

# Degree Modification and the Scalar Adjectives in Chinese

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## Abstract

Recent studies on the quantitative features of adjectives have agreed on the validity of the notion of scale. Adjectives of different scalar types are tested to be linguistically identifiable in many languages. In English, degree modifiers serve as a good test for scalarity, for they are typically only compatible with particular types of adjectives. In Chinese, by contrast, degree modifiers appear to reject or accept adjectives of all scalar types as a whole; thus, it is a widely accepted assumption that Chinese simple adjectives form a homogeneous group that denotes an unbounded property. This paper investigates three modifiers 很 *hen* ‘very’, 有點兒 *youdianr* ‘slightly’, and 完全 *wanquan* ‘completely’ and argues that through cross-comparing degree phrases in different syntactic structures, it is actually possible to identify the scalar properties of the modified adjectives; specifically, the bounded ones. Our findings provide support for the validity of analyzing adjectives in terms of scale structures and challenge the traditional view of grouping all simple adjectives as a unitary group.

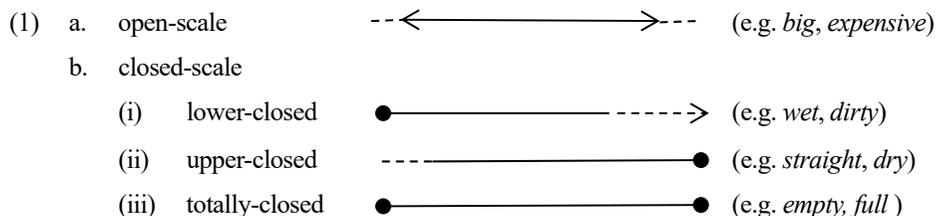
**Key Words:** gradable adjectives, degree modification, scale structure, boundedness

## 1. Introduction: The puzzles of the degree modification patterns in Chinese

Recent studies have agreed that the boundedness in adjectives is situated in the notion of gradability the same way as the property of boundedness in nouns is associated with the notion of countability and that in verbs with the notion of aktionsart (Kennedy and McNally 2005 (henceforth K&M), Kennedy 2007, Kennedy & Levin 2008, Lin & Peck 2016 (Henceforth L&P)). While previous studies of Chinese adjectives usually put all gradable adjectives such as 大 *da* ‘big’, 貴 *gui* ‘expensive’, 髒 *zang* ‘dirty’, 濕 *shi* ‘wet’, 直 *zhi* ‘straight’, 乾 *gan* ‘dry’, 滿 *man* ‘full’, 空 *kong* ‘empty’ in one single group: one that denotes an unbounded property (Zhu 2001 [1956], Li 2000, Zhang 2000, 2006), recent studies on adjectives have shown strong empirical evidence that the quantitative denotations of these adjectives are different and that the notion of scale structures is crucial for capturing such quantitative differences.

In the literature, when there is no bound in the measurement of a property, the property is

analyzed as of an open-scale; by contrast, a scale may be bounded on (i) the upper-end, (ii) the lower-end, or (iii) both ends. (1) illustrates the classification.



Adjectives such as *big* and *expensive* are associated with a property with no quantitative bound; there is no upper or lower limit for how big or expensive something can be. Adjectives such as *dirty* and *wet* are associated with properties that have a zero-point in their scale structures (i.e. they are bounded at the lower end); for example, a non-zero amount of dirt is necessary for something to be qualified as *dirty*. Adjectives such as *straight* and *dry* are associated with properties that are closed on the upper-end; there is an upper limit for how straight or dry something can be. Adjectives such as *full* and *empty* are associated with properties that have both an upper and a lower bound; for example, the upper-bound for fullness is complete fullness and the lower-bound is complete emptiness. Following L&P, we call the first type open-scale adjectives, the second type lower-closed adjectives, the third type upper-closed adjectives, and the fourth type totally-closed adjectives.

In English, the quantitative properties of different types of adjectives can be easily tested by degree modification, for English degree modifiers are typically only compatible with particular types of adjectives. In Chinese, by contrast, degree modifiers appear rather insensitive to the scalarity of the adjectives they modify. For example, in English, *very* modifies adjectives whose associated scale structures do not have an upper bound; that is, it modifies open-scale and lower-closed adjectives naturally, but the acceptability drops drastically when it co-occurs with upper-closed or totally-closed adjectives, as exemplified in (2). By contrast, as (3) shows, in Chinese, the modifier 很 *hen* ‘very’ can modify adjectives of all scalar types.

(2) a.	very	big/ expensive
b.	very	wet/dirty
c.	?? very	straight/ dry
d.	?? very	empty/full

- (3) 很 { 大/ 貴/ 濕/ 髒/ 直/ 乾/ 空/ 滿 }  
 hen { da/ gui/ shi/ zang/ zhi/ gan/ kong/ man }  
 very big/ expensive/ wet/ dirty/ straight/ dry/ empty/ full  
 ‘very big/ expensive/ wet/ dirty/ straight/ dry/ empty/ full’

Similarly, the English degree modifier *slightly* only modifies adjectives that have a lower bound in the scale structure (i.e. lower-closed adjectives as in (4b) and totally-closed adjectives as in (4d)), but not otherwise; (4a) and (4c) are of low acceptability. Contrastively, in Chinese, the modifier that indicates low intensity, 有點兒 *youdianr* ‘slightly’, can modify all sets of adjectives (cf. Li 2000, Zhang 2006, L&P).

- (4) a. ?? slightly big/ expensive  
 b. slightly wet/ dirty  
 c. ?? slightly straight/ dry  
 d. slightly empty/ full

- (5) 有點兒 { 大/ 貴/ 濕/ 髒/ 直/ 乾/ 空/ 滿 }  
 Youdianr { da/ gui/ shi/ zang/ zhi/ gan/ kong/ man }  
 Slightly big/ expensive/ wet/ dirty/ straight/ dry/ empty/ full  
 ‘slightly big/ expensive/ wet/ dirty/ straight/ dry/ empty/ full’

Also, while in English, only adjectives encoding scales with an upper-end (i.e. upper-closed and totally-closed adjectives) can be naturally modified by *completely*, as the contrast between (6a, b) and (6c, d) shows, the Chinese modifier 完全 *wanquan* ‘completely’ rejects all types of adjectives (cf. L&P).

- (6) a. ?? completely big/ expensive  
 b. ?? completely wet/ dirty  
 c. completely straight/ dry  
 d. completely empty/ full

- (7) \*完全 { 大/ 貴/ 濕/ 髒/ 直/ 乾/ 空/ 滿 }  
 \*wanquan { da/ gui/ shi/ zang/ zhi/ gan/ kong/ man }  
 compeltely big/ expensive/ wet/ dirty/ straight/ dry/ empty/ full  
 ‘completely big/ expensive/ wet/ dirty/ straight/ dry/ empty/ full’

As scalarity does not appear as crucial for determining possible modification patterns in Chinese as in English, it casts doubts on the universality of scalarity as a core lexical element of adjectival meanings and the validity of classifying adjectives accordingly.

This paper examines the quantitative properties Chinese degree modifiers demonstrate when

they compose with adjectives of different scalar types, and shows that while 很 *hen* ‘very’ and 有點兒 *youdianr* ‘slightly’ are at least ambiguous with literal and non-literal senses, the non-literal sense of the former rejects modification of lower-closed adjectives while the literal sense of the latter is only available for adjectives whose associated scale has a lower bound. Also, despite the unacceptability of the sentences in (7), given proper syntactic environments, 完全 *wanquan* ‘completely’ does show selective preference over adjectives whose scale structure has an upper bound. §2 introduces the basic syntactic and semantic features of the degree phrases in English and Chinese. §3 examines the three modifiers in order. §4 summarizes and concludes our analysis.

## 2. Adjectival phrases in English and Chinese

Sybesma (1999) points out that Chinese and European adjectives differ in the way how they are marked. In European languages, the comparative forms of adjectives are morphologically marked by *-er* while the positive form is not; conversely, in Chinese, while comparatives are not marked, positive forms are marked by degree modifiers; (8) and (9) show the contrast. In Chinese, when adjectives appear in the predicative position, a degree modifier is obligatory for the derivation of the positive meaning.<sup>1</sup> The equivalence of the positive sentence in (8b) is (9b), where the adjective is modified by the neutral degree modifier 很 *hen* ‘very’, whose meaning we investigate in later sections.

- (8) a. Michael is taller than John.  
 b. Michael is tall.
- (9) a. 麥克        比        約翰        高。  
 Maike        bi        Yuehan     gao.  
 Mike        than     John        tall  
 ‘Mike is taller than John.’
- b. 麥克        \*(很)        高。  
 Maike        \*(hen)      gao.  
 Mike        very        Tall  
 ‘Mike is tall.’

### 2.1 Degree phrases in English

It is widely assumed in the studies of scalar adjectives that in the positive form of an adjective as in (10a), there is a phonologically null morpheme *pos* (called the pos(itive) morpheme) that occupies the head of the degree phrase, as is illustrated in (10b) (K&M, Kennedy 1997, Kennedy 2007).<sup>2</sup>

- (10) a. Michael is tall.  
 b. [Michael is [<sub>DegP</sub> **pos** [<sub>AP</sub> tall] ].

The truth conditions of sentences with the positive form vary when different types of adjectives are involved: with an open-scale adjective, the standard of comparison for the property to hold is taken from the context, as (11a) shows; by contrast, with closed-scale adjectives, the standard of comparison is either a minimum (i.e. non-zero) or a maximum (i.e. complete) value on the associated scale, as shown in (11b), (11c) and (11d), where the adjectives involved are lower-closed, upper-closed, and totally-closed adjectives respectively.

- (11) a. The rod is long.  
 (= has a degree of length that exceeds the contextual standard.)  
 b. The rod is bent.  
 (= has a non-zero degree of bendiness.)  
 c. The rod is straight.  
 (= is completely straight)  
 d. The door is open.  
 (= has a non-zero degree of openness.)  
 The bottle is empty.  
 (=is completely empty)

Kennedy (2007) argues that this pattern of standard setting follows from what he calls ‘Principle of Interpretive Economy’, a general pragmatic principle that in short says, the meanings of sentences are computed based on compositionally calculated truth conditions and information available in the discourse.

## 2.2 Degree phrases in Chinese

### 2.2.1 An overt positive morpheme

Li and Thompson (1981) mentions that “more often than not, a scalar adjective occurring as the sole element of a predicate will take on the adverbial modifier 很 *hen* ‘very’ (p.143)” and that there are two possible interpretations for the phrase: firstly, the full-fledged meaning of ‘very’ and secondly, a semantically bleached element which adds no intensifying meaning to the sentence. Thus, (12) is analyzed as semantically equivalent to both ‘He is fat.’ and ‘He is very fat.’

- |      |                   |        |       |                           |
|------|-------------------|--------|-------|---------------------------|
| (12) | 他                 | *(很)   | 胖。    | (Li &Thompson 1981: p143) |
|      | Ta                | *(hen) | pang. |                           |
|      | he                | very   | fat   |                           |
|      | ‘He is very fat.’ |        |       |                           |
|      | ‘He is fat’       |        |       |                           |

In recent studies, 很 *hen* ‘very’ is often analyzed as an overt counterpart of the positive morpheme in English (Kennedy 2005, Grano 2010 and Liu 2010); however, as will be discussed in more details in §3, the way it picks up standards of comparison is not exactly the same as in English as delineated in (11).

### 2.2.2 A covert positive morpheme in Chinese

Liu (2010) proposes that in Chinese, besides *hen*, there is a covert allomorph of the positive morpheme in Chinese, and that this covert positive morpheme only occurs in restricted syntactic environments,<sup>3</sup> such as negative phrases as in (13a), contrastive sentences as in (13b), *ma*-questions as in (13c), epistemic clauses as in (13d), and small clauses as in (13e).

- (13) a. 張三不高。  
 [Zhangsan [NegP [Neg<sup>bu</sup> [DEG P **pos** [AP gao]]]].  
 Zhangsan NEG tall  
 ‘Zhangsan is not tall.’
- b. 張三高, 李四矮。  
 [Zhangsan [FocP ... [DegP **pos** [AP gao]]], [Lisi [FocP [ DegP **pos** [AP ai]]]].  
 Zhangsan tall Lisi short  
 ‘Zhangsan is tall, while Lisi is short.’
- c. 張三高嗎?  
 [[Zhangsan [[Deg **pos** [AP gao]]] ma]?  
 Zhangsan tall SFP  
 ‘Is Zhangsan tall?’
- d. 張三要是吝嗇, ...  
 [Zhangsan [[EpistP [[Epist yaoshi] [DegP **pos** [AP linse]]]...  
 Zhangsan if stingy  
 ‘If Zhangsan is stingy, ...’
- e. 張三笑你笨。  
 [Zhangsang [VP xiao [EA-SC ni [[Deg **pos** [ben]]]].  
 Zhangsan deride you stupid  
 ‘Zhangsan derided you as being stupid’

In these syntactic environments, not only is the covert positive morpheme licensed, but the occurrence of the overt positive morpheme 很 *hen* ‘very’ with bleached meaning is debarred. Thus, when 很 *hen* ‘very’ takes place in these sentence structures,<sup>4</sup> only the intensifying but not the bleached meaning is possible.

- (14) a. 張三 很 高, 李四 很 矮  
 Zhangsan *hen* gao, Lisi *hen* ai.  
 Zhangsan very tall Lisi very short  
 ‘Zhangsan is very tall, Lisi is very short.’

- b. 張三 要是 很 吝嗇, ...  
 Zhangsan yaoshi hen linse, ...  
 Zhansan if very stingy  
 ‘If Zhangsan is **very** stingy, ...’

To summarize, the overt positive morpheme 很 *hen* ‘very’ and the covert morpheme *pos* proposed by Liu (2010) complementarily take place in the degree head position. Crucially, in the positions where *pos* can occur, only the intensifying use of *hen* is possible; on the other hand, in positions where *pos* cannot be licensed, *hen* may be ambiguous between the neutral bleached meaning and the intensifying meaning. Given the complexity, careful attention on syntactic environments is needed for exploring the semantic properties of adjectives and degree modifiers through their collocation patterns.

### 3. Scalar types and degree modification

As delineated in §1, unlike degree modifiers in English, Chinese degree modifiers appear insensitive to the scalarity of adjectives, yet as pointed out in §2, the comparison has to be dealt with with attention. This section compares Chinese and English degree modifiers and shows that with careful examination, degree modifiers in Chinese indeed appear to be selective on the scalar properties of their complements.

#### 3.1 很 *hen*

##### 3.1.1 The unambiguous use of *hen*

In syntactic environments where 很 *hen* ‘very’ can only be used as an intensifier, adjectives of all scalar types can be found. For example, as Liu (2010) argues, a conditional clause is a position where the covert *pos* morpheme in Chinese can be licensed; hence, when 很 *hen* ‘very’ occurs before an adjective as in (15), it can only function as an intensifier. In (15), 貴 *gui* ‘expensive’, an open scale adjective, 髒 *zang* ‘dirty’, a lower-closed adjective, 乾淨 *ganjing* ‘clean’, an upper-closed adjective, 空 *kong* ‘empty’, a totally-closed adjective are all modified by the intensifying 很 *hen* ‘very’. On the one hand, they all show a high degree of the associated property. On the other hand, the standards of comparison involved are intuitively different. For example, 很貴 *hengui* ‘very-expensive’ and 很髒 *henzang* ‘very-dirty’ show the price or the dirtiness of the room is “much greater” than a contextually-dependent standard. 很乾淨 *hen ganjing* ‘very-clean’ and 很空 *henkong* ‘very-empty’, on the other hand, show the cleanness and emptiness of the room is “very close” to the maximal standard (i.e. complete cleanness and emptiness). While the standards are of different types, both phrases are context-dependent as there is vagueness (cf. Kennedy 2007) in the calculation of the “how much greater” and “how close to

the maximal standard” part of the denotation.

- (15) 如果 這房間 很 { 貴/ 髒/ 乾淨/ 空 },  
 Ruguo zhefangjian hen { gui/ zang/ ganjing/ kong },  
 if the-room very expensive dirty clean empty  
 ‘If the room is very { big/ dirty/ clean/ empty}, ...’

In comparison, when it is the covert morpheme that is in the degree head position, as exemplified in (16), different levels of vagueness can be observed. With open-scale adjectives such as 貴 *gui* ‘expensive’ and lower-closed adjectives such as 髒 *zang* ‘dirty’, the truth condition of the sentence still appears as context-dependent. However, with upper-closed adjectives such as 乾淨 *ganjing* ‘clean’ and totally-closed adjectives such as 空 *kong* ‘empty’, the phrases appear to denote complete cleanness and emptiness.

- (16) 如果 這房間 **pos** { 貴/ 髒/ 乾淨/ 空 },  
 Ruguo zhefangjian **pos** { gui/ zang/ ganjing/ kong },  
 if the-room expensive dirty clean empty  
 ‘If the room is {big/ dirty/ clean/ empty}, ...’

Given the differences between (15) and (16), it is more reasonable to consider the vagueness of the 很空 *henkong* ‘very-empty’ and 很乾淨 *hen ganjing* ‘very-clean’ phrases in (15) as resulting from the intensifier, but not the adjectives.

### 3.1.2 The ambiguous use of *hen*

As mentioned in § 2.2.1, in previous studies, when 很 *hen* ‘very’ occurs in a position where the appearance of degree modifier is obligatory as in (17), it is generally considered ambiguous between the neutral and intensifying meaning, corresponding to the English sentences in (b) and (c) respectively. As (17) shows, all types of adjectives can be found in this collocation, but the question is: are the phrases all equally ambiguous?

- (17) a. 我的 房間 \*(很) { 大/ 髒/ 乾淨/ 空 }。  
 Wo-de fangjian \*(hen) { da/ zang/ ganjing/ kong }.  
 my room very big dirty clean empty
- b. My room is [DegP pos [AP {big/ dirty/ clean/ empty} ]].
- c. My room is [DegP very [AP {big/ dirty/clean/ empty} ]].

This section shows the answer is a no. While most ambiguous cases discussed in the literature involve open-scale adjectives, it is not necessarily the case for adjectives with closed scales. When 很 *hen* ‘very’ modifies upper-closed and totally-closed adjectives, ambiguity can be observed; however, when it modifies lower-closed adjectives, the phrase appears unambiguous, contrary to what is commonly assumed in the literature.

To begin with, unlike the positive form in English, when 很 *hen* ‘very’ modifies an upper-closed or totally-closed adjective, the attainment of the maximum degree is not necessarily entailed in the sentence. As discussed in §2.1, in English, the maximum degree (i.e. the upper bound) serves as the comparison standard for the positive form of an upper-closed and totally-closed adjective (Kennedy 2007); thus, denial of the attainment of the maximum degree results in contradiction, as (18a) shows. In comparison, in Chinese, when 很 *hen* ‘very’ modifies a totally-closed adjective, denial of the maximum degree sounds natural. (18b) does not invoke a sense of contradiction. The same can be tested for upper-closed adjectives such as 乾淨 *ganjing* ‘clean’.

- (18) a. # The glass is full, but it is not completely full.
- b. 杯子 很 滿, 但 還沒有 全 滿。  
 Beizi hen man dan haimeiyou quan man.  
 cup very full but yet-not-ASP completely become-full  
 ‘The cup is relatively full, but it has not become completely full.’

Noticeably, however, in (18b), what occupies the degree head position may be the intensifying 很 *hen* ‘very’, which as stated in §3.1.1, gives rise to a vague meaning, but not the neutral one. Thus, the question remains whether the neutral 很 *hen* ‘very’ can modify upper-closed or totally-closed adjectives whose associated scale has an upper-end.

The agreement test in (19) provides a proof for the possibility. In the conversation between A and B shown in (19), A uses a contrastive sentence to show that this glass is empty. In this case, as discussed in §2.2, it is the *pos* morpheme that occupies the degree head, and, as discussed in §3.1, the comparison standard is the same as the English *pos* morpheme; thus, putatively, (19A) describes complete emptiness. B agrees to A’s statement by using the 很 *hen* ‘very’ phrase, and a sense of contradiction is not invoked; that is, 很 *hen* ‘very’ in (19B) is used for the approval of the maximum degree. It exemplifies a case where the meaning of 很 *hen* ‘very’ is to be taken on a par with *pos* (i.e. the neutral bleached meaning), and the same can be tested for upper-closed adjectives such as 乾淨 *ganjing* ‘clean’, too.

- (19) A: 這個 杯子 [pos 空], 那個 杯子 [pos 滿]。  
 Zhege beizi [pos kong] nage beizi [pos man].  
 the-CL glass empty that-CL glass full  
 ‘This glass is empty; in contrast, that glass is full.’
- B: 是阿! 這個 杯子 很 空。  
 Shia! Zhege beizi hen kong  
 yes this glass very full  
 ‘Yes! This glass is empty.’

Thus, it can be concluded that when 很 *hen* ‘very’ modifies upper-closed and totally-closed adjectives, both the neutral (i.e. maximal attainment) and the intensifying (i.e. “close” to maximal attainment) use are possible.

In comparison, when 很 *hen* ‘very’ modifies a lower-closed adjective, it does not appear to have the neutral meaning, which can be tested by the following. In English, the positive form of a lower-closed adjective shows a non-zero degree of the associated property following the Interpretive Economy, while when modified by *slightly*, the phrase shows a low degree of the property; thus, as shown in (20a), juxtaposition of the two does not result in contradiction. By contrast, as (20b) shows, it is not possible to put the 很 *hen* ‘very’ phrase and the 有點兒 *youdianr* ‘slightly’ phrase together. As marked by #, the sentence appears infelicitous to our informants.

- (20) a. The floor is wet. It is slightly wet.
- b. #地板 很 濕, 有點兒 濕。  
 # Diban hen shi, youdianr shi.  
 floor very wet slightly wet  
 ‘The floor is wet, slightly wet.’

Similarly, while in English, it is possible to agree to a slight level of degree (i.e. a *slightly* phrase) with an above-zero level (i.e. a positive form) as (21a) exemplifies, in Chinese, it sounds odd to agree to a 有點兒 *youdianr* ‘slightly’ phrase, which shows low intensity, with a 很 *hen* ‘very’ phrase.

- (21) a. A: The floor is slightly wet.  
 B: Yes, it is [*pos* wet].
- b. A: 地板 有點兒 濕。  
 Diban youdianr shi.  
 floor slightly wet  
 ‘The floor is slightly wet’
- B: #對! 地板 很 濕。  
 #Dui! Diban hen shi.  
 yes floor very wet  
 ‘Intended: Yes, the floor is wet.’

Given the contrast in the acceptability of the English sentences in (20a) and (21a) and the unacceptability of the Chinese sentences in (20b) and (21b), it is reasonable to conclude that while in English, the denotation of lower-closed adjectives does not exclude a slight degree<sup>5</sup>, in Chinese, when 很 *hen* ‘very’ modifies a lower-closed adjective, it is not possible for the zero-point (i.e. the lower bound) to serve as the comparison standard; that is, the neutral use of 很 *hen* ‘very’ is not available for the lower-closed adjectives in Chinese.

To summarize, as discussed in the literature, 很 *hen* ‘very’ can be used as a neutral degree marker and an intensifier. As discussed in § 3.1.1, when used as an intensifier, it can co-occur with adjectives of all scalar types, imposing a vague sense even to bounded adjectives; by contrast, when used as a neutral modifier, as § 3.1.2 shows, it can only co-occur with upper-closed and totally-closed but not lower-closed adjectives. When 很 *hen* ‘very’ modifies an upper or totally-closed adjective, the phrase is ambiguous between a vague interpretation (i.e. the intensifying sense) and a non-vague interpretation (i.e. the neutral sense); contrastively, when it modifies lower-closed adjectives, the phrase is unambiguous because it only has a vague sense, contrary to what is commonly assumed in the literature.

### 3.2 有點兒 *youdianr* ‘slightly’

The second puzzle is about the modifier 有點兒 *youdianr* ‘slightly’, which describes a slight degree of a property (Li 2000, Zhang 2006). Different from the adverb *slightly* in English, which K&M (2005) finds only compatible with adjectives whose associated structure has a lower bound, in Chinese, 有點兒 *youdianr* ‘slightly’ appears to be compatible with adjectives of all scalar types. Open scale adjectives 長 *chang* ‘long’ and 大 *da* ‘big’, lower-closed adjectives 髒 *zang* ‘dirty’ and 濕 *shi* ‘wet’, upper-closed adjectives 直 *zhi* ‘straight’ and 乾 *gan* ‘dry’, and totally-closed adjectives 透明 *touming* ‘transparent’ and 滿 *man* ‘full’ can all co-occur with the modifier.

However, the meanings they invoke are not homogeneous. As discussed in L&P, besides the “slight” sense, 有點兒 *youdianr* ‘slightly’ sometimes describes an abnormal quantity of a property; that is, it describes a quantity that is slightly over a standard that is considered normal in the context, similar to the expression *slightly too*. We find the two senses triggered by adjectives of different scalar types. The “slight” sense arises when 有點兒 *youdianr* ‘slightly’ modifies lower-closed adjectives such as 髒 *zang* ‘dirty’ and totally-closed adjectives such as 透明 *touming* ‘transparent’, and the “slightly too” sense arises when it modifies open-scale adjectives such as 長 *chang* ‘long’ and upper-closed adjectives such as 直 *zhi* ‘straight’ (i.e. when the associated scale does not have a lower bound), as (22) shows.

- (22) 我的頭髮 有點兒 { 髒/ 透明/ 長/ 直 }。  
 Wo-de-toufa yodiar {zang/ touming/ chang/ zhi}。  
 I-GEN-hair slightly dirty transparent long straight  
 ‘My hair is slightly dirty/ transparent; slightly too long/ straight.’

The quantitative difference can be tested by whether in a conversation where a speaker says the sentence in (22), it is possible for his/her interlocutor to agree to the statement with the sentence in

(23), where 太 *tai* ‘too’ which shows an excessive degree (Wang 2013) is used.

(23)	是阿!	你的頭髮	太	{#髒/	#透明/	長/	直 }	了
	Shia!	Ni-de-toufa	tai	{#zang /	#touming/	chang/	zhi }	。
	yes	your hair	too	dirty	transparent	long	straight	le.

L  
E

‘Yes! Your hair is too dirty/ transparent/ long/ straight.’

The agreement is possible when 長 *chang* ‘long’ and 直 *zhi* ‘straight’ are used, which suggests the corresponding sentences in (22) also involve a high degree. By contrast, when 髒 *zang* ‘dirty’ and 透明 *touming* ‘transparent’ are used, agreeing (22) with (23) sounds contradictory, which suggests the corresponding sentences in (22) do not involve a high degree.

The complementariness of the two quantitative denotations of 有點兒 *youdianr* ‘slightly’ can be further tested by contrastive sentences. In a contrastive sentence where 很 *hen* ‘very’ occupies the degree head position, as discussed in §2.2.2, only the intensifying meaning is possible; that is, the “very” interpretation. Agreeing to this “very” degree requires at least a degree that is not low. However, as (24) shows, when 有點兒 *youdianr* ‘slightly’ modifies an open-scale adjective, it can be used to agree to a “very” degree; which suggests it does not show a low degree in the sentence. The same can be tested for upper-closed adjectives such as 乾淨 *ganjing* ‘clean’, too.

(24)	這本書	很	貴,	那本書	很	便宜。
	Zhebenshu	hen	gui,	nabenshu	hen	pianyi.
	this-CL-book	very	expensive	that-CL-book	very	cheap

‘This book is very expensive while that one is very cheap.’

是阿!	這本書	有點兒	貴。
Shia!	Zhebenshu	youdianr	gui.
yes	this-CL-book	slightly	expensive

‘Yes! This book is slightly too expensive.’

Contrastively, as (25) shows, the agreement sounds contradictory when 有點兒 *youdianr* ‘slightly’ modifies a lower-closed adjective. The same can be tested for totally-closed adjectives such as 透明 *touming* ‘transparent’ as well.

(25)	他的房間	很	髒,	我的房間	很	乾淨。
	Tadefangjian	hen	zang,	wodefangjian	hen	ganjing.
	he-GEN-room	very	dirty	I-GEN-room	very	clean

‘His room is very dirty, while my room is very clean’

#是阿, 他的房間 有點 髒。  
 #Shia! Tadefangjian youdianr zang.  
 yes he-GEN-room slightly dirty  
 ‘Yes, his room is slightly dirty’

The impossibility of agreement indicates the 有點兒 *youdianr* ‘slightly’ phrase in (25) denotes a quantity not comparable to the “very” degree<sup>6</sup>. It follows naturally if, as mentioned above, 有點兒 *youdianr* ‘slightly’ shows a low-degree when it modifies an adjective that has a lower-bound in its scale structure.

L&P considers the “slightly too” meaning, or in their term an “abnormal property” observed here as a case where the literal meaning of adjectives is used imprecisely. We, on the other hand, find it more reasonable to consider the meaning to be derived from 有點兒 *youdianr* ‘slightly’, which typically targets at a lower-bound of a scale. With an adjective whose associated scale structure has a lower bound, it modifies the adjectives as *slightly* does in English (K&M 2005). When there is no lower-bound in the scale lexicalized by the adjective, it coerces a contextual scale of “too,” which gives rise to the “slightly too” meaning. Given the limit of space, we cannot give a full-fledged semantic analysis here, but for the purpose of this paper, we want to bring attention to the complementarity of the two senses.

### 3.3 完全 *wanquan* ‘completely’

The last piece of the puzzle is while in English, degree modifiers such as *completely*, *100%*, *fully* only collocate with adjectives whose scale structure has an upper-bound, their semantic equivalent counterparts in Chinese 完全 *wanquan* ‘completely’ and 百分之百 *baifenzhibai* ‘100%’ appear to reject adjectives of all scalar types in degree phrases in the predicate position, as shown in (26).

- (26) 這玻璃 完全 { \*大/ \*髒/ \*乾淨/ \*透明 }。  
 Zheboli wanquan { \*da/ \*zang \*ganjing/ \*touting }.  
 this-glass completely big dirty clean transparent  
 ‘This glass is completely {big/ dirty/ clean/ transparent}’

This section examines the distribution of 完全 *wanquan* ‘completely’ and argues that in adequate syntactic environments, it demonstrates the same selective preference as English modifiers do.

First of all, while 完全 *wanquan* ‘completely’ rejects all types of scalar adjectives in (26), (27) shows that in syntactic environments where the covert *pos* morpheme may occupy the head position of the degree phrase as discussed in § 2.2.2, the acceptability increases significantly.<sup>7</sup>

- (27) a. \* [這棉被 [DegP 完全 [AP 乾淨 ] ] ] 。  
 \*[Zhemianbei [DegP wanquan [AP ganjing]].  
 this blanket completely clean  
 ‘This blanket is completely clean.’
- b. 這棉被 [完全 [pos 乾淨 ] ], 那棉被 完全 不乾淨。  
 Zhemianbei [wanquan [pos ganjing]], namianbei wanquan bu ganjing.  
 this-quilt completely clean that-quilt completely not-clean  
 ‘This quilt is completely clean, while that one is completely unclean.’
- c. 他 保證 [這棉被 完全 [pos 乾淨 ] ] 。  
 Ta baozheng zhemianbei wanquan [pos ganjing ] ] 。  
 He assure this-quilt completely clean  
 ‘He assures that the quilt is completely clean.’

This distribution is restricted to adjectives whose scale structures are bounded on the upper-end (i.e. upper-closed and totally-closed adjectives). If we replace adjectives in (27) with open scale adjectives such as 大 *da* ‘big’ or lower-closed adjectives such as 髒 *zang* ‘dirty’, the collocation sounds unnatural, as (28) shows.

- (28) 我 保證 這玻璃 完全 {??大/ ??髒/ 乾淨/ 透明}。  
 Wo baozheng zheboli wanquan {??da/ ??zang/ ganjing/ touming}。  
 I assure this-glass completely big dirty clean transparent  
 ‘I assure that the glass is completely {big/ dirty/ clean/ transparent}.’

The distribution indicates that 完全 *wanquan* ‘completely’ can modify degree phrases but not bare adjectives; that is, as shown in (27b) and (27c), it can modify degree phrases whose head position is occupied by the phonologically null *pos* morpheme; by contrast, as the unacceptability of (26) and (27a) is suggestive of, it appears illegible for the degree head position.

Other examples support this observation, too. While 完全 *wanquan* ‘completely’ cannot modify bare adjectives in the predicate position, it can modify the derived forms of adjectives such as change-of-state verbs and resultative verb compounds (RVCs), as shown in (29) and (30).

- (29) 完全 { ??大/ ??髒/ 乾/ 滿 } 了  
 wanquan { ??da/ ??zang/ gan/ man } le  
 completely big dirty dry full PFV  
 ‘become completely big/ dirty/ dry/ full’
- (30) 完全 { ??放大/ ??擦髒 / 吹乾/ 倒滿 } 了  
 wanquan { ??fangda/ ??cazang/ chuigan/ daoman } le  
 completely put-big wipe-dirty blow-dry pour-full PFV  
 ‘become completely {big/ dirty/ dry/ full} as a result of the action of {putting/ wiping/ blowing/ pouring}’

With the aspect marker 了 *le* ‘PFV’, the predicates in (29) denote a change-of-state. In (30) as well, the RVCs denote a change-of-state into the property described by the second element of the compounds (i.e. the resultative). The modification by 完全 *wanquan* ‘completely’ is plausible when the property of the state is associated with a scale that has an upper-bound such as the upper-closed adjective 乾 *gan* ‘dry’ and the totally-closed adjective 滿 *man* ‘full’, but it rejects open-closed adjectives such as 大 *da* ‘big’ and lower-closed adjectives such as 髒 *zang* ‘dirty’.<sup>8</sup>

As such, it is more reasonable to consider the incompatibility between 完全 *wanquan* ‘completely’ and adjectives of all scalar types proposed as a puzzle in §1 resulting from the mismatch between the modifier and bare adjectives. In proper syntactic environments, the modifier selects upper-closed and totally-closed adjectives over open-scale and lower-closed adjectives, as its counterpart in English *completely* does. Hence, the “puzzle” is not to be considered as a counterexample to the diversity of scalar properties adjectives in Chinese may encode; rather, examples in (27), (29), and (30) suggest scalar properties are reflected in degree modification patterns in Chinese.

#### 4. Conclusion

Given the insensitivity to scalarity degree modifiers appear on the surface, the collocation patterns with degree modifiers may not function as a simple-straightforward test for scalarity in Chinese as in English. However, as discussed in this paper, with attention on the syntactic structures where the degree phrase takes place, it is actually possible to test the scalarity of adjectives by degree modifiers. Only upper-closed and totally-closed adjectives can be modified by 完全 *wanquan* ‘completely’ in syntactic positions where the covert *pos* may take place. Only adjectives with a lower bound (i.e. lower-closed and totally-closed adjectives) can be modified by 有點兒 *youdianr* ‘slightly’ without invoking the sense of “too”, which can be tested by cross-comparing different degree phrases in a conversation; also, only lower-closed adjectives are not ambiguous when modified by 很 *hen* ‘very’. As such, since upper-closed, lower-closed, and totally-closed adjectives (i.e. bounded ones) can be identified through degree modification, our analysis supports the recent trend of subdividing adjectives in scalar terms and challenges the traditional view that they all denote unbounded properties.

#### Notes

<sup>1</sup> Without degree modifiers, gradable adjectives show contrastive meanings in predicative position (Zhu 2001 [1956]). It can be considered an omitted form of contrastive sentences exemplified in (13b).

<sup>2</sup> Gradable adjectives are generally fathomed as mapping objects onto abstract representations of measure

(i.e. scales), which is often formalized as a sets of degrees ordered along a specific dimension; for example, Kennedy (2007) captures *expensive* as a relation between individuals and degrees (i.e.  $\langle d, \langle e, t \rangle \rangle$ ), thus for the predicate to denote properties of individuals (i.e.  $\langle e, t \rangle$ ; that is, to combine with the subject of the sentence to return a truth value), it is commonly assumed that there is a phonologically null morpheme.

- <sup>3</sup> See Liu (2010) for the details. For a clearer exposition of data, the structures here are greatly simplified.
- <sup>4</sup> Negative sentences and small clauses appear to reject 很 *hen* ‘very’ in the position. Further research is need for explaining why.
- <sup>5</sup> As pointed out in Wechsler (2005), lower-closed adjectives such as *wet* are not often used for describing situation when there is, say, only a drop of water on the referent (i.e. non-zero degree of wetness).
- <sup>6</sup> Note if the contrastive sentences in (24) and (25) have their modifier head position occupied by *pos*, the agreement is possible for both cases. For open-scale adjectives, the neutral reading is “above a contextual standard” and it is natural to agree to such a standard by an excessive (i.e. “slightly-too”) quantity. For lower-closed adjectives, the neutral meaning is concerned with a non-zero standard. It is natural to agree to a non-zero standard with a “slight” quantity.
- <sup>7</sup> For the limit of space, we omit negation, *ma*-question and epistemic clause here. But they are tested to demonstrate the same distribution.
- <sup>8</sup> There may be different sources of completion, which is not derived from the scalarity of adjectives but from the quantitative properties of the subject argument (cf. Kennedy & Levin 2008).

## References

- Grano, Thomas. 2010. Mandarin *hen* and universal markedness in gradable adjectives. *Natural Language & Linguistic Theory* 30: 513-565.
- Kennedy, Christopher. 1997. *Projecting the Adjective: The Syntax and Semantics of Gradability and Comparison*, Doctoral Dissertation, University of California Santa Cruz.
- Kennedy, Christopher. 2005. Parameters of comparison. Ms. University of Chicago.
- Kennedy, Christopher. 2007. Vagueness and grammar: The semantics of relative and absolute gradable predicates. *Linguistics and Philosophy* 30.1:1-45.
- Kennedy, Christopher, & Beth Levin. 2008. Measure of change: the adjectival core of degree achievements. In L. McNally and C. Kennedy. (Eds.). *Adjectives and Adverbs: Syntax, Semantics and Discourse*. New York: Oxford University Press.
- Kennedy, Christopher, & Louise McNally. 2005. Scale structure, degree modification, and the semantics of gradable predicates. *Language* 81.2: 345-381.
- Li, Charles N., & Sandra A. Thompson. 1981. *Mandarin Chinese: A Functional Reference Grammar*. Berkeley: University of California Press.

- Li, Yuming. 2000. *Hanyu Liangfanchou Yanjiu* [Studies on the quantitative categories in Chinese], Wuhan: Huazhong Normal University Press.
- Lin, Jingxia, & Jeeyong Peck. 2016. Classification of Mandarin Chinese simple adjectives: A scale-based analysis of their quantitative denotations. *Language and Linguistics* 17.6: 827-855.
- Liu, Chen-Sheng. 2010. The positive morpheme in Chinese and the adjectival structure. *Lingua* 120: 1010-1056.
- Sybesma, Rint. 1999. *The Mandarin VP*. Dordrecht: Kluwer.
- Wechsler, Stephen. 2005. Resultatives under the 'event-argument homomorphism' In Nomi, Erteschik-Shir & Tova, Rapoport. (Eds.) *The Syntax of Aspect*. Oxford: Oxford University Press.
- Wang, Qian. 2013. On the quantity of youdian + tai + A construction. *Shijie Hanyu Jiaoxue* [Chinese teaching in the world] 27.3: 376-391.
- Zhang, Guoxian. 2006. *Xiandai Hanyu Xingrongci Gongneng yu Renzhi Yanjiu* [Studies on the function and cognition of adjectives in modern Chinese]. Beijing: The Commercial Press.
- Zhu, Dexi. 2001[1956]. *Xiandai hanyu xingrongci yanjiu* [Analysis of modern Chinese adjectives]. *Zhu Dexi Xuanji* [Collection of Zhu Dexi], 173-204. Beijing: The Commercial Press.

