

# The Comparative Construction and the *Wh*-Movement

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## 1. Introduction

Studies of the syntax of the comparative construction generally focuses on three aspects (cf. Bresnan 1973, 1975, Chomsky 1977, Napoli 1983, Pinkham 1985, and many others): (A) the syntactic category of the comparative adjectives, (B) the syntactic role of *than*, which ‘links’ the main clause and the comparative clause, and (C) the operations involved in the formation of the comparative clauses. In this work I compare the English comparative construction with the Chinese one in these three aspects. Furthermore, I conclude that the comparative construction can be reduced to the *Wh*-movement in Chinese as well as in English.

To begin with, the comparative adjective in Chinese and that in English as well as French are non-trivially different in the surface position. On the one hand, the comparative adjectives in Chinese appear in the comparative clauses; while on the other, the comparative adjectives in English and in French are located in the main clause.<sup>1</sup> This difference is characterized in (1):

- (1) a. John is *taller* than I am [e].<sup>2</sup>  
b. Jean est *plus grand* que je ne [e] suis. (Pinkham 1985: 18)  
‘Jean is taller than I am.’  
c. Zhangsan zhang-de [e] bi wo gao.  
ZS grow-DE than I tall  
‘ZS is taller than I am.’

Note the positions of the comparative adjective (italicized parts) in Chinese (1c). The comparative adjective is located in the subordinate clause following *bi* ‘than,’ but not in the main clause.<sup>3</sup> This being so, the Chinese examples do pose problems to the deletion account in Bresnan (1973, 1975), as well as to the interpretative account in Pinkham (1985) since

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<sup>1</sup> I employ the term *comparative clause* to refer to the right (subordinate) part of the comparative construction, namely, the clause introduced by *than* in English. *Comparative adjectives* or comparative QPs refer to the *adj-er* complex.

<sup>2</sup> I use [e] in general to refer to the empty category in the comparative clause. However, the true identity of the empty category is subject to deeper inquiries.

<sup>3</sup> One might argue that *bi*-clause is an VP-adjunct adjoined to the main predicate. However, this analysis is ruled out once sentences like the following are taken into consideration:

- (i) Zhangsan zhang-de \*(bi wo) haiyao gao.  
ZS grow-DE than I even tall  
‘ZS is even taller than me.’

If *bi*-clause were adjunct, the sentence should be grammatical, since an adjunct is not obligated to appear.

both of the stipulations involve a presumption that the comparative adjectives appear in the matrix clause. These approaches are apparently not plausible when we deal with the Chinese comparative construction.

In this work, I argue for a movement approach in the comparative formation. The idea was originally proposed in Chomsky (1977) in dealing with English comparatives. However, with minor amendment, I analyze the comparative construction with the theory of the *Wh*-movement proposed in Tsai (1999). I will argue that comparative constructions are universally identical, and the only difference is the language strategies of adopting either overt or covert movement. Firstly, the comparative adjectivals are analyzed as a complement of a QP. This QP functions as a Degree operator, analogous to the Q-operator in the *Wh*-construction. *Than* in the clausal comparative is analyzed as a complementizer, which introduces the comparative clause. The comparative QP then functions in the same mechanism with the adverbial *Wh*-phrases. The QPs raise to [Spec, CP] to check the comparative feature in C<sup>0</sup> overtly in English and French while covertly in Chinese.

On the other hand, *than* in the phrasal comparatives is considered as a preposition, and the structure of the phrasal comparative is a PP taking the QP as a complement. The rest mechanism is similar to that in the clausal comparative. In this proposed theory, the comparative construction is deduced from a more general principle (A'-dependencies) without exploiting language-specific rules. i.e. comparative deletion, comparative ellipsis, and subdeletion, etc.

This article is organized as follows. Section 2 shows the parallelism between the comparative sentences in English and in Chinese and some contrasts between them. Section 3 reviews three major proposals -- the deletion approach made by Bresnan (1973, 1975), the interpretative analysis by Pinkham (1985), and the movement approach by Chomsky (1977). In Section 4, the movement analysis is proposed along with the supporting empirical evidence.

## 2. Types of Comparatives

English comparatives, according to the element(s) following *than*, are generally classified into two major types: clausal and phrasal comparatives. Examples are illustrated below:

- (2) a. John looks taller than [Bill does].  
b. John is taller than [Bill].
- (3) a. John bought **a more expensive car** than Bill did.  
b. John bought **a more expensive car** than Bill.
- (4) a. John runs faster than Bill runs.  
b. John runs faster than Bill.

In (2) ~ (4), the (a) examples are known as the clausal comparatives, while the (b) as the phrasal comparatives. The same pattern is shown in French. (See Pinkham 1985: Ch.1 for

details.)

In addition to this distinction, a sub-classification is introduced, which is crucial to the following discussion in Chinese comparatives. That is, the examples in (3), which I call the *NP comparatives*. The argument NP [*a more expensive car*] in these sentences carries the comparative adjective. I call the other sentences *non-NP comparatives*, since the comparative adjectives does not modify the argument NPs.

The distinction is responsible for some gaps in Chinese, such as (5) to (7):

- (5) a. Zhangsan kan-qilai bi [Lisi kan-qilai gao].  
 ZS look than LS look tall  
 ‘ZS looks taller than LS does.’
- b. Zhangsan kan-qilai bi [Lisi gao].  
 ZS look than LS tall  
 ‘ZS looks taller than LS.’
- (6) a. \*Zhangsan mai-le yi-tai che bi Lisi mai-le  
 ZS bought one-Cl car than LS bought  
 yi-tai geng gui-de che.  
 one-Cl much expensive car
- b. Zhangsan mai-le yi-tai che bi Lisi geng-gui.  
 ZS bought one-Cl car than LS much-expensive  
 ‘ZS bought a more expensive car than LS.’
- (7) a. Zhangsan pao-de bi Lisi pao-de kuai  
 ZS run-DE than LS run-DE fast  
 ‘ZS runs faster than Lisi does.’
- b. Zhangsan pao-de bi Lisi kuai  
 ZS run-DE than Lisi fast  
 ‘ZS runs faster than Lisi.’

Examples (5) to (7) correspond in both their meanings and their structures, respectively, to the English counterparts (2) to (4). The major difference is that the comparative adjective in Chinese appears inside the embedded comparative clause.

It is of interest that while other constructions are well-formed, Chinese seems to present an inhibition against the NP comparatives in the clausal comparative construction, as in (6a). This is an unexpected gap, since the NP comparative is perfect in English. I argue for a possible explanation in Section 4.

Napoli (1983) argues that the two kinds of comparatives in English should be dealt with separately. The difference results from the variant uses of *than* in English. *Than*, in the clausal comparatives, is treated as a coordinator, while in the phrasal comparatives, a preposition. Correspondingly, the two *bi*'s in Chinese shows different properties (e.g. 6a vs.

6b). I assume that she is on the right track in separating the two cases of comparatives.

### 3. Previous Studies on the Comparatives

Three major directions of the analysis of the comparative construction are developed. The deletion/sub-deletion approach by Bresnan (1973, 1975) is reviewed in 3.1, the interpretative approach by Pinkham (1985) and her analysis based on data from the comparison between French and English in 3.2. I review Chomsky's (1977) idea to reduce the comparative constructions to *Wh*-construction in 3.3. In 3.4, I reject both the deletion and interpretative approaches, while maintain that a movement analysis is optimal in describing the comparative formation in Chinese as well as in English and in French.

#### 3.1 The Deletion Approach: Bresnan (1973, 1975)

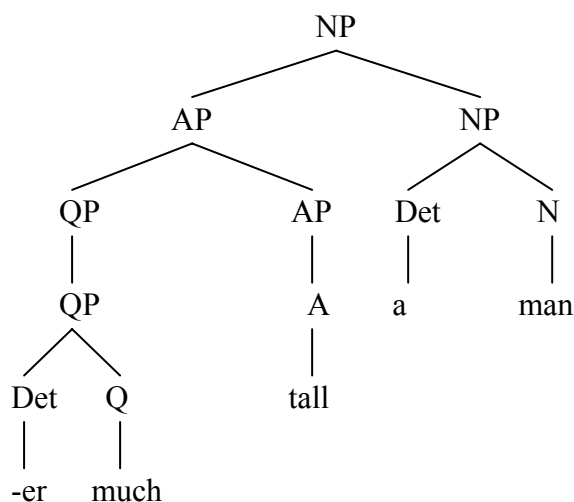
Bresnan (1973, 1975) puts forward the **comparative deletion** in her analysis of the comparative construction in English. This proposal seems intuitive since obviously there seems to be something 'removed' from the surface form:

(8) John ate more donuts than Mary [~~ate Q donuts~~].

In her works the compared element is regarded as an NP, the deep structure of which takes an AP as its Specifier, and this Spec further takes a QP in its Spec position. A series of transformations result in the surface NP. The NP then undergoes deletion in the comparative clause under 'identity' with the element in the matrix clause. *A taller man*, for example, has such a form in (9), adapted from Bresnan (1973: 317):

(9) a. a taller man

b.



The AP undergoes ‘AP-shift’ to generate the surface form, *a taller man*. The comparative deletion then operates on the ‘identical NP’ in the comparative clause:

(10) John is [[-er much tall] a man] than his father is [[~~Q-much tall~~]-a man].

The Q element in the comparative clause corresponds to the *-er* suffix, its function being ‘a reference point’ for the deletion under identity.

The following data in (11) are subject to the subdeletion. In these cases, the deleted part is limited to the QP-AP complex. The NP, being not identical, is left in the surface form:

- (11) a. They have more enemies than we have [-] friends.  
b. They keep better police dogs than they keep [-] pets.

In this line, Napoli (1983) further argues that in clausal comparatives, *than* functions as a coordinator. In this case, comparative deletion is taken as **gapping** in the coordination construction:

(12) a. John bought a book and Mary [~~bought~~] a pen.

However, both of the two authors’ analyses are not without problems. Consider the cases of deletion under identity in (13) versus (14), taken from Pinkham (1985: 35):

- (13) a. Anne is a better doctor than she is a cook.  
b. He is a better scholar than he is a teacher.  
c. She wrote better short stories than she does poems.  
(14) a. \*She bought a prettier dress than she bought a shirt.  
b. \*He has a more expensive car than he has a house.  
c. \*He has a richer father than he has a mother.

Her observation is that the comparative deletion is only allowed when the comparative adjective has the ‘adverb reading’. Therefore, (13a) can be rewritten as (15), but not (14a) as (16):

- (15) Anne ‘doctors’ better than she cooks.  
(16) \*She bought a dress more prettily than she bought a shirt.

Pinkham (1985) argues that this kind of deletion applies in only certain environment, which is ad hoc to the English comparative construction. This is why the deletion rule should be dispensed with.

Furthermore, the comparative deletion, as in (17), avoids the use of the adjectival proform *so*, while in (18) the typical coordination structure does not. This indicates a primary

difference should be drawn between the common deletion and the comparative construction:

(17) \*John is taller than *so* is Mary.

(18) John is tall, and *so* is Mary.

### 3.2 The Interpretative Approach: Pinkham (1985)

Pinkham (1985) notices that French comparatives leave anaphoric proforms (in the form of clitics) in the comparative clauses. The overt proform *-en* coindexes with the comparative PP (*plus de...*), and *-le* with the comparative adjective (from Pinkham 1985: 16-18):

(19) a. Ces jours-ci, il a plus d'argent qu'il n'*en* avait.

b. \*Ces jours-ci, il a plus d'argent qu'il n'avait.  
'These days, he has more money than he used to have.'

(20) a. Jean est plus grand que je ne *le* suis.

b. \*Jean est plus grand que je ne suis (grand).  
'John is taller than I am (it).'

Unlike (19) and (20), no clitic forms are found in the construction with comparative adverbs in French, such as (21). For theoretical coherency, Pinkham assumes a covert adverbial proform [ $\text{PRO}_{\text{adv}}$ ] (i.e. an empty clitic adverb):

(21) a. Je tape plus vite que je [ $\text{PRO}_{\text{adv}}$ ] n'écris. (Pinkham 1985: 19)

'I type faster than I write.'

b. Je lui téléphone plus souvent que je ne [ $\text{PRO}_{\text{adv}}$ ] lui écris.

'I call her more often than I write to her.'

In the French comparatives, the clitic (or proform) is bound by the comparative adjectival in the main clause, and the comparative construction is reduced to the binding theory.

One issue is pending. The empty proform ( $\text{PRO}_{\text{adv}}$ ) is base-generated in the subordinated clause. However, if a language does not display the compared elements in the main clauses but only in the subordinate clause, as in Chinese, how do we interpret the comparative clause? If we generalize the question, we should ask how the comparative element links to the main clause? I return to this point later when I discuss the Chinese examples.

### 3.3 The Wh-movement Analysis: Chomsky (1977)

Chomsky (1977) reduces the comparative structure to the *Wh*-construction. He begins with the data with overt 'moved form' in a dialect in English mentioned in Bresnan (1975):

(22) a. John is taller than [*what* Mary is *t* ].

b. John is taller than [*what* Mary told us that Bill is *t* ].

In these cases, obviously, overt *Wh*-movement is involved in the comparative formation. Let us put aside his argumentation against the deletion approach. His proposal comes directly from the observation that comparative formation is subject to the movement constraints in other dialects as well:

- (23) a. John is taller than Mary told us that Bill is.  
 b. \*John is taller than  $Q_{+wh}$  [<sub>CP</sub> Mary knows [<sub>NP</sub> the fact [<sub>CP</sub> that Bill is *t* ]]].  
 c. \*John is taller than  $Q_{+wh}$  [<sub>CP</sub> Mary wonder [<sub>CP</sub> *how* he was *t* five years ago]].

(23a) shows that the cyclic movement is allowed in comparative formation. (23b, c) are ruled out by subjacency, and superiority effect, respectively. This approach, if on the right track, deduces the comparative formation from a more general ‘*Wh*-system’.

Furthermore, it defies the interpretative approach. Chomsky (1981) proposes that PRO is [+anaphoric, +pronominal], subject to both Principle A and Principle B, but escapes the ambivalence as a result of being ungoverned. However, *Wh*-interpretation is another story, subject to Principle C. The contradiction is inescapable if one buys the story of the interpretative approach.

In addition, PRO interpretation is not subject to Huang’s (1982) Condition on the Extraction Domain (CED), but *Wh*-movement is. See (24):

- (24) a. \**Who* did John met Mary [after seeing *t*]? (*Wh*-movement)  
 b. John<sub>i</sub> never drink [before PRO<sub>i</sub> driving home]. (PRO interpretation)

Analogously, the ungrammaticality of (25) suggests that comparative construction involves *Wh*-movement, rather than PRO interpretation:

- (25) a. \*John met Mary after drinking more wine [than  $Q_{+wh}$  he met Sue [~~before~~  
~~drinking~~ *t*]]. (*CED violation: extraction from adjunct clause*)  
 (intended: John drank more wine when he met Mary than he drank when he met Sue.)  
 b. \*[Eating less] is concerned by girls than  $Q_{+wh}$  [~~eating~~ *t*] is concerned by boys.  
 (*CED violation: extraction from subject clause*)  
 (intended: The quantity of eating concerned by girl is less than the quantity concerned by boys.)

These are solid pieces of evidence in favor of the movement analysis. Note that neither the deletion account nor the interpretative account can rule out (25), given the analyses in (26):

- (26) a. \*John picks Mary up [with a more expensive car] than he picks up Sue [~~with a Q-expensive car~~].  
 b. \*[[To drink less wine] is difficult] for John than [~~to drink Q-much-PRO<sub>N</sub>'~~] is difficult for Mary.

In this work, I will support the *Wh*-movement analysis with the empirical data found in Chinese. The detailed analysis will be given in section 4.

### 3.4 English Comparatives vs. Chinese Comparatives

More problems arise when we take into consideration the Chinese comparative sentences (both phrasal and clausal). Note that the comparative adjective appears to the right of the main clause, contrary to the English and French. Consequently, the deletion approach and the interpretative analysis seem implausible facing Chinese examples.

Paul (1993) also defies the deletion approach in Chinese. Her argumentation is straightforward. First, Chinese does not display verb gapping, and the comparatives cannot be formed through VP-ellipsis. Second, Chinese does not allow backward deletion, since no c-command relation is established. Hence, the clausal comparative cannot be generated from the application of comparative deletion.

Another problem I observe in this work is the restriction of the Chinese comparatives. As I have mentioned in Section 2, Chinese does not allow the NP-comparatives in the clausal comparative sentences, as in (6a). This is out of the prediction even if we adopt the theory that allowed (backward) deletion or other semantic interpretative rules. On the other hand, I argue, in the next section, that only the theory of comparative movement can cover the restriction.

In conclusion, it seems that the only compatible analysis is to reduce the comparative formation to the *Wh*-construction.

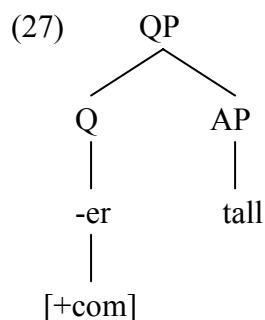
## 4. Comparative as Movement

I have shown Chomsky's idea in treating the comparative construction as *Wh*-movement. Consequently, it is reasonable to expect that the properties of *Wh*-movement correspond to the properties of the comparative construction. In this section, I examine if this prediction is correct based on the Chinese comparative construction. I argue that Tasi's (1999) theory of the *Wh*-dependencies (cf. Huang 1982 and Watanabe 1992) well explains the comparative construction in Chinese. Therefore, the comparative construction is assimilated to the adverbial *Wh*-phrases, the movement of which is covert (at LF). Two empirical arguments are found. First, the covert comparative movement is bounded. Second, the comparative adjectives/adverbs are not suitable for the system of unselective binding (like the adverbial *Wh*-phrases), and hence resort to the Chain-formation at LF.

### 4.1 On the Comparative Adjective/Adverb and Degree Operator



The first dimension concerns the nature of the comparative adjectives. Following Bresnan (1973, 1975) and Pinkham (1985), I propose that the comparative adjective is generated through derivations. However, it should be treated as a quantifier-like element, headed by *-er*, but not by an adjective. Take *taller* for example:



The adjective *tall* is adjoined to the suffix *-er*, forms a complex adjective *taller*, and acquires the comparative feature. The proposal is plausible in explaining the constraint:

(28) \*John is very taller than Tom.

(28) would be acceptable if *taller* were an adjective. The degree adverb *Very* can only modify the adjective phrase, but not the quantifier phrase. The same reasoning may apply to the comparative adjective in French:

- (29) a. [QP plus [AP grand]]  
           'taller'  
       b. [QP plus [PP de argent]]  
           'more of money'

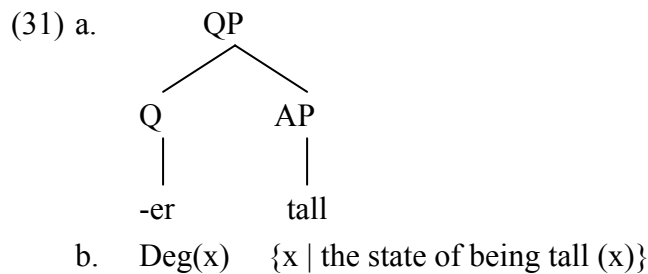
Pinkham (1985: 14) actually argues for a similar approach. She observes that the comparative adjective behaves just like the quantifier in French. This can turn out to be strong evidence for the proposed movement analysis. I will return to this point later.

Chinese, as usual, does not display inflections in the comparative adjective, but for a theoretical coherence, we may assume that it is actually headed by a null head Q, such as (30):

- (30) a. [QP Q<sup>0</sup> [AP gao]]  
           'taller'  
       b. [QP Q<sup>0</sup> [AP piao-liang]]  
           'beautiful'

Furthermore, following the spirit of Chomsky (1977), I will assume that the QP functions semantically as a Degree operator. This operator carries a comparative feature, which must be checked with  $C^0$  syntactically. The Degree operator is analogous to the question operator, which is carried by the *Wh*-phrases and must be checked with the Q feature in  $C^0$ .

When this operator moves, it takes along the complement AP. This pied-piping comes from the fact that the degree operator functions like a quantifier, whose restrictive part is the AP. For example, *taller* shows the degree(x), and the x is the state of being tall. This explains why the AP moves along with the QP whether overtly or covertly:

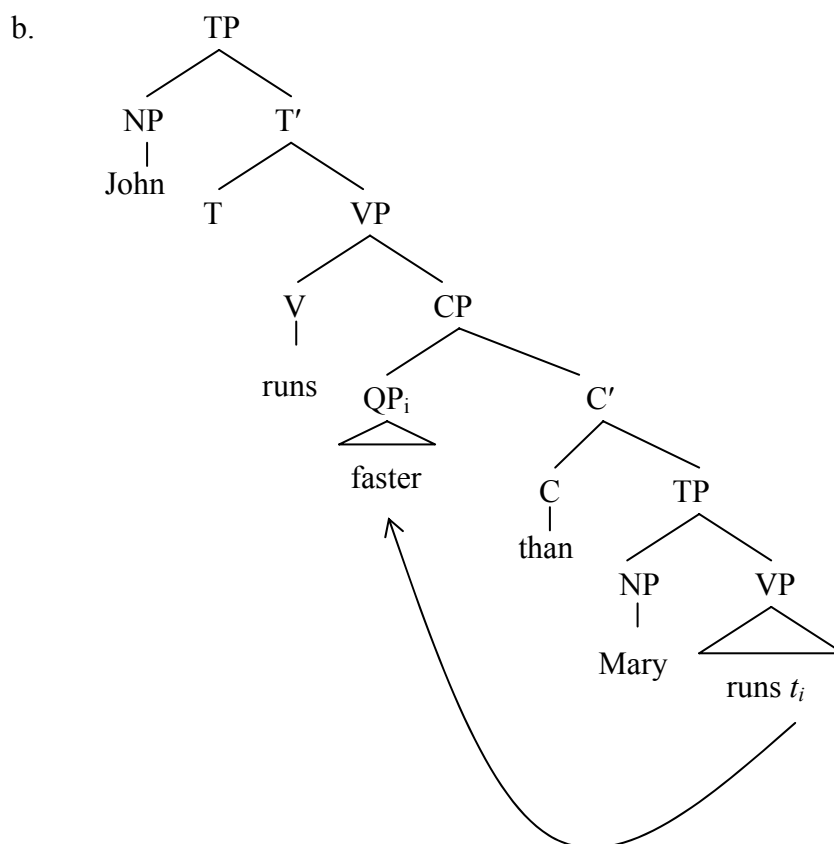


#### 4.2 On *than* and the English comparative

I have argued for the inaptness in treating *than* as a pure coordinator in Section 3.1. However, I maintain that two *than*'s are at work, in the clausal comparatives and the phrasal comparatives, respectively. In the clausal comparatives, following Bresnan (1973, 1975) and Pinkham (1985), I assume that this *than* is actually a complementizer, and it introduces the comparative subordinate clause. On the other hand, *than* in the phrasal comparatives is regarded as a preposition.

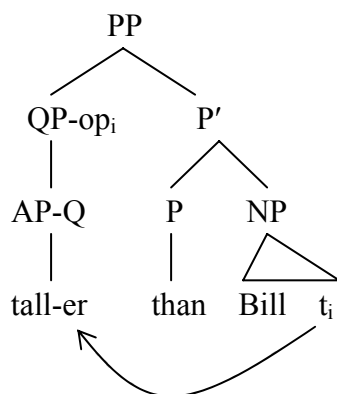
In English, both of the two *than*'s attract the comparative feature carried by the comparative QP. The clausal comparatives attract the QP as in the case that a  $Q_{[+wh]}$  feature in C attracts the *Wh*-phrases. The comparative QP, along with the AP adjoined to it, raises overtly to the checking position [Spec,CP] to check the comparative feature:

(32) a. John runs *faster* than Mary does *t*.



As for the phrasal comparatives, the preposition *than* heads a PP which attract the QP, the head P then checks with the QP through head-spec agreement:

(33) a. John is [taller than Bill].



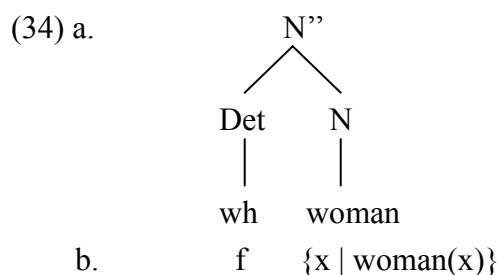
Following Kayne (1994), I assume the structures since it results in the correct linear word order through asymmetric c-command relation. The case in Chinese is basically the same, the

detail of which is shown in the next section.

### 4.3 Chinese Comparatives and Comparative phrases *in situ*

If my proposal is on the right track, the universal comparative constructions behave on a par with the *Wh*-constructions. However, proposals have been made to deal with the *Wh*-in situ languages (cf. Huang 1982, Watanabe 1992, Reinhart 1998, and Tsai 1999). In this subsection, I will show that the comparative construction can be better depicted within the theory of unselective binding and covert movement proposed by Reinhart (1998) and Tsai (1999), and the comparative adjectives/adverbs behave on a par with the adverbial *Wh*-phrases; namely, they raise for feature-checking at LF.

Reinhart (1998) introduces the mechanism of unselective binding and the choice function to deal with the interpretation of the in-situ *Wh*-phrases. The Q-operators in the question sentences bind the in-situ *f*-variables (choice functions). See the following example in Reinhart (1998: 42):



Simply put, the Choice function chooses an individual from the N-set. In this case, the function *f* applies on the N-set of *woman*, and a given individual is chosen. Tsai (1999) accepts her idea and further elaborates it in his analysis of Chinese *Wh*-construction. Tsai (1999: 4) proposes the **Lexical Courtesy Hypothesis**:

(35) *Lexical Courtesy Hypothesis* (LCH)

If a language may introduce an operator by Merger, it will not resort to Chain Formation/Move  $\alpha$ .

He argues that in English, the operator is adjoined to the *Wh*-phrase, the *Wh*-phrase further raises overtly to Spec, CP to check the [+wh] feature. On the other hand, the operator in Chinese is adjoined to Spec, CP through merger, and binds the in-situ *Wh*-phrase, which does not undergo movement overtly or covertly.

However, the mechanism I have shown so far only applies on the nominal *Wh*-phrases. As for the adverbial *Wh*-phrases, it is another story. There are non-trivial reasons to differentiate the nominal from the adverbial *Wh*-phrases. The first one is theoretical. Since the

choice function chooses an individual from the N-set, and the Q feature then binds the choice function, however, a choice function does not apply when a property (the adjective/adverb) is being chosen. This is why empirically we find no in-situ adverbial *Wh*-phrases (See Reinhart 1998 for further semantic issues). Secondly, while Chinese in-situ nominal *Wh*-phrases are not subject to subjacency condition, adverbial *Wh*-phrases cannot. This is explained by the fact that nominal *Wh*-phrases are subject to unselective binding (, and hence are clause-free), while the adverbial *Wh*-phrases are subject to LF movement (, and hence are subject to Subjacency and are clause-bound)<sup>4</sup>.

With this in mind, let us turn back to the comparative formation in Chinese. Under a close scrutiny, some surprising similarities are found between the comparative QPs and the adverbial *Wh*-phrases. First, they are adverbial in nature. That is, they are not the popular candidates for being unselectively bound. Second, the covert movements of the comparative QPs are also clause-bound:

- (36) a. \*Zhangsan pao-de bi Lisi zhidao Wangwu pao-de geng  
 ZS run-DE than LS know WW run-DE even  
 kuai de shi-shi.  
 fast DE fact  
 ‘(intended): ZS runs faster than LS knows the fact that WW runs.’
- b. Zhangsan pao-de bi Lisi shang-ci kanjian ta  
 ZS run-DE than LS last-time see he  
 pao-de geng kuai.  
 run-DE even fast  
 ‘ZS runs faster than LS saw that he ran last time.’

(36a) shows that the comparative QP is clause-bound. The LF movement of *kuai* will violate Subjacency Condition (Complex-NP island). (36b), on the other hand, shows that cyclic movement out of the clause is possible in Chinese as well.

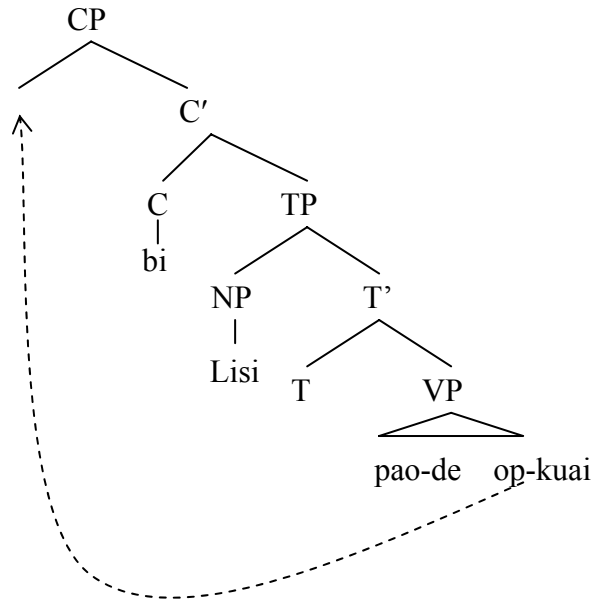
Closing my argumentation so far, we see that the Chinese comparative elements behave on a par with the adverbial *Wh*-phrases. The structure should look like the following:

- (37)a. Wo pao de [bi Lisi pao de *kuai*].  
 ‘I run faster than Lisi runs.’

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<sup>4</sup> Tsai’s (1999) theory has a consequence about the status of Subjacency. As he made it explicit in his work, Subjacency also applies at LF. This is conflict with Huang’s (1982) analysis that Subjacency is only an S-structure condition. See Diesing (1992) for a similar conclusion that Subjacency is a global condition.

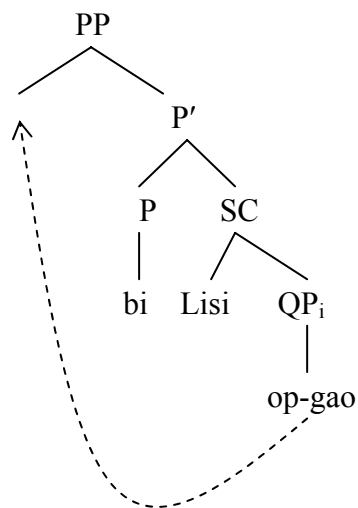
b.



The LF movement applies in the case of the phrasal comparative in Chinese as well:

(38) a. ZS zhang-de [bi Lisi gao].  
 'ZS is taller than LS.'

b.



Conclusively, the difference between English and Chinese is that they adopt different strategies. In terms of the strong/weak distinction in Chomsky (1995), the comparative

feature carried by  $C^0$  in English is strong, while that in Chinese is weak. This difference results in the different surface positions of the comparative adjectives/adverbs.

#### 4.4 Consequences

There are some consequences and questions that need to be clarified. Firstly, adopting this analysis, we predict that in the phrasal comparatives, the comparative adjective is contained in the *than*-phrase (QP). This can be evidenced from the construction below:

- (39) a. Michael may run [faster than Irving does], but definitely [slower than Johnson does].  
b. Zhangsan dui ta de ai, [bi san gao], [bi hai shen].  
ZS to her DE love than mountain high than sea deep  
'ZS's love to her is higher than the mountains and deeper than the sea.'

Further examples also lead to the same conclusion:

- (40) This morning, John got up [much earlier than **usual**].  
(41) \*This morning, John got up much earlier [than [~~he got up~~ **usually**]].

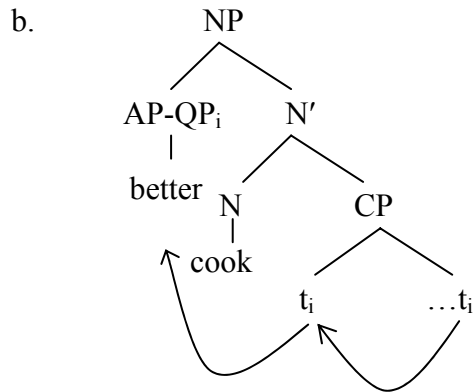
These examples in (40) and (41) not only pose problems for the deletion analysis, but it further argues for the fact that the comparative adjective is 'closer' to *than*.

Another type of the comparatives I have not yet dealt with is the NP-comparatives. The case in NP-comparatives involves one more step. The comparative QP further moves to the Spec position of the argument NP. Pinkham (1985) notices that two kinds of comparative adjectives are found. As mentioned in (13) and (14), I assume an incorporation rule, which enables the comparative QPs of the 'adverbial reading' to move to the Spec, NP (cf. Pinkham 1985):<sup>5</sup>

- (42) a. John is [a *better* cook [t than Bill is t]].

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<sup>5</sup> The incorporation here tries to catch the sense of the interpretation approach in Pinkham (1985), which operates on the 'adverbial-like' adjectives. However, a more detailed mechanism needs to be worked out, which I will leave open here.



If I am on the right track, the question why Chinese excludes the NP-comparative in the clausal comparatives is ready to be answered. Consider the case in (43). The QP in Chinese raises to Spec, CP only covertly:

- (43) \*Zhangsan    mai-le    [yitai    che    bi    Lisi mai-le  
 ZS                bought one-Cl    car    than LS    bought  
 yitai    geng    gui-de    che].  
 one-Cl    more    expensive    car.

I assume that the incorporation rule which converts the adverb to the adjective applies only at PF. This is not an innocent stipulation, since the two kinds of expressions have exactly the same meaning, and the only difference is the morphological variation (assume the post-cyclic morphology in Halle and Marantz 1993). Chinese comparative formation involves a covert movement at LF; therefore, the rule is not applicable. PF information is not accessible to LF (Chomsky 1995).

Notice that if the QPs appear outside the NP, the sentences become grammatical. Since the comparison does not hold between two NPs, no conversion rule is applicable:

- (44) Zhangsan    mai-le yitai    che [CP bi    Lisi    mai-de  
 ZS                bought one-CL    car    than    LS    bought  
 [QP pianyi] ].  
                   cheap  
 ‘ZS bought a car more cheaply than LS did.’



## 5. Concluding Remark

I have argued for a movement theory for the universal comparative constructions, on a par with the *wh*-construction. In English and French, where the comparative adjectives appear to the left of the complementizer, the comparative QPs raise to the Spec of *than*-phrases to check the comparative feature overtly. In the language where comparative QPs are ‘in situ,’ the comparative feature is checked by means of the covert movement at LF.

The movement theory has two advantages over the deletion and the interpretative theories. Empirically, the particularities of the comparative formations in different languages are respected; theoretically, the proposed theory implements the more general *Wh*-theory rather than language-specific rules, and hence achieves the theoretical economy.

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