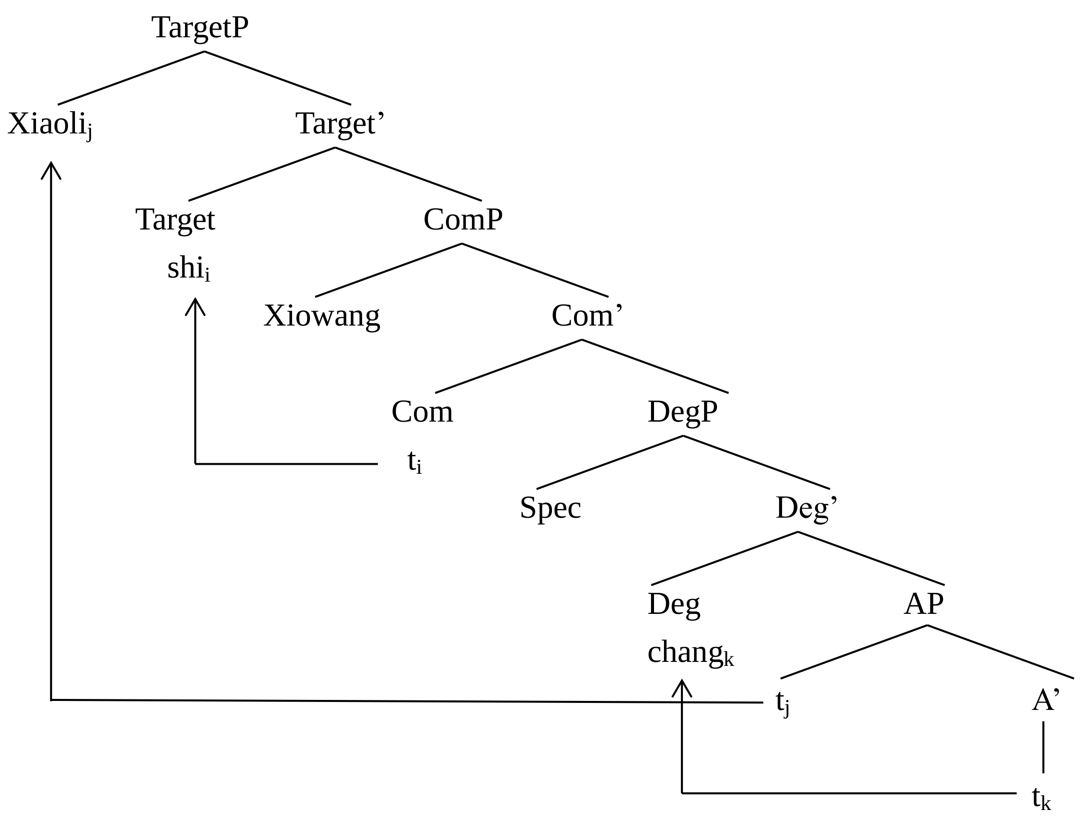
(Xiong 2007)

c. [$_{\text{TargetP}}$[ ][$_{\text{Target'}}$[$_{\text{Target}}$][$_{\text{ComP}}$[小王][$_{\text{Com'}}$[$_{\text{Com}}$][$_{\text{DegP}}$ [$_{\text{Deg}}$]

[$_{\text{AP}}$[小李 長]]]]]]]

[$_{\text{TargetP}}$[小李][$_{\text{Target'}}$[$_{\text{Target}}$ 是][$_{\text{ComP}}$[小王][$_{\text{Com'}}$[$_{\text{Com}}$ ~~是~~][$_{\text{DegP}}$[$_{\text{Deg}}$ 長]

[$_{\text{AP}}$[~~小李 長~~]]]]]]] (Xiong 2007)



(Xiong 2007)

According to Xiong (2007), the function of the Comparative Phrase is to introduce the comparison standard. The two possible analyses of the realization of *shi* 'is' in Tiantai can be found in the above two examples (137b) and (137c).

The overt realization of the Degree head, *guo* 'exceed' (The *guo*-comparative)

When the Degree head position is overtly realized as *guo* 'exceed' but the Comparative head as well as the Target head are null elements, the adjective *gao* 'tall' can be raised to the Degree head position and combines with *guo* 'exceed' to form *gao-guo* 'tall-exceed'. Then, *gao-guo* ‘tall-exceed’ can be subsequently moved to the Comparative head position and finally to the Target head position. These procedures will create the structure of the *guo*-comparative as illustrated in (138), (139) and (140).

(138) 張三 高 過 李四 三 釐米

Zhangsan gao guo Lisi san limi

Zhangsan tall exceed Lisi three centimeter

‘Zhangsan is three centimeters than taller than Lisi.’ (Xiong 2007)

(139) a. 張三**高過**李四三釐米

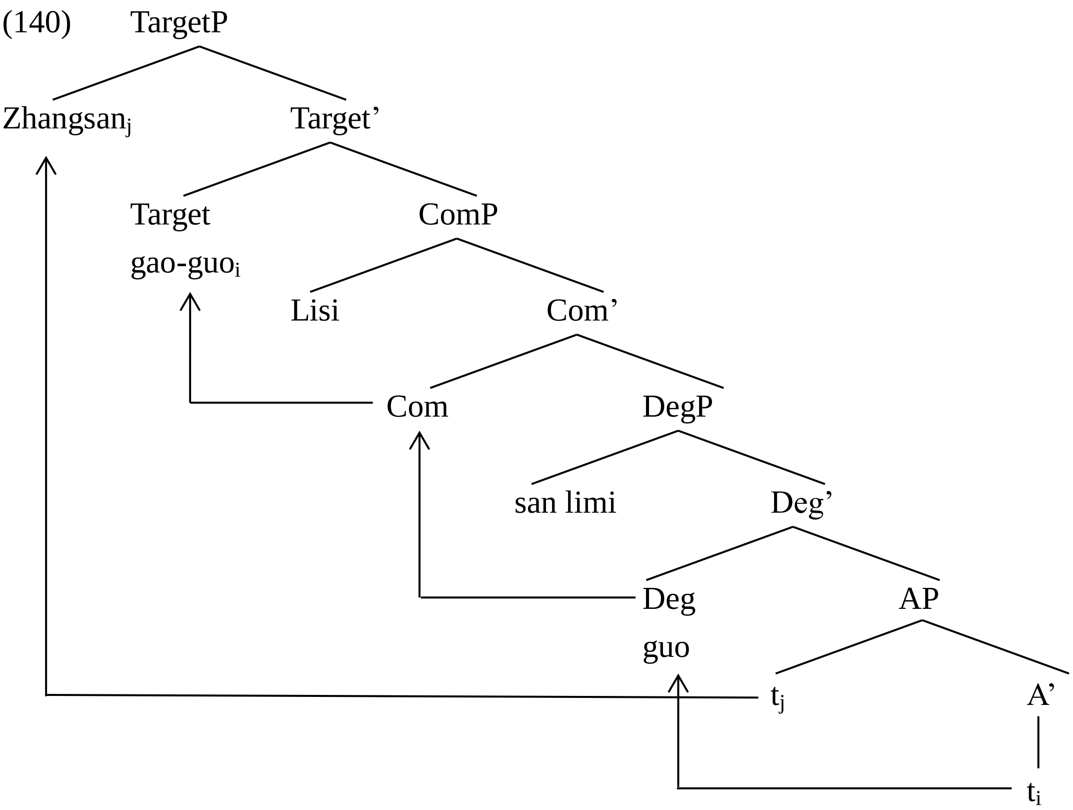
b. [$_{\text{TargetP}}$[ ][$_{\text{Target'}}$[$_{\text{Target}}$][$_{\text{ComP}}$[李四][$_{\text{Com'}}$[$_{\text{Com}}$][$_{\text{DegP}}$[三釐米]

[$_{\text{Deg}}$-過][$_{\text{AP}}$[張三高]]]]]]]

[$_{\text{TargetP}}$[張三][$_{\text{Target'}}$[$_{\text{Target}}$ 高過][$_{\text{ComP}}$[李四][$_{\text{Com'}}$[$_{\text{Com}}$ ~~高過~~][$_{\text{DegP}}$[三釐米]

[$_{\text{Deg}}$ ~~高過~~][$_{\text{AP}}$[~~張三高~~]]]]]]] (Xiong 2007)

(140)



(Xiong 2007)

According to Xiong (2007), based on the research of Li (2003), the word *guo* 'exceed' is the phonetic realization of Degree head. In plenty of Mandarin dialects, common adjectives combine with *guo* 'exceed' instead of *bi* 'than' in that the former is a bound morpheme, whereas the latter is a free morpheme. If the Degree head is phonetically realized as *guo* 'exceed', the *guo*-comparative is generated. Otherwise, the Degree head is not phonetically realized and thus creates the transitive comparative.

In Xiong (2007), he discusses the word *khah* 'more' in the Chinese dialect, Min. In Min *bi*-comparative, the Target head is phonetically realized as word *pi* 'than'. Thus, Comparative head position or Degree head position might be the place for the word *khah* 'more'.

However, as Xiong (2007) mentioned, this reasoning may be problematic if we assume the discussion in Kayne (1994). In Kayne (1994), he suggests that an adjunct should adjoin to the left of a constituent. Based on this hypothesis, the adjective head such as *kuan* 'tall' in (141), should be raised and adjoin to the left of the word *khah* 'more' in Com or Deg position to create the combination form *kuan-khah* 'tall-more', which is not a possible word order in Min. The correct word order of Min transitive comparative is displayed in (141) below.

(141)	阿榮	**較**	懸	阿狗	（三	公分）
	A-ing	**khah**	kuan	A-kao	(sann	kong-hun)
	A-ing	more	tall	A-kao	three	centimeters

'A-ing is (three centimeters) taller than A-kao.'

Thus, it is impossible for *khah* 'more' to be a functional category such as Com and Deg because considering *khah* 'more' a functional category will conflict with Kayne's (1994) hypothesis that all adjuncts must adjoin to the left of a constituent.

In contrast, the adverb *khah* 'more' should be the adjunct which adjoins to the adjective *kuan* 'tall'. The evidence of viewing *khah* 'more' as an adjunct is that *khah* 'more' is optional in the comparative construction according to Xiong (2007)[14]. Xiong (2007) provides some

[14] I don't agree with the notion that *khah* 'more' is optional because it is an adjunct. The grammaticality judgemnent in the following example (143) is different from my own judgement. I will discuss about it later shortly.

examples such as the following sentence adopted from Zou (1991) to prove that the *khah* 'more' is optional in Min. Xiong (2007) suggests that we can find the comparative construction without *khah* 'more'. Therefore, *khah* 'more' is indeed an adverb.

(142) 我 矮 伊

gua e i

I short him

'I'm shorter than him.' (Zou 1991)

However, the claim that *khah* 'more' is an adjunct conflicts with the preceding discussion that *khah* 'more' is a comparative morpheme that is obligatory in the comparative sentence. I assume that the comparative morpheme can be either overt or covert but can not be totally absent since it is required to express the comparative meaning.

Note however that the native speakers I consulted with do not agree with the grammatical judgement indicated by Xiong in (142). In TSM, the comparative morpheme should be overtly realized as *khah* 'more' in (142). The example (142) provided by Zou (1991) might be collected in Mainland China. This sentence may be grammatical in Mainland China but ungrammatical in Taiwan. Since the Southern Min data in this thesis is collected in Taiwan rather than Mainland China, I do not consider *khah* 'more' is an adjunct. Instead, I will assume *khah* 'more' is an overt comparative morpheme that is obligatory in the comparative sentence to express the comparative meaning. In other words, a different account of *khah* 'more' is needed because the data collected in my research is different from Xiong's (2007) data.

2.5.4 C. Su (2011)

C. Su (2011) suggests that the structures of the TSM exceed comparative involves the feature checking operation.

C. Su indicates that TSM exceed comparatives has three subtypes, namely, X + A + Y + differential value, X + A + *koe* + Y, and X + *khah* + A + Y. These three comparatives subtypes share the similar tree structure which is introduced as follows.

X + A + Y + differential value[15]

This comparative structure is defined as transitive comparative in Erlewine (2007) and Grano & Kennedy (2012) and the X A (Y) D comparative in C.-S. Liu (2007). The typical example of this structure is presented below.

---

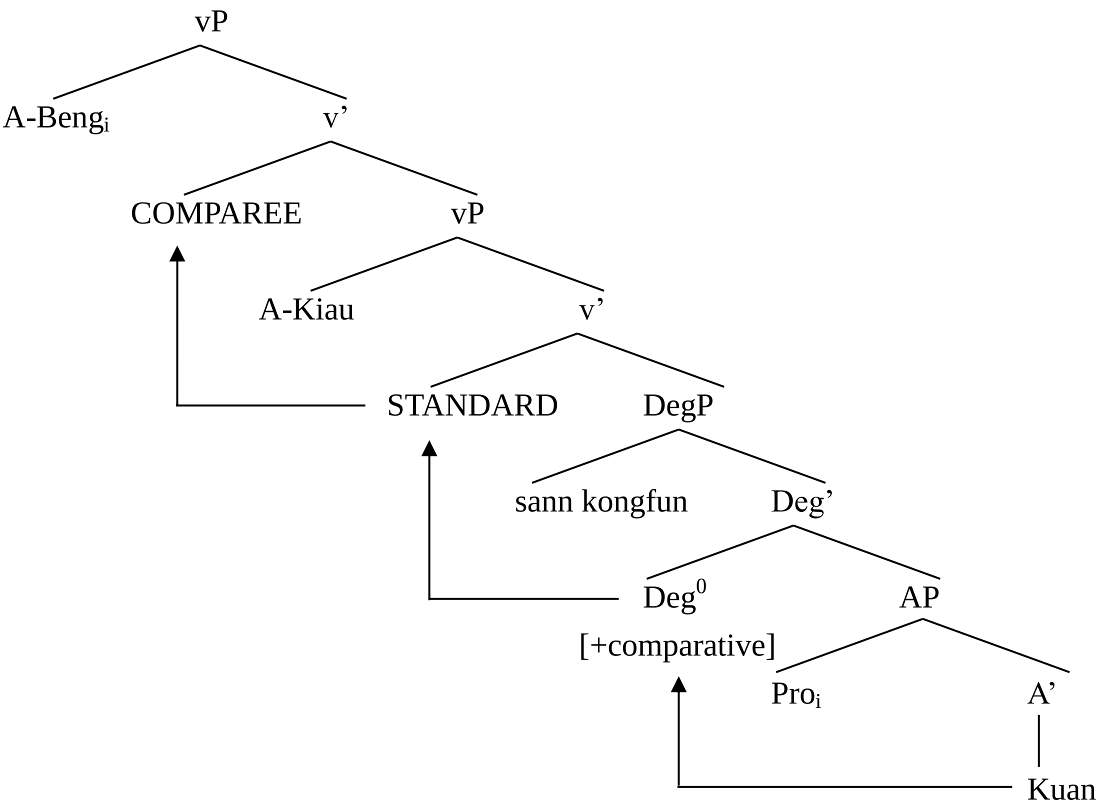
15 In C, Su (2011), the term differential value covers the differential measure phrase such as *sann kongfun* 'three centimeters'and the degree complement like *tsin tsue* 'very much'.

(143) 阿明 懸 阿嬌 **三** **公分**

A-Beng kuan A-Kiau **sann** **kongfun**

A-Beng tall A-Kiau three centimeters

‘A-Beng is three centimeters taller than A-Kiau.’ (C. Su 2011)



As illustrated in (143), the first exceed comparative subtype, ‘X + A + Y + differential value’ is comprised of the structure *v*P1 > *v*P2 > DegP > AP.

First, the *v*P1 is headed by the light verb COMPAREE. Second, the head of *v*P2 is occupied with the STANDARD. Third, Deg^0 has the uninterpretable [+comparative] feature. Forth, the AP is projected by the adjective *kuan* ‘tall’ which is cyclically moved to the *v*P1 position.

Note that the subject, *A-Beng*, the comparison standard, *A-Kiau*, the differential measure phrase *sann kongfun* ‘three centimeters’, and the null element *Pro* are respectively placed in the [Spec, vP1], [Spec, vP2], [Spec, DegP], and [Spec, AP] positions.

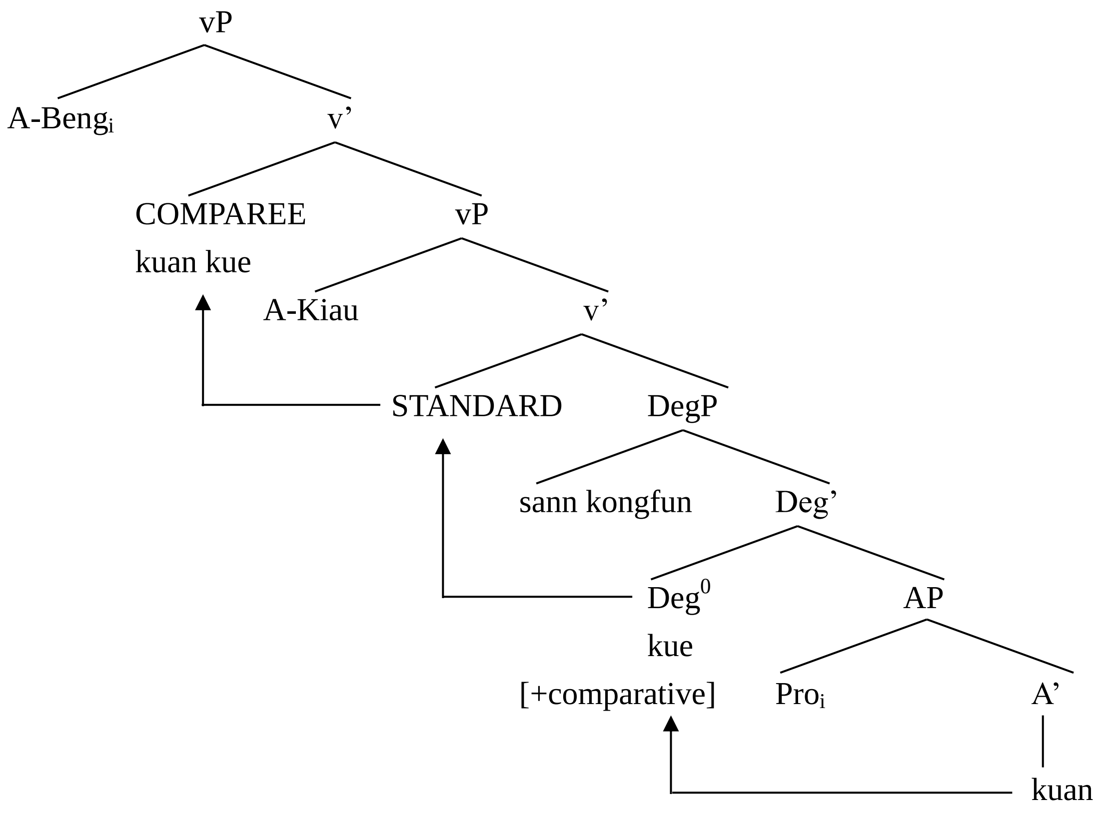
Crucially, the differential measure phrase *sann kongfun* ‘three centimeters’ merges to the [Spec, DegP] position and can thus check off the [+comparative] feature on the Deg^0 position to restrict or saturate the degree argument of the adjective. Similarly, the degree complement such as *tsin tsue* ‘very much’ can also restrict or saturate the degree argument of the adjective. Therefore, the degree complement can also occupy the [Spec, DegP] position.

X + A + *koe* + Y

The X + A + *koe* +Y construction includes the degree adverb *kue* ‘exceed’ which has similar function to the Chinese *guo* ‘exceed’, which is defined as the *guo*-comparative in the thesis.

(144)	阿明	懸	**過**	阿嬌	三	公分
	A-Beng	kuan	**kue**	A-Kiau	sann	kongfun
	A-Beng	tall	exceed	A-Kiau	three	centimeters

‘A-Beng is three centimeters taller than A-Kiau.’ (C. Su 2011)



As displayed in (144), the structure *v*P1 > *v*P2 > DegP > AP can also be found in the X + A + *koe* +Y construction. The only difference is that the degree adverb *kue* 'exceed' is lexicalized by the predicate *kuan* 'tall' and subsequently raised to the STANDARD and then to the light verb COMPAREE.

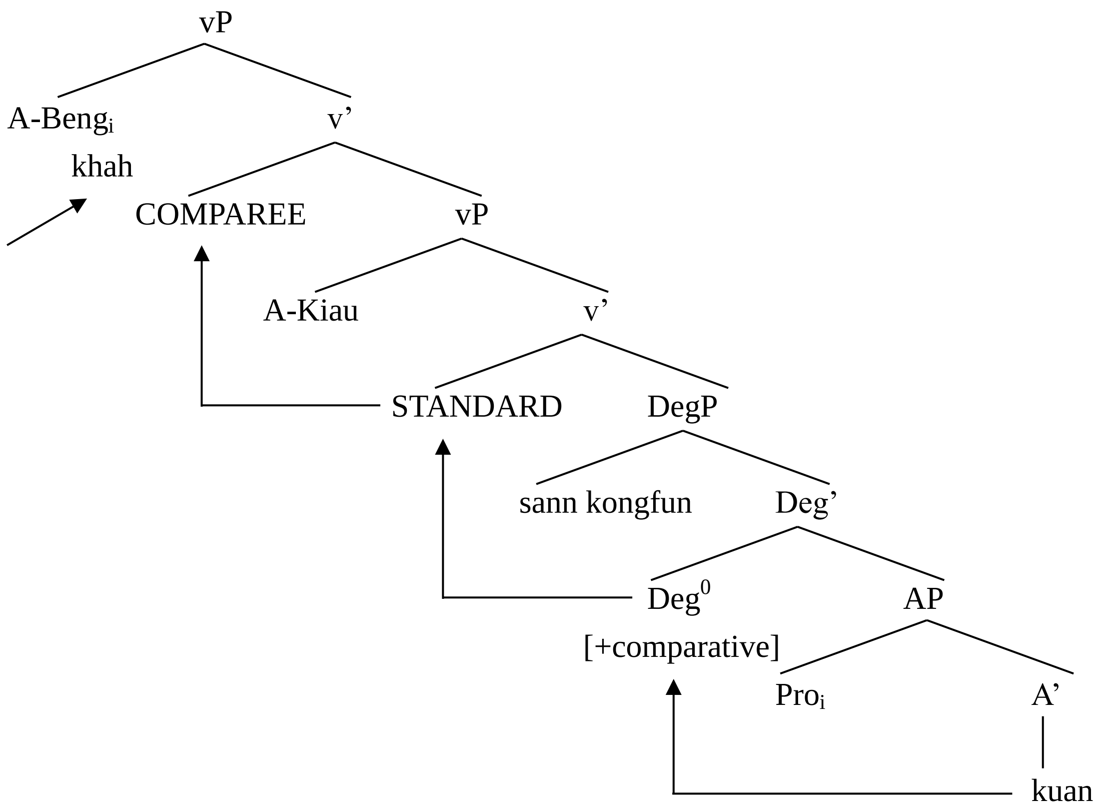
The [+comparative] feature can be checked off by the degree adverb *kue* 'exceed' because *kue* 'exceed' can restrict or saturate the degree argument of the adjective. This phenomenon is similar to the Mandarin degree adverb *guo* 'exceed', which can also restrict or saturate the degree argument of the adjective according to C.-S. Liu (2007).

X + *khah* + A + Y

The X + *khah* + A + Y construction contains the degree adverb *khah* ‘more’ which is put before the predicate *kuan* ‘tall’. This construction is labeled as the *khah*-comparative without *bi* ‘than’ in Chang (2012). (Note that this comparative is named as the transitive comparative in this thesis.) In my analysis, *khah* ‘more’ is only an overt comparative morpheme.

(145)	阿明	**較**	懸	阿嬌	三	公分
	A-Beng	**khah**	kuan	A-Kiau	sann	kongfun
	A-Beng	more	tall	A-Kiau	three	centimeters

‘A-Beng is three centimeters taller than A-Kiau.’ (C. Su 2011)



According to C. Su, the degree adverb *khah* 'more' can not be laid in the Deg^0 position since the same position can not be placed with two constituents. To make it explicit, Deg^0 position can not be occupied by both *kue* 'exceed' and *khah* 'more'.Also, *kue* 'exceed' is preceded by the adjective whereas *khah* 'more' is followed by the adjective. If *kue* 'exceed' is placed in the Degree head position, the correct word order *kuan-kue* 'tall-exceed' will be created as mentioned earlier. On the contrary, if *khah* 'more' is put in the Deg^0 position, *khah* 'more' will be lexicalized by the adjective *kuan* 'tall' and generate the incorrect word order *kuan-khah* 'tall-more'.

In order to solve this problem, C. Su suggests that *khah* 'more' should adjoin to the position higher than the head of *v*P1, the light verb COMPAREE, to restrict and saturate the degree argument of the adjective. Note that C. Su doesn't specify the exact adjunction position for *khah* 'more' in the text and the tree diagram. What's crucial for C. Su is that *khah* 'more' is an adjunct. According to C. Su, we can infer from the following examples that *khah* 'more' should be considered an adverb.

(146)	我		勇	你
	gua		iong	li
	I		strong	you

'I am stronger than you.' (Chen 1982)

(147)	伊	**較**	懸	我
	i	**khah**	guan	gua
	s/he	more	tall	I

'He is taller than I.' (Chen 1982)

The above three subcategories of the exceed comparatives have some similar parts. First of all, the word orders of these three comparatives are the same. Second, they have identical semantics: X exceeds Y by degree. Next, the referential NP must precede the non-referential differential measure phrase. Lastly, the degree adverb *kue* 'exceed' is compatible with these three comparatives.

Based on those facts mentioned above, C. Su suggests that these three exceed comparatives subtypes have the similar structure, *v*P1 > *v*P2 > DegP > AP. In addition, C. Su follows Liu's (2007, 2010b) analysis and claims that the differential measure phrase, degree complement, and the degree adverb *kue* 'exceed', and *khah* 'more' are obligatory because they saturate or restrict the degree argument of the adjectives. Note that these elements can all co-occur in one comparative sentence. Moreover, the [+comparative] feature can be checked off in the head of the DegP.

Both Xiong (2007) and C. Su (2011) propose that *khah* 'more' is an adverb and adjunct which is optional in the sentence. However, this suggestion is contrary to the preceding discussion that *khah* 'more', as a comparative morpheme, is obligatory in the sentence because it needs to express the comparative meaning. Crucially, both of them claim that *khah* 'than' is an adjunct based on some comparative sentences like (142), (146) and (147). Those sentences are respectively provided by Zou (1991) and Chen (1982). Their Southern Min data might be collected in Mainland China. The sentences like (142) and (146) might be grammatical in Mainland China but clearly ungrammatical in Taiwan. Since the data in this paper is based on Taiwanese Sothern Min, I will assume *khah* 'more' is an overt comparative morpheme that is obligatory in the comparative sentence to express the comparative meaning. In other words, a different account of *khah* 'more' is needed because the data collected in this thesis is different from theirs.

Chapter 3 Comparative Constructions in TSM

As presented in the preceding sections, the comparative structures in Mandarin can be classified as four subcategories – The ‘*bi*-comparative’, the ‘transitive comparative’, the ‘intransitive comparative’, and the ‘*guo*-comparatives’. The TSM sentences can also be found in the four comparative structures. Hence, I’ll introduce these four constructions and compare the MC and TSM examples from sections 3.1 to 3.4.

3.1 The *bi*-comparative (X *bi* Y A D comparative)

The *bi*-comparative involves the preposition *bi* ‘than’ which can introduce the comparison standard such as *Lisi* in (1) according to C.-S. Liu (2011).

Overt comparative morpheme

(1)	張三	比	李四	**更**	高	(*三	公分)
	Zhangsan	bi	Lisi	**geng**	gao	(*san	gongfen)
	Zhangsan	than	Lisi	even-more	tall	three	centimeter

‘Zhangsan is (three centimeters) even taller than Lisi.’ (C.-S.Liu 2011)

(2)	阿榮	比	阿狗	**較**	懸	(三	公分)
	A-ing	pi	A-kao	**khah**	kuan	(sann	kongfun)
	A-ing	than	A-kao	more	tall	three	centimeter

‘A-ing is (three centimeters) taller than A-kao.’

Covert comparative morpheme

(3)	張三	比	李四		高	(三	公分)
	Zhangsan	bi	Lisi		gao	(san	gongfen)
	Zhangsan	than	Lisi		tall	three	centimeter

‘Zhangsan is (three centimeters) taller than Lisi.’ (C.-S.Liu 2011)

(4)	阿榮	比	阿狗		懸	(三	公分)
	A-ing	pi	A-kao		kuan	(sann	kongfun)
	A-ing	than	A-kao		tall	three	centimeter

‘A-ing is (three centimeters) taller than A-kao.’

As can be seen in (1), the degree adverb *geng* ‘even-more’ is considered the overt comparative morpheme according to C.-S. Liu (2011)[1]. C.-S. Liu suggests that it is the degree adverb *geng* ‘even more’ instead of *bi* ‘than’ that expresses the comparative semantics in the

[1] According to Tsai (2013), *geng* ‘even-more’ in the *bi*-comparative can be substituted by its variants such as *geng-shi* ‘even-more’, *geng-wei* ‘even-more’, *geng-jia* ‘even-more’, *geng-yao* ‘even-more’, *geng-shi-yao* ‘even-more’, and *geng-hai-yao* ‘even-more’. Tsai mentions that those variants are composed of *geng* ‘even-more’ and other constituents. Based on Tsai’s analysis, those variants can be regarded as the combination of the comparative morpheme *geng* ‘even-more’ and other elements. Therefore, I do not discuss those variants of *geng* ‘even-more’. After all, Tsai found that the the usage of *geng* ‘even-more’ is more frequent than its variants.

bi-comparative (1). Similarly, I suggest that the TSM *khah* ‘more’ in (2) is also an overt comparative morpheme that displays the comparative meaning.

As for the covert comparative morphemes, C.-S. Liu (2011) mentions that a covert comparative morpheme in (3) precedes the predicate *gao* ‘tall’ in Mandarin Chinese *bi*-comparative and provides the comparative semantics. Likewise, I propose that a covert comparative morpheme in (4) is followed by the adjective *kuan* ‘tall’ in the TSM *bi*-comparative and gives the comparative meaning. In other words, I suggest that the comparative morphemes in MC and TSM can be either overt or covert.

In addition, the differential measure phrases such as *san gongfen* ‘three centimeters’ in MC and *sann konghun* ‘three centimeters’ in TSM are optional in the *bi*-comparative. Note that the degree adverb *geng* ‘even-more’ can not be present when the differential measure phrase is present in the *bi*-comparative as illustrated in (1). In contrast, the degree adverb *khah* ‘more’ in (2) has no such restriction.

3.2 The transitive comparative (X A (Y) D comparative / bare comparative)

The transitive comparative contains a comparison standard introducing adjective such as *gao* ‘tall’ in (5), which functions as a verbal element and can select an degree argument like *Lisi* in (5) as its complement.

(5)

張三	高	李四	*(三	公分)	
Zhangsan	gao	Lisi	***(**san	gongfen**)**	
Zhangsan	tall	Lisi	three	centimeters	

‘Zhangsan is three centimeters taller than Lisi.’ (C.-S. Liu 2007)

(6)

阿榮	懸	阿狗	*(三	公分)[2]
A-ing	kuan	A-kao	***(**sann	konghun**)**
A-ing	tall	A-kao	three	centimeters

‘A-ing is three centimeters taller than A-kao.’

(7)

*張三	**更**	高	李四	(三	公分)
*Zhangsan	**geng**	gao	Lisi	(san	kongfen)
Zhangsan	even-more	tall	Lisi	three	centimeters

‘Zhangsan is (three centimeters) even taller than Lisi.’

---

[2] Replacing *kuan* ‘tall’ in (6) with *ue* ‘short’ in (i) below will make the sentence ungrammatical. This phenomenon may be due to the lexical differences. In other words, some adjectives such as *ue* ‘short’ in (i) requires the comparative morpheme to be overt, whereas others like *kuan* ‘tall’ in (6) has no such requirement. Therefore, whether the comparative morpheme is overt or not may be influenced by the lexical factors.

(i)

*阿榮	**矮**	阿狗	三	公分
*A-ing	**ue**	A-kao	sann	kongfun
A-ing	short	A-kao	three	centimeter

‘A-ing is three centimeters shorters than A-kao.’

(8) 阿榮	**較**	懸	阿狗	(三	公分)[3]
A-ing	**khah**	kuan	A-kao	(sann	konghun)
A-ing	more	tall	A-kao	three	centimeters

‘A-ing is (three centimeters) taller than A-kao.’

As explicitly demonstrated in (5) and (6), the differential measure phrase is obligatory in the transitive comparative with a covert comparative morpheme in both MC and TSM. On the contrary, the overt comparative morpheme *geng* ‘even-more’ in (7) must be absent in the Mandarin Chinese transitive comparative. However, the overt comparative morpheme *khah* ‘more’ in (8) is compatible in the TSM transitive comparative.

According to Hsu & Ting (2007), the adjective *gao* ‘tall’ is raised from the adjective head to the verb head and combines with the light verb COMPARE to gain a verbal status. The tree structure provided by Hsu & Ting (2007) is presented below.

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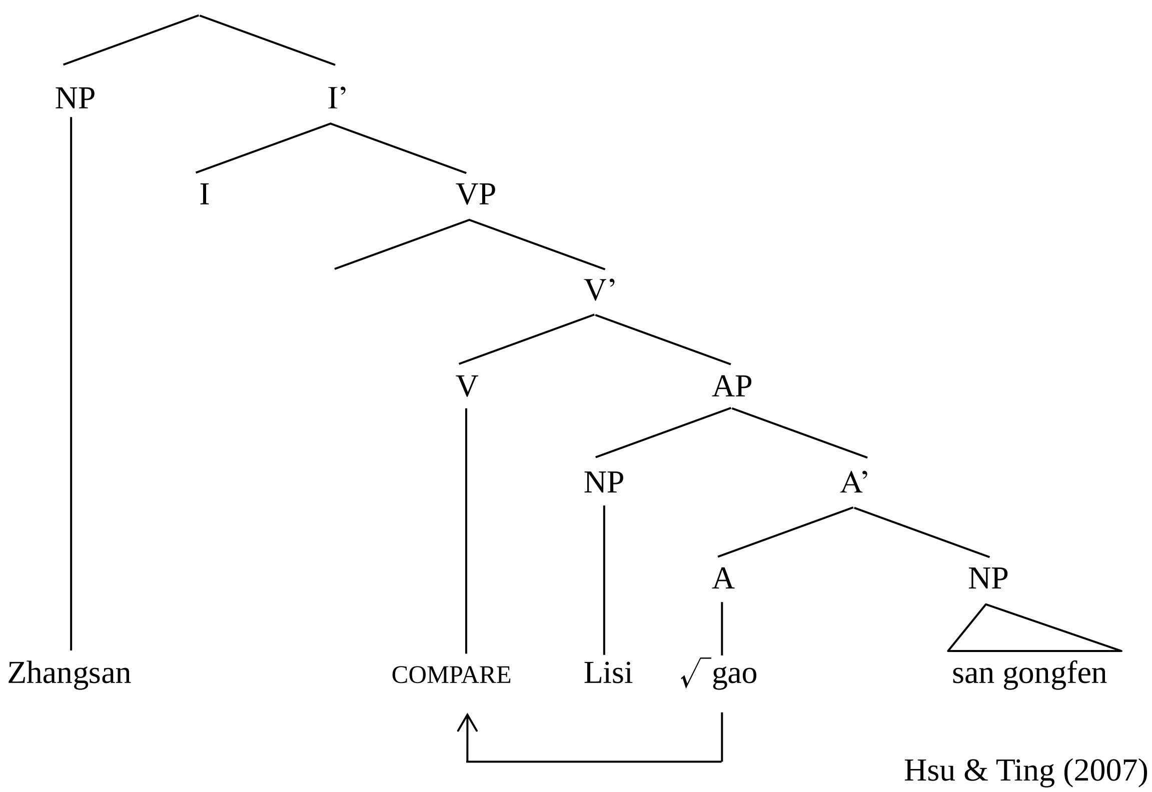
[3] The comparative morpheme may be covert (not phonetically realized as *khah* ‘more’) in Southern Min of Mainland China. According to Zuo’s data below, the covert realization of the comparative morpheme is possible. Note that this sentence is ungrammatical in Taiwanese Southern Min.

(i)	我	矮	伊
	gua	ue	i
	I	short	him

‘I’m shorter than him.’ Zuo (1991)

Example (8) is defined as ‘A + *khah* + P + B’ in Li and Lien (1994). According to Li and Lien (1994), the comparative predicate in the structure ‘A + *khah* + P + B’ is usually a mono-syllabic adjective such as *tua* ‘old’, *kui* ‘expensive’, and *tsham* ‘unfortuate’.

(9)



Hsu & Ting (2007)

As mentioned by Hsu & Ting, the degree adverb *geng* ‘even-more’ can not modify the agglutinate gradable predicate such as the combination of *gao* ‘tall’ and the light verb COMPARE. This phenomenon is similar to the fact that *geng* ‘even-more’ can not modify the light verb like *zuo* ‘to do’ and *jinxing* ‘to carry out’.

However, despite the fact that both *geng* ‘even-more’ in MC and *khah* ‘more’ in TSM are degree adverbs and overt comparative morphemes, only *khah* ‘more’ is compatible with *kuan* ‘tall’. Hence, the analysis of Hsu & Ting might need to be imporved.

3.3 The intransitive comparative

In the intransitive comparative, the comparison standard is not present. In this structure, the comparative morpheme is either overt or covert in MC, whereas the comparative morpheme in TSM must be overt.

(10)	張三	高
	Zhangsan	gao
	Zhangsan	tall

‘Zhangsan is taller (than someone known from the context).’ (Grano 2012)

(11)	張三	(**更**)	高
	Zhangsan	(**geng**)	gao
	Zhangsan	even-more	tall

‘Zhangsan is even taller (than someone known from the context).’

(12)	*阿榮	懸
	*A-ing	kuan
	A-ing	tall

‘Lit: A-ing is taller (than someone known from the context).’

(13) 阿榮	*(較)	懸
A-ing	*(**khah**)	kuan
A-ing	more	tall

‘A-ing is taller (than someone known from the context).’

As illustrated in (10), Grano (2012) suggests the comparative meaning can be provided by a covert comparative operator in the intransitive comparative in MC. In contrast, the comparative morpheme must be overtly realized as *khah* ‘more’ in TSM intransitive comparative to show the comparative semantics as revealed in (13).

When the differential measure phrase is added into the intransitive comparative, the overt comparative morpheme *geng* ‘even-more’ can not be present in the sentence as indicated in (14). On the other hand, the TSM comparative morpheme can be overtly realized as *khah* ‘more’ as displayed in (15).

(14) 張三	(***更**)	高	**三**	**公分**
Zhangsan	(***geng**)	gao	**san**	**gongfen**
Zhangsan	even-more	tall	three	centimeters

‘Zhangsan is three centimeters taller (than someone known from the context).’

(15)	#張三		高	**三**	**公分**[4]
	#Zhangsan		gao	**san**	**gongfen**
	Zhangsan		tall	three	centimeters

‘Zhangsan is three centimeters tall.’

(16)	阿榮	**較**	懸	**三**	**公分**
	A-ing	**khah**	kuan	**sann**	**konghun**
	A-ing	more	tall	three	centimeters

‘A-ing is three centimeters taller (than someone known from the context).’

(17)	#阿榮		懸	**三**	**公分**
	#A-ing		kuan	**sann**	**konghun**
	A-ing		tall	three	centimeters

‘A-ing is three centimeters tall.’

[4] As mentioned by C.-S. Liu (2007), the intransitive comparative with the differential measure phrase such as (15) can have the comparative meaning ‘Zhangsan is three centimeters taller (than someone known from the context)’. The literal meaning of (15) is ‘Zhangsan is three centimeters tall’. This is grammatical but infelicitous because ordinary people can’t be so short. We can make the sentence felicitious by changing the sentence as *Zhangsan gao yi bai ba shi gongfen* ‘Zhangsan is 180 centimeters tall.’ The situation is the same in the literal meaning of the TSM example (17). Note that it is hard to interpret (17) as A-ing is three centimeters taller (than someone known from the context). This comparative meaning can only be found when the overt comparative morpheme *khah* ‘more’ is present.

3.4 The *guo*-comparative (X A-*guo1* Y (D) comparative)

C.-S. Liu (2007) proposes that the *guo*-comparative becomes the transitive comparative by grammaticalization as the following sentences (18) and (19) show. In (19), C.-S. Liu suggests that a covert comparative morpheme is placed after the predicate *gao* 'tall'. This covert comparative morpheme is a semantically bleached weak version of the overt comparative morpheme *guo* 'exceed'. These overt and covert comparative morphemes are respectively written as -*guo1* and -*guo2* in C.-S. Liu (2007). Similar patterns can also be found in TSM as well as examples (20) and (21) show.

(18)	張三	高**過**	李四	(**三**	**公分**)
	Zhangsan	gao-**guo1**	Lisi	(**san**	**kongfen**)
	Zhangsan	tall-**guo1**	Lisi	three	centimeters

'Zhangsan is three centimeters taller than Lisi.' (C.-S. Liu 2007)

(19)	張三	高	李四	*(**三**	**公分**)
	Zhangsan	gao-**guo2**	Lisi	*(**san**	**kongfen**)
	Zhangsan	tall-**guo2**	Lisi	three	centimeters

'Zhangsan is three centimeters taller than Lisi.' (C.-S. Liu 2007)

(20)	阿榮	懸**過**	阿狗	(**三**	**公分**)
	A-ing	kuan-**kue**	A-kao	(**sann**	**konghun**)
	A-ing	tall-**kue**	A-kao	three	centimeters

‘A-ing is three centimeters taller than A-kao.’

(21)	阿榮	懸	阿狗	*(**三公分**)	
	A-ing	kuan	A-kao	*(**sann**	**konghun**)
	A-ing	tall	A-kao	three	centimeters

‘A-ing is three centimeters taller than A-kao.’

However, Grano and Kennedy (2012) suggest that the notions of ‘weak version’ and ‘bleached’ are not well-defined and not formalized. Thus we assume that the covert comparative morpheme may not be derived from the overt version of comparative morpheme. Nevertheless, we suggest that the covert comparative morphemes in both MC and TSM indeed exist because they are required to express the comparative meaning.

Note that the degree adverb *geng* ‘even-more’ is incompatible with *guo* ‘exceed’ whereas *khah* ‘more’ can be placed in the *guo*-comparative.

(22)	*張三	**更**	高**過**	李四	(**三**	**公分**)
	*Zhangsan	**geng**	gao-**guo**	Lisi	**(san**	**kongfen)**
	Zhangsan	even-more	tall-**guo**	Lisi	three	centimeters

‘Zhangsan is (three centimeters) even taller than Lisi.’

(23)	阿榮	**較**	懸**過**	阿狗	*(**三**	**公分**)
	A-ing	**khah**	kuan-**kue**	A-kao	***(sann**	**konghun)**
	A-ing	more	tall-**kue**	A-kao	three	centimeters

‘A-ing is three centimeters taller than A-kao.’

According to Liu (2007), the agglutinated form such as gao-*guo1* ‘tall-*guo1*’ in the *guo*-comparative and gao-*guo2* ‘tall-*guo2*’ in the transitive comparative is considered a variant of the dynamic verb *exceed*. The degree adverb such as *geng* ‘more’ can not modify the dynamic forms. Thus, the degree adverb *geng* ‘even-more’ can not modify the dynamic agglutinated form gao-*guo1* ‘tall-*guo1*’ in the *guo*-comparative and gao-*guo2* ‘tall-*guo2*’ in the transitive comparative. However, TSM *khah* ‘more’, the constituent defined as a degree adverb, can modify the agglutinated form *kuan-kue* ‘tall-exceed’ in the TSM *guo*-comparative as (23) demonstrates. Therefore, Liu’s analysis is problematic.

From the above observations, it is found that the distribution of the overt comparative morpheme *geng* ‘even-more’ in MC is narrower than that of the overt comparative morpheme *khah* ‘more’ in TSM. For instance, *geng* ‘even-more’ is incompatible with the *bi*-comparative with the differential measure phrase in (24), the repetition of (1), and the intransitive comparative with the differential measure phrase in (14) which is repeated as (25) below. Besides, *geng* ‘even-more’ can not be used either in the transitive comparative or the *guo*-comparative. This fact can be seen in (26) and (27) below (The same examples can also be found in (7) and (22)).

However, TSM *khah* ‘more’ has no such restriction. In other words, *khah* ‘more’ is compatible in the four types of the comparative constructions (the *bi*-comparative, transitive comparative, intransitive comparative and *guo*-comparative.) This phenomenon suggests that some differences between the two comparative morphemes *geng* ‘even-more’ and *khah* ‘more’ should be found since they are used in different parts of the comparative constructions. More discussion about the differences between *geng* ‘even-more’ in MC and *khah* ‘more’ in TSM can be found in the next chapter.

The *bi*-comparative

(24)	張三	比	李四	**(*更）**	高	三	公分
	Zhangsan	bi	Lisi	**(*geng)**	gao	san	gongfen
	Zhangsan	than	Lisi	even-more	tall	three	centimeter

‘Zhangsan is (three centimeters) even taller than Lisi.’ (C.-S.Liu 2011)

The intransitive comparative

(25)	張三	(*更)	高	三	公分
	Zhangsan	(***geng**)	gao	san	gongfen
	Zhangsan	even-more	tall	three	centimeters

‘Zhangsan is three centimeters taller (than someone known from the context).’

The transitive comparative

(26)	*張三	更	高	李四	(三	公分)
	*Zhangsan	**geng**	gao	Lisi	(san	kongfen)
	Zhangsan	even-more	tall	Lisi	three	centimeters

‘Zhangsan is (three centimeters) even taller than Lisi.’

The *guo*-comparative

(27)	*張三	更	高過	李四	(三	公分)
	*Zhangsan	**geng**	gao-guo	Lisi	(san	kongfen)
	Zhangsan	even-more	tall-guo	Lisi	three	centimeters

‘Zhangsan is (three centimeters) even taller than Lisi.’

Chapter 4 Analysis

The comparative morphemes in both MC and TSM can be either overt or covert.[1] The covert comparative morpheme expresses the comparative meaning in the comparative structure. The the overt counterpart such as *khah* 'more' in TSM also conveys the comparative semantics, whereas those in MC may have other functions and meanings.

In this section, I will briefly introduce the analysis about the overt comparative morpheme *khah* 'more' in TSM. Then, I'll compare the overt comparative morphemes in TSM and those in MC to see their similarities and differences.

4.1 The TSM overt comparative morpheme *khah* 'more'

Some may argue that the comparative semantics is indeed provided by the context of comparative structure. That is, the word *khah* 'more' is only an intensifier. However, if *khah* 'more' were merely an intensifier, then replacing it with other common intensifiers would be acceptable. Nevertheless, as the following instances displayed, one can't substitute *khah* 'more' with other intensifiers *tsin* 'very', *tsiann* 'very', and *tsiok* 'very' or the sentence will be ungrammatical.

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[1] We will not focus on the reason why the comparative morpheme in TSM is overt in some distribution, but covert in other environment. The possible reason is that the influence of MC will make the comparative morpheme in TSM become covert.

(1) 阿榮	比	阿狗	**較**	懸
A-ing	pi	A-kao	**khah**	kuan
A-ing	than	A-kao	more	tall

‘A-ing is taller than A-kao.’

(2) *阿榮	比	阿狗	**真/正/足**	懸
*A-ing	pi	A-kao	**tsin/tsiann/tsiok**	kuan
A-ing	than	A-kao	very/very/very	tall

‘Lit: A-ing is taller than A-kao.’

Furthermore, the intensifier is an adjunct and is thus optional. However, *khah* ‘more’ can’t be deleted in the intransitive comparative construction as (3) displayed. Therefore, *khah* ‘more’ can’t be an intensifier

(3) 阿榮	*(**較**)	懸
A-ing	*(**khah**)	kuan
A-ing	more	tall

‘A-ing is taller (than someone known from the context).’

This analysis is contrary to Xiong (2007)’s viewpoint that *khah* ‘more’ is an adjunct.

Xiong suggests that *khah* 'more' in the following transitive comparative in TSM is optional because it is an adjunct and an adverb.

(4) 我 勇 汝

gua yong ru

I brave you

'I'm braver than you.' Chen (1982)

(5) 我 矮 伊

gua ue i

I short him

'I'm shorter than him' Zuo (1991)

However, these two comparative sentences are unacceptable in Taiwanese Southern Min. The sentences provided by Chen (1982) and Zou (1991) might be collected in Mainland China instead of Taiwan. Therefore, the above comparative sentences are grammatical in Mainland China but ungrammatical in Taiwan.

Since I focus on the data in Taiwanese Southern Min, I do not accept the idea of viewing the comparative morpheme *khah* 'more' as an optional constituent. In contrast, I suggest that the covert comparative morpheme must be present in the comparative constructions when its overt counterpart *khah* ‘more’ can’t be seen. This is because both the overt and covert comparative morphemes are obligatory in the comparatives to express the comparative meaning.

In the previous discussion, I mentioned that TSM comparative morpheme can be either overt or covert. However, it is found that the comparative morpheme must be overt but not covert in the comparative involving the word *phing* ‘than’ such as (7) below. (I’ll name sentences like this as the *phing*-comparative later in this article.)

As shown in (6), the comparative morpheme can be either overt or covert in the TSM *bi*-comparative. On the contrary, the comparative morpheme must be overt in the TSM *phing*-comparative as indicated by (7) suggests.

The *bi*-comparative

(6)	阿榮	**比**	阿狗	**(較)**	懸	(三	公分)
	A-ing	**pi**	A-kao	**(khah)**	kuan	(sann	kongfun)
	A-ing	than	A-kao	more	tall	three	centimeters

‘A-ing is (three centimeters) taller than A-kao’

The *phing*-comparative

(7)	阿榮	**並**	阿狗	*(**較**)	懸	(三	公分)
	A-ing	**phing**	A-kao	***(khah)**	kuan	(sann	kongfun)
	A-ing	than	A-kao	more	tall	three	centimeter

‘A-ing is (three centimeters) taller than A-kao’

According to Li and Lien (1994), the sentence pattern ‘A + 并 + B + 較 + P’ in (7), mainly used by the older generation aged from 65 to 74, is one specific usage in TSM. (The *phing*-comparative is named ‘A + 并 + B + 較 + P’ in Li and Lien (1994)) In contrast, the usage and distribution of *pi* ‘than’ is more similar to Mandarin *bi* ‘than’. As (3) suggests, senior citizens tend to use the overt comparative morpheme *khah* ‘more’. Li and Lien further add that *khah* ‘more’ is often dropped among the younger generation aged from 15 to 34[2], especially when the predicate is monosyllabic. Li and Lien (1994) further suggest that the reason of the omission of *khah* ‘more’ may be the influence of the comparatives in MC. Based on this fact, one can infer that the covert comparative morpheme may be derived in the later stage of language changing process.

In addition, the fact that the *phing*-comparative and the *bi*-comparative indeed involve different structures is supported by the following sentences.

[2] The younger generation aged from 15 to 34 in Li and Lien (1994) is indeed two groups of the subjects in their study. In Li and Lien (1994), 150 subjects are involved in their survey and they are divided into 6 goups from A to F. Each group contains 25 subjects. Among these groups, group A and B respectively refer to the subjects aged from 15 to 24 and the subjects aged from 25 to 34.

(8)	和	阿狗	**比**起來	阿榮	**較**	懸
	ka	A-kao	**pi**-khi-lai,	A-ing	**khah**	kuan
	with	A-kao	pi-khi-lai	A-ing	more	tall

‘A-ing is taller when he is compared with A-kao.’

(9)	*和	阿狗	**並**起來	阿榮	**較**	懸
	ka	A-kao	**phing**-khi-lai,	A-ing	**khah**	kuan
	with	A-kao	bi-khi-lai	A-ing	more	tall

‘A-ing is taller when he is compared with A-kao.’

As revealed in (8), *pi* ‘than’ can be integrated into *pi-khi-lai*, which is similar to *bi-qi-lai* in MC. Thus, the usage of *pi* ‘than’ is not specific to TSM. In contrast, the *phing* ‘than’ is incompatible with *khi-lai* as shown in (9) but only occurs in the structure like (7), indicating that *phing* ‘than’ is only restricted to TSM.

4.2 The comparison between the Chinese and TSM overt comparative morpheme

In this section, I’ll discuss the comparison between the MC overt comparative morpheme and TSM counterpart. The overt comparative morpheme *geng* ‘even-more’ in MC, according to its meaning, has a stronger voice than *khah* ‘more’ in TSM and has similar status to *koh-khah* 'even-more' which is composed of the intensifier *koh* 'again' with *khah* 'more'. In other words, the meaning of *geng* 'even-more' is similar to that of *koh-khah* 'even-more' so *geng* 'even-more' and *koh-khah* 'even-more' should pattern together. Their similarity can be seen in (10) and (11) below.

Mandarin Chinese *geng* 'even-more' and TSM *koh-khah* 'even-more'

(10)	張三	比	李四	**更**	高
	Zhangsan	bi	Lisi	**geng**	gao
	Zhangsan	than	Lisi	even-more	tall

'Zhangsan is even taller than Lisi.' (C.-S. Liu 2011)

(11)	阿榮	比	阿狗	**擱較**	懸
	A-ing	pi	A-kao	**koh-khah**	kuan
	A-ing	than	A-kao	even-more	tall

'A-ing is even taller than A-kao.'

This shows the meaning and function of *geng* 'even-more' in MC are more complicated than *khah* 'more' in TSM. This is because *geng* 'even-more' bears the intensifying function that can't be found in *khah* 'more'. The TSM speakers should use the intensifier *koh* 'again' to modify *khah* 'more' to express the intensifying function that is similar to *geng* 'even-more' in MC. Moreover, I suggest that Chinese has no overt word that has the similar function to *khah* 'more'. As shown in the above examples, *geng* 'even-more' and *koh-khah* 'even-more' in (10) and (11) can pattern together.

Similarly, the covert comparative morphemes in MC and that in TSM can also pattern together, which can be seen in the following paradigms.

The covert comparative morphemes in both MC and TSM

(12) 張三 比 李四 高

Zhangsan bi Lisi gao

Zhangsan than Lisi tall

'Zhangsan is taller than Lisi.' (C.-S. Liu 2011)

(13) 阿榮 比 阿狗 懸

A-ing pi A-kao kuan

A-ing than A-kao tall

'A-ing is taller than A-kao.'

However, while (10) patterns with (11) and (12) & (13) are patterned together, *khah* 'more' in (14) can't pattern with any constituent in MC. In other words, we can't find an overt word identical to the function and meaning of *khah* 'more' in Chinese.

The overt comparative morpheme *khah* 'more'

(14)	阿榮	比	阿狗	**較**	懸
	A-ing	pi	A-kao	**khah**	kuan
	A-ing	than	A-kao	more	tall

'A-ing is taller than A-kao.'

The discussion about the presupposition provided by *geng* 'even-more' can provide further evidence to support the claim that there's no word in Chinese similar to *khah* 'more' in TSM. This phenomenon can be seen in the following examples.

(15)	張三	比	李四	**更**	高
	Zhangsan	bi	Lisi	**geng**	gao
	Zhangsan	than	Lisi	even-more	tall

'Zhangsan is even taller than Lisi, and **both of them are tall**.' (C.-S. Liu 2010b)

(16)	阿榮	比	阿狗	**較**	懸
	A-ing	pi	A-kao	**khah**	kuan
	A-ing	than	A-kao	more	tall

'A-ing is taller than A-kao.'

According to C.-S. Liu (2010b), *geng* 'even more' in (15) not only has the presupposition that *Zhangsan* is taller than *Lisi*, but also presupposes that both the compared individuals *Zhangsan* and *Lisi* are tall, namely, both of them can't be short people. In other words, only when *Zhangsan* and *Lisi* are tall to some extent can we use the morpheme *geng* 'even more' in the comparative sentence. If the overt comparative morpheme *geng* 'even more' is not present, the sentence does not presuppose that both of them are tall.

Unlike *geng* 'even more', I suggest that *khah* 'more' in (16) does not presuppose both *A-ing* and *A-kao* are tall, although *khah* 'more' still asserts that *A-ing* is taller than *A-kao*. Since only *geng* 'even-more' but not *khah* 'more' has the presupposition that the two compared individual are tall, *geng* 'even-more' must be different from *khah* 'more'.[3]

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[3] As mentioned earlier, *geng* 'even-more' patterns with *koh-khah* 'even-more' according to their meanings. As the following sentences demonstrsted, the compared individuals in both (i) and (ii) are tall. Namely, both *Zhangsan* and *Lisi* are tall in (i) and both *A-ing* and *A-kao* are tall in (ii).

(i)	張三	比	李四	更	高
	Zhangsan	bi	Lisi	**geng**	gao
	Zhangsan	than	Lisi	even-more	tall

'Zhangsan is even taller than Lisi, and **both of them are tall**.' (C.-S. Liu 2011)

(ii)	阿榮	比	阿狗	擱較	懸
	A-ing	pi	A-kao	**koh**-khah	kuan
	A-ing	than	A-kao	even-more	tall

'A-ing is even taller than A-kao and **both of them are tall**.'

Now that the comparative morpheme *khah* 'more' can't presuppose the two compared objects are tall in (ii), I suggest the intensifier *koh* 'again' in (ii) might be responsible for the presupposition that the two compared objects *A-ing* and *A-kao* are tall.
Another example that supports the claim that *koh* 'again' is responsible for such presupposition is that replacing *koh* 'again' with another intensifier *ke* 'add' will make this presupposition disappear in the sentence.

(iii)	阿榮	比	阿狗	加較	懸
	A-ing	pi	A-kao	**ke**-khah	kuan
	A-ing	than	A-kao	even-more	tall

'A-ing is even taller than A-kao.'

Therefore, we may argue that *ke* 'add' also has no such presupposition. In contrast, *koh* 'again', like *geng* 'even-more' presupposes both the compared individuals are tall.

Therefore, the above reasoning supports our suggestion that no Chinese word can be found to have similar function to *khah* ‘more’ in TSM.

However, some may argue that even though *geng* ‘even-more’ has the presupposition that both *Zhangsan* and *Lisi* are tall in the above discussion, *geng* ‘even-more’ may not presuppose that both the compared individuals are true in the absolute sense in some conditions. As (17) and (18) suggest, *geng* ‘even-more’ in (17) can not presuppose that both his ruler and my ruler are long. Both *geng* ‘even-more’ and its covert counterpart only express the comparative meaning that the ruler he bought is longer than the one I bought. This phenomenon can also be found in the TSM examples like (19) and (20). In (19) and (20), *khah* ‘more’ and its covert counterpart can only provide the comparative meaning without bearing other presuppositions. Thus, *geng* ‘even-more’ and *khah* ‘more’ can pattern together.

(17)	他	買了	一	把	比	我	**更**	長	的	尺
	ta	mai-le	i	ba	bi	wo	**geng**	chang	de	chi
	he	buy-PERF	one	CL	than	I	even-more	long	DE	ruler

‘He bought a ruler that is longer than the one I bought.’

(18)	他	買了	一	把	比	我		長	的	尺
	ta	mai-le	i	ba	bi	wo	***geng***	chang	de	chi
	he	buy-PERF	one	CL	than	I	even-more	long	DE	ruler

‘He bought a ruler that is longer than the one I bought.’

(19)	伊	買	一	支	比	我	**較**	長	的	尺
	i	bue	tsit	ki	pi	gua	**khah**	tng	--e	tshioh
	he	buy	one	CL	than	I	more	long	GEN	ruler

‘He bought a ruler that is longer than the one I bought.’

(20)	伊	買	一	支	比	我		長	的	尺
	i	bue	tsit	ki	pi	gua		tng	--e	tshioh
	he	buy	one	CL	than	I	more	long	GEN	ruler

‘He bought a ruler that is longer than the one I bought.’

Nevertheless, the fact that *geng* ‘even-more’ does not presuppose that both his ruler and my ruler are long can not be used to argue against my suggestion that *geng* ‘even-more’ and *khah* ‘more’ are different. After all, *geng* ‘even-more’ in (15) is different from *khah* ‘more’ in (16). One possible reason why *geng* ‘even-more’ and *khah* ‘more’ have similar function in (17) and (18) is that the comparative morphemes in these two sentences are placed in a relative clause. The *bi*-comparative with the relative clause is different from the *bi*-comparative without relative clause. The relative clause may be the reason why *geng* 'even-more' has no presupposition that both the compared individuals are true in the absolute sense in (17) and (18).

Moreover, we find the distribution of *geng* 'even-more' is much restricted than *koh-khah* 'even-more'. The major difference lies in the incompatibility of *geng* 'even-more' and the differential measure phrase. On the contrary, *koh-khah* 'even-more' is compatible with the differential measure phrase.

In general, the expression with a strong voice such as *geng* 'even-more' and *koh-khah* 'even-more' have the narrower distribution than the word like *khah* 'more', which has weaker voice. Nevertheless, the distribution of *koh-khah* 'even-more' is much wider than *geng* 'even-more' though their syntactic functions and meanings are similar. (Please refer to the appendix)

The possible explanation about this matter is that *geng* 'even-more' in the *bi*-comparative can only modify adjectives such as *gao* 'tall' but not predicates like *gao san gongfen* 'three centimeters taller'. In contrast, *koh-khah* 'even-more' can modify not only the adjective *kuan* 'tall' but also the predicate *kuan snn kongfun* 'three centimeters taller'. Thus *koh-khah* 'even-more' is more productive.

(21) 張三 比 李四 **更** 高 (*三 公分)

Zhangsan bi Lisi **geng** gao (*san gongfen)

Zhangsan than Lisi even-more tall three centimeters

'Zhangsan is (*three centimeters) even taller than Lisi.'

(22) 阿榮 比 阿狗 **擱較** 懸 (三 公分)

A-ing pi A-kao **koh-khah** kuan (sann kongfun)

A-ing than A-kao even-more tall three centimeters

'A-ing is even three centimeters taller than A-kao.'

Another alternative proposed by Grano and Kennedy (2012) supports sentences like (21) is ungrammatical because Chinese *geng* 'even-more' is incompatible with the differential measure phrase in semantics or pragmatics. However, semantically speaking, *koh-khah* 'even-more', which has similar meaning to *geng* 'even-more' can co-occur with the differential measure phrase as (22) suggests. Thus, it is plausible to say that *geng* 'even-more' is incompatible with the differential measure phrase not simply because of its meaning. Some other factors may be involved in this matter. Otherwise, *koh-khah* 'even-more' shouldn't have been compatible with the differential measure phrase due to its semantics.

In addition to the *bi*-comparative, the fact that the distribution of *geng* 'even more' is much narrower than that of *koh-khah* 'even more' can also be seen in the transitive comparative and the *guo*-comparative below.

The transitive comparative

(23)	*張三	**更**	高	李四	(三	公分)
	*Zhangsan	**geng**	gao	Lisi	(san	kongfen)
	Zhangsan	even-more	tall	Lisi	three	centimeters

‘Zhangsan is (three centimeters) even taller than Lisi.’

(24)	阿榮	**擱較**	懸	阿狗	(三	公分)
	A-ing	**koh-khah**	kuan	A-kao	(sann	konghun)
	A-ing	even-more	tall	A-kao	three	centimeters

A-ing is (three centimeters) even taller than A-kao.’

The *guo*-comparative

(25)	*張三	**更**	高**過**	李四	**(三**	**公分**)
	*Zhangsan	**geng**	gao-**guo**	Lisi	**(san**	**kongfen)**
	Zhangsan	even-more	tall-**guo**	Lisi	three	centimeters

‘Zhangsan is (three centimeters) even taller than Lisi.’

(26)	阿榮	**擱較**	懸**過**	阿狗	*(**三**	**公分**)
	A-ing	**koh-khah**	kuan-**kue**	A-kao	***(sann**	**konghun)**
	A-ing	even-more	tall-**kue**	A-kao	three	centimeters

'A-ing is three centimeters even taller than A-kao.

According to the above contrast, *geng* 'even more' is incompatible with both the transitive comparative and the *guo*-comparative, whereas *koh-khah* 'even more' is allowed in these two comparative constructions.

A possible explanation of this phenomenon can rely on Xiang's (2005) DegP-shell analysis. In Xiang (2005), the position occupied by *bi* 'than' in the *bi*-comparative is empty in the transitive comparative. Therefore, the movement of adjectives such as *gao* 'tall' to the empty *bi* 'than' position can generate the correct word order of transitive comparative. The comparative morpheme *geng* 'even more', however, has no place to move in when the empty preposition head position is already occupied by *gao* 'tall'. Therefore, *geng* 'even more' can't be seen in the transitive comparative. Similarly, the empty *bi* 'than' position in the *guo*-comparative is placed with the agglutinated form *gao-guo* 'tall-exceed'. Hence, there's no room for *geng* 'even more' to be put in the *guo*-comparative.

The above account seems reasonable in the Mandarin Chinese. Nevertheless, *koh-khah* 'even more' also has no position to be placed in the transitive comparative and *guo*-comparative in TSM. Surprisingly, *koh-khah* 'even more' is permitted in these two comparative constructions. Thus, the reason why *geng* 'even more' has a narrower distribution should be further discussed in the future studies.

4.3 The comparison between *jiao* 'more' in MC and *khah* 'more' in TSM

From the above discussions, no constituent in MC can have the same function and distribution that TSM *khah* 'more' has. However, the word *jiao* 'more' seems to simply express the comparative meaning so its function may be similar to TSM *khah* 'more'. Therefore, some may argue that both the Mandarin *jiao* 'more' and TSM *khah* 'more' are comparative morphemes based on the following intransitive comparative examples.

(27)	張三	**較**	高
	Zhangsan	**jiao**	gao
	Zhangsan	more	tall

'Zhangsan is taller (than someone known from the context).'

(28) 阿榮 **較** 懸

A-ing **khah** kuan

A-ing more tall

'A-ing is taller (than someone known from the context).'

However, as Ma (1988) suggests, the comparative type degree adverb *jiao* 'more' can't be used in the *bi*-comparative even though it is compatible with the comparative construction. The following sentences demonstrate this contrast.

(29) 張三 比 李四 (*較) 高 (三 公分)

Zhangsan bi Lisi jiao gao (san gongfen)

Zhangsan than Lisi more tall three centimeter

Zhangsan is (three centimeters) taller than Lisi.' (C.-S. Liu 2011)

(30) 跟 別的 同學 相比， 他 *(較) 高

gen biede tongxue xiangbi, ta jiao gao

with other classmates compare he more tall

'Compared with other classmates, he is taller.' (Ma 1988)

Moreover, Mandarin *jiao* 'more' is not only incompatible with the *bi*-comparative but also incompatible with the transitive comparative and *guo*-comparative. Nevertheless, TSM *khah* ‘more’ can be used in these three comparatives, as can be seen in the following sentences.

The *bi*-comparative

(31)	張三	比	李四	(*較)	高	(三	公分)
	Zhangsan	bi	Lisi	**jiao**	gao	(san	gongfen)
	Zhangsan	than	Lisi	more	tall	three	centimeter

Zhangsan is (three centimeters) taller than Lisi.’

(32)	阿榮	比	阿狗	(較)	懸	(三	公分)
	A-ing	pi	A-kao	**khah**	kuan	(sann	kongfun)
	A-ing	than	A-kao	more	tall	three	centimeter

A-ing is (three centimeters) taller than A-kao.’

The transitive comparative

(33)	張三	(*較)	高	李四	三	公分
	Zhangsan	**jiao**	gao	Lisi	san	kongfen
	Zhangsan	more	tall	Lisi	three	centimeters

‘Zhangsan is three centimeters taller than Lisi.’

(34)	阿榮	**(較)**	懸	阿狗	三	公分
	A-ing	**khah**	kuan	A-kao	sann	konghun
	A-ing	more	tall	A-kao	three	centimeters

'A-ing is (three centimeters) taller than A-kao.'

The *guo*-comparative

(35)	張三	(***較**)	高**過**	李四	(**三**	**公分**)
	Zhangsan	**jiao**	gao-**guo1**	Lisi	(**san**	**gongfen**)
	Zhangsan	more	tall-**guo1**	Lisi	three	centimeters

'Zhangsan is three centimeters taller than Lisi.'

(36)	阿榮	(**較**)	懸**過**	阿狗	(**三**	**公分**)
	A-ing	**khah**	kuan-**kue**	A-kao	(**sann**	**konghun**)
	A-ing	more	tall-**kue**	A-kao	three	centimeters

'A-ing is three centimeters taller than A-kao.'

From the above paradigms, I suggest that Mandarin *jiao* 'more' may be a comparative morpheme. One possible reason why *jiao* 'more' can't be compatible with the *bi*-comparative, transitive comparative or *guo*-comparative is that a covert comparative morpheme exists in these comparatives. Therefore, the overt comparative morpheme *jiao* 'more' could not be used or the sentence would contain two comparative morphemes. In general, two constituents with the same functions can't co-occur in a sentence. In contrast, no covert comparative morpheme exists in the intransitive comparative. Therefore, the overt comparative morpheme *jiao* 'more' is compatible with the intransitive comparative.

Another possible account for this phenomenon is that the MC comparative morphemes in the *bi*-comparative, the transitive comparative and the *guo*-comparative can only be covert so as to merely express the comparative meaning. On the contrary, the comparative morpheme can be overtly realized as *geng* 'even-more' only when the speaker needs to convery some specific reading[4]. That is to say, the comparative morpheme can have overt realization *geng* 'even-more' only when the speaker wants to express the presupposition that the compared objects' properties are true in the absolute sense. For example, the two compared constituents such as *Zhangsan* and *Lisi* are tall in the comparatives.

If the speaker only intends to express the comparative meaning, he or she will simply use the covert comparative morpheme instead. Since the fuction of the overt comparative morpheme *jiao* 'more' is identical to that of the covert comparative morpheme, the speaker has no motivation to use the overt form *jiao* 'more' to merely express the comparative meaning. Using the overt element should require some specific need such as the presupposition provided by *geng* 'even-more'.

As for the comparative morpheme in the intransitive comparative, *jiao* 'more' can be

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[4] Note that the distribution of *geng* 'even-more' is also restricted. For example, *geng* 'even-more' can't be used in the transitive comparative and the *guo*-comparative. In the *bi*-comparative, *geng* 'even-more' is not compatible with the differential measure phrase.

overtly realized because the sentence such as *Zhangsan gao* 'Zhangsan is tall' can be interpreted as the comparative sentence only with the help of the context. In order to interprete the sentence as a comparative sentence without the help of context, speakers tend to use the overt comparative morphemes such as *jiao* 'more', *bijiao* 'more' or *geng* 'even-more' in the intransitive comparative, as presented below.

(37)	張三	**比較/較**	高
	Zhangsan	**bijiao/jiao**	gao
	Zhangsan	more	tall
	'Zhangsan is taller than someone.'		
(38)	張三	**更**	高
	Zhangsan	**geng**	gao
	Zhangsan	even-more	tall
	'Zhangsan is even taller than someone.'		

In contrast, the comparative morpheme *khah* 'more' simply conveys the comparative meaning without presupposing the two compared individual's properties are true in the absolute sense. Futhermore, *khah* 'more' is compatible in all the four types of comparatives. Even though the covert comparative morpheme can be used in TSM comparative constructions, the overt form seems to be preferred. For instance, as mentioned earlier, the overt realization of the comparative morpheme *khah* ‘more’ is obligatory in the intransitive comparative and the *phing*-comparative. This phenomenon is different from the distribution of the overt comparative morpheme *jiao* ‘more’ in MC. This contrast may be due to the language evolution which is not the focus of the current.

4.4 The comparison between *hai* ‘even-more’ and *khah* ‘more’

The other element *hai* ‘even-more’ in MC seems to have the same distribution that *khah* ‘more’ has as the following examples demonstrated.

(39)	張三	比	李四	**還**	高	(三	公分)
	Zhangsan	bi	Lisi	**hai**	gao	(san	gongfen)
	Zhangsan	than	Lisi	even-more	tall	three	centimeters

‘Zhangsan is even (three centimeters) taller than Lisi.’

(40)	阿榮	比	阿狗	**較**	懸	(三	公分)
	A-ing	pi	A-kao	**khah**	kuan	(sann	kongfun)
	A-ing	than	A-kao	more	tall	three	centimeter

‘A-ing is (three centimeters) taller than A-kao.’

Nevertheless, the distribution of *hai* ‘even-more’ is similar to the intensifier *koh* ‘again’ and *ke* ‘add’ in TSM. To begin with, *hai* ‘even-more’, *koh* ‘again’, and *ke* ‘add’ can co-occur with the differential measure phrase as the following instances indicate.

(41)	張三	比	李四	**還**		高	(三	公分)
	Zhangsan	bi	Lisi	**hai**		gao	(san	gongfen)
	Zhangsan	than	Lisi	even-more		tall	three	centimeters

‘Zhangsan is even (three centimeters) taller than Lisi.’

(42)	阿榮	比	阿狗	**擱**	較	懸	(三	公分)
	A-ing	pi	A-kao	**koh**	khah	kuan	(sann	kongfun)
	A-ing	than	A-kao	again	more	tall	three	centimeters

‘A-ing is even (three centimeters) taller than A-kao.’

(43)	阿榮	比	阿狗	**加**	較	懸	(三	公分)
	A-ing	pi	A-kao	**ke**	khah	kuan	(sann	kongfun)
	A-ing	than	A-kao	add	more	tall	three	centimeters

‘A-ing is even (three centimeters) taller than A-kao.’

Furthermore, due to the following reasonings, *hai* ‘even-more’ is different from *khah* ‘more’. The word *hai* ‘even-more’, according to Lin (2009), can be placed before *bi* ‘than’.

However, *geng* ‘even-more’ can’t precede *bi* ‘than’ in the *bi*-comparative. Besides, it is found that *khah* ‘more’, like *geng* ‘even-more’, can’t be followed by *pi* ‘than’. As can be seen in (44), (45) and (46), only *hai* ‘even-more’ precedes *bi* ‘than’ in the *bi*-comparative. Because of the distributional difference, *hai* ‘even-more’ is indeed different from *khah* ‘more’.

(44)	他	**還**	比	我	重	三	公斤
	ta	**hai**	bi	wo	zhong	san	gongjin
	he	even-more	than	I	heavy	three	kilometer

‘He is three kilometers heavier than I am.’ Lin (2009)

(45)	*他	**更**	比	我	重	三	公斤
	*ta	**geng**	bi	wo	zhong	san	gongjin
	he	even-more	than	I	heavy	three	kilometer

‘He is even three kilometers heavier than I am.’

(46)	*伊	**較**	比	我	重	三	公斤
	*I	**khah**	pi	gua	tang	sann	gongkin
	he	more	than	I	heavy	three	kilometer

‘He is three kilometers heavier than I am.’

In contrast, the distribution of *koh* 'again' and *ke* 'add' is similar to that of *hai* 'even-more'. Take (47) and (48) for example, *koh* 'again' and *ke* 'add' can also precede *pi* 'than' as the Chinese *hai* 'even-more' does, leaving the overt comparative morpheme *khah* 'more' in the position where no Chinese counterpart can be placed. This fact suggests that *hai* 'even-more' should pattern with *koh* 'again' and *ke* 'add' instead of *khah* 'more'.

(47)	阿榮	**擱**	比	阿狗	較	懸	(三	公分)
	A-ing	**koh**	pi	A-kao	khah	kuan	sann	kongfun
	A-ing	again	than	A-kao	more	tall	three	centimeters

'A-ing is even three centimeters taller than A-kao.'

(48)	阿榮	**加**	比	阿狗	較	懸	(三	公分)
	A-ing	**ke**	pi	A-kao	khah	kuan	(sann	kongfun)
	A-ing	add	than	A-kao	more	tall	three	centimeters

'A-ing is even three centimeters taller than A-kao.'

(49)	張三	**還**	比	李四		高	(三	公分)
	Zhangsan	**hai**	bi	Lisi		gao	(san	gongfen)
	Zhangsan	even-more	than	Lisi		tall	three	kilometer

'Zhangsan is even three centimeters taller than Lisi.'

Moreover, comparing (47), (48) and (49), it is observed that *khah* 'more' precedes the predicate *kuan* 'tall' in (47) and (48), whereas no element precedes the adjective *kuan* 'tall' in (49). This fact provides further evidence that TSM *khah* 'more' has no Chinese counterpart.

However, the claim that *hai* 'even-more' should pattern with *koh* 'again' and *ke* 'add' is challenged by the fact that *hai* 'even-more', *koh* 'again' and *ke* 'add' are not the same category. To make it explicit, *koh* 'again' and *ke* 'add' are intensifiers while *hai* 'even-more' is not[5]. This is supported by the fact that *koh* 'again' and *ke* 'add' can mutually modify each other before the comparative morpheme *khah* 'more' in (50) and (51) or in front of *pi* 'than' in both (52) and (53).

(50)	阿榮	比	阿狗	**擱加**	較	懸	(三	公分)
	A-ing	pi	A-kao	**koh-ke**	khah	kuan	(sann	kongfun)
	A-ing	than	A-kao	again-add	more	tall	three	centimeters

'A-ing is even (three centimeters) taller than A-kao.'

[5] The adverb *koh* 'again' is not always considered an intensifier. *Koh* 'again' functions as an intensifier when it is used to modify the adjective with a comparative morpheme such as *khah-kuan* 'taller' in (42) and (50). In contrast, *koh* 'again' can only be an adverb but not an intensifier when it is placed before a verb like *lai* 'come' in (i) below. In (i), *koh* 'again' can even be replaced by the compound word *iu-koh* 'again' and *koh-tsai* 'again', which are respectively composed of *iu* 'again' and *koh* 'again' as well as *koh* 'again' and *tsai* 'again' according to Cheng & You (2010). In Cheng & You (2010), they suggest that *iu* 'again' and *tsai* 'again' are words borrowed from MC due to the language contacts and and they combine with TSM *koh* 'again' in the language evolution.

(i)	阿榮	今仔日	**擱/又擱/擱再/又擱再**	來	阮	兜
	A-ing	kin-a-lit	koh/iu-koh/koh-tsai/ iu-koh-tsai	lai	gun	tau
	A-ing	today	again /again/again	come	my	home

'A-ing comes to my home today again.'

(51) 阿榮 比 阿狗 **加擱** 較 懸 (三 公分)

A-ing pi A-kao **ke-koh** khah kuan (sann kongfun).

A-ing than A-kao add-again more tall three centimeters

'A-ing is even (three centimeters) taller than A-kao.'

(52) 阿榮 **擱加** 比 阿狗 較 懸 (三 公分)

A-ing **koh-ke-** pi A-kao khah kuan (sann kongfun).

A-ing again-add than A-kao more tall three centimeters

'A-ing is even (three centimeters) taller than A-kao.'

(53) 阿榮 **加擱** 比 阿狗 較 懸 (三 公分)

A-ing **ke-koh** pi A-kao khah kuan (sann kongfun).

A-ing again-add than A-kao more tall three centimeters

'A-ing is even (three centimeters) taller than A-kao.'

As shown in the above sentences, *koh-ke* 'again-add' and *ke-koh* 'add-again' can also occupy the place before *khah* 'more' in (50) and (51) or *pi* 'than' in (52) and (53). Although the two intensifiers *koh-ke* 'again-add' and *ke-koh* 'add-again' have similar distribution to *hai* 'even-more'[6], they are different from *hai* 'even-more' with respect to its category. They are

[6] The distribution of *hai* 'even-more' and that of *koh* 'again' and *ke* 'add' are similar but not identical. For instance, the distribution of *hai* 'even-more' is much restricted than *koh* 'again' and *ke* 'add' in the transitive comparative, the *guo*-comparative and the intransitive comparative. Please refer to the appendix for further information regarding their distribution.

composed of the two intensifiers, *koh* ‘again’ and *ke* ‘add’, whereas *hai* ‘even-more’ is not an intensifier.

In addition, *hai* ‘even-more’ is different from *khah* ‘more’, *koh* ‘again’, and *ke* ‘add’ because *hai* ‘even-more’ is generally considered a constituent which can express the counter-expectation concept, whereas *khah* ‘more’, *koh* ‘again’, and *ke* ‘add’ are not the counter-expectation marker. According to Tsai (2013), both Wu (2004) and Wu (2009) mentioned that *hai* ‘even-more’ is a counter-expectation marker. The meaning of the structure ‘X *bi* Y *hai* W’ is a counter-expectation comparison. Tsai also mentioned that both Wu (2009) and Tang (2009) suggest that *hai* ‘even-more’ can express the notion of subjectivity. From the discussion above, I suggest that the functions of *hai* ‘even-more’ are so complicated that neither the comparative morpheme *khah* ‘more’ nor the intensifiers *koh* ‘again’ and *ke* ‘add’ in TSM can contain such complex functions.[7]

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[7] The intensifier *koh* ‘again’ may be regarded as a counter-expectation marker in the following paradigms. As can be seen in (i) and (ii), both *koh* ‘again’ and *hai* ‘even-more’ express the counter-expectation concept. Both sentences are used to indicate that this person’s characteristic is better than the speaker had expected.

(i)	這	个	人	**擱**	袂	穲
	tsit	e	lang	**koh**	bue	bai
	this	cl	person	again	not	bad
	‘To my surprised, this person’s characteristic is not bad.’					
(ii)	這	個	人	**還**	不	錯
	zhe	ge	ren	**hai**	bu	cuo
	this	cl	person	even-more	not	bad
	‘To my surprised, this person’s characteristic is not bad.’					

However, *koh* ‘again’ in (iii) may have no counter-expectation meaning. In (iii), *koh* ‘again’ should modify *khah* ‘more’, thus *khah* ‘more’ is required or the sentence will be ungrammatical. The term *koh-khah* ‘even-more’ patterns with *geng* ‘even-more’ in (iv) rather than the couner-expectation marker, *hai* ‘even-more’ in (v).

(iii)	阿榮	比	阿狗	**擱**	*(較)	懸
	A-ing	pi	A-kao	koh	khah	kuan
	A-ing	than	A-kao	again	more	tall
	‘A-ing is even taller than A-kao.’					

To summarize, in this section, I try to find a MC counterpart that is parallel to the TSM *khah* 'more' with no success. For instance, the functions and meanings of *geng* 'even-more' and *hai* 'even-more' in MC are more complicated than those of *khah* 'more' in TSM. Also, *jiao* 'more' in MC is incompatible with the *bi*-comparative, transitive comparative and *guo*-comparative, whereas *khah* 'more' in TSM is compatible with those types of comparatives. This fact indicates that *khah* 'more' in TSM is indeed different from *geng* 'even-more', *hai* 'even-more', and *jiao* 'more'.

In MC, the comparative morpheme tends to be covert instead of overt. The MC overt comparative morpheme is used only when the speaker needs to express some specific reading. In order to convey various specific readings, speakers in MC may choose different overt comparative morphemes such as *geng* 'even-more' and *hai* 'even-more'. In contrast, the comparative morpheme in TSM is often used in an overt form *khah* 'more' rather than the covert form. Some specific function can be expressed by adding the other constituent such as the intensifier *koh* 'again' in the sentence instead of using different overt comparative

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(iv)	張三	比	李四	更	高
	Zhangsan	bi	Lisi	**geng**	gao
	Zhangsan	than	Lisi	even-more	tall

'Zhangsan is even taller than Lisi.'

(v)	張三	比	李四	還	高
	Zhangsan	bi	Lisi	**geng**	gao
	Zhangsan	than	Lisi	even-more	tall

'Zhangsan is even taller than Lisi.'

Therefore, I suggest that the adverb *koh* 'again' in (i) is different from the intensifier *koh* 'again' in (iii). The former is a counter-expectation marker just like *hai* 'even-more', the latter is merely an intensifier with no counter-expectation meaning.
On the other hand, *hai* 'even-more' in both (ii) and (v) are counter-expectation markers. Hence, the fact shows that *hai* 'even-more' has various complicated functions that TSM *khah* 'more', *koh* 'again', and *ke* 'add' can't have. We can infer that *hai* 'even-more' in MC indeed can't pattern with *khah* 'more' in TSM.

morphemes. The specific reason for the contrast between the comparative morphemes in MC and those in TSM requires further research.

Chapter 5 Conclusion

In the four types of MC and TSM comparative constructions (*bi*-comparative, transitive comparative, *guo*-comparative, and intransitive comparative), the comparative morphemes such as *geng* ‘even-more’ in MC and *khah* ‘more’ in TSM are responsible for the comparative meaning and required in comparative constructions. Moreover, comparative morphemes can be either overt or covert in MC and TSM. On the one hand, the covert comparative morphemes can provide the comparative semantics. On the other hand, the overt comparative morphemes may have different functions other than providing the comparative semantics. For instance, *geng* ‘even-more’ not only bears the comparative meaning but also has the presupposition that both the compared objects’ properties are true in the absolute sense (C.-S. Liu 2010b). Besides, *hai* ‘even-more’ not only provides the comparative meaning but also functions as a counter-expectation marker (Wu 2004, Wu 2009, and Tsai 2013) and bears the notion of subjectivity (Wu 2009 and Tang 2009). Note that some overt comparative morphemes such as *khah* ‘more’, like their covert counterpart, can only provide the comparative meaning. Based on the above observations, I suggest that that the overt comparative morpheme in MC is a preferred choice for the speakers who wish to express some additional meanings other than the comparative semantics. Thus, while the comparative morpheme in MC is often in a covert form, the TSM counterpart is usually in an overt form.

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Appendix

比較句型	漢語	臺灣閩南語
‘比’字比較句	*他比我**更還高** 五公分	伊比我**擱加較懸** 五公分
	他比我**還更高** 五公分	伊比我**加擱較懸** 五公分
	*他比我 **更高** 五公分	伊比我 **擱較懸** 五公分
	他比我 **還高** 五公分	伊比我 **加較懸** 五公分
		伊比我 **較懸** 五公分
	他比我 **高** 五公分	伊比我 **懸** 五公分
	*他比我**更還高**	伊比我**擱加較懸**
	他比我**還更高**	伊比我**加擱較懸**
	他比我 **更高**	伊比我 **擱較懸**
	他比我 **還高**	伊比我 **加較懸**
		伊比我 **較懸**
	他比我 **高**	伊比我 **懸**
‘並’字比較句		伊並我**擱加較懸** 五公分
		伊並我**加擱較懸** 五公分
		伊並我 **擱較懸** 五公分
		伊並我 **加較懸** 五公分
		伊並我 **較懸** 五公分
		*伊並我 **懸** 五公分
		伊並我**擱加較懸**
		伊並我**加擱較懸**
		伊並我 **擱較懸**
		伊並我 **加較懸**
		伊並我 **較懸**
		*伊並我 **懸**
及物比較句	*他 **更還高**我五公分	伊 **擱加較懸**我五公分
	*他 **還更高**我五公分	伊 **加擱較懸**我五公分
	*他 **更高**我五公分	伊 **擱較懸**我五公分
	他 **還高**我五公分	伊 **加較懸**我五公分
		伊 **較懸**我五公分
	他 **高**我五公分	伊 **擱** **懸**我五公分
		伊 **加** **懸**我五公分
		伊 **懸**我五公分
	*他 **更還高**我	伊 **擱加較懸**我

	*他 **還更高**我 *他 **更高**我 *他 **還高**我	伊 **加擱較懸**我 *伊 **擱較懸**我 *伊 **加較懸**我
		伊 **較懸**我
	*他 **高**我	*伊 **懸**我
‘過’字比較句	*他 **更還高過**我五公分 *他 **還更高過**我五公分 *他 **更高過**我五公分 他 **還高過**我五公分	伊 **擱加較懸過**我五公分 伊 **加擱較懸過**我五公分 伊 **擱較懸過**我五公分 伊 **加較懸過**我五公分
		伊 **較懸過**我五公分
	他 **高過**我五公分	伊 **懸過**我五公分
	*他 **更還高過**我 *他 **還更高過**我 *他 **更高過**我 他 **還高過**我	伊 **擱加較懸過**我 伊 **加擱較懸過**我 伊 **擱較懸過**我 伊 **加較懸過**我
		伊 **較懸過**我
	他 **高過**我	伊 **懸過**我
‘出’字比較句	*他 **更還高出**我五公分 *他 **還更高出**我五公分 *他 **更高出**我五公分 他 **還高出**我五公分	
	他 **高出**我五公分	
	*他 **更還高出**我 *他 **還更高出**我 *他 **更高出**我 *他 **還高出**我	
	*他 **高出**我	
不及物比較句	*他 **更還高**五公分 *他 **還更高**五公分 *他 **更高**五公分 *他 **還高**五公分	伊 **擱加較懸**五公分 伊 **加擱較懸**五公分 伊 **擱較懸**五公分 伊 **加較懸**五公分
		伊 **較懸**五公分
	*他 **高**五公分	伊 **擱** **懸**五公分 (1) 伊 **加** **懸**五公分 *伊 **懸**五公分 (2)
	*他 **更還高** 他 **還更高** 他 **更高**	伊 **擱加較懸** 伊 **加擱較懸** 伊 **擱較懸**

	*他　　**還高**	伊　　**加較懸**
		伊　　**較懸**
	他　　**高**	*伊　　**懸**

(註 1) ‘伊擱懸五公分’ 及 ‘伊加懸五公分’ 之意義為「他比以前高五公分」，而不是「他比某人高五公分」。

(註 2) 漢語 ‘他高五公分’ 可表達「他高某人五公分」(C-S. Liu 2007)。但臺灣閩南語 ‘伊懸五公分’ 不可表示「他高某人五公分」，只能代表字面意義「他身高為五公分」。

閩南語‘**擱**’與‘**加**’在**‘比’字比較句**中，可放置於‘比’字之前：

The *bi*-comparative with measure phrase	The *bi*-comparative
伊**擱加**比我　**較**高三公分	伊**擱加**比我　**較**高
伊**擱加**比我　　高三公分	*伊**擱加**比我　　高
伊**加擱**比我　**較**高三公分	伊**加擱**比我　**較**高
伊**加擱**比我　　高三公分	*伊**加擱**比我　　高
伊　**擱**比我　**較**高三公分	伊　**擱**比我　**較**高
伊　**擱**比我　　高三公分	伊　**擱**比我　　高
伊　**加**比我　**較**高三公分	伊　**加**比我　**較**高
伊　**加**比我　　高三公分	伊　**加**比我　　高
伊　**擱**比我**加較**高三公分	伊　**擱**比我**加較**高
伊　**擱**比我**加**　高三公分	*伊　**擱**比我**加**　高
伊　**加**比我**擱較**高三公分	伊　**加**比我**擱較**高
伊　**加**比我**擱**　高三公分	*伊　**加**比我**擱**　高