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# 漢語關聯式比較句的語法和語意特性之研究

## The Syntax and Semantics of Chinese Correlative Comparatives

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### 一、中文摘要

本計畫探討了類似例句(1)這種邢福義稱之為「遞進句」的句型，因為句中都帶有像「、、、很、、、更、、、」這樣一組關聯詞，以下我們稱之為「關聯式比較句」。

(1) 張三很高，李四更高。

這種以一組反義詞(antonymous pairs of adjectives)建構出來的關聯式比較句會顯現出 the cross-polar anomaly, the comparison of deviation, 及 the comparison of divergence 的特性，分別如例句(2a-c)所示：

(2) a. \*這張紙很白，那張紙更黑。(the cross-polar anomaly)

b. 趙敏，皮膚很白，頭髮更黑。(the comparison of deviation)

c. 你的手錶壞了，秒針很快，分針更慢。(the comparison of divergence)

藉由此項研究我們提出漢語同英語一樣在句法層次上都允許有程度比較 (degree comparison); 兩個語言間的差異僅在於英語使用了同一種句型 (the *than* particle comparative) 來表達個體比較 (individual comparison) 和程度比較 (degree comparison), 當表個體比較時, *than* 選擇了一個名詞組為補語, 當表程度比較時, *than* 則是以一個子句為補語; 然而, 漢語則分別使用不同的句型來表達程度比較和個體比較, 漢語以「關聯式比較句」來表達程度比較 (比的是兩個程度差值), 以「比字比較句」來表達個體比較。漢語關聯式比較句的語法和語意特性非但為 Kennedy (2001b) 所提程度 (degree) 應被視為向度 (scale) 上的量段

(interval) 而非量點 (point) 及 adjectival polarity is characterized in terms of two structurally distinct and complementary sorts of 'positive' and 'negative' degrees 的說法提供了強有力的證據, 更進一步支持了 Kennedy (2001b) 及 Schwarzschild & Wilkinson (2004) 所提的 the interval-based analysis to comparatives。雖然同英語一樣, 在帶有程度比較的比較句中, 比較標準值都是 compositionally provided by a constituent (i.e., the standard clause) rather than the context (cf. Compositional versus Contextual Comparison Parameter in Beck et al. (2004)), 但兩個語言在表達程度比較上是以不同的方式來約束 (bind) 程度變項 (degree variable): 英語是藉有經過移位的程度運符 (degree operator) 來約束程度變項, 漢語則是透過 base-generated in [Spec, CP] 的 maximality degree operator 以非選擇性約束 (unselective binding) 的方式來約束程度變項; 換言之, 英語和漢語在這方面的類型差異可藉由下列的次參數 (sub-parameter) 而推導出來 (cf. von Stechow (1984), Heim (1985), and Degree Abstraction Parameter in Beck et al. (2004)):

(3) Movement versus Non-Movement

Parameter in Degree Abstraction

The relation between the maximality operator and the degree variable {is, is not} a movement one.

**關鍵詞：**關聯式比較句、程度比較、程度

## Abstract

This project studies the syntax and semantics of sentences like (4), in which there always exists a pair of correlative adverbs like ... *hen* ‘very’ ... *geng* ‘more’ ..., dubbed as *Di jing Ju* ‘Incremental Construction’ by Xing (2001) (henceforth the Chinese correlative comparative).

- (4) Zhangsan *hen* gao, Lisi *geng* gao.  
Zhangsan very tall Lisi more tall  
‘The differential degree to which Lisi’s height exceeds the standard height of human beings is greater than the differential degree to which Zhangsan’s height exceeds the standard height of human being.’

The main theme we eventually argue for is that, like English, Chinese also allows degree comparison at the syntactic level (cf. Beck et al. (2004), Kennedy (2005, 2007), Xiang (2005) and Lin (2008)). They only differ from each other in that English uses the same type of comparative construction (i.e., the *than* particle comparative) to express individual and degree comparison, depending on whether the complement of *than* is a clause or a noun phrase, whereas Chinese uses the correlative comparative to express degree comparison, more precisely a comparison between two differential degrees, but the *bi* ‘than’ comparative to express the individual comparison at the syntactic level. The syntactic and semantic properties of the Chinese correlative comparative provide strong evidence for (A) Kennedy’s (2001a) proposal that degrees are formalized as intervals on

a scale and adjectival polarity is characterized in terms of two structurally distinct and complementary sorts of ‘positive’ and ‘negative’ degrees, and (B) the interval-based analysis to comparatives (cf. Kennedy (2001b) and Schwarzschild & Wilkinson (2004)). Although, in cases involving degree comparison, Chinese as well as English has the ‘standard degree of comparison’ compositionally provided by a constituent (i.e., the standard clause) rather than the context (cf. Compositional versus Contextual Comparison Parameter in Beck et al. (2004)), they still differ from each other in how the degree variable is bound by the degree operator. In English the degree variable is bound by a moved degree operator while the degree variable is unselectively bound by a base-generated operator in Chinese. This typological distinction can be derived in terms of the sub-parameter in (5) (cf. von Stechow (1984), Heim (1985), and Degree Abstraction Parameter in Beck et al. (2004)).

- (5) Movement versus Non-Movement Parameter in Degree Abstraction  
The relation between the maximality operator and the degree variable {is, is not} a movement one.

**Keywords:** correlative, comparative, degree comparison, degree interval,

## 二、緣由與目的

Beck et al. (2004)等以英語的 *than* particle 比較句和日語的 *yori* particle 比較句為題,所做的研究指出,自然語言的比較句在句法層次上可區分為個體比較 (individual comparison)和程度比較

(degree comparison)兩種，換言之，英語比較句和日語比較句的差別可藉 Degree Abstraction Parameter 這個參數的不同選項的差異來說明。

#### (6) Degree Abstraction Parameter

A language {does, does not} have binding of degree variables in syntax.

這樣看法如 Beck et al. (2004) 等所言，可以正確地說明日語沒有類似英語例句 (7a) 這種子句式比較句 (clausal comparative)，(7b) 這種定語式比較句 (attributive comparative)，及 (7c) 這種 subdeletion 比較句句型。

- (7) a. John is taller than Bill is.
- b. John bought more books than magazines.
- c. This river is deeper than it is wide.

近來 Kennedy (2005, 2008)，Xiang 向明 (2005) 及 Lin 林若望 (2008) 等學者先後以 Beck et al. (2004) 等的研究為基礎，對漢語比字比較句做了研究，並指出漢語和日語一樣在句法層次上只擁有一個體比較，這樣的看法如這幾位學者所言可以解釋為什麼例句 (8a-c) 是不合語法的。

- (8) a. \*張三比李四是更高。(clausal comparative)
- b. \*這條河比那條河寬更深。(subdeletion comparative)
- c. \*張三比李四買書買更多雜誌。(attributive comparative)

在這樣的背景之下，本計劃將跳脫對漢語比較句研究的傳統做法；也就是，不以比字比較句為研究對象，而是以類似例句 (9a-b) 這種被邢福義 (2001) 及 Liu et al. 劉月華等 (2001) 稱之為遞進句的句型為研究對象，並論證這種句型是一種在句法層次上帶有程度比較的比較句式 (以下稱關聯式比較句)。

- (9) a. 張三很高，李四更高。
- b. 這朵花，花很紅，葉子更綠。

### 三、結果與討論

We begin the study by discussing the syntactic and semantic characteristics of the type of Chinese comparatives like (1), and then pointing out questions that deserve further attention. First, syntactically this type of Chinese comparatives consists of two or more clauses which, as Xing (2001, 345-363) points out, can be combined together by coordinators, for example *budan* 'but', *danshi* 'but' and *erqie* 'and', or (prepositional) subordinators like *lian* 'even', *guran* 'although' or *suiran* 'although', as sentences in (10) illustrate.

- (10) a. Zhangsan, budan yanjing  
Zhangsan not-only eye  
(hen) yuan, bizi (hen) ting,  
very round noose very erect  
erduo geng da.  
ear more big  
'\*As for Zhangsan, not only his eyes are round but his nose also stands erectly. Moreover, his ears are bigger than his eyes are round and his nose is erect.'
- b. Zhangsan, lian zuo lu dou  
Zhangsan even walk road all  
(hen) kunnan, paobu geng  
very difficult run more  
bu-keneng.  
impossible  
'\*As for Zhangsan, even walking is very difficult to him; it is more impossible for him to run than walking is difficult for him.'

- c. Qian guran (hen) zhongyao,  
 Money no-doubt very  
 important jiankang geng  
 zhongyao.  
 health more important  
 ‘Although money is  
 important, health is more  
 important to you than money  
 is.’
- d. Yaoshi Zhangsan (hen) gao  
 If Zhangsan very tall  
 dehua, Lisi jiu geng gao.  
 PAR Lisi then more tall  
 ‘If Zhangsan is tall, then  
 Lisi is taller than he is.’

Semantically, the last clause of this construction has to contain a degree phrase headed by the degree adverb *geng* ‘more’, which might have *gengjia* ‘more’ as alternate, and this phrase functions to provide the ‘comparee’ degree with which the ‘standard degree of comparison’ provided by the degree phrase headed by degree adverbs like *hen* ‘very’ in the other clause (or the other clauses if the whole construction consists of more than two clauses).

In addition to this characteristic, the syntactic and semantic properties about the relations among the clauses involved still include the followings: the order between the last clause and the other(s) cannot be changed, it is not necessary for the standard NP to be the same as the comparee NP in the grammatical function, and it is not necessary for the predicates involved to be antonymous or show a positive-negative polarity, as shown by (11a-c), respectively.

- (11) a. \*Lisi geng gao, Zhangsan hen  
 Lisi more tall Zhangsan  
 hen gao.  
 very tall
- b. Zuotian [<sub>NP</sub> hen duo  
 Yesterday very many

- ren] lai wo jia,  
 people come I home  
 jintian wo pai [<sub>NP</sub> geng  
 today I send more  
 duo ren] qu ni jia.  
 many people go you home  
 ‘Today I send more people to  
 your home than people came to  
 my home yesterday.’
- c. Zhe-duo hua, budan  
 This-CL flower not-only  
 hua hen hong, yezi geng  
 flower very red, leaf more  
 lyu.  
 green  
 ‘As for this flower, the  
 flower is very red. However,  
 the leaf is greener than the  
 flower is red.’

These characteristics immediately exclude the possibility of analyzing this type of Chinese comparatives as a conjoined comparative, as defined by Stassen (1985, 44). Since the degree adverb *geng* ‘more’ in the last clause is correlative related to the degree adverb(s) in the other clause(s), we call this type of Chinese comparatives the Chinese correlative comparative (i.e., a type of correlatives) with a structure roughly like [<sub>standard clause</sub> ... (Deg<sub>x</sub>) ...], ... ([<sub>standard clause</sub> ... (Deg<sub>x+i</sub>) ...]) ... [<sub>comparee clause</sub> ... *geng* ...], in which the degree adverb in the non-last clause is optional (cf. (7a-d)). For convenience of exposition, in the following we shall call the clause involving an element that denotes the ‘standard degree of comparison’ the standard clause, while the clause containing the degree adverb *geng* ‘more’ the ‘comparee’ clause.

Second, in the Chinese correlative comparative, only the degree adverb *geng* ‘more’ heading the degree phrase

that provides the ‘comparee degree’ is obligatory; in other words, the degree adverb that functions to provide the ‘standard degree of comparison’ in the standard clause, for example *hen* ‘very’, can be omitted without affecting the grammaticality of the sentence, as (12) shows.

- (12) Zhangsan (*hen*) gao, Lisi \*(*geng*)  
 Zhangsan very tall Lisi more  
 gao.  
 tall  
 ‘Lisi is taller than Zhangsan  
 is.’

The optionality of the degree adverb in the standard clause, as we shall argue, might result from the following two possible reasons: First, the Chinese correlative comparative in fact is a type of contrastive focus construction. In the Chinese contrastive (focus) construction, a bare gradable adjective can occur as predicate without being further modified by a degree adverb, as (13) illustrates.

- (13) Zhangsan gao, Lisi ai.  
 Zhangsan tall Lisi short  
 ‘Zhangsan is tall, but Lisi is  
 short.’

In addition, the semantic interpretation of (12) provides an alternative way to explain the optionality of degree adverb in the standard clause of the Chinese correlative comparative. Example (12) means that although Zhangsan’s height exceeds the standard height of men in a significant difference, the difference in which Lisi’s height exceeds the standard height of men exceeds it. This semantic property shown by a Chinese correlative comparative like (12) serves as evidence for us to assume that the standard clause of the Chinese correlative comparative provides a

context where the covert positive morpheme is licensed; that is to say, the degree adverb *hen* in the standard clause can be replaced by the covert positive morpheme here (cf. Kennedy (2005)). As for which account is better, we leave it open.

On the other hand, since the degree adverb *geng* ‘more’ occurs as a marker to label the whole construction as a correlative comparative, the omission of the degree adverb *geng* ‘more’ from the comparee clause is prohibited.

More importantly here is that not all degree adverbs can occur in the standard clause of the Chinese correlative comparative, as shown by the contrast between (14a-d) and (15a-b).

- (14) a. \*Zhangsan hai gao, Lisi geng  
 Zhangsan even tall Lisi more  
 gao. (strong *geng* type)  
 tall  
 b. \*Zhangsan zui/ding  
 Zhangsan most/extremely  
 gao, Lisi geng gao.  
 tall Lisi more tall  
 (strong *zui* type)  
 c. \*Zhangsan bijiao/jiao gao,  
 Zhangsan more/more tall  
 Lisi geng gao. (weak *zui*  
 type)  
 Lisi more tall  
 d. \*Zhangsan tai/guo gao,  
 Zhangsan too/exceed tall  
 Lisi geng gao. (*hen* type)  
 Lisi more tall  
 (15) a. Zhangsan shaowei/shaoshao/  
 Zhangsan a-little/a-little/  
 lyuewei gao yi-dian, Lisi  
 slightly tall a-little Lisi  
 geng gao. (weak *geng* type)  
 more tall  
 ‘Zhangsan is a little bit  
 tall; however, Lisi is  
 taller than Zhangsan is.’

- b. Zhansan hen/xiangdang/  
feichang/youdian gao,  
Lisi geng gao. (*hen* type)  
Zhangsan very/rather/  
extremely/a-little tall  
Lisi more tall  
'Zhangsan is  
very/rather/extremely/a  
little bit tall; however,  
Lisi is taller than Zhangsan  
is.'
- c. Suiran Zhangsan shifen/  
Although Zhangsan rather/  
wanfen/yichang/ji/jiduan  
extremely/abnormally/  
jizhang, danshi Lisi geng  
anxious but Lisi more  
jinzhang. (*hen* type)  
anxious  
'Although Zhangsan  
rather/extremely/abnormall  
y/extremely/extremely  
anxious, but Lisi is more  
anxious than Zhangsan is.'

At this point, we immediately encounter the question of what kinds of degree adverbs can occur as one of the correlative pair in the Chinese correlative comparative. According to Qing-Zhu Ma (1992), Lu and Ma (1999) and Zhang (2002), Chinese degree adverbs can be divided into three types, depending on their distribution in the non-comparative adjectival predicate construction, the superlative construction, and different types of comparative constructions (e.g., the *bi* 'compare' comparative and the *bi-qilai* 'compare-*qilai*' comparative construction), and each type is further composed of a strong and a weak group. The *geng* type (*more* type) includes those that can occur in the *bi* comparative; the *hen* type (*very* type) consists of those that can occur either in the *bi-qilai* 'compare-*qilai*'

compared with' construction or in the non-comparative adjectival predicate construction; and the *zui* type (*most* type) is composed of those only occurring in the superlative, as illustrated by examples in (16)-(18), respectively (Degree adverbs in the (a) example belong to the strong group while those in the (b) example the weak group).

- (16) a. Zhangsan bi Lisi gengjia/  
Zhangsan compare Lisi more/  
gengwei/yuefa/yuejia/hai  
more/more/more/even  
nuli.  
diligent  
'Zhangsan is more diligent  
than Lisi is.'
- b. Zhangsan bi Lisi  
Zhangsan compare Lisi  
shaowei/shao/shaoshao/  
a little/rather/a little/  
duoshao/lyuewei  
somewhat/slightly  
yonggong yi-dian.  
hard-working a-little  
'Zhangsan works  
slightly/rather/a little  
bit harder than Lisi does.'
- (17) a. (Gen na-xie ren bi-qilai),  
With those person compare  
Zhangsan hen/ting/shifen/  
Zhangsan very/rather/very/  
?wanfen/feichang/  
extremely/extremely/  
yichang/jiduan  
abnormally/extremely/  
shengqi.  
angry  
'(Compared with those  
people), Zhangsan is  
very/rather/very/  
extremely/extremely/  
extremely/ abnormally/  
extremely/ extremely  
angry.'

- b. (Gen na-xie ren bi-qilai),  
With those person compare  
Zhangsan youdian/youxie  
Zhangsan a-little/slightly  
shengqi.  
angry  
'(Compared with those  
people), Zhangsan is a  
little bit/slightly  
angry.'
- (18) a. Zhangsan zui/zuiwei/ding  
Zhangsan most/extremely  
congming.  
smart  
'Zhangsan is smartest.'
- b. Zhangsan bijiao/jiao/  
Zhangsan relatively/rather/  
jiaowei/hai congming.  
rather/even smart  
'Zhangsan is smarter.'

One of the semantic properties of the degree adverb *geng* 'more' in the Chinese correlative comparative is to require the degree of 'X-ness' denoted by the 'comparee' element in the comparee clause to be higher than that of 'X-ness (or Y-ness)' denoted by the 'standard' element in the standard clause. So, it is this specific property of *geng* 'more' that excludes the *zui* type of degree adverbs, either the strong or the weak group, from occurring in the standard clause of the Chinese correlative comparative. In addition, being a member of the strong group of the *geng* type, the degree adverb *geng* 'more' also excludes other degree adverbs belonging to the strong group of the same type from occurring in the standard clause of the Chinese correlative comparative because their occurrence in the standard clause is incompatible with the semantic requirement of *geng* 'more'.

As for the degree adverb *tai*

'too' and *guo* 'too/exceed', though they both belong to the *hen* type, the impossibility of their occurrence in the Chinese correlative comparative, as (14d) illustrates, in fact is due to their particular semantic characteristic. Semantically, they both function to express that the difference between the degree of X-ness denoted by the predicate modified by them and the contextually determined standard degree of comparison about X-ness is large to an extent that the speaker cannot stand. This semantic property of *tai* 'too' and *guo* 'too/exceed' undoubtedly conflicts with the semantic function of *geng* 'more' in the Chinese correlative comparative, which requires the degree of X-ness denoted by the comparee element in the comparee clause to be higher than that of X-ness (or Y-ness) denoted by the 'standard' element in the standard clause. So, the degree adverb *tai* 'too' and *guo* 'too/exceed', though both being members of the *hen* type, are not allowed in the Chinese correlative comparative.

Third, as is widely assumed, gradable adjectives can be classified as positive or negative ones because the former differs from the latter, for example, in that positive adjectives can occur with measure phrases but negative ones cannot, as shown by the contrast below (cf. Seuren (1978), Ladusaw (1979), and Linebarger (1980)).

- (19) a. Zhangsan liang-gongchi gao.  
Zhangsan two-meter tall  
'Zhangsan is two meters tall.'
- b. \*Zhangsan yi-bai-wu-shi  
Zhangsan one-hundred-fifty  
gongfen ai.

centimeter short  
 \*Zhangsan is one-hundred  
 and fifty centimeters  
 short.'

Significantly relevant to this classification is that the following Chinese correlative comparatives constructed out of the 'positive' and 'negative' pair of adjectives are semantically anomalous, as the ungrammaticality of (20a-b) illustrates.

- (20) a. \*Zhangsan hen gao, Lisi  
 Zhangsan very tall Lisi  
 geng ai.  
 more short  
 'Lisi is shorter than  
 Zhangsan is tall.'  
 b. \*Zhi jiage hen ganjing, Niuye  
 Chicago very clear New  
 York geng zang.  
 more dirty  
 'New York is dirtier than  
 Chicago is clean.'

The same also obtains in English. For example, the English counterparts of (17a-b), as Hale (1970), Bierwisch (1989), and Kennedy (2001a, 36) point out, are semantically anomalous either, and the anomaly shown by (21a-b) is further referred to as the cross-polar anomaly.

- (21) a. ?Alice is shorter than  
 Carmen is tall.  
 b. ?New York is dirtier than  
 Chicago is clean.

As Kennedy (2001a, 37) further argues, the cross-polar anomaly shown by sentences like (18a-b) cannot be explained in terms of syntactic ill-formedness because the structurally identical examples of 'comparative subdeletion' (i.e., CSD) where both adjectives have the same polarity, for instance (22), are perfectly well-formed.

- (22) My watch is faster than yours is slow.

Given this, Kennedy (2001a, 37) suggests that the factors underlying the cross-polar anomaly should involve the interaction of the semantics of positive and negative adjectives and the semantics of the comparative construction.

However, particularly significant here is that a large class of antonymous adjectives, as Kennedy (2001a, 37) points out, make (23) valid, as shown by (24).

- (23) *x is more  $\phi_{pos}$  than y if and only if y is more  $\phi_{neg}$  than x.*  
 (24) Zhangsan bi Lisi gao  
 Zhangsan compare Lisi tall  
 ruoqie-weiruo Lisi bi  
 if-and-only-if Lisi compare  
 Zhangsan ai.  
 Zhangsan short  
 'Zhangsan is taller than Lisi if  
 and only if Lisi is shorter than  
 Zhangsan.'

As Kennedy (2001a, 38) points out, within a model of point-based analysis to the semantics of gradable adjectives and comparatives, this fact can be directly explained by adopting the following three natural assumptions. First, gradable adjectives are characterized as expressions that map objects to abstract representations of measurement (i.e., scales), which are sets of points (i.e., degrees) that are totally ordered along a dimension determined by the adjective (e.g., height, weight, ...) (cf. Cresswell (1976), Hellan (1981), von Stechow (1984), and Rullmann (1995)).

Second, comparatives define ordering relations between degrees.

Third, assuming the point-based analysis to the semantics of gradable adjectives, antonymous pairs of

adjectives such as ‘tall’ and ‘short’ map identical arguments onto the same degrees, but they introduce the opposite ordering relations.

Namely, such pairs are duals: for all antonymous adjectives  $\varphi_{pos}$ ,  $\varphi_{neg}$  that map their arguments onto a shared scale  $S$ , and for all  $d_1, d_2 \in S$ , the relation in (25) holds.

$$(25) \quad d_1 >_{\varphi_{pos}} d_2 \Leftrightarrow d_2 >_{\varphi_{neg}} d_1$$

With all of these assumptions, the truth condition of (24), for instance, can be paraphrased as in (26).

$$(26) \quad \textit{the degree to which Zhangsan is tall} >_{\textit{tall}} \textit{the degree to which Lisi is tall} \Leftrightarrow \textit{the degree to which Lisi is short} >_{\textit{short}} \textit{the degree to which Zhangsan is short}$$

However, paralleling reasoning, as Kennedy (2001a, 38) points out, happens to make the wrong prediction about the cross-polar anomaly, as (27) illustrates.

$$(27) \quad \textit{the degree to which Lisi is short} >_{\textit{short}} \textit{the degree to which Zhangsan is tall}$$

To put it more clearly, suppose degrees correspond to points in an ordered set, and positive and negative adjectives map their arguments onto the same degrees – an assumption necessary to explain the validity of constructions with the form in (23) – then (27) is equivalent to (28).

$$(28) \quad \textit{the degree to which Lisi is short} >_{\textit{short}} \textit{the degree to which Zhangsan is short}$$

So, we would expect (21a) to be grammatical, contrary to fact.

Likewise, assuming the point-based analysis to the semantics of gradable adjectives and comparatives, we also wrongly predict that (20a), repeated as (29a), is not only logically equivalent to (29b) but is also semantically well-formed.

- (29) a. \*Zhangsan hen gao, Lisi  
Zhangsan very tall Lisi  
geng ai.  
more short  
‘\*Lisi is shorter than  
Zhangsan is tall.’  
b. Zhangsan bi Lisi gao.  
Zhangsan compare Lisi tall  
‘Zhangsan is taller than  
Lisi.’

Thus, we can conclude that, like the English clausal comparative (21a-b), Chinese correlative comparatives like (20a-b) form a challenge to the point-based analysis to the semantics of gradable adjectives and comparatives, in which a scale is a set of points (cf. Kennedy (2001a) and Schwarzschild and Wilkinson (2002)).

Fourth, although Chinese correlative comparatives like (17a-b), which show the cross-polar anomaly, might lead us to the descriptive generalization that comparatives constructed out of antonymous adjectives are semantically anomalous, there do exist some challenging data to this ‘generalization’, as examples in (30) illustrate.

- (30) a. Zhao Min, pifu hen bai,  
Zhao Min skin very white  
toufa geng black.  
hair more black  
‘The hair of Zhao Min is  
blacker than her skin is  
white.’  
b. Zhe-duo hua, hua hen  
hong, yezi geng lyu.  
This-CL flower flower very  
red leaf more green  
‘As for this flower, the  
flower is very red;  
however, the leaf is  
greener than the flower is  
red.’  
c. Ni-de shoubiao huai

Your watch out-of-order  
 le. Miao zhen hen kuai,  
 SFP Second hand very fast  
 fen zhen geng man  
 minute hand more slow

‘Your watch is out of  
 order. The minute hand is  
 slower than the second  
 hand is fast.’

These Chinese correlative comparatives (i.e., (30a-c)), though formed out of antonymous pairs of adjectives, are perfectly well-formed.

More importantly, such kind of Chinese correlative comparatives can be divided into two subtypes, depending on their semantic interpretations: One is represented by cases like (30a-b) and the other by examples like (30c).

The first type of Chinese correlative comparatives formed out of an antonymous pair of adjectives involves a comparison of deviation (henceforth COD). This type of Chinese correlative comparatives compares the relative extents to which the two objects deviate from some standard value associated with the adjective. For instance, the meaning of (30a) can be paraphrased as in (31).

(31) The degree to which the blackness of Zhao Min’s hair exceeds the standard of blackness of female hair is greater than the degree to which the whiteness of Zhao Min’s skin exceeds the standard of whiteness of female skin.

In contrast with the meaning of the COD type of Chinese correlative comparatives, standard comparatives, for example (32), compare the absolute projections of two objects on a scale.

(32) Zhe-zuo sangu de shendu bi  
 This-CL valley DE depth compare  
 liang-ceng lou de gaodu  
 two-story building DE height

haiyao da.  
 even large

‘The depth of this valley is  
 larger than the height of a  
 two-story building.’

Besides, unlike standard comparatives, Chinese COD-like correlative comparatives, in a way similar to what Kennedy (2001a) points out to the English COD comparative, entail that the properties predicated of the compared objects are true in the absolute sense, which is verified by the contrast below.

(33) a. Nei jiahuo suiran shou hen  
 That guy though hand very  
 chang, danshi tui geng duan.  
 long but leg more short  
 ‘Although the hands of that  
 guy are (very) long, but his  
 legs are shorter.’

b. \*Na jiahuo suiran shou hen  
 That guy though hand very  
 chang, danshi tui geng duan.  
 long but leg more short  
 Buguo shou han  
 But hand and  
 tui dou bu chang.  
 leg all not long.

‘\*The legs of that guy are  
 shorter than his hands are  
 long, but both of his legs  
 and hands are not long.’

More precisely, the fact that (33a) entails that the hands of that guy are long and his legs are short makes (33b) contradictory but (33a) not. This property, as Kennedy (2001a) suggests, is clearly related to the interpretation of Chinese COD-like correlative comparatives. Since the truth of an expression of the form ‘*x is  $\varphi$* ’ is determined on whether the degree to which *x is  $\varphi$*  exceeds an appropriate standard value, the fact that comparison deviation

constructions compare the degrees to which two objects exceed their respective standard values derives the observed entailment patterns.

In addition to these, there still are two further points about comparison of deviation shown by the Chinese correlative comparative that we cannot ignore. The first one is that interpretations of this type of Chinese correlative comparatives are not restricted to comparatives formed out of the antonymous pairs of adjectives, as shown by (34), which has either the ‘standard’ interpretation or the COD interpretation.

- (34) Zhe-dong dalou, gaodu hen  
This-CL building height very  
gao, kuandu geng kuan.  
tall width more wide
- a. ‘The width of this building is larger than its height.’  
(standard reading)
- b. ‘The degree to which this building’ s width exceeds the standard width (for buildings) is larger than the degree to which this building’ s height exceeds the standard height (for buildings). But the width in fact is not larger than the height.’ (COD reading)

The other point to make about the Chinese COD-like correlative comparative is that in Chinese correlative comparatives constructed out of antonymous pairs of adjectives, the COD interpretation is the only interpretation available. For example, (33a) only has the reading that the degree to which the length of that guy’ s legs falls behind the standard length of human legs is larger than the degree to which the length of that guy’ s hands exceeds the standard length of human hands.

The second type of Chinese correlative comparatives that are formed out of adjectives of opposite polarity but are not semantically anomalous is represented by examples like (35a-b), which involve a comparison of divergence.

- (35) a. Ni-de shoubiao huai  
Your watch out-of-order  
le. Miao zhen hen kuai,  
SFP Second hand very fast fen  
zhen geng man.  
minute hand more slow  
‘Your watch is out of order.  
The minute hand is slower  
than the second hand is  
fast.’
- b. Ni zhe-bu gangqin zouyin  
You this-CL piano off-key  
le. Re/D hen di, La/A geng  
SPF Re very flat A more  
gao.  
sharp  
‘Your piano is off-key.  
La/A is sharper than Re/D is  
flat.’

Although the pairs of adjectives in (35a-b) are clearly opposites in some sense, there are pieces of compelling evidence, as Kennedy (2001a) points out to their English counterparts, that this opposition is not one of polarity. For example, (35a-b) are non-anomalous only on a very specific interpretation: one in which the adjectives measure divergence from some common point of reference, rather than the ‘absolute’ degree to which an object has some gradable property, as the contrast between (35a-b) and (36) illustrates.

- (36) \*Zhe-bu chezi hen kuai, na-bu  
This-CL car very fast that-CL  
geng man.  
more slow  
‘??This car is faster than that

car is slow.'

The way that (35a-b) differ from (36) in interpretation immediately reminds us of Kennedy's (2001a, 44) description on how English clausal comparatives involving a comparison of divergence or deviation differ from standard comparatives in interpretation: In the former, the two adjectives measure divergence from a common point in different directions; however, in the latter they provide opposite perspectives on the same value (the speed of the cars) - a conventionalized value in the former case and a contextually determined standard value in the latter; on the other hand, standard comparatives, for example (29b), compare the absolute measures of two objects on a scale.

Namely, what are compared in constructions involving a comparison of deviation or a comparison of divergence are two intervals rather than two points (i.e., degrees). This fact, as Kennedy (2001a) points out, is very important because it shows that comparison of divergence constructions, like those involving a comparison of deviation, are not real counterexamples to the descriptive generalization originally made on the basis of cross-polar anomaly: comparatives formed out of antonymous adjectives are semantically anomalous.

So, the semantic interpretation of the Chinese correlative comparatives constructed out of the antonymous pairs of adjectives leads us to make, in terms of the 'sorts' of the compared degrees', a generalization the same as what Kennedy (2001a, 44) makes for English clausal comparatives formed out of the antonymous pairs of adjectives:

(37) Comparatives are semantically

well-formed only if they define ordering relations between the same sorts of degrees: between positive degrees, between negative degrees, or between degrees that measure divergence from a referent point.

Sixth, a Chinese correlative comparative involving a comparison between two different sorts of 'quantities' will look like an English comparative subdeletion construction in structure in case the amount or degree term of the English CSD construction is not omitted from the constituent that provides the standard degree of comparison, as (38a-b) and (39a-b) show.

- (38) a. John is more careful than Bill is [<sub>DegP</sub> Deg sloppy].  
b. Michael Jordan has more scoring titles than Dennis Rodman has [<sub>DP</sub> Deg tattoos].
- (39) a. Zhao Min, pifu [<sub>DegP</sub> hen [<sub>AP</sub> Zhao Min skin very bai]], toufa [<sub>DegP</sub> geng [<sub>AP</sub> white hair more hei]].  
black  
'The hair of Zhao Min is blacker than her skin is white.'  
b. Zhangsan mai-le [<sub>DP</sub> hen) duo Zhangsan buy-ASP very more de [<sub>NP</sub> pingguo]], Lisi mai-le DE apple Lisi buy-ASP [<sub>DP</sub> geng duo de [<sub>NP</sub> li]].  
more more DE pear  
'Lisi bought more pears than Zhangsan bought apples.'

In other words, in the COD-like Chinese correlative comparative the term denoting an amount or a degree cannot be omitted from the standard clause,

which provides the standard degree of comparison compared with the degree denoted by the phrase modified by the degree adverb *geng* ‘more’ in the comparee clause.

Likewise, although a Chinese correlative comparative in which the two ‘quantities’ compared are the same sort of stuff looks like an English CD construction, neither of the ‘compared stuff’ has to be deleted in the former, as the contrast between (40a-b) and (41a-b) illustrates.

- (40) a. Zhangsan [<sub>DegP</sub> hen [<sub>AP</sub> gao]],  
 Zhangsan very tall  
 Lisi [<sub>DegP</sub> geng [<sub>AP</sub> gao]].  
 Lisi more tall  
 ‘Zhangsan is taller than Lisi is.’
- b. Zhangsan mai-le [<sub>DP</sub> hen duo  
 Zhangsan buy-ASP very more  
 de [<sub>NP</sub> pingguo]], Lisi mai-le  
 DE apple Lisi buy-ASP  
 [<sub>DP</sub> geng duo de pingguo]].  
 [<sub>DP</sub> more more DE apple  
 ‘\*Lisi bought more apples  
 than Zhangsan bought  
 apples.’
- (41) a. John is taller than Bill is  
 [<sub>DegP</sub> ~~Deg~~ tall].
- b. John bought more books than  
 Bill bought [<sub>DP</sub> ~~many books~~].

Moreover, in an English multi-headed CD construction, the hierarchically highest compared constituent must be deleted while all the compared constituents have to remain *in situ* in an English multi-headed CSD construction, as shown by (42a-b), respectively.

- (42) a. ?The president asked more  
 students to do more things  
 than the teacher asked  
~~students~~ to do things.
- b. The president asked more  
 teachers to buy more apples

than the teacher asked  
 students to do things.

However, neither of the compared constituents can be deleted in their Chinese counterparts, as (43a-b) illustrate.

- (43) a. Laoshi yaoqiu [<sub>DP</sub> \*(hen duo)  
 Teacher ask very many  
 xuesheng] qu zuo [<sub>DP</sub> \*(hen duo)  
 student go do very many  
 shiqing], xiaozhang yaoqiu  
 thing president ask  
 [<sub>DP</sub> \*(geng duo) xuesheng] qu  
 more many student go  
 zuo [<sub>DP</sub> \*(geng duo) shiqing].  
 do more many thing  
 ‘?The president asked more  
 students to do more things  
 than the teacher asked to  
 do things.’
- b. Laoshi yaoqiu [<sub>DP</sub> \*(hen duo)  
 Teacher ask-ASP very many  
 xuesheng] qu zuo [<sub>DP</sub> \*(hen  
 student to do very  
 more  
 dou) shiqing], xiaozhang  
 more thing president  
 yaoqiu [<sub>DP</sub> \*(geng duo) laoshi]  
 ask more more teacher  
 mai [<sub>DP</sub> \*(geng duo) pingguo].  
 Buy more more apple  
 ‘The president asked more  
 teachers to buy more apples  
 than the teacher asked  
 students to do things.’

To put it simply, the Chinese correlative comparative differs from its English counterpart, either the CD-like or the CSD-like case, in that the former does not allow any deletion. This typological distinction in deletion, of course, becomes an ineluctable question to any typological studies on the syntax of clausal comparatives.

Seventh, as pointed out by Ross

(1967), Huddleston (1967), Chomsky (1977), and many others, the English CD and CSD constructions are sensitive to the syntactic islands. Namely, both CD and CSD constructions require a gap inside and they are both ill-formed when the gap is embedded in an extraction island, as shown by the contrast between (44a-d)-(45a-d) and (46a-b), taken from Kennedy (2001b, 558-559).

- (44) a. \*Michael has more scoring titles than Dennis is a guy who has. (Complex NP Constraint)  
 b. \*The shapes were longer than I wondered whether they would be. (*Wh*-islands)  
 c. \*My sister drives as carefully as I avoid accidents when I drive. (Adjunct islands)  
 d. \*There are more stars in the sky than that the eye can see is certain. (Sentential subjects)
- (45) a. \*Michael has more scoring titles than Dennis is a guy who has tattoos. (Complex NP Constraint)  
 b. \*The shapes were longer than I wondered whether they would be thick. (*Wh*-islands)  
 c. \*My sister drives as carefully as I avoid accidents when I drive carelessly. (Adjunct islands)  
 d. \*There are more stars in the sky than that the eye can see planets is certain. (Sentential subjects)
- (46) a. Michael has more scoring titles than Kim says he has.  
 b. Michael has more scoring titles than Kim says Dennis

plans to get tattoos.

The island sensitivity effect shown by the contrast between (44a-d)-(45a-d) and (46a-d) provides one of the strongest evidence in support of the assumption that the English CD and CSD construction both involve *wh*-movement.

However, not only the Chinese correspondents of (44a-d)-(45a-d) but also the Chinese correspondents of (46a-d) are all perfectly well-formed.

- (47) a. [<sub>CP</sub> [<sub>NP</sub> [<sub>CP</sub> Zhe-duo hua hen  
 This-CL flower very  
 hong de] shuofa]  
 red DE statement  
 guran mei cuo],  
 of-course not wrong  
 danshi wo renwei  
 but I think  
 na-duo hua geng hong.  
 that-CL flower more red  
 (Complex NP Constraint)  
 ‘\*The statement that this flower is very red undoubtedly is correct, but I think that flower is redder than this flower is.’
- b. Zhe-duo hua hen hong,  
 This-CL flower very red  
 danshi wo xiang zhidao [<sub>CP</sub>  
 but I want know  
 na-duo shifou  
 that-CL whether  
 geng hong]. (*Wh*-islands)  
 more red  
 ‘\*This flower is very red, but I wonder whether that flower is redder than this flower is.’
- c. Yinwei zhe-ke shu hen  
 Because this-CL tree very  
 gao, suoyi na-ke shu  
 tall so that-CL tree  
 yinggai geng gao.

- must more gao. (Adjunct islands)  
 \*Since this tree is very tall, that one must be taller than this one is.'
- d. [Zhe-duo hua hen hong, This-CL flower very red na-duo hua geng hong] that-CL flower more red shi qianzhenwanque-de. is absolutely-true-DE (Sentential subjects)  
 \*That that flower is redder than this flower is absolutely true.'
- (48) a. [<sub>CP</sub> [<sub>NP</sub> [<sub>CP</sub> Zhe-duo hua hen This-CL flower very hong de shuofa guran red DE statement of-course mei cuo, danshi wo renwei not wrong but I think yezi geng lyu. (Complex NP leaf more green Constraint)  
 \*The statement that this flower is very red undoubtedly is correct, but I think the leaf is greener than the flower is red.'
- b. Zhe-duo hua hen hong, This-CL flower very red danshi wo xiang zhidao but I want know yezi shifou geng Lyu]. leaf whether more green (*Wh*-islands)  
 \*This flower is very red, but I wonder whether the leaf is greener than the flower is red.'
- c. Zhe-ke shu yinwei hen gao, This-CL tree because very gao suoyi shugan yinggai tall so trunk must geng cu. (Adjunct islands) more thick  
 \*Since this tree is very tall, the trunk must be thicker than the tree is tall.'
- d. [Zhe-duo hua hen hong, This-CL flower very red yezi geng lyu] shi leaf more green is qianzhenwanque-de. absolutely-true-DE (Sentential subjects)  
 \*That the leaf is greener than the flower is red is absolutely true.'
- (49) a. Zhe-duo hua, ni renwei This-duo flower you think hua hen hong, danshi wo flower very red but I renwei na-duo hua geng think that-CL flower more hong. red.  
 \*As for this flower, you think that the flower is very red, but I think that that flower is redder than this flower.
- b. Zhe-duo hua, ni renwei This-duo flower you think hua hen hong, danshi wo flower very red but I renwei yezi geng lyu. think leaf more green  
 \*As for this flower, you think that the flower is very red, but I think that the leaf is greener than the flower is red.

The non-sensitivity to island conditions shown by the Chinese correlative comparative distinguishes itself from English clausal comparatives in that the former does not involve *wh*-movement while the

latter does.

Eighth, whenever the two (or more) degree denoting elements in the Chinese correlative comparative are not directly dominated by the clauses further directly dominated by the whole construction, all the degree adverbs involved cannot be omitted and, more importantly, the coordinator *danshi* ‘but’ is obligatorily required, as the contrast between (50) and (51a-b) shows.

(50) [[<sub>standard clause</sub> Zhangsan (hen) gao],  
Zhangsan very tall  
(*danshi*) [<sub>comparee clause</sub> Lisi geng  
but Lisi more  
tall  
gao].

‘Zhangsan is very tall, but Lisi is taller than Zhangsan is.’

(51) a. [[Zhangsan \*(hen) gao],  
Zhangsan very tall  
\*(*danshi*) [wo renwei [Lisi  
but I think Lisi  
geng gao]]].  
more tall

‘Zhangsan is very tall, but I think that Lisi is taller than him.’

b. [[[[Zhangsan \*(hen) gao] de  
Zhangsan very tall DE  
shuofa] mei cuo], \*(*danshi*)  
statement not wrong but  
[Lisi geng gao]].

Lisi more tall

‘The statement that Zhangsan is very tall is correct, but Lisi is taller than Zhangsan.’

We shall argue that the coordinator *danshi* ‘but’ in examples like (51a-b) functions to help retain and intensify the comparison relation between the two ‘degrees’ in the Chinese correlative

comparatives. Semantically, the coordinator *danshi* ‘but’ presupposes a contrast relation between the two conjuncts connected by it. In the Chinese correlative comparative, two differential degrees ‘denoted’ by the two corresponding degree adverbs are compared with each other. Whenever these two (or more) degree denoting elements are not directly dominated by the clauses that are further directly dominated by the whole construction, it becomes difficult for one to ‘capture’ the comparison relation between these two degree denoting elements (i.e., the degree adverbs). Since the notion of contrast can be considered a special type of comparison. At this moment, the coordinator *danshi* ‘but’ occurs as the last resort to rescue the comparison relation between these two degree adverbs; therefore, *danshi* ‘but’ is obligatorily required.

#### 四、計畫成果自評

本計畫的成果已撰寫完成，並發表刊登於知名的國際性語言學專業期刊 *Lingua*。

Liu, Chen-Sheng Luther (2010) “The Chinese Geng Clausal Comparative”, *Lingua* 120: 1579-1606.

我們對漢語關聯式比較句的語法及語意特性的研究的貢獻，可從經驗事實和理論這兩個層面來談，當中經驗事實這個層面上的貢獻可進一步就個別語言、及跨語言這兩個層次來談：

首先，就個別語言（特別是漢語）而言，本研究將對論證漢語在句法層次上也有程度比較，並以類似例句(1)這種從未受到深入討論的句型(關聯式比較句)為研究對象，讓我們對漢語這個語言在如何表達「比較」

這個概念上的特殊性有更深入的了解，同時也將擴大大家對漢語比較句式研究的廣度和深度。

就跨語言的經驗事實層面而言，透過本研究我們可以清楚地看到漢語和英語在建構子句比較句型上的差異，並藉由這方面的差異來突顯出漢語和英語在與比較句式中有關移位及刪略上的差異；特別是不同的語言在 Degree Abstraction 上，如何以不同的手段，如 movement 或是

unselective binding, 來達成這個問題上。

在理論層面上，我們將論證以 the point-based semantics of comparatives 為基礎的分析方式，無法適切地處理漢語關聯式比較句所顯現出來有關「程度比較」的問題，如 cross-polar anomaly, comparison of deviation 及 comparison of divergence 等。這些 the point-based semantics of comparatives 所無法解決的問題進一步支持了 Kennedy(2001) 及 Schwarzschild & Wilkinson(2004) 所提的 the interval-based semantics of comparatives 的正確性。

## 五、參考文獻

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# 行政院國家科學委員會補助國內專家學者出席國際學術會議報告

99 年 08 月 30 日

附件三

報告人姓名	劉辰生	服務機構 及職稱	國立交通大學外國語文學系 副教授
時間 會議 地點	99 年 05 月 20 日至 99 年 05 月 22 日 Harvard University, (Boston/Massachusetts, USA)	本會核定 補助文號	
會議 名稱	(中文)第十八屆國際漢語語言學會學術會議暨第二十二屆北美洲漢語語言學會議聯合會議 (英文)IACL-18 & NACCL-22 Joint Conference		
發表 論文 題目	(中文)再談漢語比字比較句 (英文)Chinese <i>bi</i> Comparatives Revisited		

報告內容應包括下列各項：

一、參加會議經過

本次會議共三天，發表論文篇數超過一百篇，但發表的學者皆為一時之選，當中有中研院院士丁邦新、北京大學蔣紹愚、哈佛大學黃正德、University of Pennsylvania 的 Anthony Kroch、美國南加州大學 Audrey Li、密西根大學州立大學林燕慧、Cornell University 梅祖琳（中研院院士）等。每場的發表時間為 25 分鐘，含 5 分鐘的提問和討論時間。所含蓋的領域包含：句法，語意，音韻，語音，句法語意介面。個人於第二天(13:45-14:10)發表論文並接受提問。

二、與會心得

參加此次會議的學者均為當今漢語語言學界或是語法、語意方面最具代表性的前沿學者，這些學者對每篇發表的論文都給予詳細且深入的評論，透過參加這樣的會議可以充份了解學界當前的最新研究方向和看法；會後的餐敘更提供了和與會學者專家充分討論的時間，藉此可讓自己的研究受到更嚴密地檢驗。

三、考察參觀活動(無是項活動者省略)

四、建議

五、攜回資料名稱及內容

攜回會議論文摘要一冊及論文大綱 60 餘篇。

六、其他

無研發成果推廣資料