

## On raising analysis of prenominal relative clauses in Mandarin

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Previous studies have shown that Mandarin prenominal relative clauses (RCs) without resumptive pronouns (1) favor a raising analysis (Kayne 1994, Biannchi 200), wherein the head of a RC is originally generated inside of the RC and raised out of the RC (Aoun and Li 2003:132, 138; Hsiao 2003:111; Simpson 2001, 2003).

- (1) [[Ta chi  $t_i$  de]  $cu_i$ ] bi shei dou da.  
He eat REL vinegar comparewhoall big

‘His jealousy is greater than anyone else’s.’ (Aoun and Li 2003)

In this paper, I use the empirical data on quantifier scope and adjectival modification, similar to the diagnostic tests used in Bhatt (2002), to further support a raising analysis of Mandarin prenominal RCs. Firstly, Mandarin prenominal RCs with an adjectival modifier (2) show similar ambiguity as the English data (3). As argued in Bhatt (2002), the ambiguity of (2) is available because the head of the RC undergoes movement to its surface position which allows us to decide which copy of the head to interpret (4a for 2a; 4b for 2b).

- (2) Zhangsan tidaoguo de Luxun xieguo de diyiben-shu  
Zhangsan mention-ASP REL Luxun write-ASP REL first-CL-book

a. ‘For book  $x$ ,  $x$  is the first book that Zhangsan had mentioned, but  $x$  is not necessarily the book that Luxun had written’. (the order of mentioning matters)

b. ‘For book  $x$ ,  $x$  is the first book that Luxun had written, but  $x$  is not necessarily the first book that Zhangsan had mentioned’. (the order of writing matters, a preferred reading in Mandarin according to our Mandarin formants)

- (3) the first book that John said Tolstoy had written Bhatt (2002, example 20).

- (4) a. [ Zhangsan tidaoguo **diyiben-shu** ] de Luxun xieguo de **diyiben-shu**  
b. Zhangsan tidaoguo de [ Luxun xieguo **diyiben-shu** ] de **diyiben-shu**

Secondly, in amount relatives, the head of the RC can be interpreted under the scope of another scope-bearing element embedded in the RC, showing scope reconstruction effect (5b).

- (5) Wang-Laoshi gei Lisi buzhi-le ta neng dudong de jiben-shu.  
Wang-teacher for Lisi assign-ASP he can understand REL few-CL-book

a. ‘Among all the books that Lisi can understand, Teacher Wang chose a few and assigned these few books to Lisi.’ (*can* > *few*)

b. ‘For the very few books that Lisi can understand, Teacher Wang assigned them to Lisi.’ (*few* > *can*)

Another piece of data involves both binding effect and scope effect, which strongly favors a raising analysis of Mandarin prenominal RC. As in (6), the universal quantifier inside a RC *mei-ge mama* ‘every mom’, not only co-indexes with the pronoun *ta* ‘her’, but also scopes over the existential quantifier *liang-zhang zhaopian* ‘two pictures’, with both the reflexive and the existential quantifier embedded in the head of the RC.

- (6) Qiangshang gua-zhe mei-ge-ma tijiao de ta mei-ge-haizi  
wall-on hang-ASP every-CL-mom submit REL her every-CL-child  
de liang-zhang-zhaopian  
REL two-CL-picture

a. ‘For every mom, on the wall hang two pictures that she submitted for each of her child.’ (every > every > 2)

??b. ‘For every mom, on the wall hang two pictures of her every child that she submitted.’  
(every > 2 > every)

\*c. ‘For two (particular) pictures that are submitted by every mom for each of her child,  
on the wall hang these two pictures.’ 2 > every > every)

The binding and scope fact shown in (6) is very straightforward if assuming a raising analysis, whereas a matching analysis would predict (6c) to be available as well. Because the head of a RC is not related to its RC internal interpretation by movement and needs to be interpreted as well under a matching analysis.

Additionally, with the raising analysis, the presence of *dou* is not surprising for a subject-gapped RC when the subject refers to more than one individual, such as (7). *Dou* as a distributor over subject, which requires a proper licensing from subject; its presence inside RC then suggest the head of the RC actually originates from inside RC.

(7) Lisi pengdao-le [(dou) xihuan chi jiaozi] de Luxi he Lili.  
Lisi meet-ASP DOU like eat dumplings REL LUXI and Lili  
‘Lisi met Luxi and Lili, who both like to eat dumplings.’

But, one may argue that the data in (8a), poses an apparent challenge for a raising analysis of Mandarin prenominal RC. Under a raising analysis, after the head of the RC in (8a) is restored back to its original RC internal position, RC by itself (8b) mirrors its matrix clause (8c). Then *dou* is expected to be inside RC since the RC subject is a universal quantifier. Interestingly, *dou* is not allowed there for this case. What goes wrong?

(8) a. Zhangsan jian-guo [(*\*dou*) qu-guo Shou’er] de mei-ge-ren.  
Zhangsan meet-ASP DOU go-ASP Seoul REL every-CL-person  
‘Zhangsan met every man who went to Seoul.’  
b. [**mei-ge-student** (*\*dou*) qu-guo Shou’er] de **mei-ge-ren**  
c. Mei-ge-ren (*\*dou*) qu-guo Shou’er.  
every-CL-person DOU go-ASP Seoul  
‘Everyone went to Seoul.’

Here I argue that the raising analysis is correct, and the puzzle that *dou* is not allowed in (8a) arises from the property of *dou* itself and the influence of quantification domain change. One noticeable thing is that, (8a) differs from (7) on the property of RC: the former has an universal quantifier as the RC head and the RC is a restrictive RC, while the latter has a coordinated phrases as the RC head and the RC is a non-restrictive one. According to Liu (2017, 2018), *dou* presupposes the most unlikely one among alternatives; when *dou* as an EVEN-less distributor, its preject is that there are *x* men such that each went to Seoul. However, the RC in (8a) serves a restrictive modifier of the head—there are *x* men and I met a subset of *x* (i.e., the persons who went to Seoul), with no preject or entailment of the distributive reading at all. If replacing *mei-ge-ren* ‘everyone’ with *mei-ge-lijiaren* ‘every member of Li famliy’, i.e., coercing the reading of the universal quantifier for its domain to be specified, the sentences improves significantly with *dou*. Hence, *dou* is excluded from (8a) because of on semantics grounds, rather than posing a challenge to a raising-analysis of RC.

**References:** [1] Aoun, J., and Y.-H. A. Li. 2003. Essays on the representational and derivational nature of grammar. [2] Bhatt, R. 2002. The raising analysis of relative clauses: Evidence from adjectival modification. [3] Hsieh, M.-L. 2005. Two types of modifiers and parallelisms between DPs and TPs in Chinese. [4] Kayne, R. 1994. The Antisymmetry of Syntax. [5] Liu, M. 2017. Varieties of alternatives: Mandarin focus particles. [6] Liu, M. 2018. Mandarin *dou*: the common core of distributivity, maximality, and EVEN. [7] Simpson, A. 2001. Definiteness agreement and the Chinese DP. [8] Simpson, A. 2003. On the status of modifying DE and the syntax of the Chinese DP.