

Mandarin *shì* clefts and the syntax of discourse congruence

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This paper investigates the syntax and semantics of the Mandarin Chinese morpheme *shì* in its focus particle use. *Shì* associates with an in-situ focus and expresses cleft semantics. I argue that *shì* is a sentential focus particle subject to a requirement to adjoin as low as possible. This makes Mandarin *shì* notable as it expresses cleft semantics without separating the focused phrase from the rest of the clause, as is cross-linguistically common in the expression of clefts.

I then show that *shì* is disallowed in certain reduced clauses, unlike ‘only.’ I propose that this restriction on the distribution of *shì* is due to its semantics, together with a particular proposal for the syntax of discourse congruence: the semantics of *shì* makes reference to the Question Under Discussion (QUD), unlike ‘only,’ and access to the QUD 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.

Acknowledgements For discussion of Mandarin judgments related to this project, I thank Ting-Chun Chen, Yuanchen Cheng, Grace Kuo, Chi-Ming Louis Liu, Keely New, Pamela Pan, Victor Junnan Pan, Zheng Shen, Ning Tang, Wenkai Tay, Edwin Tsai, Tianxiao Wang, and Yimei Xiang. For additional comments and discussion, I thank Chris Davis, Kai von Stechow, Tom Grano, Aron Hirsch, Daniel Hole, Gurmeet Kaur, Hadas Kotek, Elin McCready, Waltraud Paul, Maribel Romero, Yimei Xiang, Gregoire Winterstein, and audiences at the European Association for Chinese Linguistics (Stuttgart, 2015), Theoretical Linguistics at Keio (2016), and the Education University of Hong Kong (2016).

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 defend 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 syntactic distribution. First, I consider what type of focus particle *shì* is. 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). The fact that *shì* expresses cleft semantics but without movement or a biclausal syntax makes it typologically notable, and shows that its semantics need not be derived from the semantics of copular constructions, definite descriptions, or focus movement, as has been proposed in Percus 1997 and Büring and Križ 2013.

Second, I observe 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’

¹ 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.

are allowed in such environments. I propose that this aspect of *shì* is due to the cleft semantics of *shì* being parasitic on congruence with a Question Under Discussion (Roberts, 1996/2012), and that QUD congruence is evaluated in the extended CP periphery. This function of verifying QUD congruence is unavailable in various embedded clauses, due to the reduced organization of the clause.

I begin in section 2 by establishing the focus marker *shì* as expressing cleft semantics, and briefly comment on the use of the term “cleft” in comparative grammar. I also present a formal analysis for the semantics of clefts there, based on Velleman, Beaver, Destruel, Bumford, Onea, and Coppock 2012. In section 3, I will argue that *shì* is a sentential focus particle subject to a restriction on its adjunction position, and thus is synchronically distinct from the copular verb. I then discuss clauses that cannot host the focus particle *shì* at all, in section 4, and argue that this is related to the “truncation” of certain clause types.

2 *Shì* expresses cleft semantics

The *shì* focus construction has often been described as a “cleft” and translated into English *it*-clefts since at least Huang (1982a: ch. 4).³ In this section, I begin by briefly introducing the notion of a “cleft” and its history, and then provide evidence to support the description of the Mandarin *shì* construction as a cleft.

2.1 English *it*-clefts and their semantics

The term “cleft sentence” was introduced by Jespersen (1937: 73–74, 1954: 147–149) in his description of examples such as those in (2) below. In his words, “A cleaving of a sentence by means of *it is* (often followed by a relative pronoun or connective) serves to single out one particular element of the sentence and very often, by directing attention to it and bringing it, as it were, into focus, to mark a contrast” (Jespersen, 1954: 147–148).

(2) English *it*-clefts from Jespersen 1954: 148:

- a. It is the wife that decides.
- b. It was John (that) we saw.

The term “cleft” thus refers to two characteristic properties: a semantic function of putting one part of the sentence in exhaustive or contrastive focus and a syntactic form which “cleaves” (i.e. separates) the focus from the rest of the clause. Here I will first concentrate on the semantic definition of cleft-hood, and then return to the question of its associated syntax below.

³ Huang (1982a) did not look at the *shì...de* construction. See Huang 1982a, section 4.4 footnote 22.

Clefts have a recognizable semantics which appears to be cross-linguistically stable, although challenging to articulate precisely. Clefts are widely recognized as expressing (at least) three different types of meanings: (a) the assertion of the prejacent, (b) an exhaustivity inference, and (c) an existence requirement. These three meaning components for the cleft in (2b) are informally paraphrased in (3a–c):

(3) **Components of cleft meaning, a first description:**

It is John that we saw.	$f = \text{John}, P = \lambda x . \text{we saw } x$
a. <i>Prejacent:</i> We saw John.	$P(f)$
b. <i>Existence:</i> We saw someone.	$\exists x[P(x)]$
c. <i>Exhaustivity:</i> We didn't see anyone else.	$\forall y[y \neq f \rightarrow \neg P(y)]$

The description of these meaning components warrants some further discussion and refinement. First, we notice that the existence claim as in (3b) is itself entailed by the prejacent (3a), so its independent status is not immediately apparent. The existence requirement is however detectable under negation (Dryer, 1996; Rooth, 1999; a.o.):

(4) **Existence requirement projects out of negation:**

It's not John that we saw. # We didn't see anyone.

A negative cleft as in (4) expresses the negation of the prejacent — that, in this case, we did *not* see John — but we are still committed to there having been someone that we saw. The existence requirement in (3b) thus projects through negation and may be described as a presupposition.

Second, we turn to the exhaustivity claim in (3c). Exhaustivity is easily demonstrated by setting up a contradiction, with a continuation which is not a cleft (5b) or which is itself a cleft (5c). The baseline in (5a) shows that the corresponding non-cleft sentence *We saw John* does not express exhaustivity.

(5) **Demonstrating exhaustivity:**

- a. We saw John. We also saw Chelsea.
- b. It's John that we saw. # We also saw Chelsea.
- c. It's John that we saw. # It's (also) Chelsea (that we saw).

This exhaustivity claim of clefts appears to not be part of the assertion. We can see this particularly clearly by comparing clefts with corresponding *only* sentences under embedding. It is known since Horn 1969 that *only* sentences presuppose their prejacent and assert exhaustivity. Consider the contrasts in (6) and (7) below:

- (6) **Only vs it-cleft under know:** (Büiring and Križ 2013: 2, based on Horn 1981)
- a. ✓ Bob knew she invited Fred, but he didn't know she only invited Fred.
 b. #Bob knew she invited Fred, but he didn't know it was Fred she invited.
- (7) **Only vs it-cleft under negation:** (Büiring 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.

Example (6a) with *only* is coherent, as Bob can know that she invited Fred but not that no others were invited; in other words, the exhaustivity claim of *only* that no others were invited is (part of) the content embedded under *know*. Similarly, negation can target the exhaustivity claim of *only* in (7a). We contrast this to the unnaturalness of (6b) and (7b). The meaning construed as embedded under *know* or negation appears to simply be the prejacent proposition, leading to a contradiction in each case. The exhaustivity claim of clefts must project out of such embeddings.

We conclude that clefts assert their prejacent proposition (3a) and presuppose existence and exhaustivity (3b,c).⁴ This neatly mirrors the behavior of *only*, which asserts the exhaustivity claim and presupposes the truth of its prejacent (Horn, 1969). I will introduce a formalization of this account based on Velleman et al. 2012 and discuss its syntax/semantics in a later section.

2.2 The Mandarin *shì* construction

With this background on the semantics of English clefts in place, we now turn to the semantics of Mandarin *shì* focus constructions. First and foremost, the addition of *shì* introduces exhaustivity, similar to the use of 'only.' Exhaustivity can be demonstrated by setting up contradictions, just as we did in the English (5) above. Example (8a) is a baseline showing that there is no exhaustivity associated with a sentence without 'only' or *shì*. In (8b) and (8c), the particle *zhǐyǒu* 'only' or *shì* is in initial position and associates with the focused subject.

- (8) **'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.'

⁴ The basic description of the exhaustivity claim as in (3c) will, however, need to be revised. If the claim is simply 'we didn't see anyone that is not John,' and this projects through negation, we predict it to lead to a contradiction when taken together with the negation of the prejacent ('we didn't see John') and the existence presupposition ('we saw someone') in *It's not John that we saw* (4). To avoid this problem, Büiring 2011 proposes that the exhaustive claim of clefts is a *conditional* exhaustivity claim: for example, the cleft *it's John that we saw* requires that 'if we saw John, we didn't see anyone else,' instead of the simple exhaustivity claim in (3c).

- b. **Zhǐyǒu** [ZS]_F lái-le. { # [LS]_F yě lái-le. / # (Yě) zhǐyǒu [LS]_F lái-le. }
- only ZS come-PFV LS also come-PFV also only LS come-PFV
- ‘Only [Zhang San]_F came. { # [Li Si]_F also came. / # (Also) only [Li Si]_F came. }’
- c. **Shì** [ZS]_F lái-le. { # [LS]_F yě lái-le. / # (Yě) shì [LS]_F lái-le. }
- SHI ZS come-PFV LS also come-PFV also SHI LS come-PFV
- ‘It’s [Zhang San]_F that came. { # [Li Si]_F also came. / # It’s (also) [Li Si]_F that came. }’

As also previewed in the introduction, *shì* focus constructions do not require their focus to be in a dedicated, fronted position, as English *it*-clefts do. The focus in (8c) 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 as well. 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 (9).

- (9) **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 (9) could associate with the location Beijing, but it could alternatively associate with another focus such as the entire predicate that follows it.⁵ When we clarify that the first sentence in (9) is to be interpreted with narrow focus on the location Beijing, exhaustivity again rears its head:

⁵ The most natural confounding reading which makes (9) natural is a verum-like reading. Hole and Zimmermann (2013: 307) describe *shì* in (9) 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.

(10) **Exhaustivity effect of (9):**

#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) }.'

Shì also requires that some alternative be true, if not the prejacent itself, and this existence requirement projects out of negation. For example, in (11), the negated *shì* construction still requires that someone came, much like the English *it*-cleft in (4).

(11) **Existence requirement of *shì* projects out of negation:**⁶ cf English (4)

Bú **shì** [Zhāng Sān]_F lái-le. # Měi-yǒu rén lái-le.

NEG SHI Zhang San come-PFV NEG-HAVE person come-PFV

'It's not Zhang San that came. #No one came.'

See also Liu and Yang 2017 for recent experimental evidence supporting the exhaustivity of the *shì* construction.

Let us now turn to the differences between the Mandarin counterpart of 'only' and *shì*, which I claim both express exhaustivity. Here we consider their behavior under 'know' and negation, modeled after the English examples in (6–7) above. When the 'only' sentences are embedded, its exhaustivity is targeted by 'know' (6a) and negation (7b), with the prejacent proposition presupposed, whereas with *shì*, the prejacent is targeted by 'know' (6b) and negation (7b) and the exhaustivity claim projects out.

(12) **'Only' vs *shì* under 'know':** cf English (6)

a. ✓WW zhǐdào ZS_i yāo LS lái, dàn bù zhǐdào tā_i **zhǐ** yāo [LS]_F (lái).

WW know ZS invite LS come, but NEG know 3sg only invite LS come

'WW knows ZS_i invited LS to come, but didn't know that he_i invited only [LS]_F.'

b. #WW zhǐdào ZS_i yāo LS lái, dàn bù zhǐdào tā_i **shì** yāo [LS]_F (lái).

WW know ZS invite LS come, but NEG know 3sg SHI invite LS come

'WW knows ZS_i invited LS to come, but didn't know that it's [LS]_F that he_i invited.'

⁶ The tonal realization of the negator *bù* changes to a rising tone when preceding a falling tone, explaining its appearance as *bú* preceding *shì* here.

(13) ‘Only’ vs *shì* under negation:

cf English (7)

- a. ✓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.’
- b. #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.’

This accords with the pattern we saw for English *only* versus *it*-clefts in (6–7) above: the semantics of the Mandarin ‘only’ particles *zhǐ*/*zhǐyǒu*⁷ pattern with English *only*, as previously observed in Tsai 2004, whereas the semantics of the *shì* construction patterns with the behavior of English *it*-clefts.⁸ *Shì* asserts its prejacent proposition and presupposes existence and exhaustivity. This motivates the use of *it*-cleft translations for *shì* sentences.

As reviewed above, we have seen that English *it*-clefts have a characteristic semantic signature: presupposing existence and exhaustivity and asserting its prejacent. Referring to these structures as “clefts” suggests that the syntax of “cleaving” — separating the focus from the rest of the clause — is a necessary condition for calling a construction a cleft, or perhaps even a necessary condition for expressing this particular semantics. These two issues should not be confused. The first is a definitional question, while the second is an empirical one.

I begin first with the empirical question: Can a language express the semantics associated with uncontroversial clefts without the syntax of cleaving? We have seen that the Mandarin *shì* construction is such a construction, expressing cleft semantics while leaving its focus in-situ.⁹ Further examples of *shì*’s ability to associate with an in-situ focused phrase will be presented in the following section 3.

As for the definitional question, some previous authors have opted to reserve the term

⁷ The Mandarin ‘only’ particle appears as *zhǐ* in some environments but *zhǐyǒu* in others. 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.

⁸ In addition, Lee 2005: 89–91 shows that ‘only’ in Mandarin cannot associate with universal quantifiers whereas *shì* can. It is well known that ‘only’ in English cannot associate with universal quantifiers and other such items at the “top” of their scale. See Alxatib 2020 and references there for significant discussion. Additional differences between *shì* and ‘only’ will be discussed in section 4.

⁹ Huang (1982a) writes, “The situation with the Chinese sentence, however, is quite different. A cleft sentence differs from a non-cleft only in the presence vs. absence of the focus indicator, the copula *shì*” (p. 290). Similarly, Shyu (1995) writes, “The Chinese cleft construction with *shì* ‘be’ behaves like other focus adverbs or operators, in contrast to the cleft focus movement attested in English and Hungarian” (p. x). Huang and Shyu however do not provide evidence that *shì* constructions express cleft semantics as I do here.

“cleft” for structures which exhibit a biclausal syntax akin to that of the English *it*-cleft. For example, Paul and Whitman (2008) write, “The sentence-medial bare *shi* pattern lacks a biclausal structure and thus cannot be interpreted as a cleft” (p. 444). See also Hole 2011: 1709. *Pace* these authors, I advocate for the use of this term to refer to any construction that expresses cleft semantics, regardless of its syntactic shape. I therefore refer to the Mandarin bare *shi* construction as a cleft construction, despite it lacking the “cleaving” syntax associated with such meanings in languages such as English.

2.3 Formalizing cleft syntax/semantics

Before we dive into the syntax of *shi*, I will take a brief detour to introduce an approach to the formal semantics of clefts and the demands this places on its syntax. The key take-away here will be that the further consideration of cleft semantics itself does not lead us to expect a particular syntactic shape for these structures. In particular, the proposal reviewed here leads us to expect that cleft semantics can be introduced by a focus particle that associates with an in-situ focus, as I will propose to be the case with *shi*. Readers who are eager to proceed to the Mandarin facts may move on to section 3.

Here I will present a particular proposal for the semantics of English *it*-clefts and its relationship to *only* from Velleman, Beaver, Destruel, Bumford, Onea, and Coppock 2012, with a minor adjustment which will prove important below. We begin by defining two operators **MAX** and **MIN** in (14), which make referent to a contextually determined ordering $>_S$ and a set of alternative propositions C .

- (14) **MIN and MAX:** (based on Velleman et al., 2012: 451)
- a. $\text{MIN} = \lambda p . \lambda w . \exists q \in C [q(w) \wedge (q \geq_S p)]$
 “There’s a true proposition in C that is at least as strong as p .”
 - b. $\text{MAX} = \lambda p . \lambda w . \forall q \in C [(q >_S p) \rightarrow \neg q(w)]$
 “No true proposition in C is strictly stronger than p .”

For Velleman et al. 2012, following Beaver and Clark 2008 and Coppock and Beaver 2011, the alternative set C is always the Current Question under discussion, but we can also think of it as the Roothian focus alternatives to the prejacent. I will return to this question of the identification of C at the end of this paper.

The denotations of *only* and the cleft operator are both defined in terms of **MIN** and **MAX**. Notice that **ONLY** and **CLEFT** mirror each other in a particular way: whereas **ONLY** presupposes **MIN** and then asserts **MAX**, **CLEFT** presupposes **MAX** and asserts **MIN**.

(15) **ONLY and CLEFT:**

- a. $\text{ONLY} = \lambda p . \lambda w : \text{MIN}(p)(w) . \text{MAX}(p)(w)$ (Coppock and Beaver, 2011: 199)
b. $\text{CLEFT} = \lambda p . \lambda w : \text{MAX}(p)(w) . \text{MIN}(p)(w)$ (based on Velleman et al., 2012: 452)

The semantics in (15) accounts for the behaviors surveyed above, including the cleft’s presuppositions of existence and conditional exhaustivity, as well as the differences in embedding behavior between *only* and the cleft. See Velleman et al. 2012 for discussion of these points.

Let us now consider how this proposal interacts with the syntax of clefts. A defining characteristic of English *it*-clefts, highlighted by Jespersen’s own reference to “cleaving,” is its separation of a focus-containing phrase from the rest of the clause. However, the CLEFT operator (15b) takes a single propositional argument, the prejacent, e.g. ‘that we saw John.’ A simple way to conceptualize this would be to think of the fronted phrase as reconstructed at LF into the sole argument of CLEFT. This is schematized in (16).

- (16) a. PF: It’s [John]_F [CP that we saw ____]
b. LF: CLEFT [CP we saw [John]_F]

A prediction of this approach is that the CLEFT operator should in fact be sensitive to focus not only within the fronted phrase but also within the following clause. Evidence for this view comes from what Hedberg (1990, 2013) calls “vice versa” clefts, first described in Ball and Prince 1977:

(17) **Vice versa cleft:** (Ball and Prince, 1977)

It isn’t John that shot Mary; it’s Mary that shot John!

Such examples appear to counterexemplify the simple description, as in (3) above, of clefts as presupposing that some individual satisfies the predicate described by the cleft clause. For instance, we do not take the first sentence in (17) to presuppose that someone shot Mary. Instead, if both *Mary* and *John* are focused, both clefts presuppose that there is a true proposition of the form ‘*x* shot *y*.’ This is indeed the presupposition predicted by the analysis in Velleman et al. 2012.

An important consequence of this work on cleft semantics is that the syntax of “cleaving” — partitioning the clause by extracting or otherwise setting apart the focus or focus-containing phrase — is not a requisite component of the semantics of clefts. For Velleman et al. 2012, CLEFT may just as well have an identical syntax as *only*, taking the prejacent proposition as its complement and associating with a focus within.

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 *onlys*, realized identically in form. Both *only* associate with the object and express the same meaning in (18).

(18) **Two different *only* in English:**

- a. Laura **only** drinks [red wine]_F. *sentential*
- b. Laura drinks **only** [red wine]_F. *constituent*

That English *only* comes in two varieties can be verified through their association possibilities. *Only* in preverbal position as in (19) 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 (20) must associate with a focus in that constituent.

(19) **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.

(20) 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 (19–20) are explained by *only* in (19) being sentential *only*, adjoined to the clausal spine, and *only* in (20) being constituent *only*, adjoined directly to a DP or PP, together with the c-command requirement on association with focus (21).¹⁰

(21) **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.

¹⁰ English sentential and constituent *only* also vary in their scope-taking possibilities; see Taglicht 1984.

As a result, constituent particles such as *only* in (20) exhibit a type of adjacency requirement, not observed with sentential particles as in (19).

With this background in place, we now consider the possible patterns of association for *shì*. We first consider examples (22–24) below, which are modified and expanded from that in Huang (1982a: 290).¹¹ These examples show *shì* in different preverbal positions in a simplex transitive clause with a preverbal adjunct.

(22) **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.’

(23) 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.’

(24) 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.’

¹¹ I note that some of these English translations, especially with clefting of the verb *buying* alone, is rather unnatural. I use this mode of presentation here in order to reinforce the point, from section 2 above, that Mandarin *shì* expresses a semantics akin to that of English *it*-clefts, without any displacement of the focus.

- f. *‘It’s that [I bought that book yesterday]_F.’

The possible patterns of association in (22–24) can be summarized as follows. *Shì* before the subject (22) or before the adjunct ‘yesterday’ (23) exhibit an adjacency effect, requiring its focus to be the immediately following phrase.¹² However, *shì* in immediately preverbal position (24) 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 (25) is flatly ungrammatical. Object focus with *shì* requires *shì* to be in immediately preverbal position, as in (24) above.

(25) **No postverbal *shì*:**

*Wǒ zuótiān 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 (26) with a preverbal prepositional phrase.

(26) **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 (22–23) are straightforwardly explained if *shì* there are a constituent particle, directly

¹² 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 sentence formation, then, is to say that it inserts the marker *shì* directly in front of the constituent in focus.” Cheng (2008: 254) states the “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.

adjoining to the focused subject or adjunct. On the other hand, the distribution of *shì* in (24–26) challenge 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 (27).¹³

- (27) **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.

This approach builds on previous work by Jacobs (1983, 1986) and Buring and Hartmann (2001) on German focus particles as sentential particles, but this approach for German has proved to be controversial; see Reis 2005, Meyer and Sauerland 2009, and Smeets and Wagner 2018. Erlewine 2017b shows this constraint to hold in Vietnamese, but it is not suggested that it is universal. Nonetheless, a version of this constraint has been claimed to hold of English (Francis, 2019: 57).

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* (28a) whereas the constituent ‘only’ is *mỗi* (28b). This allows us to unambiguously study the behavior of each type of particle separately.

- (28) **Two different ‘only’ in Vietnamese:** (Erlewine, 2017b: 331)
- | | | |
|----|---|--------------------|
| a. | Nam chỉ mua [cuốn sách] _F . | <i>sentential</i> |
| | Nam only buy CL book | |
| b. | Nam mua mỗi [cuốn sách] _F . | <i>constituent</i> |
| | 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

¹³ 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 (22–24), 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 (30) below.

the following verb phrase or any subpart thereof. Unlike the constituent ‘only’ particle *mǎi*, it does not appear in postverbal object positions or inside prepositional phrases.

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 (22–24) 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.¹⁴ 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 (27). 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.¹⁵

This proposal also predicts the availability of *shì* not in immediately preverbal position to also associate with focus into its following phrase phrases. This was already observed with the prepositional object in (26) 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 (29). Note that *shì* in (29) 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 4 below.

(29) *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 (30). These two variants of (30) with *shì* in the higher or lower clause differ in their interpretation, as will be discussed in section 4 below.

¹⁴ 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.

¹⁵ I follow Erlewine 2017b in describing these possibilities as varying in the height and timing of adjunction, subject to the restriction in (27), but alternative conceptions are possible. See Erlewine 2015b for discussion.

(30) **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 (27). We can make sense of the apparent optionality in (30) by taking the “as low as possible” requirement to be relativized to hold only between different adjunction positions within a single syntactic domain. Example (30) 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.

A further argument for *shì* being a sentential focus particle comes from the availability of multiple focus association (Krifka, 1991).¹⁶ In such multiple focus constructions, all the intended foci must independently be c-commanded. For English, this results in a difference between sentential and constituent *only*. Consider the contrast in (31):

- (31) 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 (31a) 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 (31b,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.¹⁷ The additional paraphrase of the intended meaning of the second clause is my own, based on the discussion in Krifka 1991. Notice that, in Hedberg’s terms, this example is a “vice versa” cleft, like the English (17) above.

(32) **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 ⟨*x*, *y*⟩ such that *x* asked *y* not to make noise

¹⁶ I thank Michael Wagner for suggesting this diagnostic.

¹⁷ Li and Cheung 2015: 366 also note the possibility of multiple association with *shì*.

The grammaticality of the multiple focus structure in (32) 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 (27) 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 (27). There are, however, some complications there, especially due to ‘only’ appearing as *zhǐ* in some positions but *zhǐyǒu* in others.

4 The distribution of *shì* and the syntax of discourse congruence

I now turn to a further puzzle regarding 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 would 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 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 the Question Under Discussion (QUD; Roberts, 1996/2012), which is an integral part of the semantics of *shì*.

4.1 Clauses which disallow *shì*

We begin with an empirical overview of the environments which do and do not allow *shì*.¹⁸ We have already seen in (30) above that *shì* can appear in an embedded clause complement of *shuō*

¹⁸ 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.

‘say.’ It is also 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, 2019). 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).

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

Zhāng Sān { shuō / rènwéi / zhīdào / yǐwéi } [CP **shì** [Lǐ Sī]_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 (34–35) differ from the complement clauses in (33) in behaving externally as a nominal argument, as evidenced by their ability to be conjoined by the nominal conjunctors *hé* and *gēn*.

(34) ***Shì* possible in sentential subject:**¹⁹

[CP Zhè-cì huìyì **shì** [Zhāng Sān]_F dài-biǎo 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.’

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

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

Shì is also available in essentially all adverbial clauses that I have tested. This includes conditional clauses introduced by *rúguǒ*, reason clauses introduced by *yīnwèi*, and concessive clauses introduced by *suīrán*. Pan and Paul 2018 argues that, under some circumstances, *s*. The one exception, *wèile* purpose clauses, will be discussed below.

In contrast, *shì* is disallowed in control complements and small clauses, as in (36–38) 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.

¹⁹ 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.

(36) *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].'

(37) *Shì* disallowed in object control complement:²⁰

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].'

(38) *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].'

The contrasts in (36–38) above at first glance suggest that *shì* is disallowed in non-finite or equivalent reduced clauses, which is the conclusion that Chiu draws.²¹ However, there are other clause types which appear to be full finite clauses, but which nonetheless disallow *shì*. Two such environments I am aware of are restrictive relative clauses, as previously noted in Teng 1979, Huang 1982b, and Shi 1994: 86–87, 91, and *wèile* purpose clauses for many speakers:

(39) *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].'

²⁰ The bracketing here gives the causee argument outside of the embedded clause, but this is a matter of analysis.

²¹ 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.

(40) *Shì* disallowed in *wèile* purpose clause for many speakers:

Wèile [zhè-cì bǐsài { %shì / ✓zhǐyǒu } [Zhāng Sān]_F néng yíng],
for this-time competition SHI / only Zhang San able win
wǒmen xiūgǎi-le guīzé.
1pl modify-PFV rule
% ‘So that [it’s Zhang San that can win in this competition], we modified the rules.’
✓ ‘So that [only Zhang San can win in this competition], we modified the rules.’

Interestingly, some speakers who disallow *shì* in the *wèile* purpose clause in (40) nonetheless accept *shì* in a postverbal *yǐbiàn* purpose clause, as in (41).

(41) *Shì* allowed in postverbal *yǐbiàn* purpose clause:

Wǒmen xiūgǎi-le zhè-cì bǐsài de guīzé yǐbiàn [shì [Zhāng Sān]_F néng yíng].
1pl modify-PFV this-time competition DE rule YIBIAN SHI Zhang San able win
‘We modified this competition’s rules so that [it’s Zhang San that can win].’

Some speakers also appear to draw a distinction between restrictive and non-restrictive relatives, allowing *shì* in the latter as in (42), cf (39) above.²²

(42) *Shì* in non-restrictive relative:

% [_{RC} Wǒ shì zài [qù-nián]_F yùdào ____ de] Zhāng Sān gěi wǒ xiě xìn.
1sg SHI at last-year met DE Zhang San give 1sg write letter
‘Zhang San, who it’s last year that I met, wrote me a letter.’

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 and, for some speakers, *wèile* purpose clauses. 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*.

4.2 Proposal

My proposal will build on two established ideas in prior literature, and one new observation. First is the idea that different types of clauses vary in the amount of high functional material

²² The existence and distribution of 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.

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.

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 and *wèile* purpose 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, and Wiltschko 2017. This idea dovetails neatly with the literature on embedded MCP: an early intuition there, due to Hooper and Thompson 1973, was that MCP are generally available in clauses that express assertions, thereby tying the availability of these particular syntactic phenomena to the speech act potential of the clause. Some embedded clauses project these performative functional layers which give it assertion status, and MCP are allowed there, whereas other embedded clauses do not project these layers and consequently do not allow the MCP.²³

An example of MCP and its relation to speech act semantics is illustrated in (43) 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. This accords with the intuition that non-restrictive relatives constitute a separate speech act (Emonds, 1979; see also Potts 2005).

- (43) ***Frankly* in non-restrictive relative but not restrictive relative:** (Emonds, 1979: 239)
a. The boys, who have *frankly* lost their case, should give up.

²³ But see Heycock 2006 for critical discussion of Hooper & Thompson’s characterization in terms of assertion.

- 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. Such a structural explanation may yield even greater mileage in accounting for other MCP such as availability of neg-inversion, which we can relate straightforwardly to the presence or absence of an associated functional head, but which is less obviously tied to speech act semantics. Neg-inversion too is available in English non-restrictive relatives but not restrictive relatives:

(44) **Neg-inversion possible in non-restrictive relative but not restrictive relative:**

(Hooper and Thompson, 1973: 489)

- a. This car, which only rarely did I drive, is in excellent condition.
 b. *The car that only rarely did I drive is in excellent condition.

In particular, I propose that one such peripheral speech act projection has the function of providing access to the QUD. Here I will refer to the relevant head as *Cong* for “congruence,” although its label and precise identification is not critical for our purposes. *Cong* has access to the QUD, and it is *Cong* that is missing in all of the environments which disallow *shì*.²⁴ I furthermore propose that the semantics of *shì* specifically makes reference to the QUD. *Shì* must Agree with *Cong* in its local clause (or phase) to value its alternative set *C*.

I first present evidence of *shì*'s dependence on the QUD, and then present my formal implementation. Here we will revisit example (30) above, also reproduced in (33), which showed that *shì* can be placed in the higher or lower clause while associating with a focus in the embedded clause. The examples below show that the placement of *shì* in the higher or lower clause does are felicitous in different discourse contexts. *Shì* in the embedded clause (45) requires that the embedded clause itself be congruent to the QUD, whereas *shì* in the higher clause (46) requires that the entire utterance with embedded focus be congruent to the QUD, which must be a long-distance constituent question.²⁵

²⁴ In addition to having access to a value for the QUD, this head may also ensure congruence between the clause and the 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).

²⁵ A similar interaction between the active QUD and the placement of the German discourse particle *denn* is reported in Bayer, Häussler, and Bader 2016.

(45) **Embedded clause congruent to QUD** \Rightarrow **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.’

(46) **Matrix clause congruent to QUD** \Rightarrow **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 Sì (#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.’

Formally, I encode this dependence on the QUD in the lexical entry for *shì* as in (47) below. The syntactic specification includes an unvalued [QUD] feature which must be valued by Agree.²⁶ The semantics for *shì* specifies that its alternative set *C* is set to the value of its [QUD] feature, and otherwise follows the Velleman et al. 2012 analysis for the CLEFT operator, presented in section 2.3 above.

(47) **Proposal for Mandarin CLEFT *shì***:

cf (15b), based on Velleman et al. 2012: 452

PHON :	<i>shì</i>
SYN :	[uQUD : ____ ₁]
SEM :	$\lambda p . \lambda w : C = \underline{1} \wedge \text{MAX}_C(p)(w) . \text{MIN}_C(p)(w)$

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 ungrammatical and uninterpretable.

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

²⁶ 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.

propose that German modal particles must Agree with a local Force head.²⁷ What is unique in this proposal is the semantic motivation of this syntactic dependency from the interpretation of *shì* itself.

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 2011.²⁸ ‘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 (48) by $Alt(p)$. More specifically, for ONLY with sister α , $p = \llbracket \alpha \rrbracket^o$ and $Alt(p) \equiv \llbracket \alpha \rrbracket^f$ in the notation of Rooth 1992.²⁹

(48) **Proposal for the semantics of Mandarin ONLY:**

cf (15a), based on Coppock and Beaver 2011: 199

$$ONLY = \lambda p . \lambda w : C = Alt(p) \wedge MIN_C(p)(w) . MAX_C(p)(w)$$

4.3 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.’

(49) **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

(50) **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 (49). 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 instance of CLEFT will quantify

²⁷ Bayer refers to the head as C, without distinguishing between distinct heads in a split CP.

²⁸ Kadmon and Sevi 2011 also present 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.

²⁹ Setting C with *Alt* stands in for using Rooth’s (1992) squiggle operator (\sim), which I do not adopt due to concerns regarding how the adjunction position for \sim should be restricted.

over the same alternative set C , the clause's QUD, its multiple applications in an example such as (49) will be vacuous. Authors such as Crnić (2011: 110) and Alxatib (2020) have independently proposed that the use of focus particles must not be vacuous; such a constraint on the use of *shì* would similarly rule out the structure in (49). In more complex examples with intervening quantificational material between the two *shì*, the multiple applications of CLEFT 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 (50). The semantics I propose for 'only' in (48) 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.

5 Conclusion

The focus particle use of *shì* has been a topic of substantial interest within contemporary Mandarin Chinese grammar. Here I have argued that the *shì* focus construction expresses cleft focus, much like that of the English *it*-cleft, but by adjoining to the clausal spine and associating with an in-situ focus. Apparent adjacency effects between *shì* and its focus are due to a restriction on the placement of sentential focus particles, as has been independently motivated in previous work on German (Jacobs, 1983; Buring and Hartmann, 2001) and Vietnamese (Erlewine, 2017b).

The existence of in-situ clefts has important consequences for theories of the compositional semantics of clefts, supporting proposals such as in Velleman et al. 2012 which simply model the cleft simply as a focus particle. Some previous authors have attempted to derive the semantics of clefts from syntactic ingredients observed in clefts in English and many other languages, such as copular predication, definite description formation, or relativization (Percus, 1997; Buring and Križ, 2013). The existence of constructions such as the Mandarin *shì* construction, which express cleft semantics without canonical cleft syntax, teaches us that these syntactic ingredients are not necessary for the expression of cleft semantics.

I furthermore have shown 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) 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 (to appear) 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.³⁰

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.

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 (51). The availability of this question strategy applying to *shì* as in (52) at first glance suggests that *shì* here is itself a verb, as also suggested recently in Jin to appear.

- (51) **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?’

³⁰ 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.

- (52) **A-not-A applied to *shì*:** (based on Shi, 1994: 85)
 Nǐ **shì-bù-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 (53) and also the comparative standard marker *bǐ* in (54):

- (53) **A-not-A applied to adverb ‘often’:** (Tsai, 1994: 162)
 Akiu **cháng-bù-cháng** lái?
 Akiu often-NEG-often come
 ‘Does Akiu come often?’
- (54) **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 (52) does not lead us to immediately conclude that the focus particle *shì* is itself a verb.

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