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The deconstruction of Chinese *shì. . .de* clefts revisited

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ABSTRACT

The article presents an analysis of Chinese cleft sentences. Building on work conducted in the past decade, this work sets out to present a new account of Chinese cleft sentences in terms of overt movement, output-oriented linearization constraints and a presuppositional uniqueness requirement on events. I present a syntactic proposal which leads to an overt bipartition of cleft focus phrases and cleft presuppositions in syntax, mediated by the functional element *de*. The compositional semantic implementation of Chinese clefts derives the exhaustiveness associated with this pattern from a presuppositional uniqueness condition on events. This renders the exhaustiveness tied to Chinese clefts maximally similar to the uniqueness presupposition of definite determiners.

1. Introduction

Despite intensive efforts made over the past three decades or so we still lack a satisfactory analysis of Mandarin *shì. . .de* clefts as in (1).[1]

(1) *Zhāngsān* ***shì*** *zuótiān* *lái-**de**.*[2]
Zhangsan COP yesterday come-DE
'It was yesterday that Zhangsan came.'

In traditional grammar writing, *shì. . .de* clefts were seen as a construction with a function attributable to the construction as a whole. However, both *shì*, the copula, and *de* occur in other contexts expressing information-structural categories which are sometimes hard to distinguish from *shì. . .de* clefts. Two such examples are provided in (2).

(2) a. Bare *shì* Focus Construction[3]
Zhāngsān ***shì*** *míngtiān* *lái.*
Zhangsan COP tomorrow come
'Concerning Zhangsan, it is the case that he will come tomorrow.'

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[1] Cf. the overview over the research tradition in Paris (1979:92-105), Lee (2005:34–43) and Paul and Whitman (2008).
[2] The following abbreviations are used in glosses: ASP – aspect suffix; CL – classifier; COP – copula; CRS – currently relevant state.
[3] I borrow the term from Paul and Whitman (2008). The authors dub the *shì* in (2a) "Sentence-medial Bare *shì*"and distinguish the pattern in which it occurs from another pattern with *shì* preceding the subject ("Sentence-initial Bare *shì*").

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b. Bare *de* Construction
*Zhāngsān zuótiān lái-**de**.*
Zhangsan yesterday come-DE
'It was yesterday that Zhangsan came.'

In (2a), material to the right of *shì* can be in focus. This variability of focus assignment is typical of adverbial association-with-focus patterns (Rooth, 1992), and therefore Paul and Whitman (2008) analyze Bare *shì* Focus Constructions in terms of association-with-focus. It is sometimes assumed in the literature (recently by Lee, 2005:77, 134) that Bare *shì* sentences as in (2a) have the same discourse function as *shì. . .de* clefts. In the present paper I will assume, together with Chiu (1993) and Paul and Whitman (2008), that the Bare *shì* Focus Construction differs in felicity conditions from *shì. . .de* clefts (most notably in terms of exhaustiveness; cf. section 2.4). By contrast, Bare *de* sentences as in (2b) are analyzed as instances of *shì. . .de* clefts with the copula dropped.

Both *shì* and *de* have other uses in the grammar of Mandarin. *Shì* is a plain copula in other contexts, and *de* is an element which mediates in contexts of adnominal modification and relativization, and in contexts of nominalization. These uses are illustrated in (3) and (4).

(3) *Zhāngsān **shì** wǒde lǎoshī.*
Zhangsan is my teacher
'Zhangsan is my teacher.'

(4) a. *hóng-**de** huāpíng* (adnominal modification)
red-DE vase
'red vase'
b. [[*zuótiān lái*]-***de*** *nánrén*] (relativization)
yesterday come-DE man
'the man who came yesterday'
c. *chī-**de*** (nominalization)
eat-DE
'the thing eaten'

It is a recurrent super-theme in the literature to aim at overarching analyses which reduce the amount of polysemy needed to cover all uses of *shì* and *de*, respectively. In this vein, Cheng (2008) has recently developed an analysis which reduces the function of *shì* – not just in clefts – to mediating between subjects and predicates in Canonical Predication (Stowell, 1981; Moro, 1997), whereas *de* is analyzed as denoting a predicate abstractor across different contexts. On the empirical side, researchers like Lee (2005) or Paul and Whitman (2008) continue to add new observations to the set of descriptive generalizations to be accounted for in the context of *shì. . .de* clefts. This leads to a very involved data situation.

In the light of the state of the art just sketched – aiming at highly reductionist proposals for a body of complicated descriptive generalizations which is still growing – the aim of the present contribution is as follows. First, I want to provide a simplified statement of the descriptive generalizations pertinent to *shì. . .de* clefts which are known to date. Given the complicated or incomplete statements in this area that are found in the literature such an overview is a desideratum. Second, I want to make syntactically informed proposals for lexical entries of *shì* and *de* as found in *shì. . .de* clefts in a formal semantics spirit à la Heim and Kratzer (1998). The entries that I propose allow for compositional derivations of sentence meanings with *shì. . .de* clefts. This is, to the best of my knowledge, the first attempt of this kind. In the case of *shì* the proposal will amount to a plain mediating function of the copula between topics and comments, or subjects and predicates. This is no different from other proposals. In the case of *de*, the analysis will be one in terms of presuppositionality. According to my proposal, *de* in *shì. . .de* clefts encodes a uniqueness and familiarity presupposition for events. This renders its semantics similar to that of definite derminers, but without leading to the definite reference to particulars typical of definite determiners.

I attempt to achieve the two goals of (i) a simplified statement of descriptive generalizations and (ii) a syntax-semantics implementation for *shì* and *de* as found in *shì. . .de* clefts against the background of three articles on *shì. . .de* clefts that were published in prominent places over the past decade (Simpson and Wu, 2002; Paul and Whitman, 2008; Cheng, 2008). The proposals made by other researchers are discussed in a more cursory way. The structure of the paper is as follows. Section 2 states the descriptive generalizations. Section 3 discusses the three competing proposals just mentioned. Section 4 presents the new analysis. Section 5 concludes.

In the remainder of the present introductory section I will specify my assumptions concerning the make-up and function of cleft constructions in general, and I will introduce the terminology adopted in subsequent sections. I take the criteria in (5) to be definitional of clefts, and I will illustrate these criteria using the example in (6).

(5) Criteria for cleft constructions

a. PARTITION

There is a syntactic partition between the clefted constituent and an open sentence.

b. CLEFT FOCUS

The clefted constituent often contains focal material.

c. CLEFT PRESUPPOSITION

The open sentence is presupposed (modulo existential closure).

d. CLEFTS ARE NEVER NECESSARILY ADDITIVE

In the absence of contradicting material, the cleft focus is never restricted to an additive reading.

e. TOPIC/FRAME-SETTER

Cleft constructions may depend on overt topics or frame-setters.

(6) *Last year it was* [*in Paris*]$_i$ *where*$_i$ *he fell in love.*

In English and many other languages, the partition of (5a) is instantiated as a copula structure with a relative clause or other kind of clause containing a gap or relative pronoun (*where*$_i$ *he fell in love*) and a second argument which has the type of the gap ([*in Paris*]$_i$).

(5b) states the tie-up between clefted constituents and focality as a mere (statistical) correlation. A categorical link between clefted constituents and focality is not supported by the data, because clefts with clear (non-contrastive) aboutness topics in the clefted position do occur (Delin and Obenauer, 1995); cf. (7).

(7) A: *Tell me something about Paris!*
B: *Paris is great. It's in Paris that I usually fall in love.*

(5c) may appear too strong given discourses as in (8).

(8) A: *It was in Paris that Paul usually fell in love.*
B: *No, it was in Paris that Paul usually split up.*

In (8B), there is a corrective focus inside the *that*-clause. This seems to contradict the statement in (5c). I still claim that the generalization in (5c) is valid. (8B) is corrective in that what is presented as a presupposition in (8A) and should, therefore, be beyond negotiability – 'There's a place where Paul usually fell in love' –, is rejected as a presupposition. The presupposition to supersede the incorrect presupposition is presented in (8B): 'There's a place where Paul usually split up'. What matters is that cleft sentences present their open sentences as presupposed or anaphoric, no matter whether the development of the discourse so far has delivered a justification for this.[4,5]

To have a clear terminology which univocally refers to the clefted part and to the presupposition which is tied to the use of the cleft structure as such I will mostly use the terms "cleft focus" and "cleft presupposition" when I refer to the clefted part and the designated presupposition of a cleft structure.

(5b) is stated in such a way that the clefted constituent need not be focal as a whole. According to Krifka (2006), focus-related dislocations will target constituents that are larger than the focus if the focus is contained in an island. Moved islands with a focus inside which are moved because of the focus in them are called "focus phrases" by Krifka (2006). In (6) it may be part of the presupposition that the relevant local relationship is one that may be encoded with the preposition *in*. Conversely, (5c) does not require all the presuppositional material to be in the constituent with the gap. These rather liberal mapping requirements are not frequently discussed in the literature, but they follow from the assumption of Krifka's (2006) focus phrases/focus islands.

The (non-)exhaustiveness of cleft foci is a recurrent theme in the literature (Horn, 1981; Delin and Obenauer, 1995; Percus, 1997; É. Kiss, 1999; Dufter, 2009; Onea, 2009; Drenhaus et al., in press). The question is whether the cleft focus exhausts all the possibilities in a given domain in that it, and only it, makes the presuppositional predicate come out true. Applied to (6) this boils down to whether this sentence presupposes that the only place where Paul usually fell in love was Paris. Whatever the right answer for English is, it is crosslinguistically evident that additive focus markers corresponding to

[4] This view of presuppositionality/anaphoricity of open sentences in clefts goes back at least to Delin (1992).

[5] Note in passing that the clefted constituent in (8B) contains a focus, too, albeit a second-occurrence focus (cf. Partee, 1999 for the notion of second-occurrence focus, and Ishihara and Féry, 2006 for phonetic correlates in Japanese). It can be rendered visible by the fact that the postulated second-occurrence foci can co-occur with focus particles like *only* (Beaver and Clark, 2003). This is shown in (8′).

(8′) A: *It was only in Paris that Paul usually fell in love.*
B: *No, it was only in Paris that Paul usually split up.*

If it is a constant property of *only* to associate with a focus, and if this focus in (8′A) is *Paris* or *in Paris*, then the same constituent must be a focus in (8′B), too.

English *also* may occur with clefts in many languages (Dufter, 2009; Koch and Zimmermann, 2009). For this reason, (5d) is again stated as a rather weak requirement which only precludes the possibility that a cleft construction in a language invariably signals an additive focus semantics.

(5e), the fact that cleft sentences may depend on overt topics or frame-setters such as *last year* in (6), is not widely discussed in the literature; in fact, I know of no such discussion. There are two reasons why this property of cleft sentences deserves attention. The first reason is of a general nature. It is sometimes assumed that presuppositional material is, by definition, also topical. This view is not adopted here. Given a topic notion in the sense of Reinhart (1982), topics are discourse referents about which information is incrementally added to the common ground in the course of a discourse. It is not realistic to assume that each presuppositional proposition in a discourse is, at the same time, also a topic with a set of properties kept track of in the discourse. The specific reason why we distinguish between topic and presupposition has to do with the situation found in Chinese. The partition in Chinese cleft sentences which can be univocally read off the surface in each and every case is not the partition into cleft focus phrase and cleft presupposition, but rather the one into topic and comment. Topics and frame-setters invariably precede the copula *shì*, and the comment follows it. This doubled partition in Chinese *shì. . .de* clefts is particularly noteworthy in view of the fact that neighboring or genetically related languages like Japanese or Burmese introduce the cleft partition by means of the copula, whereas, in Chinese, the copula regulates the topic-comment partition (Hole and Zimmermann, in press).[6] In (9) the different discourse-pragmatic functions have been explicated, and we will use the typographic conventions introduced in (9) throughout the paper.

(9) *Zhāngsān*$_{\text{TOPIC}}$ ***shì*** *zuótiān*$_{\text{CLEFT FOCUS PHRASE}}$ *lái*$_{\text{CLEFT PRESUPPOSITION}}$***-de***.
Zhangsan COP yesterday come-DE
'As for [Zhangsan$_i$]$_{\text{TOPIC}}$, it was [yesterday]$_{\text{CLEFT FOCUS PHRASE}}$ that [he$_i$ came]$_{\text{CLEFT PRE SUPPOSITION}}$.'

This concludes our introductory survey of core properties of cleft constructions. We will now turn to the empirical situation in Chinese.

2. Descriptive generalizations

In this section, the descriptive generalizations to be covered by theories of Mandarin *shì. . .de* clefts are presented. As said in section 1, I aim at a simplified statement of generalizations if compared with previous accounts.

Generalizations differ for clefts which have *de* intervene between the verb and the (first postverbal) object (V *de* O clefts) and those clefts where *de* is in sentence-final position (V O *de* clefts). V *de* O clefts are the more marked construction in the sense that they can be used in fewer contexts than V O *de* clefts. They are also marked in the sense that they seem to be largely restricted to Northern dialects (cf. Simpson and Wu, 2002:169; Paul and Whitman, 2008:427–428).

2.1. Term focus with V de O clefts; fewer restrictions with V O de clefts

V *de* O clefts allow for the following clefted categories: subjects, objects and adjuncts.[7] No verb or verbal projection like VP or *v*P may be clefted. This is shown in (10).

(10) a. S cleft
Shì *Zhāngsān* *xiě-**de*** *shī.*
COP Zhangsan write-DE poem
'It was Zhangsan who wrote poems.'

b. O cleft
Zhāngsān ***shì*** *xiě-**de*** *shī.*
Zhangsan COP write DE poem
'It was poems what Zhangsan wrote.'

c. Adjunct cleft
Zhāngsān ***shì*** *yòng máobǐ* *xiě-**de*** *shī.*
Zhangsan COP with brush write-DE poem
'It was with a brush that Zhangsan wrote poems.'

[6] I would like to thank an anonymous reviewer who asked for clarification of this point.

[7] The exact range of syntactic functions available for clefting in the V *de* O pattern is difficult to determine, supposedly because of its dialectal and colloquial status. It is probably this marked status which renders some V *de* O sentences awkward for many speakers when asked to judge their acceptability in an elicitation. In this area experimental work with audio stimuli is a desideratum. One of the reviewers perceives (10d) to be just as good, or rather just as marked, as (10b). While my consultants do not unanimously accept (10b) as fully unmarked, most of them perceive a contrast in acceptability between (10b) and (10d). Most importantly, the object cleft variant in the V O *de* pattern presented in (11c) below is not considered acceptable by any of my consultants.

d. Verb cleft
*Zhāngsān **shì** xiě-**de** shī.
Zhangsan COP write-DE poem
int.: 'Zhangsan [writes]$_{\text{CLEFT FOCUS}}$ poems.'

e. VP cleft
#Zhāngsān **shì** xiě-**de** shī.
Zhangsan COP write-DE poem
int.: 'It was [writing poems]$_{\text{CLEFT FOCUS}}$ what Zhangsan did.'

f. propositional cleft I
#Zhāngsān **shì** xiě-**de** shī.
Zhangsan COP write-DE poem
int.: '[Zhangsan wrote poems]$_{\text{CLEFT FOCUS}}$.' (with broad propositional focus)

g. propositional cleft II
#**Shì** Zhāngsān xiě-**de** shī.
COP Zhangsan write-DE poem
int.: '[Zhangsan wrote poems]$_{\text{CLEFT FOCUS}}$.' (with broad propositional focus)

V O *de* clefts are almost unrestricted in this respect. Not just term categories may be clefted, but also verbal categories; cf. (11). Objects as in (11c) seem to be the only exception.

(11) a. Subject cleft
Shì Zhāngsān xiě shī-**de**.
COP Zhangsan eat bread-DE
'It was Zhangsan who wrote poems.'

b. Adjunct cleft
Zhāngsān **shì** yòng máobǐ xiě shī-**de**.
Zhangsan COP with brush write poem-DE
'It was with a brush that Zhangsan wrote poems.'

c. Object cleft
*Zhāngsān **shì** xiě shī-**de**.
Zhangsan COP write poem-DE
int.: 'It was poems what Zhangsan wrote.'

d. Verb cleft
Zhāngsān **shì** kàndào Wáng xiǎojiě-**de**. (Cheng, 2008:262)
Zhangsan COP see Wang Miss-DE
'Zhangsan [saw]$_{\text{CLEFT FOCUS}}$ Miss Wang.'

e. Predicate cleft
Zhāngsān **shì** kàndào Wáng xiǎojiě-**de**.
Zhangsan COP see Wang Miss-DE
'As for Zhangsan, he [saw Miss Wang]$_{\text{CLEFT FOCUS}}$.'

f. Propositional cleft/broad sentence focus
Shì Xīlàrén zuì xiān kāishǐ niàng jiǔ-**de**. (Cheng, 2008:253)
COP Greeks most first begin brew wine-DE
'The Greeks were the first to produce wine.'
[S cleft reading not at stake here: 'It was [the Greeks]$_{\text{CLEFT FOCUS PHRASE}}$ who first produced wine.']

Shì. . .de patterns as in (11e) with a broad focus are traditionally discussed in the context of a further category called *kěndìng yǔqì* 'affirmative mood', or, as Paul and Whitman (2008) dub this category, "propositional assertion". Paul and Whitman (2008) state that sentences like (11e) do not instantiate *shì. . .de* clefts because the whole material between *shì* and *de* may be discourse-old and is thus, according to the authors, non-focal. This would be in conflict with the otherwise valid discourse function of *shì. . .de* clefts. I think that it is not warranted to conclude from the possible discourse-givenness of an element that it may not be focal. If this were the case, pronouns could never be in focus. Moreover, cf. the discussion of (5b) above. What I would like to propose

instead is that structures as in (11e) typically have the discourse function of asserting complex information a second time by way of a summary or resumé sentence. This view of things is compatible with the way of translating such clefts that Chao (1968:296) has introduced and that is mentioned by Paul and Whitman (2008:421); for (11e) this comes out as 'Zhangsan saw Miss Wang, that-was-what-he-was-doing.'

2.2. Adjacency effects

There is a syntactic restriction with *shì. . .de* clefts in general and with V O *de* clefts in particular which is preliminarily phrased in terms of adjacency here. The cleft focus phrase must be adjacent to the copula *shì*. The only exception to this generalization are object clefts in the V *de* O pattern (cf. (10b)). (Recall that object clefts in the V O *de* pattern are not available; cf. (11c).) (12) illustrates the adjacency restriction for adjuncts, (13) exemplifies the same for a subject cleft.

(12) a. *Zhāngsān* ***shì*** (#*zuótiān*) *zài bàngōngshì* *xiě-**de*** *shī.*
Zhangsan COP yesterday at office write-DE poem
int.: 'It was in his office that Zhangsan wrote poems (yesterday).'

b. *Zhāngsān* ***shì*** *zuótiān* (*zài bàngōngshì*) *xiě-**de*** *shī.*
Zhangsan COP yesterday at office write-DE poem
'It was yesterday that Zhangsan wrote poems (in his office).'

(13) ***Shì*** (#*zuótiān*) *Zhāngsān* *lái-**de**.*
COP yesterday Zhangsan come-DE
'It was Zhangsan who came yesterday.'

Cheng (2008:250) argues against the purported adjacency restriction using the example in (14).

(14) *Zhāngsān* ***shì*** *zuótiān* [*zuò* *huǒchē*]$_F$ *lái-**de**.*
Zhangsan COP yesterday by train come-DE
'Zhangsan came [by train]$_F$ yesterday.' (Cheng's translation)
'It was yesterday that Zhangsan came BY TRAIN.' (translation favored here)

In (14) the adjunct *zuò huǒchē* 'by train' is prosodically prominent and focused. This seems to contradict the generalization requiring subject and adjunct focus phrases to be adjacent to *shì*. As the second translation reveals, the marked focus may be a focus, but it does not correspond to the cleft focus of (14) as defined in section 1. Instead, my consultants report the converging intuition that (14) is, as shown in (14′B), only good as a corrective reply to an utterance such as (14′A). The marked focus is corrective, while the cleft focus is downgraded prosodically due to its second-occurrence status; cf. the discussion of (8) and (8′) in section 1. A similar reasoning explains focal adjunct *wh*-phrases in positions that are not adjacent to the copula; sentences like (15) are only good as echo questions, and not as questions with the cleft focus in the position of the *wh*-word.

(14′) A: *Zhāngsān* ***shì*** *zuótiān* *zuò* *qìchē* *lái-**de**.*
Zhangsan COP yesterday by car come-DE
A: 'It was yesterday that Zhangsan came by car.'
B: *Bù,* *Zhāngsān* ***shì*** *zuótiān* [*zuò* *huǒchē*]$_F$ *lái-**de**.*
no Zhangsan COP yesterday by train come-DE
B: 'No, it was yesterday that Zhangsan came BY TRAIN.'

(15) *Zhāngsān* ***shì*** *zuótiān* [*zuò* *shénme*]$_F$ *lái-**de**.*
Zhangsan COP yesterday by what come-DE
'It was yesterday that Zhangsan came BY WHAT?'
not: It was BY WHAT that Zhangsan came yesterday?'

Cheng's (2008) argument against the adjacency restriction is thus probably not valid. Still, the adjacency restriction has one exception which we have already mentioned: object foci in V *de* O clefts; cf. (10b), repeated here as (16).

(16) *Zhāngsān* ***shì*** *xiě-**de*** *shī.*
Zhangsan COP write-DE poem
'It was poems what Zhangsan wrote.'

The analysis defended in section 4.2 will derive the adjacency restriction as a positional LF-requirement of cleft foci. The special case of object clefts in the V *de* O pattern will be explained by assuming movement of the cleft focus phrase which takes place after spell-out.

2.3. TAM restrictions

Without more specific contexts, both V O *de* clefts and V *de* O clefts receive past tense interpretations; cf. (17). (18) demonstrates that V O *de* clefts also allow for non-past interpretations in the presence of material contradicting a past tense interpretation, whereas V *de* O clefts are ungrammatical under such circumstances.

(17) a. *Zhāngsān* ***shì*** *zuò fēijī* *qù* *Běijīng-**de**.*
Zhangsan COP by plane go Beijing-DE
'It was by plane that Zhangsan went to Beijing.'

b. *Zhāngsān* ***shì*** *zuò fēijī* *qù-**de*** *Běijīng.*
Zhangsan COP by plane go-DE Beijing
'It was by plane that Zhangsan went to Beijing.'

(18) a. *Zhāngsān* ***shì*** *míngtiān* (*huì*) *qù* *Běijīng-**de**.*
Zhangsan COP tomorrow will go Beijing-DE
'It is tomorrow that Zhangsan will go to Beijing.'

b. **Zhāngsān* ***shì*** *míngtiān* (*huì*) *qù-**de*** *Běijīng.*
Zhangsan COP tomorrow will go-DE Beijing
int.: 'It is tomorrow that Zhangsan will go to Beijing.'

Similar restrictions hold in the domain of aspect and modality, and again V *de* O clefts are more restricted in their ability to host elements pertinent to the TAM specifications of a proposition. Paul and Whitman (2008) state that the presupposition of a V *de* O cleft may not encompass more than the *v*P. We will restate this constraint in a moment, but first the sentences in (19) and (20) are to reassure us that restrictions on aspectual and modal categories with V *de* O clefts as in (20) do exist and that they do not hold for V O *de* clefts as in (19).

(19) a. MOD
Zhāngsān ***shì*** *shàng-ge xīngqī* *néng/yào* *qù* *Běijīng-**de**.*
Zhangsan COP last-CL week can/want go Beijing-DE
'It was last week that Zhangsan could/wanted to go to Beijing.'

b. ASP
Zhāngsān ***shì*** *shàng-ge xīngqī* *qù-le* *Běijīng-**de**.*
Zhangsan COP last-CL week go-PRF Beijing-DE
int.: 'It was last week that Zhangsan went to Beijing.'

(20) a. MOD
Zhāngsān ***shì*** *shàng-ge xīngqī* (**néng*/**děi*) *qù-**de*** *Běijīng.*
Zhangsan COP last-CL week can/must go-DE Beijing
int.: 'It was last week that Zhangsan could/had to go to Beijing.'

b. ASP
Zhāngsān ***shì*** *shàng-ge xīngqī* *qù*(**-le*)*-**de*** *Běijīng.*[8]
Zhangsan COP last-CL week go-ASP-DE Beijing
int.: 'It was last week that Zhangsan went to Beijing.'

[8] It is sometimes claimed that the sequence 'verb + aspect suffix + *de*' is ungrammatical for independent (phonological) reasons (a ban on sequences of suffixes or enclitics) and that data as in (20b) should, therefore, not be given too much weight. The example in (i) with a relative clause linked to the head noun by *de* shows that the phonological explanation cannot be valid: *de* follows the aspect suffix *-le* immediately (Paul and Whitman, 2008:431). Independently of whether an overarching analysis for relative clause *de* and cleft *de* is possible, in terms of cliticization properties the two *de*s are fully identical.

(i) *hóng-le-**de*** *píngguǒ*
red-ASP-DE apple
'the apple which has turned red'

The V *de* O clefts are rendered ungrammatical by modals as in (20a), and by the aspectual marker *-le* in (20b). This appears to support Paul and Whitman's (2008) generalization that the presupposition of V *de* O clefts may be no bigger than *v*P. What is, in my eyes, insufficient about the generalization in terms of presupposition size is the fact that V *de* O clefts do not ban TAM specifications from the cleft presupposition, they just ban *pronounced* TAM specifications from the cleft presupposition. The generalization that I propose is that V *de* O clefts, instead of being void of TAM specifications, are restricted to have TAM values set to the default. According to Cinque (1999), the default values for the verbal categories are universally pre-established, but they may differ from the pre-established values in the presence of a co-occurring marked category. The default value for terminatedness is, for instance, [−terminated]. In the scope of a [+anterior] tense value, the unmarked value for terminatedness becomes [+terminated] (Cinque, 1999:129). I will assume that the copula in clefts with its present-perfect-like implications for the overall structure (cf. Simpson and Wu, 2002:196–197 and section 4.4) sets the default tense value for the complement of the copula to [+anterior]. This will render the feature bundle [+anterior, −irrealis, +terminative] the default value specification for Chinese clefts. This is exactly what we find. We can thus restate Paul and Whitman's (2008) generalization: The presupposition of V *de* O clefts is not void of TAM information; V *de* O clefts just have their TAM values set to the default, viz. to those that allow for zero encoding (in the given context of an embedding anteriority tense frame). We will have opportunity later on to exploit the zero encoding of TAM categories in V *de* O clefts when we get to derive the surface syntax of this pattern (cf. section 4.1.2).

2.4. Exhaustiveness

The surface strings of Chinese *shì...de* clefts do not reveal the cleft sentence nature of the construction very clearly. Nonetheless, it has never been called into question that we are dealing with true clefts. A strong argument for the cleft analysis of *shì...de* structures is the exhaustiveness requirement that holds for both subtypes of *shì...de* sentences (cf. Paul and Whitman, 2008:420).

(21)	a.	#*Tā*	***shì***	*zài*	*Běijīng*	*xué*	*yǔyánxué-**de**,*	*dàn yě*	***shì***	*zài Shànghǎi*	*xué-**de**.*
		(s)he	COP	at	Beijing	study	linguistics-DE	but also	COP	at Shanghai	study-DE
	b.	#*Tā*	***shì***	*zài*	*Běijīng*	*xué-**de***	*yǔyánxué,*	*dàn yě*	***shì***	*zài Shànghǎi*	*xué-**de**.*
		(s)he	COP	at	Beijing	study-DE	linguistics	but also	COP	at Shanghai	study-DE

#'It's in Beijing that (s)he studied Chinese, but also in Shanghai.'

There is a clear contrast between *shì...de* clefts and what Paul and Whitman (2008) call Sentence-medial Bare *shì* as briefly illustrated in (2) in the introduction. Sentences with the copula *shì* added to the predicate without *de* license various foci, among them adjunct foci as in (22). Crucially, however, no exhaustiveness effect is observed, as is witnessed by (22).

(22)	*Tā*	***shì***	*zài Běijīng*	*xué-guo*	*yǔyánxué,*	*dàn yě* ***shì*** *zài*	*Shànghǎi*	*xué-guo.*
	s/he	COP	at Beijing	study-ASP	linguistics	but also COP at	Shanghai	study-ASP

'(S)he studied Chinese in Beijing, but also in Shanghai.'

2.5. Summary: V de O clefts and V O de clefts

Table 1 summarizes the profiles of V *de* O clefts and V O *de* clefts as discussed in the previous subsections.

3. Overview of recent analyses

In this section we will review analyses that have been proposed to deal with Chinese clefts. I focus my attention on three analyses of the past decade that were published in prominent places.

3.1. Simpson and Wu (2002)

Simpson and Wu (2002) assume that there are two different *de*'s, one of them in D^0 (de_D), and the other one in T^0 (de_T). De_D is not restricted to a past tense interpretation, while de_T carries a past tense feature. The distinction between V *de* O clefts and

Table 1
Descriptive generalizations for Chinese clefts.

	V *de* O	V O *de*
CLEFTABLE CATEGORIES	Term clefts	Term clefts and broad clefts; no object clefts
ADJACENCY (COP + cleft focus phrase)	Yes, except for object clefts	Yes
TAM	**no** pronounced TAM material allowed in cleft presupposition	Pronounced TAM material allowed in cleft presupposition
EXHAUSTIVENESS	Yes	Yes

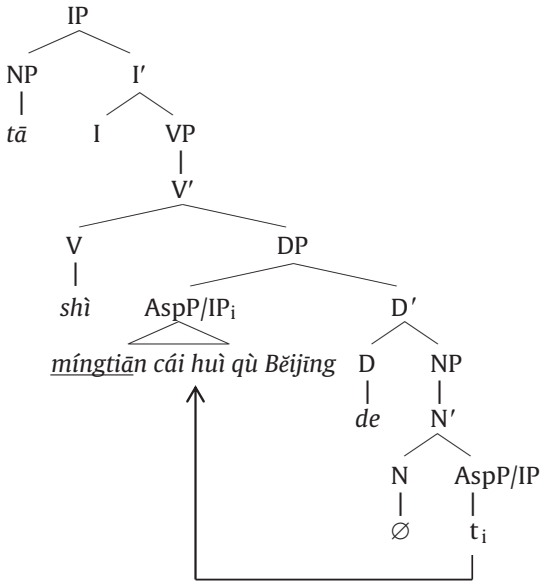
V O *de* clefts is analyzed independently of the split between de_D and de_T. According to the authors, the merit of assuming two *de*'s is that both the past tense interpretation of many clefts and the structural similarity with Mandarin adnominal modifiers and nominalization structures (cf. (4)) is captured by the analysis. The view defended in section 3.1.3 will reassess the assumption of two *de*'s in clefts as problematic.

3.1.1. De_D

(23) presents an example of a sentence with de_D and its syntactic analysis (Simpson and Wu, 2002:189).

(23) a. *Tā* ***shì*** *míngtiān* *cái* *huì* *qù* *Běijīng-**de**.*
(s)he COP tomorrow only.then will go.to Beijing-DE
'It's only tomorrow that (s)he'll go to Beijing.'

b.



The copula is in V and takes a DP complement headed by de_D. The head of the NP complement of D is empty. The complement of N is an AspP or IP, and it moves to spec,D. This yields a surface pattern with de_D in sentence-final position, i.e. the V O *de* pattern.

The analysis is compatible with the fact that material above ***v***P is allowed in the presupposition of V O *de* clefts. Since the complement of N is an AspP/IP, the presence of modals and other higher material in the presupposition is expected as long as it can plausibly be accommodated within AspP/IP. Moreover, the assumption that de_D is in D, and that N is empty, links the analysis of *shì. . .de* clefts to the patterns of attributive *de* structures illustrated in (4) in section 1.

What remains unclear is how the adjacency requirement can be derived in Simpson and Wu's (2002) de_D system (recall that, with all cleft types except object clefts in the V *de* O pattern, *shì* must be adjacent to the cleft focus phrase). Given their analysis, it is actually not even required that there should be a focus to the right of the copula at all.[9]

[9] Paul and Whitman (2008:445) emphasize one more potential problem with DP implementations of *de*-phrases as proposed by Simpson and Wu (2002). If *de* heads a DP, then one will expect to find island effects. Paul and Whitman use the example in (i) to argue against a complex DP status of the material following the copula. If that material was a DP, they argue, extraction out of that DP should be impossible. (iia) is an example with a *bona fide* DP which produces the expected island effect. (iib) provides the *in-situ* version of (iia).

(i) [*Duì* *nǐ*]$_i$, *tā* ***shì*** [$_{DP?}$ *yídìng* *huì* t$_i$ *hǎo* *yí-bèizi-**de***].
towards you (s)he COP certainly will good 1-lifetime-DE
'To you, (it is the case that) he will certainly be good an entire lifetime.'

(ii) a. *[*Duì* *nǐ*]$_i$, *tā* *hèn* [$_{DP}$ t$_i$ *huì* *hǎo* *yí-bèizi-de* (*rén*)].
towards you (s)he hate will good 1-lifetime-DE person

b. *Tā* *hèn* [$_{DP}$ *duì* *nǐ* *huì* *hǎo* *yí-bèizi-de* (*rén*)]
(s)he hate towards you will good 1-lifetime-DE person
'(S)He hates those (people) who will be good to you an entire lifetime.'

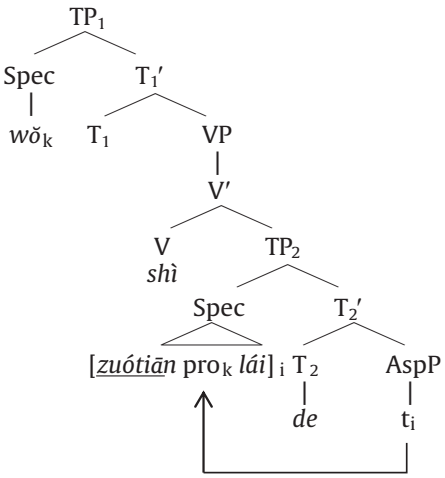
An anonymous reviewer points out that (i) is judged ungrammatical by native speakers. The results obtained with my own consultants were less clear than that. I think that a controlled empirical study would be needed to clarify this point. Malte Zimmermann (p.c.) points out that in order to make the argument complete, one would have to show that the alleged trace in (i) could not be a *pro*. I think that (iia) may serve as evidence against the *pro* hypothesis for the empty category in (i). Given the unclear grammaticality of (i) I will assume that Paul and Whitman (2008) have not shown conclusively that the complement of the copula is not a DP.

3.1.2. De$_T$

Simpson and Wu (2002) postulate a variant of *de* in T^0 that we call *de*$_T$. It carries a past tense feature. This is said to explain the tense restriction found with univocally past tense *shì. . .de* clefts. A sample derivation, again with an intransitive verb, is given in (24) (Simpson and Wu, 2002:197).

(24) a. *Wǒ* ***shì*** *zuótiān* *lái-**de**.*
I COP yesterday come-DE
'It was yesterday that I came.'

b.



In (24b) the AspP moves to spec,T of the phrase headed by *de*$_T$. There is a small *pro* subject in the AspP which is controlled by the subject in the specifier of the higher tense phrase TP$_1$. (Contrary to the structure reviewed here, the grammatical status of the subject variable of Asp/IP of *de*$_D$ clefts as in (23) is not discussed by the authors; therefore it is unclear what kind of implementation they assume for the subjects of non past tense clefts with *de*$_D$.) Simpson and Wu (2002) argue that the doubly tensed structure of (24b) explains the fact that, with *de*$_T$ clefts, the tense of the AspP event must be tied to the utterance situation, where the temporal specification of the utterance situation can be accommodated in the higher tense node. In fact, the authors assume that the complex tense structure of *de*$_T$ clefts is essentially identical to the one found in the English present perfect, and the analysis, while slightly less articulate, mimics Stowell's (1996) analysis of the present perfect.[10]

3.1.3. Assessment of Simpson and Wu's (2002) proposal

The authors tie the strictly past tense interpretation of *de*$_T$ clefts to the presence of a tense feature in *de*$_T$. If the parallel with the English present perfect is as far-reaching as the authors propose, the proposed doubly tensed structure may explain it. The analysis of *de*$_D$ as heading a D projection may be in need of revision, given the possible island insensitivity of the pertinent structures that was discussed in fn. 9. What remains unclear in Simpson and Wu's (2002) analysis is why, with strictly past tense clefts, there cannot be pronounced aspectual or modal material in the cleft presupposition. Following standard assumptions, T should be higher than aspectual and modal projections, thereby allowing, e.g., modal verbs underneath. Moreover, the proposal predicts that many sentences should be ambiguous between a past tense analysis along the lines of (22) and a non-past-tense interpretation along the lines of (23); this ambiguity would be spurious, because with *de*$_D$ clefts, too, the default interpretation is past tense in the absence of more specific material to the contrary. I consider the assumption of a large amount of spurious ambiguity a drawback of the proposal.

Recall that Paul and Whitman (2008) recognize a strict past tense restriction for the V *de* O pattern, and I think that modelling this tie allows for a more satisfactory analysis because the theory does not predict ambiguity without empirical consequences. Now, what Simpson and Wu (2002:174) propose to derive the V *de* O structure is that *de*$_{T(?)}$ starts out from a clause-final base position and moves up to the verb. However, they do not specify what this clause-final base position is. The proposal remains incomplete in this respect.

As with the other half of the analysis in terms of *de*$_D$ discussed above, the information-structural restrictions of strictly past tense clefts follow neither from the analysis in (22) nor from the proposal to account for V *de* O orders. Finally, object clefts remain out of the picture.

3.2. Paul and Whitman (2008)

Paul and Whitman (2008) develop analyses for (strictly past tense) V *de* O clefts and for V O *de* clefts with broad focus. Apart from these two patterns, they analyze the Bare *shì* Focus Constructions (cf. section 1) and propositional assertions; the latter pattern is treated as a special case of *shì. . .de* clefts in the present paper (cf. section 2.1). Somewhat surprisingly, Paul

[10] Stowell (1996) assumes that both the auxiliary and the participle of present perfect structures are finite verb forms. This is reflected in Simpson and Wu's (2002) analysis in that there are two stacked T projections in the structures of *de*$_T$ clefts.

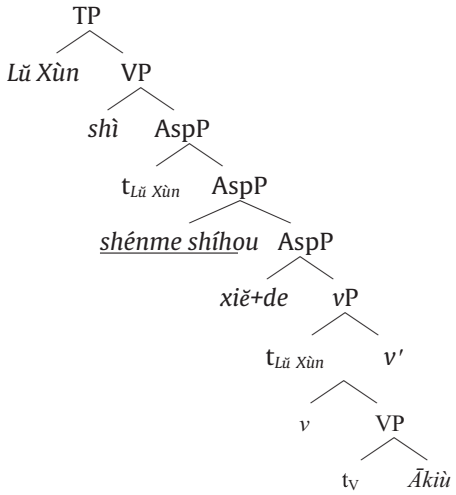
and Whitman (2008) leave V O *de* clefts with subject and adjunct foci unanalyzed although these are the prototypical instances of *shì…de* clefts, at least in the literature on the topic.

Paul and Whitman (2008:428) are among the first to mention object clefts in the theoretical discussion, if only in a footnote (fn. 15), and they leave the availability of this focus type unexplained. We will see below that if object foci are to be covered the overall architecture of the proposal may probably not remain as it is.

3.2.1. De_T

Paul and Whitman (2008) assume that de_T is the head of an aspect phrase. The AspP is the complement of a matrix V node which hosts the copula. The verb head-adjoins to de_T, this derives the word order V *de* O. The cleft focus (phrase) is in spec, Asp, and an adjacency constraint ensures that the copula *shì* and the focus phrase turn out adjacent. A sample derivation with adjunct focus is given in (25) (Paul and Whitman, 2008:537).

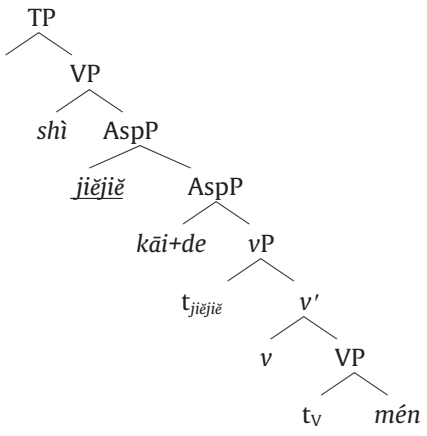
(25) a. *Lǔ Xùn* ***shì*** *shénme shíhou* *xiě-**de*** *Ākiù?*
Lu Xun COP when write-DE Ah Q
'When was it that Lu Xun wrote Ah Q?'

b.


The subject has an intermediate landing position in a second spec,Asp and moves on to (what Paul and Whitman, 2008 probably intend to be) spec,T of the matrix clause.

Subject V *de* O clefts are matched with a structure as in (26b) (Paul and Whitman's, 2008:436).

(26) a. ***Shì*** *jiějiě* *kāi-**de*** *mén.*
COP elder.sister open-DE door
'It was my elder sister who opened the door.'

b.


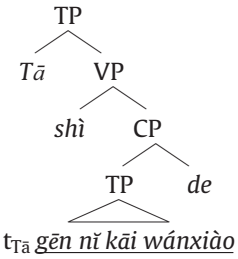
The only differences to the adjunct cleft case are that there is no adjunct and that the subject does not move on to spec,T. It is case-licensed by *shì*, the copula. Again, the adjacency constraint ensures that *jiějiě* 'younger sister' is interpreted as the cleft focus.

3.2.2. De_C

V O *de* structures are discussed by Paul and Whitman (2008) only insofar as they express broad clefts with interpretations of type '(as for <TOPIC>,) it is the case that …'; cf. section 2.1. The analysis has the *de* in C in this structure, and its

complement is the TP to its left. In this case complementation is assumed to be to the left, i.e. the TP does not start out from a right-peripheral position to move to spec,C. (27) is an example (Paul and Whitman, 2008:447).

(27) a. *Tā* ***shì*** *gēn nǐ kāi wánxiào*-***de***.
(s)he COP with you make.fun-DE
'With him/her it was the case that (s)he was making fun of you.'

b.


3.2.3. Assessment of the proposal

Paul and Whitman's (2008) account covers cases of clefted subjects, adjuncts and broad cleft foci that include the verb. The broad cleft foci are analyzed in the context of the V O *de* pattern, while the narrow foci are associated with the V *de* O pattern. As noted above, narrow subject and adjunct foci with the V O *de* pattern are not analyzed. Narrow verb clefts in the V O *de* pattern as documented in (11d) above are not treated, either. Due to the postulated adjacency constraint for *shì* and the cleft focus, object clefts are beyond the reach of Paul and Whitman's (2008) proposal, but the data as such is acknowledged. The restrictions that hold for the presuppositional constituent in V *de* O clefts (no pronounced material higher than ***v***P) are derived by the fact that *de*$_T$ sits in Asp and only material base-merged below this position may be presuppositional. We argued in section 2.3 that a ban on TAM specifications in cleft presuppositions with V *de* O clefts is too strict. It is merely the case that no pronounced, non-default values may be chosen. Exhaustiveness is tied in a general sense to the presence of a true cleft partition detectable in the surface syntax, but the exact implementation is left open.

This profile of Paul and Whitman's (2008) proposal makes it, I think, the most detailed analysis with the largest empirical coverage of Chinese clefts to date. At the same time, the account is not without problems.

First, there is the fact that no proposal for the predominant pattern of subject and adjunct V O *de* clefts is made, and narrow verb foci are likewise left undiscussed. A second objection has to do with the position of *de*$_T$ in Asp. From a semantic viewpoint it makes little sense that *de*$_T$ with its clearly deictic past tense entailments should be situated in Asp and not in T. Paul and Whitman (2008:437) argue that the ***v***P-adjacent position of Asp will explain the impossibility of TAM material to occur in the presupposition of V *de* O clefts. But this leaves unexplained how the attested default values for TAM categories come about. A third problem relates to the adjacency constraint. Paul and Whitman's (2008) official proposal is cast in terms of PF adjacency (as opposed to LF adjacency) because with clefts as in (25b) a subject trace intervenes. Only in a footnote (fn. 23) do the authors discuss the possibility of deleting intermediate or stacked traces (Lasnik and Saito, 1992; Moro, 2000) such that LF adjacency would also be an analytical option. If PF adjacency is assumed it is unclear how this could have an interpretive effect as long as the T-model of grammar is assumed, and if a phonological phrasing or edge correlate of the adjacency relation can be found. If LF adjacency is assumed one would have to show that adjacency is a well-defined theoretical notion at the semantic interpretive interface.

All in all it is, I think, fair to say that despite the progress made in Paul and Whitman's (2008) paper, we still do not have an empirically complete and conceptually attractive analysis of *shì*. . .*de* clefts.

3.3. Cheng (2008)

Where Paul and Whitman (2008) set out to custom-tailor an analysis for a refined set of descriptive generalizations, Cheng's (2008) paper assumes a more theory-centered stance that aims at conceptual attractiveness, combined with a less articulate coverage of individual data patterns. Cheng's (2008) primary goal in her treatment of the *shì*. . .*de* construction is to reduce the seemingly construction-specific restrictions of the pattern to general principles tied to the use of the individual components in the structure. To achieve this goal, *de* is reduced to other uses of *de* as far as possible, *shì* is interpreted as an ordinary copula, and focus placement within the largest possible cleft constituent is free.

As mentioned in the first section, one of *de*'s prominent uses is to mark adnominal attributes, including relative clauses. Cheng (2008) identifies predicate abstraction as the common semantic denominator of *de* in relative clauses and in *shì*. . .*de* clefts. In the course of deriving a relative clause, *de*, according to Cheng (2008), abstracts a predicate in the position of the gap in the relative clause so that further properties (most prominently the properties denoted by the head noun) may be attributed to the λ-bound variable which is the result of predicate abstraction. In the case of *shì*. . .*de* clefts, *de* is said to abstract a predicate over the entire presupposition-plus-focus constituent, thereby yielding an open sentence (cf. the b-representations of (28) through (30), which are in the format that Cheng, 2008 uses to represent her analysis).[11] These

[11] In Cheng's (2008) notation, the empty categories "*e*" in the predicates of (26) through (27) represent the variables bound by the λ-operator.

open sentences are each opposed to subject arguments within small clause structures. The small clauses are taken as complements by the copula *shì*, and the subject moves out of the small clause to the left of *shì*. The subject-predicate configuration is identified as a case of canonical predication in the sense of Stowell (1981).

(28) a. *Zhāngsān* ***shì*** *zuótiān zuò huǒchē lái-**de**.*
Zhangsan COP yesterday by train come-DE
'It was yesterday that Zhangsan came by train.'

b. ***shì*** [$_{SC}$ [$_{SUBJECT}$ Zhangsan][$_{PREDICATE}$ λ-Op e came by train yesterday]]

(28′) a. *Zhāngsān* ***shì*** *zuótiān zuò huǒchē lái-**de**.*
Zhangsan COP yesterday by train come-DE
'Zhangsan came by train yesterday.' (Cheng's, 2008 translation)

b. ***shì*** [$_{SC}$ [$_{SUBJECT}$ Zhangsan][$_{PREDICATE}$ λ-Op e came by train yesterday]]

(29) a. *Zhāngsān* ***shì*** *zuótiān zuò huǒchē lái-**de**.*
Zhangsan COP yesterday by train come-DE
'Zhangsan came by train yesterday.'/'As for Zhangsan, he came by train yesterday.'

b. ***shì*** $_{SC}$ [$_{SUBJECT}$ Zhangsan][$_{PREDICATE}$ λ-Op e came by train yesterday]]

(30) a. ***Shì*** *Xīlàrén zuì xiān kāishǐ niàng jiǔ-**de**.*
COP Greeks most first begin brew wine-DE
'It was the Greeks who first produced wine.'

b. no analysis provided by Cheng (2008)

(30′) a. ***Shì*** *Xīlàrén zuì xiān kāishǐ niàng jiǔ-**de**.*
COP Greeks most first begin brew wine-DE
'The Greeks were the first to produce wine.'

b. *pro*$_i$ ***shì*** [$_{SC}$ [$_{SUBJECT}$ the Greeks were the first to produce wine][$_{PREDICATE}$ t$_i$]]

The analysis given for (28) and (28′) is identical because the subject-predicate partition remains stable across the two examples. It is just the cleft focus that differs, and its assignment, according to Cheng (2008), is free within cleft sentences as long as it is restricted to the right of *shì* and conforms to the same projection behavior as in simple clauses. Note that (28) is incompatible with the adjacency restriction between *shì* and the cleft focus phrase in V O *de* structures. We argued with the help of (12) through (14′) above that structures as in (28′) are indeed deviant unless they are used as a corrective reply to a cleft sentence and have a second-occurrence focus adjacent to *shì*. If this is so, Cheng's (2008) analysis must be said to overgenerate. (29) is a case of a broad predicate cleft where the predicate of the small clause structure coincides with the cleft focus. The analysis is again the same since focus is free within the predicate.

(30) is the subject cleft variant of a sentence discussed in (11f) above and repeated in (30′). Cheng (2008) acknowledges the subject focus reading, but she presents no explanation for the fact that (30)/(30′) has no readings apart from the propositional cleft reading and the subject cleft reading. Such additional readings are predicted by the assumption of free focus that Cheng makes. I am not sure if I understand Cheng's analysis correctly at this point, but the focusing of the complete clause assumed by Cheng in (30′) appears to be tied to the fact that the whole predication of the small clause structure is in the subject position of the small clause. This only occurs if the subject of the small clause contains no other constituent (this structure instantiates Moro's 1997 model for inverse predication as in *It is that John left*).

Object clefts are not discussed by Cheng (2008).

The overgeneration caused by the assumption of free focus should not obscure the fact that the individual components of the implementation are, due to their independent justification, conceptually attractive. Still I think an equally well motivated solution is possible, and I will strive to show that it allows for a more complete data coverage. One crucial ingredient of Cheng's (2008) analysis, the view of *de* as bringing about predicate abstraction, will be adopted in the new proposal.

4. The new proposal

The new proposal is laid out in a bottom-up fashion in this section. We will first propose an account of the local structure of V O *de* and V *de* O strings, respectively (section 4.1). We will then move on to present a syntax for the cleft configuration (section 4.2). The compositional semantics for the cleft configuration is developed in section 4.3. Section 4.4, the last part of the present section, will be devoted to the syntax and semantics of the copula structure above the cleft configuration.

4.1. *The syntax of V O* de *vs. V* de *O*

The proposal to capture the syntax of V O *de* vs. V *de* O has two main ingredients. The first is PF movement of the complement of *de* around *de*. The second component, the one necessary to derive V *de* O clefts in a plug-in fashion, is object shift preceding the PF movement of the complement of *de* around *de*. Some of the empirical generalizations stated in section 2 will be covered by this proposal and its specifications, viz. the ban on TAM material with V *de* O clefts, and the non-availability of predicate clefts with V *de* O.

4.1.1. *V O* de

I assume that *de*, both in V O *de* clefts and in V *de* O clefts, heads a complementizer phrase, just as Simpson and Wu (2002) and Paul and Whitman (2008) have it in the case of de_C. Contrary to Paul and Whitman (2008), and in line with Simpson and Wu (2002), I propose a consistently right-branching structure with PF movement of part of the complement of *de* around *de*. The PF movement assumed here is a linearization operation which takes place after late vocabulary insertion, and it is driven by the enclitic nature of *de* (Embick and Noyer's, 2001 Prosodic Inversion). The ensuing change in linearization leading to the PF string in (31) is depicted in (32) in a preliminary fashion.[12]

(31) [*xiě* *shī*]$_X$-***de***.
write poem-DE

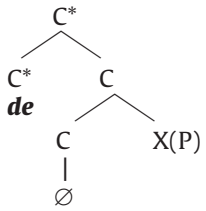
(32) *de* + X → X + *de* (to be revised)

There are reasons to assume that there is a phonetically empty head intervening between *de* and X. Since it is phonetically empty, we could neglect it for the PF representations at stake here. But since it will play a role in the argumentation below, (32′) depicts the modified linearization picture.

(32′) *de* + Y_{empty} + X → X + *de* + Y_{empty}

A first argument for an empty element Y as in (32′) is provided by Zhang's (2009) recent work on *de*. She argues on independent grounds that *de* as used in relative clause formation and adnominal modifiers (cf. (4)) requires a right-adjacent head which specifies *de*'s categorial features. A syntactic structure (without PF movement) as in (33) will be the result, where C* is categorially specified by the empty C head. Both C* and C are C-domain heads.

(33)



A second reason for assuming an intervening element between *de* and the constituent which eventually precedes *de* at PF is the empirical fact that there is a paradigm of C-typing and N-typing heads in Chinese that all involve PF movement of the kind found with *shì…de* clefts. The empty C head found in *shì…de* clefts is the zero paradigm member (Simpson and Wu, 2002:188–190). (34) presents a row of examples with other members of the paradigm. The structures are presented in a fashion which renders visible the deviance between PF linearizations, on the one hand, and spell-out syntax as made use of in the argumentation below, on the other. (35) provides the zero-marked parallel case of *shì…de* clefts.

(34) a. Reason complement clause

Wǒ	*bù*	*zhīdào*	[(*tā*	*méi*	*lái*)$_{PF}$-***de***	***yuányīn***	(*tā*	*méi*	*lái*)$_{spell\text{-}out}$].
I	not	know	(s)he	not	come-DE	reason	(s)he	not	come	

'I don't know why (s)he didn't come.'

b. Factive complement

Wǒ	*méi*	*tīngdào*	[(*tā*	*méi*	*lái*)$_{PF}$-***de***	***shì***	(*tā*	*méi*	*lái*)$_{spell\text{-}out}$].
I	not	hear	(s)he	not	come-DE	fact	(s)he	not	come	

'I haven't heard (about the fact) that she didn't come.'

[12] I avoid hierarchical representations at this point of the argument because I want to leave open the possibility that the late linearization operation assumed here makes do without recourse to syntactic structure and fully relies on adjacency or prosodic constituents.

c. Conditional clause
[(*tā* *méi* *lái*)$_{PF}$-***de*** ***huà*** (*tā* *méi* *lái*)$_{spell\text{-}out}$]. . .
(s)he not come-DE HUA (s)he not come
'If (s)he hasn't come . . .'

d. Temporal adjunct clause
[(*tā* *méi* *lái*)$_{PF}$-***de*** ***shíhou*** (*tā* *méi* *lái*)$_{spell\text{-}out}$]. . .
(s)he not come-DE time (s)he not come
'When (s)he didn't come . . .'

(35) *Zuótiān* *shì* [(*tā* *méi* *lái*)$_{PF}$-***de*** ***Ø*** (*tā* *méi* *lái*)$_{spell\text{-}out}$]
yesterday COP (s)he not come-DE (s)he not come
'Yesterday it was the case that (s)he didn't come.'

To arrive at the correct PF linearization as illustrated in (34) and (35), the strings of *de* and each of the following (boldface) heads will have to count as having a fixed linearization. If they were not fixed in their relative orders, one would expect that *de* should be able to fulfil its encliticization requirement by having the C/N heads pronounced to its left, instead of having the complements of the C/N heads pronounced to its left. In fact, it is common to view the boldface expressions in (34) as (morphologically complex) vocabulary items in Chinese grammar writing. This view is supported by the fact that nothing whatsoever may occur between *de* and the following C/N heads. Therefore, I will assume that at PF the sequences of *de*+C/N-head behave as belonging to a single prosodic word unit. The fact that the complete string to the right of *de* is preposed (as opposed to the immediately following word only) can be made to follow from a preference for prosodic permutations with fewest items in the permutation statement. The proposed encliticization permutation makes reference to two items (*de* vs. the rest) whereas a preposing of the word immediately following *de* would require three items in the permutation statement (*de*, immediately following word, rest).

The fact that V O *de* clefts may have TAM material in the presupposition (cf. section 2.2.2) is not in conflict with the syntactic proposal just made. *De* heads a C projection, and as such it allows pronounced TAM material in its scope. We will turn to V *de* O clefts next, and we will see how the TAM restriction with those clefts can be given a natural explanation within our overall framework.

4.1.2. V de *O*

The main idea to derive the V *de* O variant of *shì. . .de* clefts in the syntax, and to keep it maximally similar to V O *de* clefts at the same time, is to assume object shift combined with remnant movement/Prosodic Inversion at PF. First the object moves to a specifier of an aspectual head, and then the remnant string underneath the object moves around *de* as laid out in the preceding subsection. Similar analyses have been proposed for Yoruba VP-fronting without objects by Cho and Nishiyama (2000:40) and for Thai VP fronting without objects across a modal verb by Simpson (2001:109). To support this analysis, I will demonstrate that objects in V *de* O clefts obey the major restriction for object shift in Mandarin. Moreover, I will demonstrate that part of the TAM restrictions attested with V *de* O clefts can be tied to global properties that are described for other object shift phenomena, particularly those of Scandinavian languages in the analysis of Fox and Pesetsky (2004).

(37a) depicts the first step in the derivation, i.e. object shift, for the cleft in (36).

(36) *Wǒ* ***shì*** *zuótiān* *xiě*-***de*** *shī.*
I COP yesterday write-DE poem
'It was yesterday that I wrote poems.'

(37) a. OBJECT SHIFT
[$_{AspP}$ *shī*$_i$ . . . [$_V$ *xiě* t$_i$]]
poem write

b. REMNANT PF MOVEMENT/PROSODIC INVERSION
[(*xiě*)$_{PF}$ [$_C$-***de*** . . . [$_{Asp}$ *shī*$_i$ . . . (*xiě*)$_{spell\text{-}out}$]]]
write DE poem write

Paul (2002) points out that object shift in Chinese only occurs in finite clauses. Since aspect is the most clearly grammaticalized inflectional category of verbs in Chinese, I assume that object shift targets spec,Asp. More specifically, I assume that the object moves to the specifier of Tsai's (2008) intermediate aspectual projection between V and ***v***. We will return to this matter towards the end of the present subsection. (37b) represents the remnant PF movement which is triggered in the same way as the analogous PF movement in (34) and (35). As above, I avoid syntactic labelling for the PF-moved constituent, and the object trace as a phonologically vacuous item is not represented, either. The alert reader may

ask why it is just the verb, and not the string O V, that PF-moves around *de* to serve as clitic host. We will give an answer to this question after the discussion which justifies the assumption of object shift in V *de* O clefts.

There are two properties of object shift known from the literature that render the object shift account for V *de* O clefts a neat solution. The first property is the ban on object shift with quantified indefinites. Definiteness or bareness of the direct object is a necessary condition for object shift (cf. (38)), whereas indefinites that are marked as such by numerals and classifiers as in (38′) are ungrammatical in object shift structures.[13]

(38) a. *Wǒ* [*zhèi-běn* *shū*]$_i$ *kàn* t_i *le.* (cf. Zhang, 2000:202)
I this-CL book read CRS
'I have read this book.'

b. *Tā* [*shū*]$_i$ *dú-wán* t_i *le.* (cf. Shyu, 2001:108)
(s)he book read-finish CRS
'(S)He finished the reading of books.'/'(The) books, (s)he finished reading.'

(38′) a. * *Wǒ* [*yì-běn* *shū*]$_i$ *kàn* t_i le.
I 1-CL book read CRS
int.: 'I have read one book.'

b. * *Tā* [*yì-běn* *shū*]$_i$ *dú-wán* t_i *le.*
(s)he 1-CL book read-finish CRS
int.: '(S)He finished reading a book.'

Cleft analogues of the sentences in (38′) are likewise ungrammatical, as shown in (39).[14]

(39) a. **Wǒ* ***shì*** *zài túshūguǎn* *kàn-**de*** *yì-běn* *shū.*
I COP at library read-DE 1-CL book
int.: 'It's in the library that I read a book.'

b.* *Tā* ***shì*** *zài túshūguǎn* *dú-wán-**de*** *yì-ben* *shū.*
(s)he COP at library read-finish-DE 1-CL book
int.: 'It's in the library (s)he finished reading a book.'

I think that the ban on explicity marked indefinites found both in plain object shift constructions of Mandarin and in V *de* O clefts is striking enough to advocate an analysis which claims the underlying partial identity of the two syntactic processes. The second argument in favor of an object shift analysis for V *de* O clefts establishes a tie-up between an otherwise mysterious property of V *de* O clefts, on the one side, and something known about object shift in Scandinavian languages, on the other. The mysterious property of V *de* O clefts to be derived is the restriction against pronounced TAM words (cf. section 2.1.3); recall that the presupposition of V *de* O clefts may not contain modal verbs or other TAM words.[15] The general property of Scandinavian object shift to be exploited for the Chinese case is its obedience to PF-true linearization constraints for major constituents of a clause as put forward by Fox and Pesetsky (2004). Fox and Pesetsky (2004) derive the right results by assuming that Scandinavian object shift may, among other things, not alter the V>O order, or the O>Adv order of non-shifted structures (where ">" symbolizes linear PF precedence). Seen in this light, Mandarin may be said to employ a V>O ordering constraint for clefts, too. This will level out the difference in PF linearizations that one would otherwise expect for V O *de* clefts, which have not undergone object shift, and V *de* O clefts, which have.

The fact that the object precedes the verb in Mandarin plain object shift without remnant movement (cf. (38)) is not an argument against the ordering constraint V>O. Plain object shift in Mandarin always goes hand in hand with certain object-related information-structural effects ((contrastive) topicalization, focalization; Shyu, 2001). Objects in Mandarin V *de* O

[13] For this generalization to go through, indefinite preposed 'even'-foci as in (i) must be given an analysis which is not in terms of object shift.

(i) *Tā* *lián* [*yī-běn* *shū*] *dōu* *méi* *kàn-guo.*
(s)he even 1-CL book DOU not.have read-ASP
'(S)He hasn't read a single book.'

Even though Zhang (2000) aims at subsuming cases as in (i) under object shift, it is more likely that 'even'-preposing is of a different nature. Note that *lián*-marked 'even' foci belong to many different syntactic categories, and postverbal adverbials of frequency or degree, which are not objects, may likewise be preposed if they are marked by *lián* 'even'.

[14] Apart from the ban on numerically marked indefinites in V *de* O clefts, the data situation for V *de* O clefts is not fully clear (cf. Shyu, 2001; Lee, 2005; Paul and Whitman, 2008:fn.15). Factors discussed in the literature which appear to render V *de* O clefts available include bareness of the object nouns, light verbs and conventionalized V O collocations (Lee, 2005). The exact interplay of these different factors has not yet been clarified, and I have nothing to add to the discussion.

[15] This statement of the descriptive generalization does not cover aspectual endings on verbs. I will return to the second half of the generalization shortly.

Table 2
Schematic comparison of the derivational history of V O *de* vs. V *de* O.

		V O *de*		V *de* O	
Step	Operation	Linearization	Requirements	Linearization	Requirements
0	External merge	V O		V O	
1	Object shift			O V	(available for non-indefinite-marked objects)
2	External merge	*de* V O		*de* O V	
Spell-out					
3	Prosodic inversion	V O *de*	1. Encliticize *de* 2. Favor permutations with fewest items	V *de* O	1. Abide by V>O 2. Encliticize *de* 3. Favor permutations with fewest items

clefts, by contrast, are not restricted in this way. They may be secondary topics, focal, or be part of the background. Put differently, the V>O ordering constraint is only valid for those constructions in which the information-structural status of the object is not restricted in any way. Table 2 contrasts the derivations of V O *de* and V *de* O as proposed here and in the preceding subsection in a schematic way.

Apart from the V>O sequencing constraint, another plausible PF-true ordering restriction is one requiring modal words, temporal adverbs and aspectual particles to precede the verb: TAM words>V. This linearization constraint restates the well-known descriptive generalization that temporal adverbials and modal words precede full verbs in Chinese (Li and Thompson, 1981:21–25, 181–182). Both constraints are listed again in (40).

(40) Mandarin PF-true linearization constraints
  a. for information-structurally neutral objects (not in a univocal focusing/topicalizing configuration):
     V>O
  b. TAM words>V

Any pronounced TAM words would render abiding by (40) impossible. Let us see how this welcome result is obtained. There are two positions in V *de* O clefts in which TAM words could potentially undergo external merge. After step 2 in the right half of Table 2 these positions are between O and V (in Asp^0), or between *de* and O. The result would be the step 2 linearizations *de* (TAM) O (TAM) V. If the V>O constraint is to be respected after prosodic inversion, at least the verb will have to undergo prosodic inversion. If the simplest permutation with fewest items in the permutation statement is to be favored, the verb alone may be preposed. This will yield the step 3 strings V *de* (TAM) O (TAM). Neither of these linearizations abides by (40b). This explains why no TAM words may be used in V *de* O clefts. At the same time, the new account allows us to dispense with two different positions for *de* in narrow clefts and in broad predication clefts. Remember that Paul and Whitman (2008) assume that the *de* of V *de* O clefts is in Asp, whereas the *de* of broad predication clefts heads a C category. With our new account in place, the positions for *de* just look different because TAM material is banned for independent reasons in one case (V *de* O), but not in the other (V O *de*).

The linearization constraints in (40) capture the unavailability of TAM words in V *de* O clefts, but they do not predict the unavailability of aspectual endings on verbs in that pattern (cf. (20b)). This latter restriction follows if Matushansky's (2006) theoretically innocuous reformulation of head movement is adopted. According to Matushansky's proposal, the process of head movement involves two steps. The first step is movement of a head to the specifier of the target category. This renders head movement "well-behaved" in terms of the proper c-command/binding configuration between the moved item and its trace. The second step is morphological merger of the constituent in the specifier with that in the head position. Given that object shift targets spec,Asp in our account, the verb cannot target the same position, which it would have to do to form a V +Asp sequence.[16] The argument can be established no matter whether multiple specifiers are assumed or not. If there is just a single specifier of Asp, then its being filled by the shifted object immediately explains the ban on aspect-triggered verb movement. If multiple specifiers are allowed, the verb would have to move to a second specifier of Asp. The first specifier will be occupied by the shifted object. This would lead to a linearization V O Asp-marker. This linearization does not allow for the necessary suffixation of the aspect marker to the verb under adjacency. Verbs in the V *de* O pattern may thus bear no aspectual suffixes at all. This derives the second half of the TAM restrictions found with V *de* O clefts.

[16] The mainstream view concerning verb raising in the wake of Pollock (1989) has it that Chinese does not have overt verb raising to inflectional categories (Ernst, 1995; Huang, 1991). Evidence for this position is drawn from the fact that agentivity-related manner adverbs in Mandarin invariably precede verbs with aspectual endings. If the manner adverbs are *v*P-level adverbs, then the verbs to the right cannot have raised to Asp, an I category, so the argument goes. I think that the impossibility to have manner adverbs behind verbs in Mandarin is compatible with the assumption of V-to-Asp movement of a specific kind. Tsai (2008), by applying Tenny's (2000) findings to Mandarin, splits aspectual projections in Mandarin up into three distinct categories with different syntactic and semantic scopal behavior. While the durative aspect morpheme *zài* scopes above the *v*P, the aspect marker *-le* scopes between *v*P and VP. A third aspectual layer is found inside VP. Semantically this means that *-le* quantifies over event properties excluding the agent involvement, whereas *zài* includes it. If it is assumed that verbs in Chinese raise to the intermediate aspectual projection, the differences in surface syntax are explained (*zài* before manner adverbs, *-le* on verbs), and we can maintain the idea that verbs in Mandarin move to the intermediate aspectual layer. Whenever verb raising is made use of in the main text, this should be taken to mean verb raising to the aspectual layer between *v*P and VP. I would like to thank an anonymous reviewer who asked for clarification of this point.

4.2. Syntax of the cleft configuration

4.2.1. Available cleft configurations

(41) displays the PF linearization of an adjunct cleft.

(41) ADJUNCT CLEFT

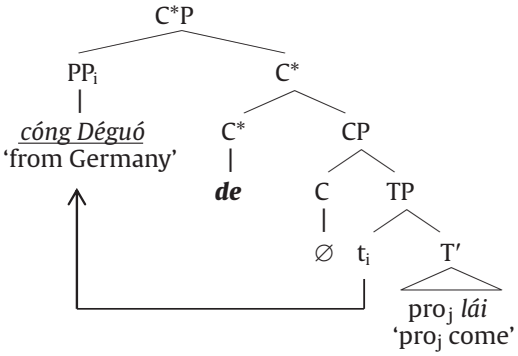
Zhāngsān ***shì*** [*cóng Déguó* *lái-**de***].

Zhangsan COP from Germany come-DE

'As for Zhangsan$_i$, it was Germany where he$_i$ came from.'

I argue that the structure at spell-out, and also the LF of the bracketed part of (41), is as in (42).

(42)



The cleft focus phrase has moved to the specifier of *de* in the overt syntax to check its syntactic exhaustiveness feature (Horvath, 2010).[17] Only the verb undergoes reordering relative to *de* at PF; the PP has already moved to the left before spell-out. This timing of movements has the immediate conceptual advantage that there is a partitioning of cleft focus phrase and cleft presupposition in the overt syntax. At the same time, one question immediately arises. If the PP material moves so early, why, then, does the encliticization of *de* not simply take the last word of Spec,C* as host? In the case of (41)/(42) this would yield a PF linearization as in the ungrammatical (41′).

(41′) **Zhāngsān* ***shì*** [*cóng Déguó-**de*** *lái*].

Zhangsan COP from Germany-DE come

int.: 'As for Zhangsan$_i$, it was Germany where he$_i$ came from.'

That (41′) is not available is explained in the following way. If one generalizes over cliticization hosts of *de* in *shì. . .de* clefts one finds that, with only a single general exception, *de* is cliticized to material from the cleft presupposition. Put differently, *de* in *shì. . .de* clefts is a presupposition marker in terms of its cliticization site. One may capture this generalization by postulating that *de* is sensitive to the phonological correlates of the information-structural status of cleft presuppositions. It cliticizes to postfocal deaccented material. To render this possible, PF-movement of the verb takes place.[18] A general exception to this pattern occurs in predicate clefts and in broad propositional clefts. An example of a predicate cleft from section 2 is repeated in (43) (=(11e)).

[17] Note that nothing hinges on spec,T as the trace position of the moved adjunct in (42). What matters is that it is a position between TP and the C system. This could well be an adverbial functional projection of its own. The version in (42) is mainly chosen to keep the structure simple.

[18] If the cleft presupposition contains preverbal adverbial material as in (i), the adverbial will be reordered together with the verb to ensure the obligatory precedence of adverbial adjuncts before verbs at PF and to exclude ungrammatical linearizations as in (ii) (Li and Thompson, 1981:21–25, 181–182). Note that the proposed PF reordering does not target verbs as such, but the deaccented material to its right as a whole. I would like to thank an anonymous reviewer who asked for clarification of this point.

(i) *Zhāngsān* ***shì*** [*cóng Déguó* *zuò* *fēijī* *lái-**de***].

Zhangsan COP from Germany by plane come-DE

'As for Zhangsan$_i$, it was Germany where he$_i$ came from by plane.'

(ii) **Zhāngsān* ***shì*** [*cóng Déguó* *lái-**de*** *zuò* *fēijī*].

Zhangsan COP from Germany come-DE by plane

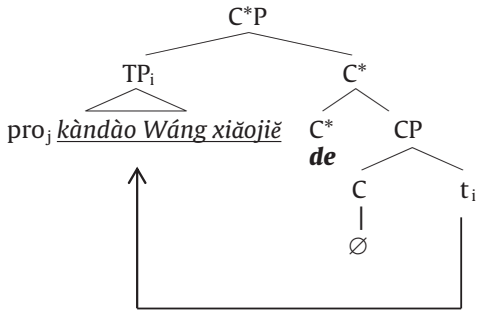
'As for Zhangsan$_i$, it was Germany where he$_i$ came from by plane.'

(43) PREDICATE CLEFT

Zhāngsān ***shì*** *kàndào Wáng xiǎojiě*-***de***.
Zhangsan COP see Wang Miss-DE
'As for Zhangsan, [he saw Miss Wang]$_{\text{CLEFT FOCUS}}$.'

In (43) the complete predicate (probably a TP) has moved to the cleft focus position, and consequently *de* cliticizes to focal, as opposed to postfocal, material. (43′) depicts this state of affairs, which holds both at spell-out and at LF (cf. Paul and Whitman, 2008:447 and their fn. 30; their proposal is identical except that they assume a trace instead of a *pro* in the subject position of the TP).

(43′)



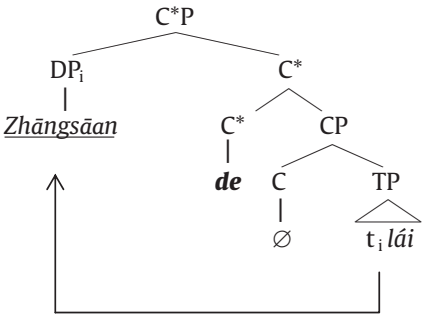
Examples like this do not threaten the proposed explanation if we check what the alternative would be. The only other available host for *de* would be *shì*, the copula, which is merged right above C*P. It is a general fact about *de*, however, that it never cliticizes to a non-lexical phonological word. If we assume that this restriction ranks higher than the constraint to cliticize on a word from the cleft presupposition, then we have explained how structures as in (43) are possible as a last resort. Both the unavailability of (41′) and the possibility to have structures as in (43)/(43′) is thus predicted.

The interpretable structure for a subject cleft is provided in (44).

(44) SUBJECT CLEFT

a. *Zuótiān* ***shì*** [*Zhāngsān lái*-***de***]. (=(11a))
yesterday COP Zhangsan come-DE
'Yesterday it was Zhangsan who came.'

b.

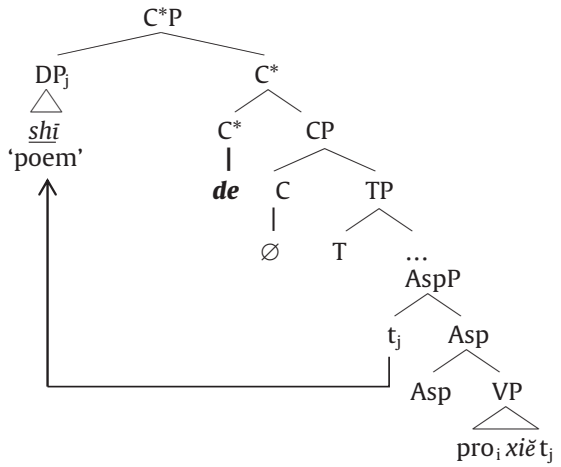


Object clefts in the V *de* O pattern as in (45a) are analyzed as structures involving LF movement of the shifted object to the cleft focus position. This is depicted in (45b). Note that, at spell-out, the verb has not yet been reordered with respect to *de* (cf. section 4.1.2) and that the aspectual category involved is Tsai's (2008) intermediate aspectual projection above V, but below ***v***.

(45) O cleft (V *de* O pattern)

a. *Zhāngsān* ***shì*** *xiě* -***de*** *shī*.
Zhangsan COP write-DE poem
'It was poems what Zhangsan wrote.'

b.



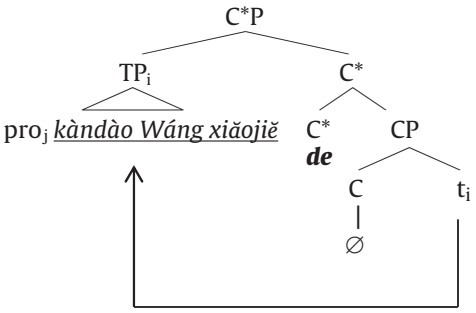
I assume that the movement of the object is procrastinated to LF to avoid a conflict with the PF linearization constraint in (40a) (V>O).[19] Recall that, for V *de* O clefts, object shift to spec,Asp is assumed, a move which is justified because overt object shift and V *de* O clefts share the property of disallowing overtly marked indefinites. The PF linearization constraint V>O in the spirit of Fox and Pesetsky (2004) was then used to arrive at structures with (the attested) V O linearizations for all clefts while at the same time allowing the V *de* O clefts to have undergone object shift. Returning to (45) now, onward movement of the shifted object from spec,Asp to spec,C*, the target of all clefted categories, must be procrastinated to LF. If it was not, the PF V>O linearization constraint would either not be abided by (if the linearization in (45b) was pronounced), or PF reordering of O>V to V>O would lead to a structure which is indistinguishable from a V O *de* cleft. For V O *de* clefts, though, object cleft readings are unattested. The LF movement depicted in (45b) will not occur if a category other than the object is the cleft focus in the V *de* O pattern, because in this case spec,C* will be filled by this other category.

Verb clefts require some discussion. As stated in section 2.1, narrow verb clefts appear to be available in the V O *de* pattern, but they have so far not figured prominently in the theoretical discussion (but cf. Cheng, 2008). I would like to propose that this neglect has something to do with the fact that verb clefts are syntactically like predicate clefts, except that only part of the cleft focus phrase is in focus. The spell-out/LF representation of (46) will then be identical to the one of (43), and the focus will be narrowed down on the verb by prosodic means and by contextual factors. (Note that according to our conventions underlining marks cleft focus phrases in the sense of Krifka, 2006, and not just cleft foci.)

(46) VERB CLEFT

a. *Zhāngsān* ***shì*** *kàndào Wáng xiǎojiě-**de***. (=(11d))
Zhangsan COP see Wang Miss-DE
'Zhangsan [saw]$_{\text{CLEFT FOCUS}}$ Miss Wang.'

b.



This amounts to saying that Mandarin TPs (just like PPs, for instance) are focus phrases in Krifka's (2006) sense; in terms of focus syntax, they behave as units whose proper parts cannot undergo focus-triggered overt movements (except for objects, which may undergo object shift to a position from which they may be clefted (cf. (45)). Arguments supporting this view include the following. First, no focus-sensitive expression in Mandarin may occur to the right of the highest verb (Shyu, 1995; Hole, 2004). The *shì* in the Bare *shì* Focus Constructions as discussed by Paul and Whitman (2008) and in sect. 1 fits into this picture, because it always occurs to the left of the highest verb. This overall situation follows if the focus syntax only starts

[19] If it turns out that object clefts in the V *de* O pattern as introduced into the discussion by Paul and Whitman (2008) are an artifact (cf. fn. 7), then this can easily be dealt with in our highly modular proposal. In this case, LF movement of the object to the position of the cleft focus phrase in spec,C* will not be available.

above the TP, as is assumed in (46b). Second, and this was mentioned already, the fact that narrow verb clefts have escaped the attention of most previous researchers becomes understandable if narrow verb clefts are just special uses of predicate clefts. This view of things will also do justice to Cheng's (2008) general intuition of "free focus" with Chinese clefts, albeit reduced to the two options of predicate cleft and narrow verb cleft.

This concludes the analysis of the available clefting patterns in *shì. . .de* clefts.

4.2.2. The adjacency restriction derived

With our syntax proposal from the preceding subsections in place, the adjacency restriction found with *shì. . .de* clefts can be derived (cf. section 2.2 and Table 1). Ignoring the exception of object clefts in the V *de* O pattern for the moment, cleft focus phrases must be adjacent to the copula at PF. As our proposal stands, the adjacency effect follows from the movement of the cleft focus phrase to spec,C*. The next higher category, the one which takes the C*P as argument, is the copula. If we assume that the C*P allows no modifying elements to its left, adjacency between the copula and spec,C* is ensured. The exception of non-adjacent object clefts in the V *de* O pattern follows if the partition into cleft focus phrase and cleft presupposition is required to hold at LF. Together with a general preference for overt movement, procrastination of movement to the LF branch of grammar will only be a last resort strategy. The need for a last-resort strategy is given in the case of object clefts, because overt movement would lead to PF linearizations of type O V *de*. This would be in conflict with the PF linearization constraint V>O in (40a).

4.2.3. Term clefts and predicate clefts

In section 2.1 V *de* O clefts were identified as being restricted to term clefts (clefting of arguments and adjuncts); V O *de* clefts are subject to fewer restrictions. Specifically, the V O *de* pattern allows for clefted predicates and broad sentential clefts; such clefts were analyzed in (43′) and (46) as involving overt movement of the TP to spec,C* with free focus within the TP. In our analysis, the contrasting V *de* O pattern involves object shift in the overt syntax, and Prosodic Inversion of the verb to a position before *de*. If we assume that broad clefts and propositional clefts require a basic V O syntax at LF for the focus to project up freely, we predict that V *de* O clefts will not allow for such cleft readings. This is so because, at LF, V *de* O clefts are O V patterns with the object in the target position of object shift.

4.2.4. No analysis for the ban on object clefts in the V O de *pattern*

I have no conclusive argument to derive the ban on object clefts in the V O *de* pattern, which leads to the deviance of (47) (=(11c)).

(47) * *Zhāngsān* ***shì*** *xiě* *shī*-***de***.
Zhangsan COP write poem-DE
int.: 'It was poems what Zhangsan wrote.'

If the object can LF-move to spec,C* in the V *de* O pattern as discussed a moment ago, why, then, is the same impossible in the V O *de* pattern? To be sure, a V O *de* cleft with object focus would not abide by the preference of *de* to have deaccented host words; but in the case of predicate clefts and propositional clefts discussed around (43) above we argued that this preference may be overridden if no deaccented material is available. One might assume that the alternatives provided by object clefts in the V *de* O pattern as in (48a) (for those dialects which have it) and the availability of pseudoclefts as in (48b) bans the unnecessary violation of *de*'s prosodic restriction concerning its host.

(48) a. *Zhāngsān* ***shì*** *xiě*-***de*** *shī.*
Zhangsan COP write-DE poem
'It was poems what Zhangsan wrote.'
b. *Zhāngsān* *xiě*-***de*** ***shì*** *shī.*
Zhangsan write-DE COP poem
'What Zhansan wrote was poems.'

However, the grammar necessary to implement this idea would have to be one which allows transderivational, or even more global, constraints. I will not commit myself to such a grammar at this point, and I will leave the elucidation of the ban on object clefts in the V O *de* pattern for future research.

4.2.5. Taking stock

Our proposal to deal with the syntax of Chinese clefts has the following major components. (i) Cleft focus phrases move to spec,C* to check a syntactic feature of *de* (Horvath's 2010 exhaustiveness feature; section 4.2.1). (ii) This movement is overt, with the single exception of object clefts. If objects were clefted overtly, the V>O linearization requirement could not be abided by (cf. (45)). (iii) The linearization V O *de* with the C* head *de* following instead of preceding the V O sequence is arrived at as a result of the encliticization requirement of *de* in combination with a preference for maximally simple

Table 3
Descriptive generalizations for Chinese clefts.

	V *de* O	V O *de*
CLEFTABLE CATEGORIES	Term clefts	Term clefts and predicate clefts; no object clefts
ADJACENCY (COP + cleft focus phrase)	Yes, except for object clefts	Yes
TAM	**no** pronounced non-default TAM material allowed in cleft presupposition	Pronounced TAM and polarity material allowed in cleft presupposition
EXHAUSTIVENESS	yes	yes

permutation statements. This leads to Prosodic Inversion of *de* + V O to V O + *de* (section 4.1.1 and Table 2). (iv) V *de* O clefts are derived by assuming object shift, which precedes encliticization of *de* on V as a result of Prosodic Inversion (section 4.1.2 and Prosodic Inversion). (Recall one more time that object shift which is reversed again at PF as in the V *de* O pattern has no information-structural implications tied to it. Only if the object is LF-clefted out of the shifted position in spec, Asp does an object cleft reading arise in the V *de* O pattern.) (v) The adjacency requirement for the copula and the cleft focus phrase follows from the fact that the copula selects the C* category as its complement, and C* has the cleft focus phrase in its specifier. (vi) Pronounced TAM material is excluded from V *de* O clefts because such material would render abiding by the PF-true linearization constraints proposed in (40) impossible.

If we revisit the descriptive generalizations of Table 1, repeated here as Table 3, we note that there is only one property of Chinese clefts which has not been discussed yet: the exhaustiveness of Chinese clefts. We will implement this feature in our semantic analysis, which is presented in the following subsection.

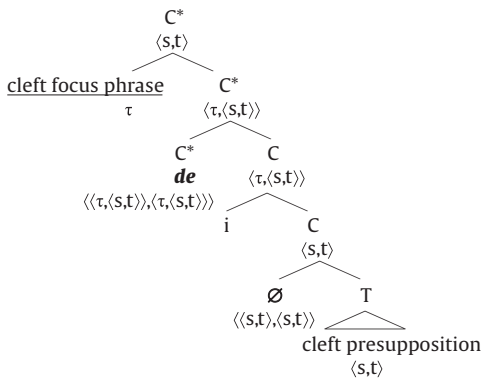
4.3. Semantics of the cleft configuration

The semantics proposed here for the cleft configuration of Chinese *shì. . .de* clefts belongs in the tradition which ties exhaustive cleft semantics to definiteness, or to components of definiteness (Percus, 1997; von Fintel and Matthewson, 2008). I claim that *shì. . .de* clefts in Chinese have the *uniqueness and familiarity presupposition* typical of definite determiners, applied to events. What sets them apart from definite descriptions (of events or individuals) is that, according to the view defended here, *they do not involve definite reference*. The definite article denotes a function from properties of individuals to individuals (Heim and Kratzer, 1998:81). This function is only defined if there is exactly one contextually most salient individual of which the property denoted by the complement of the determiner holds true. This captures the uniqueness and familiarity presuppositions. I would like to propose that *shì. . .de* clefts are presuppositional the way definite determiners are, but that they do not lead to definite reference. We will have opportunity to see that this view of things allows us to derive the exhaustiveness effect at no further cost. At the same time, we do not postulate a counterintuitive referential event reading, as would have to be done if the complete definite determiner semantics was applied to our case.

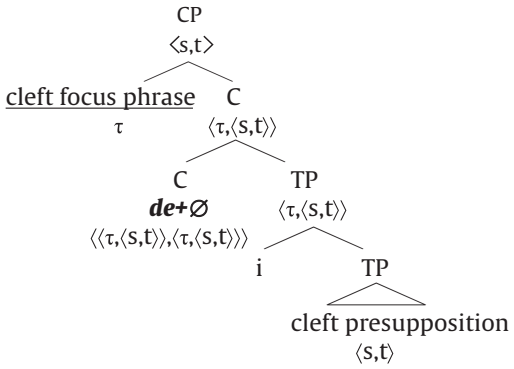
In terms of semantic types I assume a situation as in (49) for *de*+∅ and the cleft structure that builds up around it.[20]

[20] In the main text, I will treat *de* and the empty C head as a single element for the purpose of semantic composition. This is done for expository reasons, because otherwise the main text would get more technical than is necessary. It is emphasized, though, that the proposal made is compatible with composition in a more articulate syntactic structure; cf. (i) for the type specifications needed in such a structure. Note that the fact that *de* intervenes between the index and the moved cleft focus phrase in (i) and (49) constitutes a departure from Heim and Kratzer's (1998) implementation of movement. In their system, the bare index triggering predicate abstraction is right underneath the target position of movement. The implementation here departs from this because, with the index underneath C, it becomes possible for *de*'s denotation to bind existentially the argument slot of the cleft focus phrase in the domain restriction of $f_{\langle\tau,\langle s,t\rangle\rangle}$ in (50). This is necessary for the derivation of the exhaustiveness effect. Interestingly, Kratzer (2009b) postulates C-head related predicate abstraction as one of two general mechanisms to implement clause-mate binding relationships. The departure from Heim and Kratzer's (1998) system that I propose may thus be seen as an instance of a trend which ties the introduction of bare binder indices to the presence of special C or ***v*** heads which mediate binding relations.

(i)



(49) Semantic types in the LF of Mandarin cleft structures



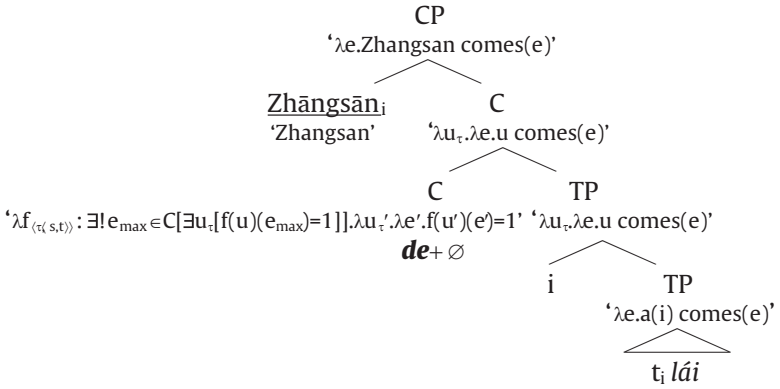
The cleft presupposition is saturated except for the event argument (type s). It corresponds to a lambda term of the form "λe. [truth-conditions including an assignment-dependent expression of the form a(i)]". The denotation of the lower TP contains a pronoun or trace (which is interpreted as 'a(i)') over which a predicate can be abstracted with the help of the corresponding index at the next higher level. This index implements the movement dependency between the cleft focus phrase in spec,C and its previous position inside TP. After predicate abstraction the mother node of i and TP will denote a function which is unsaturated for an expression of the type τ of the moved cleft focus phrase (where τ is a variable over types of possible cleft focus phrases). In terms of semantic type, *de*+∅ is a modifier; the semantic types of its sister node and its mother node are identical. I assume its denotation to be the identity function, which means that it does not contribute anything to the truth-conditions. Its sole function is to introduce the uniqueness and familiarity presupposition of definite determiners. (50) presents a lexical entry for *de*+∅ which spells this out.[21]

(50) $[\![de+\varnothing]\!] = \lambda f_{\langle\tau,\langle s,t\rangle\rangle}: \exists!e_{max} \in C\ [\quad \exists u_\tau\ [f(u)(e_{max})=1]\quad].\ \lambda u_\tau'.\ \lambda e'.\ f(u')(e')=1$

The way this lexical entry performs its function in a derivation can best be appreciated with the help of an example; cf. (51).

(51) a. ***Shì*** [*Zhāngsān* *lái*-***de***].
COP Zhangsan come-DE
'It was Zhangsan who came.'

b. for all assignments a:



The lower TP node denotes the property of an event of a(i) coming (t_i is interpreted as a(i), i.e. the value that the assignment function returns for the number i). This property is turned into a function with one more argument position for an individual in the position of a(i). This is the result of predicate abstraction as triggered by the bare numerical index (Heim and Kratzer, 1998:186). The domain restriction/presupposition of *de*+∅ checks whether there is exactly one maximal event of someone

[21] The maximality subscript on the existentially bound event variable in the presupposition is necessary to capture the fact that just maximal events may be required to be unique. Since an event may have parts which are themselves events of the required type, (i) would be paradoxical without this maximality requirement. A lexical entry which renders this more explicit – at the cost of perspicuity – is found in (i). I would like to thank Hans-Martin Gärtner and Edgar Onea for discussing the maximality requirement with me. ("≺" symbolizes the (proper-)part-of relation.)

(i) $[\![de+\varnothing]\!] = \lambda f_{\langle\tau,\langle s,t\rangle\rangle}: \exists!e\in C\ [\exists u_\tau\ [\neg\exists e'\in C\ [\exists v_\tau\ [f(u)(e)=1\ \&\ f(v)(e')=1\ \&\ e\prec e']]]]\ .\ \lambda e''\ .\ \lambda u_\tau'\ .\ f(u')(e'')=1$

coming in the context. If there is no such event, or if there are several, then the lowest branching C node and all dominating nodes will have no denotation. As said above, *de*+∅ is argued to have no meaning apart from this presupposition. But this presupposition gives us exhaustiveness for free. Let us see how.

By definition, events are minimal in the sense that if some entity u has a specific role in an event e, it is excluded that there is an entity v, or a group entity v, of which u is a part and which has the same role in e as u (Kratzer, 2007). The linguistically encoded participant of an event e is always the only maximal participant with the respective role in e. This has the desired effect that more informative variants of a proposition require no special mechanism to be excluded. They are regulated by the very mechanics of the ontology of events (Kratzer, 2009a). Taking this as a background, let us return to the lexical entry we have proposed in (50) and the point in the derivation in (51) where *de*+∅ is to take the TP as argument. If the domain restriction/presupposition of *de*+∅ checks whether there is exactly one maximal event of someone coming in the context, then, by the mechanics of event ontology just outlined, the argument in spec,C will necessarily exhaust the options which yield a felicitous sentence. This derives the exhaustiveness effect observed with clefts in *shì. . .de* clefts.

The lexical entry of *de*+∅ restricts its complement to include presupposed material only. If there is to be anything non-presuppositional (or non-topical; see below) in the sentence, it must be within the cleft focus phrase. Under most circumstances, this will lead to the presence of a focus in the cleft focus phrase. Put differently, in our analysis of clefts in Chinese the cleft presupposition is the positively defined category (by way of the familiarity condition in the domain restriction of *de*+∅). This squares nicely with the restriction discussed in section 4.2.1, namely that *de* prosodically selects deaccented strings as clitic hosts.

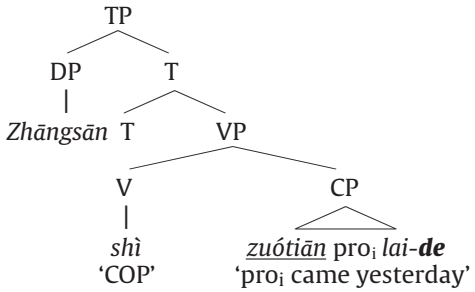
Apart from this correspondence, the semantic proposal has some further advantages. First, as the proposal stands, *de*+∅ is not isolated in that it has been argued in section 4.1.1 to be a member of a paradigm of C/N categories which all perform some kind of clausal or nominal subordination. The second positive aspect of the proposal is its diachronic plausibility. *De* has a very complicated etymology, as recently surveyed by Yap et al. (2010). What is crucial in our context is that *de* has predecessor uses as (i) a demonstrative determiner and (ii) as a generalized relational noun (Yap et al., 2010:32). The exact pathways of development for the multiple functions of *de* are still under debate, but I take it as highly suggestive evidence that our proposal for *de*+∅ in clefts combines characteristics of these two predecessor functions. The existential uniqueness presupposition ties up with *de*'s determiner semantics at previous language stages. That *de*+∅ takes two arguments (the cleft presupposition and the cleft focus phrase) is in line with the argument structure of relational nouns, and it constitutes a trait that *de*+∅ shares with attributive uses as discussed in section 1. The third advantage of the proposal is the fact that it fleshes out the long-standing intuition of nominalization with *shì. . .de* clefts in a new and parsimonious way. It is usually not explicated what nominalization really amounts to in the domain of clauses unless individuals are the outcome as in *chi-de* 'eat-DE, the thing(s) eaten'. The analog in the domain of events would appear to be definite reference to events. We would expect, then, that at the level of the mother node of *de*+∅ in (51b) reference should be made to the event of someone coming in the context. I did assume something like this in a prior version of this article, but I abandoned the idea for the following three reasons. First, speakers lack the intuition of definite event reference in cleft sentences. Second, there are no other contexts where C categories as the most comprehensive one in (51) are actually used as definite event descriptions. Third, the exhaustiveness effect and the cleft semantics can be derived by assuming just the presuppositional part of a definite determiner. Definite event reference is not needed, and should hence be left out if Occam's Razor is applied. The proposed solution may thus be said to derive the syntax and semantics of Chinese clefts at minimal cost.

4.4. Syntax and semantics of the copula structure

The copula above the cleft configuration proper as discussed in the preceding subsection projects a partition into (grammatical) subject and predicate on top of the cleft-presupposition structure. Simultaneously, this partition is one between a topic and a comment. The representation in (52b) implements the subject-predicate partition by assuming a T layer with the subject in spec,T.

(52) a. *Zhāngsān*$_{\text{SUBJECT/TOPIC}}$ ***shì*** [*zuótiān* *lái-**de***]$_{\text{COMMENT}}$.
Zhangsan COP yesterday come-DE
'As for Zhangsan, it was yesterday that he came.'

b.



This is, for the most part, Simpson and Wu's (2002:197) structure, except that these authors assume no C layer between the copula and the embedded TP. (Recall that, in our account, the cleft structure builds up around heads in the C domain.) The subject may then move on from spec,T to a topic phrase if such a projection is assumed. I will assume here that the subject-predicate structure in the TP encodes the topic-comment partition at the same time. The tensedness of the subject-predicate configuration projecting around the copula and the T head is needed for at least two reasons. First, the copula in *shì. . .de* clefts passes a standard test for finiteness (*yes/no*-questions trigger the A-not-A question form of the copula; Simpson and Wu, 2002:197).[22] Second, I follow Simpson and Wu (2002) in assuming that the predication relation brought about by the copula in its tensed configuration also accounts for the mediation between the temporal specification of the embedded event and the context of utterance. In the default case, the event described by the embedded CP will be a realis event that has occurred before the speech time; this is the typical kind of episodic information stored under the discourse address of an aboutness topic. Since the subject of the copula is simultaneously an aboutness topic, the [+anterior, −irrealis] default specification of the embedded CP as discussed in section 2.3 is derived. It becomes mandatory in the V *de* O pattern, where independent factors render the use of overt TAM material ungrammatical (cf. section 4.1.2).

On the semantic side, I assume that the copula carries a presupposition which requires its subject to be an aboutness topic. This will derive the topic-comment partition found on top of the cleft division.

5. Outlook and summary of the proposal

The proposed analysis of Mandari *shì. . .de* clefts has four main ingredients.

The core of the proposal is the partitioning into cleft focus phrase and cleft presupposition brought about by the C categories which are headed by *de* and ∅ and which check a syntactic exhaustiveness feature. This partitioning holds at PF just as it does at LF, except for the case of object clefts in the V *de* O pattern. For the latter type of cleft, LF clefting of the cleft focus phrase is assumed. The partitioning is obscured at PF because of the prosodically driven preposing of (part of) the cleft presupposition to the left of *de*. Our proposal is the first to propose and derive such a (theoretically desirable) cleft partition for the attested cleft configurations in Mandarin.

PF-true linearization constraints between major syntactic functions constitute the second important ingredient in the proposal. By requiring verbs to precede objects, and TAM words to precede verbs at PF (where either restriction holds for canonical sentences in Chinese), patterns are filtered out that would otherwise be falsely predicted by our partitioning proposal. Linearization filters as the ones used here are an established tool in the constraining of movement operations; as such they are highly general and can be put to use in other contexts as well.

The third important component of the analysis derives the availability of the V *de* O pattern. Those dialects that have this pattern at their disposal are assumed to apply object shift targeting spec,Asp before the verb is preposed at PF. This is in line with analogous accounts for similar phenomena in West-African and South-East Asian languages.

The exhaustive cleft semantics of *shì. . .de* clefts is implemented by the fourth major ingredient, the lexical entry of *de*+∅. This lexical entry includes a uniqueness and familiarity presupposition which requires there to be just one maximal event in the context which is of the type of the cleft presupposition with the cleft focus variable existentially bound. This presupposition is like the presupposition of definite determiners, transferred to the domain of events. The exhaustiveness effect observed with *shì. . .de* clefts falls out for free from the proposal as a consequence of the ontological minimality of events.

The tensed subject-predicate structure on top of the cleft structure which is mediated by the copula links the cleft structure to an aboutness topic.

The present analysis has aimed at combining up-to-date empirical coverage with theoretical explicitness and generality in a new way. While Paul and Whitman (2008) have the advantage of laying out the data patterns in unprecedented detail, their implementation is not entirely free of idiosyncratic and unbalanced moves (*de* in Asp, two different *de*'s, lack of semantic argumentation). Cheng's (2008) analysis is conceptually attractive and general, but its data coverage is less than complete. Maybe our account owes most to Simpson and Wu's (2002) proposal, except that we have defended a generalized CP analysis for the cleft configuration here where Simpson and Wu (2002) assume DP and TP structures, respectively. Apart from presenting a syntax account in general terms with a hopefully satisfactory data coverage, the present proposal may have a decisive advantage on the semantic side. It is, to the best of my knowledge, the first compositional semantic account of Chinese clefts.

[22] (i) illustrates the A-not-A question corresponding to (52). (ii) provides an example without a cleft.

(i) *Zhāngsan* ***shì***-*bu*-***shì*** *zuótiān* *lái*-***de***?
Zhangsan COP-not-COP yesterday come-DE
'Was it yesterday that Zhangsan came?'

(ii) *Zhāngsān* *lái-bu-lái?*
Zhangsan come-not-come
'Is Zhangsan coming?'

Further work will have to show whether the proposed line of analysis encounters serious obstacles. While I cannot predict the results of such work, I would like to conclude by pointing out three points that remain unclear to me in the realm of *shì. . .de* clefts. First, the empirical generalizations concerning the availability of V *de* O structures have not been stated in sufficient detail yet; this holds despite the recent progress made by Lee (2005) and Paul and Whitman (2008), and the present study has not contributed anything to this discussion. Second, one would like to see in yet more detail to what extent the simultaneous treatment of *shì* and *de*, as is the rule in the discussion of Chinese clefts, is a mere descriptive artifact. On the theoretical side, the cleft syntax-and-semantics is, according to our proposal, complete at the level of the specifier of *de*. On the empirical side, *shì. . .de* clefts frequently occur without pronounced topical constituents, and also without the copula. What is needed in this domain is more work in the vein of Cheng's (2008) deconstructing analysis. The third, and last, point concerns an eternal topic of Chinese linguistics. It remains to be seen whether our account of *de* in clefts can contribute anything to a unified theory of *de* – provided this is a realistic aim at all.

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