

From maximality to bias: Biased A-not-A questions in Mandarin Chinese

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Introduction Mandarin Chinese features two types of A-not-A questions – V-neg-V questions like (1) are only used in neutral contexts, whereas *shi-bu-shi* questions like (2) are only used in biased contexts where the questioner has a live conjecture that the positive answer is true. Such positive epistemic bias is puzzling given that A-not-A questions always present two answer options $\{p, \neg p\}$ equally and explicitly. While previous studies (Schaffar & Chen 2001; Tsai & Yang 2015) have revealed structural differences between these two types of questions, the source of bias in *shi-bu-shi* questions remains obscure.

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| <p>(1) <u>V-neg-V questions without bias</u>
 ni xihuan-bu-xihuan yuyongxue?
 you like-not-like pragmatics
 ‘Do you like pragmatics or not?’</p> | <p>(2) <u><i>shi-bu-shi</i> questions with epistemic bias</u>
 ni shi-bu-shi xihuan yuyongxue?
 you SHI-not-SHI like pragmatics
 ‘Is it pragmatics that you like?’</p> |
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This study advances a threefold solution to the *shi-bu-shi* puzzle: (i) $\text{SHI}(p)$ presupposes that the prejacent p is a **possible complete answer** to the current Question Under Discussion (see Velleman et al. 2012); (ii) accordingly, *shi-bu-shi* questions are presupposed to be part of **the F(ocus)-strategy of inquiry** (pace Büring 2003); (iii) the F-strategy of inquiry indicates the questioner’s intention of closing the current QUD as soon as possible, and to achieve this goal, the questioner should check the truth of **the answer that she considers most likely**.

Maximality presupposition We adopt the cleft semantics by Velleman et al. (2012) and argue that the focus marker *shi*¹ and *it*-clefts share the same maximality presupposition (but differ in the assertion) – the prejacent p is one of the strongest/complete answers to the current QUD.

- (3) a. $\text{MAX}_S(p) = \lambda w. \forall q \in CQ_S[(q >_S p) \rightarrow \neg q(w)]$
 b. $\llbracket \text{SHI} \rrbracket^S = \lambda p. \lambda w: \text{MAX}_S(p)(w) \cdot p(w)$
 c. $\llbracket \text{BU-SHI} \rrbracket^S = \neg \llbracket \text{SHI} \rrbracket^S = \lambda p. \lambda w: \text{MAX}_S(p)(w) \cdot \neg p(w)$
 In words: $\text{SHI}(p)$ and $\text{BU-SHI}(p)$ presupposes that among the possible answers to the current QUD in the context S (CQ_S), no true answer is *strictly* stronger than p .

First, our semantics accounts for the polarity asymmetry with respect to exhaustivity. $\text{SHI}(p)$ is exhaustive because p is presupposed to be strongest and is asserted to be true; p would not be strongest if another alternative were true. $\text{BU-SHI}(p)$ is non-exhaustive as p is not the only strongest answer; other equally strong answers could be true when p is asserted to be false.

- (4) ta bu-shi xihuan yuyongxue. (# ta shi xihuan yuyongxue he jufaxue.)
 she not-SHI like pragmatics she SHI like pragmatics and syntax
 ‘It is not pragmatics that she likes. (#It is pragmatics and syntax that she likes.)’
 $CQ_S = \{like(prag), like(syn), like(prag \oplus syn), like(prag \oplus syn \oplus sem), \dots\}$

- (5) ta bu-shi yuyongxue he jufaxue dou xihuan. ta shi xihuan yuyongxue.
 she not-SHI pragmatics and syntax all like she SHI like pragmatics
 ‘It is not both pragmatics and syntax that she likes. It is pragmatics that she likes.’
 $CQ_S = \{like(prag), like(syn), like(prag \oplus syn), like(prag \oplus syn \oplus sem), \dots\}$

- (6) bu-shi pingguo hen zhong. shi pingguo he xiangjiao yiqi hen zhong.
 not-SHI apples very heavy SHI apples and bananas together very heavy
 ‘It is not the apples that are heavy. It is the apples and bananas together that are heavy.’
 $CQ_S = \{heavy(a), heavy(b), heavy(a \oplus b), heavy(a) \wedge heavy(b), \dots\}$

Further evidence for the maximality presupposition comes from the contrasts between (4), (5) and (6). (4) is infelicitous because the second clause asserts a stronger alternative to the prejacent in the first clause, and contradicts its $\text{MAX}_S(p)$. By contrast, asserting a weaker alternative as in (5) and (6) is compatible with the maximality presupposition.

¹While the sentence-initial and preverbal *shi* has long been argued to be a focus marker (Teng 1979; Huang 1982; Shi 1994; a.o.), it’s crucial to distinguish it from the copula *shi* and the stressed *shi*, which are non-exhaustive. Our full analysis will show that the copula *shi* is a plain verb and the stressed *shi* is embedded by VERUM.

Strategies of inquiry: complete vs. partial answers We analyze *shi* in *shi-bu-shi* questions as the same focus marker, so the maximality presupposition projects out of *shi-bu-shi* questions $\{\lambda w : \text{MAX}_S(p)(w) \cdot p(w), \lambda w : \text{MAX}_S(p)(w) \cdot \neg p(w)\}$. Furthermore, by extending Büring’s (2003) notion of ‘indicating a strategy’ to polar questions, we propose that *shi-bu-shi* questions are presupposed to be part of the F(ocus)-strategy of inquiry. To wit, $\text{SHI-BU-SHI}(p)$ is used as a sub-QUD to check the truth of the possible complete answer p . If p is true, the current QUD will be closed; if not, the questioner will move to the next sub-QUD.

By contrast, V-neg-V questions in the C(ontrastive)T(opic)-strategy of inquiry are used as sub-QUDs to check the truth of possible partial answers. The current QUD will not be closed until the questioner goes over all the possible sub-QUDs and finds the true complete answer.

<i>QUD</i>	Which branches of linguistics does she like?		
F-strategy of inquiry (Checking the truth of the possible complete answer)			
<i>Sub-QUD</i>	Is it pragmatics _F that she likes?	Is it syntax _F that she likes?	
<i>Answer</i>	Yes – close the QUD	Yes – close the QUD	
	No – move to the next sub-QUD	No – move to the next sub-QUD	
CT-strategy of inquiry (Checking the truth of the possible partial answer)			
<i>Sub-QUD</i>	How about pragmatics? Does she like pragmatics _{CT} ?	How about syntax? Does she like syntax _{CT} ?	
<i>Answer</i>	Yes/No – move to the next sub-QUD	Yes/No – move to the next sub-QUD	

In addition, V-neg-V questions by themselves can function as QUD (‘Conversation Starters’). In this case, no matter whether the answer is yes or no, the current QUD will be closed.

Conversation Starters			
<i>QUD</i>	Does she like pragmatics _T ?	<i>Answer</i>	Yes/No – close the QUD

From completeness to likelihood The completeness of answerhood not only trivializes the (anti-)exhaustivity of focus and contrastive topic (*pace* Kamali & Krifka forthcoming), but also acts as the source of question bias. The hallmark of the F-strategy is that once the possible complete answer is true, the current QUD will be closed, which indicates the questioner’s intention of closing the QUD as soon as possible. From the questioner’s perspective, she won’t choose the F-strategy if she doesn’t think she can receive a positive answer and close the QUD. From the hearer’s perspective, since the questioner adopts a faster strategy to close the QUD, she should check the truth of the most likely answer, rather than of a random one.

(7) Q: ni jian-le na-yige ren? ni jian-le Lisi ma? A: jian-le/dui
 you meet-ASP which-one person you meet-ASP Lisi Q meet-ASP/right
 ‘Which person did you meet? Did you meet Lisi_F?’ ‘I did./You’re right.’

(8) Q: ni jian-le na-liangge ren? ni jian-le Lisi ma? A: jian-le/#dui
 you meet-ASP which-two person you meet-ASP Lisi Q meet-ASP/right
 ‘Which two people did you meet? Did you meet Lisi_{CT}?’ ‘I did./#You’re right.’

This completeness-to-likelihood reasoning is further supported by (7) and (8), where the *ma*-question is designed to check a complete/partial answer to the preceding *wh*-QUD, and the *dui*-answer (‘you are right’) is used to diagnose the question bias (following Guo 2000). (7) and (8) differ in the numeral modifier of the *wh*-phrase in the QUD and consequently the completeness of the *ma*-question. As shown by the answer diagnosis, we correctly predict that in (7) the ‘complete’ *ma*-question is biased, whereas in (8) the ‘partial’ *ma*-question is neutral.

Evidence-compelled bias Our proposal also offers a novel way of deriving question bias from the compelling evidence (Büring & Gunlogson 2000): (i) the contextual evidence q can raise an implicit QUD ‘*Why q?*’; (ii) to ask a polar question ‘ $p?$ ’ in the context with the evidence q , is typically to check the possible complete answer p to the implicit QUD ‘*Why q?*’; (iii) by the completeness-to-likelihood reasoning, ‘ $p?$ ’ will be biased towards the positive answer.

Selected References

- Büring, Daniel. 2003. On D-Trees, beans, and B-Accents. *Linguistics and Philosophy* 26(5). 511–545.
- Büring, Daniel & Christine Gunlogson. 2000. Aren't positive and negative polar questions the same? Manuscript, UCSC.
- Guo, Rui. 2000. Credibility degree of *ma*-questions and corresponding answers. *Shijie Hanyu Jiaoxue* [Chinese Teaching in the World] 2. 13–23.
- Huang, Cheng-Teh James. 1982. *Logical relations in Chinese and the theory of grammar*. Massachusetts Institute of Technology dissertation.
- Kamali, Beste & Manfred Krifka. forthcoming. Focus and contrastive topic in questions and answers, with particular reference to Turkish. *Theoretical Linguistics*.
- Li, Charles N. & Sandra A. Thompson. 1981. *Mandarin Chinese: A functional reference grammar*. Berkeley: University of California Press.
- Roberts, Craige. 2012. Information structure: Towards an integrated formal theory of pragmatics. *Semantics and Pragmatics* 5(6). 1–69.
- Schaffar, Wolfram & Lansun Chen. 2001. Yes-no questions in Mandarin and the theory of focus. *Linguistics* 39(5). 837–870.
- Tsai, Wei-Tien Dylan & Ching-Yu Helen Yang. 2015. Inner vs. outer A-not-A questions. Talk presented at the International Workshop on Cartography of Syntax, Beijing Language and Culture University, December 6–7.
- Velleman, Dan, David Beaver, Emilie Destruel, Dylan Bumford, Edgar Onea & Liz Coppock. 2012. It-clefts are IT (Inquiry Terminating) constructions. In Anca Chereches (ed.), *Proceedings of the 22nd Semantics and Linguistic Theory Conference*, 441–460. LSA and CLC.