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碩士論文

漢語動詞及形容詞的質與量

The Quality and Quantity Readings of Verbs and
Adjectives in Mandarin Chinese

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中文摘要

根據Bolinger(1972)對程度詞及Kennedy and McNally (2010)對顏色詞的研究，本文主要探討漢語動詞及形容詞的「質」與「量」的語意。藉由兩個漢語的動詞「透」與「遍」，本文主張「透」可以表達漢語動詞及形容詞中「質」的語意，而「遍」可以表達漢語動詞中「量」的語意。在分析前人的研究後(Liu, 2011)，本文進一步指出漢語的形容詞也帶有「量」語意。本文的觀察為Bolinger (1972)的主張提供佐證；也就是說，程度性(gradability)一包含「質」與「量」一為動詞及形容詞皆具有的特性。

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ABSTRACT

Following Bolinger's (1972) study on degree words as well as Kennedy and McNally's (2010) research on color quality and quantity, this study aims to investigate the quality and quantity interpretations of verbs and adjectives in Mandarin Chinese by examining two Chinese lexical verbs—*tou*, a verb meaning *penetrate* or *through* in English, and *bian*, a verb meaning *distribute* or *all over* in English. It is argued that *tou* induces the quality readings of verbs and adjectives in Mandarin Chinese, while *bian* quantizes the subsequent noun phrase (NP) and expresses the quantity reading of verbs. From a cross-linguistic point of view, this study further claims that quality and quantity are possibly primitive elements in our Universal Grammar (Chomsky, 1981).

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我有很多話想對來不及和我分享這一切的媽媽說。小時候我告訴她我想成為數學博士，她很高興。現在看起來要我拿到數學博士的機會不大。不過至少很喜歡我現在所做的研究，希望有一天我可以真的拿到博士學位並在博士論文中的致謝詞

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CHAPTER 1

INTRODUCTION

Bolinger's (1972) study on degree words has clearly asserted that gradability is a property for four major categories: adjective, adverb, noun, and verb. The gradability in his work refers to the quality reading of the four major categories (Bolinger, 1972:17). However, nowadays, when discussing gradability, one may refer to not only quality but also quantity interpretations.¹ For instance, Kennedy and McNally (2010) indicate that gradable adjectives may have two sub-readings between quality and quantity. One question raised by this is as follows: If, as shown by Bolinger, quality is a universal property of four major categories, is this true of quantity? The current study approaches this issue by investigating two Chinese words—*tou*, a verb meaning *penetrate* or *through* in English, and *bian*, a verb meaning *distribute* or *all over* in English. More specifically, I aim to examine if Chinese verbs and adjectives (adj.) encompass both quality and quantity interpretations. I will first present some relevant data pertaining to *tou* and *bian* below.

¹ A more specific definition of quality and quantity as well as some relevant examples will be given in section 3.

CHAPTER 2

THE DATA

Tou, a verb meaning *penetrate* or *through* in English, has four major usages. This study will focus on the two of them which are listed in (1) and (2).^{2,3} For the other two usages, please see Appendix A.

(1) Adjective-*tou*

ta hong- / shi- / zaogao- / wuliao-tou le.

he red- wet- terrible- boring-through SFP

‘He is extremely popular / wet / terrible / boring.’

(2) V-*tou* with a location

ta wan-tou taiwan le.

he play-through Taiwan SFP

‘He has traveled to every part of Taiwan and thus he knows a lot about Taiwan.’

² Abbreviations used in this study include: ASP: aspect marker, CL: classifier, DE₁: the verbal suffix or the marker for modifying phrases like genitive phrases, relative clauses, and noun complement clauses, DE₂: resultative marker, NEG: negation and SFP: sentence final particle. symbols used in this study include *: ungrammatical sentences, ?: sentences which are marginally acceptable and #: sentences that are semantically anomalous.

³ The grammaticality judgment of the sentences throughout the article is based on the results collected from at least ten native speakers of Mandarin Chinese.

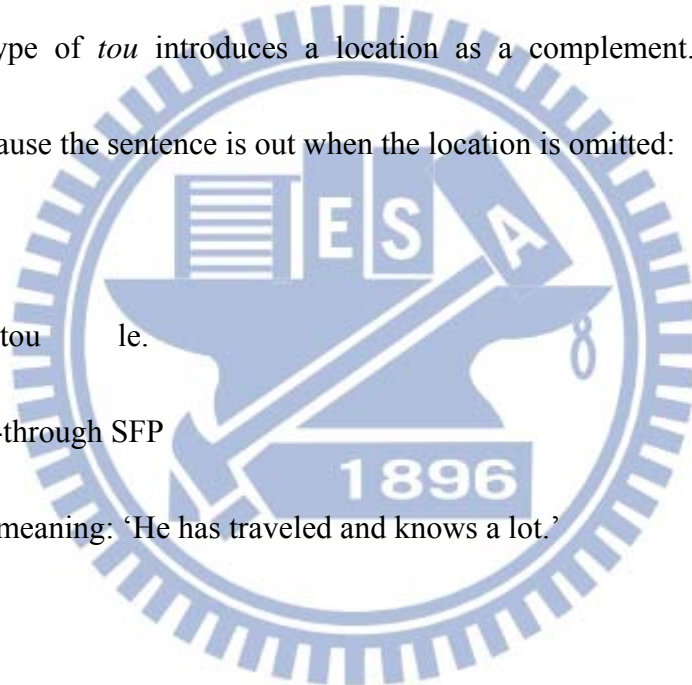
First, adjectives can combine with *tou*, as shown in (1). Before I provide a more detailed analysis of the meaning of *tou* below, the meaning of *tou* can be roughly construed as *extremely* or *very*. That is, if the state denoted by an adjective “penetrates” the subject of a sentence, such as *ta* ‘he’ in (1), the subject must be fully equipped with some obvious features of the state, giving rise to the *extremely* reading.

The second type of *tou* introduces a location as a complement. The location is obligatory because the sentence is out when the location is omitted:

(3) * *ta wan-tou le.*

he play-through SFP

Intended meaning: ‘He has traveled and knows a lot.’



This phenomenon brings my attention to another verb *bian*, meaning *distribute* or *all over* in English, which has a similar requirement indicated in (4):

(4) a. *ta wan-bian taiwan le.*

he play-all-over Taiwan SFP

‘He has traveled to every part of Taiwan.’

b. *ta wan-bian le.

he play-all-over SFP

Intended meaning: 'He has traveled to every place.'

The *V-bian* construction also selects a location that can not be absent; otherwise the sentence is out, as in (4b). In spite of the similarities between *tou* and *bian*, there exist some differences:

(5) a. ta shi-tou le.

he wet-through SFP

'He is extremely wet'

b. * ta shi-bian le.

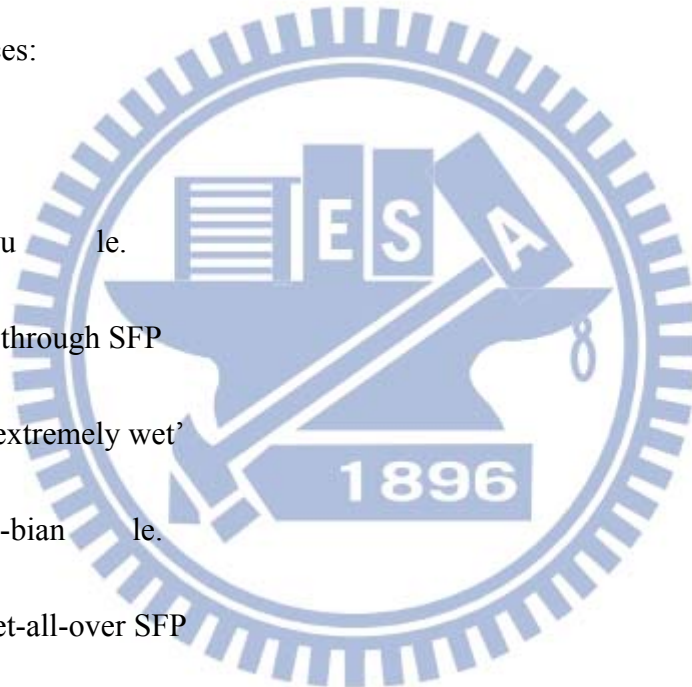
he wet-all-over SFP

Intended meaning: 'His body is all wet. '

(6) a. ta yazhou wan-tou le.

he Asia play-through SFP

'He has traveled to every part of Asia and thus knows a lot about Asia.'



b. * ta yazhou wan-bian le.

he Asia play-all-over SFP

Intended meaning: 'He has traveled to every part of Asia.'

First, as I noted earlier, an adjective can combine with *tou*, forming the *Adj-tou* construction in (5a), while *bian* seems to be incompatible with an adjective, as in (5b).

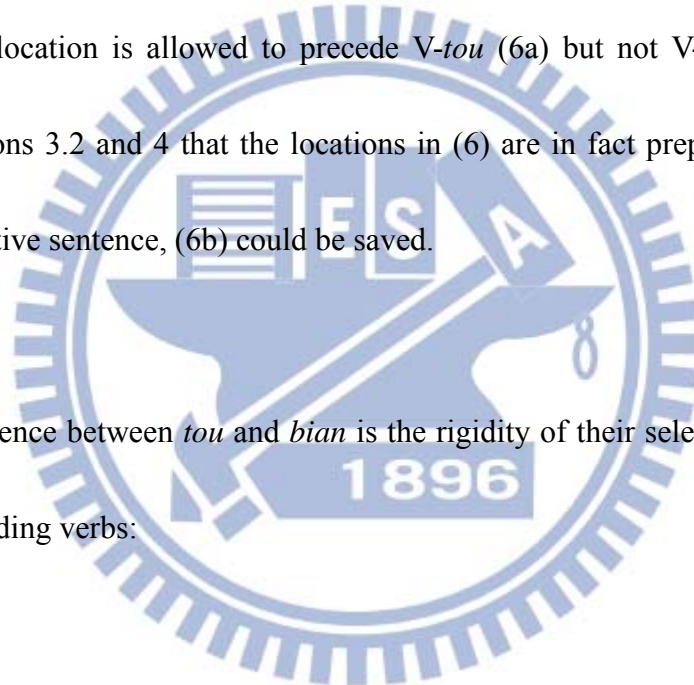
Secondary, a location is allowed to precede *V-tou* (6a) but not *V-bian* (6b). I will argue in sections 3.2 and 4 that the locations in (6) are in fact preposed objects and with a contrastive sentence, (6b) could be saved.

Another difference between *tou* and *bian* is the rigidity of their selectional restriction with the preceding verbs:

(7) a. * yinghua kai-tou le shangu.

cherry-blossoms bloom-through Asp valley

Intended meaning: The cherry blossoms bloom in every part of the valley.



b. yinghua kai-bian le shangu.

cherry-blossoms bloom-all-over Asp valley

‘The cherry blossoms bloom in every part of the valley.’

c. *ta zou-tou taiwan le.

he walk-through Taiwan SFP

Intended meaning: ‘He has walked to every part of Taiwan and thus he knows

a lot about Taiwan.’

d. ta zou-bian taiwan le.

he walk-all-over Taiwan SFP

‘He has walked to every part of Taiwan.’

It seems that *bian* embraces a wider range of verbs while the “V-*tou* location” construction is more restricted.

More interestingly, when the subject of the “V-*bian* location” construction is a theme, the location can be inverted, as shown in (8).

(8) a. yinghua kai-bian le shangu.

cherry-blossoms bloom-all-over Asp valley

‘The cherry blossoms bloom in every part of the valley.’

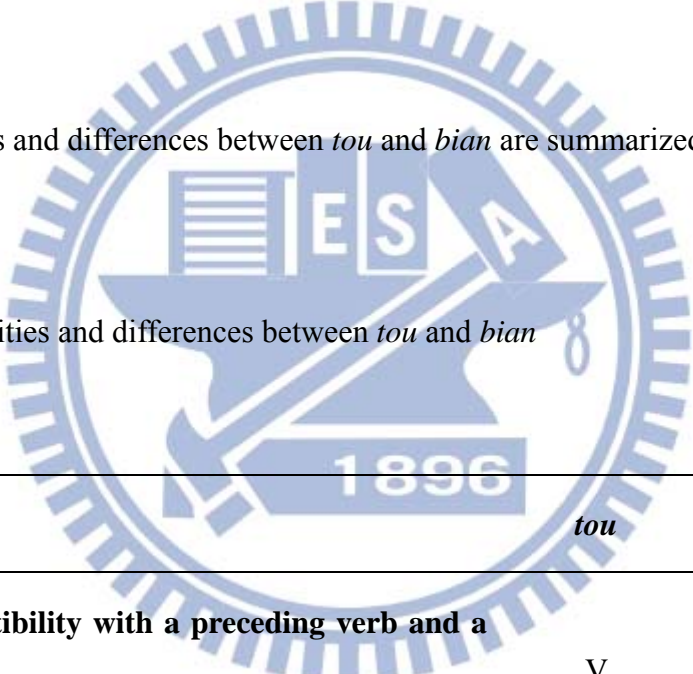
b. shangu kai-bian le yinghua.

valley bloom-all-over Asp cherry-blossoms

‘In every part of the valley bloom the cherry blossoms.’

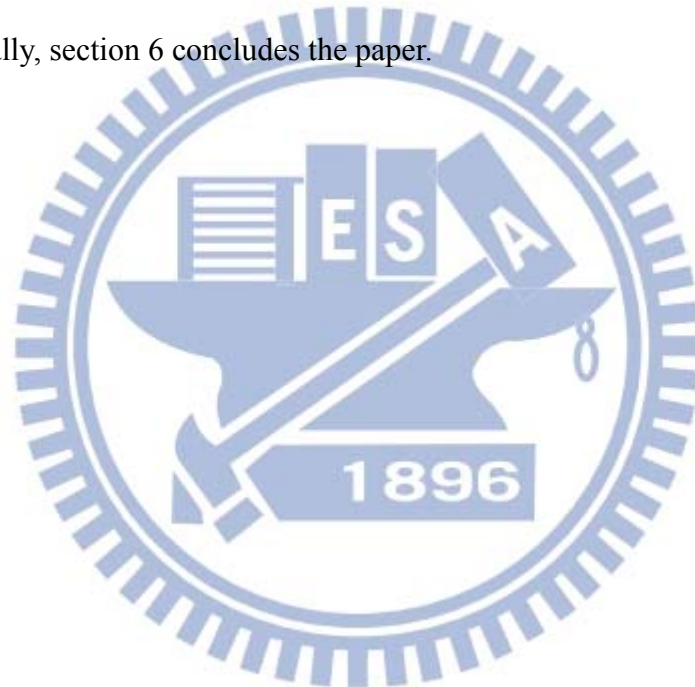
The similarities and differences between *tou* and *bian* are summarized in (9):

(9) The similarities and differences between *tou* and *bian*



	<i>tou</i>	<i>bian</i>
1. compatibility with a preceding verb and a location complement	V	V
2. compatibility with a preceding adj.	V	*
3. object fronting	V	*
4. selectional restriction	restricted	free
5. location inversion	*	V

With some basic observations of *tou* and *bian* in this section, I will argue in depth in section 3 that the *tou* alone in the *V-tou* construction expresses the quality of the verb while the *bian* in the *V-bian* construction quantizes the NP follows *bian* and expresses the quantity reading. Additionally I will pinpoint the selectional restriction of *Adj-tou* and *V-tou/bian*. Section 4 deals with the syntactic aspect of *tou* and *bian*. A discussion of the quality and quantity readings of verbs and adjectives will be formulated in section 5. Finally, section 6 concludes the paper.



CHAPTER 3

THE MEANING

In this section, I intend to argue that the V/Adj-*tou* construction denotes a quality reading whereas the V-*bian* construction expresses a quantity meaning. In order for readers to access the discussion, in 3.1, I first summarize Kennedy and McNally's (K&M) (2010) research pertaining to color terms. With this preliminary idea, I will show how the same concept can be applied to *tou* and *bian* in 3.2. Finally, 3.3 studies the selectional restriction between V/Adj and *tou/bian*.

3.1 Color Quality and Quantity (K&M, 2010)

K&M provide empirical arguments asserting that color adjectives are ambiguous between gradable and nongradable interpretations.⁴ The gradable readings contain two subtypes, which they term color quantity and color quality (including degree of hue, color saturation, and brightness). The color quantity, as they define, “expresses a measure of how much of the object is the relevant color; this kind of reading is brought out by proportional modifiers (p. 90).” (10) contains the examples they provide:

⁴ What relates to my later discussion is the gradable reading; therefore, the nongradable interpretation will not be reviewed here.

(10) a. Pia painted the leaves part/half/completely green.

b. Instead of jerseys with blue stripes this year, the team is wearing shirts that are completely/entirely/100% blue.

c. His pants are half/part green, half/part blue: one leg of each color.

The compatibility of proportional modifiers such as *part*, *completely*, *100%* etc. and color adjectives such as *green* and *blue* reveals that what is concerned is how much of the object is the relevant color instead of the degree of hue, color saturation or brightness.

The quality interpretation, on the other hand, “involves a measurement of how closely an object’s color approximates or diverges from a “center” or prototype (p. 91).”

There are many ways to measure the similarities or divergence between a color and its prototypical characteristics, including not only hue, saturation, and brightness but also other factors based on the physical and perceptual characteristics of color. (11), which is from K&M (2010: 91), shows that it is the color quality, but not the color quantity, that is being evaluated:

(11) a. I see that your leaves are all completely painted, but some are greener than others. Try to ensure that the colors are identical.

b. Your painting is coming along, though it still needs some work: all of the sky is blue, but it isn't blue enough, and the clouds are too white. Try modifying your pigment mixtures.

After introducing the color quality and color quantity, I will turn back to *tou* and *bian* and illustrate how these concepts can be applied to our data.

3.2 The Quality Reading of *Tou* and the Quantity Reading of *Bian*

I would like to use (12) and (13) to argue that *tou* and *bian* convey different semantic contents:

(12) a. taiwan san-bai-yi-shi-jiu-ge xiangzhen ta dou wan-guo

taiwan three-hundred-one-ten-nine-CL country-and-town he all play-ASP

le, zhishi ta dou mei wan- *bian / tou.

SFP but he all not play- all-over through

‘He has traveled and had fun in all the 319 towns and countries in Taiwan.

However, he hasn't *visited all of them / learned too much about them.’

b. jiashang suoyou de shu ta dou kan-guo le, zhishi haimei du *bian /
 shelf-top all DE₁ book he all read-ASP SFP only not-yet read all-over
tou.
 through
 ‘He has read all the books in the shelf, but he hasn’t *read all of them /
 understood all of them.’

(13) ta dui Chomsky zuixin de na-pian wenzhang hen shouxi, suiran ta
 she to Chomsky latest DE that-CL article very familiar although he
 haimei du-bian ta suoyou de wenzhang / *du-tou na-pian
 not-yet read-all-over he all DE article study-through that-CL
wenzhang.
 article
 ‘She is extremely familiar with Chomsky’s latest article, although she hasn’t read
 all of his articles / *fully understood that article.’

There are 319 and only 319 countries/towns in Taiwan. If a person has traveled and
 had fun in all the countries/towns, the person must visit all of these 319
 countries/towns. So, when the later part of the sentence negates, by using

“not-*V-bian*”, that the person hasn’t visited and had fun in all these 319 countries/towns, the meaning of the sentence is contradictory itself and is as expected out. The problem of (12b) is identical. If the first part of the sentence asserts that a person has read all the books in the shelf, it is contradictory to negate the sentence with *V-bian* in the later part of the sentence. To be more specific, what (12) suggests is that when the earlier mentioned quantity (*san-bai-yi-shi-jiu-ge xiangzhen* ‘319 countries/towns’ in (12a) and *suoyou de shu* ‘all the books’ in (12b)) is later negated by using “not *V-bian*,” the sentences are unacceptable, showing that *bian* denotes a quantity reading. *V-tou*, on the other hand, does not merely focus on the quantity reading. That is, the use of ‘not *V-tou*’ does not necessarily entail that the person hasn’t visited and had fun in all these 319 countries/towns in (12a) or the person hasn’t read all the books in the shelf in (12b); rather, *V-tou* seems to show that to what degree the action is performed. More specifically, *V-bian* is a preliminary condition for *V-tou*. For instance, when a person *wan-tou taiwan* ‘Someone has traveled to every part of Taiwan and thus he knows a lot about Taiwan’, it implies that the person has *wan-bian taiwan* ‘Someone has traveled to every part of Taiwan’. The difference between *V-tou* and *V-bian* is that the later focuses on the quantity reading while the quality reading is the center of the former. This initial observation can be further supported by (13), where the first part of the sentence reveals that the person is

familiar with Chomsky’s latest article. When the later part of the sentence asserts that the person hasn’t fully understood the article by negating *V-tou*, the sentence is unacceptable. When *V-bian*, which denotes a quantity reading, is used to replace *V-tou*, the sentence is perfect. This implies that it is *V-tou*, but not *V-bian*, expresses a quality reading.

One question, then, arises: Are the quality and quantity readings triggered solely by *tou* and *bian* respectively? As I am going to argue below, *tou* itself can trigger the quality reading whereas *bian* and the subsequent NP are responsible for the quantity interpretation. Recall that in (5), repeated as (14) below, an adjective can combine with *tou*, forming the *Adj-tou* construction, as in (14a), while *bian* seems to be incompatible with adjectives, as in (14b):

(14) a. ta shi-tou le.

he wet-through SFP

‘He is extremely wet.’

b. * ta shi-bian le.

he wet-all-over SFP

Intended meaning: ‘His body is all wet.’

(14a) is grammatical when the subject *ta* ‘he’ is interpreted as a location for the predicate *Adj-tou*. In terms of (14b), even the subject *ta* ‘he’ is interpreted as a location, the sentence is still out. It appears that *bian* needs an obligatorily present complement. However, in Mandarin Chinese, when adjectives are the main predicates of a sentence, they do not take a complement. It is, therefore, impossible to add a location, giving rise to the ungrammaticality of (14b). I claim that *bian* quantizes the NP follows *bian*. As Krifka (1989, 1992) states, a quantized NP denotes an object with precise limits. In the case of *bian*, the precise limit is delimited by the range denoted by the NP. This view predicts that what *bian* selects should not be merely restricted as a locative NP. As (15) shows, the prediction is born out:

(15) a. *ta shang-bian suoyou xishang de ke.*

he attend-all-over all department-on DE₁ class

‘He has taken all the courses offered by the department.’

b. *ta du-bian shishu.*

he read-all-over history-book

‘He has read a large number of history books.’

The NPs that follow *bian* (i.e. *ke* ‘class’ in (15a) and *shishu* ‘history book’ in (15b)) are themes instead of locations. After being quantized by *bian*, the NPs provide a range within which the action takes place. As a consequence, the “V-*bian* NP” construction can be paraphrased as “the processes are repeatedly performed to/within the complement NP.” Now, the new question is: Why is the complement NP necessary?

Recall that the color quantity is defined as to express a measure of how much of the object is the relevant color (K&M, 2010). In other words, an affected object is required to show the quantity of the color. By analogy, an affected NP (be it a location or a theme) must be present to show the quantity of the action. This line of argument naturally illustrates why the NP can not be omitted.

The fact that *bian* has to quantize an NP to show the quantity of an action also explains why its object fails to be fronted to a preverbal position, a phenomenon which is allowed in the *V-tou* construction. However, when a contrastive sentence is added, the acceptability of the sentence is boosted. The contrast is presented below:

(16) a. ta yazhou wan-tou le.

he Asia play-through SFP

‘He has traveled to every part of Asia and thus knows a lot about Asia.’

b. * ta yazhou wan-bian le.

he Asia play-all-over SFP

Intended meaning: 'He has traveled to every part of Asia.'

c. ? ta yazhou wang-bian le, danshi ouzhou haimei.

he Asia play-all-over SFP but Europe not-yet

'He has traveled to every part of Asia, but not Europe.'

The reason that (16b) is unacceptable is because, after the NP is moved to a preverbal position, *bian* does not succeed in quantizing an NP and hence fails to express the quantity of an action. That is, once the NP is missing, the scope/range that the action takes place in can not be defined, leading to the failure of quantizing. In (16c), the additional sentence helps readers delimit the scope of the NP. More specifically, although the theme object *yazhou* 'Asia' is moved to a preverbal position, the presence of the contrastive sentence shows that what is focused is the theme object *yazhou* 'Asia' and this emphasis also helps readers understand that *yazhou* 'Asia' can be quantized by *bian*, giving rise to a higher degree of acceptability. I will turn back to this issue and show that (16c) indeed involves focus in 4.2.⁵

⁵ Liao (p.c.) points out a problem of this analysis. Let's look at (i).

(i) a. ta chi shi-ke pingguo.
he eat ten-CL apple
'He eats ten apples.'

Tou, on the other hand, only requires one of its arguments to be understood either as a location or a theme. As I mentioned earlier, (14a) is only acceptable when the subject *ta* ‘he’ is understood as a location of the predicate *shi-tou le* ‘extremely wet’. Additionally, (17) below shows that *Adj-tou* can be legitimate when the subjects are understood as themes:

- (17) *ta huai- / zaogao- / wuliao-tou le.*
 he bad- terrible- boring-through SFP
 ‘He is extremely bad / terrible / boring.’

In fact, the view that *tou* only requires one of its arguments to be understood either as a location or a theme explains why (18) is ambiguous between two possible readings.

-
- b. *ta pingguo chi shi-ke.*
 he apples eat ten-CL
 ‘He eats ten apples.’

The *shi-ke pingguo* ‘ten apples’ in (ia) is a quantized NP. However, as shown in (ib), *pingguo* ‘apple’ can be fronted, which is contrary to my proposal.

There exist two possibilities to explain the differences between (i) and (16). The first argument is that the *pingguo* ‘apple’ in (ib) is in fact a sentence-internal topic expressing new information or new events rather than a pre-posed object. The second possibility is that *tou* has a strong feature to license / agree with the covert form in (16a) while *bian* contains a weak feature which fails to license / agree with the covert form in (16b). As noted earlier in 3.2, *V-bian* is a preliminary condition for *V-tou*. That is, the meaning of *V-tou* is the meaning of *V-bian* with some additional meaning. Thus, I argue that the relevant feature for *tou* is stronger than that for *bian*.

(18) ta hong-tou le.

he red-through SFP

Reading a: 'His whole body is extremely red.'

Reading b: 'He is extremely popular.'

The meaning of (18a) can be established when *ta* 'he' is understood as a location, meaning that the person's body is extremely red. Conversely, when *ta* 'he' is construed as a theme, the only meaning is 'he is extremely popular,' leading to the interpretation in (18b). Still, another question emerges. It is well-known that *hen* 'very' in Mandarin Chinese also describes the quality of adjectives. Thus, one may naturally wonder if there is any semantic divergence between *hen-Adj* and *Adj-tou*.

(19) offers some hints for the differences between *hen-Adj* and *Adj-tou*:

(19) a. zhe-tiao yu kanqilai yijing jian de hen shou le, dan qishi

this-CL fish look-like already fry DE₂ very well-cooked SFP but in-fact

limian de rou haimeiyou shou-tou.

inside DE₁ meat not-yet well-cooked-through

'Although the fish looks well-cooked on the outside, actually it is not well-cooked on the inside.'

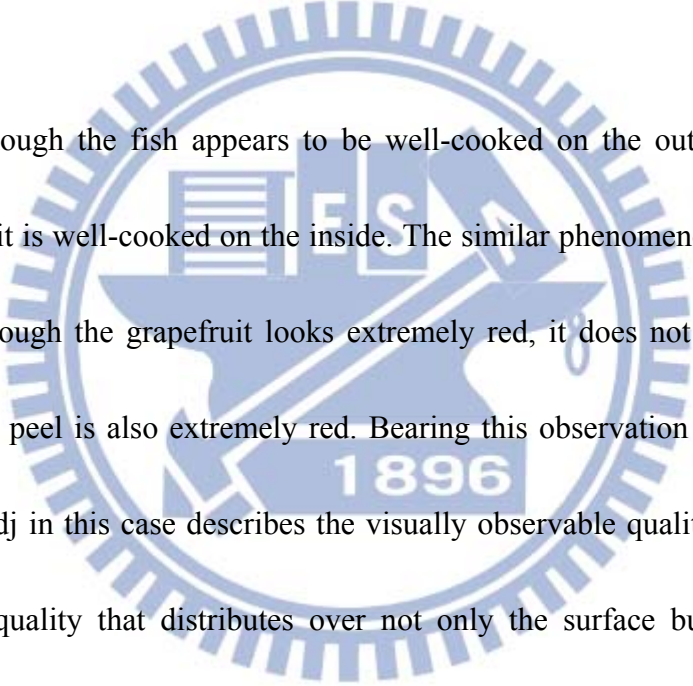
b. zhe-ke putaoyou kanqilai hen hong, dan qishi limian de guorou

this-CL grapefruit look-like very red but in-fact inside DE₁ pulp

haimeiyou hong-tou.

not-yet red-through

‘Although the grapefruit looks red on the outside, actually the pulp isn’t very red.’



For (19a), although the fish appears to be well-cooked on the outside, it does not guarantee that it is well-cooked on the inside. The similar phenomenon is observed in (19b). Even though the grapefruit looks extremely red, it does not warrant that the fruit inside the peel is also extremely red. Bearing this observation in mind, I argue that the *hen-Adj* in this case describes the visually observable quality, while *Adj-tou* describes the quality that distributes over not only the surface but also the inner domain of the object. If a kind of quality prevails over the whole object both on the outside and inside, it is spontaneous to yield an *extreme* reading of the quality. The view that *Adj-tou* describes the quality that distributes over not only the surface but also the inner domain is further supported by (20):

(20) a. # zhe-tiao yu kanqilai yijing jian de shou-tou le.

this-CL fish look-like already fry DE₂ well-cooked-through SFP

Intended meaning: ‘The fish looks well-cooked on the inside.’

b. # zhe-ke putayou kanqilai hong-tou le.

this-CL grapefruit look-like red-though SFP

Intended meaning: ‘The grapefruit looks red on the inside.’

The *kanqilai* ‘looks like’ in (20) signifies that the speaker’s subsequent statement is based upon his/her visual observation. It is, therefore, expected that the use of *Adj-tou* is unacceptable in (20) because merely providing the surface quality of a given object fails to confirm the semantic requirement of *Adj-tou*.

One more thing to add is that, in the *V-tou* construction, if the subject can not be understood as a location or a theme, a location or theme complement must be present, as indicated in (21) and (22):

(21) Adjective-*tou*

a. ta hong-tou quan shijie le.⁶

he red-through whole world SFP

‘He has become extremely famous around the world.’

b. ta hong-tou le.

he red-through SFP

Reading a: ‘His whole body is extremely red.’

Reading b: ‘He is extremely popular.’

(22) V-*tou* with a location

a. ta wan-tou taiwan le.

he play-through Taiwan SFP

‘He has traveled to every part of Taiwan and thus he knows a lot about Taiwan.’

b. * ta wan-tou le.

he play-through SFP

Intended meaning: ‘He has traveled and knows a lot.’

⁶ The *hong* ‘become red’ in (21a), in fact, is a verb instead of an adjective. As the examples in (1) show, the Adj-*tou* construction is always intransitive.

The subject in (21a) can be understood as a theme; therefore, the omission of the internal argument is allowed in (21b). On the contrary, the subject of (22a) is an actor and as it is neither a location nor a theme, the sentence requires an internal argument. Otherwise, these sentences are not interpretable, as the second sentence in (22) suggests. So far, I have argued that the *tou* along in the V/Adj-*tou* construction can induce a quality reading. In what follows, I am going to claim that the derivation of such meaning can be accounted in terms of K&M's (2010) color quality.

It is reasonable for adjectives to express a quality reading. As I argue in section 2, if the state denoted by an adjective “penetrates” the subject of a sentence, the subject must be fully equipped with some obvious features of the state, giving rise to the *extreme* reading. However, the verb *wan* ‘play’ in type 4 is an activity verb. Therefore, the next question I am about to answer is how the quality interpretation of an activity verb such as *wan* ‘play’ is derived. Recall that K&M (2010) advocate that color quality includes the degree of hue, saturation, and brightness of the color. It is more than obvious that an action does not have hue or brightness. Thus, I argue that the concept of saturation is the key to the question. Please pay attention to (2), which is repeated as (23) below:

(23) ta wan-tou taiwan le.

he play-through Taiwan SFP

‘He has traveled to every part of Taiwan and thus he knows a lot about Taiwan.’

I argue that in the “V-*tou* location” construction, the meaning can be paraphrased as “the processes denoted by the verb repeatedly happen and increased and thus saturated at a given location.” In this case, *tou* signifies the concept of saturation. The location symbolizes a referent range/volume where the action is increased and therefore must be present. One relevant comment in order here is that a range is always required to show the concept of saturation. That is, when we say ‘The job market is saturated’, the range (i.e. ‘the job market’) must be present. Analogously, in (23), when *wan* ‘play’ combines with *tou*, it means that the action of playing has saturated. However, the subject of the sentence is an actor, instead of a theme or a location which can show a range. In this case, an obligatory locative NP must present to show a range that enables the concept of saturation to survive. In this sense, (23) indicates that the event of *wan* ‘play’ is increased and saturated in Taiwan, generating the quality reading of ‘He has traveled to every part of Taiwan and thus he knows a lot about Taiwan.’ The derived meaning (i.e. ‘knows a lot about Taiwan’) is a natural consequence. When something or some action is repeatedly performed at/within a

specific location, the actor must be familiar with the thing or the action.

If I argue that *tou* expresses a quality reading and follow K&M (2010) that the quality reading involves a measurement of how closely an object's color approximates or diverges from a "center" or prototype, it should be expected to show that some different acceptability may result from different speakers' divergence of a "center" or prototype. This prediction is born out in (24):

(24) a. A: haimian baobao hong-tou quan shijie.

sponge baby red-through whole world

'Sponge Bob is extremely famous in the world.'

b. B: dui a! dajia dou renshi ta.

yes SFP everyone all know it

'Yes! Everyone knows it.'

c. C: nayou! suiran dajia dou renshi ta, danshi zhiyou xiaohai xihuan ta

no although everyone all know it but only kid like it

ba.

SFP

'No! Although every knows it, only kids like it.'

(24b) and (24c) are two possible responses for (24a), although they contrast dramatically in their meanings. Speaker B's acceptance of (24a) indicates that as long as everyone knows Sponge Bob, it can be counted as extremely famous in the world. On the contrary, to speaker C, Sponge Bob is popular among kids but not among adults; therefore, it is not extremely famous in the world. The divergence of speakers B and C's acceptability on (24a) thus supports the view that K&M's (2010) definition on color quality is applicable to *tou*.

3.3 Selectional Restriction of *Tou* and *Bian*

Last section mainly focuses on how the quality and quantity readings are derived from *tou* and *bain* respectively. However, one significant fact pertaining to V/Adj-*tou* and V-*bian* is that not all given verbs or adjectives are compatible with *tou* or *bian*. (25) and (26) list some examples:

(25) Adj-*tou*

a. xin liang-tou le.

heart cool-through SFP

'I feel dejected.'

b. * beizi man-tou le

cup full-through SFP

Intended meaning: 'The cup is totally full.'

(26) *V-tou/bian*

a. ta wan-tou taiwan le.

he play-through Taiwan SFP

'He has traveled to every part of Taiwan and thus he knows a lot about Taiwan.'

b. ta wan-bian taiwan le.

he play-all-over Taiwan SFP

'He has traveled to every part of Taiwan.'

c. *ta zou-tou taiwan le.

he walk-through Taiwan SFP

Intended meaning: 'He has walked to every part of Taiwan and thus he knows a lot about Taiwan.'

d. ta zou-bian taiwan le.

he walk-all-over Taiwan SFP

'He has walked to every part of Taiwan.'

In (25), in spite of the fact that both *liang* ‘cool’ and *man* ‘full’ are adjectives, only the former adjective, but not the later one, fits in with *tou*. Similarly, in (26), both *wan* ‘play’ and *zou* ‘walk’ are activity verbs. Interestingly, *zou* ‘walk’ is only compatible with *bian*, as in (26d), while *wan* ‘play’ can combine with *bian* and *tou*, as in (26a,b). It appears that *bian* embraces a wider range of verbs than *tou* does. In what follows, I aim to provide a more fine-grained selectional restriction on *tou* and *bian*.

3.3.1 Selectional Restriction of Adj-*tou*

According to Kennedy and McNally (2005), adjectives can be categorized by their context-dependency. Context-dependent adjectives, or relative adjectives in Unger’s (1975) term, require a standard of comparison, which is itself determined relative to a comparison class of objects that are similar in some way to whatever is being discussed (Klein, 1980). For instance, the truth condition of the adjective *tall* may vary. A man who is 175 cm tall is tall in Indonesia where men’s average height is 158 cm. (Frankenberg & Jones, 2004). However, the same person will not be considered as tall in Netherlands where men’s average height is 183.7 cm..⁷ Context-independent adjectives, or absolute adjectives in Unger’s (1975) term, are demonstrably gradable

⁷ The information is retrieved from Statline (<http://statline.cbs.nl/StatWeb/publication/?DM=SLEN&PA=03799ENG&D1=242-253,255-266&D2=27-44&D3=0&D4=a&LA=EN&HDR=T&STB=G1,G2,G3&VW=T>), 2012-01-09.

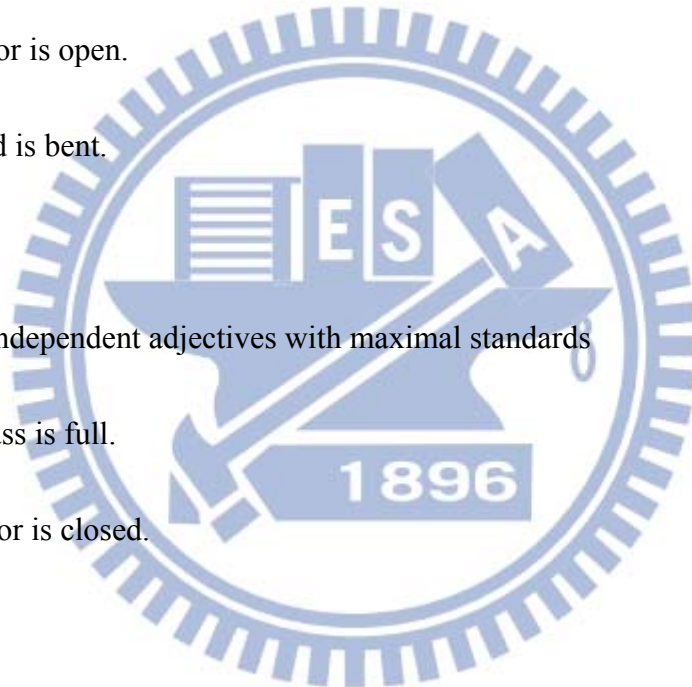
but whose standards of comparison are not context-dependent (Kennedy and McNally, 2005). These adjectives simply require their arguments to possess a minimal or a maximal degree of the property in question. (27) and (28) present some examples from Kennedy and McNally (2005):

(27) Context-independent adjectives with minimal standards

- a. The door is open.
- b. The rod is bent.

(28) Context-independent adjectives with maximal standards

- a. The glass is full.
- b. The door is closed.



In (27a), as the door is not fully closed, it is open. The property of “open” does not need to exceed any standard of comparison. Similarly, in (27b), once the rod is minimally bent, the truth condition is confirmed. On the other hand, (28a) requires the glass to be completely full and (28b) requires the door to be fully closed. These two sentences are established once the property in question reach a maximal degree and do not involve any context-dependent standards.

Now, let's turn back to the *Adj-tou* construction. It is apparent that only context-dependent adjectives are compatible with *tou*:

(29) Context-independent adjectives with minimal standards

- a. * men kai-tou le.

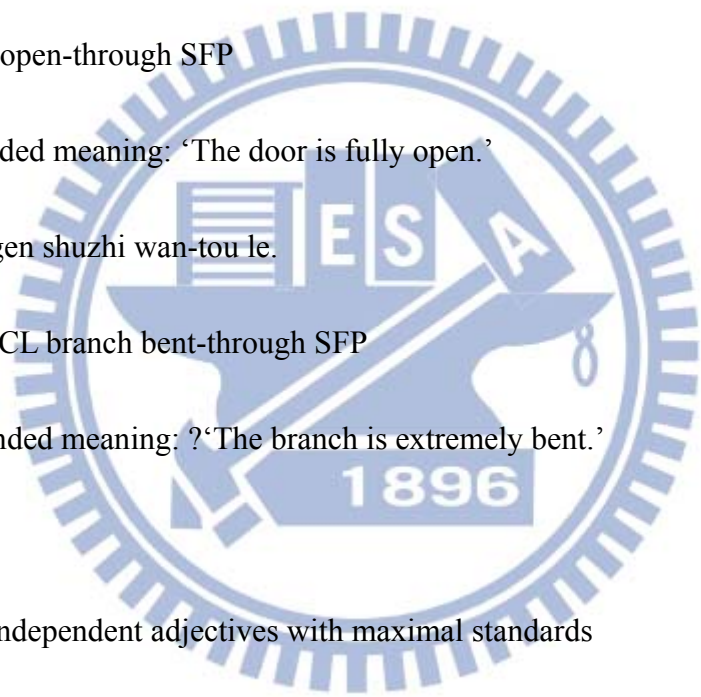
door open-through SFP

Intended meaning: 'The door is fully open.'

- b. * zhe-gen shuzhi wan-tou le.

this-CL branch bent-through SFP

Intended meaning: ?'The branch is extremely bent.'



(30) Context-independent adjectives with maximal standards

- a. * shui man-tou le.

water full-through SFP

Intended meaning: 'The glass of water is full.'

- b. * men guan-tou le.

door close-through SFP

Intended meaning: 'The door is fully closed.'

(31) Context-dependent adjectives

a. xin liang-tou le.

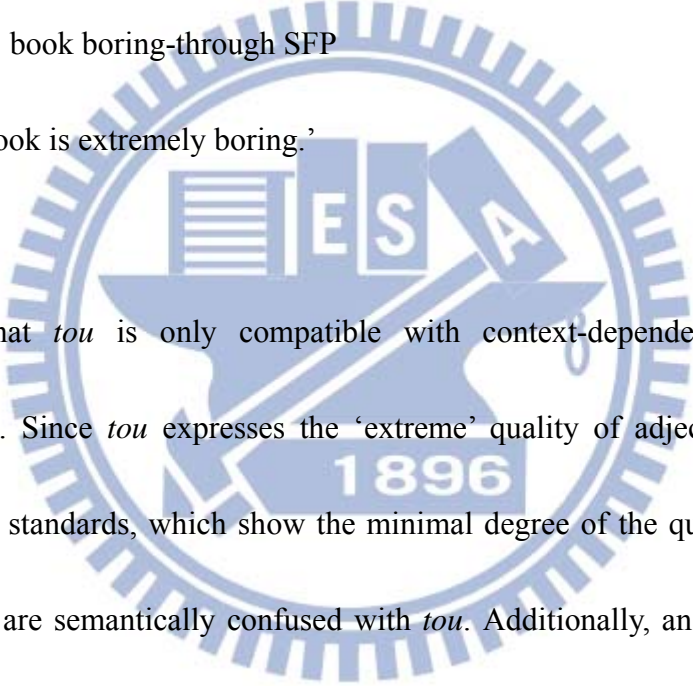
heart cool-through SFP

‘I feel dejected.’

b. zhe-ben shu wuliao-tou le.

this-CL book boring-through SFP

‘This book is extremely boring.’



The reason that *tou* is only compatible with context-dependent adjectives is understandable. Since *tou* expresses the ‘extreme’ quality of adjectives, adjectives with minimum standards, which show the minimal degree of the quality denoted by the adjectives, are semantically confused with *tou*. Additionally, an adjective with a maximal standard has itself indicated the ‘extreme’ reading of the quality; it is therefore redundant to add *tou*, which conveys a similar meaning. Context-dependent adjectives, nevertheless, encode neither maximal nor minimal standards and their standards of comparison are subject to contexts. The use of *tou* serves to indicate the ‘extreme’ quality denoted by the adjectives without any semantic contradiction.

However, requiring an adjective to be context-dependent is only a sufficient condition instead of a necessity condition. (32) lists some counterexamples with context-dependent adjectives which fail to combine with *tou*.

(32) a. * zhe-ben shu gui-tou le.

this-CL book expensive-through SFP

Intended meaning: ‘This book is extremely boring.’

b. * zhangsan gao-tou le.

Zhangsan tall-through SFP

Intended meaning: ‘Zhangsan is extremely tall.’

Recall that in 3.2, I argue that *tou* requires the quality denoted by the adjective to “penetrate” the modified entity. That is, all the subparts of the modifiee must be equipped with the quality. This view explains why the exemplar sentences in (32) are not acceptable. For (32a), the reason that a book is expensive is not because each leaf in the book is expensive. Specifically, the subparts (each leaf) of the entity (the book) are not equipped with the quality (expensive). In the same vein, in (32b), it is awkward to say that Zhansang is tall because his legs, hands, waist, chest, neck and

etc. are all tall. More supports of this criterion are in (33).

(33) a. zhe-ben shu wuliao-tou le.

this-CL book boring-through SFP

Intended meaning: ‘This book is extremely expensive.’

b. # suiran zhangsan wuliao-tou le, danshi ta shuo de xiaohua

although Zhangsan boring-through SFP but he speak DE₂ joke

hen youqu.

very interesting

#Although Zhangsan is extremely boring, his jokes are interesting.

(33a) is modified from (32a). The difference between these two sentences is their adjectives. However (33a) is perfect while (32a) is unacceptable. (33a) is perfect because the reason that the book is extremely boring is caused by the fact that the contents in each leaf are extremely boring. In other words, the subparts of the modifiee are equipped with the quality (i.e. boring). Similarly, when a person articulates the first part of (33b), he or she thinks that all of Zhangsan’s behavior and performances are boring. For example, his jokes are bad and he is not humorous at all. Thus, it is semantically confusing when the last part of the sentence asserts that

Zhangsan is good at talking jokes.

My analysis predicts that when the subject NP is plural, each individual of the plural subject can be understood as the subparts of the whole noun. That is, if the *shu* ‘book’ in (32a) is replaced by a plural form, the sentence should be saved. This prediction is borne out:

(33) zhe-xie shu gui-tou le.

this-CL book expensive-through SFP

‘These books are extremely boring.’

Some counterexamples, however, appear. (34) lists some.

(34) a. *zhe-xie ren gao-tou le.

this-CL person tall-through SFP

Intended meaning: ‘These people are extremely tall.’

b. *zhe-xie xuesheng congming-tou le.

this-CL student smart-through SFP

Intended meaning: ‘These students are extremely smart.’

These adjectives are individual-level predicates. The qualities denoted by those adjectives are true throughout the existence of an individual; therefore, it is odd to say that some individual is equipped with certain qualities by using *Adj-tou* when the qualities do not associate with the individual permanently. When adjectives are stage-level predicates, the sentences are acceptable, as shown in (35).⁸

⁸ Liao (p.c.) points out the following contrasts:

- (i) a. *zhe-xie xuesheng congming-tou le.
 this-CL student smart-through SFP
 Intended meaning: ‘These students are extremely smart.’
 b. zhe-xie xuesheng ben-tou le.
 this-CL student stupid-through SFP
 ‘These students are extremely stupid.’

It is still unclear to me why *ben* ‘stupid’ seems to be an exception. However, as indicated in (ii), individual-level predicates with *tou* are always out.

- (ii) *zhe-xie xuesheng ai / pang / shou / mei / chou-tou le
 this-CL student short / fat / thin / beautiful / ugly-through SFP
 Intended meaning: ‘These students are extremely short / fat / thin / beautiful / ugly.’

When temporal adverbs such as *yizhi* ‘always’ or *yixiangyilai* ‘always’ which express a long period of time are added, (ib) becomes bad.

- (ii) *zhe-xie xuesheng yizhi / yixiangyilai dou ben-tou le.
 this-CL student always / always all stupid-through SFP
 Intended meaning: ‘These students are extremely stupid for a long time.’

This shows that *tou* is incompatible with elements expressing a long-term property. I thus suspect that *ben* ‘stupid’ may be ambiguous between individual-level and non-individual-level interpretations. The following example from Liu (p.c.) supports this idea.

- (iii) ni shou ben jiao ben meiyou yi-yang xing. ni zhenshi
 you hand stupid foot stupid no one-CL can you really
 ben-toule.
 stupid-through SFP
 ‘Your hands and feet are not nimble. You are extremely unskilful.’

As shown in (iii), the *ben* does not mean *stupid*, but *unskilful*, which is a stage-level adjective instead of the individual one.

(35) a. zhe-xie yundongyuan dou e-tou le.

this-CL athlete all hungry-through SFP

‘All of these athletes are extremely hungry.’

b. zhe-ji-tian de tianqi leng-tou le.

this-many-day DE weather cold-through SFP

‘The weather in these days is extremely cold.’

In short, the adjectives in the *Adj-tou* construction must be the context-dependent ones. Additionally, all the subparts of the modified entity must be equipped with the quality denoted by those adjectives.

3.3.2 Selectional Restriction of *V-tou/bian*

Thus far, it is still unclear what kinds of verbs can be used in the “*V-tou/bian* Location/NP” construction. The picture is not as clear as the one in the *Adj-tou* construction. However, some insights can be seen in the definitions of *V-tou* and *V-bian*. As I stated earlier that, in the “*V-tou* location” construction, the meaning can be paraphrased as “the event denoted by the verb is repeatedly taken place and increased and thus saturated at a given location.” *Tou* in this case signifies the concept

of saturation and the location symbolizes a referent range/volume where the action is increased and therefore must be present. Therefore, for *V-tou*, the event denoted by the verb must be one that can be increased:

(36) a. ta wan-tou yazhou le.

he play-through Asia SFP

‘He has traveled to every part of Asia and thus knows a lot about Asia.’

b. ? ta guang-tou le zheng-dong baihuogongsi.

he shop-through Asp whole-CL department-store

‘He has shopped every part of the department store and thus knows a lot about the department store.’

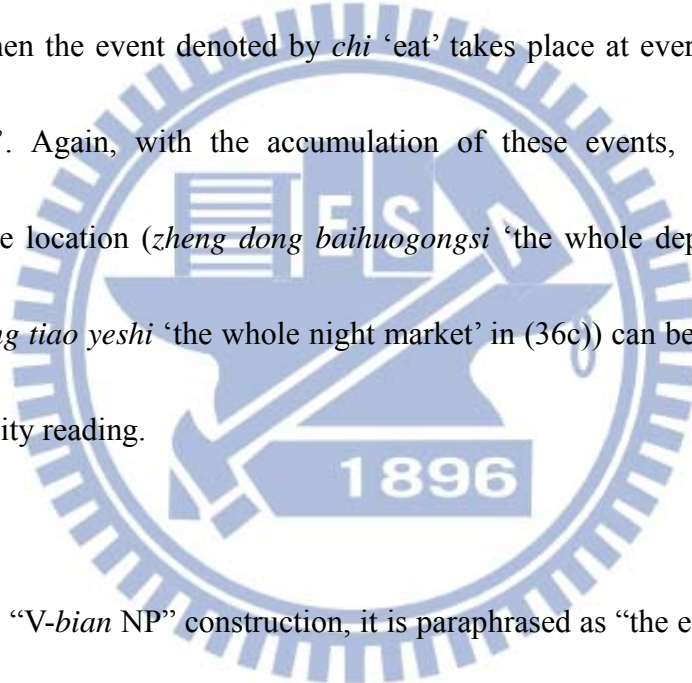
c. ? ta chi-tou le zheng-tiao yeshi.

he eat-through Asp whole-CL night-market

‘He has tasted almost all the food in the night market and thus knows a lot about the night market.’

According to the informants I consulted, (36a) is natural and (36b) and (36c) are not perfect, but are marginally acceptable. These verbs have one thing in common: The

events denoted by these verbs can be incrementally increased. For instance, the meaning of (36a) can be established only if the event of *wan* ‘play’ takes place at every corner of *yazhou* ‘Asia’. With the accumulation of these events, the range/volume encoded by the location can be saturated, giving rise to the *extreme* reading. Likewise, (36b) can be established when the event denoted by *guang* ‘shop’ takes place at every corner of *baihuogongsi* ‘department store’ and (36c) can be established when the event denoted by *chi* ‘eat’ takes place at every corner of *yeshi* ‘night market’. Again, with the accumulation of these events, the scale/volume encoded by the location (*zheng dong baihuogongsi* ‘the whole department store’ in (36b) and *zheng tiao yeshi* ‘the whole night market’ in (36c)) can be saturated, giving rise to the quality reading.



In terms of the “V-*bian* NP” construction, it is paraphrased as “the event is repeatedly performed to/within the complement NP.” This implies that the event doesn’t need to be incrementally increased. Therefore, it is expected that the “V-*bian*” construction can embrace a wider range of verbs. As shown in (37):

(37) a. ta xing- / ta-bian quan tai.

he walk walk-all-over whole Taiwan

‘He has been to every part of Taiwan (by walking).’

b. * ta xing- / ta-tou quan tai.

he walk walk-through whole Taiwan

Intended meaning: ‘He has been to every part of Taiwan (by walking) and

thus he knows a lot about Taiwan.’



CHAPTER 4

THE SYNTACTIC POSITION

In this section, the focus is shifted to the syntactic aspects of *tou* and *bian*. I will first argue that V/Adj-*tou* and V-*bian* are compound words. The internal structure of the compounds will be introduced as well. I will, then, provide the syntactic structures for them. Finally, some space will be devoted to the fronted objects and the inversion construction observed in these constructions.

4.1 The Syntactic Analysis of V/Adj-*tou* and V-*bian*

The most straightforward evidence in support of the view that V/Adj-*tou* and V-*bian* are compound words is from (38) to (40):

(38) Adjective-*tou*

a. * ta shi-le-tou.

he wet-ASP-through

Intended meaning: 'He is extremely wet.'

b. ta shi-tou-le.

he wet-through-Asp⁹

‘He is extremely wet.’

(39) *V-tou* with a location

a. * ta wan-le-tou taiwan.

he play-Asp-through Taiwan

Intended meaning: ‘He has traveled to every part of Taiwan and thus he knows a lot about Taiwan.’

b. ta wan-tou-le taiwan.

he play-through-Asp Taiwan

‘He has traveled to every part of Taiwan and thus he knows a lot about Taiwan.’

⁹ One may notice that earlier in (5), the same *-le* was classified as a sentential *-le* (SFP) rather than a verbal *-le* (Asp). In fact, the classification of this kind of *-le* is still debatable in the literature. See Li and Thompson (1981), Ross (1995), Smith (1997) and Soh (2009) for a sentential *-le* analysis, but see Klein, Li & Hendriks (2000), Liu (1988), Sybesma (1997, 1999) and Wu (2005) for a verbal *-le* analysis. In this study, I simply regard the *-le* at the sentence final position as ambiguous between the two readings.

(40) *V-bian* NP

a. * ta chi-le-bian taiwan.

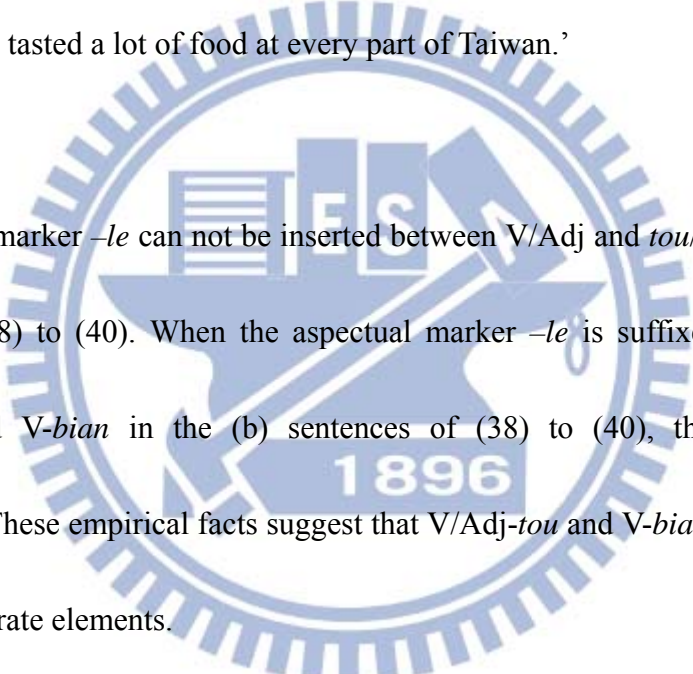
he eat-Asp-all-over Taiwan

Intended meaning: ‘He has tasted a lot of food at every part of Taiwan.’

b. ta chi-bian-le taiwan.

he eat-all-over-Asp Taiwan

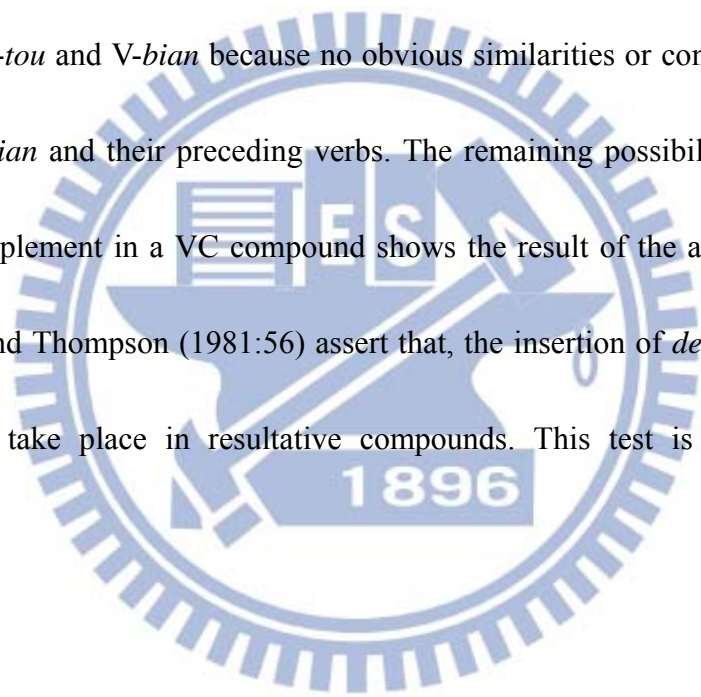
‘He has tasted a lot of food at every part of Taiwan.’



The aspectual marker *-le* can not be inserted between V/Adj and *tou/bian* in every (a) sentence of (38) to (40). When the aspectual marker *-le* is suffixed to the end of V/Adj-*tou* and *V-bian* in the (b) sentences of (38) to (40), the sentences are interpretable. These empirical facts suggest that V/Adj-*tou* and *V-bian* are compounds instead of separate elements.

Although the *-le* insertion test shows that V/Adj-*tou* and *V-bian* are compound words, a more fine-grained categorization is required. More specifically, there are five kinds of internal structures for compound words, including Subject-Predicate (SP), Verb-Object (VO), Verb-Complement (VC), Modifier-Head (MH) and Coordinative-Construction (CC). One may wonder what kinds of structures V/Adj-*tou*

and *V-bian* are. I will eliminate them one by one. First, two out of the five can be eliminated. They are SP and VO. The reason is that there are neither subjects nor objects in *V/Adj-tou* and *V-bian*. At first glance CC may be a potential candidate because *tou* and *bian* are verbs, with their preceding verbs, the internal structure can be analyzed as CC. However, in CCs, the two elements with an identical syntactic category should be either semantically similar or semantically opposite. This is not the case for *V-tou* and *V-bian* because no obvious similarities or contraries are found between *tou/bian* and their preceding verbs. The remaining possibilities are VC and MH. The complement in a VC compound shows the result of the action denoted by the verb. Li and Thompson (1981:56) assert that, the insertion of *de* between the two elements can take place in resultative compounds. This test is implemented in (41)-(43):



(41) Adjective-*tou*

* ta shi-de-tou le.

he wet-DE₂-ASP SFP

Intended meaning: 'He is extremely wet.'

(42) *V-tou* with a location

* ta wan-de-tou taiwan.

he play-DE₂-through Taiwan

Intended meaning: ‘He travels to every part of Taiwan and thus he knows a lot about Taiwan.’

(43) *V-bian* NP

* ta chi-de-bian taiwan.

he eat-DE₂-all-over Taiwan

Intended meaning: ‘He tastes a lot of food at every part of Taiwan.’

Although *Adj-tou* and *V-tou/bian* fail this test, it is still too early to claim that they are not VCs because some well known VCs fail this test as well. For instance, in the literature, *da-pao* ‘hit-run’ and *qi-lei* ‘ride-tired’ are regarded as VCs (Huang, 2006; Huang, Li & Li, 2009; Li, 1990), but they fail the *de* insertion test:

(44) a. Zhangsan da-pao le Lisi.

Zhangsan hit-run Asp Lisi.

‘Zhangsan hit Lisi and Lisi ran away.’

b. *Zhangsan da-de-pao Lisi le.

Zhangsan hit-DE₂-run Lisi SFP

Intended meaning: ‘Zhangsan hit Lisi and Lisi ran away.’

(45) a. Zhangsan qi-lei le ma le.

Zhangsan ride-tired Asp horse SFP

(i) ‘Zhangsan rode a horse and got tired from it.’

(ii) ‘Zhangsan rode a horse and got the horse tired.’

b. * Zhangsan qi-de-lei ma le.

Zhangsan ride-DE₂-tired horse SFP.

Intended meaning: (i) ‘Zhangsan rode a horse and got tired from it.’

(ii) ‘Zhangsan rode a horse and got the horse tired.’

These examples indicate that not all the VCs are compatible with *de* insertion. This is to say that compounds that are compatible with *de* insertion are VCs, but it does not amount to saying that those which fail this test are not. Therefore, I employ an additional test—the “V-V resultative compound” and “V-de VP resultative phrase” alternation.

As Huang (2006:21) contends, the derivation of V-V resultative compounds from the *de* phrasal resultatives involves, if any, verb movement over the object. This is tantamount to saying that VCs should have phrasal resultative counterparts. (46) and (47) show the alternations:

(46) a. Zhangsan da-pao le Lisi.

Zhangsan hit-run Asp Lisi.

‘Zhangsan hit Lisi and Lisi ran away.’

b. Zhangsan da-de Lisi dou pao le.

Zhangsan hit-DE₂ Lisi all run SFP.

‘Zhangsan hit Lisi and Lisi ran away.’



(47) a. Zhangsan qi-le le ma le.

Zhangsan ride-tired Asp horse SFP

(i) ‘Zhangsan rode a horse and got tired from it.’

(ii) ‘Zhangsan rode a horse and got the horse tired.’

b. Zhangsan qi-ma qi-de hen lei.

Zhangsan ride-horse ride-DE₂ very tired.

‘Zhangsan rode a horse and got tired from it.’

c. Zhangsan qi-de ma hen lei.

Zhangsan ride-DE₂ horse very tired.

‘Zhangsan rode a horse and got the horse tired.’

Now, let’s turn to Adj-*tou* and V-*tou/bian*:

(48) Adjective-*tou*

* ta shi-de quanshen dou tou le.

he wet-DE₂ whole-body all through SFP

Intended meaning: ‘His body is extremely wet.’

(49) V-*tou* with a location

* ta wan-de taiwan dou tou le.

he play-DE₂ Taiwan all through SFP

Intended meaning: ‘He travels to every part of Taiwan and thus he knows a lot about Taiwan.’

(50) *V-bian* NP

* *ta chi-de taiwan dou bian le.*

he eat-DE₂ Taiwan all all-over SFP

Intended meaning: ‘He tastes a lot of food at every part of Taiwan.’

The incompatibility of the “V-V resultative compound” and “V-de VP resultative phrase” alternation shown in (48) to (50) indicates that the only possible internal structure for V/Adj-*tou* and V-*bian* is MH. This analysis predicts that *tou* and *bian* are heads while the preceding verbs and adjectives are modifiers. Semantically, this view is plausible because the meanings of such constructions always convey that some quality has “penetrated” something or some events have been widely performed, whose meanings are derived from the original lexical words *tou* and *bian* respectively. Conversely, the verbs and adjectives in such compounds always encode the manner and can be replaced depending on the way some quality “penetrates” an entity or some events have been widely/repeatedly performed to/within an entity or a location. For instance, in *ta chi-bian taiwan* ‘He has tasted a lot of food at every part of Taiwan’, *bian* signifies that the subject has been to every part of Taiwan and *chi* ‘eat’ reveals the manner (i.e. by tasting food). If the person visited every part of Taiwan by having fun instead of tasting food, the first word of the compound, *chi* ‘taste’, has to

be replaced by *wan* ‘play’. However, the change of the first word, which encodes the manner, does not change the core meaning of the compound. That is, the person still has visited every part of Taiwan, irrespective of the way he traveled. In short, after eliminating the other four possibilities, I claim that the only possible internal structure of such compounds is MH. Moreover, semantically, the meanings of such constructions always convey that some quality has “penetrated” something or some events have been widely performed, whose meanings are derived from the original lexical words *tou* and *bian* respectively. Syntactically, the first words of the compounds can be replaced depending on the way some quality “penetrates” an entity or some events have been widely/repeatedly performed at an entity or a location.

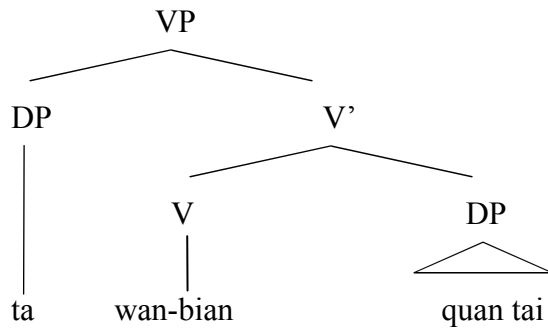
After the above discussion, the syntactic structures of V/Adj-*tou* and V-*bian* can be generated. The tree drawn in (51) is based on V-*bian*:

(51) a. ta wan-bian quan tai.

he play-all-over whole Taiwan

‘He has traveled to every part of Taiwan.’

b.



4.2 The Fronted Object

Although I have provided the syntactic structures for *V/Adj-tou* and *V-bian*, the proposed structures can not account for the problem stated at the end of section 2. The problematic sentences in (6) are repeated as (53):

(53) a. ta yazhou wan-tou le.

he Asia play-through SFP

‘He has traveled to every part of Asia and thus knows a lot about Asia.’

b. * ta yazhou wan-bian le.

he Asia play-all-over SFP

Intended meaning: ‘He has traveled to every part of Asia.’

In 3.2, I also provided the reason that the unacceptability of (53b) can be dramatically reduced when a contrastive sentence is added:

(54) ? ta yazhou wang-bian le, danshi ouzhou haimei.

he Asia play-all-over SFP but Europe not-yet

‘He has traveled to every part of Asia, but not Europe.’

The fact that the addition of a contrastive sentence can rescue (53b) is a piece of evidence for the object fronting analysis. As Tsai (2008) points it out that object fronting occurs in Chinese only when contrastive focusing is involved.

Another piece of evidence comes from (55):

(55) (Tsai, 2008, (1))

a. * wo liang-ben shu nian-guo, san-ben shu mei nian-guo.

I two-CL book read-Asp, three-CL book not read-Asp

Intended meaning: ‘I read two books, not three.’

b. wo you liang-ben shu nian-guo, you san-ben shu mei nian-guo.

I have two-CL book read-Asp, have three-CL book not read-Asp

‘I read two of the books, but not the other three.’

c. wo zhe liang-ben shu nian-guo, na san-ben shu mei nian-guo.

I this two-CL book read-Asp, that three-CL book not read-Asp

‘I read these two books, but not those three.’

According to Tsai’s (2008) observation, when numeral object NP is in a preverbal position, it must be bound either by the existential modal *you* ‘have’ (55b) or by a demonstrative like *zhe* ‘this’, as in (55c). Otherwise, the sentence is out, as in (55a).

This implies that, if the preverbal elements are fronted NPs in (54), once the fronted bare NP is replaced by a numeral NP, the syntactic behaviors should be no difference from (55). The prediction is born out:

(56) *V-tou* with fronted objects

a. * ta liang-ge chengshi wan-tou le, san-ge chengshi haimei.

he two-CL city play-through SFP three-CL city not-yet

Intended meaning: ‘He has visited and had fun in two cities and thus he knows a lot about the cities. However, he hasn’t had fun in those three cities and thus he doesn’t know much about the cities.’

b. ta you liang-ge chengshi wan-tou le, you san-ge chengshi haimei.

he have two-CL city play-through SFP have three-CL city not-yet

‘He has visited and had fun in two cities and thus he knows a lot about the cities. However, he hasn’t had fun in those three cities and thus he doesn’t know much about the cities.’

c. ta zhe liang-ge chengshi wan-tou le, na san-ge chengshi haimei.

he this two-CL city play-through SFP that three-CL city not-yet

‘He has visited and had fun in these two cities and thus he knows a lot about the cities. However, he hasn’t had fun in those three cities and thus he doesn’t know much about the cities.’

(57) *V-bian* with fronted objects

a. * ta liang-ge chengshi wan-bian le, san-ge chengshi haimei.

he two-CL city play-all-over SFP three-CL city not-yet

Intended meaning: ‘He has visited and had fun in two cities, but not in those three cities.’

b. ta you liang-ge chengshi wan-bian le, you san-ge chengshi haimei.

he have two-CL city play-all-over SFP have three-CL city not-yet

‘He has had fun in two cities, but not in those three cities.’

c. ta zhe liang-ge chengshi wan-bian le, na san-ge chengshi haimei.

he this two-CL city play-all-over SFP that three-CL city not-yet

‘He has had fun in these two cities, but not in those three cities.’

It is quite robust to assert that (53) involves object fronting and the ungrammaticality of (53b) can be saved when a proper contrastive sentence is supplied.¹⁰

4.3 Locative NP Inversion

One remaining question that I haven’t dealt with is that, when the subject of *V-bian* is a theme, the locative NP following *bian* can be inverted with the theme. The instance

¹⁰ To explain the different grammatical behaviors in (53), Tsai (2008) adopts the Extended Mapping Hypothesis (Tsai 1999, 2001) as well as Chomsky’s (1995) Copy Theory. Readers can refer to the original text by Tsai (2008).

shown in (8) is given below.

(8) a. yinghua kai-bian le shangu.

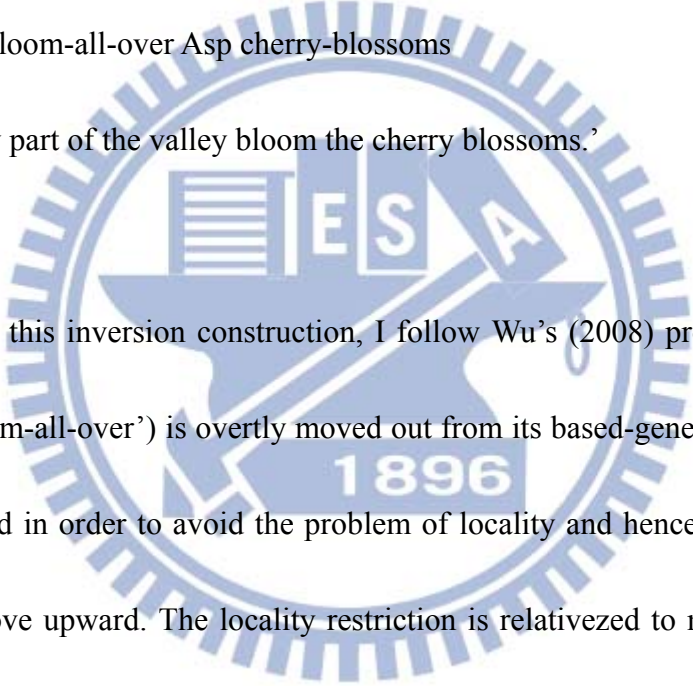
cherry-blossoms bloom-all-over Asp valley

‘The cherry blossoms bloom in every part of the valley.’

b. shangu kai-bian le yinghua.

valley bloom-all-over Asp cherry-blossoms

‘In every part of the valley bloom the cherry blossoms.’

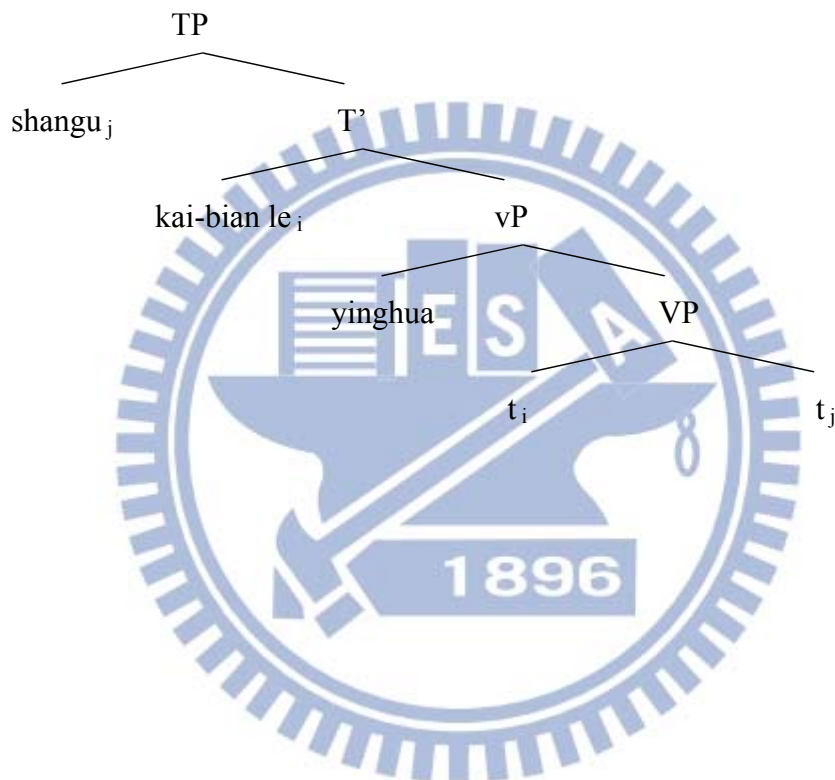


To account for this inversion construction, I follow Wu’s (2008) proposal. The verb (*kai-bian* ‘bloom-all-over’) is overtly moved out from its base-generated position (V head) to T head in order to avoid the problem of locality and hence allow the lower DP (LP) to move upward. The locality restriction is relativized to minimal domains proposed by Chomsky (2001), as shown in (58). The LP is subsequently moved to [Spec, TP] to fulfill EPP, giving rise to the outcome in (8b). A tree diagram of these steps is shown in (59).

(58) a. Terms of the same minimal domain are equidistant to the probe.

b. The minimal domain of a head H is the set of terms immediately contained in the projection of H.¹¹

(59)



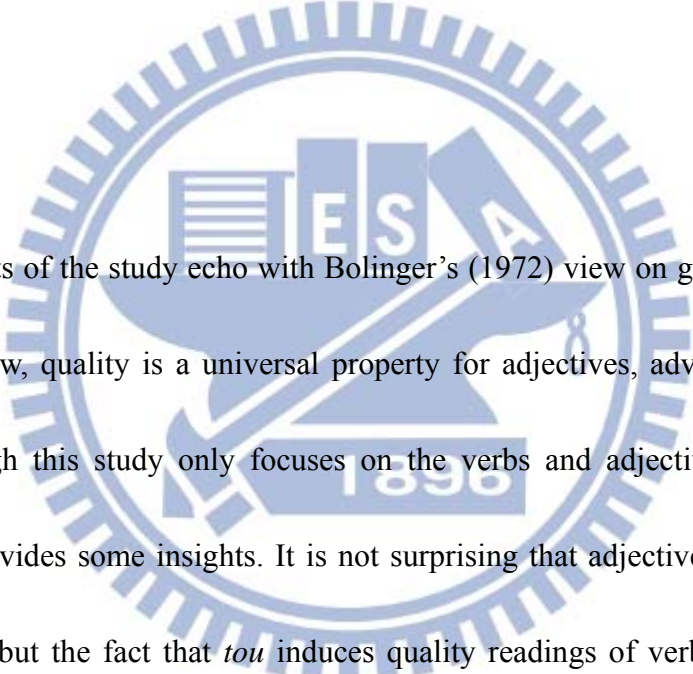
¹¹ By merging the objects α and β , forming the new object $K(\alpha, \beta)$, Immediate Contain holds of (K, α) and (K, β) .

CHAPTER 5

DISCUSSION

Thus far, I have argued that *tou* induces quality interpretations of adjectives and verbs.

On the other hand, *bian* quantizes the subsequent NP and expresses the quantity reading of verbs. If the proposed ideas are correct, the study bears following implications.



First, the results of the study echo with Bolinger's (1972) view on gradability. Recall that, in his view, quality is a universal property for adjectives, adverbs, nouns, and verbs. Although this study only focuses on the verbs and adjectives in Mandarin Chinese, it provides some insights. It is not surprising that adjectives have a quality interpretation, but the fact that *tou* induces quality readings of verbs reveal that, in addition to adjectives, verbs in Mandarin Chinese also contain a quality reading. Thus, it can be inferred that, universally, if not all of the four major word classes, at least verbs and adjectives contain a quality reading. This conclusion reminds us the question brought up in the introduction: If quality is a universal property of four major categories, would it be true for quantity? Although, at first glance, the findings of the study may provide a negative answer, I will argue below that quantity may as well be

a universal property for adjectives and verbs.

Although *bian* serves to quantize the subsequent NP and expresses the quantity reading of verbs, the fact that *bian* is incompatible with adjectives may lead to the conclusion that adjectives do not express quantity. One consequence of this is that while quality may be a universal property for adjectives and verbs, it is not the case for quantity. However, I argue that there are independent reasons which are responsible for the incompatibility of *bian* and adjectives. As I have mentioned in section 3.2, *bian* needs an obligatorily present internal argument. However, in Mandarin Chinese, when adjectives are the main predicates of a sentence, they do not take a complement. It is, therefore, impossible to add an NP, giving rise to the ungrammaticality of Adj-*bian*. Additionally, it has been formerly argued by Liu (2011) that adjectives in Mandarin Chinese may express quantity readings. (61) is a pair of crucial data from Liu (2011: 8):

(61) (Liu, 2011, (28))

a. *suiran zhang taitai yizhuo quan hong, dan haomeiyou hongdao ling ren*

although Zhang Mrs. cloth all red but not-yet red-to let person

wufa jieshou.

can't accept

‘Although the clothes Mrs. Zhang wears are all red, the color is not too red to be acceptable.’

b. * *suiran zhang taitai yizhuo quan hong, buguo xiuzi haishi bai de.*

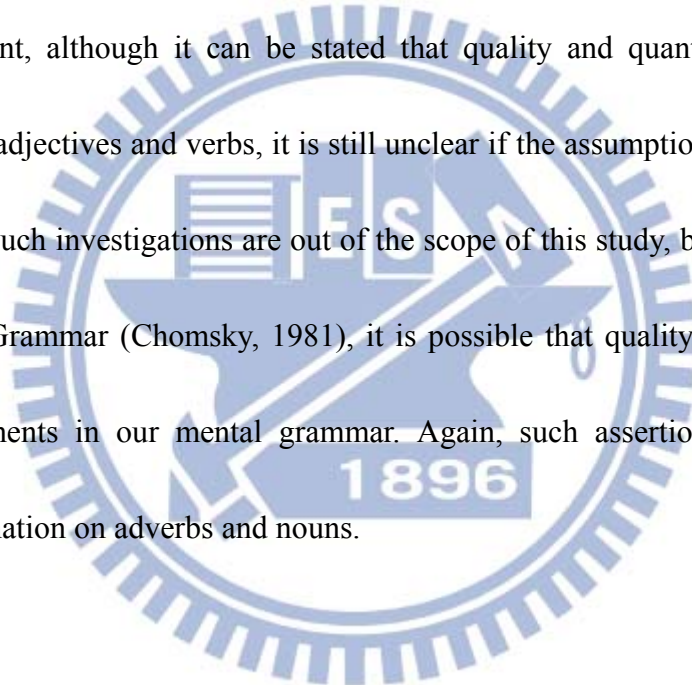
although Zhang Mrs. cloth all red, but sleeve still white DE₁

Intended meaning: ‘Although the clothes Mrs. Zhang wears are all red, the sleeves are still white.’

He argues that the adjective *hong* ‘red’ in (61) refers to the quantity reading rather than the quality reading. That is, the hue, brightness or saturation of the color is not the center of the meaning. Therefore, when the second part of the sentence in (61a) asserts that the cloth is not too red in terms of its color quality, the sentence is still well-formed. On the other hand, the former part of (61b) asserts that the cloth is completely red (i.e. the quantity reading). When the later part of the sentence implies that the cloth is not completely red by saying that the sleeves are white, the meanings

are contradictory, leading to the ungrammaticality of (61b). In short, Liu's (2011) study further supports the view that adjectives in Mandarin Chinese have quantity readings. Together with the current study showing that verbs can express quantity readings, the proposition that quantity is a universal property for verbs and adjectives is also supported.

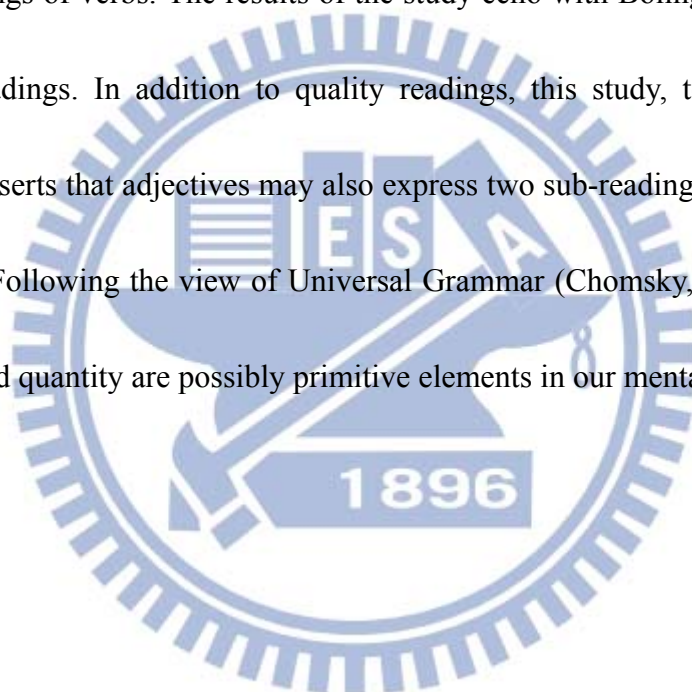
At this moment, although it can be stated that quality and quantity are universal properties for adjectives and verbs, it is still unclear if the assumption holds for nouns and adverbs. Such investigations are out of the scope of this study, but, from the view of Universal Grammar (Chomsky, 1981), it is possible that quality and quantity are primitive elements in our mental grammar. Again, such assertions await a more careful examination on adverbs and nouns.



CHAPTER 6

CONCLUSION

In this study, I have demonstrated that *tou* induces quality readings of verbs and adjectives. Moreover, it is argued that *bian* quantizes the subsequent NP and expresses quantity readings of verbs. The results of the study echo with Bolinger's (1972) view on quality readings. In addition to quality readings, this study, together with Liu (2011), also asserts that adjectives may also express two sub-readings between quality and quantity. Following the view of Universal Grammar (Chomsky, 1981), I propose that quality and quantity are possibly primitive elements in our mental grammar.



APPENDIX A

Two more uses of *tou*

The other two frequent uses of *tou* are listed in (A1) and (A2).

(A1) Volitional subject + V-*tou* + theme

wo kan- / san- / mo-tou ta de xin.

I see study touch-through she DE₁ heart

‘I clearly understand her thoughts.’

(A2) Non-volitional subject + V-*tou* + theme

wo taoyan- / hen-tou zhe zhong ganjue.

I hate hate-through this kind feeling

‘I hate the feeling very much.’

The instances in (A1) and (A2) show that these two types of *tou* involve stative verbs that select a theme (*ta de xin* ‘her heart,’ and *zhe zhong ganjue* ‘this feeling’ in (A1), and (A2) respectively) as a complement.¹² However, (A1) and (A2) can be further distinguished. The V-*tou* in (A1) can be infixed with a negation marker *bu* (A3). In

¹² One may wonder how verbs such as *kan* ‘see’ and *mo* ‘touch’ can be categorized as stative verbs. In fact, as the translation shown in (A1) suggests, their meaning equals *understand*, which is a stative verb.

contrast, the infixation of *bu*, as shown in (A4), results in ungrammaticality:

(A3) wo kan- / san- / mo-bu-tou ta de xin.

I see- study- touch-NEG-through she DE1 heart

‘I can’t understand her mind.’

(A4) * wo taoyan- / hen-bu-tou zhe zhong ganjue.

I hate- hate-NEG-through this kind feeling

Intended meaning: ‘I hate the feeling very much.’

I argue that the different syntactic behavior in (A3) and (A4) lies in the volition of the subjects. I assume with Lin (2003: 428-429) that *bu* can negate modal auxiliary verbs.

For sentences without modals, the sentences may get a volitional or future modality reading and allow *bu* to appear. This is also the position held by Huang (1988: 290),

who argues that in those kinds of sentences, what *bu* negates is actually an empty volitional or future modal verb. Sentences in (A5) are instances from Lin (2003):

(A5) a. Wo bu qu Taipei.

I not go Taipei

‘I do not want to go to Taipei / I will not go to Taipei.’

b. Ta bu bang wo xie zuoye.

He not help me write homework

‘He does not want to help me with my homework.’

Although the sentences in (A5) do not contain any overt modals, as the English translations suggest, they all involve volitional readings. This phenomenon, as the English translations suggest, is also observed in (A3). Therefore, the difference between (A1) and (A2) can be referred to the volitionality of the subjects.

The *V-tous* in (A1) and (A2), like the other two kinds of *V-tous* discussed in the text, are compounds. The *-le* insertion is employed below.

(A6) Volitional subject + *V-tou* + theme

a. * wo kan-le-tou ta de xin.

I see-Asp-through she DE₁ heart

Intended meaning: ‘I clearly understand her thoughts.’

b. wo kan-tou-le ta de xin.

I see -through-Asp she DE₁ heart

‘I clearly understand her thoughts.’

(A7) Non-volitional subject + V-*tou* + theme

a. * wo hen-le-tou zhe zhong ganjue.

I hate-Asp-through this kind feeling

Intended meaning: ‘I hate the feeling very much.’

b. wo hen-tou-le zhe zhong ganjue.

I hate-through-Asp this kind feeling

‘I hate the feeling very much.’

Additionally, the “resultative *de*” is also employed to test if the internal structures of these two types of *tou* are Verb-Complement (VC) or Modifier-Head (MH).

(A8) Volitional subject + V-*tou* + theme

wo kan-de-tou ta de xin.

I see-DE₂-through she DE₁ heart

‘I can understand her mind very much.’

(A9) Non-volitional subject + V-*tou* + theme

* wo hen-de-tou zhe zhong ganjue.

I hate-DE₂-through this kind feeling

Intended meaning: 'I can hate the feeling very much.'

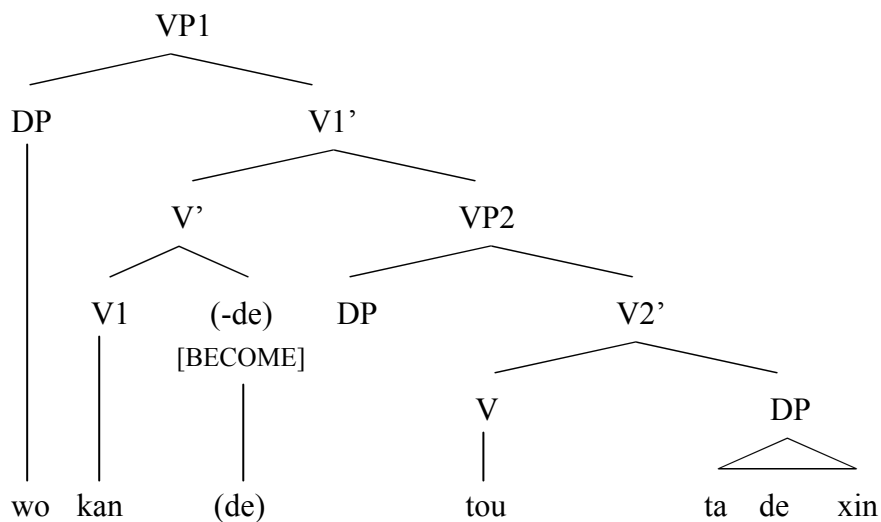
Since the V-*tou* in (A8) is compatible with the resultative marker *de*, suggesting that the V-*tou* in (A1) is a VC compound. Following Huang (2006), I claim that the resultative marker *de* is an overt form of the light verb BECOME. The tree structure (A8) is drawn in (A10):

(A10) a. wo kan-de-tou ta de xin.

I see-DE₂-through she DE₁ heart

'I can understand her mind very much.'

b.



On the other hand, (A2) fails the *de* insertion, so the “V-V resultative compound” and “V-*de* VP resultative phrase” alternation is further employed to test if the compound is VC or not:

(A11) Non-volitional subject + V-*tou* + theme

*wo hen-de zhe-zhong ganjue hen tou.
I hate-DE₂ this-kind feeling very through
Intended meaning: ‘I hate the feeling very much.’

The ungrammaticality of (A11) indicates that the only possible internal structure of (A2) is Modifier-Head (MH).¹³ The structure of (A2) is like (52).

¹³ The reasoning of this categorization is provided in 4.1.

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