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外國語文學系 外國文學與語言學碩士班

碩士論文

台語 *kha...ma* 結構的量化分析

Taiwanese *kha...ma* Correlative Constructions:

A Quantificational Analysis

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摘要

本論文題旨在於探討台語的*kha...ma*關聯句式，並从句法、語意和語用等不同的角度切入，進而提出一個量化的分析方式。在句法上，這個結構嚴格要求*kha*和*ma*這兩個語素必須同時出現以符合關聯句式的意義。從結構上可以看出句法移位策略並未運用到這個結構中，因為這兩個語素可以出現在句法孤島之中，而不會造成句子的不合語法。此外，能夠被*kha*和*ma*所引介，並當作謂語的情狀語 (situation types) 都必須要符合unboundedness的限制。

語意上，這個關聯句式中的程度副詞*kha*可以一方面選擇一個程度性的謂語，另一方面也可以選擇一個非程度性的動態謂語做為它的補語。有鑑於此，個人提出*kha*可以「非選擇性地約束」(unselectively bind)程度性變數或是量詞性變數的看法。再者，這個關聯句式可被分析為一個量化性的三分結構，當中量化的動力源自於一個(隱藏)量化副詞，核心範疇對應到*ma*所引介的部份，限制範疇則對應到*kha*所修飾的部份。

這種關聯句式在語用上所顯現的「預期—違反語意」特性是 *kha* 和 *ma* 這個兩個語素在語用上交互作用所產生的結果，這就類似於英文的 *no matter wh* 的句型，且「預期—違反語意」是成對的關係，也就是說在 *kha* 句子中呈現正面的預期在 *ma* 的句子就出現負面語意的違反；反之，若在 *kha* 句子中呈現反面的預期，則在 *ma* 的句子就以正面的結果來違反。

關鍵詞：台語 *kha*，*ma*，關聯句式，量化三分結構，預期—違反語意

，句法—語意介面

Taiwanese *kha....ma* Correlative Constructions: A Quantificational Analysis

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Abstract

The purpose of this thesis is to study the syntax, semantics and pragmatics of Taiwanese *kha...ma* construction and a quantificational analysis is proposed. This study has demonstrated for the first time how the Taiwanese *kha... ma* construction exhibits its properties in linguistics. Syntactically, this construction behaves divergently from the Taiwanese canonical comparative construction. The predicate of comparison in the canonical *kha* comparative must involve a gradable element or a predicate contains gradable sense. As for the Taiwanese *kha...ma* correlative construction, the predicate can be a gradable or a non-gradable one. In addition, this construction obligatorily requires two morphemes “*kha* and *ma*”, which have to co-occur with each other to keep the correlative sense. This construction does not involve any syntactic movement.

Semantically, the situation type of predicate modified by *kha* and that of the predicated introduced by *ma* must obey the unboundedness condition. So, the predicate complement selected by the degree head *kha* can be a gradable or a non-gradable one. In other words, the degree *kha* unselectively binds degree variables as well as quantity variables depending on the predicates. Besides, the quantificational

force in this construction comes from an (implicit) adverb of quantification and introduces the quantificational tripartite structure. The *kha* clause enters into the restrictive scope while the nuclear scope is provided by the *ma* clause. The syntactic and semantic mapping relation is in accordance with Liu's (2008) Revised Extended Mapping Hypothesis.

Pragmatically, the two morphemes *kha* and *ma* work together to contribute to expectation-contravention reading in line with English *no matter wh-* construction and represent a pair relation.

Keywords: Taiwanese, Taiwanese Southern Min, *kha*, *ma*, correlative construction, quantificational tripartite structure, expectation-contravention



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會發現寶藏。也謝謝美君老師，如果不是我必須回高雄，我想我會一直在您的研究計劃的團隊中。謝謝美君老師帶領我們從功能學派角度去分析句法學，去發現不同面向的句法理論。更要謝謝這兩位老師在我面臨喪母的椎心之痛時，鼓勵我、安慰我，給我力量讓我繼續往前完成我的學業。謝謝你們！還要謝謝林若望老師，因為我的論文需要對比中文的 *wh...dou* 的結構，您便將您在清華學報的這篇文章直接送我，謝謝您。還有潘荷仙老師，是您讓我學會切音，讓我發現語音的奧妙。當然，還有所上賴郁雯老師，謝謝您的拔刀相助，三天的時間請您看完我的論文，當我的口試委員，給我 comments，辛苦你了。感謝您的鼎力相助，才能讓我的論文口試順利進行。



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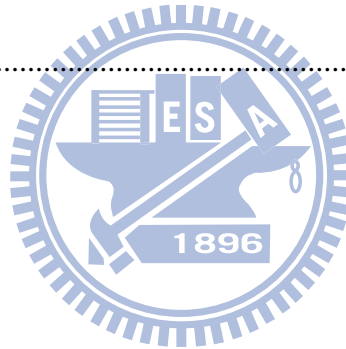
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CHAPTER 1

INTRODUCTION

In Taiwanese, there exists a specific *kha...ma* construction that empirically and theoretically challenges the analysis of conventional comparative literature.¹ Linguists usually pay attentions to gradable adjectives in forming comparatives; however, the examples below indicate that the Taiwanese comparative morpheme *kha* can be exploited to modify not only the gradable predicates but also the non-gradable active verbs.² An extensive search of the literature has revealed few studies that have been carried out into the unique linguistic properties of this Taiwanese comparative construction. This study has demonstrated for the first time how the Taiwanese *kha...ma* construction exhibits its properties in linguistics. Therefore, the purpose of this thesis is to study the syntax and semantics of the Taiwanese *kha...ma* construction based on a quantificational analysis, and the examples below are the main structure which I am going to analyze in this thesis.

- (1) a. Tsit-khan tsabo-kin-na kha sui ma be tshua tit.
This kind girl kha beautiful (Pro) ma not marry SFP
'This kind of girl even though is beautiful; one cannot marry (her).'
- b. Li kha tsao ma bo hao.

¹ Taiwanese is a dialect of the Chinese language used in Taiwan.

² The abbreviations used in this article as glossed as follows: ASP: aspect; CL: classifier; POSS: possessive marker; SFP: sentence final particle, CD: comparative deletion.

You kha run ma not useful

‘No matter how fast you try to run, it is useless.’

This construction exhibits divergent properties from the canonical comparative construction, as the contrast below shows.

(2) a. Ong-e pi Tan-e kha kuan

Ong-e compare Tan-e kha tall

‘Ong-e is taller than Tan-e.’

b. *Ong-e pi Tan-e kha tsao

Ong-e compare Tan-e kha run

‘Ong-e runs faster than Tan-e.’

The contrast above leads to the first question: do we need to assume that there are two different *khas* (i.e. the lexical ambiguity analysis): one is used to modify gradable predicates to form the basic comparatives and the other is for non-gradable ones to constitute specific *kha...ma* constructions. This problem will be solved in line with Doetjes’ (1997) selectional restriction of quantifying expressions in different contexts in chapter three.

In addition, in this thesis, I examine the Taiwanese *kha...ma* construction in the light of the properties of syntax, semantics and pragmatics. Syntactically, this construction obligatorily requires two morphemes *-kha* and *ma-* to exist simultaneously to keep the correlative sense. This is the reason why I named it as a Taiwanese *kha... ma* construction. This construction displays two different forms: one

exhibits two clauses in which the two markers are involved, as illustrated in example (1a), and the other is the *kha* clause which can be embedded into the *ma* clause functions as a sentential subject, as shown by example (1b). This also implies that syntactic movement is not applied within this construction, otherwise the island effect, like the complex NP constrain, will cause the example to be ungrammatical. Furthermore, the situation types when modified by *kha* or introduced by *ma* should obey the effect of unboundedness.

Semantically, the quantificational force in this construction comes from an (implicit) adverb of quantification which introduces the quantificational tripartite structure. The syntactic and semantic mapping relation is subject to a revised version of Tsai's (2001:132) Extended Mapping Hypothesis proposed by Liu (2008:14).

Pragmatically, the two morphemes *kha* and *ma* work together to contribute to an expectation-contravention reading which represents a pair relation; namely, if the expectation reading in the *kha* clause is positive, then the violation reading will be negative, and vice versa.

This thesis is organized as follow: in chapter two, the syntactic and semantic properties of canonical comparatives in Taiwanese will be introduced and a contrast will be made with English and Mandarin. Chapter three will mainly focus on the specific *kha* ... *ma* construction in terms of syntax, semantics and pragmatics as well. In turn, I will apply Doetjes (1997)'s selectional restriction of quantifying expressions in different contexts and the assumption of theta *q*-position to account for why the degree adverb can be used to modify a non-gradable verbal predicate, and this issue will be discussed in chapter four. In addition, we need to clarify the syntactic and semantic functions of the two morphemes *kha* and *ma* in this correlative construction.

Moreover, it is necessary to further examine the adverb of quantificational structure and its corresponding tripartite structure based on Tsai's (2001) Extended Mapping hypothesis which is revised by Liu (2008). These concepts will be proposed in chapter five. Finally, the conclusion will be stated in chapter six.



CHAPTER 2

THE SYNTACTIC AND SEMANTIC PROPERTIES OF CANONICAL TAIWANESE COMPARATIVE CONSTRUCTIONS

In this section, I will briefly discuss the syntactic and semantic properties of the canonical Taiwanese comparative construction and explore the relations between Taiwanese *kha*, Mandarin *geng* ‘even more’ and English *-er/more* in terms of presupposition and different types of comparison. In 2.2, I will introduce the specific *kha...ma* construction that empirically and theoretically challenges the analysis of the canonical Taiwanese comparative construction.

2.1 The Canonical Comparative

All languages have syntactic categories that express gradable concepts. In addition, all languages have designated comparative constructions to express orderings between two objects with respect to the degree or amount to which they possess some property (cf. (Sapir 1944)). In many languages, comparatives are based on specialized morphology and syntax. For example, English uses the morphemes *more/-er* or *less* and *as* specifically to establish orderings of superiority, inferiority and equality, respectively, in addition to taking the morphemes *than* and *as* to set the ‘standard (of comparison)’ against which an object is compared.

- (3) a. John is more diligent than Bill (is). (superiority)

- b. John is less diligent than Bill (is). (inferiority)
- c. John is as diligent as Bill (is). (equality)

However, some languages, like Mandarin and Taiwanese, are meager in morphological markings; therefore, comparatives in this type of language are expressed by syntactic means rather than comparative markings. For instance, Chao (1968:680) states that “Chinese adjectives do not have equality, comparative or superlative forms in a morphological sense and various degrees of comparison are expressed by adverbs.”³ As H. F. Yang (1991: 211) points out, this delineation is also applied to Taiwanese adjectives, and the comparative constructions in Taiwanese follow the syntactic patterns below:⁴

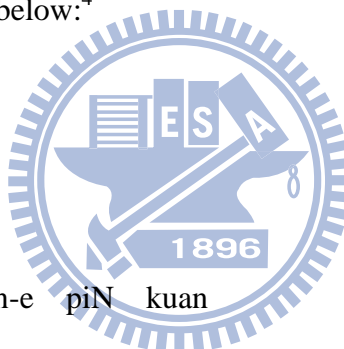
(4) Equality

- a. A+kap+B+piN+P

Ong-e kap Tan-e piN kuan

Ong-e and Tan-e equal tall

‘Ong-e is as tall as tan-e.’



³ According to Stassen (1985:27), it is possible to split up languages into two groups in terms of how they construct comparatives –some languages require an overt marking of predicate in their comparative constructions, while other languages do not. For example, some languages form comparative constructions by means of a special affix (e.g. *-er*, *-ior*, and *-bb* in English, Latin and Hungarian respectively), yet others apply a special adverb (e.g. *more* in English, and *plus* in French). Taiwanese and Mandarin also employ this method to construct comparisons, like *kha* in Taiwanese and *geng* in Mandarin.

⁴ In these patterns, A stands for comparee NP, while B is standard NP and P is a gradable property that is contained both in comparee NP and standard NP as the comparative predicate.

b. A+chiuN+B+hia+P

Ong-e chiuN Tan-e hia kuan

Ong-e like Tan-e such tall

‘Ong-e is such tall like Tan-e.’

c. A+u+B+hia+P (the negative form is: A+bo+B+hia+P)

Ong-e u Tan-e hia kuan

Ong-e have Tan-e such tall

‘Ong-e has the same height as Tan-e

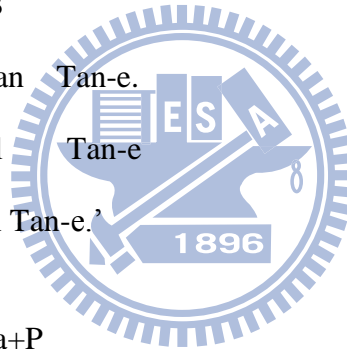
(5) Comparative

a. A+kha+P+(kue)+B

Ong-e kha kuan Tan-e.

Ong-e kha tall Tan-e

Ong-e is taller than Tan-e.’



b. A+pi/phing+B+kha+P

Ong-e pi/phing Tan-e kha kuan.

Ong-e compare Tan-e kha tall

‘Ong-e is taller than Tan-e.’

c. A+kha+P

Ong-e kha kuan.

Ong-e kha tall

‘Ong-e is taller than someone.’

(6) Superlative

a. A+siong+P⁵

Ong-e siong kuan.

Ong-e the-most tall

‘Ong-e is the tallest.’

Here, I will only focus on the comparative that is constructed by *kha* (henceforth the Taiwanese *kha* comparative) because this type of comparative is relevant to the Taiwanese *kha... ma* correlative construction and this construction is the main issue analyzed in this thesis.

According to the previous studies on the Taiwanese *kha* comparative, such as Lien and Li (1994), Yang (1991) and among others, this construction, generally, has the following syntactic and semantic properties: First, the morpheme *kha* is obligatorily required in this construction, as the contrast below shows.⁶

(7) a. Ong-e kha kuan Tan-e

Ong-e kha tall Tan-e

⁵ The meanings of the syntactic morphemes used in these examples that correspond to the English are : *kap* is ‘and’ , so A *kap* B means A and B, *piN* is ‘equal to’, *chiuN* is ‘like or similar to’, *hia* means ‘such or so’, *u* is ‘have or the same as’, *bo* is ‘not or less than’, *kue* means ‘over’ , *pi/phing* is ‘compare’ and *phing* is the variant of *pi* and *siong* is ‘the most’ used in superlative.

⁶ According to Lien and Li (1994), Taiwanese has the following four types of comparatives

(i) A + *pi/phing* +B+ *kha* +P

(ii) A +P +*ke/i*+B

(iii) A + *kha* +P+B

(iv) A +P +B

However, pattern (iv) is only acceptable in “Quanzhou Huaian” in Mainland China, but not in Taiwan.

‘Ong-e is taller than Tan-e.’

b. *Ong-e pi Tan-e kuan

Ong-e compare Tan-e tall

‘Ong-e is taller than Tan-e.’

As the contrast reflects, the absence of the morpheme *kha* will cause the sentence to become ungrammatical, as example (7b) shows; conversely, the absence of the compared morpheme *pi* does not affect the grammaticality of the sentence, as shown in example (7a). That is why I argue that *kha* is an obligatorily required element in the Taiwanese *kha* comparative rather than the morpheme *pi*, thus, *kha* is more remarkable than *pi* in building a Taiwanese comparative construction.

Second, syntactically, the sequence *pi Tan-e* is a constituent headed by the marker *pi* because it can be connected together with another similar sequence *pi lim-e* by a coordinator like *ahsi* ‘or’.⁷

(8) a. Ong-e [[[pi [NP Tan-e]] ahsi [pi [NP Lim-e]]] [kha kuan]]?

Ong-e compare Tan-e or compare Lim-e kha tall

‘Is Ong-e taller than Tan-e or than Lim-e?’

⁷ Although there exists a lot of debate on whether examples like (i) should be analyzed as a clausal comparative, this issue is not our concern.

(i) Ong-e kinniN pi Tan-e kuni kha kuan.

Ong-e this year pi Tan-e last year kha tall

‘Ong-e this year is taller than last year.’

So, I do not want to declare my position whether I agree with Taiwanese exists a clausal comparative or not, please see Heim (1985), Kennedy (2005, 2007), Beck *et al.* (2004), and Lin (2009) for more detail information about modes of comparison.

- b. Ong-e (pi Tan-e) kha kuan
 Ong-e (compare Tan-e) kha tall
 ‘Ong-e is taller than Tan-e.’

I further suggest that this constituent is an adjunct adjoined to the left of the predicate of comparison because the optionality of this constituent, as (8b) shows. Hence, a Taiwanese comparative does not require its standard NP to exist within the sentence, so it can be absent in some contexts, in which the speaker and addressee both know who the comparee NP compares with. However, this condition is not allowed in both English and Mandarin, see the contrasts shown below.

- (9) a. *Taiwanese*

Ong-e kha kuan
 Ong-e kha tall

‘Ong-e is taller than someone.’



- b. *Mandarin*

*Zangahang geng gao

Zangshang Geng tall

‘Zangshang is taller than someone.’

- c. Zangahang bi Lisi geng gao

Zangshang compare Lisi Gang Tall

‘Zangshang is taller than Lisi.’

- d. *English*

*John is taller.

- e. John is taller than Bill (is).

Third, in a comparative construction, gradable predicates map objects onto abstract representations of SCALES formalized as sets of DEGREES ordered along some dimension (height, length, weight, and so on). Thus, gradable predicates express relations between individuals and degrees which are termed by Kennedy (2007) as DEGREE MORPHOLOGY. In accordance with typological theory, comparative constructions are subdivided into clausal comparatives and phrasal comparatives with respect to the length of argument existing in the comparative clause. Take English as an example, clausal comparatives are those which have a clause after *than* while phrasal comparatives, on the other hand, are those only a single phase following *than*, see the English examples below.

- (10) *clausal comparatives*
- a. I always have more paperclips than I need.
 - b. John is taller than Bill is.
 - c. The desk is higher than the door is wide.⁸

- (11) *phrasal comparatives*
- a. I care more for you than for that
 - b. John is taller than Bill.

⁸ Clausal comparatives in English involve two variant constructions: comparative deletion vs. comparative sub-deletion. Please see Kennedy (2002) for comprehensive discussion of the issue in terms of optimality.

In addition, Beck et al. (2004) and Kennedy (2005, 2007), suggest that only a clausal comparative construction, for example the English comparative like (11), allows degree comparison.

(12) John is taller than [Op_i [Bill is t_i tall]]

Conversely, if a language does not involve clausal comparatives, it does not allow degree comparison but individual comparison. The crucial difference is derived from having different standards of comparison, in the sense of Kennedy (2007:9) who makes a contrast between English and Japanese.

- (13) a. Complex standards in Japanese are (only) type *e*.
 b. Complex standards in English are (potentially) type *d*

The comparative morpheme *more*, due to the distinctive types of standards, has one denotation in (14a), which expresses degree comparison and expects a syntactic standard that is already type *d*. Another denotation in (14b), which expresses individual comparison and derives a standard degree by applying the meaning of the gradable adjective to this individual, see also Hoeksema (1983), Heim (1985, 2000), Kennedy (1999) and Bhatt & Takahashi (2007).

- (14) a. $[[\text{MORE}]] = \lambda d \lambda g \in D_{\langle d, e \rangle} \lambda x. \max\{d' \mid g(d')(x) = 1\} \succ d$
 b. $[[\text{MOREI}]] = \lambda y \lambda g \lambda x. \max\{d' \mid g(d')(x) = 1\} \succ \max\{d'' \mid g(d'')(y) = 1\}$

Returning to Taiwanese, however, there is no compelling evidence for us to say that what the marker *pi* selects in the Taiwanese *kha* comparative like (8a-b) is a clause not an NP (i.e. *Tan-e*). So, following Heim (1985) and Kennedy (2005, 2007), I suggest that the Taiwanese *kha* comparative construction is an individual comparison construction, not a degree comparison construction.⁹ In other words, in an example like (7a), what are compared in syntax are two individuals rather than two degrees.

Fourth, the predicate of comparison in the Taiwanese *kha* comparative can be a gradable adjective, a gradable stative verb, a complex predicate either containing a gradable main verb or containing some gradable element if the main verb is not gradable, or a gradable event predicate, as shown by examples below.

(15) a. *adjective*

Ong-e pi Tan-e kha kuan.

Ong-e compare Tan-e kha tall

‘Ong-e is taller than Tan-e.’

b. *gradable stative verb*



⁹ Kennedy considers two potential parameters of comparative variation:

- (i) Individual vs. degree comparison: Do comparatives express orderings between arbitrary individuals (individual comparison), or do they (also) express orderings between individuals and arbitrary degrees, the value of which may be conveyed syntactically by complex degree descriptions?
- (ii) Explicit vs. implicit comparison: Does comparison involve specialized morphology that expresses arbitrary ordering relations (explicit comparison), or does comparison involve taking advantage of the inherent context sensitivity of the positive (unmarked) form (implicit comparison)?

tsə laubu e kha liaukai kaki e gin-na
be/as mother e kha understand self POSS kids

‘Usually, the mother knows her kids more than other people’s kids.’

‘Usually, the mother knows her kids more than other people know her kids.’

c. *complex predicate*

Ong-e pi Tan-e tsiah kha che

Ong-e compare Tan-e eat kha much

‘Ong-e eats more than Tan-e.’

d. *complex predicate*

Ong-e pi Tan-e kha tsia lai

Ong-e compare Tan-e kha early come

‘Ong-e come here earlier than Tan-e.’

e. *event predicate*

[li khi] pi [gua khi] kha sikhap

you go compare I go kha suitable

‘Your attendance is better than my attendance.’

The gradable adjective predicate ‘tall’ in (15a) maps objects onto the scale of height and, semantically, denotes relations between individuals and degrees. The comparative degree adverb *kha* serves as a function requiring the degree of *Ong-e* is above the degree of *Tan-e*. In (15b), the stative verb ‘understand/ know’ which is an individual-level predicate is employed here. An individual-level predicate refers to a permanent property or characteristic that an individual used to have, like *tall* and *intelligent*. Thus, every mother is endowed with a property that is *understanding her son very much*, so in line with gradable adjectives, stative verbs involve the gradable

reading to build comparative construction. In addition, example (15b) represents an ambiguous reading depending on whether its standard NP is subject-oriented or object-oriented. Hence, example (15b) can be paraphrased as below:

- (16) a. Usually, the mother knows her kids more than other people's kids.
b. Usually, the mother knows her kids more than other people know her kids..

As for the complex predicates in (15c), when two or more than two predicates are contained in one sentence without any conjunction, the primary predicate should be distinguished from the non-primary predicate which is the so-called secondary predicate. Therefore, *tsiah* 'eat' is the primary predicate denoting the main event relation to the subject and the primary predicate while the depictive secondary predicate *che* 'much' describes an accompanying state of its subject at the time when the action denoted by the primary predicate takes place.¹⁰ Besides, the secondary predicate *che* 'much' is a gradable adjective, therefore the insertion of the comparative degree adverb *kha* serves as a modifier for the secondary predicate and denotes the comparison in relationship to the comparee NP and standard NP.

¹⁰ There are two types of V-de constructions in Mandarin Chinese (see Huang, 1988, Zhang, 2001 and among others), as the two examples below.

(i) *depictive*

Zhangsan pao-de hen-kuai
Zhangsan run-DE very-fast
'Zhangsan runs fast.'

(ii) *resultative*

Zhangsan pao-de hen-lei
Zhangsan run-DE very-tired
'Zhangsan has run and is tired.'

The complex predicates in (15d) are not a relation of primary and secondary predicates but a modifier and a modifiee relation. *Tsia* ‘early’ is used to modify the predicate *lai* ‘come’ to form a complex predicate. However, in Taiwanese, the adjectival predicates, when lacks contrastive reading, are not allowed to exist independently but modified by a degree adverb, such as *kha* ‘compare’, *chiok* ‘enough’, *chin* ‘really/very’ and *siong* ‘the most’. In other words, the degree adverbs are obligatory for adjectival predicates in Taiwanese as well as Mandarin, as the contrast between (17a) and (17b) in Taiwanese and (18a) and (18b) in Mandarin illustrates.¹¹

(17) a. *Taiwanese*

*Ong-e tsia lai

Ong-e early come

‘Ong-e is early to a place.’

b. Ong-e kha/ chiok/ chin/ siong tsia lai

Ong-e compare /enough/ really/ the most early come

(18) *Mandarin*

a. *Zhangsan pang

Zhangsan fat

¹¹ This issue is related to adjectival structures in Mandarin and Taiwanese. Mandarin requires adjectives should be modifier by degree adverbs in yielding positive form except contrastive readings. Liu (2009) argues that Chinese has a positive morpheme that has two allomorphs: a covert one and an overt one (i.e., the degree word *hen*), see Liu (2009) for comprehensive discussion about “The positive morpheme in Chinese and the adjectival structure”.

‘Zhangsan is fat.’

d. Zhangsan hen pang

Zhangsan very fat

‘Zhangsan is very fat.’

English, however, does not follow this limitation; namely, the positive reading can be represented by a bare adjective form and degree adverbs are optional. Their existences just serve the example with an intensifier reading.

(19) a. John is tall.

b. John is very /so /too tall.

Turning to example (15e), this example contains two event predicates: *li khi* ‘you go’ and *gua khi* ‘I go’. Each of them contains an NP as a subject and a VP as a predicate. This construction might be treated as a clausal comparative. However, in the sense of Kennedy (2002), a clausal comparative must involve a comparative deletion which is an obligatory requirement used to distinguish CD from other deleted operations in English. Based on this constrain, example (15e) should be a phrasal comparative containing two event predicates rather than a clausal comparative.

Fifth, semantically the morpheme *kha* functions like the English comparative morpheme *more/-er* by denoting a relation between two degrees of the compared

individuals, as we have mentioned before, and requires one to be larger than the other.¹²

(20) a. *Taiwanese*

Ong-e kha kuan Tan-e

Ong-e kha tall Tan-e

‘Ong-e is taller than Tan-e.’

b. *English*

John is taller than Bill (is).

Furthermore, in terms of presupposition, English and Taiwanese do not imply that the two individuals compared have to be tall. For example, (20a) is felicitous in the following scenario: there are two men: *Ong-e* is 165cm tall, while *Tan-e* is 160cm. As a man, they both are not tall, or rather they are short. A sentence like (21) can suitably be used to describe their height relation:

(21) Ong-e pi Tan-e kha kuan, mko hin nine long bo duahan

Ong-e compare Tan-e kha tall however they two all not tall

‘Ong-e is taller than Tan-e, however, neither of them are tall.’

¹² In Taiwanese, however, there is not an exact word corresponding to English *than*. Some studies on Chinese comparative, including Xiang (2005), Erlewine (2007), and Lin (2009), posit that *bi* ‘than’ not only has the function of English *than* but also has the function of the English comparative morpheme *more/-er*. Nevertheless, this is not a felicitous function for Taiwanese *pi*, since the *pi*-NP is an adjunct constituent and sometimes is optional.

The same can also be applied in the English sentence (20b). Therefore, the Taiwanese *kha* is similar to the English comparative morpheme *more/-er* in that neither have any presupposition.

However, the Taiwanese *kha* is considerably different from the Chinese morpheme *geng* ‘even more’ with respect to presupposition.¹³ Mandarin *geng* ‘even more’ presupposes that the properties predicated of the compared objects are true in the absolute sense. In other words, the standard NP *Lisi* must be taller than the average height that is agreed by everyone, as the interpretation of (22), taken from Liu (2010), indicates.

(22) *Mandarin*

*Zhangshang bi Lisi geng gao ma? Dui a! Zhangshang bi Lisi
 Zhangshang than Lisi GENG tall SPF Right SPF Zhangshang than Lisi
 geng gao, danshi liang-ge dou bu gao.
 GENG tall but two-CL all not tall

*Is Zhangshang even taller than Lisi is? Yes ! Zhangshang is even taller than Lisi is, but both of them are not tall.’

In accordance with the properties of comparative construction discussed above, Taiwanese *kha* does not match up with Mandarin *geng* ‘even more’, neither does the English *more/-er*, in terms of their functions.

¹³ See Liu (2010) for more discussions about *geng* ‘even more’ in clausal comparative.

Thus far, I have listed the major syntactic and semantic properties of the canonical Taiwanese comparative construction. In short, *kha* is more prominent than *pi*, due to the optionality of *pi*, in forming comparatives and the sequence *pi NP* is treated as a phrasal comparative which denotes that two individuals are compared. In addition, the predicate which is modified by *kha* must involve gradable sense. Furthermore, unlike Mandarin *geng* ‘even more’, *kha* does not presuppose that the properties predicated of the compared objects are true in absolute sense.

In the next section, I will turn to introduce a specific comparative construction which has divergent features from the canonical comparatives.

2.2 The Specific *kha... ma* Construction

In Taiwanese, however, there exists another type of *kha*-containing construction like (23a-b), which empirically challenges the above description on the syntax and semantics of the marker *kha* comparative.

(23) a. Li kha tsao ma bo hao.

You kha run ma not useful

‘It is useless no matter how hard you try to run.’

b. li kha tsiah ma tsiah mei toakho/pui

You kha eat ma eat not fat/heavy

‘You cannot become fat no matter how much food you eat.’

More clearly, the predicate modified by the marker *kha* in this type of construction can be a non-gradable active verb, like *tshao* ‘run’ and *tsiah* ‘eat’. At this moment, the question of whether there are any differences between the marker *kha* in (23a-b) and that in the Taiwanese *kha* comparative like (24a-b) immediately comes out.

(24) *non-gradable active predicate*

a. *Ong-e pi Tan-e kha tshao/tsiah.

Ong-e compare Tan-e kha run /eat

‘Ong-e can run faster/ eat more than Tan-e.’

b. *Ong-e kha tshao/tsiah Tan-e

Ong-e kha run /eat Tan-e

‘Ong-e can run faster/ eat more than Tan-e.’

There are two possible ways of answering this question: one is to assume that there exists only one *kha* and the different properties are due to the divergent syntactic structures. The other is to assume that there are two different *khas* (i.e. the lexical ambiguity analysis): one is used to modify gradable predicates to form the basic comparatives and the other is for non-gradable ones to constitute specific *kha...ma* constructions.

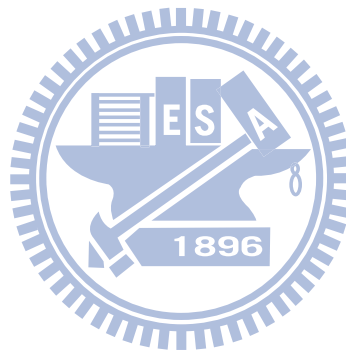
(25) Tsit-khan tsabo-kin-na kha sui, ma be tshua tit

This-kind girl kha beautiful ma not marry SFP

‘This kind of girl even though is beautiful; one cannot marry (her).’

However, as example (25) indicates, in the *kha ...ma* construction, the marker *kha* can also be employed to modify the gradable predicates like *sui* ‘beautiful’. Therefore, the second possible analysis cannot be maintained.

In this chapter, I have examined the properties involved in *kha* comparison in terms of syntax and semantics, and then introduce a specific *kha... ma* construction that diverges greatly from the basic comparative. Hence, next chapter, in turn, I will canvass the properties of *kha...ma* construction in accordance with syntax, semantics and pragmatics as well.

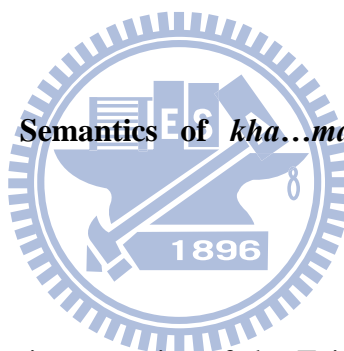


CHAPTER 3

THE SYNTACTIC AND SEMANTIC PROPERTIES OF THE *KHA...MA* COMPARATIVE CORRELATIVE CONSTRUCTION

In this chapter, I will mainly analyze the syntactic and semantic properties of the Taiwanese *kha...ma* comparative correlative construction from the following perspectives: the semantics and syntax properties of this construction, expectation-contravention reading, the different situation types, the quantificational analysis and the relationship among English *again*, Mandarin *zai* ‘again’, and Taiwanese *kha*.

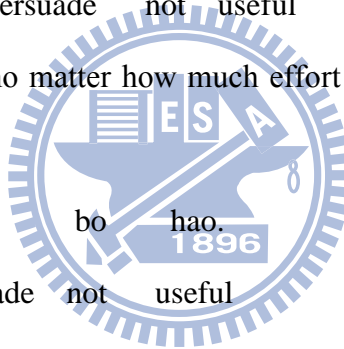
3.1 The Syntax and Semantics of *kha...ma* Comparative Correlative Construction



The syntactic and semantic properties of the Taiwanese *kha...ma* comparative correlative constructions are observed as: first, the markers *kha* and *ma* in this construction both are obligatorily required, as shown by the contrast between (26a) and (26b-c) in grammaticality.¹⁴

¹⁴ Examples (26b) and (26d) can be considered as grammatical forms; nevertheless, they have completely different meanings from (26a). For example: a situation where people have been challenged to change the thinking of an extremely stubborn old man but to no avail. Under this condition, somebody will utter the phrase “*Ong-e kong ma bo hao.*” ‘It is useless for Ong-e to persuade him.’ “*Ni kong ma bo hao.*” ‘It is useless for you to persuade him.’ “*Tagai kong ma long bo hao.*” ‘It is also useless for everyone to persuade him.’ An alternative utterance may be “*ni kong bo hao. Gua kong ma bo hao.*” ‘It is useless for you to persuade him and it is also useless for me.’ Therefore, based on this

- (26) a. li kha kong ma bo hao.
 You kha talk/ persuade ma not useful
 ‘No matter how much effort you spend trying to persuade somebody, it is useless.’
- b. *li kong ma bo hao.
 You talk/ persuade ma not useful
 ‘It is useless that no matter how much effort you spend trying to persuade somebody.’
- c. *li kha kong bo hao.
 You kha talk/ persuade not useful
 ‘It is useless that no matter how much effort you spend trying to persuade somebody.’
- d. *li kong bo hao.
 You talk/ persuade not useful
 ‘It is useless that no matter how much effort you spend trying to persuade somebody.’



scenario, the reading of (26b) and (26d) is that the speaker wants to express many events of persuasion which are associated to distinctive individuals. It means that more than one individual has tried to persuade this person. Nevertheless, the consequences of the events are just the same. Specifically, it is useless for many people to persuade a stubborn man. Example (26a), however, reflects that the act of persuasion has been repeated many times, but they are all connected to the same individual and, uselessly, the same result is represented again and again.

Although the two markers *kha* and *ma* are not necessarily to be adjacent to each other, they must be closely related or depend on each other; otherwise the sentence will be unacceptable. For this reason, I analyze the Taiwanese *kha...ma* construction as a correlative construction (henceforth the Taiwanese *kha...ma* construction). Besides, the word order between these two markers is fixed; namely, the clause containing *kha* has to precede the clause involving *ma*, as the contrast below illustrates.

(27) a. li kha kong ma bo hao.
 You kha talk/persuade ma not useful
 ‘It is useless that no matter how much effort you spend trying to persuade somebody.’

b. *ma bo hao li kha kong
 Ma not useful you kha talk/persuade
 ‘It is useless, no matter how much effort you spend trying to persuade somebody.’

Second, syntactically the *kha...ma* correlative construction can occur either in a form that consists of two clauses: one containing the marker *kha* and the other the morpheme *ma*, or a form in which the part contains the marker *kha* serves as a sentential subject embedded into the part containing *ma* which appears as the main predicate, as illustrated by (28a-b), respectively.

(28) a. [[_{sentential subject} Li kha tsao] [ma bo hao.]]
 You kha run ma not useful

‘It is useless that no matter how fast you try to run.’

b. [_S Tsit-khan tsabo-kin-na kha sui], [_S (*Pro*) ma be tshua tit].

This kind girl kha beautiful (*Pro*) ma not marry SFP

‘Even though this kind of girl is beautiful, one cannot marry (her).’

The *Pro* as the subject in the second clause of (28b) can be either the addressee or an arbitrary reading within this context.

In addition, these correlative two clauses or sentential-subject and predicate constructions are felicitous to distinguish the canonical Taiwanese comparative construction from the *kha ...ma* correlative construction. A canonical comparative only involves one clause introducing two individuals, sometimes one is an explicit individual and another is an implicit one which is determined by the context, and describes their degree relations. While the *kha ... ma* construction must involve two clauses, one is introduced by the morpheme *kha* and the other is by the morpheme *ma*, to match so-called correlative structure. Besides, the predicates introduced by *kha* are not restricted to components containing gradable reading. Instead, they range over non-gradable active ones. This can be applied to account for the ungrammaticality of example (24), repeated here as (29).

(29) *non-gradable active predicate*

a. *Ong-e pi Tan-e kha tshao/tsiah.

Ong-e compare Tan-e kha run /eat

‘Ong-e can run faster/ eat more than Tan-e.’

b. *Ong-e kha tshao/tsiah Tan-e

Ong-e kha run /eat Tan-e

‘Ong-e can run faster/ eat more than Tan-e.’

In the two examples, there is only one *kha* containing clause, so they should be treated as basic comparative structures. However, the predicate modified by *kha* is a non-gradable active one that is not allowed in a canonical comparative construction resulting in ungrammaticality of the example on the one hand. On the other hand, the non-gradable active predicate can occur only in the *kha ... ma* construction. Nevertheless, one clause cannot suitably express the correlative structure and, surely, leads to the ungrammatical form. Furthermore, semantically, the *kha ... ma* construction together contributes to the expectation-contravention reading, this will be analyzed in the next section. Thus, the *kha* clause bears the expectation reading while the *ma* clause provides the result, in effect, of the violation of someone’s expectation. Lacking a violation result is also the reason why example (29) is not good.

3.2 The Expectation-Contravention Reading in *kha...ma* Constructions and the Comparisons between *no matter wh* in English and (*wulun*) *wh...dou* in Mandarin

3.2.1 The Expectation-Contravention Reading

The predicate introduced by the conjunctive adverb *ma* is usually in a negative form rather than an affirmative, and all the negative morphemes in Taiwanese can

occur in the predicate introduced by *ma*, as the contrast between (30a-e) and (31) in grammaticality shows (cf. Li (1971), Lin (1974) and Teng (1992)).¹⁵

(30) a. Li kha tsao, ma bo hao.

You kha run ma not useful

‘It is useless, no matter how fast you try to run.’

b. Li ko kha kin, ma be -hu.

You even kha fast/hurry ma not-on-time

‘Even if you are in a hurry, you cannot get there on time or catch the bus.’

c. Yi kha kong, ma m-tiaN.

He kha persuade ma not accept/ listen

‘He doesn’t accept it, no matter how much effort you spend trying to persuade him.’

e. Yi toh-si ko kha ka li yaokiu, li ma mai tshap yi.

He even-if even kha for you ask you ma not respond he

¹⁵ Taiwanese negative words are in fact a combination involving a negative and an affirmative. This is shown below in their compositional relations.

- (i) a. Neg + u → bo
 b. Neg + e → be
 c. Neg + beh → m₁
 d. Neg + Ø → m₂

‘No matter how much effort he spend trying to ask you, you do not make any response.’

e. Li kha kong, yi ma buai tiaN.

You kha persuade he ma not accept

‘No matter how much effort you spent trying to persuade him, he does not accept it.’

(31) *Li kha kong, ma u hao.

You kha talk/persuade ma have useful

‘No matter how much effort you spent trying to persuade him, it is useful.’

The property that the part introduced by the conjunctive adverb *ma* must contain a negation marker immediately raises the following two questions: Why does this correlative construction usually require the occurrence of a negative marker inside? How does this negative marker function in syntax and semantics?

Pragmatically, the Taiwanese *kha ...ma* correlative construction is designed to express the meaning: no matter how hard a person has tried, the painstaking effort that she/he offers is unwanted. More clearly, the morphemes *kha* and *ma* are similar to the English *no matter how* and together contribute to an expectation-contravention reading. The first clause involving *kha* denotes the expectation reading of the comparee NP while the clause involving *ma* denotes the expectation-violation reading by introducing a negative consequence of the comparison in the *kha* clause. This is a felicitous way to account for the ungrammaticality of example (31). Besides, in any competition, usually, the competitor is eager for the victory. Therefore, the

expectation-contravention reading should be precisely represented in a negative form to express the violation of a comparee NP's expectation, as example (32b).

(32) a. *English*

No matter how hard he may try, he will not succeed.

b. *Taiwanese*

Li kha tsao ma bo hao.

You kha run ma not useful

'It is useless, no matter how fast you try to run.'

c. *Taiwanese*

Tsit-khan tsabo-kin-na kha sui ma be tshua tit

This kind girl kha beautiful ma not marry SFP

'This kind of girl even though is beautiful, one cannot marry (her).

Likewise, example (32c) states that every man hopes to marry a very beautiful woman and make his friend jealous. However, if the woman has a vicious and brutal temper, you cannot marry a woman like this regardless of her beauty. Therefore, the predicate introduced by the conjunctive adverb *ma* 'also' semantically denotes the negative effect and usually occurs in a negative form to convey the expectation-contravention reading. Thus, the part containing the conjunctive adverb *ma* is understood as the consequent part that denotes a meaning with negative sense. This is the reason why the predicate introduced by the conjunctive adverb *ma* 'also' usually occurs in a negative form.

However, the example below challenges my analysis above on the expectation-contravention reading of *kha...ma* construction.¹⁶

- (33) He-gia-lang e tsabo-kiaN kha bai ma u lang tshua
Rich man POSS daughter kha ugly ma have man marry
'Richman's daughter will marry someone no matter how ugly she is.'

In order to violate the expectation reading of the comparee NP, as we have mentioned, the negative consequence of the comparison should be introduced by a negative morpheme within the *ma* clause. Example (33), however, indicates that an affirmative proposition can also occur in the *ma* clause and this forces me to revise the concept of expectation-contravention. The affirmative consequence is derived from the expectation reading which is conveyed in the *kha* clause is negative.

Usually, we expect that few men want to marry a woman who is really ugly, or sometimes a little fat; nevertheless, if, luckily, she has a father who is the rich. Then, this condition will be converted and, of course, there must be some men who will risk marrying her regardless of her ugliness. Given this, the expectation-violation reading works as a pair relation, namely, if the expectation reading introduced by *kha* is a positive reading, then, a negative morpheme should be involved to violate the positive one and vice versa.¹⁷ The pairing relation is, therefore, shown as a table below:

¹⁶ I am grateful to Chin-Man Kuo for putting forward the counter example that makes me to rethink the concept of expectation-contravention.

¹⁷ The expectation-contravention reading in the Mandarin *lian... dou/ye* 'even...all/also' constructions functions similarly to the Taiwanese *kha...ma* construction and works as a pair relation. However,

(34) The pairing relation between the expectation and violation

The expectation reading in the <i>kha</i> clause	The violation result in the <i>ma</i> clause	The involving predicate in <i>ma</i> clause
Positive (+)	Negative (-)	Negative morpheme
Negative (-)	Positive (+)	Affirmative morpheme

3.2.2 English *no matter wh* Constructions

This pairing relation between the expectation and violation can also be applied to the English “*no matter wh* construction” since this construction also involves two

uniquely, the expectation reading implicitly exists in both the speaker’s and the addressee’s mind, see the examples below.

- (i) Ta lian sheng-cai dou ch
He even leftover dou eat
‘He eats even the leftover.’
- (ii) Di-di lian zhe-men jian-dan de shu-xue dou bu-hui
Brother even such easy de math dou cannot
‘Brother cannot understand even such an easy math question.’

In example (i), the speaker and addressee both think that it is impossible for him to eat that kind of food –leftover; however, he is against everyone’s expectation that he ate it. Thus, the positive reading involved in the contravention clause is in order to violate the implicitly negative expectation. While in example (ii), the speaker expects that everyone knows this kind of easy math questions, but, unluckily, the younger brother does not understand them. Conversely, the negative morpheme serves to violate the implicitly positive expectation. This is the reason why I argue that the expectation-contravention works as a pair relation in both Taiwanese *kha...ma* constructions as well as Mandarin *lian ...dou /ye* ‘even...all/also’ constructions.

clauses -the main clause and the subordinate clause introduced by *no matter* and *wh*-expression respectively. In line with Taiwanese, the subordinate *no matter* clause denotes the expectation reading while the main clause implies the violation reading. Unlike *kha...ma* construction, the negative expectation reading in English *no matter* clause is sometimes implicitly involved; namely, we may get two clauses which are both positive readings represented in the surface structure, but, internally, one is positive and the other is a negative reading involved respectively, as illustrated in the examples below.¹⁸

- (35) a. No matter what he says, don't believe him.
b. No matter what you say, I believe.
c. No matter how hard I work, there is always more to do.
d. I won't desert you, no matter when or where.
e. No matter whom you invite, I will welcome him.

In example (35a), the speaker expects that the addressee will accept a specific person's, which is a pronoun noun "he" represented in *no matter* clause, ideas or opinions that might not be useful or even cause some negative effect. In order to remove those ideas, the negative morpheme "don't" here separates the addressee from taking those bad ideas. Hence, the pairing relation of expectation-violation reading – the positive reading contained in the *no matter* clause and the negative morpheme involved in the main clause – represents an obvious meaning. As for (35b), which is

¹⁸ This conception is in line with the Mandarin *lian..dou/ye* 'even...all/also' constructions; namely they both involve the conversational implicature of the expectation.

similar to (35a) in structure but distinctive meanings from the violation clauses since there is no negative morpheme contained in (35b). This is derived from the expectations in the two clauses are different. For (35b), the addressee thinks that the speaker might not take his/her opinions or suggestions, so this sentence conveys the conversational negative implication reading and the violation in the main clause must be a positive one to form the pairing relation. In addition, syntactically, all English *wh*-expressions, ranging over arguments and adjuncts, can be licensed by *no matter* and interpreted as an non-interrogative reading.¹⁹ Therefore, *no matter* is an operator unselectively binding argument *wh*-variables on the one hand and adjunct *wh*-variables on the other.

3.2.3 Mandarin (*wulun*) *wh*...*dou* Constructions

In Mandarin, there is a construction which is similar to *no matter wh* structure in English and this is worthwhile to mention. Mandarin *wh*...*dou* construction can be optionally prefixed by words like *buguan*, *wulun*, or *bulun*, which are all associated with the English *no matter*, see the examples below first.

(36) a. (wulun/ buguan) ni zuo sheme, wo dou mei yijian

¹⁹ Chinese *wh*-phrases such as *shei* ‘who’, *shenme* ‘what’, etc., may sometimes be interpreted as non-interrogative existential indefinites meaning like *somebody*, *something*, etc. In Lin (1998), he treats this kind of *wh*-expressions as existential polarity *wh*-phrases (cf. Huang (1982), Lü (1985), and Li (1992)).

No-matter you do what I all not opinion

‘ No matter what you do, I won’t have an opinion.’

b. (wulun/ buguan) shei dou keyi lai

no-matter who all can come

‘No matter who can come.’

According to Lin (1997), he argues that there is always an implicit *wulun* ‘no matter’ contained in this construction since it does not change the meaning of the sentence no matter whether adding *wulun* ‘no matter’ or not. Thus, the implicit *wulun* ‘no matter’ can be deleted at PF but present at LF, so which can overtly or covertly license the existential polarity wh-phrases in its clausal domain. However, this construction does not always imply the expectation-violation reading but sometimes a free choice reading is yielded. For example (36b) can be paraphrased as *Anybody can come*, it involves the word “any” to represent the free choice reading. Consequently, Mandarin *wh... dou* constructions do not have unified conceptions of expectation-violation or a free choice readings but are determined by their structures. In addition, this construction requires that *dou* must exist in the main clause which functions as a distribution operator, distributing a property over every atomic part of the plural referent in the sense of Lin (1996, 1997), yet this issue is beyond the scope of this thesis.²⁰

²⁰ *Dou* is an intricate issue in Mandarin and different linguists have distinctive points of view on it, such as, Lee(1986) assumes that *dou* is a universal quantifier while Cheng (1991, 1995), in her analysis is in line with Lee’s and adds more assumptions which are:

(i) Chinese wh-phrases are free variables lacking inherent quantificational force just like indefinites in the sense of Heim (1982).

3.2.4 The Contrast between Taiwanese, Mandarin, and English in *no matter wh* constructions

Interestingly, in Taiwanese and Mandarin, they both have a structure whose meaning is similar to the English *no matter wh* but diverge in syntax, semantics, as well as pragmatics. This section I will mainly analyze the similarities and divergences among them.

First, Taiwanese *kha... ma* and Mandarin *wh...dou* constructions allow the deletion of *mkuan* and *wulun* ‘no matter’ and do not affect the meaning of the sentence while the English *no matter* cannot be omitted, as the contrast below shows.

(37) a. *Taiwanese*

(mkuan) ni ko? kha (antsua) tsiah ma tsiah bei toakho/pui
 no-matter you even kha how eat ma eat not fat/heavy

‘No matter how much food you eat you cannot become fatter than now you are.’

b. *Mandarin*

(wulun/ buguan) ni zuo *(sheme), wo dou mei yijian

No-matter you do what I all not opinion

(ii) Chinese *wh*-phrases are also polarity items which need to be licensed by a licenser m-commanding it at S-structure

(iii) *Dou* is both a polarity licenser and a binder

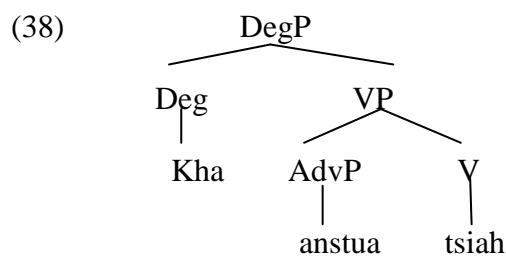
However, I will not go further into this issue of *dou*.

‘No matter what you do, I won’t have an opinion.’

c. *English*

*(No matter) *(how hard) I work, there is always more to do.

In the light of Lin (1997), the implicit *wulun* ‘no matter’ can be deleted at PF but present at LF, so which can overtly or covertly license the existential polarity *wh*-phrases in its clausal domain. This conception can also be applied to Taiwanese *ka...ma* construction rather than English. English requires the *no matter* operator overtly license the existential polarity *wh*-phrases at PF. Thus, lacking the existence of *no matter* at PF can not exactly reflect the *no matter* meaning of the sentence. In addition, English and Mandarin require that the existential polarity *wh*-phrases should be involved in this construction regardless of argument or adjunct *wh*-words whereas Taiwanese does not. In *kha...ma* constructions, only the manner adverb *antsua* ‘how’ is legitimate to be a modification for a VP which is dominated by the degree head *kha* in the DegP domain, the structure is illustrated below.²¹



²¹ The tree diagram here may perplex readers that why a degree modification can select a VP as its complement. This issue will be solved in the sense of Doetjes (1997) in chapter four.

There is no reason for an existential polarity *wh*-phrase to be a modifier for a VP midifiee, hence the *kha...ma* construction only allows the occurrence of the manner adverb *antsua* ‘how’ rather than other *wh*-phrases and it obviously is not licensed by *mkuan* ‘no matter’ in the PF but by the degree adverb *kha* to express the manner reading of the VP. As for the rest two structures, *wh*-expressions are obligatorily required, as the grammaticality indicates in examples (37b) and (37c), since they are existential polarity items which typically occur in negative sentences but not in affirmative ones. Therefore, *wulun* and *no matter* covertly or overtly license and require their existences. However, the function of *no matter* in Taiwanese is absorbed by the degree head *kha* which does not license an existential polarity item but a manner adverb to modify the VP.

Furthermore, English *wh*-expression *how* in *no matter* constructions is a degree adverb on the one hand which interprets the degree of gradable adjectives and a manner adverb on the other to represent the manner of a VP which is modified by it. However, Taiwanese manner adverb *antsua* ‘how’ does not have the same characteristics; instead, the co-occurrence with a gradable adjective is somehow disallowed here, as shown by the contrast between (39) and (40) in grammaticality.

(39) *English*

- a. No matter how hard he may try, he will not succeed.
- b. No matter how difficult English is, I will keep on learning.
- c. No matter how they slander us, we will never give in.

(40) *Taiwanese*

- a. *Tsit-khan tsabo kin-na kha antsua sui ma be tshua tit
 This kind girl kha how beautiful ma not marry SFP
 ‘Even if this kind of girl is beautiful, one cannot marry (her).’
- b. *He-gia-lang e tsabo-kiaN kha antsua bai ma u lang tshua
 Rich man POSS daughter kha how ugly ma have man marry
 ‘Richman’s daughter will marry someone no
 matter how ugly she is.’

A possible reason for the ungrammaticality of the examples is that *antsua* ‘how’ in Taiwanese only contains the meaning of manner adverb rather than degree one. Thus, a manner adverb is not compatible with a gradable adjective to express its degree sense.

Second, Mandarin *wulun* sentences and Taiwanese *kha...ma* constructions have some required elements which are differ from English *no matter* sentences. English does not have a word corresponding to *dou* in Mandarin or *ma* in Taiwanese that is a necessary component in the main clause.²²

(41) a. *English*

No matter how hard he may try, he will not succeed.

b. *Taiwanese*

(mkuan) ni ko? kha (antsua) tsiah ma tsiah bei toakho/pui

No-matter you even kha how eat ma eat not fat/heavy

²² This issue is still a pending problem and I will not solve it until my Ph.D. program.

‘No matter how much food you eat you cannot become fatter than now you are.’

c. *Mandarin*

(wulun/ buguan) shei dou keyi lai
no-matter who all can come
‘No matter who can come.’

Third, returning to pragmatics, as we have mentioned, the English *no matter wh-* constructions and Taiwanese *kha...ma* constructions both involve the pairing of expectation-violation readings, but we do not expect this situation contained in the Mandarin (*wulun*) *wh....dou* construction; in effect, sometimes, it conveys the free choice interpretation that is quantified by the distributional operator *dou*. Consequently, the free choice reading of (42a-b) can be paraphrased as (42c-d).

(42) *Mandarin*

- a. (wulun/ buguan) shei dou keyi lai
no-matter who all can come
‘No matter who can come.’
- b. (wulun/buguan) ni yaoqing shei, wo dou huanying ta
No-matter you invite who I all welcome him
‘No matter whom you invite, I will welcome him.’
- c. John is permitted to come.
Mary is permitted to come.
Sue is permitted to come.

Anybody is permitted to come.

- d. You invite John, I welcome him.

You invite Mary, I welcome her.

You invite Sue, I welcome her.

You invite anybody, I welcome them.

Fourth, the word order in Mandarin and Taiwanese is fixed and requires that the first clause should involve the *kha* or *wh*-word and the second contain *ma* or *dou*. This limitation does not apply to the English *no matter wh* construction which has free word order but an adjacent requirement. This is because Mandarin *wh...dou* and Taiwanese *kha...ma* constructions are somehow kind of correlative constructions which require their obligatory elements to be fixed to match the correlative sense.

- (43) *English*

- a. No matter how hard he may try, he will not succeed.
b. He will not succeed no matter how hard he may try.

Mandarin

- c. (wulun/buguan) ni yaoqing shei, wo dou huanying ta
no-matter you invite who I all welcome him
'No matter whom you invite, I will welcome him.'
- d. *wo dou huanying ta wulun/buguan ni yaoqing shei,
I all welcome him no-matter you invite who
'No matter whom you invite, I will welcome him.'

- e.. *Taiwanese*

(mkuan) ni kha (antsua) tsiah ma tsiah bei toakho/pui
 no-matter you kha how eat ma eat not fat/heavy
 ‘No matter how much food you eat you cannot become fatter than now you
 are.’

f. *ma tsiah bei toakho/pui mkuan ni kha antsua tsiah
 ma eat not fat/heavy no-matter you kha how eat
 ‘No matter how much food you eat you cannot become fatter than now
 you are.’

Accordingly, in line with the discussion above, I argue that the *no matter wh* constructions in Mandarin and Taiwanese are derived from the English *no matter wh* construction. In other words, English *no matter wh* construction is the base form which requires all the essential elements must be contained within it while Mandarin and Taiwanese constructions are its variants in other languages and they represent some divergent properties and are subject to some other constrains which differ from their base construction.

3.3 The Situation Types of Predicates in *kha... ma* Constructions

In this section, I will consider the situation types of predicates that can occur in this construction and their properties as well. In addition, the role played by unboundedness is also a concern in this section.

Assuming Smith’s (1997:20) theory of situation types, there are five types of situations: state, activity, accomplishment, semelfactive, and achievement; all of them differ in temporal properties of dynamism, duration, and telicity. I suggest that the

situation type of predicate in Taiwanese *kha ...ma* correlative constructions must be unbounded such as a state, an activity, or a derived multiple-event consisting of repeated achievement or semelfactive events, as shown by the contrast between (45a-d) and (45e-f) in grammaticality illustrates (cf. Vendler (1957/1967), Comrie (1976), Levin (2007))

- (44) a. State: A state is an eventuality in which there is no perceptible change and the temporal properties are stative and durative, but telicity is irrelevant to stative situation, ranging over adjectives and stative verbs, such as, know and love and so on.
- b. Activity: The temporal properties of activity are dynamic, durative, and atelic, so *laugh*, *run* and *stroll* are exemplified.
- c. Accomplishment: The best characterization is that an accomplishment denotes duration--either a telic duration or a non-telic one, like *build a house*, *walk to school*, and *learn English*.
- d. Achievement: The temporal properties of achievement are dynamic, telic, and punctual, i.e., non-durative or instantaneous, for example, *win a race*, and *reach the top*.
- e. Semelfactive: Semelfactive verbs, also called momentary verbs or punctual verbs, are verbs whose events occur once (in context) and last a short period of time. Therefore we can say its involvement of temporal properties are dynamic, atelic, and punctual, namely, non-durative or instantaneous, *tap* and *knock* are examples.

The examples below indicate that what kinds of situation types of predicates are legitimate or illegitimate within this *kha...ma* construction.

(45) a. *stative: gradable*

Tsit-khuan tsaobo kin-na kha sui, li ma be tshua ti.

This kind girl kid kha pretty you ma not marry SPF

‘Even if this kind of girl is beautiful, you cannot marry (her).’

b. *semelfactive repetition*

Li, meng ko kha long ma bo hao.

you door even kha knock ma not useful

‘It is useless no matter how hard you try to knock on the door.’

c. *active: non-gradable*

Li kha tsao ma bo hao.

You kha run ma not useful

‘It is useless no matter how fast you try to run.’

d. *achievement repetition*

Pa? lang-e kin-na kha si, ma si be liao.

other person’s kids kha die ma die not over

‘It is not over no matter how many other people’s kids died.’

e. *accomplishment*

*Li kha tsia-pa, ma bo hao.

you kha eat-full ma not useful

‘It is useless no matter how full you ate.’

f. *accomplishment*

* Li kha kiaN khi hau- hao ma bo hao
you kha go to school ma not useless

‘It is useless no matter how many times you go to school.’

Prima facie, the assumption seems to be seriously challenged by example (45d). As for the event of dying, there must be a splitting point between being dead and alive; namely, this point is the ending point of someone’s life, and conversely, it is also the starting point of being dead. The reason why the achievement verb *si* ‘die’ can be compatible with the degree adverb *kha*, rather than the accomplishment verbs *tsia-pa* ‘eat-full’ and *kiaN khi hou- hao* ‘go to school’, is that the achievement verb has turned its temporal properties into a derived multiple-event consisting of repeated achievement events. It represents that it does not matter for the speaker no matter how many other people’s kids died, so the dying events repeat again and again lacking an end-point. Therefore, what *kha* actually modifies in (45d) is an unbounded event rather than a bounded one. Likewise, the semelfactive verb in (45b) also gets a similar interpretation. Simply put, the degree adverb *kha* is used here to modify the number of times of the events, not the temporal properties, which they originally equip, of semelfactive and achievement verbs. In one word, the situation type of predicate should obey unboundedness to be granted in *kha...ma* construction.

3.4 The Functions of Epistemic Modality

In the previous section, we have examined the predicates that can be modified by the degree adverb *kha*. This section, I will turn to analyze the situation type of

predicates introduced by *ma*. If the predicate modified by the negation marker is not an adjective, then the predicate must contain the modal of possibility *e* ‘will’, as attested by the unacceptability of example (46), which does not contain any modal auxiliary of possibility since *bo* ‘no’ is the opposite of *u* ‘have’ while *be* ‘not’ is a combination of *m* and *e*.

(46) *Activity*

*Li kha kuaN yi, yi ma bo tsau.

you kha force he he ma not run

‘He doesn’t want to run no matter how strongly you force him.’

(47) a. *Gradable adjective*

li kha tsiah ma bo hao

You kha eat ma not useful

‘It is useless no matter how much food you have eaten.’

‘It is useless no matter how much medicine you have taken.’

b. *Gradable adjective*

li kha tsiah ma be (m+e) pui

you kha eat ma not fat

‘You won’t be fat no matter how much food you eat.’

c. *Stative verb*

Yi kha tsao ma tsao be (=m+e) kin.

he kha run ma run not fast

‘He cannot be as fast as he wants no matter how hard he tries to run.’



d. *Activity*

li kha tshiann yi, yi ma m/be (=m+e) lia

you kha invite he he ma not come

‘He does not want to come no matter how many times you invited him.’

e. *Achievement*

Yi kha kuaN ma kuaN be (=m+e)/m/buai (=m+e+ai) tsau.

he kha force ma force not leave

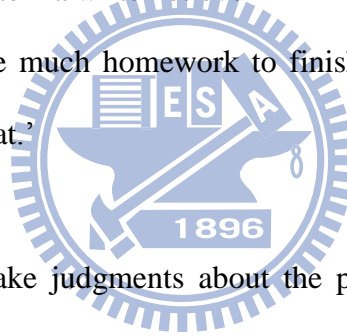
‘He does not want to leave no matter how hard you try to force him.’

f. *Accomplishment*

KoNkho kha sia, ma sia be (=m+e) liao.

homework kha write ma write not over

‘There is too more much homework to finish no matter how much effort you spent doing that.’



Epistemic modals which make judgments about the possibility of proposition turn their following predicates as unbounded in the *ma* clause. Furthermore, the unboundedness effect leads us to expect the predicate modified by the degree adverb *kha* does not co-occur with an aspect marker that expresses perfectivity, conveying the message that the event took place. This indicates that an event is being viewed in its entirety if it is bounded temporally, spatially, or conceptually, Li and Thompson (1981:185), as by the ungrammaticality of (48a-d), which all take the realization aspect marker *-a*. Likewise, the experiential aspect *-kue*, which means that an event has been experienced at least once with respect to some reference time, is also not allowed in *kha...ma* construction, as examples (49a-d) show.

- (48) a. *Li kha tsao-a ma bo hao.
 You kha run-ASP ma not useful
- b. *li ko? kha tsiah-a ma tsiah mei toakho/pui
 You even kha eat-ASP ma eat not fat/heavy
- c. *Li, meng kha long-a ma bo hao.
 you door kha knock-ASP ma not useful
- d. *Li tsia-a, gua kha lai-a, (gua) ma be sen.
 you place particle I kha come-ASP I ma not tired

- (49) a. *Li kha tsao-kue ma bo hao.
 You kha run-ASP ma not useful
- b. *li ko? kha tsiah-kue ma tsiah mei toakho/pui
 You even kha eat-ASP ma eat not fat/heavy
- c. *Li, meng kha long-kue ma bo hao.
 you door kha knock-ASP ma not useful
- d. *Li tsia-a, gua kha lai-kue, (gua) ma be sen.
 you place particle I kha come-ASP I ma not tired

Consequently, the unboundedness effect is the key factor that prevents perfective and experiential aspects, which express bounded reading, from being held in the *kha ... ma* construction. In other words, the predicates going with *kha* and *ma* should obey the the rule of unboundedness.

3.5 The Island Effects

As I have pointed out, the Taiwanese *kha...ma* correlative construction always occurs in a form either containing two clauses or a form in which the clause containing the marker *kha* occurs as the sentential subject. This construction can be involved in a complex NP, while the part containing the conjunctive adverb *ma* occurs as the main predicate. Ross (1967) pointed out that it is impossible to extract out of certain structural environments in English, such as the *wh*- island, coordinate structure, complex NP construction and so on. He proposed the *Complex NP Constraint* (CNPC), which prohibits extraction out of a clause dominated by a higher noun phrase. This constraint was subsumed under the more general subjacency constraint, which prohibits movement across more than one bounding node (Chomsky 1973). (50) is one of the examples Ross used to motivate the CNPC.

(50) *The man_k who I read [_{NP} a statement_j [_{CP} which *e_j* was about *e_k*]] is sick.

(Ross 1967:4.3)

East Asian languages, like Mandarin, Taiwanese, Japanese, and so on, are languages which do not involve overt *wh*-movement in syntax; thus, a complex NP is possible to contain a *wh*- expression, which is subject to *wh*-movement at LF underlined by Huang (1982). Therefore, in *kha...ma* constructions, the *wh*-expression “how” emerges in a complex NP construction, induced by *kha*, and is predicted that this construction should not involve any syntactic movement, especially in the part containing the marker *kha*; otherwise, the violation of syntactic islands such as Complex NP Constraint will occur. This prediction is born out by the fact, as the grammaticality of (51a-c) shows.

(51) a. [_{NP} [_S hit-tsióng liang de giankiu e kha antsua sio] e tsittitsui ma

That-kind we in research POSS kha how small POSS a-drop-water ma
 betong khan-tshingtsho kitiong siong sio e singhun
 cannot see clearly among most small POSS component
 ‘No matter how small a drop of water we might study under the microscope,
 we could not see the hydrogen and oxygen in it.’

b. ?_{[NP [kha antsua sio e tsittitsui]_i [_S hit-tsióng liang de giankiu e] t_i]} ma
 kha how small POSS a-drop-water that-kind we in research POSS ma
 betong khan-tshingtsho kitiong siong sio e singhun
 cannot see clearly among most small POSS component
 ‘No matter how small a drop of water we might study under the microscope,
 we could not see the hydrogen and oxygen in it.’

c. ?_{[NP [hit-tsióng]_j kha antsua sio e tsittitsui]_i [_S t_j liang de giankiu e] t_i]} ma
 that-kind kha how small POSS a-drop-water we in research POSS ma
 betong khan-tshingtsho kitiong siong sio e singhun
 cannot see clearly among most small POSS component

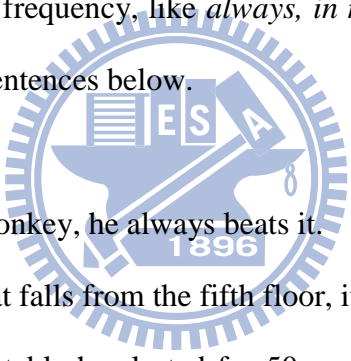
3.6 Adverb of Quantification

In this section, I will determinate the quantificational force in this *kha...ma* correlative construction and consider another class of elements which appear to share the property of unselective binders. They are adverbs of quantification on a par with their English counterparts such as *usually*, *always*, *sometimes*, which designate frequency. Besides, the tripartite structure will be introduced by these adverbs of

quantification, mainly in the light of Heim (1982) and Diesing (1992). In turn, the operator-variable relation, instead of movement, will be discussed.

3.6.1 Quantificational Force and Tripartite Structure

According to Heim (1982), who analyzed quantificational force based on infinite NPs, she argues that indefinite NPs are not equipped with any quantificational force by themselves, and essentially serve as free variables in the logical representation. The quantificational force of the indefinite NPs are determined by an expression that c-commands it in a larger domain. These include adverbs of some sort which involve quantification or designating frequency, like *always*, *in most of the cases*, *sometimes*, or *rarely*, as existing in the sentences below.

- 
- (52) a. If a man owns a donkey, he always beats it.
b. Sometimes, if a cat falls from the fifth floor, it survives.
c. In most cases, if a table has lasted for 50 years, it will last for another 50 years.

Lacking an adverb of quantification, the logical representation of example (53a) can be represented as in (53b). If there is an adverb of quantification, such as *always*, somewhere higher in the domain, it unselectively binds the variables x and y in (53b) and the logical form will be rewritten as (53d).

- (53) a. If a man owns a donkey, he beats it.

- b. $[(\text{man}'(x) \ \& \ \text{donkey}'(y) \ \& \ \text{own}(x,y)) \rightarrow \text{beats}'(x, y)]$
- c. If a man owns a donkey, he always beats it.
- d. $\text{Always}_{xy} [(\text{man}'(x) \ \& \ \text{donkey}'(y) \ \& \ \text{own}(x,y)) \rightarrow \text{beats}'(x, y)]$

In the light of the assumption that the semantics of *always* is associated with universal quantification, it turns out that the logical representation of (53d) is identical in the truth condition to (54). Therefore, a man and a donkey are both assigned the force of universal quantification.

$$(54) \quad \forall x, y [(\text{man}'(x) \ \& \ \text{donkey}'(y) \ \& \ \text{own}(x,y)) \rightarrow \text{beats}'(x, y)]$$

Diesing (1992), following Kamp (1981) and Heim (1982), further adopts the tripartite representation to show that the semantic interpretation of indefinites can be derived from the syntactic representation. Consider the following example:

- (55) a. $[_{IP} \text{Every llama } [_{VP} \text{ate a banana }]]$
- b. $\text{Every}_x \quad [x \text{ is a llama}] \quad \exists_y \ y \text{ is a banana} \wedge x \text{ ate } y$
- quantifier restrictive clause nuclear scope

In (55) the sentence is subdivided into three parts: a quantifier, a restrictive clause, and a nuclear scope. *Every* is a quantifier which quantifies over a restricted set, the *llama*. An existential closure \exists_y is merged at VP to bind the variable introduced by *a banana* in the VP, the nuclear scope.

Based on Diesing (1992)'s and among others' analyses , the semantic interpretation of the *kha ...ma* correlative construction like (56), indicates that this kind of construction involves the universal quantification which can further be overwritten by an overt adverb of quantification, like *long* 'always', *u sitsun* 'sometimes', or *taupohun e sitsun* 'in most cases', as examples (56a-c) shows.

(56) a. Li kha kong ma long bo hao.

you kha persuade ma always not useful

'It is always useless no matter how much effort you spend trying to persuade him.'

b. U sitsun li kha kong ma bo hao.

sometimes you kha persuade ma not useful

'Sometimes, it is useless no matter how much effort you spend trying to persuade him.'

c. Tsit-le kin-na, tuapohun e sitsun, situa lang kha kong ma bo hao.

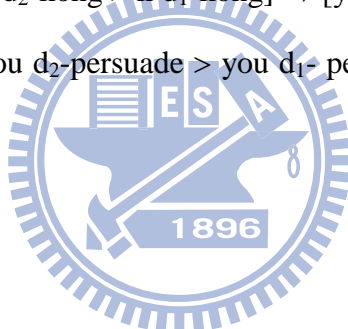
This CL kid in most case elder generation kha persuade ma not useful

'In most cases, it is useless for the kid no matter how much effort his elders spend trying to persuade him.'

Given this, I suggest that the quantificational force of the *kha...ma* correlative construction comes from an adverb of quantification which takes the *kha* clause as its first argument and the clause containing the marker *ma* as its second argument. Namely, the *kha* clause always enters into the restrictive scope while the nuclear scope is provided by the *ma* clause. I further suggest that the quantificational force of

the *kha...ma* correlative construction comes from the implicit adverb of quantification whenever the adverb of quantification is not overtly written (cf. Lewis (1975) Kamp (1981) and Heim (1982)). Thus, semantically, the adverb of quantification functions to introduce the tripartite structure which involves universal quantification. Furthermore, since the Taiwanese *kha...ma* construction conveys a sense of comparison, I suggest that two degree or quantity variables d_1 and d_2 must be generated in the nuclear scope and be associated with their restrictive-domain counterparts d_1 and d_2 , respectively. In addition, d'_2 must be larger than d'_1 . Assuming these, the logical interpretation of (56a) is illustrated by (57):

- (57) $\forall d_1, d_2, d'_1, d'_2$ [li d_2 -kong > li d_1 -kong] \rightarrow [yi d'_2 -m-tiaN > yi d'_1 -m-tiaN]
 $\forall d_1, d_2, d'_1, d'_2$ [you d_2 -persuade > you d_1 -persuade] \rightarrow [he d'_2 -not accept > he d'_1 -not accept]



3.6.2 Operator-Variable Relations

As I have pointed out, this construction does not involve any syntactic movement since either *kha* or *ma* can, especially when the part containing the marker *kha*, occurs inside a syntactic island, as a complex NP environment. This implies that the relation between the variables and their quantificational force is somehow an operator-variable relation and there is no movement applied within it since the variables and their quantificational operators might occur in a syntactic island. This operator occupies the higher syntactic position which can c-command and license the variables.

- (58) [NP [S hittsiong liang de giankiu e kha antsua sio] e tsittitsui ma
 That-kind we in reaseach POSS kha how small POSS a-drop-water ma
 betong khan-tshingtsio kitiong siong sio e singhun
 cannot see clearly among most small POSS component
 ‘No matter how small a drop of water we might study under the microscope,
 we could not see the hydrogen and oxygen in it.’

For this reason, the operator-variable relation here should not be a movement relation. Accordingly, I suggest that the Taiwanese *kha...ma* correlative construction involves unselective binding. Therefore, the logical representation of (59a-b) is similar to (60a-b).

- (59) a. Tsit-khuaN tsabo-kin-na kha sui, ma be tshua ti. (*degree variable*)
 This kind girl kha pretty ma not marry SPF
 ‘Do not marry this kind of girl no matter how pretty she is.’
- b. li kha tshao ma tshao be yiaN i. (*something like a quantity variable*)
 he kha run ma run not win i
 ‘You cannot win against him no matter how hard you try to run.’
- (60) a. $\forall d_1, d_2 d'_1, d'_2$ [Tsit-khuaN tsabo-kin-na d_2 -pretty > Tsit-khuaN tsabo-kin-na d_1 -pretty] \rightarrow [Tsit-khuaN tsabo-kin-na d'_2 - be tshua ti > Tsit-khuaN tsabo-kin-na d'_1 - be tshua ti]

$\forall d_1, d_2, d'_1, d'_2$ [(this kind of girl d_2 -beautiful $>$ this kind of girl d_1 -beautiful) \rightarrow (it is d'_2 -possible for one not to marry with this kind of girl $>$ it is d'_1 -possible for one not to marry with this kind of girl)]

b. $\forall d_1, d_2, d'_1, d'_2$ [(li q_2 -tshao $>$ li q_1 -tshao) \rightarrow (d'_2 - tshao be yiaN i $>$ d'_1 - tshao be yiaN i.)]

$\forall d_1, d_2, d'_1, d'_2$ [(you q_2 -run $>$ you q_1 -run) \rightarrow (it is d'_2 - not win against him $>$ it is d'_1 - not win against him)]

The degree head *kha* restrictively selects a gradable predicate as its argument and introduces two degree variables on the one hand, alternatively, it selects a non-gradable active verb and two quantity variables are introduced on the other. Accordingly, in LF, *kha* adjoins to a position higher than CP, unselectively binding the variables in its domain and requiring one to be larger than the other.

(61) $\forall d_1, d_2, d'_1, d'_2$ [*KHA* $<_{d_1, d_2}$ [(you q_2 -run $>$ you q_1 -run) \rightarrow (it is d'_2 - not win against him $>$ it is d'_1 - not win against him)]]

3.7 Taiwanese *kha* v.s. Mandarin *zai* ‘again’ and English *again*

There is one more intriguing issue that is worthwhile to mention, that is the relationship between the Mandarin correspondence and Taiwanese *kha...ma*

construction. However, I do not go into detail analysis on this issue but purely focus on the descriptive part.

(62) a. *Taiwanese*

li kha tshao ma bo hao

you kha run ma not useful

‘It is useless no matter how hard you try to run.’

b. *Mandarin*

(buguan/wulun) ni zai zenme pao ye/dou mei yong

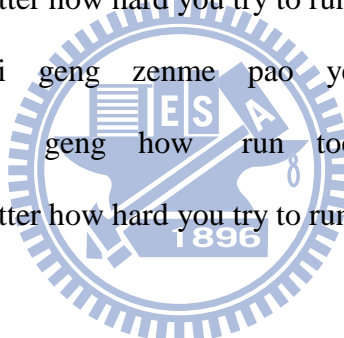
No-matter you again how run too/DOU not useful

‘It is useless no matter how hard you try to run.’

c. *(buguan/wulun) ni geng zenme pao ye/dou mei yong

No-matter you geng how run too/DOU not useful

‘It is useless no matter how hard you try to run.’



Interestingly, the appropriate example corresponding to the Taiwanese example (62a) would be (62b), which involves *Zai* ‘again’, rather than example (62c), which contains the comparative morpheme *geng* ‘even more’ functioning similarly to *kha*. Given this, it proves that the functions of *kha* must be more intricate rather than merely being a comparative morpheme. Before I go into a discussion of the relation between *kha* and *zai* ‘again’, I shall first outline the notions of English *again*.

In English, the adverb *again* is used for saying that something happens or someone does something one more time when it has already happened or been done before; alternatively, it is used for asking someone to repeat something that they told

you before. Thus, *again* implies the two readings that differ in their presuppositions, repetitive and restitutive, in the light of the analysis by Beck (2006).

(63) I forgot the title again. (repetitive/restitutive)

(64) a. (63) presupposes that there is a previous time at which I had forgotten the title. Then, it is true iff I forgot the title.
(repetitive)

b. (63) presupposes that there is a previous time at which I had not known the title. Then, it is true iff I forgot the title.
(restitutive)

The repetitive reading of adverb *again* is caught in (65a), only if (65b) appropriately holds, i.e., (65a) presupposes (65b). The content of (65b) is given slightly more formally in (65c) and t_1 stands for the time interval that the sentence (65a) is about.

- (65) a. John snored again.
b. John had snored before.
c. $\exists t'[t' < t_1 \ \& \ \text{John snored at } t']$

In the Taiwanese *kha... ma* construction, we also presuppose that the comparison had happened before, in line with the English *again* in repetitive reading. The sentence below, for example, presupposes that the comparee NP had one or more than one times doing running competitions against the standard NP. However, the

consequences are all the same because the differential interval between their running strength is obviously big. Accordingly, even though the standard NP tries to exploit many useful types of equipment or methods to improve his running speed, unfortunately, the result emerges again. The improvement in reading is derived from the comparative morpheme *kha* that is there are many running events associated with the same individuals and the running speed of the latter event may be bigger than the previous one, for the standard's belief, but the unsatisfactory consequence is introduced by *ma*. In addition, in the *kha... ma* construction, we also imply that, in the future, the competition may take place again. The presupposition of (66a) is (66b-d) and the formal representation is (66e)

- (66) a. ni kha zao ma zao mei ya goa
 You kha run ma run not win me
 'No matter how fast you can run, you never ever can run faster than me.'
- b. The comparison has had before
- c. The comparison will happen again.
- d. The comparative result repeats again and again.
- e. $\exists t', t'' [t' < t_1 \ \& \ t'' > t_1 \ \& \ \text{the comparison happen at } t' \ \text{and it will happen at } t'']$

As for the meanings of *zai* 'again' in Mandarin, I briefly make a summary of *zai* 'again' in the light of the analysis in Lü (1979). *Zai* 'again' involves the repetitive and continuous reading indicating that an action or event contains irrealis properties, in other words, they will occur in the future or after another action or event, as the sentence below exemplified.

(67) a. zhe c shbai le, xia c zai lai

This time fail ASP next time again come

‘This time failed, next time come again.’

b. jintian lai-bu-ji le, mingtian zai huida dajia de wenti

today too-late ASP tomorrow again answer everyone POSS question

‘It is too late today; I will answer everyone’s questions tomorrow.’

If *zai* ‘again’ precedes an adjective which denotes the increase of degree, most important of all, it can be replaced by the Mandarin comparative morpheme *geng* ‘even more’ to yield a comparative structure.

(68) a. *degree adverb*

tian zai leng, feng zai da, women ye bu pa

Sky again cold wind again big we also not afraid

‘Even the weather is colder and the wind is stronger, we are not afraid.’

b. *comparative morpheme*

nandao maiyou pi zhe ge zai hesh idianer de ma?

difficult -to- say not compare this CL again suitable a-little-bit POSS Q

‘Is it possible that there is another one a little more suitable than this one?’

c. nandao maiyou pi zhe ge geng hesh idianer de ma?

difficult -to- say not compare this CL more suitable a-little-bit POSS Q

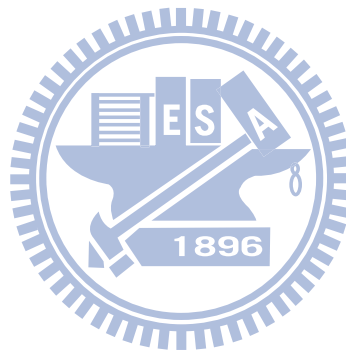
‘Is it possible that there is another one a little more suitable than this one?’

Given this, the properties of *zai* ‘again’ shed light on the question of why the corresponding example of the *kha... ma* construction is the one involving *zai* ‘again’ rather than containing *geng* ‘even more’ in Mandarin. This is because that *zai* ‘again’ ranges over the properties of repetition and comparative which match up with the properties of *kha*. *Geng* ‘even more’ is eliminated in lacking the repetitive presupposition.

3.8 Some Pending Questions

Thus far, we have listed the syntactic and semantic properties of the *kha...ma* correlative construction. To sum up, this construction has these properties: The two markers *kha* and *ma* are obligatorily required in order to keep the correlative relation. There are two clauses in which the two markers are involved respectively and, syntactically, the *kha* clause can be embedded into the *ma* clause as a sentential subject, or alternatively, they can independently exist to constitute this structure. In addition, the island effect does not work within the construction. The two clauses semantically, are employed to express the pair relation of the expectation-violation reading. This is the reason why the *ma* clause usually involves a negative marker. Furthermore, the situation types which can be introduced by the morphemes *kha* and *ma* must obey unboundedness. Moreover, the quantificational force of the *kha...ma* correlative construction comes from an adverb of quantification; however, when the adverb of quantification is not overtly written, it comes from the implicit adverb of quantification. As for the appropriate corresponding word of *kha*, it is *zai* ‘again’ in Mandarin in terms of their presuppositions.

The following questions need to be answered before discussing my proposal. (A) How do we map the syntactic tree structure of the Taiwanese comparative *kha...ma* correlative constructions into a corresponding quantificational tripartite structure? (B) Why does the predicate of Taiwanese comparatives display the unboundedness effect? (C) What are the semantic and syntactic functions of the correlative degree adverb *kha* and the conjunctive adverb of *ma*? (D) How can we identify the nature of the variables that are unselectively bound by an (implicit) quantificational adverb and compared with each other along the scale denoted by the predicate modified by the degree adverb *kha*?

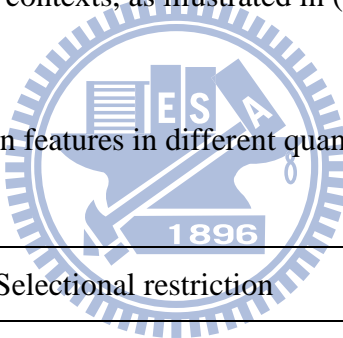


CHAPTER 4

PRELIMINARY

Before proposing my analysis for the Taiwanese *kha ... ma* correlative construction, I shall briefly introduce Doetjes' (1997) theory of degree and quantity variables as a preliminary and follow her steps to shed light on the problem of why a degree head *kha* selects a non-gradable active verb as its complement. Doetjes has classified four types of quantifying expressions based on the selectional restrictions of their complement in different contexts, as illustrated in (33) below.

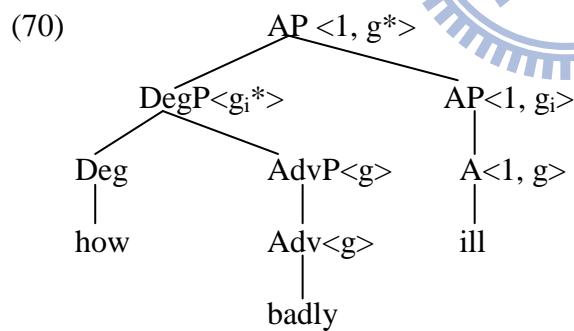
(69) The selectional restriction features in different quantifying expressions



	Selectional restriction	Examples (French)
Degree of quantifiers	VP, NP	<i>beaucoup</i> 'a lot'
Adverb of quantification	VP	<i>souvent</i> 'often'
Adnominal quantifiers	NP	<i>plusieurs</i> 'several'
Floating quantifiers	NP	<i>tous</i> 'all'

In addition to the distributional differences among quantifying expressions, Doetjes (1997) also identifies two types of selection: (A) the categorical selection and (B) the theta selection. The categorical selection is similar to a head-complement selection; for example, the adnominal quantifier *plusieurs* 'several' selects an NP complement.

It is necessary to take a quantifying expression to exemplify the theta selection. Although quantifying expressions which can occur in different contexts lack the ability of categorical selection and behave like an adjunct, they, instead, theta select a scalar theta position which can be saturated through identification by a Degree Quantifier or theta bound by a degree-head (cf. Higginbotham (1985) and Doetjes (1997, 92)). In other words, each categorical context must contain a scalar theta position, irrespective of, AP, NP or even VP, for quantifying expressions to saturate the *grade*-position (henceforth the *g*-position) in APs and the *quantity*-position (henceforth the *q*-position) in VPs and NPs. Such a kind of theta selectional relation can be exemplified as follows: First, the theta relation between the *g*-position of APs like *how badly ill* and the quantifying expression (i.e., degree words) *how* can be established through theta binding and theta identification, as shown by (70) (cf. Higginbotham (1985) and Zwarts (1992)).

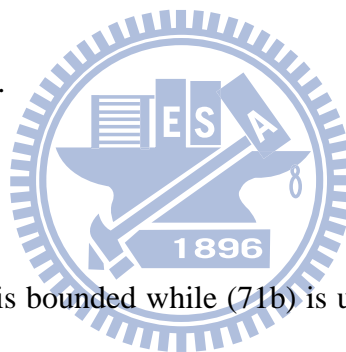


More clearly, the degree head *how* first binds the open *g*-position of the scalar adverb *badly*. The open position of the AP *ill* then is saturated by having it theta-identified with the saturated position of the DegP *how badly*.

Second, the quantifying expression *more* in NPs like *more tables* or *more water* modifies the quantity of *tables* and *water*, respectively, and indicates that the number and the amount of the references must arrive at a specific quantity. So, Doetjes (1997) suggests that quantifying expressions like *more* can be interpreted as an element that saturates a theta role (i.e., the *q*-position, which is further associated with the *reference*-position (i.e., the *r*-position) of NPs in the grid of the noun phrase it modifies (cf. Williams (1981)).

Third, Doetjes (1997) further compares the mass/count distinction to the aspectual properties of verb phrases, as exemplified by (71a-b) (cf. Allen (1966), Mourelatos (1978), Bach (1986) and Krifka (1986, 1992)):

- (71) a. Mary drew a circle.
 b. Mary drew.



The event denoted by (71a) is bounded while (71b) is unbounded since the end point in the former is specified and corresponds to the moment that the circle was drawn on the paper, but the end of the latter is not. Therefore, bounded VPs are aligned with countable nouns while unbounded VPs are associated with mass nouns. Countable nouns contain a scalar *q*-position, universally, and the event of bounded VPs, following the same reasoning, equips a scalar *q*-position. This, undoubtedly, exhibits an accumulative and degree representation.

Furthermore, as Vendler (1957/1967) argues, activities have a cumulative reference whereas accomplishments have a quantized reference. Thus, activities share the cumulative reference property with mass nouns and plurals, and the same could be

said about states. Accomplishments and achievements are similar to countable singulars as they have a quantized reference. So, example (72) does not imply that there were many people who ran, but that there was a lot of running taking place in association with the same individuals.

(72) They ran a lot.

In other words, the *q*-position of an activity verb like *run* is an expression of the reference properties of the event.

As we have pointed out, what is modified by the degree adverb *kha* in the Taiwanese *kha ... ma* correlative construction can be either a gradable (adjective) predicate or a non-gradable dynamic verbal predicate. To lead us out of this impasse, I shall adopt Doetjes' (1997) theory of degree and quantity variables as one of the major components of my analysis of the Taiwanese *kha ... ma* correlative construction.

CHAPTER 5

PROPOSAL

To summarize, my proposal on concerning the Taiwanese *kha...ma* correlative construction includes the following main themes:

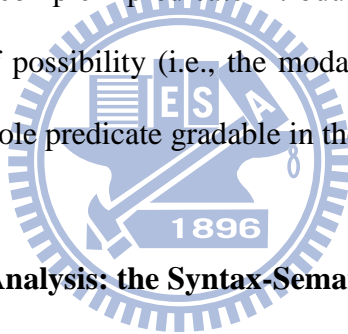
First, the Taiwanese *kha ... ma* correlative construction involves adverb quantification and unselective binding.

Second, the mapping between the syntactic tree structure of the Taiwanese *kha ... ma* correlative construction and its corresponding tripartite structure is subject to a revised version of Tsai's (2001) Extended Mapping Hypothesis proposed by Liu (2008) (cf. Diesing (1990)). To put it concretely, the minimal clause containing the degree adverb *kha* is mapped into the restrictive domain of the tripartite structure while the clause (or the part) containing the predicate introduced by the conjunctive adverb *ma* 'also' is mapped into the nuclear domain.

Third, to make the tripartite structure induced by the adverb of quantification like *long* 'all', *u sitsun* 'sometimes', or *taupohun e sitsun* 'in most cases' possible, two degree or quantity variables d_1 and d_2 associated with the predicate modified by the degree adverb *kha* must be generated in the syntactic constituent that denotes the restrictive domain of the tripartite structure. These two variables are further associated with two corresponding degree or quantity variables associated with the predicate contained in the constituent denoting the nuclear domain of the tripartite structure.

Fourth, the degree head *kha* functions to regulate a relationship between a pair of degree/quantity variables and a comparison relation, and requires one of the variables to be larger than the other along in some dimension, like height, length, weight, and so on. So, the degree adverb *kha* has a semantic function like that of the English comparative morpheme *-er* and denotes a greater-than relation, i.e. *x* is greater than *y* along some dimension.

Fifth, the predicate introduced by the conjunctive adverb *ma* ‘also’ usually occurs in a negative form to produce the pair relation of expectation-contravention reading. If the *kha* clause denotes the positive reading the *ma* clause should involve a negative form to denote the violation reading and vice versa. Besides, if this predicate is not an adjective, then the ‘complex’ predicate introduced by the conjunctive adverb *ma* must contain a modal of possibility (i.e., the modal *e* ‘will’). It is the modal of possibility that makes the whole predicate gradable in the dimension of possibility.



5.1 The Quantificational Analysis: the Syntax-Semantics Mapping

As I have argued, the Taiwanese *kha...ma* correlative construction, containing an (implicit) adverb of quantification, involves a quantificational tripartite structure in the sense of Lewis (1975), Kamp (1980) and Heim (1982). Hence, according to my analysis of the Taiwanese *kha ... ma* correlative construction, example (73a) has a quantificational tripartite structure like (73b).

(73) a. [s Tsit-khan tsabo kin-na kha sui], [s Pro ma be tshua tit].

This kind girl kid kha pretty you ma not marry SPF

‘You cannot marry this kind of girl no matter how pretty she is.’

- b. $\forall d_1, d_2, d'_1, d'_2, [(\text{this kind of girl } d_2\text{-beautiful} > \text{this kind of girl } d_1\text{-beautiful}) \rightarrow (\text{it is } d'_2\text{-possible for one not to marry with this kind of girl} > \text{it is } d'_1\text{-possible for one not to marry with this kind of girl})]$

To put it more clearly, the first clause containing the degree adverb *kha* is mapped into the restrictive domain while the second clause containing the conjunctive adverb *ma* is the nuclear domain of the tripartite structure. Since the degree adverb *kha* ‘more’ modifies the gradable adjective *sui* ‘beautiful’, what interacts with the degree adverb *kha*, as Doetjes (1997) suggests, is the *g*-position in the theta grid (i.e., the degree variable) of the gradable adjective *sui* ‘beautiful’. Semantically, the degree adverb *kha* ‘more’ requires two degree variables associated with the adjectival predicate *sui* ‘beautiful’ to be generated in the restrictive domain, and d_2 has to be larger than d_1 along the dimension of beauty. Furthermore, the correlative nature of the Taiwanese *kha ... ma* correlative construction requires two variables about the degree of ‘possibility’ associated with the complex predicate *be tshua tit* ‘not marry SFP’ (i.e., d'_1 and d'_2) to be generated in the nuclear domain, and d'_2 has to be larger than d'_1 along the dimension of ‘possibility’. Accordingly, *kha* denotes an alternative degree set which subsumes pair degrees containing *beauty* and corresponding *not marry* degrees respectively, as illustrated below. *Kha* is an operator utilized to describe the relations of the element in the set.

- (74) a. $\{ \{ d_1\text{-beautiful}, d'_1\text{-not marry} \}, \{ d_2\text{-beautiful}, d'_2\text{-not marry} \}, \{ d_3\text{-beautiful}, d'_3\text{-not marry} \}, \dots \}$

- b. $[_{op} kha \{ \{d_1\text{-beautiful}, d'_1\text{-not marry} \} < \{d_2\text{-beautiful}, d'_2\text{-not marry} \} < \{d_3\text{-beautiful}, d'_3\text{-not marry} \} \dots \dots \dots \}]$

However, there is one more important question we cannot ignore at this point: How do we identify the quantificational tripartite structure for the Taiwanese *kha ... ma* comparative correlative constructions like (75)?

- (75) $[[_{\text{sentential subject}} \text{Li kha tsao}] [_{\text{predicate}} \text{ma bo hao}]]$.
 You kha run ma not useful
 ‘It is useless no matter how fast you can run.’

I suggest that the syntactic tree structure of cases like (75) can be mapped into its corresponding quantificational tripartite structure by assuming a revised version of Tsai’s (2001: 132) Extended Mapping Hypothesis proposed by Liu (2008:14) (cf. Kamp (1981), Heim (1982) and Diesing (1992)).²³

- (76) Revised Extended Mapping Hypothesis (cf. Liu (2008: 14))
- a. The first clause (i.e. CP) immediately dominated by the top CP is mapped into the restriction while the second is within the nuclear scope; otherwise,

²³ Tsai (2001: 132) formulates the Extended Mapping Hypothesis as follows (Diesing, 1992: 10):

- (i) Extended Mapping Hypothesis
 - a. Mapping applies cyclically, and vacuous quantification is checked derivationally.
 - b. Material from a syntactic predicate is mapped into the nuclear scope of a mapping cycle.
 - c. Material from XP immediately dominating the subject chain of a syntactic predicate (excluding that predicate) is mapped outside the nuclear scope of a mapping cycle. A subject chain is an A-chain with its tail in a subject position.
 - d. Existential closure applies to the nuclear scope of a mapping cycle.

- i. Material from a syntactic predicate is mapped into the nuclear scope in a Chinese comparative correlative, and
 - ii. Material from XP immediately dominating the subject chain of a syntactic predicate (excluding that predicate) is mapped outside the nuclear scope in a Chinese comparative correlative. A subject chain is an A-chain with its tail in a subject position.
- b. Given the correlative nature of the adverb *kha*, at least one occurrence of the adverb *kha* must be found in the restriction and in the nuclear scope of the quantificational tripartite structure to ensure that a comparison is made in either domain.

Namely, the material from the predicate (i.e. *ma bo hao* ‘also not useful’) is mapped into the nuclear scope while material from IP (excluding the predicate) forms a part of the restrictive domain (i.e. *li kha tshao* ‘you more run’). Thus, the quantificational tripartite structure of (75) is as in (77).

(77) $\forall d_1, d_2 d'_1, d'_2, [(you\ q_2\text{-run} > you\ q_1\text{-run}) \rightarrow (it\ is\ d'_2\text{-possible\ for\ it\ to\ be\ useless} > it\ d'_1\text{-possible\ for\ it\ to\ be\ useless})]$

Assuming Doetjes (1997, 115), I suggest that what interacts with the degree adverb *kha* in (75) is the *q*-position in the theta grid of the activity verb *tshao* ‘run’ (i.e., the quantity variable) which is further associated to the *e*-position (reference) in the grid of the activity verb *tshao* ‘run’ in the sentential subject of to express the reference properties of the running event. So, in the restrictive domain of (77), it is the two quantity variables of the stage-level predicate *tshao* ‘run’ induced by the degree

adverb *kha* (i.e., q_1 and q_2) that are compared with each other in the dimension about the ‘quantity’ of the running event, and q_2 has to be larger than q_1 . Whereas, in the nuclear domain of (77), it is the two degree variables concerning the degree of ‘possibility’ provided by the modal of possibility *e* ‘will’ (i.e., d_1 and d_2) that are compared in the dimension of possibility in the nuclear domain, and d_2 has to be larger than d_1 .

In (75), the material from the predicate (i.e. *ma bo hao* ‘also not useful’) is mapped into the nuclear scope and material from IP (excluding the predicate) into the restrictive domain (i.e. *li kha tshao* ‘you more run’). Thus, the quantificational tripartite structure of (75) is as in (77).

5.2. The Empirical and Theoretical Consequences

This analysis has the following empirical and theoretical consequences: First, since any pair of degree/quantity variables generated in the restrictive or the nuclear domain of the tripartite structure mapped from the syntactic tree structure of the Taiwanese *kha ... ma* correlative construction must have one of them larger than the other in the dimension involved, the predicate with which the variables are associated has to be unbounded. So, the grammaticality of (78a-b) and the ungrammaticality of (78c) can be well explained in my analysis.

(78) a. *semelfactive*

Li, meng ko kha long ma bo hao.

You door even kha knock ma not useful

‘It is useless no matter how many times you have tried to knock the door.’

b. *achievement repetition*

Pa? lang-e kin-na kha si, ma si be liao.

other people's kid kha die ma die not over

'It is never over that no matter how many other people's kids die.'

c. *accomplishment*

*Li kha tsia-pa, ma bo hao.

you kha eat full ma not useful

It is useless that no matter how full you have eaten.'

In (78a), the syntactic constituent mapped into the restrictive domain conveys a meaning: the knocking door events occur again and again. In other words, the reading of the semelfactive verb *long meng* 'knock on the door' is constituted by many small knocking events. So, an unbounded derived multiple-event is derived (cf. Vendler (1967)). Likewise, in (78b) the predicate of the syntactic constituent that is mapped into the restrictive domain (i.e., *si* 'die'), though being an achievement verb, also denotes a derived multiple-event. Hence, (78b) is acceptable. However, in (78c), the predicate modified by the degree adverb *kha*, namely *tsia-pa* 'eat-full' is an accomplishment verb. Thus, the ungrammaticality of (78c) is accounted for.

Second, the operator-variable relation involved in the Taiwanese *kha...ma* correlative construction, as I have argued, is an unselective binding relation. So, I would expect the operator-variable relation involved in the Taiwanese *kha ... ma* correlative construction not to be subject to the syntactic island conditions, and the example demonstrates this expectation, as the grammaticality of (79) illustrates:

- (79) [[_{NP/Topic} [_s Gua ko kha himtsiong e] haksieN] [_s ma bo lang e kayi]
 I even kha admire POSS student ma no man will admire
 ‘No one will admire the student no matter how much who I admire.’

As (79) shows, although the degree adverb *kha* can occur in the complex NP *gua ko kha himtsing e haksieN* ‘I even kha admire E student’, the sentence is still acceptable.

Third, my analysis also clears up the degree adverb *kha*’s confusing behavior in being able to modify a non-gradable activity verb. The degree adverb *kha*, as I have argued, functions to induce two degree/quantity variables and requires one of them to be larger than the other in the relevant dimension. If the predicate modified by *kha* is a gradable one, then the variable induced is a degree variable. If the predicate modified by *kha* is an activity verb, then what is induced is a quantity variable. Since it is not unreasonable to consider ‘quantity’ as a gradable notion, what the degree adverb *kha* really interacts with is still a ‘gradable element’, not a non-gradable element, when the predicate modified by it is an activity verb. So, we do not need to assume that there are two different *khas* in Taiwanese. By Occam’s razor, this consequence makes my proposal even more plausible.

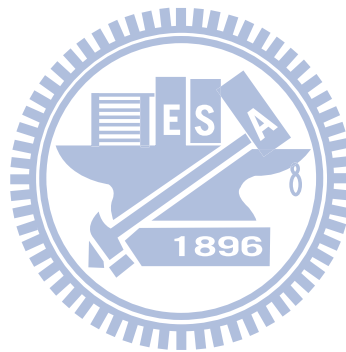
CHAPTER SIX

CONCLUSION

This thesis has dealt with the Taiwanese *kha...ma* correlative construction. Conventionally, the comparative literature usually allows gradable predicates to map a pair of individuals to an abstract scale and try to establish their order relations on a scale. However, the Taiwanese *kha ... ma* construction brings us to a brand new point of view and challenges the previous research as the predicates in this construction can not only be gradable ones but also non-gradable verbal predicates. More incredibly, the non-gradable verbal predicates can even be modified by a degree adverb *kha* to yield a comparative reading. To these issues, I apply Doetjes' assumption to make an explanation. She argues that verbal predicates involve a *q*-position and an *e*-position respectively to express their properties, namely, a verbal predicate containing both quantity and event readings. Therefore, the degree adverb *kha* is used to modify the amount of an event. Thus, semantically, the morpheme *kha* functions to regulate a relationship between a pair of degree or quantity variables, and a comparison relation. Besides, the operator-variable relationship involved in the Taiwanese *kha...ma* correlative construction is an unselective binding relationship. If the predicate modified by *kha* is a gradable one, then the variable induced is a degree variable. If the predicate modified by *kha* is an activity verb, then what is induced is a quantity variable.

In addition, the Taiwanese *kha...ma* comparative correlative construction, containing an (implicit) adverb of quantification, involves a quantificational tripartite structure. The mapping between its syntactic tree structure and the quantificational tripartite structure is subject to the Revised Extended Mapping Hypothesis as posited by Liu (2008).

This thesis is introductory, and it skirts many practical and theoretical issues. Nevertheless, it is meant to attract more attention to, and increase research in the refined language of “Taiwanese”.



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