

## Introduction

Across-the-Board (ATB) constructions have a long history in the literature, first introduced in Ross (1967). Classic examples include the following:

(1) Which paper did John file  $\_$  and Mary read  $\_$ ?

Essentially, ATB constructions involve parallel, co-indexed gaps in two conjuncts, constituting an *identity reading*; the *wh*-question usually asks about a single individual that satisfies both conjuncts: it is the same paper that John filed and Mary read.

There are broadly two main camps of analyses:

- Symmetrical:
  - *Sideward Movement* (e.g. Nunes 2001)
  - *Parallel Merge/multidominance* (Citko 2005)
- Asymmetrical
  - parasitic gap (Munn 1992)
  - ellipsis (Salzmann 2012; Ha 2008)
  - *pro- $\phi$ P* (Zhang 2009)

Chinese ATB facts have been featured in many such accounts. However, the considered evidence is usually limited to the following contrast, as in Citko (2005):

- (2) a. Li xihuan shenme ren, Xu taoyan shenme ren?  
 Li like what person Xu like what person  
 i. ‘What person does Li like and What person does Xu hate?’  
 ii. \*‘What person does Li like and Xu hate?’  
 b. Shenme ren Li xihuan Xu taoyan?  
 what person Li like Xu hate?  
 ‘What person does Li like and Xu hate?’

Crucially, (2-a) cannot have the ATB identity reading, but can only be read as two separate questions, yet (2-b) has the ATB identity reading.

- Citko (2005) interprets (2-a) as an illicit linearization of the multidominated *Parallel Merge* structure.
- Salzmann (2012) argues that (2-a) is ungrammatical because there is only one Spec, CP position in an identity reading scenario, so the two *wh*-phrases cannot both undergo covert movement.

## New Data

In this abstract, I report new data that challenges all preceding analyses of Chinese ATB *wh*-constructions:

- (3) Li xihuan **shenme ren** danshi Xu taoyan?  
 Li like what person but Xu hate  
 ‘What person does Li like and Xu hate?’

This construction poses problems for all existing ATB accounts.

- Surface asymmetry is a challenge to the symmetrical approaches of Citko (2005) and Nunes (2001).
- Argument *wh*-in-situ in conjunct 1, nowadays analyzed as unselective binding (Aoun and Li 1993; Huang, Li, and Li 2009; Tsai 2008; Murphy 2017), indicates **no movement**.
- Yet all previous approaches **depend** on *wh*-movement (Salzmann 2012; Ha 2008) or **force** *wh*-movement to derive the contrast in (2) (Citko 2005; Nunes 2001; Zhang 2009).

Then, it is imperative that a new analysis of ATB constructions be developed with explicit asymmetrical and movement-free properties.

## Proposal

I believe that this newly reported construction is the base configuration for the more frequently seen construction (2-b), which is derived from the base configuration through *wh*-topicalization.

The base configuration has the following structure:

- (4)  $[_{\text{ForceP}} \text{Force} [_{\text{FocP}} \text{Qu} \ 1 \ \text{Foc} [_{\text{CP}} \text{C} \ \dots [f_1, \text{NP}]]]] \ \& \ [_{\text{FocP}} \text{Foc} [_{\text{CP}} \text{C} \ \dots \ \text{TEC}=[f_1, \text{NP}]]]]]$

- The *wh*-phrase in conjunct 1 is a **variable over choice functions** ( $f_1 : \langle \langle e, t \rangle, e \rangle$ ), and is **unselectively bound** by a Qu *wh*-operator in Spec, FocP of the same conjunct, which performs existential closure over free choice function variables.
- The gap in conjunct 2 is a regular case of **object-drop** ubiquitous in Chinese;
  - any argument (DP) ellipsis to object-drop will suffice for my purposes; for concreteness, I assume LF-copying mediated by true empty categories (TEC) (Li 2014).
- There are two major benefits of using choice function quantification:
  - **Weak Crossover** (Sauerland 1998): the Qu operator quantifying over choice functions cannot bind pronouns c-commanding the *wh*-phrase directly due to a type mismatch ( $\langle \langle e, t \rangle, e \rangle$  vs.  $e$ ).
  - **Complex in situ wh-phrases**: e.g., *shenme ren* ‘what person’ can be realized as a choice function variable  $f$  applied to the predicate **person**, giving the semantics  $f(\text{person})$ .
- **Dynamic semantics** (Groenendijk and Stokhof 1991) is assumed, enabling the Qu operator to bind into conjunct 2, which is syntactically outside its scope; the object positions in the two conjuncts in the ATB construction can thus co-vary.

## Arguments for Asymmetry

The quantifier is in conjunct 1 only, which predicts that there will be Weak Crossover and focus intervention effects only in conjunct 1.

Conjunct 2 will not see Weak Crossover or intervention effects, since its gap is not a variable bound by the same operator, but rather an ellipsis site.

- (5) Weak Crossover  
 a. Li xihuan shenme ren<sub>1</sub> danshi ta<sub>1</sub> ziji de mama taoyan  $\_$ <sub>1</sub>?  
 Li like what person but he self DE mother hate  
 ‘What person  $x$  does Li like but  $x$ ’s mother hate?’  
 b. \*ta<sub>1</sub> ziji de mama taoyan shenme ren<sub>1</sub>, danshi Li xihuan  $\_$ <sub>1</sub>?  
 he self DE mother hate what person but Li like  
 Intended: ‘What person  $x$  does  $x$ ’s mother hate but Li like?’  
 (6) Focus intervention (with *zhiyou* ‘only’)  
 a. \***zhiyou** Li mai-le shenme dongxi tamen dou mei mai?  
 only Li bought what thing they all NEG buy  
 ‘What thing  $x$ , only Li bought  $x$  and none of them bought  $x$ ?’  
 b. tamen dou mai-le shenme dongxi **zhiyou** Xu mei mai?  
 they all bought what thing only Xu NEG buy  
 ‘What thing  $x$ , they bought  $x$  and only Xu didn’t buy  $x$ ?’

## Arguments for Ellipsis: The Existence of the Construction

As mentioned above, all previous approaches necessitate the movement of the *wh*-phrase, making *wh*-in-situ in conjunct 1 impossible.

The ellipsis and, therefore, non-movement approach is supported by the mere attestation of the new data.

- (7)  $[_{\text{ForceP}} \text{Force} [_{\text{FocP}} \text{Qu} \ 1 \ \text{Foc} [_{\text{CP}} \text{C} \ \text{Li xihuan} [\text{shenme}_{f_1} \text{ ren}]]]] \ \text{danshi} \ [_{\text{FocP}} \text{Foc} [_{\text{CP}} \text{C} \ \text{Xu taoyan} \ \text{TEC}=[\text{shenme}_{f_1} \text{ ren}]]]]]$  = (3)

## Arguments for Ellipsis: Lack of Island Effects

The ellipsis approach is further supported by the lack of island effects in conjunct 2 (and in the first, but this fact is irrelevant to the validity of the present proposal).

- (8) Complex NP island  
 a. Li xihuan shenme dianying, danshi Xu taoyan  $[_{\text{RP}} \text{zhuyan} \ \_$ <sub>1</sub>  $\text{de ren}]$ ?  
 Li like what movie but Xu hate be.lead.actor DE person  
 ‘What movie does Li like and Xu hate the person who is the lead actor of?’  
 b. shenme dianying, Li xihuan  $t_1$ , danshi Xu taoyan  $[_{\text{RP}} \text{zhuyan} \ \_$ <sub>1</sub>  $\text{de ren}]$ ?  
 what movie Li like but Xu hate be.lead.actor DE person  
 ‘What movie does Li like and Xu hate the person who is the lead actor of?’  
 (9) *Wh* island  
 a. Li xihuan shenme ren<sub>1</sub>, Xu shuo bu zhidao weishenme ziji taoyan  $\_$ <sub>1</sub>?  
 Li like what person Xu say NEG know why self hate  
 ‘Which person does Li like and Xu say he doesn’t know why he hated?’  
 b. shenme ren<sub>1</sub>, Li xihuan  $t_1$ , Xu shuo bu zhidao weishenme ziji taoyan  $\_$ <sub>1</sub>?  
 what person Li like Xu say NEG know why self hate  
 ‘Which person does Li like and Xu say he doesn’t know why he hated?’

## Arguments for Ellipsis: Sloppy Reading

Although the availability of sloppy readings is not a diagnostic for ellipsis, its presence is cleared predicted by an ellipsis approach.

- (10) Li xihuan shei dui ziji shuo de hua danshi Xu taoyan ne?  
 Li like who to self say DE words but Xu hate Q  
 i. ‘Who is the person  $x$ , such that Li <sub>$i$</sub>  likes the words  $x$  said to him <sub>$i$</sub> , but Xu <sub>$j$</sub>  hates the words  $x$  said to him <sub>$j$</sub> ?’  
 ii. ‘Who is the person  $x$ , such that Li <sub>$i$</sub>  likes the word  $x$  said to him <sub>$i$</sub> , but Xu <sub>$j$</sub>  hates the words  $x$  said to him <sub>$i$</sub> ?’

In the i. interpretation, the anaphor *ziji* ‘self’ is bound by *Li* in conjunct 1 but by *Xu* in conjunct 2 semantically, which is a classic sloppy reading.

## Conclusion

- New Data:
  - A type of Chinese ATB *wh*-construction that cannot be accommodated by previous ATB analyses.
- Proposal:
  - Only one base-generated *wh*-phrase, located in conjunct 1.
  - It is a variable over choice functions bound by a Qu operator in the same clause.
  - Conjunct 2 gap is produced by object-drop, through argument ellipsis.

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