

## 1. The scope puzzle of Mandarin RCs

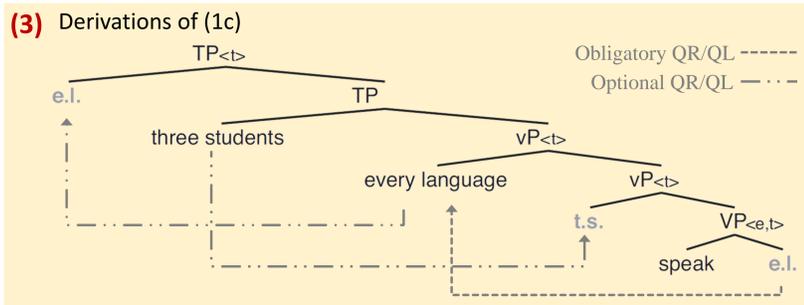
- English relative clauses (RCs) like (1a) are ambiguous. Under the head raising analysis of RCs (Kayne 1994, cf. 1b), the availability of inverse scope in (1a) derives from its availability in simple transitives (1c).
- Mandarin RCs (2a) also show the same ambiguity as their English counterparts. However, as widely noted (Huang 1982, Aoun and Li 1993), Mandarin simple transitives (2b) are unambiguous.

- (1) a. I have met three students that speak every language. ( $3 > \forall$ ;  $\forall > 3$ )  
 b.  $[_{DP}$  three students $_i$  [ $_{CP}$  that [ $_{TP}$   $e_i$  speak every language]]]  
 c. Three students speak every language. ( $3 > \forall$ ;  $\forall > 3$ )
- (2) a. Wo jian-guo [jiang mei-zhong yuyan de san-ge xuesheng].  
 I meet-ASP speak every-CL language DE three-CL student  
 ‘I have met three students who speak every language.’  
 b. San-ge xuesheng jiang mei-zhong yuyan.  
 three-CL student speak every-CL language  
 ‘Three students speak every language.’ ( $3 > \forall$ ;  $*\forall > 3$ )

- How can scope ambiguity in (2a) be captured under head raising if the underlying transitive is unambiguous?
- We argue that the apparent puzzle arises from the analysis of (2b). We suggest that **Mandarin “simple transitives” are not simple.**

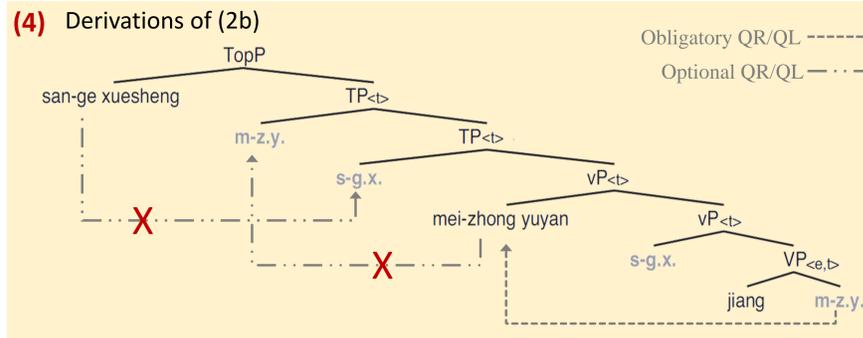
## 2. Fox(2000) on scope interpretation

- Three assumptions for interpreting quantifier scope (illustrated in (3)):  
 (i) quantifiers not in interpretable positions (roughly, those sister to a type  $\langle e, t \rangle$  phrase), must raise to an interpretable position;  
 (ii) obligatory quantifier raising (QR) and quantifier lowering (QL) obey Shortest Move;  
 (iii) optional QR and QL are possible only when they yield a truth-conditional (TC) difference.



## 3. TopP projection of Mandarin transitives

- Assume Mandarin transitives are identical to English up to TP, but contain **an additional, higher TopP projection**, to which Mandarin subjects typically raise (cf. Li and Thompson 1981, who characterize Mandarin as a “topic-prominent language”)
- Assume that Top has no TC content.
- Then scope in (2b) is expected to be frozen under Fox(2002).



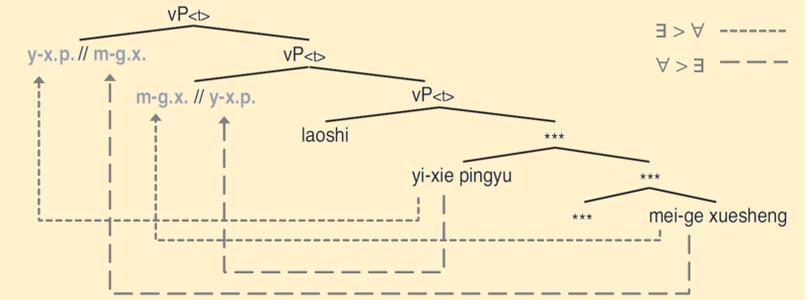
## 4. Predictions and language data

- Predictions of this proposal:  
 (i) in clausal environments where TopP is unavailable, Mandarin transitives should show Q-scope ambiguity.  
 (ii) ceteris paribus scope freezing in Mandarin should be confined to subjects and objects; direct objects and PP objects should show scope permutation.
- RCs like (2a) are widely held to involve a reduced left periphery that doesn't include TopP (Rizzi 1997). Ambiguity in (2a) is thus expected: minus TopP; Mandarin RCs have essentially the same structure as English (1a), and allow ambiguity in the same way.
- Wu (2017) notes that Mandarin embedded clauses like (5a), strongly disfavor non-contrastive topicalization (5b); they also more freely admit scope ambiguity than the corresponding matrix sentences (5c).
- Mandarin PP Datives like (6a) show scope ambiguity (cf. 6b); the inverse scope is even preferred given the pragmatics (Liu and Wu 2016).

- (5) a. Jingzhang shuo-guo [Zhangsan kanshou nei-ge chukou].  
 sheriff say-ASP Zhangsan guard that-CL exit  
 ‘The sheriff said Zhangsan guards that exit.’  
 b. ?? Jingzhang shuo-guo [nei-ge-chukou] Zhangsan kanshou.  
 c. Jingzhang shuo-guo [san-ming jingcha kanshou mei-ge chukou].  
 sheriff say-ASP three-CL policeman guard every-CL exit  
 ‘The sheriff said three policeman guard every exit.’ ( $3 > \forall$ ;  $\forall > 3$ )

- (6) a. Laoshi song-le yi-xie pingyu [ $_{pp}$  gei mei-ge xuesheng].  
 teacher give-ASP some comment to every-CL student  
 ‘The teacher gave some comments to every student.’

- b. Derivations of (6a): both object QPs must raise by obligatory QR to vP and order of QR is free.



- (iii) quantified subjects understood as non-topical should allow for inverse scope.
- (iv) Mandarin subjects should show ambiguity in sentences with intensionals.

- Kuroda (1972) notes that subjects of **thetic sentences** are de-topicalized. Suppose thetic sentences lack TopP. E.g., (7) is naturally understood thetically, i.e., as a statement about a quantificational regularity that exists or is required, rather than categorically, i.e., as a statement about particular people. Understood thetically, Mandarin speakers allow (7) to be read ambiguously with respect to scope.
- When Mandarin embedded subjects (e.g., *heyiren* ‘man in black’ in (8)) are understood as matrix topics, *de re* readings become possible with respect to modals and attitude verbs (e.g., *xiangxin* ‘believe’).

- (7) (Anzhao falv guiding) san-ming jingcha kanshou meige chukou.  
 (As law demand) three-CL policeman guard every exit  
 ‘As required by law, three policemen guard every exit.’ ( $3 > \forall$ ;  $\forall > 3$ )

- (8) Qinshihuang xiangxin heyiren shi cike.  
 QSH believe man-in-black is assassin  
*de dicto*: ‘QSH believes for some x, man-in-black(x), x wants to assassinate him.’ || *de re*: ‘For some x, man-in-black(x), QSH believes that x wants to assassinate him.’

## 5. Conclusion

- The scope puzzle introduced by Mandarin RCs leads to a wider rethinking of scope in Mandarin in which **“scope freezing” is not a general property of the language, but rather found with subjects and objects when the former function as topics.**
- In contexts like non-topical subjects, objects, etc., freezing disappears and Mandarin behaves more similarly to English, as expected under Fox (2000).