

# A DG Account of the Descriptive and Resultative *de*-Constructions in Chinese

**Timothy Osborne**  
Zhejiang University  
Hangzhou  
China  
tjo3ya@yahoo.com

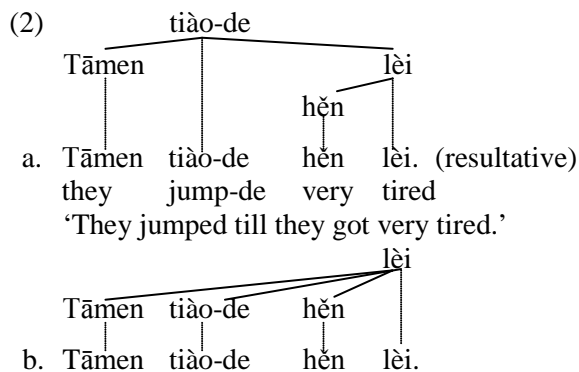
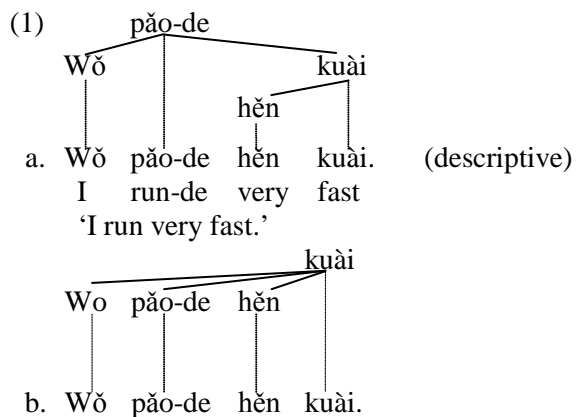
**Shudong Ma**  
Zhejiang University  
Hangzhou  
China  
shudong.ma@qq.com

## Abstract

This contribution examines the descriptive and resultative *de*-constructions in Mandarin Chinese, e.g. *Wǒ pǎo-de hěn kuài* ‘I run very fast’. There is a longstanding debate about this construction. The primary point of dispute concerns the main predicate: Is the first predicate the root of the sentence, i.e. *pǎo-de* ‘run’, or is the second predicate the root, i.e. *kuài* ‘fast’? We demonstrate here that from a dependency grammar (DG) perspective, the second predicate should be taken as the root. A number of diagnostics support this conclusion: 1) yes/no-questions with *ma*, 2) position of the negation *bù*, 3) omission, 4) placement of the adverb *yě* ‘also’, 5) *ne*-questions, and 6) modal insertion. The conclusion is important for the development of DG as applied to the syntax of Mandarin, since many basic questions about Mandarin sentence structure have not yet been examined from a DG perspective.

## 1 Two possibilities

There is a longstanding debate about the syntactic status of the descriptive and resultative *de*-constructions in Mandarin Chinese (henceforth *jus* Mandarin). The point of contention is illustrated with the following DG analyses:



The a-analyses show the VERB-*de* as the root of the sentence, whereas the b-analyses show the adjective as the root? We argue for the b-analyses in this contribution. We will, though, also develop a somewhat more fine-grained dependency analysis of these constructions, i.e. more fine-grained than what is shown with (1b) and (2b) here.

The point of contention reaches back decades. Early accounts of the *de*-construction were more in line with the b-analyses here (e.g. Chao 1968/1979: 176-180; Li 1986: 250), but in the 1980s an alternative account closer to the a-analyses gained a number of adherents (e.g. Huang 1988; Zhu 1982: 134; Zhou and Huang 1994:47, Ding 1961/1999: 63–5; Huang et al. 2009: 84–91). Huang’s (1988) article on the *de*-construction was particularly influential in establishing the validity of the a-analyses. Most of the relevant publications that have appeared more recently pursue an analysis similar to the a-analyses here (e.g. Xu and Pan 2014; Yang and Cheng 2013), though these publications diverge in the details.<sup>1</sup>

Most explorations of the syntactic status of the *de*-construction have been produced in the

<sup>1</sup> Fan (1993) proposes a tripartite demarcation: syntax, meaning, and pragmatics. The same one word can be viewed as a syntactic head but semantic dependent, or vice versa. That is, the syntactic root is different from the semantic/pragmatic root. This distinction is not observed in the DG account pursued here.

tradition of constituency grammar. Thus the two competing analyses just depicted with the trees in (1–2) are casting the debate in a new light. Indeed, to our knowledge the debate concerning the status of the *de*-construction in Mandarin has not yet been examined from a DG perspective. The interesting point about this situation is that from the DG perspective, the main question is less difficult insofar as the account is confronted with just two basic possibilities (a-trees vs. b-trees), and it need merely choose between these two. Constituency grammar accounts, in contrast, have the option to posit extra functional categories and the associated structure in order to accommodate specific facts about the *de*-construction. DG, with its minimal approach to basic sentence structure, cannot entertain the same multiplicity of potential analyses.

This situation can be viewed either as a strength or weakness of the DG approach. Either the limitation on possibilities for analysis is a good thing because there is less room for disagreement, or the possibilities are too limited and thus incapable of accommodating the multiplicity of facts associated with the construction. We of course prefer the former position. In any case, achieving certainty about the basic DG analysis of the *de*-construction should be beneficial for the further development of DG as applied to Mandarin.

## 2 Overview of *de*-elements

The element *de* has a number of different uses in Mandarin. In general, there are at least six different *de*-elements:

1. a. *de* marking a premodifier of a noun (的)
- b. *de* functioning as a nominalizer (的)
2. *de/dì* marking premodifier of a verb (地)
3. *dé/děi* ‘should’ as a modal verb (得)
4. *dé* ‘receive’ as a content verb (得)
5. *de* ‘possible’ as a modal particle (得)
6. a. *de* helping to express descriptive meaning (得)
- b. *de* helping to express resultative meaning (得)

Mandarin orthography, i.e. the Hanzi characters, is a source of confusion when dealing with these *de*-elements. Hanzi distinguishes the first two

*de*-elements from the other four with distinct characters, 的 and 地, whereas the latter four *de*-elements are more difficult to discern due to the use of the same one Hanzi character, i.e. 得. The third *de*-element, the modal verb *dé/děi* ‘should’, and the fourth *de*-element, the content verb *dé/děi* ‘get, receive’, have a distinct sound pattern that distinguish them from the other four, i.e. *dé* (rising tone) and *děi* (falling-rising tone), as opposed to *de* (neutral tone). The fifth *de*-element, the modal particle, is usually the second part of a three-part construction that consists of a verb, *de*, and a post-dependent on the verb. This postdependent is often a verb-like particle, e.g. *huá de xiàlái* ‘can slide down’, *kàn de dào* ‘can see’, *chēng de qǐ* ‘can lift up’.

While these first five *de*-elements are certainly worthy of exploration from a DG point of view, this contribution concentrates on the sixth *de*-element, which can be split into two types depending on whether *de* helps convey descriptive or resultative meaning. This sixth *de*-element has been the focus of significant debate, since its status in the syntactic hierarchy is not immediately clear, as suggested above with the trees in (1–2). A primary characteristic of descriptive/resultative *de* is that it appears as (what we view as) a clitic on a predicate (a verb or adjective) and it precedes a second predicate (often an adjective). It is therefore often sandwiched between two predicates.

The following examples illustrate the descriptive and resultative *de*; they are taken from Li and Thompson (1981: 624ff.):

### Descriptive *de*

- (3) a. Tā zǒu-de hěn màn.  
S/he walk-de very slow.  
‘S/he walks very slowly.’
- b. Wǒmen shuì de hěn hǎo.  
We sleep de very good  
‘We sleep very nicely.’
- c. Tā chuān de hěn piàoliang.  
he/she dress de very beautiful  
‘S/he dresses very beautifully.’

### Resultative *de*

- (4) a. Tā jiāo de lèi le.  
s/he teach de tired le  
‘S/he taught herself tired.’
- b. Wǒ kū de yǎnjing dōu hóng le.  
I cry de eye all red le  
‘I cried my eyes all red.’

- c. Wǒ è de fā huāng.  
I hungry de produce panic  
'I'm hungry to the point of panic.'

When it helps convey descriptive meaning, *de* is associated with an adverb in English (here *slowly*, *nicely*, *beautifully*). When it helps convey resultative meaning, *de* is often associated with a predicative adjective in English (here *tired*, *red*) or with a second verbal predicate (here *produce*).<sup>2</sup>

As stated in the introduction, the main source of debate for these *de*-elements concerns the two predicates with which they co-occur: Is the first predicate (the one on the left) head over the second predicate, or vice versa. These two possibilities can be rendered in the English translations as follows for example (3a):

- (5) Tā zǒu-de hěn màn.  
s/he walk-de very slow
- a. 'S/he walks very slowly.'  
b. 'S/he is very slow in walking.'

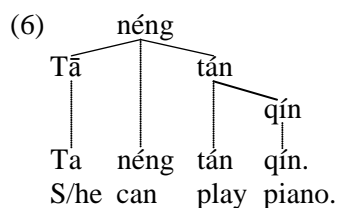
While the translation *S/he is very slow in walking* is an odd sentence in English, this manuscript now argues that it more accurately reflects the hierarchy of words in the Mandarin sentence *Tā zǒu de hěn màn*. In other words, the second predicate is in fact head over the first predicate.

### 3 Overview of diagnostics

To motivate the dependency analyses of descriptive and resultative *de*, we use a number of diagnostics:

1. Yes/no-questions with *ma*,
2. Position of the negation *bù*,
3. Omission,
4. Placement of the adverb *yě* 'also',
5. Questions with *ne*, and
6. Modal insertion

To illustrate these diagnostics, we first apply them to the following sentence:



<sup>2</sup> Even though the elements following *de* can be viewed as an adverb or adjective, worth noting is that with no formal marker, a Chinese word often allows for a flexible categorial role.

Modal verbs such as *néng* here are widely taken to be the root of the clause in which they appear in many languages, and subordinating the subject immediately to the modal verb makes sense since doing so results in a hierarchy that corresponds exactly to the corresponding hierarchy for the English sentence, and further, it avoids the projectivity violation that would be incurred if the subject were subordinated directly to the content verb *tán*. While these aspects of the analysis in (6) can be disputed, we take the validity of (6) for granted, since doing so allows us to establish a framework that can be used to analyze *de*-constructions. The validity of (6) is then supported by the overall understanding of Mandarin sentence structure that emerges.

**Ma-questions:** The answer to a yes/no-question that is formed with the interrogative particle *ma* is typically reduced down to just the root node, e.g.

- (7) Tā néng tán qín ma?  
s/he can play piano ma  
'Can s/he play piano?'
- a. – Néng. – 'Can.'  
b. – \*Tán. – 'Play.'

The answer is acceptable if it includes *néng* and unacceptable if it excludes *néng*. The assumption, then, is that the answer to a yes/no-question (expressed using the interrogative particle *ma*) should include the root of the sentence.

**The negation *bù*:** The negation *bù* typically precedes the root of the clause. Thus when *bù* is inserted into the test sentence, it should precede *néng*:

- (8) a. Tā bù néng tán qín.  
S/he not can play piano.  
'She cannot play piano.'
- b. Tā néng bù tán qín.  
'S/he can not play piano.'  
'S/he may stop playing piano.'

Sentence (8a) is natural, whereas sentence (8b) is unusual. Sentence (8b) is only possible on the unlikely reading where it means that 's/he is allowed to not play the piano (or to stop playing the piano)'. Thus the position of the negation helps identify the root of the sentence. To negate the entire sentence in a neutral manner, the negation should precede the root node.

**Omission:** Eliding or omitting a string is another test for identifying constituents (com-

plete subtrees).<sup>3</sup> If a string can be omitted without significantly altering the meaning of the sentence, then the omitted string is potentially a constituent. In this case, *tán qín* can be omitted in terms of VP-ellipsis, whereby the meaning remains unchanged:

- (9) Wǒ néng tán qín. Tā yě néng.  
I can play piano. S/he also can.  
'I can play the piano, and she can, too.'

The ability to omit the string *tán qín* in the same manner that one can omit a verb phrase in terms of VP-ellipsis in English suggests that *tán qín* should form a constituent. This, in turn, suggests that *néng* is head over *tán qín*, because if it were not, *tán qín* would not qualify as a constituent, and omission should then not be possible.

**The adverb *yě*:** The position of the adverb *yě* 'also' is another indicator that is useful for identifying the root of the sentence. This adverb must precede *néng*; it cannot follow *néng*:

- (10) a. Tā yě néng tán qín.  
'S/he also can play piano.'  
b. \*Tā néng yě tán qín.  
'S/he can also play piano.'

This pattern is accounted for on the assumption that *yě* must precede the root of the clause. Inserting *yě* is therefore a simple diagnostic that can help identify which predicate is head over the other.

***Ne*-questions:** The interrogative particle *ne* 'what about' serves to form an abbreviated question of a sort. On the assumption that this particle focuses a constituent, it can be used to identify constituents in the preceding sentence and thus to identify which verb is head over the other:

- (11) a. A: Tā néng tán gāngqín.  
S/he can play piano.  
B: Tán xiǎotíqín ne?  
Play violin what about  
'What about playing the violin?'  
B': \*Yīnggāi ne?  
'What about should?'

The acceptability of the *ne*-question *Tán xiǎotíqín ne?* is consistent with the stance that *tán gāngqín* is a constituent, which is, in turn, consistent with the position of *néng* as head over *tán gāngqín*. If *néng* were not head over *tán*

*gāngqín* but rather a dependent of *tán*, then *tán gāngqín* would not be a constituent and we would expect the first question uttered by B to fail precisely because *tán xiǎotíqín* would not correspond to a constituent in the preceding statement. The fact that the second *ne*-question is bad is consistent with the observation that as head over *tán gāngqín*, the auxiliary *néng* is not a constituent.

**Modal insertion:** The final diagnostic introduced here is modal insertion. This diagnostic inserts a modal auxiliary verb into a sentence that lacks one, e.g.

- (12) Tā tán qín.  
S/he plays piano.  
a. Tā néng tán qín. – *néng* 'can'  
b. \*Néng tā tán qín.  
c. \*Tā tán néng qín.

Given the non-controversial assumption that *tán* is the root of the sentence in (12), inserting the modal auxiliary *néng* into the sentence provides clues about the hierarchy. Since Mandarin is an SVO language,<sup>4</sup> the root verb of a sentence should follow the subject and precede the object. This means that when the modal auxiliary is inserted into the sentence, it becomes the root verb, and *tán qín* becomes its object in a sense. In other words, when a modal is inserted into the sentence, it should follow the subject and precede what was the root before insertion. Doing this delivers helpful clues about the hierarchical structure of the sentence, as demonstrated with (12a-c).

The six diagnostics just illustrated will now be used to identify the root word in sentences containing *de* (descriptive and resultative *de*). The tests mostly converge, identifying the second predicate, i.e. the predicate that follows *de* as head over the first predicate.

## 4 Descriptive and resultative *de*

### 4.1 Descriptive *de*

The six diagnostics just introduced will now be applied to descriptive *de*. Example (5) from above, repeated here as (13), is used as the test sentence:

<sup>3</sup> Following Hudson (1984: 92), Starosta (1988: 105), and Hellwig (2003: 603), we call the complete subtrees of dependency structures *constituents*.

<sup>4</sup> We take Chinese to be an SVO language. However, there has been some debate about this. Some have argued that Chinese is actually SOV (e.g. Sun and Givón 1985, Chen 1995).

- (13) Tā zǒu-de hěn màn.  
He walk-de very slow.  
'He walks very slowly.'

Descriptive *de* helps express a characteristic ability or trait associated with the subject. In this case, the characteristic trait is that of walking slowly. The six diagnostics will now be applied to this sentence, each in turn.

The answer to a *ma*-question suggests that *màn* is the root:

- (14) Tā zǒu-de màn ma?  
S/he walk-de slow ma  
'Does s/he walk slowly?'  
a. – Mǎn. – 'Slow.'  
b. – \*Zǒu-de. – 'Walk.'

The placement of *bù* is consistent with the assumption that *màn* is the root:

- (15) a. <sup>?</sup>Tā bú zǒu-de màn.  
s/he not walk-de slow  
b. Tā zǒu-de bú màn.  
s/he walk not slow

The ability to omit *zǒu-de* and the inability to omit *hěn màn* indicate that *màn* is the root:

- (16) a. Tā hěn màn.  
s/he very slow  
'S/he is very slow.'  
b. \*Tā zǒu-de.  
s/he walk-de

The placement of *yě* is consistent with *màn* as the root, since in both of the following acceptable sentences, *yě* precedes *màn*:

- (17) a. Tā yě zǒu-de hěn màn.  
s/he also walk-de very slow.  
b. Tā zǒu-de yě hěn màn.  
s/he walk-de also very slow

The ability to form a *ne*-question corresponding to *zǒu-de* and the inability to form such a question corresponding to *màn* suggest that *màn* is the root:

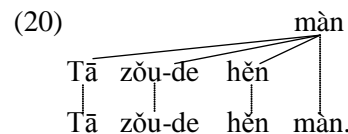
- (18) A: Tā zǒu-de màn. 'S/he walks slowly.'  
B: Pǎo-de ne? 'What about run-de.'  
B': \*Kuài ne? 'What about quickly?'

And the fact that a modal verb can appear in two positions suggests that *màn* is the root, since in both cases, the modal verb follows the subject and precedes *màn*:

- (19) a. Tā néng zǒu-de hěn màn.  
s/he can walk-de very slow  
'S/he can walk very slowly.'  
b. Tā zǒu-de néng hěn màn.  
s/he walk-de can very slow  
'S/he can walk very slowly.'

Note that if *zǒu-de* were head over *màn* here, we would expect (19b) to be bad.

Taken together, the six diagnostics strongly support the conclusion that *màn* is the root of the sentence. The dependency-grammar analysis of the starting sentence should therefore be as follows:



The status of *tā* as a dependent of *màn* – as opposed to as a dependent of *zǒu-de* – is motivated by the omission diagnostic (see example 16a) and the modal insertion diagnostic (see example 19a). We can therefore see what the clitic *de* is doing in such cases: it serves to subordinate *zǒu* to *màn*.

## 4.2 Resultative *de*

The tests also provide consistent results when applied to an example with resultative *de*. Example (4a) from above is repeated here as (21):

- (21) Tā jiāo-de lèi le.  
s/he taught-de tired le  
'S/he taught her-/himself tired.'

This example differs from the one in the previous section insofar as the second predicate is now interpreted as the result of the action expressed by the first predicate, i.e. the teaching made her/him tired. The structure of the example, though, is similar to the structure of the example sentence from the previous section containing descriptive *de*.

The answer to a *ma*-question suggests that *lèi* is head over *jiāo-de*:

- (22) Tā jiāo-de lèi le ma?  
S/he teach-de tired le ma  
'Did s/he teach her-/himself tired?'  
a. – Lèi (le). – 'Tired.'  
b. – \*Jiāo-de. – 'Teach.'

The placement of *bù* (actually *mei* 'not' in this case, due to interference associated with *le*) suggests that *lèi* is the root, since in both of the fol-

lowing sentences, *méi* precedes *lèi*:

- (23) a. Tā méi jiāo-de lèi.  
s/he not teach-de tired  
'S/he did not teach her-/himself tired.'
- b. Tā jiāo-de méi lèi.  
s/he teach-de not tired  
'S/he did not teach her-/himself tired.'

If *jiāo-de* were the root in this case, we would expect (23b) to be bad because a left-branching verb chain would be present – verb chains in Mandarin are mostly right-branching.

The ability to omit *jiāo-de* and the inability to omit *lèi le* indicate that *lèi* is head over *jiāo-de*:

- (24) a. Tā lèi le.  
s/he tired le
- b. \*Tā jiāo-de.  
s/he teach-de

The placement of *yě* is consistent with *lèi* as the root, since in both of the following acceptable sentences, *yě* precedes *lèi*:

- (25) a. Tā yě jiāo-de lèi le.  
s/he also teach-de tired le  
'S/he also taught her-/himself tired.'
- b. Tā jiāo-de yě lèi le.  
s/he teach-de also tired le.  
'S/he also taught her-/himself tired.'

The ability to form a *ne*-question corresponding to *jiāo-de* and the inability to form such a question corresponding to *lèi* suggest that *lèi* is head over *jiāo-de*:

- (26) A: Tā jiāo-de lèi le.  
s/he teach-de tired le
- B: Xué-de ne? 'What about study?'
- B': \*Fán ne? 'What about bored?'

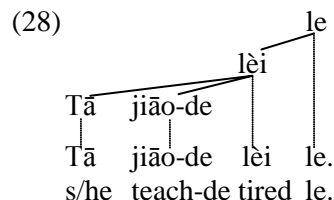
And the fact that a modal verb can appear in two positions suggests that *lèi* is the root, since in both cases, the modal verb follows the subject and precedes *lèi*:

- (27) a. Tā gāi jiāo-de lèi le.  
s/he should teach-de tired le  
'S/he should teach her-/himself tired.'
- b. Tā jiāo-de gāi lèi le.  
s/he teach-de should tired le  
'S/he should teach her-/himself tired.'

Note that if *jiāo-de* were head over *lèi* here before insertion of the modal verb, we would expect (27b) to be bad because verb chains in

Mandarin tend to be right-branching, not left-branching.

Taken together, the six diagnostics support the conclusion that *lèi* is head over *jiāo-de*. The DG analysis of the starting sentence should therefore be as follows:



The status of *tā* as an immediate dependent of *lèi*, as opposed to as a dependent of *jiāo-de*, is supported by the omission diagnostic (see example 24a) and the modal insertion diagnostic (see example 27a). Therefore we see again what *de* is accomplishing in such cases; its appearance serves to subordinate the first predicate to the second, i.e. *jiāo* to *lèi*.

### 4.3 *de*-clauses

Resultative *de* also occurs in bi-clausal sentences. The following examples are unlike the examples in the previous two sections in this regard insofar as two clauses are present each time, as opposed to just one:

- (29) Tā kū-de yǎnjīng hóng le.  
s/he cry-de eyes red le  
'Her/his crying makes her/his eyes red.'

The string *tā kū-de* can be evaluated as a clause as opposed to as a phrase because it contains the overt subject *tā*. The string *tā kū-de* is thus a clause that expresses the cause of the result expressed with the main clause *yǎnjīng hóng le*.

When yes/no questions with *ma* are applied to this sentence, the *de*-clause is most naturally omitted entirely:

- (30) Tā kū-de yǎnjīng hōng le ma?  
s/he cry-de eyes red le ma  
'Does s/he cry her/his eyes red?'
- a. – Hōng le. 'Red.'
- b. – Yǎnjīng hōng le. 'Eyes red.'
- c. – \*Kū-de. 'Cry.'

These data are expected if *hōng* is head over *kū-de*, but unexpected if *kū-de* were head over *hōng*.

Negation should be located in front of the second predicate, not in front of the first:

- (31) a. \*Tā bù kū-de yǎnjīng hóng e.  
s/he not cry-de eyes red le  
b. Tā kū-de yǎnjīng bù hóng le.  
s/he cry eyes not red le  
'Crying makes her/his red eyes recover.'

The badness of (31a) is expected, since in order to negate the matrix clause, the negation should appear in the matrix clause, not in the subordinate clause.

The structural analysis predicts that the sentence should be fine if the *de*-clause is omitted entirely, and this prediction is borne out:

- (32) Tā kū-de yǎnjīng hóng le.  
s/he cries-de eyes red le  
a. Yǎnjīng hóng le. 'Eyes red.'  
b. <sup>?</sup>Tā kū-de hóng le. 'S/he cries red.'  
c. <sup>?</sup>Tā hóng le. 'S/he is red.'

Sentence (32a), from which the *de*-clause has been removed entirely, is fine. If one attempts to remove the matrix subject *yǎnjīng* 'eyes' as in (32b), though, the result is marginal, and if one attempts to make *tā* 's/he' the matrix subject as in (32c), the meaning of the sentence changes drastically.

Interestingly, however, *yě* can appear in the subordinate clause or the matrix clause:

- (33) a. Tā yě kū-de yǎnjīng hóng le.  
s/he also cry-de eyes red le  
'She too cried her eyes red.'  
b. Tā kū-de yǎnjīng yě hóng le.  
s/he cry-de eyes also red le  
'S/he cried so that also her eyes were red.'

There may, however, be a slight meaning difference across these two sentences, as indicated by the translations.

The *ne*-question diagnostic identifies *Tā kū-de* as a constituent, which is expected if *hóng* is head over *kū-de*:

- (34) A: Tā kū-de yǎnjīng hóng le.  
S/he cry-de eyes red le  
'S/he cried her/his eyes red.'

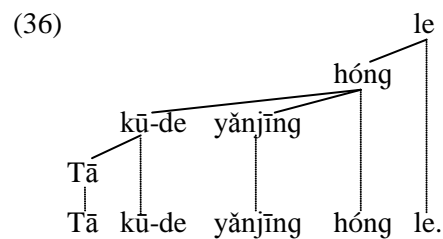
B: Nǐ kū-de ne? 'What about you crying?'

The sixth diagnostic, modal insertion, is particularly revealing. The modal verb *gāi* 'should' can be inserted into either clause:

- (35) a. Tā gāi kū-de yǎnjīng hóng le.  
S/he should cry-de eyes red le  
'S/he should cry making her eyes red.'  
b. Tā kū-de yǎnjīng gāi hóng le.  
s/he cry-de eyes should red le  
'By crying her/his eyes should be red.'

The English translations indicate a subtle meaning difference across the two sentences. This meaning difference is expected insofar as the modal verb scopes just over the clause in which it appears.

Taken together, the six diagnostics identify *tā kū-de* as a clausal constituent and hence as a dependent of *hóng*. The following hierarchy models the data best:



Thus if one wants to reflect the structure of this example with an English sentence, one might translate it as *By her/his crying, her/his eyes were red*. Perhaps the most important aspect of this analysis concerns the position of *tā* as a dependent of *kū-de*; *tā* is the subject *kū-de*, making *tā kū-de* a separate clause. The example is therefore bi-clausal.

## 5 Verb copying

The first verb in the *de*-construction, both descriptive and resultative, can, and at times must, be copied, e.g.

- (37) a. \*Tā shuō hàn-yǔ-de hǎo.  
s/he speak Chinese-de good  
b. \*Tā shuō-de hàn-yǔ hǎo.<sup>5</sup>  
s/he speak-de Chinese good  
c. Tā shuō hàn-yǔ shuō-de hǎo.  
s/he speak Chinese speak-de good  
'S/he is good at speaking Chinese.'

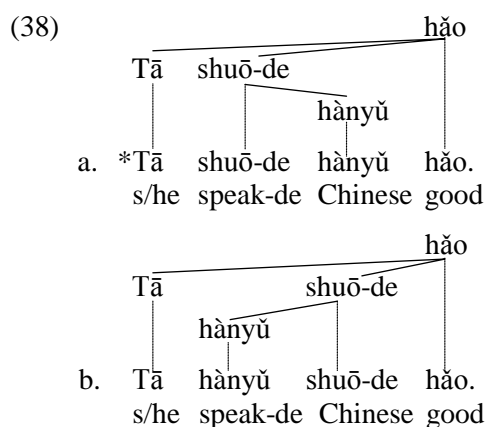
Of these three sentences, only sentence (37c), in which the verb *shuō* is copied, is acceptable. The unacceptability of (37a) can be accounted for by the assumption that *de* must cliticize to a verb, as

<sup>5</sup> Example (37b) is actually acceptable in the reading where it means 'Her/his spoken Chinese is good'. On the intended reading however, i.e. 'She is good at speaking Chinese', the sentence is bad.

opposed to a noun, i.e. it cannot be a clitic on the noun *hànyǔ*. Why sentence (37b) is bad is, however, not immediately clear, although it may have something to do with the fact that *hànyǔ* is trying to be a postdependent of *shuō-de*. Perhaps the appearance of *de* blocks the verb *shuō* from taking postdependents. Verb copying would thus be a means of overcoming this block on postdependents.

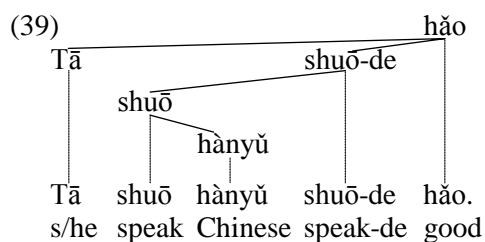
The stance taken here is that verb copying as illustrated in (37c) is revealing something important about the syntactic status of *de*. Much of the literature on the *de*-constructions takes *de* to be a suffix (e.g. Li and Thompson 1981). In contrast, the observations that we now present suggest that *de* is better analyzed as a clitic. In particular, it behaves like possessive 's in English in an important way, which demonstrates that it is better viewed as a clitic, since possessive 's in English has clitic status.

First, consider (37b) again. While *shuō-de* cannot take *hànyǔ* as a postdependent, it can take *hànyǔ* as a predependent. Example (37b) is given again here as (38a) with the dependency analysis included, and sentence (38b) is added to illustrate the ability of *shuō-de* to take *hànyǔ* as a predependent:



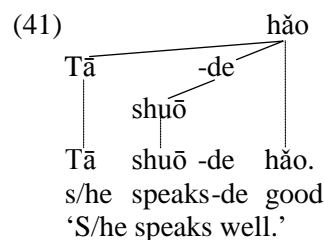
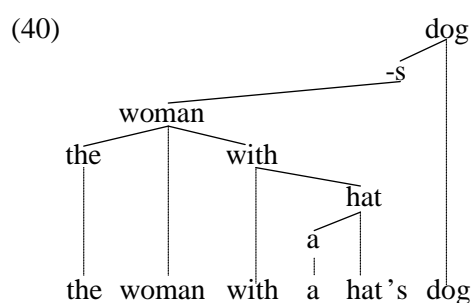
If these analyses are on the right track, they point to a partial explanation for why verb copying occurs in the *de*-construction. Copying the verb helps to overcome the block on postdependents.

Consider the following analysis of example (37c), repeated here as (39) with the dependencies added



On this analysis, *shuō-de* no longer has a postdependent, but rather *hànyǔ* is a postdependent of the first *shuō*. The account might therefore simply stipulate that the appearance of *de* blocks its host from taking a postdependent. This stipulation would, however, be contradicted by other data, a point that will become evident shortly.

The analysis of descriptive and resultative *de* above has demonstrated that *de* serves to subordinate one predicate to another. It behaves like a postposition or post-subordinator. To accommodate this role of *de*, it can be positioned as the root of the entire premodifier. As the root of this modifier, it has a hierarchical status that is quite similar to the possessive clitic 's in English. Compare the following structures:

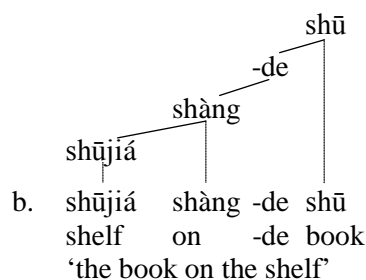
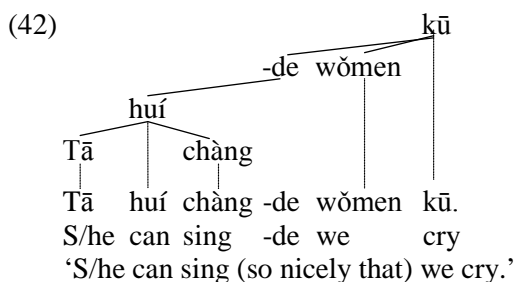


The *de* element is now shown as the root of the phrase *shuō de*, similar to the way that possessive 's is shown as the root of the determiner phrase *the woman with a hat's*. Both of these elements are granted the status of a clitic.

Clitics are, following Groß (2014), indicated with a hyphen and the absence of a projection line. The hyphen appears on the side of the clitic where its host is, indicating that the clitic is prosodically dependent on that host. The host of *de* must be a verb (here *shuō*), whereas the host of 's can be most any category (here it is the noun *hat*).

The analysis of the *de* element just sketched is supported by cases in which the verb to which it cliticizes is subordinated to a modal verb, e.g.





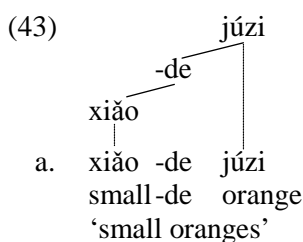
The *de* cliticizes to *chàng* at the same time that *chàng* is subordinate to *huí*. This analysis grants *de* the status of a subordinator (subordinate conjunction). It serves to subordinate the immediately preceding predicate to the following predicate.

To summarize, the verb copying phenomenon has helped reveal important traits of descriptive and resultative *de*. This element is a clitic that serves to subordinate one predicate to another. It necessarily cliticizes to the preceding predicate and subordinates that predicate to a following predicate. The fact that it cliticizes to a preceding predicate blocks that predicate from taking a postdependent. This is in turn the aspect of *de* that is responsible for motivating verb copying. By copying the verb, the first instance of the verb (on the left) can take a postdependent.

## 6 Unification with *de* (的) and *de* (地)

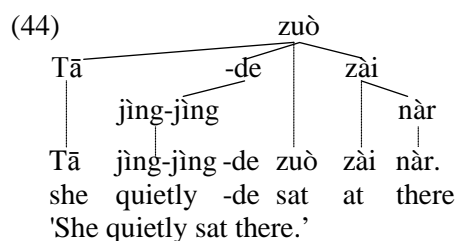
Descriptive/resultative *de* (得) shares an important prosodic feature with *de* (的) and *de* (地). All three *de* receive a neutral tone – although 地 does allow an archaic falling tone at times, in which case it is pronounced as *dì*. The shared trait of a neutral tone suggests that all three *de* can be viewed as clitics. More importantly, though, all three *de* serve to subordinate what immediately precedes them to what follows them. In other words, their roles in the syntactic structure are closely similar.

The most frequently occurring *de* often subordinates material to a noun; it is written as 的, and the material that it subordinates typically corresponds to an attributive adjective, prepositional phrase, or relative clause in English, e.g.



In each case, the *de* clitic appears to subordinate the material preceding it to the noun that follows it.

The other *de* (地) performs a closely similar role, although it depends on a verb as opposed to on a noun, and the material that it subordinates is restricted to an adjective. It therefore serves to transform an adjective into an adverb; the adjective is often doubled:



In sum, the aspect to acknowledge about all three *de* is that they are quite similar. They are clitics that subordinate what precedes them to what follows them. The point, then, is that a unified syntactic analysis of the three *de* is possible.

## 7 Conclusion

This manuscript has produced a DG account of the descriptive/resultative element *de* (得) in Mandarin. This element is a clitic that serves to subordinate the preceding predicate to the/a following predicate. Its role in syntax is closely similar to the roles of *de* (的) and *de* (地). All three *de* perform a translative function (Tesnière 1959: Part III).

This manuscript ends with a word of caution. The exploration of *de* elements here has focused on a particular type of *de*, namely descriptive and resultative *de* (得), and it has drawn a parallel to two other types of *de*, 的 and 地. The *de* element appears in additional constructions beyond these three, as mentioned above in the overview where six types of *de* were listed. The three types of *de* in the overview not examined in this contribution behave much differently than the three types of *de* that have been considered. Especially the modal element *de* (the fifth *de* in the list) presents challenges to syntactic theory.

## Literature

- Yuen-Ren Chao. 1968/1979. *A Grammar of Spoken Chinese*. Translated by Lv Shuxiang. The Commercial Press, Beijing.
- Rong Chen. 1995. Communicative dynamism and word order in mandarin Chinese. *Language Sciences*, 17, 2, 201–22.
- Sheng-shu Ding. 1961. *Xiàndài hànyǔ yǔfǎ jiǎnghuà* [Lectures on the modern Chinese grammar]. The Commercial Press, Beijing:
- Xiao Fan. 1993. Fù dòng V-de jù [The verb-copying V-de construction]. *Yǔyánjiàoxuéyǔyánjiū* 04, 57–74.
- Thomas Groß. 2014. Clitics in dependency morphology. In Kim Gerdes, Eva Hajičová, and Leo Wanner (eds.), *Dependency Linguistics: Recent Advances in Linguistic Theory Using Dependency Structures*, 229–51. John Benjamins, Amsterdam.
- Peter Hellwig. 2003. Dependency Unification Grammar. In: V. Ágel, et al. (eds.), *Dependency and Valency: An International Handbook of Contemporary Research*. 593–635. Walter de Gruyter, Berlin.
- James Huang. 1988. *Wǒ pǎo de kuài* and Chinese phrase structure. *Language* 64, 2, 274–311.
- Richard Hudson. 1984. *Word Grammar*. Basil Blackwell, Oxford, UK.
- Charles Li and Sandra Thompson. 1981. *Mandarin Chinese: A Functional Reference Grammar*. University of California Press, Berkeley.
- James Huang, Audrey Li, and Yafei Li. 2009. *The Syntax of Chinese*. Cambridge University Press.
- Lin-ding Li. 1986. *Xiàndài hànyǔ jùxíng* [The modern Chinese constructions]. The Commercial Press, Beijing.
- Stanley Starosta. 1988. *The Case for Lexicase: An Outline of Lexicase Grammatical Theory*. Pinter Publishers, London:.
- Chao-Fen Sun and Talmy Givón. 1985. On the so-called SOV word order in Mandarin Chinese: A quantified text study and its implications. *Language* 6, 2, 329–51.
- Lucien Tesnière. 1959. *Éléments de syntaxe structurale*. Klincksieck, Paris.
- Xin-yuan Xu and Haihua Pan. 2014. *Tā de lǎoshī dāng de hǎo de shēngchéng lǜjīng tànxi* [An investigation into the syntactic mechanism of generating sentences like *Ta de laoshi dang-de hao*]. *Xiàndàiwàiyǔ* 04, 439–451.
- Da-ran Yang and Gong Cheng. 2013. Xiànxìng duìyīng dīnglǐ yǔ hànyǔ zhòngdòng jù de cíxiàng rónghé [Linear Correspondence Axiom and Morphological Fusion in Mandarin Double-verb Constructions]. *Wàiguóyǔ* 04, 37–46.
- De-xi Zhu. 1982. *Yǔfǎ jiǎngyì* [Lectures on Grammar]. The Commercial Press, Beijing.
- Ming Zhou and Changning Huang. 1994. Approach to the Chinese dependency formalism for the tagging of corpus. *Journal of Chinese Information Processing*, 8, 3, 35–52.