Focus, QUD, and existential *wh*-indefinites in Mandarin

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Introduction

Wh-phrases in Mandarin have a non-interrogative meaning as *wh*-indefinites when they are **not bound by an interrogative/Q operator**.

- **Early view:** They are Negative Polarity Items (NPIs).
  (Cheng, 1991; Huang, 1982; Li, 1992; Lin, 1998, a.o.)
  - Yet counter-examples are found in non-DE environments (Chen, 2017; M. Liu & Yang, 2021).

(1) *Zhāngsān mǎi-le   sān běn shénme shū. (Chen, 2017: 115)*
    ZS   buy-ASP three CL what   book
    'ZS bought three books of a certain kind, (but I don't know what kind it is).'

- **Recent view:** Mandarin *wh*-indefinites are epistemic indefinites.
  - Don't *know/care* about the referent's identity: Ignorance/indifference inference.
    (M. Liu & Yang, 2021, following Alonso-Ovalle & Menéndez-Benito, 2010, 2015)
  - *Shénme*+NP refers to a kind but not individual of the NP. (Chen, 2017)

- It remains unclear **why (2) is odd** in most literature:

(2) *#Zhāngsān xǐhuān shuí/shénme-rén.*
    ZS   like   who/what-person
    Intend: 'ZS likes someone.'

- How to account for (1) & (2): *wh*-indefinites in simple positive contexts (SPCs)?
  - An NPI-based account? ←*fails to predict (1)*
  - Telicity? (Chen, 2018) ←*very weak*
  - Default object stress? (M. Liu & Yang, 2021, following Dong, 2009) ←*related with focus?*

Proposal

Framework: Question Under Discussion (QUD) (Roberts, 1996/2012):
- The felicity of *wh*-phrases in SPCs is modulated by **focus** & the **QUD**.
- Q$_{matrix}$-bound (thus focused) *wh*-phrases: The sentence is a question with a *wh*-interrogative and becomes a QUD to the discourse.
- **Existential (E-bound)** *wh*-phrases being focused: The sentence is an assertion (NB: we ignore polar questions in this poster) with a *wh*-indefinite **not informative** to its immediate QUD (Büring, 2003).
- **Prediction:** When the E-bound *wh*-indefinite is not focused, it is licensed.

More data on Mandarin existential *wh*-indefinites

Despite the infelicity of (2), a *wh*-indefinite is licensed **when it is…**

(3) A non-sentence-final object
    *Zhāngsān bèi (yī gè) shénme dōngxi **yǎo le**.*
    ZS   BEI one CL what   thing bite SFP
    'ZS was bitten by something, (but I don't know what it is.)'

(4) With a modifier
    *Zhāngsān xǐhuān **yǔyánxuéxì**   de shuí/shénme-rén.*
    ZS   like   ling.department DE who/what-person
    'ZS likes someone from Ling Dept, (but I don't know who exactly.)'
    (M. Liu & Yang, 2021: 597)

(5) With a telic predicate
    *?Zhāngsān **xǐhuān-shàng** le shuí/shénme-rén.*
    ZS   fall.in.love.with ASP who/what-person
    'ZS fell in love with someone, (but I don't know who exactly.)'

⇒**HYPOTHESIS:** These E-bound *wh*-indefinites cannot bear focus on their own.
- It is the **bolded** parts in (3)-(5) that are in focus.
- In (1), the Num-CL *Sān běn* 'three CL' or the whole DP *sān běn shénme shū* 'three books of a certain kind' can bear the focus, while (2) does not have such choices.

Indeed, when **the whole sentence is in focus**, (2) is more acceptable:

(6) Inferred facts: *Joshua found that ZS wrote a love letter, so he told Lisi…*
    Wǒ fāxiàn [Zhāngsān xǐhuān shuí/shénme-rén]^F.
    I find   ZS   like   who/what-person
    'I found that **ZS liked someone**.'

De-focus-ness of Mandarin existential *wh*-indefinites

This de-focus-ness of the E-bound *wh*-indefinites is further attested.

(7) **(In)congruence in the question-answer (Q-A) pairs**: *A is bad to Q1 but not Q2*

    a. Q1: *#Yuēhàn zuótiān jiàn-le   shuí?*
           John   yesterday meet-ASP what-person
           'Who did John meet yesterday?'

    b. Q2: *Yuēhàn zuótiān   zuò-le shénme?*
           John   yesterday do-ASP what
           'What did John do yesterday?'

    c. A: *tā jiàn-le   shénme-rén.*
          he meet-ASP what-person
          'He met someone.'

(8) Incompatibility with the focus-sensitive operator *only*

    a. *#Lǐsì chūmén **zhǐ** mǎi-le [shénme shū]^F, méi mǎi [bié de shū]^F.*
       Lisi go-out only buy-ASP what book NEG buy other DE books

    b. *Lǐsì chūmén **zhǐ** [mǎi-le shénme shū]^F, méi [qù kàn diànyǐng]^F.*
       Lisi go-out only buy-ASP what   book NEG go see movie
       'Lisi went out only **to buy some book**, but not to go to the movies.'

(9) Incompatibility with structural focus positions

    a. ***Lian…dou** 'even…' (Ernst & Wang, 1995; Shyu, 1995)*
       #Mǎlì lián [shénme shū]^F dōu méi mǎi, gèng hékuàng   shì
       Mary LIAN what   book DOU NEG buy, more not-to-mention be
       [bié de shū]^F.
       other DE book

    b. ***Shi…de** 'it is … that' (Huang, 1982; Teng, 1979)*
       #Qiáozhì qù jíshì   mài de shì [shénme dōngxi]^F.
       George go market sell DE be what   thing

Question Under Discussion (Roberts, 1996/2012) & Focus

A question Q establishes a new QUD and invites the audience to address it.
An assertion A is intended to answer a(n) (implicit) QUD and update the Common Ground (CG, Stalnaker, 1978).

1. The asserted content is **new** to the discourse. →*the focused element*
2. Focus also cues what has been asked. →*an implicit QUD* (Büring, 2003)
   Q-A Congruence Req(uirement): $[\![A]\!]^F = [\![Q]\!]^O$.
   *The focus activates a set of alternatives (Rooth, 1985, 1992). The QUD expresses a Hamblin (1973) set of alternative propositions **equal to the focal alternatives**.*
3. Existential presupposition of a question:
   At least one proposition of the Hamblin set is true (Keenan & Hull, 1973).

Congruent QUD Reconstruction Algorithm (CQRA) *via Focus in (10)*

(10) a. *Assertion:* $[_{CP} C_{[-Q]} [...[XP]^F...]]$ ←*XP is in focus*

     b. *Step 1: Wh-phrase substitution*
        $[_{CP} C_{[-Q]} [...[_{XP} wh_{[???]}]^F...]]$ ←*the wh-phrase is yet to be bound*

     c. *Step 2: Matrix Q-force implementation*
        $[_{CP} C_{[+Q]} [...[_{XP} wh_{[+Q]}]^F...]]$ ←*the reconstructed immediate QUD*

Asking a question: Inquiries over its Hamblin set

Suppose $Q = \{q_1, q_2, ..., q_i\}$, where $q_1, q_2, ..., q_i$ are all propositions.

- Q corresponds to a set W of 2^i possible worlds, where, e.g., w_1: $\forall q \in Q.q = 1$.
- Asking Q equals to inquiring about the truth values of all qs in question.
- The speaker asking Q presupposes that $\exists q \in Q.q = 1$.

QUD & Assertion: Informativity

What does an assertion do?

Evaluate **at least some** of the truth values of qs in Q (Roberts, 1996/2012).
- **Relevance Req.**: Introduce a *partial answer*.
- **Informativity Req.** Reduce W.
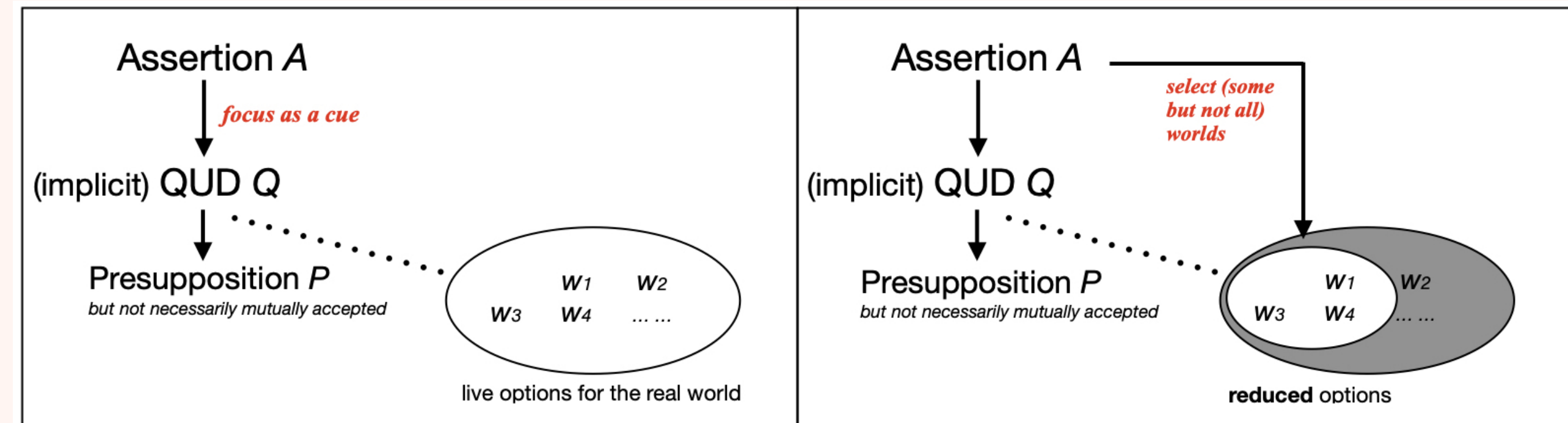
- **NB:** Roberts defines good assertions to be relevant, congruent, & informative.
- Via **CQRA**, both **Relevance** & **Congruence** are met.
- We proceed to check the **Informativity**.

Analysis: The evaluation of informativity

Three scenarios (**A-C**) are considered:

(A) *Wh*-indefinites in focus

- Imagine a world with 4 individuals, $U = \{ZS, J, M, N\}$; predicate *like* is irreflexive.
- Denote $p = like_w(ZS, J)$, $q = like_w(ZS, M)$, & $r = like_w(ZS, N)$, and $L = \{p, q, r\}$.

1. When hearing (2), we reconstruct a QUD via CQRA:

(11) *Zhāngsān xǐhuān shuí/shénme-rén (ne$_{SFP}$)?* = $?L$
     'Who does ZS like?'

2. 2*2*2=8 possible worlds to be evaluated:
   $W = \{p \wedge q \wedge r, \neg p \wedge q \wedge r, p \wedge \neg q \wedge r, \neg p \wedge \neg q \wedge r, ..., \neg p \wedge \neg q \wedge \neg r\}$

3. An **informative** answer eliminates **at least one** possible world among the 8, e.g.:
   1) $[\![$ZS likes everyone.$]\!] = p \wedge q \wedge r = \forall p' \in L.p' = 1$ one possible world left
   2) $[\![$ZS likes J.$]\!] = p$ 4 worlds left
   3) $[\![$ZS likes shénme rén.$]\!] = $ ① $\exists x \in U\backslash\{ZS\}.like_w(ZS, x) = \exists p' \in L.p' = 1$ normal meaning
      OR = ② $\square_s\exists x \in U\backslash\{ZS\}.like_w(ZS, x) \wedge \neg \cup \{\square_s like_w(ZS, x)|x \in U\backslash\{ZS\}\}$ enriched meaning
      (Chierchia, 2013; Chierchia et al., 2012; Kratzer & Shimoyama, 2002; M. Liu & Yang, 2021)
      NB: $\square_s$ is an assertoric/belief operator that reads *the speaker believes that p*.

For (2), ① is presupposed by the question; while ② *does* add ignorance inference, it fails to reduce any options ⇒**the Informativity Requirement is violated**

(B) A focused phrase not containing the *wh*-indefinite

E.g., (4), $[\![yuyanxuexi]\!]^F = \{Dept.of.Ling, Dept.of.Math, ...\}$
⇒(4) excludes possible worlds in which *ZS doesn't like anyone from Ling. Dept*.

(C) A focused phrase containing the *wh*-indefinite

E.g., (7b-c), $[\![jian.le.shenme.ren.]\!]^F = \{met.with.someone, went.to.a.movie, ...\}$
⇒(7) excludes possible worlds in which *John didn't **meet with anyone** yesterday*.

Conclusions

- The QUD model formalizes the following restriction: *Wh*-indefinites in simple positive contexts cannot bear focus due to **Non-Informativity**.
- The contrast btn. (2) & others boils down to the informativity and how speakers tend to reconstruct the QUD, e.g., via default focus (D. Liu & Xu, 1998; Xu, 2004).
- (1-5, 7-9) are also acceptable when the *wh*-phrase is instead Q-bound.
- **Future research:** Whether *wh*-indefinites are universally de-focused.
  - For E-boundness, include polar questions, negations, & modals.
  - Do non-E-bound *wh*-indefinites also resist being focused?

NB: The references used in this poster can be found in the QR code →