行政院國家科學委員會專題研究計畫 成果報告

漢語關聯式比較句的語法和語意特性之研究
研究成果報告(精簡版)

計畫類別：個別型
計畫編號：NSC 98-2410-H-009-039-
執行期間：98年08月01日至99年07月31日
執行單位：國立交通大學外國語文學系

計畫主持人：劉辰生

報告附件：出席國際會議研究心得報告及發表論文

處理方式：本計畫可公開查詢

中華民國99年08月30日
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
計畫編號：NSC 98-2410-H-009-039
執行期限：98 年 08 月 01 日至 99 年 07 月 31 日
主持人：劉辰生   國立交通大學外國語文學系
共同主持人：xxxxxx   執行機構及單位名稱
計畫參與人員:xxxxxx   執行機構及單位名稱

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(interval)而非量點(point)及

關鍵詞: 汉語關聯式比較句、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 Dijing 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,
(degree comparison) two types, namely, English
comparison sentences and Japanese comparison sentences. The difference between
these two types of comparison sentences can be explained by the Degree
Abstraction Parameter.

(6) Degree Abstraction Parameter
A language {does, does not} have
binding of degree variables in
syntax.

This view is consistent with Beck et al. (2004) and
Xiang (2005) and Lin (2008), who state that
Chinese comparison sentences are similar to Japanese
comparison sentences, and provide examples such as (7a)
and (7b).

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

In the context of recent work by Kennedy (2005, 2008),
Xiang (2005), and Lin (2008), we see that Chinese
comparison sentences are similar to Japanese comparison
sentences, as shown in (10a) and (10b).

(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
e.g., 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
    Zhejiang, yanjing (hen) yuan, bizi (hen) ting,
    very round noose very erect
    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.
    *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 Zhangan 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 [w hen duo] jintian wo pai [w geng duo ren] qu ni jia. very 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, yezi geng lyu. 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.’

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 correlatively 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 [standard clause … (Degx) …], … ([standard clause … (Degx) …)] … [comparee clause … 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 results 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
(stong 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/
lyuwei 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/jiduanextremely/abnormally/jizhang, danshi Lisi geng anxious but Lisi more jinzhang. (*hen type*)
anxious
‘Although Zhangsan rather/extremely/abnormally/ 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' comparative 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/lyueweisomewhat/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/jiduanabnormally/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)).

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 geng ai.
Zhangsan very tall Lisi more short

‘*Lisi is shorter than Zhangsan is tall.’

b. *Zhijiage hen ganjing, Niuye geng zang.
Chicago very clear New York 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
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 $\varphi_{\text{pos}}, \varphi_{\text{neg}}$ that map their arguments onto a shared scale $S$, and for all $d_1, d_2 \in S$, the relation in (25) holds.

(25) $d_1 >_{\varphi_{\text{pos}}} d_2 \iff d_2 >_{\varphi_{\text{neg}}} d_1$

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

(26) the degree to which Zhangsan is tall $>_{\text{tall}}$ the degree to which Lisi is tall $\iff$ the degree to which Lisi is short $>_{\text{short}}$ 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) the degree to which Lisi is short $>_{\text{short}}$ 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) the degree to which Lisi is short $>_{\text{short}}$ 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.

   Lisi 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 haiyao da. even large 'The depth of this valley is even 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 long, danshi tui geng duan. leg more short

'Although the hands of that guy are (very) long, but his legs are shorter.'

b. *Na jiahuo suiran shou hen long but leg more short

'But the hands and legs 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 ϕ’ is determined on whether the degree to which x is ϕ 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
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
zheng 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.
moe 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 [Deg sloppy].
   b. Michael Jordan has more scoring titles than Dennis Rodman has [Deg tattoos].

(39) a. Zhao Min, pifu [Deg very bai], toufa [Deg more hei].
   black
   ‘The hair of Zhao Min is blacker than her skin is white.’
   b. Zhangsan mai-le [DE duo pingguo], Lisi mai-le [DE 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 [\textit{\text{domp}} hen [\textit{\text{w}} gao]],
Zhangsan very tall
Lisi [\textit{\text{domp}} geng [\textit{\text{w}} gao]].
Lisi more tall
‘Zhangsan is taller than Lisi is.’

b. Zhangsan mai-le [\textit{\text{w}} hen duo
Zhangsan buy-ASP very more
de [\textit{\text{w}} pingguo]],
Lisi mai-le
DE apple Lisi buy-ASP
[\textit{\text{w}} geng duo de pingguo]].
[\textit{\text{w}} more more DE apple
‘Lisi bought more apples
than Zhangsan bought apples.’

(41) a. John is taller than Bill is [\textit{\text{w}} Deg-tall].

b. John bought more books than Bill bought [\textit{\text{w}} 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 \textit{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) illustrates.

(43) a. Laoshi yaoqiu [\textit{\text{w}} *(hen duo)
Teacher ask very many
xuesheng] qu zuo [\textit{\text{w}} *(hen duo)
student go do very many
shiqing], xiaozhang yaoqiu
thing president ask
[\textit{\text{w}} *(geng duo) xuesheng] qu
more many student go
zuo [\textit{\text{w}} *(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 [\textit{\text{w}} *(hen duo)
Teacher ask-ASP very many
xuesheng] qu zuo [\textit{\text{w}} *(hen
student to do very
more
dou) shiqing], xiaozhang
more thing president
yaoqiu [\textit{\text{w}} *(geng duo) laoshi]
ask more more teacher
mai [\textit{\text{w}} *(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. [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 [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
da-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
is absolutely true.'

(48) a. [CP [NP 
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
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) \[[\text{standard clause } \text{Zhangsan (hen) gao}], \text{Zhangsan very tall (danshi)} [\text{comparee clause } \text{Lisi geng but } \text{Lisi more tall gao}].

`Zhangsan is very tall, but Lisi is taller than Zhangsan is.'

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

more tall

`Zhangsan is very tall, but I think that Lisi is taller than him.'

b. \[[[\text{Zhangsan *(hen) gao} de Zhangsan very tall DE shuofa] mei cuo], *(danshi) statement not wrong but [\text{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 differentials 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。


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。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構成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於比較句式中有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。


五、參考文獻

University.


行政院國家科學委員會補助專題研究計畫成果報告

（漢語關聯式比較句的語法和語意特性之研究）

計畫類別：X 個別型計畫

計畫編號：NSC 98-2410-H-009-039

執行期間：98 年 08 月 01 日至 99 年 07 月 31 日

計畫主持人：劉辰生

共同主持人：

計畫參與人員：

本成果報告包括以下應繳交之附件：

□ 赴國外出差或研習心得報告一份
□ 赴大陸地區出差或研習心得報告一份
X 出席國際學術會議心得報告及發表之論文各一份
□ 國際合作研究計畫國外研究報告書一份

執行單位：國立交通大學

中華民國 99 年 08 月 30 日
### 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

<table>
<thead>
<tr>
<th>報告人姓名</th>
<th>劉辰生</th>
</tr>
</thead>
<tbody>
<tr>
<td>服務機構及職稱</td>
<td>國立交通大學外國語文學系副教授</td>
</tr>
<tr>
<td>時間</td>
<td>99年05月20日至99年05月22日</td>
</tr>
<tr>
<td>會議</td>
<td>Harvard University, (Boston/Massachusetts, USA)</td>
</tr>
<tr>
<td>地點</td>
<td>本會核定補助文號</td>
</tr>
<tr>
<td>會議名稱</td>
<td>(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</td>
</tr>
<tr>
<td>(英文) IACL-18 &amp; NACCL-22 Joint Conference</td>
<td></td>
</tr>
<tr>
<td>發表論文題目</td>
<td>(中文)再談漢語比字比較句</td>
</tr>
<tr>
<td>(英文)Chinese bi Comparatives Revisited</td>
<td></td>
</tr>
</tbody>
</table>
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