

Encoding QUD congruence in Mandarin Chinese¹

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Today

I investigate the semantics of *shì* 是 in its *focus marker use* (Teng, 1978; Huang, 1982a,b; Shi, 1994; Cheng, 2008; Paul and Whitman, 2008; Li, 2008; Xu, 2010; Hole, 2011, a.o.).

- (1) **Can cooccur with narrow focus:** (2) **Also appears in questions:**

(Shì) [māo]_F tōu-le yú. (Shì) shéi tōu-le yú (ne)?
SHI cat steal-PRF fish SHI who steal-PRF fish NE

≈ ‘The CAT stole the fish.’
Described as “emphasis” or “cleft”
or “contrastive focus”...

≈ ‘Who stole the fish?’

- *Shì* marks a clause as **congruent to an accepted Question Under Discussion (QUD)**, without a stronger true answer.
 - This is (essentially) the semantics of English *it*-clefts in Velleman, Beaver, De-struel, Bumford, Onea, and Coppock (2012).
- **Constituent questions with *shì*** seem to have a **stronger existence requirement**, explained by congruence with an accepted QUD.
- **QUD congruence is evaluated at the clause edge**, not at *shì*.
 - This explains various restrictions on the distribution of *shì*, in contrast to ‘only.’

Shì 是 has two other uses which will not be discussed here.

- ① The copula *shì*, although I return to this connection at the end;
- ② The *shì...de* construction; see Paul and Whitman (2008); Cheng (2008); Li (2008) for comparisons of *shì...de* and the “bare *shì*” that I describe.

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1 *Shì* in declaratives

Shì always cooccurs with narrow focus on a constituent in its scope:

- (3) Zúotiān wǎnshàng **shì** [Zhāng Sān]_F lái-le.
yesterday evening SHI Zhang San come-PRF
literally ‘*shì* [Zhang San]_F came last night.’

The *shì* focus construction has often been described as a “cleft” and translated into English *it*-clefts since at least Huang (1982a, ch. 4).²

1.1 *Shì* introduces exhaustivity

The addition of *shì* introduces *exhaustivity*: the proposition in its scope is the only true proposition among its focus alternatives. This effect appears similar to that of ‘only.’

- (4) **Both ‘only’ *zhǐ(yǒu)* and *shì* express exhaustivity:**
- a. Zúotiān wǎnshàng **zhǐyǒu** [Zhāng Sān]_F lái-le.
yesterday evening only Zhang San come-PRF
‘Only [Zhang San]_F came last night.’
~ No one else came last night.
- b. Zúotiān wǎnshàng **shì** [Zhāng Sān]_F lái-le.
yesterday evening SHI Zhang San come-PRF
literally ‘*Shì* [Zhang San]_F came last night.’
~ No one else came last night.

Exhaustivity can be tested by setting up contradictions (Szabolcsi, 1981):

- (5) **A test for exhaustivity:**
- a. ✓ Zhāng Sān lái-le, Lǐ Sì (yě) lái-le.
Zhang San come-PRF, Li Si also come-PRF
‘Zhang San came, and Li Si (also) came.’
- b. # Zhǐyǒu [ZS]_F lái-le, (yě) zhǐyǒu [LS]_F (yě) lái-le.
only ZS come-PRF, also only LS also come-PRF
‘Only [Zhang San]_F came and (also) only [Li Si]_F (also) came.’
- c. # Shì [Zhāng Sān]_F lái-le, (yě) shì [Lǐ Sì]_F (yě) lái-le.
SHI Zhang San come-PRF, also SHI Li Si also come-PRF

²Huang (1982a) did not look at the *shì...de* construction. See Huang (1982a), section 4.4 footnote 22.

1.2 A difference between clefts and ‘only’

Shì and *zhǐ* ‘only’ both express exhaustivity. How do they differ?

Note that the behavior of English *it*-clefts and ‘only’ differ, as made clear under negation:

(6) Cleft vs ‘only’ under negation (Büring and Križ, 2013):

- ✓ She invited Fred, but she **didn’t** invite **only** Fred.
- # She invited Fred, but **it wasn’t** Fred she invited.

The exhaustivity inference of *only* is negated in (6a), whereas the prejacent is negated in the cleft (6b) (see a.o. Halvorsen, 1978; Horn, 1981; Büring and Križ, 2013).

(7) Negating *shì* vs *zhǐ* ‘only’:

- ✓ ZS yāo LS lái, dàn (ZS) **bù zhǐ** yāo [LS]_F (lái).
ZS invite LS come, but ZS _{NEG} only invite LS come
‘ZS invited LS to come, but he didn’t invite only [LS]_F.’
- # ZS yāo LS lái, dàn (ZS) **bú shì** yāo [LS]_F (lái).
ZS invite LS come, but ZS _{NEG SHI} invite LS come
‘ZS invited LS to come, but it’s not [LS]_F that he invited.’

☞ *SHI*(*p*) asserts the prejacent *p*, unlike *ONLY*(*p*) which presupposes it.

That *zhǐ* ‘only’ has the semantics of English *only* (as in Horn, 1969) has been shown by Tsai (2004). Here I will use *it*-cleft translations for *shì*.

1.3 QUD sensitivity

The placement of *shì* in different clauses is sensitive to the Question Under Discussion (QUD; Roberts, 1996/2012):

(9) Embedded clause congruent to QUD:

Q: (Shàng ge xuéqī,) Lǐ Sì dú-le jǐ běn shū?
last CL term, Li Si read-PRF how.many CL books
‘How many books did Li Si read (last term)?’

A: I don’t know, but...

Zhāng Sān (#shì) shuō [LS (‘shì) dú-le [liǎng]_F běn shū].
Zhang San SHI say LS SHI read-PRF two CL books

Lower *shì* translation: ‘ZS says that it’s [two]_F books that LS read.’

(10) Matrix clause congruent to QUD:

Q: Zhāng Sān shuō [Lǐ Sì dú-le jǐ běn shū]?
Zhang San says Li Si read-PRF how.many CL books
‘How many books does Zhang San say Li Si read?’

A: ...

Zhāng Sān (‘shì) shuō [LS (#shì) dú-le [liǎng]_F běn shū].
Zhang San SHI say LS SHI read-PRF two CL books

Higher *shì* translation: ‘It’s [two]_F books that ZS says that LS read.’

☞ *SHI*(*p*) requires *p* to be congruent to the QUD.

2 Proposal: *Shì* has cleft semantics

(11) Proposed semantics for *shì*:

SHI(*p*) asserts the prejacent *p* and presupposes that:

- p* is congruent to an accepted Question Under Discussion (QUD);
- there is no stronger true answer.

(12) $[[SHI]] = \lambda p_{\langle s,t \rangle} . \lambda w : \exists Q \in QUD \cap Acc \forall p' \in Q[(p' \Rightarrow p) \rightarrow \neg p'(w)] . p(w)$

QUD is the current QUD stack and Acc are accepted moves (Roberts, 1996/2012)

This is essentially the semantics associated with English *it*-clefts, according to Velleman et al. (2012). It goes beyond the semantics of narrow focus alone, which may mark congruence with a (proposed or accepted) QUD.

2.1 Proposed vs accepted QUDs

I generally follow the Roberts (1996/2012) framework for information structure here, but clarify one detail: proposal of a question does not impose its acceptance.

- (13) A: Who came last night? ← proposed, then **accepted** QUD
B: I’m not sure but... ← (implicit) acceptance of QUD
- (14) A: Who came last night? ← proposed, then **rejected** QUD
B: Nobody. ← refusal of proposed QUD

☞ In particular, presuppositions of questions (e.g. the existence of an answer) are not reflected in the Common Ground until the question is accepted.³

³In addition to the rejection of proposed questions, Roberts (1996/2012) describes the possibility of later marking an accepted question as unanswerable. The discussion here should also be extended to allow for this possibility.

☞ *Shì* makes reference to *accepted* QUDs.

This reflects the fact that *shì* is somewhat degraded in immediate, direct answers to (*shì*-less) questions. The answer move simultaneously accepts and resolves the QUD, but the QUD is not pre-accepted.

The same has been observed for English *it*-clefts (exx based on Velleman et al., 2012, 449):

- (15) A: What did Mary eat?
 B: {√Mary ate PIZZA., ?It was a PIZZA that Mary ate.}
- (16) A: What did Mary eat?
 C: I thought she said she was gonna get a pizza, but I might be wrong.
 D: And did she also order a salad?
 B: Guys, I was there. And C's right;
 {√Mary ate PIZZA., √it was a PIZZA that Mary ate.}

2.2 Explaining exhaustivity

The exhaustivity of *shì* observed above is modeled in (11) as a requirement for a *maximal* true answer to the QUD.

- (17) Context: Zhang San and Li Si came last night.
 Q: Zuótiān wǎnshàng, shéi lái-le?
 yesterday evening, who come-PRF
 'Who came last night?'
- A1: √ [Zhāng Sān]_F (lái-le).
 Zhang San come-PRF
 'Zhang San came.' *partial answer but acceptable reply*
- A2: √ [Zhāng Sān hé Lǐ Sì]_F (lái-le).
 Zhang San and Li Si come-PRF
 'Zhang San and Li Si came.' *maximal true answer*
- (18) A1: # **Shì** [Zhāng Sān]_F (lái-le).
 shì Zhang San come-PRF
 'It's Zhang San that came.' *partial answer*
- A2: √ **Shì** [Zhāng Sān hé Lǐ Sì]_F (lái-le).
 shì Zhang San and Li Si come-PRF
 'It's Zhang San and Li Si that came.' *maximal true answer*

2.3 Explaining existence

Clefts are also commonly described as having an existential presupposition, detectable under negation (Dryer, 1996; Rooth, 1999, a.o.):

- (19) **It's not** [John]_F that came.
 ~ Someone came.
- (20) **Bú shì** [Zhāng Sān]_F lái-le.
 NEG SHI Zhang San come-PRF
 'It's not Zhang San that came.'
 ~ Someone came.

The existential inference simply reflects the presuppositions of the congruent, accepted QUD, which requires the existence of a true answer.

2.4 Licensing by implicit QUDs

Shì can also be licensed in discourses without an explicit preceding QUD:

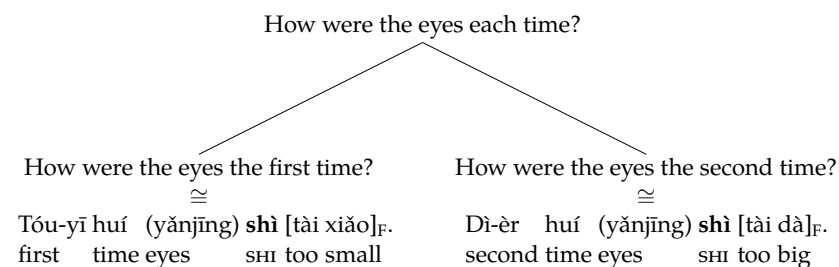
- (21) Example from Lü (1980, p. 374):

Zhè yǎnjīng yǐjīng huà-le liǎng huí,
 these eyes already draw-PRF two times,

tóu-yī huí shì tài xiǎo, dì-èr huí shì tài dà.
 first time shì too small, second time shì too big.

'These eyes have already been drawn twice. The first time they were too small_F and the second time they were too big_F.'

The mention of the eyes being drawn twice before raises the following family of implicit questions (Roberts, 1996/2012, a.o.):



2.5 *Shì* is not a simple marker of narrow focus

An alternative hypothesis is that *shì* in (21) above is licensed simply due to contrastive focus, not QUD congruence. Focus can be licensed simply by contrastive phrases:

(22) **Contrasting DPs in Rooth (1992):**

[_{DP} An [American]_F farmer] was talking to [_{DP} a [Canadian]_F farmer]...

(23) **Narrow focus on contrasting constituents:**

(Yǒu) [_{DP} yī-ge [měiguó]_F nóngfū] shuō
EXIST one-CL American farmer say

[_{CP} (yǒu) [_{DP} yī-ge [jiānádà]_F nóngfū] lái-le]...
EXIST one-CL Canadian farmer come-PRF

'An [American]_F farmer said a [Canadian]_F farmer came...'

F-marking on the contrasting 'American' and 'Canadian' here is licensed, just as Rooth's (1992) system predicts, based on English.

(24) **However, *shì* is not licensed here:**

* **Shì** (yǒu) [_{DP} yī-ge [měiguó]_F nóngfū] shuō
SHI EXIST one-CL American farmer say

[_{CP} **shì** (yǒu) [_{DP} yī-ge [jiānádà]_F nóngfū] lái-le]...
SHI EXIST one-CL Canadian farmer come-PRF

Shì is not a simple marker of narrow/contrastive focus; it is not an overt version of Rooth's (1992) ~ operator.

3 *Shì* in questions

Shì also can appear in constituent questions in a position to associate with the *wh*-word or alternative disjunction:

- (25) (**Shì**) shéi tōu-le yú (ne)? (26) (**Shì**) māo háishì gǒu tōu-le yú (ne)?
SHI who steal-PRF fish NE SHI cat or dog steal-PRF fish NE
'Who stole the fish?' (=2) Alternative question: 'Did the cat or the dog steal the fish?' (Erlewine, 2014)

Questions are assumed to presuppose the existence of a maximal true answer.

☞ Intuitively, *shì* seems to make this requirement stronger.

- (27) Wǒ bù zhīdào [zuótiān wǎnshàng (**#shì**) shéi lái-guò wǒ jiā],
I NEG know yesterday evening SHI who come-EXP my house
shíjìshàng wǒ rènwéi [méi-yǒu rén lái].
actually I think NEG-EXIST person come

'I don't know who came to my house last night; in fact, I think no one came.'

Adding *shì* presupposes that someone did come, in a way that is harder to cancel.

☞ This is explained by *shì*'s semantics which requires **congruence to an accepted QUD**.

- In (27) without *shì*, the embedding raises the question 'who came to my house last night' and the continuation immediately rejects it.
- In (27) with *shì*, *shì* marks **congruence to a pre-existing and accepted QUD**, which in turn reflects prior acceptance of the existence of an answer.

3.1 Mention-some questions

Mention-some questions are naturally answered with a partial answer, and in fact unnatural as requests for complete answers:

(28) **A mention-some question (Groenendijk and Stokhof, 1984):**

Where do they sell Italian newspapers?

(29) ***Shì* blocks mention-some reading of questions:**

(Wǒ) (**#shì**) (zài) nǎlǐ kěyǐ mǎi bàozhǐ?
I SHI at where can buy newspaper

'Where can I buy a newspaper?'

(*Shì* ok if interpreted as a request for a complete answer.)

☞ This is explained by the lack of a (relevant) maximal true answer for mention-some questions.

Yimei Xiang (p.c.) notes that *shì* is similarly incompatible with questions that explicitly encode an expectation for a partial answer.

(30) ***Shì* incompatible with a 'for example' question:**

Zuótiān wǎnshàng (**#shì**) shéi lái-le, bǐrúshuō?
yesterday evening SHI who come-PRF for example

'Who came last night, for example?'

4.2 No *shì* in relative clauses

It's been noted that *shì* is unavailable in relative clauses (Teng, 1979, a.o.):

- (40) Wǒ xǐhuān [_{DP} [_{RC} ***shì**/✓**zhǐyǒu** [Zhāng Sān]_F dú-guo ___ de] nèi-běn shū].
 I like SHI/ only Zhang San read-EXP DE that-CL book
 * 'I like the book that it's ZS that bought.'
 ✓ 'I like the book that only Zhang San bought.' (based on Huang, 1982b, p. 374)

But Shi (1994) shows that *shì* is allowed in *embedded clauses* inside relative clauses:

- (41) Wǒ rènshi nà-ge [_{DP} [_{RC} ___ yìngshuō [_{CP} **shì** [wǒ]_F bù hǎo] de] rén].
 I know that-CL assert SHI I NEG good DE person
 'I know the person who insists [it is me that is not good].' (Shi, 1994, p. 93)

Captured by the generalization, assuming relative clauses are reduced, but the embeddings are full CPs.

4.3 No *shì* in small clause complements

- (42) Q: Who stole the motorcycle?
 A1: Full CP embedding:
 Wǒ rènwéi [_{CP} ✓**shì**/✓**zhǐyǒu** [Zhāng Sān]_F tōu-le nèi-tái mótuōchē].
 I think SHI/ only Zhang San steal-PRF that-CL motorcycle
 'I think [that {it's ZS/only ZS} stole the motorcycle].'
 A2: Small clause complement:
 Wǒ kàn-dào [_{SC} ***shì**/✓**zhǐyǒu** [Zhāng Sān]_F tōu nèi-tái mótuōchē].
 I saw SHI/ only Zhang San steal that-CL motorcycle
 * 'I saw [it's Zhang San that stole that motorcycle].'
 ✓ 'I saw [only Zhang San steal that motorcycle].'

4.4 No *shì* in control complements

- (43) Q: What do/will you drink?
 A1: Wǒ xiǎng [PRO ***shì**/✓**zhǐ** hē [kāfēi]_F].
 I want PRO SHI/ only drink coffee.
 * ≈ 'I want that it's coffee that I drink.'
 ✓ 'I want to only drink [coffee]_F.'
 A2: Wǒ yīshēng yào [wǒ ***shì**/✓**zhǐ** hē [kāi-shuǐ]_F].
 My doctor make me SHI/ only drink boiled-water.
 * ≈ 'My doctor makes it so that it's boiled water that I drink.'
 ✓ 'My doctor makes me drink only [boiled water]_F.'

4.5 Proposed modification

☞ QUD congruence is evaluated in a specific position high in CP; assume it's a CONG feature on declarative and interrogative C.

- (44) [_{CP} C[CONG:+] ... [_{TP} ... *shì* [... α_F ...]]]

[CONG:+] has the semantics of SHI described above, and licenses the pronunciation of "*shì*" in the local clause, in the lowest position possible while taking all foci in its scope (Closeness). Reduced clauses (small clauses, relative clauses, etc.) lack C with [CONG].

This is not pretty. This modification seems motivated, but I find it inelegant and upsetting. Suggestions welcome.

4.6 One *shì* per clause

☞ This explains the "one *shì* per clause" generalization:

- (45) **One *shì* per clause**:
 * **Shì** [Zhāng Sān]_F **shì** dú-le [zhè-běn shū]_F.
 SHI Zhang San SHI read-PRF this-CL book
 (46) **No such restriction on 'only'**:
 ✓ **Zhǐyǒu** [Zhāng Sān]_F **zhǐ** dú-le [zhè-běn shū]_F.
 ONLY Zhang San ONLY read-PRF this-CL book
 'Only [Zhang San]_F read only [this book]_F.'

5 Conclusion

- The Mandarin focus particle *shì* marks a clause as **congruent to an accepted Question Under Discussion**, with no stronger true answers.
 - This derives the exhaustivity inference. Dependence on an accepted QUD explains the existence inference.
 - This account explains (apparently strengthened) existence inference of *shì*-marked constituent questions.
 - This is **cleft semantics**, à la Velleman et al. (2012).
- The semantics of *shì* actually operates **at the clause edge**.
- This accounts for a wide range of data on the semantic contribution and distribution of *shì*, and differences between *shì* and 'only.'

A further question: What is the relation between focus *shì* and the copula?

- In this proposal, there need not be any connection between these items in the synchronic grammar of Mandarin.⁵
- **Implication:** Cleft semantics need not be based on the semantics of relativization, definite descriptions, or copular sentences, as previously proposed primarily based on English (see e.g. Percus, 1997; Büring and Križ, 2013).

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⁵Copulas/pronouns/focus markers are commonly diachronically related cross-linguistically; see e.g. Šimík (2009) on Czech demonstrative *to* which has been grammaticalized into a focus particle co-occurring with *wh*- and focus-fronting. *Shì* was a demonstrative pronoun in Old Chinese.

Handout and slides at <https://mitcho.com>.