Mandarin exhaustive focus *shì* and the syntax of discourse congruence

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This paper describes three constraints that together govern the distribution of the exhaustive focus marker *shì* in Mandarin Chinese. First, I argue that *shì* is a sentential focus particle that is subject to a requirement to adjoin as low as possible within its clause or phase. Second, I show that *shì* requires a congruent Question Under Discussion (QUD) and demonstrate the effects of this semantic constraint on the distribution of *shì*. Third and finally, I show that there are certain reduced clauses where *shì* is completely disallowed, although other focus particles such as 'only' may appear. I propose that this last restriction is a particular proposal for the syntax/semantics of discourse congruence: reference to a QUD — required by the semantics of *shì* — is mediated by a functional head in the high CP periphery. *Shì* is thus unavailable in reduced clauses which do not project this high functional layer.

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Contents

1 Introduction

This paper concerns the use of the Mandarin Chinese morpheme *shì* as a focus particle in examples such as (1). Previous descriptions of this type of *shì* describe it as a marker of "emphasis" (Shi, 1994) or "contrastive focus" (Cheng, 2008), or as a cleft construction (Teng, 1979; Huang, 1982a,b; Shyu, 1995). I will give English *it*-cleft translations here and will discuss this choice below.[1]

(1) **The Mandarin focus particle *shì*:**

a. **Shì** [Zhāng Sān]$_F$ hē-le hóngjiǔ.
SHI Zhang San drink-PFV wine
'It's Zhang San that drank the wine.'

b. Zhāng Sān **shì** hē-le [hóngjiǔ]$_F$.
Zhang San SHI drink-PFV wine
'It's wine that Zhang San drank.'

I concentrate here on the use of *shì* as in (1) which Cheng 2008 and Paul and Whitman 2008 have dubbed the "bare *shì*" construction, in contrast to the more commonly discussed *shì...de* construction.[2] I also note that *shì* is homophonous and homographous with the copular verb, which has frequently complicated its analysis and discussion.

The goals of this paper are to describe and explain the syntax of this particle *shì* and restrictions on its distribution. After a brief introduction to the semantics of *shì* in section 2, I consider what type of focus particle *shì* is in section 3. I argue that *shì* is a sentential focus particle — adjoining to the clausal spine and then hypothetically able to associate with any focus in its complement — but is subject to a requirement to be adjoined as low as possible while taking its focus associate in its scope. Such behavior is attested by sentential focus particles in Vietnamese (Erlewine, 2017b) and is a component of one approach to German focus particles (as in Jacobs, 1983, 1986; Büring and Hartmann, 2001).

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[1] All uncredited data reported here comes from my elicitation notes over the period of 2013–2020 with various overlapping sets of speakers, which have also been verified more recently with other speakers. Speakers consulted include those who grew up in (different parts of) Mainland China, Taiwan, and Singapore. For discussion of judgments over the life of this project, I thank Ting-Chun Chen, Yuanchen Cheng, Grace Kuo, Joey Lim, Chi-Ming Louis Liu, Keely New, Pamela Pan, Victor Junnan Pan, Zheng Shen, Ning Tang, Wenkai Tay, Edwin Tsai, Tianxiao Wang, Ruixue Wei, and Yimei Xiang. Points of apparent speaker variation will be noted.

Abbreviations: CL = classifier, COP = copula, DE = possessive or relative clause marker *de*, EXP = experiential perfect, F = F(ocus)-marked, NEG = negation, PFV = perfective

[2] See Cheng 2008, Li 2008, and Paul and Whitman 2008 for a range of behaviors that distinguish the bare *shì* construction from the *shì...de* construction. I do not discuss the *shì...de* construction in this paper.

Second, I motivate an independent semantic constraint on the distribution of *shì*. In examples where the aforementioned syntactic constraint still leaves open multiple possible surface positions for *shì*, its position is determined by the discourse context. Specifically, I argue in section 4 that *shì* must appear in a clause that is congruent to a Question Under Discussion (QUD; Roberts, 1996/2012).

Finally, I observe in section 5 that *shì* is simply disallowed in certain reduced clauses, such as non-finite embeddings, relative clauses, and certain adjunct clauses. Other focus particles such as 'only' are allowed in such environments. I propose that this restriction on *shì* reflects the fact that reference to a QUD is only available in the extended CP periphery. In certain types of clauses with reduced clausal peripheries, operators cannot make reference to a QUD, and thus particles such as *shì* which require such reference are disallowed.

2 *Shì* semantics

I begin by briefly introducing the semantics expressed by *shì* before we consider its distribution. Descriptively, *shì* introduces associates with a focus and expresses exhaustive semantics, conveying that only the stated value for the focus leads to a true proposition. This exhaustivity can be demonstrated by setting up contradictions. Example (2a) is a baseline showing that there is no exhaustivity associated with a sentence without 'only' or *shì*. In (2b) and (2c), the particle *zhǐyǒu* 'only' or *shì* is in initial position and associates with the focused subject.

(2) **'Only' and *shì* expresses exhaustivity:**

a. Zhāng Sān lái-le. Lǐ Sì yě lái-le.
Zhang San come-PFV Li Si also come-PFV
'Zhang San came. Li Si also came.'

b. **Zhǐyǒu** $[\text{ZS}]_F$ lái-le. {# $[\text{LS}]_F$ yě lái-le. / # (Yě) zhǐyǒu $[\text{LS}]_F$ lái-le.}
only ZS come-PFV LS also come-PFV also only LS come-PFV
'Only $[\text{Zhang San}]_F$ came. {# $[\text{Li Si}]_F$ also came. / # (Also) only $[\text{Li Si}]_F$ came.}'

c. **Shì** $[\text{ZS}]_F$ lái-le. {# $[\text{LS}]_F$ yě lái-le. / # (Yě) shì $[\text{LS}]_F$ lái-le.}
SHI ZS come-PFV LS also come-PFV also SHI LS come-PFV
'It's $[\text{ZS}]_F$ that came. {# $[\text{Li Si}]_F$ also came. / # It's (also) $[\text{Li Si}]_F$ that came.}'

As previewed in the introduction, *shì* focus constructions do not require their focus to be clause-initial. The focus in (2c) is in clause-initial position as that is the default position for subjects in Mandarin, but the focus of *shì* can also be in other preverbal and postverbal positions. The grammatical positions for *shì* and its possible focus associates will be the topic of section 3.

Paul and Whitman 2008 claims that there is a difference between *shì* in clause-initial position and *shì* in a clause-medial position, with the former but not the latter requiring exhaustivity. Their claim is based on the acceptability of the utterance in (3).

(3) **Apparent counterexample to the exhaustivity of *shì*:** (Paul and Whitman, 2008: 420)
Tā **shì** zài Běijīng xué-guò zhōngwén, (dàn) yě zài Shànghǎi xué-guò.
3sg SHI at Beijing study-EXP Chinese but also at Shanghai study-EXP
'She studied Chinese in Beijing, but/and also studied Chinese in Shanghai.'

An issue with this example is that neither the discourse context nor position of focus is specified. As described in Hole and Zimmermann 2013: 307, *shì* in example (3) could associate with the location Beijing, but it could alternatively associate with another focus such as the entire predicate that follows it.[3] When we clarify that the first sentence in (3) is to be interpreted with narrow focus on the location Beijing, exhaustivity again rears its head:

(4) **Exhaustivity effect of (3):**
#Tā **shì** zài [Běijīng]$_F$ xué-guò zhōngwén, dàn yě (**shì**) zài [Shànghǎi]$_F$
3sg SHI at Beijing study-EXP Chinese but also SHI at Shanghai
xué-guò (zhōngwén).
study-EXP Chinese
'It's in [Beijing]$_F$ that she studied Chinese, but { she also studied (Chinese) in [Shanghai]$_F$ / it's (also) in [Shanghai]$_F$ that she studied (Chinese) }.'

We can further unpack the meaning expressed by 'only' and *shì* into two components: that the prejacent is true, and that its focus alternatives are false. The two constructions differ in how these different components of meaning are expressed. Consider the contrast in (5) below. Negation only targets the exhaustive component of 'only,' and not the prejacent, leading to a coherent utterance in (5a). This accords with the discussion in Tsai 2004 which describes Mandarin 'only' as presupposing its prejacent and asserting that its alternatives are false, much like the behavior of English *only* (Horn, 1969). In contrast, the negation of *shì* targets the prejacent, leading to a contradiction in (5b): more specifically, (5b) sounds like the speaker claims that Zhang San invited Li Si, but also that Zhang San did not invite Lisi.[4]

[3] The most natural confounding reading which makes (3) natural is a verum-like reading. Hole and Zimmermann (2013: 307) describe *shì* in (3) as being able to associate with other subparts of the verb phrase as well, such as the verb, object, or verb phrase alone, but this conflicts with the description in Chiu 1993: 162, where it is explicitly claimed that *shì* before a preverbal *zài* location cannot narrowly associate with an object focus downstream. Chiu's description accords with my own description and proposal for patterns of focus association with *shì*, in section 3.

[4] Two details on the surface segments in these examples:

(5) **'Only' vs *shì* under negation:**

a. ✓ZS yāo LS lái, dàn (ZS) bù **zhǐ** yāo $[\text{LS}]_{\text{F}}$ (lái).
ZS invite LS come, but ZS NEG only invite LS come
'ZS invited LS to come, but he didn't invite only $[\text{LS}]_{\text{F}}$.'

b. #ZS yāo LS lái, dàn (ZS) bú **shì** yāo $[\text{LS}]_{\text{F}}$ (lái).
ZS invite LS come, but ZS NEG SHI invite LS come
'ZS invited LS to come, but it's not $[\text{LS}]_{\text{F}}$ that he invited.'

Interestingly, the contrast in behavior between 'only' and *shì* in (5) parallels that between *only* and the corresponding *it*-cleft in English. The examples in (5) were modeled after a pair of sentences reported in Büring and Križ 2013, reproduced in (6):

(6) ***Only* vs *it*-cleft under negation:** (Büring and Križ, 2013: 2)

a. ✓She invited Fred, but she didn't invite only Fred.

b. #She invited Fred, but it wasn't Fred she invited.

Such parallels may be behind the fact that many authors, since at least Huang 1982a: ch. 4, have described *shì* focus constructions as clefts. Here I too will use English *it*-clefts in translations for *shì*.

The behavior of *shì* in (5b) reflects that the exhaustive inference of *shì* is not at-issue. *Shì* simply passes up its prejacent as its at-issue meaning.[5] I describe the semantic contribution of *shì* as follows. Here, C is a set of contextually-determined alternative propositions to the prejacent p. The exhaustive inference requires that all non-weaker alternatives be false.

(7) **The semantics of *shì* (first version):**

$\lambda p \,.\, \lambda w \,.\, p(w)$

NOT-AT-ISSUE: $\forall q \in C\,[(p \not\Rightarrow q) \rightarrow \neg q(w)]$

We return to the identification of the set of alternatives C in sections 4 and 5.

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1. The Mandarin 'only' particle appears as *zhǐ* in some environments but *zhǐyǒu* in others. For instance, we see *zhǐ* in (5a) but *zhǐyǒu* in (2b) above. This distinction will not be important for our current purposes, as we are primarily interested in the behavior of *shì*. See Erlewine 2015a for one approach.
2. The negator *bù* bears a falling tone, but changes to a rising tone *bú* when immediately preceding another falling tone syllable. This explains its realization as *bú* in (5b).

[5] Descriptively, *shì* also introduces an existential inference, that one of the propositions in an alternative set is true, as has also been described for English *it*-clefts (Dryer, 1996; Rooth, 1999 a.o.). Here I concentrate on the status of the exhaustive inference. See also footnote 16 below.

A further question for the semantics of *shì* — as well as for clefts in English and other languages — is the precise nature of the not-at-issue exhaustivity inference in (7). Liu and Yang (2017) report on a series of experimental tasks which address this question. In brief, they report that the exhaustivity inference of *shì* is harder to cancel than that of a morphologically unmarked narrow focus answer to a *wh*-question, but easier to cancel than that of an 'only' particle. Each of these pairwise comparisons are statistically significant (see the discussion of their Experiment 2, p. 109), indicating that the exhaustivity inference of *shì* has a distinctive intermediate strength. I refer the interested reader to Liu and Yang 2017 for details.[6]

Here I will not further discuss the precise status of the exhaustivity inference of *shì*, nor its source. It suffices for our current purposes to recognize that *shì* expresses not-at-issue exhaustive focus semantics, for which English *it*-clefts offer reasonable translations for our presentational purposes.

3 *Shì* is a sentential focus particle

We now turn to the syntax of *shì*. Focus particles come in broadly two varieties, depending on their adjunction position: *sentential* particles adjoin to the clausal spine, whereas *constituent* particles adjoin to a subsentential constituent such as a DP or PP. For example, English has both sentential and constituent *only*s, realized identically in form. Both *only*s associate with the object and express the same meaning in (8).

(8) **Two different *only*s in English:**

a. Laura **only** drinks [red wine]$_{\text{F}}$. *sentential*

b. Laura drinks **only** [red wine]$_{\text{F}}$. *constituent*

That English *only* comes in two varieties can be verified through their association possibilities. *Only* in preverbal position as in (9) can associate with any constituent in its complement verb phrase, regardless of its linear or structural distance. In contrast, *only* preceding a DP or PP as in (10) must associate with a focus in that constituent.

[6] Here too, I note a parallel to the behavior of clefts in other languages: Destruel 2015 and De Veaugh-Geiss, Zimmermann, Onea, and Boell 2015 report on similar tests of the acceptability of cancelling the exhaustive inference of clefts versus 'only' particle constructions in English and French (Destruel, 2015: §5) and in German (De Veaugh-Geiss et al., 2015: §3.2). All of the experiments reported observe that the exhaustivity inference of clefts is easier to cancel than that of an 'only' construction, but is not non-existent. Clefts in these languages thus appear to pattern with the behavior of *shì* reported by Liu and Yang 2017, to the extent that the results of the experiments reported in these studies — with similar but not identical designs — are comparable. I thank an anonymous reviewer for pointing me to this literature.

(9) **Patterns of association with English *only*:** (based on McCawley, 1996: 172)

a. John **only** [put salt on the potatoes]$_F$.

b. John **only** put [salt]$_F$ on the potatoes.

c. John **only** put salt on [the potatoes]$_F$.

d. *[John]$_F$ **only** put salt on the potatoes.

(10) a. John put **only** [salt]$_F$ on the potatoes.

b. *John put **only** salt on [the potatoes]$_F$.

c. John put salt **only** on [the potatoes]$_F$.

d. John put salt on **only** [the potatoes]$_F$.

The patterns of possible association in (9–10) are explained by *only* in (9) being sentential *only*, adjoined to the clausal spine, and *only* in (10) being constituent *only*, adjoined directly to a DP or PP, together with the c-command requirement on association with focus (11).[7]

(11) **The c-command requirement on association with focus:**
(Jackendoff, 1972; Rooth, 1985; Tancredi, 1990; McCawley, 1996; Bayer, 1996; a.o.)
A focus-sensitive operator must c-command its associate.

As a result, constituent particles such as *only* in (10) exhibit a type of adjacency requirement, not observed with sentential particles as in (9).

With this background in place, we now consider the possible patterns of association for *shì*. We first consider examples (12–14) below, which are modified and expanded from that in Huang (1982a: 290). These examples show *shì* in different preverbal positions in a simplex transitive clause with a preverbal adjunct.

(12) **Patterns of association with *shì* in different preverbal positions:**

Shì wǒ zúotiān mǎi-le nèi běn shū.
SHI 1sg yesterday buy-PFV that CL book

a. *'It's [that book]$_F$ that I bought yesterday.'

b. *'It's [buying]$_F$ that I did with that book yesterday.'

c. *'It's [buy that book]$_F$ that I did yesterday.'

d. *'It's [yesterday]$_F$ that I bought that book.'

e. ✓'It's [me]$_F$ that bought that book yesterday.'

f. ✓'It's that [I bought that book yesterday]$_F$.'

[7] English sentential and constituent *only* also vary in their scope-taking possibilities; see Taglicht 1984.

(13) Wǒ **shì** zúotiān mǎi-le nèi běn shū.
1sg SHI yesterday buy-PFV that CL book

a. *'It's [that book]$_F$ that I bought yesterday.'
b. *'It's [buying]$_F$ that I did with that book yesterday.'
c. *'It's [buy that book]$_F$ that I did yesterday.'
d. ✓'It's [yesterday]$_F$ that I bought that book.'
e. *'It's [me]$_F$ that bought that book yesterday.'
f. *'It's that [I bought that book yesterday]$_F$.'

(14) Wǒ zúotiān **shì** mǎi-le nèi běn shū.
1sg yesterday SHI buy-PFV that CL book

a. ✓'It's [that book]$_F$ that I bought yesterday.'
b. ✓'It's [buying]$_F$ that I did with that book yesterday.'
c. ✓'It's [buy that book]$_F$ that I did yesterday.'
d. *'It's [yesterday]$_F$ that I bought that book.'
e. *'It's [me]$_F$ that bought that book yesterday.'
f. *'It's that [I bought that book yesterday]$_F$.'

The possible patterns of association in (12–14) can be summarized as follows. *Shì* before the subject (12) and before the adjunct 'yesterday' (13) exhibit an adjacency effect, requiring its focus to be the immediately following phrase.[8] However, *shì* in immediately preverbal position (14) is able to associate with the entire verb phrase or any subpart thereof. At first glance, then, we may be tempted to describe *shì* as ambiguous between a sentential particle, limited to immediately preverbal position, and a constituent particle. See also Chiu 1993: 124ff, Zhu 1997: 103–106, and Li 2008: 766–767 for extensive additional data which accords with my description of *shì*'s association possibilities.

However, there are also challenges for the view that *shì* has a life as a constituent particle. First, *shì* never appears in postverbal position. Example (15) is flatly ungrammatical. Object focus with *shì* requires *shì* to be in immediately preverbal position, as in (14) above.

[8] Such patterns have led some authors to describe *shì* as always immediately preceding their focus. For example, Huang (1982a: 290) states that "The simplest way of looking at cleft [*shì*] sentence formation, then, is to say that it inserts the marker *shì* directly in front of the constituent in focus." Cheng (2008: 254) states that "the focused element in a bare-*shì* sentence is the constituent immediately following *shì*." Similar statements are made in passing in Shi 1994 and Shyu 1995 as well. However, as we will see here, such descriptions are seriously misleading, especially when we consider the possibility of long-distance association.

(15) **No postverbal *shì*:**

*Wǒ zúotiān mǎi-le **shì** nèi běn shū.
1sg yesterday buy-PFV SHI that CL book
Intended: 'It's [that book]$_F$ that I bought yesterday.'

A possible solution may be to stipulate that the focus particle *shì* is somehow disallowed within the verb phrase. However, even outside of the verb phrase, if *shì* associates with a *subpart* of a preverbal constituent, it must precede the entire phrase. This is shown in (16) with a preverbal prepositional phrase.

(16) **No *shì* inside preverbal PP:**

Zhāng Sān {✓**shì**} [$_{PP}$ duì {***shì**} [Lǐ Sì]$_F$] rēng-le qiú.
Zhang San SHI to SHI Li Si throw-PFV ball
'It's [Li Si]$_F$ that Zhang San threw a ball at.'

The facts above appear difficult to reconcile. On the one hand, the adjacency effects observed in (12–13) are straightforwardly explained if *shì* is a constituent particle, directly adjoining to the focused subject or adjunct. On the other hand, the distribution of *shì* in (14–16) challenges the idea that *shì* could ever be a constituent particle.

Here I adopt the solution developed in Erlewine 2017b based on the study of focus particles in Vietnamese. I propose that *shì* is a sentential focus particle, adjoined to the clausal spine, in all of the cases above, and is additionally subject to the constraint in (17).[9]

(17) **A constraint on sentential focus particle placement:** (Erlewine, 2017b: 334)
Sentential focus particles (focus-sensitive sentential modifiers) must be as low as possible while c-commanding their focus associate, within a given phase.

Vietnamese has both a sentential 'only' and a constituent 'only' like English, but unlike in English, the two differ in their surface form. The sentential 'only' is *chỉ* (18a) whereas the constituent 'only' is *mỗi* (18b). This allows us to unambiguously study the behavior of each type of particle separately.

[9] Yang 2012 states that focus-sensitive operators in Mandarin are "merged to the closest phase edge c-commanding the focus element" (p. 78). While this too is an "as low as possible" requirement, this characterization is incorrect. First, there is no independent evidence that the adjunction positions of focus particles are all phase edges; see for example the three positions in (12–14), which I believe to all be within the same phase. Second, it is unclear how this generalization would ever allow for a focus particle to be introduced in a higher clause, associating long-distance with an embedded clause constituent, as we will see in (20) below.

(18) **Two different 'only' in Vietnamese:** (Erlewine, 2017b: 331)

a. Nam **chỉ** mua [cuốn sách]$_F$. *sentential*
Nam only buy CL book

b. Nam mua **mỗi** [cuốn sách]$_F$. *constituent*
Nam buy only CL book
'Nam only bought [the book]$_F$.'

I show in Erlewine 2017b that the sentential 'only' particle *chỉ* has a distribution precisely mirroring that of *shì* above: When preceding a preverbal phrase, *chỉ* must associate with focus on or within the adjacent phrase. When in immediately preverbal position, *chỉ* can associate with the following verb phrase or any subpart thereof. Unlike the constituent 'only' particle *mỗi*, it does not appear in postverbal object positions or inside prepositional phrases.

Such an "as low as possible" constraint on the position of sentential focus particles has been proposed for German by Jacobs (1983, 1986) and Büring and Hartmann (2001), although this analysis for German has proved to be controversial; see Reis 2005, Meyer and Sauerland 2009, and Smeets and Wagner 2018. A version of my constraint motivated for Vietnamese in Erlewine 2017b has been claimed to hold of English (Francis, 2019: 57).[10]

The "as low as possible" logic predicts that, given a particular choice of focus associate (F-marked constituent), the placement of *shì* will be deterministic. This is true of simplex clauses. Let us return to the examples in (12–14) above. If our intended focus associate is the verb phrase or a subpart thereof, the lowest adjunction position for *shì* will be just above the verb phrase.[11] This blocks *shì* from adjoining in a higher position while associating into the verb phrase. If the focus is the preverbal temporal adjunct, *shì* adjoins just above it to c-command it, but no higher due to the "as low as possible" requirement (17). Finally, subject focus or broad focus leads to *shì* in initial position. The same logic yields the same pattern for Vietnamese sentential particles in Erlewine 2017b as well.[12]

This proposal also predicts that *shì* in non-immediately-preverbal position to also be able to

[10] A reviewer asks about the underlying nature of this "as low as possible" constraint. I believe we can think of such a constraint as reflecting a more general functional preference to reduce ambiguity: if a sentential focus particle is adjoined higher in a structure, it is in a position to potentially associate with a larger set of focal targets than if it is adjoined lower. As languages do not morphologically encode the intended locus of alternatives — i.e. F-marking itself is not morphologically realized (see e.g. Branan and Erlewine, 2020) — there is a need to reduce such ambiguities for the benefit of efficient communication. The strict "as low as possible" constraint observed here may be one conventionalized strategy in response to this pressure.

[11] More should be said about the lowest possible position for *shì*. See Chiu 1993, Zhang 1995, and Yang and Ku 2010 for some relevant observations.

[12] I follow Erlewine 2017b in describing these possibilities as varying in the height and timing of adjunction, subject to the restriction in (17), but alternative conceptions are possible. See Erlewine 2015b for discussion.

associate with a focus within the phrase which follows it. This was already observed with the prepositional object in (16) above. Just above the entire PP's attachment is the lowest available point for *shì* to adjoin to the clausal spine and associate with the prepositional object. Similarly, as made clear in Xu 2010, *shì* can narrowly associate with a subpart of an adjacent subject, as in (19). Note that *shì* in (19) must be on the matrix clausal spine, outside of the subject's relative clause, as reflected in the possible translations. This contrast is due to an independent restriction against *shì* in restrictive relatives, which will be discussed in section 5 below.

(19) ***Shì* associating with a focus inside the subject:** (Xu, 2010: 143)

Shì $[_{DP}$ $[_{RC}$ $[$Zhāng Sān$]_F$ mǎi __ de$]$ gǒu$]$ zuì kě'ài.
SHI Zhang San buy DE dog most cute
'It's [the dog that [Zhang San]$_F$ bought] that's the cutest.'
* 'The dog that it's Zhang San that bought is the cutest.'

In all of our examples so far, the position of *shì* is fixed, given a choice of focus associate. When the focus is in an embedded clause, though, we yield apparent optionality in the placement of *shì*. With the focus in an embedded clause, *shì* can be in the higher or lower clause, as seen in (20). These two variants of (20) with *shì* in the higher or lower clause differ in their interpretation, which I discuss in the following section.

(20) **Higher and lower *shì*:**

Zhāng Sān (**shì**) shuō $[_{CP}$ Lǐ Sì (**shì**) dú-le $[$liǎng$]_F$ běn shū].
Zhang San SHI say Li Si SHI read-PFV two CL books
literally: 'Zhang San (SHI) says [that Li Si (SHI) read [two]$_F$ books].'

Note that, within each clause, the placement of *shì* must obey the "as low as possible" restriction (17). We can make sense of the apparent optionality in (20) by taking the "as low as possible" requirement to be relativized to hold only between different adjunction positions within a single syntactic domain. Example (20) shows that the embedded finite clause is its own domain for this purpose. Following Erlewine 2017b, I take the relevant domains to be phases in size.[13]

A further argument for *shì* being a sentential focus particle comes from the availability of multiple focus association (Krifka, 1991).[14] In such multiple focus constructions, all the in-

[13] In the case of *shì*, it is difficult to tell whether the "as low as possible" requirement is relativized to the phase or clause. Distinguishing between these two views would require studying a single clause with an additional verbal phase to potentially host *shì*, but I show independently in section 5 below that *shì* is disallowed in reduced clause environments such as complements of control verbs.

[14] I thank Michael Wagner for suggesting this diagnostic.

tended foci must independently be c-commanded. For English, this results in a difference between sentential and constituent *only*. Consider the contrast in (21):

(21) a. ✓I **only** saw [the children]$_F$ ask [the adults]$_F$ to be quiet.
b. *I saw **only** [the children]$_F$ ask [the adults]$_F$ to be quiet.
c. ***Only** [the children]$_F$ asked [the adults]$_F$ to be quiet.

Only in example (21a) is a sentential *only*, c-commanding all of the embedded clause. This allows for the intended reading, where ⟨children, adults⟩ is the only pair such that the speaker saw the first ask the second to be quiet. In contrast, *only* in (21b,c) are constituent particles, preceding small clause subject or the matrix subject, and only c-command the immediately adjacent constituent.

Shì patterns with English sentential *only* in the availability of multiple focus association. This is illustrated in the following example from Cheng 2008, with her translation.[15] The additional paraphrase of the intended meaning of the second clause is my own, based on the discussion in Krifka 1991.

(22) **Multiple focus with *shì*:** (Cheng, 2008: 256)
Shì [érzi]$_F$ jiào [dàrén]$_F$ bié chǎo, bú **shì** [dàrén]$_F$ jiào [érzi]$_F$ bié chǎo.
SHI son ask adult not noisy NEG SHI adult ask son not noisy
'The son asked the adult not to make noise, not the adult asking the son.'
⟨the son, the adult⟩ is the only pair $\langle x, y \rangle$ such that x asked y not to make noise

The grammaticality of the multiple focus structure in (22) supports the view that *shì* is a sentential particle, taking the entire clause here as its complement. The fact that, in sentences with a single focus, *shì* when not immediately preverbal can only associate with the immediately following constituent must be due to the "as low as possible" requirement on its placement (17) rather than *shì* in such positions being a constituent particle that only c-commands the immediately following constituent.

I conclude this section with a brief note on the relationship between *shì* and other focus particles in Mandarin Chinese. As noted in Shyu 1995: 228–231 and Erlewine 2015a, the distribution of *shì* and its association possibilities appear to parallel that of *zhǐ*(*yǒu*) 'only' and *shènzhì* 'even.' (I set aside the *lián* 'even' particle which obligatorily moves to a dedicated preverbal position.) I propose in Erlewine 2015a that all three items have an identical basic syntax as sentential focus particles that are subject to the "as low as possible" generalization in (17).

[15] Li and Cheung (2015: 366) also note the possibility of multiple association with *shì*.

There are, however, some complications there, especially due to 'only' appearing as *zhǐ* in some positions but *zhǐyǒu* in others.

4 *Shì* requires a congruent QUD

Next, we turn to a semantic constraint on the placement of *shì*: *shì* is only allowed in clauses that are congruent to a Question Under Discussion (QUD; Roberts 1996/2012 a.o.). I argue that this reference to a QUD is part of the conventionalized semantics of *shì*, unlike other focus particles such as 'only.'[16] This aspect of *shì* will help us understand the limited distribution of *shì* in certain types of embedded clauses in section 5 below.

I first will return to example (20) above, where we first observed apparent optionality in the placement of *shì*. Example (20) is reproduced in (23–24) below with different preceding questions: 'How many books did Li Si read?' versus 'How many books does Zhang San think Li Si read?'. In the B responses to these questions, *shì* can only appear in the embedded clause in (23) but only in the matrix clause in (24). In each case, the focus is on the numeral 'two' in the object in the clausal complement of *shuō* 'say.'

(23) **Embedded complement clause congruent to QUD ⇒ low *shì*:**

A: (Shàng ge xuéqī,) Lǐ Sì dú-le jǐ běn shū?
last CL term, Li Si read-PFV how many CL books
'How many books did Li Si read (last term)?'

B: I don't know, but...
Zhāng Sān (**#shì**) shuō [Lǐ Sì (✓**shì**) dú-le [liǎng]$_F$ běn shū].
Zhang San SHI say Li Si SHI read-PFV two CL books
'Zhang San says that it's [two]$_F$ books that Li Si read.'

(24) **Matrix clause congruent to QUD ⇒ high *shì*:**

A: Zhāng Sān shuō [Lǐ Sì dú-le jǐ běn shū]?
Zhang San says Li Si read-PFV how many CL books
'How many books does Zhang San say Li Si read?'

B: Zhāng Sān (✓**shì**) shuō [Li Si (**#shì**) dú-le [liǎng]$_F$ běn shū].
Zhang San SHI say Li Si SHI read-PFV two CL books
'It's [two]$_F$ books that Zhang San says that Li Si read.'

[16] In Erlewine 2016 and in prep., I consider the possibility that *shì* requires congruence to a QUD which has a particular, privileged status as being "accepted" in the discourse in the sense of Roberts 1996/2012. This explains the existence inference of *shì* (see note 5 above) as well as the marked status of *shì* in direct answers to new questions.

These exchanges show that the placement of *shì* in the higher or lower clause is felicitous in different discourse contexts. *Shì* in the embedded clause (23) requires that the embedded clause itself be congruent to the QUD, whereas *shì* in the higher clause (24) requires that the entire utterance with embedded focus be congruent to the QUD, which is supported by A's long-distance constituent question in (24).[17]

The same contrast is observed with focus in a purpose clause in (25–26) below. Here, speaker A is chatting with her friend B, who serves on the corrupt organizing committee of a sports event. In (25), A suggests that Li Si will win, to which B replies that they changed the rules so that Zhang San will win; here, *shì* is most natural within the purpose clause. In (26), A specifically asks who the rules were changed to support, to which B replies that they changed the rules so that Zhang San will win; this case, *shì* can appear in the higher clause and associate with the embedded focus.

(25) **Embedded purpose clause congruent to QUD ⇒ low *shì*:**

A: Zhè chǎng bǐsài **shì** [Lǐ Sì]$_F$ yīdìng huì yíng ba.
this CL competition SHI Li Si definitely will win BA
'It's Li Si that will win this competition right?'

B: Bú-shì. (#**Shì**) [wèile zhè chǎng bǐsài (✓**shì**) [Zhāng Sān]$_F$ yīdìng huì yíng], wǒmen xiūgǎi-le guīzé.
NEG-SHI SHI for this CL competition SHI Zhang San definitely will win 1pl modify-PFV rule
'No. We changed the rules [so that it's [Zhang San]$_F$ who will definitely win this competition].'

(26) **Matrix clause congruent to QUD ⇒ high *shì*:**

A: Nǐmen [wèile zhè chǎng bǐsài Zhāng Sān háishì Lǐ Sì yīdìng huì yíng] xiūgǎi-le guīzé?
2pl for this CL competition Zhang San HAISHI Li Si yīdìng will win modify-PFV rule
'Did you change the rules so that Zhang San or Li Si will definitely win this competition?' (alternative question[18])

[17] A similar interaction between the active QUD and the placement of the German discourse particle *denn* is reported in Bayer, Häussler, and Bader 2016.

B: (✓**Shì**) [wèile zhè chǎng bǐsài (#**shì**) [Zhāng Sān]$_F$ huì yíng], (wǒmen
SHI for this CL competition SHI Zhang San will win 1pl
xiūgǎi-le guīzé).
modify-PFV rule
≈ 'It's [Zhang San$_i$]$_F$ that we changed the rules [so that he$_i$ will definitely win this competition].'[19]

The contrasts in (23–24) and (25–26) both show that the use of *shì* requires the clause with *shì* to have a congruent QUD. Of particular interest are the cases where *shì* is in an embedded cluase, as in (23) and (25); in these examples, B's entire reply is judged as a felicitous and natural response to A, but it is only the embedded clause that is congruent to the QUD made salient by A.[20] *Shì* in these cases is only allowed in these embedded clauses.

To encode this dependency on a QUD, I propose a minimal modification to the semantics of *shì* introduced in section 2 above. Specifically, in (27) below, the set of alternatives used to compute the not-at-issue exhaustive inference of *shì* is specifically a QUD — here a contextually-determined free variable *QUD* — rather than a contextually-determined alternative set *C* à la Rooth 1992.

(27) **The semantics of *shì* (second version):**
$\lambda p \,.\, \lambda w \,.\, p(w)$
NOT-AT-ISSUE: $\forall q \in \text{QUD}\,[(p \not\Rightarrow q) \rightarrow \neg q(w)]$

Note that I assume that a discourse may have multiple active QUDs at a time, so the reference here is to *a* QUD, which need not be the so-called 'current question.' See also note 16 above on the status of this QUD.

In the following section, we will consider more examples of embedded *shì* and see that only certain types of embedded clauses allow for *shì* within them. I will propose that this distribution itself is due in part to the QUD congruence requirement, whose formalization I revise once more in (37) below. On that note, it is perhaps worth highlighting that non-restrictive (appositive)

[18] The use of the *háishì* disjunctor makes this example unambiguously an alternative question. See Erlewine 2014, 2017a for discussion.

[19] This English translation itself is marginal, due to the inability of clefting out of the purpose clause. I use a resumptive pronoun here to make the intended reading clear.

[20] The QUD is explicit in (23) but implicit in (25), reflected in (25A)'s suggestion which itself uses *shì*. I have found it difficult to construct an example similar to (25) but where the content of the purpose clause addresses an explicit question. This appears to reflect a difference in the naturalness of using these different embedded clauses to directly respond to an explicit question, despite both clauses being able to refer to a congruent QUD using *shì*.

relative clauses are one such environment which allows for embedded *shì* for many speakers. Consider example in (28) below. The utterance was judged as natural by three of six speakers consulted, with two others judging it as degraded but possible, and one outright rejecting it.

(28) ***Shì* in non-restrictive relative clause:**
Context: A few candidates were considered for a job. The candidates included Mr. Martin who speaks French and Mr. Müller who speaks German. The boss announces:

%Wǒmen gù-le [shuō déyǔ de] nà ge Martin xiānshēng...
1pl hire-PFV speak German DE that CL Martin Mr.

Wǒ shuō-cuò-le. Wǒmen gù-le [*shì* shuō [fǎyǔ]$_F$ de] nà ge Martin
1sg say-wrong-PFV 1pl hire-PFV SHI speak French DE that CL Martin
xiānshēng.
Mr.

'We hired Mr. Martin [who speaks German]... I misspoke. We hired Mr. Martin [who speaks [French]$_F$].'[21]

Notice that the referent of 'Mr. Martin' is unique in the context, so the relative clauses must be non-restrictive. Here is an instance where — for those speakers who readily accept this example — the QUD referenced by *shì* clearly need not be the most salient or pressing QUD in the discourse. We can imagine here that the main clause addresses a question such as 'Who did we hire?'; the contents of these relative clauses are supplementary and do not obviously contribute to answering this question. However, the first relative clause *shuō déyǔ de* 'who speaks German' itself may raise an implicit question of what language the new hire speaks and answer it with 'German.' This implicit QUD licenses the subsequent use of *shì* in the boss's self-correction. Thus, in this way, the content of a non-restrictive relative may address *a* QUD, although it may not be *the* current question being addressed by the host utterance's at-issue content.

5 On the distribution of *shì* and the syntax of discourse congruence

I now turn to the third restriction on the distribution of *shì* and its implications for the syntax/semantics of discourse congruence. The proposal above, which describes *shì* as a sentential focus particle, by itself may lead us to expect *shì* to appear in a variety of different syntactic environments, just as many other, better studied focus particles such as *only* and *even* and their equivalents may appear in many languages. It turns out, however, that *shì* is systematically

[21] Clefting inside the relative clause is not possible in English, but a rough approximation using a resumptive pronoun would be 'Mr. Martin$_i$, who it's [French]$_F$ that he$_i$ speaks.'

banned in certain clause types, even though other focus particles such as *zhǐ*(*yǒu*) 'only' can appear in them. I propose that what these clause types have in common is that they are syntactically reduced, lacking higher, discourse-related layers of the clause, and this disallows them from making reference to QUDs, which I have argued is an integral part of the semantics of *shì*.

5.1 Clauses which disallow *shì*

We begin with an overview of the environments which do and do not allow *shì*.[22] We have already seen in (23) above that *shì* can appear in an embedded clause complement of *shuō* 'say,' given a congruent QUD. It is similarly available in the complement of other bridge verbs such as 'think,' factive verbs such as 'know,' and the false belief verb *yǐwéi* (see e.g. Glass, 2020). These complements can all be described as finite CPs, although unlike matrix clauses, they disallow high sentence-final particles expressing clause type or speaker attitude (see e.g. Paul, 2014).

(29) ***Shì* possible in finite complement clauses:**

Zhāng Sān { shuō / rènwéi / zhīdào / yǐwéi } [$_{CP}$ **shì** [Lǐ Sì]$_F$ zuò-cuò-le].
Zhang San say think know thought SHI Li Si do-wrong-PFV
'Zhang San {says/thinks/knows/thought wrongly} [that it's Li Si that made a mistake].'

Shì is also grammatical in sentential subjects and in clauses introduced by the preposition *duì*. Li and Huang 2009 shows that these types of clauses in (30–31) differ from the complement clauses in (29) in behaving externally as a nominal argument, as evidenced by their ability to be conjoined by the nominal conjunctors *hé* and *gēn*.

(30) ***Shì* possible in sentential subject:**[23]

[$_{CP}$ Zhè-cì huìyì **shì** [Zhāng Sān]$_F$ dàibiǎo wǒmen] shì ge wèntí.
this-time meeting SHI Zhang San represent 1pl COP CL problem
'[That it's Zhang San that will represent us at this meeting] is a problem.'

[22] To my knowledge, the contrasts that I will concentrate on here extend to interrogative clauses as well. *Shì* is generally available in interrogative clauses, although it interacts with *wh*-phrases, alternative disjunctions, and A-not-A verbs by giving rise to so-called intervention effects as in Beck 2006 and Beck and Kim 2006. See e.g. Huang 1982b: 377–378, Shi 1994: 86ff, Zhu 1997: 118, Yang 2008, 2012, Li and Cheung 2015, and Erlewine 2017a for data and discussion of these effects.

(31) ***Shì* possible in clausal argument of preposition *duì*:**

Wǒ duì [$_{CP}$ zhè-cì huìyì **shì** [Zhāng Sān]$_F$ dàibiǎo wǒmen] méi-yǒu
1sg towards this-time meeting SHI Zhang San represent 1pl NEG-HAVE
yìjiàn.
opinion
'I have no objection to [it being Zhang San that will represent us at this meeting].'

Shì is also available in all adverbial clauses that I have tested. This includes conditional clauses introduced by *rúguǒ*, reason clauses introduced by *yīnwèi*, concessive clauses introduced by *suīrán*, and purpose clauses introduced by *wèile* and *yǐbiàn*. *Shì* in a *wèile* purpose clause is seen in example (25) above.

In contrast, *shì* is disallowed in control complements and small clauses, as in (32–34) below. This restriction for subject and object control verbs is noted in Chiu 1993: 134–135, 142. Note however that 'only' *zhǐ*(*yǒu*) is available in these same positions, indicating that there is not a problem with a focus particle in these positions or with focus on the intended arguments with F-marking.

(32) ***Shì* disallowed in subject control complement:**

Wǒ xiǎng [{ ***shì** / ✓**zhǐ** } hē [kāfēi]$_F$].
1sg want SHI / only drink coffee
* ≈ 'I want [for it to be coffee that I drink].'
✓ 'I want [to only drink [coffee]$_F$].'

(33) ***Shì* disallowed in object control complement:**[24]

Wǒ yīshēng yào wǒ [{ ***shì** / ✓**zhǐ** } hē [kāi-shuǐ]$_F$].
1sg doctor make 1sg SHI / only drink boiled-water
* ≈ 'My doctor makes it so that it's boiled water that I drink.'
✓ 'My doctor makes me [only drink [boiled water]$_F$].'

(34) ***Shì* disallowed in small clause complement:**

Wǒ kàndào [{ ***shì** / ✓**zhǐyǒu** } [Zhāng Sān]$_F$ tōu nèi-tái mótuōchē].
1sg 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].'

[23] Huang (1982b: 374) reports that *shì* is disallowed in sentential subjects, but other speakers I have consulted have found Huang's example acceptable, as well as other examples with *shì* in sentential subjects, such as this example.

The contrasts in (32–34) above at first glance suggest that *shì* is disallowed in non-finite or equivalent reduced clauses, which is the conclusion that Chiu draws.[25,26] However, *shì* is also disallowed within restrictive relative clauses, as previously noted in Teng 1979, Huang 1982b, and Shi 1994: 86–87, 91.

(35) ***Shì* disallowed in restrictive relative clause:** (based on Huang, 1982b: 374)

Wǒ xǐhuān [$_{DP}$ [$_{RC}$ { ***shì*** / ✓**zhǐyǒu** } [Zhāng Sān]$_{F}$ dú-guo __ de] nèi-běn shū].

1sg like SHI / only Zhang San read-EXP DE that-CL book

* 'I like that book [that it's Zhang San that bought].'

✓ 'I like that book [that only Zhang San bought].'

Many speakers do, however, accept *shì* in non-restrictive relatives, as seen in section 4 above; see example (28). It's worth noting that the existence non-restrictive relatives in Mandarin has been controversial. See Constant 2011, Del Gobbo 2014, and Lin and Tsai 2014 for a review of the issues and positions. The availability of *shì* in non-restrictive relatives but not in restrictive relatives, which appears to be a clear, categorical contrast for many speakers, lends support to the view that non-restrictive relatives must be recognized as possible in Mandarin and, furthermore, potentially structurally distinct from restrictive relatives.

The contrasts presented here show that *shì* is systematically disallowed from a range of clause types which otherwise allow focus particles such as 'only.' These clauses include control clauses and small clauses, which are known to be reduced and/or non-finite (see e.g. Grano, 2017; Huang, 2018), but also restrictive relatives. Here I will pursue the core intuition that these environments are all somehow reduced or "truncated," in lacking a particular layer of the CP domain associated with discourse congruence, and that this layer is necessary for calculating the semantics of *shì*.

5.2 Proposal

My proposal for the limited distribution of *shì* will build on the fact that *shì* requires a congruent QUD, as discussed in section 4 above, together with two established ideas regarding the form and function of clausal functional structure. First is the idea that different types of clauses vary

[24] The bracketing here gives the causee argument outside of the embedded clause, but this is a matter of analysis.

[25] Whether Mandarin Chinese truly exhibits a finite/non-finite distinction is a subject of continued debate. See especially Grano 2017 and Huang 2018 for recent discussion.

[26] A reviewer asks whether subject control as in (32) allows for partial control, especially as Landau (2001) has proposed that partial control involves a CP-level head. As Grano (2015) shows, Mandarin subject control with verbs such as *xiǎng* does not allow for partial control. The facts are complicated by the fact that some such verbs also take full clause embeddings with independent subjects, which can then be pro-dropped. See Grano 2015 ch. 6 for details.

in the amount of high functional material that is projected. Such an idea has been particularly well motivated through the study of so-called Main Clause Phenomena (MCP) and/or root transformations, beginning with Emonds 1970 and subsequently extended through the study of various clause types in many languages. Work in this domain has shown that main or root clause status is not simply binary: it may be necessary to draw multiple grades of distinctions, even amongst finite clauses, depending on their type. An influential approach here has been the idea that clauses may be "truncated," projecting different extents of the clausal functional sequence; see especially Haegeman 2002, 2006, 2012 and Krifka to appear.

More specifically for Mandarin, it has been known that there is at least a clear binary division between matrix clauses and embedded clauses, in that matrix clauses can host clause-typing and attitude sentence-final particles, which are never embeddable except through quotation (see e.g. Paul, 2014). More detailed work on different clause types, especially recent work such as Pan and Paul 2018 and Wei and Li 2018, show that further distinctions are necessary even amongst embedded finite clauses. Of particular interest here is that Wei and Li 2018 show that restrictive relative clauses are structurally reduced compared to other finite clauses such as complement clauses.

The second idea that my proposal will build on is the "neo-performative" hypothesis, which claims that functional material associated with the speech act and its context are represented syntactically, in the higher layers of the clause. This line of work builds on an early intuition expressed in Ross 1970 and has been seriously developed in work such as Speas and Tenny 2003, Haegeman and Hill 2013, Wiltschko and Heim 2016, Wiltschko 2017, and Krifka to appear.

An example of MCP and its relation to speech act syntax/semantics is illustrated in (36) below. The adverb *frankly* comments on the speech act itself, rather than its content (see e.g. Ernst, 2002: 70–73). *Frankly* is available in non-restrictive relatives, but not in restrictive relatives. This accords with the intuition that non-restrictive relatives constitute a separate speech act (Emonds, 1979; see also Potts 2005).

(36) ***Frankly* allowed in non-restrictive relative but not in restrictive relative:**

(Emonds, 1979: 239)

a. The boys, who have *frankly* lost their case, should give up.

b. *The boys that have *frankly* lost their case should give up.

This contrast can also be given a syntactic characterization, where non-restrictive relatives project a higher, speech act functional layer that is not present for restrictive relatives.

Concretely, I propose that one such peripheral speech act projection has the function of providing access to QUDs in the discourse context. Here I will refer to the relevant head as *Cong*

for "congruence," although its label and precise identification is not critical for our purposes.[27] Recall from section 4 that the semantics of *shì* depends on the availability of a congruent QUD. If reference to the QUD is necessarily mediated by this functional head Cong, it follows that reduced clauses which do not project Cong will also be unable to host *shì*. I propose that this is the unifying characterization for the clauses which disallow *shì*.

Formally, I encode this dependence on the QUD in the lexical entry for *shì* as in (37) below. The syntactic specification includes an unvalued [QUD] feature which must be valued by Agree.[28] The semantics for *shì* then makes direct reference to the value of the [QUD] feature, and otherwise follows the formulation in (27) above.

(37) **Proposal for Mandarin *shì*:**

$$\left[\begin{array}{ll} \textsc{phon}: & shì \\ \textsc{syn}: & [\,\textsc{uqud}: \underline{\quad\boxed{1}}\,] \\ \textsc{sem}: & \lambda p\,.\,\lambda w\,.\,p(w) \\ & \qquad\qquad \textsc{not-at-issue}:\ \forall q \in \boxed{1}\,[(p \not\Rightarrow q) \rightarrow \neg q(w)] \end{array}\right]$$

Cong is the unique head which bears a [QUD] value. If *shì* fails to Agree with Cong in the local clause to value its [QUD] feature, the result will be uninterpretable.

Consider the interpretation of *shì* in (38), repeated from (1a). Suppose the congruent QUD is 'Who drank the wine?' as in (39), whose denotation is the set of answer propositions.

(38) **Shì** [Zhāng Sān]$_F$ hē-le hóngjiǔ.
SHI Zhang San drink-PFV wine
'It's Zhang San that drank the wine.'

(39) $[\![\text{who drank the wine}]\!] = \left\{\begin{array}{l} \lambda w'\,.\,\text{Zhang San drank the wine in } w', \\ \lambda w'\,.\,\text{Li Si drank the wine in } w', \\ \lambda w'\,.\,\text{Wang Wu drank the wine in } w' \end{array}\right\}$

This denotation of the congruent QUD is the value of the [QUD] feature on the Cong head, which values the [QUD] feature on *shì* under Agree. The semantic interpretation of *shì* makes

[27] In addition to having access to QUDs, this head may also ensure congruence between the clause and a QUD, and thereby being responsible for functions such as question-answer congruence.
Antomo 2012, 2016 proposes that MCP is available in clauses whose content is "at-issue," based on the behavior of German embedded V2 and English topicalization. Since at-issue status has been argued to be directly related to the relation of the clausal content to the QUD(s) in the discourse (Simons, Tonhauser, Beaver, and Roberts, 2010), this too may be thought of as reflecting a link to the QUD(s).

[28] Here I abstract away from whether Agree is initiated by *shì* or the Cong head. See e.g. Bjorkman and Zeijlstra 2019 for recent discussion. What is clear, however, is that *valuation* of the [QUD] value is downward in this Agree relation.

reference to this value, following the specification in (37), resulting in the following not-at-issue inference in (38):

(40) **Not-at-issue inference of (38):**
$\forall q \in [\![\text{who drank the wine}]\!]$
$[(q \not\Rightarrow (\lambda w' \text{ . Zhang San drank the wine in } w')) \rightarrow \neg q(w)]$
= Li Si did not drink the wine and Wang Wu did not drink the wine in w

Syntactically encoding a dependence on a peripheral syntactic head is a common strategy in the analysis of particles with MCP-like distribution. For example, Wei and Li 2018 proposes that certain discourse particle uses of the adverbs *yòu* and *yě* in Mandarin (see pages 197–199, 209–213) must be licensed by a local Force head (p. 219). Similarly, Bayer 2012 and Coniglio 2012 propose that German modal particles must Agree with a local Force head.[29] What is unique in this proposal is the semantic motivation of this syntactic dependency from the interpretation of *shì* itself, based on its conventionalized reference the QUD (section 4).

In contrast, I propose that 'only' does not quantify over a QUD as its alternative set, *pace* Beaver and Clark 2008 and Coppock and Beaver 2011.[30] 'Only' therefore does not bear this syntactic dependency on Cong for access to the QUD. The semantics of 'only' in Mandarin instead quantifies over the Roothian focus alternatives of its complement, represented in (41) by $Alt(p)$. More specifically, for ONLY with sister α, $p = [\![\alpha]\!]^{o}$ and $Alt(p) \equiv [\![\alpha]\!]^{f}$ in the notation of Rooth 1992.

(41) **Proposal for the semantics of Mandarin ONLY:**
$\text{ONLY} = \lambda p \text{ . } \lambda w : p(w) \text{ . } \forall q \in Alt(p) \, [(q >_S p) \rightarrow \neg q(w)]$

5.3 The "one *shì* per clause" restriction

The proposed difference between *shì* and 'only' in QUD sensitivity has the potential to explain an additional difference between *shì* and 'only.' As noted by Huang (1982b: 375–376) and Chiu (1993: 129–130), only one *shì* is allowed per clause. No such restriction holds of 'only.'

(42) **Only one *shì* per clause:**
***Shì** [Zhāng Sān]$_F$ **shì** dú-le [zhè-běn shū]$_F$.
SHI Zhang San SHI read-PFV this-CL book

[29] Bayer refers to the head as C, without distinguishing between distinct heads in a split CP.

[30] Kadmon and Sevi 2011 also presents more direct arguments against the idea that focus particles such as *only* necessarily quantify over a QUD as its alternative set. See also discussion in Roberts 2011 and Büring 2019.

(43) **No such restriction on 'only':**

Zhǐyǒu [Zhāng Sān]$_F$ **zhǐ** dú-le [zhè-běn shū]$_F$.
only Zhang San only read-PFV this-CL book
'Only [Zhang San]$_F$ read only [this book]$_F$.'

There are in principle two possible approaches to ruling out structures of the form in (42). The first is syntactic. Suppose Cong is only able to Agree with and value one [uQUD] feature in its domain. Two *shì* in the same domain of Cong will be immediately ungrammatical, for syntactic reasons. The second approach is semantic. Because each *shì* will quantify over the same alternative set *C*, the clause's QUD, its multiple applications in an example such as (42) will be vacuous. Work such as Crnič 2011: 110, Alxatib 2020, and Erlewine and New 2019 have independently proposed that the use of focus particles must not be vacuous; such a Non-Vacuity constraint on the use of *shì* would similarly rule out the structure in (42). In more complex examples with intervening quantificational material between the two *shì*, the multiple applications of *shì* may not be vacuous, but other interpretational problems may arise. I will leave the full exploration of these possibilities, and its comparison to the syntactic approach to this constraint, for future work.

In contrast multiple 'only' in a single clause is grammatical, as in (43). The semantics I propose for 'only' in (41) above straightforwardly yields the correct meaning for such examples. This is possible crucially because the alternatives considered by the low 'only' at the VP edge and the high 'only' at the top of the clause are distinct. Intuitively, the lower alternatives vary in the choice of object, while the higher alternatives vary only in the choice of subject. Note that this would not be possible if 'only' particles necessarily quantify over the QUD, requiring multiple particles within a single clause to quantify over a single QUD.

6 Conclusion

The focus particle use of *shì* has been a topic of substantial interest within contemporary Mandarin Chinese grammar. *Shì* expresses not-at-issue exhaustive focus semantics, similar to the semantics of clefts in other languages. Here I have investigated the distribution of the focus particle *shì*. I propose that *shì* is a sentential focus particle, adjoined to the clausal spine and associating with a focus in its scope. Three constraints then together govern its placement. First, *shì* must be adjoined as low as possible while taking its focus in its scope, within its clause or phase (see note 13). Such a constraint on sentential focus particles has been independently motivated in previous work on German (Jacobs, 1983; Büring and Hartmann, 2001), Vietnamese (Erlewine, 2017b), and English (Francis, 2019).

Second, I showed that the use of *shì* is dependent on congruence to a Question Under Discussion, but 'only' is not (*pace* Beaver and Clark 2008; Coppock and Beaver 2011). Access to the QUD is provided by an Agree relation with functional head in the high, speech act-related layer of the clause. Certain reduced clauses lack this head and therefore disallow *shì*, although other focus particles such as 'only' are allowed in them. Future work must pursue a more precise identification of this head, in relation to other functional heads proposed in the performative domain (see e.g. Speas and Tenny, 2003; Haegeman and Hill, 2013; Wiltschko, 2017; Krifka, to appear) and the typology of truncated clause types in Mandarin, as explored in recent work such as Pan and Paul 2018 and Wei and Li 2018.

By way of conclusion, I return to an important remaining issue regarding *shì*: that of the relationship between the focus particle *shì* described here and the copular verb *shì*. Under my proposal here, the focus particle *shì* and the copular verb *shì* are synchronically distinct lexical items, although there they clearly share a diachronic source. Jin (2020) looks across the modern Sinitic family to show that copular verbs regularly also have a use as a cleft particle. He also discusses diachronic evidence which shows that a copular verb later gained a use as a focus marker at least three times in the history of Chinese languages, suggesting that this is a common path of grammaticalization.[31]

Many previous authors have pursued the intuition that *shì* in its focus particle use is more directly related to the verb *shì*; see especially Huang 1988 but also Shi 1994 and Chiu 1993 who claim that the focus particle *shì* has the syntax of a modal verb. In my view, an important fact which these approaches miss is the close parallels between *shì* and other focus particles *zhǐ*(*yǒu*) 'only' and *shènzhì* 'even' in their focus association possibilities, which have been more straightforwardly analyzed as focus particles in the literature. In particular, it is not clear how a 'copular' account can derive the apparent "as low as possible" restriction on the position of *shì* (§10), which is familiar from sentential focus particles in other languages. See also Tham 2008 and von Prince 2012 for further discussions of both the copula *shì* and focus marker *shì* which highlight their differences in behavior.

What may appear to be the most challenging for my approach, where the focus particle *shì* has no verbal status, is the ability of the focus particle *shì* to undergo A-not-A question formation. Mandarin Chinese has a polar question formation strategy which is often described as involving reduplication of a modal or lexical verb with negation (44). The availability of this question strategy applying to *shì* as in (45) at first glance suggests that *shì* here is itself a verb, as also suggested recently in Jin 2020.

[31] Similar patterns are attested in other language families as well. See for example Nurse 2006: 195–197 and citations there for discussion of a focus or cleft marker with a copular source in many Bantu languages.

(44) **A-not-A polar question formation:** (Huang, 1991: 306)

Tā **xǐhuān-bù-xǐhuān** zhè-běn shū?
3sg like-NEG-like this-CL book
'Does s/he like this book?'

(45) **A-not-A applied to *shì*:** (based on Shi, 1994: 85)

Nǐ **shì-bú-shì** [míngtiān]$_F$ dòng shǒushù?
2sg SHI-NEG-SHI tomorrow undergo operation
'Is it tomorrow that you will undergo an operation?'

When we consider a wider range of examples, though, it becomes difficult to maintain that A-not-A question formation necessarily targets verbs. This process can target certain adverbs such as *cháng* 'often' in (46) and also the comparative standard marker *bǐ* in (47):

(46) **A-not-A applied to adverb 'often':** (Tsai, 1994: 162)

Akiu **cháng-bù-cháng** lái?
Akiu often-NEG-often come
'Does Akiu come often'

(47) **A-not-A applied to comparative morpheme:** (Erlewine, 2007: 16)

Nǐ **bǐ-bù-bǐ** tā gāo?
2sg BI-NEG-BI 3sg tall
'Are you taller than him/her?'

I suggest that what we should take away from such data is that being a verb is not a prerequisite for being a target of A-not-A formation. The grammaticality of examples such as (45) does not lead us to immediately conclude that the focus particle *shì* is itself a verb.

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