

Descriptive Complement Constructions as Concealed Pseudoclefts in Chinese

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1. Introduction

One of the familiar topics in the research of Chinese syntax is the so-called *postverbal complement constructions* in which various types of phrases occur to the right of the matrix verb as do ordinary objects. Descriptive Complement Construction (DCC) is one where the postverbal constituent is an adjectival/adverbial phrase (AP). An intransitive and a transitive example of DCC are given in (1a) and (1b) below, respectively:¹

- (1) a. ta pao-de [_{AP} hen-kuai]. *intransitive*
he run-DE very-fast
'He runs fast.'
- b. ta (tan) gangqin tan-de [_{AP} hen-kuai]. *transitive*
he play piano play-DE very-fast
'He plays piano fast.'

(1a) does not seem interesting; however, (1b) reveals a number of facts that merit discussion. First, the object *piano* undergoes (obligatory) fronting to a preverbal position. As shown in (2), an in-situ object results in ungrammaticality (irrespective of whether there is a verb copy or not).

- (2) *ta tan-de gangqin [_{AP} hen-kuai]. **object in-situ*
he play-DE piano very-fast

Second, an optional copy of the matrix verb *tan* 'play' is allowed right after the subject, a phenomenon referred to as *verb copying*. Third, the suffix-like item *de*, whose syntactic status is still under debate, tends to show up in DCC generally. Finally, because adverbs in Chinese are principally preverbal, it is undesirable to equal the AP to an adverbial/adjunct phrase; but if it is adjectival, we must also ask why it appears postverbally and what it modifies/predicates of. DCC is thus intertwined with (at least) four syntactic and morphological issues, each of which has been a locus of previous studies: object fronting (Huang 1982, 1992), verb copying (Cheng 2007), the verbal suffix *de* (Shen & Ting 2008), and the descriptive AP (Mei 1972, Huang 1988, inter alia).

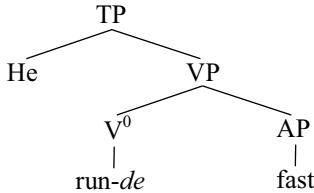
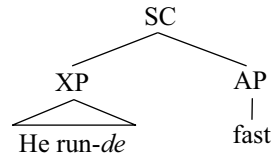
In this article I offer a novel analysis that provides (partial) answers to these questions. In particular, it is proposed that: (i) *de* is a gerund head triggering V⁰-movement, (ii) verb copying is in fact vP copying giving rise to apparent object fronting, and (iii) a Primary Predication analysis for the AP is called for in order to capture certain empirical facts. Below we start from the AP (Sections 2 & 3), and turn to the analysis involving *de*, verb copying and others (Section 4). Section 5 concludes this paper.

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¹ The pre-adjective modifier *hen* has a literal meaning 'very', but has become a dummy form of some sort that does not contribute the semantics of *very* to a following adjective. This is reflected in the translations.

2. Two competing analyses: Primary vs. secondary predication

One (presumably the most) influential approach toward the syntactic function of the descriptive AP in DCC is the *Secondary Predication* analysis, according to which it serves as the secondary predicate of the complex verb *V-de* (Mei 1972, Li 1975, Huang 1988, Li 1990, Tang 1990, Zhang 2001, Lim 2005), as diagrammed in (3). In contrast, the *Primary Predication* analysis contends that the AP should be the primary predicate and the remaining materials of the DCC constitute a sentential subject of some sort (Chao 1968, Tai 1973, Li & Thompson 1981, Huang & Mangione 1985, Wei 2006), as shown in the small clause structure (4).

(3) *Secondary Predication analysis*(4) *Primary Predication analysis*

Relevant discussions to (3) and (4) have to do with A-not-A question formation, structure of aspect, compounding, and scope of negation, among others.² A comprehensive overview would go beyond the scope here (see Huang 1988 and references therein); instead, I would like to draw the reader's attention to the following obvious and systematic contrasts, many of which nonetheless seem to have escaped from notice. It will be shown that all these syntactic tests point to the *Primary Predication* analysis where the descriptive AP behaves like a main predicate.

3. Status of the AP: Diagnostics and comparisons

Eight syntactic diagnostics, grouped into three major types (movement, insertion and deletion), are presented to show that the AP in DCC systematically behaves differently from ordinary verbal objects.

3.1. Diagnostics I: Movement

(5) *Topicalization*

- a. [ta pao-de]_i (a) [dajia dou shuo t_i [hen-kuai]]. *ok* DCC
 he run-DE TOP everyone all say very-fast
 'He runs such that everyone says [it] is fast.'
- b.* [ta xihuan]_i (a) [dajia dou shuo t_i [mali]]. **regular clause*
 he like TOP everyone all say Mary

(6) *XP (focus) fronting*

- a.* [hen-kuai]_i, ta pao-de t_i. **DCC*
 very-fast he run-DE
- b. [mian]_i, ta chi-le t_i. *ok* regular clause
 noodle he eat-ASP
 'Noodles, he has eaten.'

In (5a), the constituent [*he run-DE*] can be moved as a whole to a clause-initial position preceding the topic marker *a*. This is not possible in (5b) where the object *Mary* is stranded below. (6) displays the

² DCC is often regarded as sharing a similar structure with the Resultative Complement Construction (RCC, a.k.a. Resultative *V-de* Construction) in which a matrix verb takes a clausal unit as complement, leading to a biclausal configuration with causative-resultative, bi-eventive interpretations. Certain syntactic tests available for RCC are therefore not applicable to DCC. Here I deal with DCC only.

opposite pattern: DCC does not allow (focus) fronting of the postverbal AP, as in (6a), but in Chinese object fronting as focus movement is in general possible, as in (6b). The contrasts above immediately raise the question as to why the AP in DCC does not pattern with ordinary objects of verbs as suggested by the secondary predication approach (3).

3.2. Diagnostics II: Insertion

- (7) *Insertion of a focus marker*
- a. ta pao-de **shi** hen-kuai. *ok* DCC
 he run-DE BE very-fast.
 'It is true that he runs fast.'
- b.* ta chi-le **shi** mian. **regular clause*
 he eat-ASP BE noodle
- (8) *Insertion of a negation marker*
- a. ta pao-de **bu** kuai. *ok* DCC
 he run-DE NEG fast
 'He does not run fast.'
- b.* ta chi-le **bu/mei** mian. **regular clause*
 he eat-ASP NEG/NEG noodle
- (9) *Insertion of a modal auxiliary/adverb* (Wei 2006:102)
- a. ta pao-de **yinggai/dique** hen-kuai. *ok* DCC
 he run-DE should/indeed very-fast
 'He should/indeed run fast.'
- b.* ta chi-le **yinggai/dique** mian. **regular clause*
 he eat-ASP should/indeed noodle
- (10) *Insertion of an adverb of quantification*
- a. tamen pao-de **dou/ye** hen-kuai. *ok* DCC
 they run-DE all/also very-fast
 'They all/also runs fast.'
- b.* tamen chi-le **dou/ye** mian. **regular clause*
 they eat-ASP all/also noodle

All examples above indicate a parallelism between the AP and verbal predicates, both of which can be preceded by a focus copula, a negation marker, a modal or quantificational adverb, but not between the AP and objects. In Huang (1992 *et seq.*) it is argued that the AP forms a complex predicate with the main verb (à la Larson's 1988 treatment on certain postverbal adverbs in English), but the possible separation of the former from the latter by the elements in (7)-(10) does not seem to echo this kind of analysis, leaving aside yet another question whether the Larsonian explanation is adequate (given that adverbs in Chinese and English have distinct distributions).

3.3. Diagnostics III: Deletion

- (11) *Gapping*
- a. ta pao-de hen-kuai, danshi wo ~~pao-de~~ hen-man. *ok* DCC
 he run-DE fast but I run-DE very-slow
 'He runs fast, but I slow.'
- b.* ta xihuan su, danshi wo ~~xihuan~~ mali. **regular clause*
 he like Sue but I like Mary

(12) *Ellipsis*

- a.* ta pao-de hen-kuai, wo ye pao-de ~~hen-kuai~~. *DCC
 he run-DE fast I also run-DE very-fast
- b. ta xihuan mali, wo ye xihuan ~~mali~~. ^{ok} regular clause
 he like Mary I also like Mary
 'He likes Mary, and so do I.'

(11) shows that gapping is allowed in DCC but not in regular clauses. (12) gives the opposite: DCC does not sanction AP-ellipsis while verbal objects can be elided. Particularly of interest is the fact that empty verb sentences in Chinese are episodic (Tang 2001:207). However, (11) need not be interpreted as episodic; it may well possess a habitual reading, with which the sentence is still grammatical.

In short, the movement, insertion and deletion facts all show that the AP in DCC may not be a *complement* in the same sense as we use this term for objects. Concretely, if the AP is a secondary predicate that forms a complex predicate with the main verb (before canonical arguments are merged), it is not clear why the main verb can undergo topicalization with the subject, leaving the AP stranded below (as in (5a)), and why various functional categories can intervene between them (as in (7)-(10)). Intuitively, the AP looks more like a *primary* predicate in DCC.

3.4. *More on the AP*

Before we move on, it should be addressed whether the AP really functions as proposed. First, note that (clausal) adjuncts in Chinese typically occur in preverbal positions, as evidenced by (13):

- (13) ta zuotian juran zai jia gen lisi toutoude [_{VP} kan-le dianying].
 he yesterday unexpectedly at home with Lisi secretly watch-ASP movie
 'He unexpectedly watched the movie secretly with Lisi at home yesterday.'

Moreover, there are certain APs which cannot appear to the left of the main verb in DCC, as shown in (14)-(15).³ Note that the awkwardness of (14b) and (15b) has nothing to do with either the absence of the particle *de* or an overt object (for transitive cases).⁴

- (14) a. ta tan-de [hen-hao]. b.* ta [hen-hao-de] tan(-de).
 he play-DE very-well he very-well-MOD play-DE
 'He plays [piano] well.'
- (15) a. ta zhan-de [hen-gao]. b.* ta [hen-gao-de] zhan(-de).
 he stand-DE very-high he very-high-MOD stand-DE
 'He stands high.'

Third, for those APs which can appear both preverbally and postverbally, there exists an *episodic* vs. *habitual* distinction: Preverbal APs bear the former reading, whereas postverbal APs pertain to the latter (though perhaps not obligatorily), as in (16a-b). Such differentiation can be further substantiated in (17a-b): A preverbal (but not a postverbal) AP stands at odds with subjects strongly associated with generic interpretation like *this kind of flower*, as shown in (17b).

- (16) a. ta pao-de [hen-kuai]. *habitual* b. ta [hen-kuai-de] pao. *episodic*
 he run-DE very-fast he very-fast-MOD run.
 'He runs fast (generally).' 'He ran fast (at some specific point).'

³ While I do not have a full story at this point of why these APs cannot precede VP, there is the possibility that inherently "predicative" (as opposite to "quantificational") APs in Chinese can only stay postverbally.

⁴ The modifying particle *de* (glossed as MOD in the (b)-examples), which is homophonous with the postverbal *de* in DCC, very often co-occurs with preverbal manner adverbials in Chinese.

- (17) a. zhe-zhong hua kai-de [hen-man]. *generic subject + postverbal AP*
 this-kind flower bloom-DE very-slow
 ‘This kind of flower blooms slowly.’
 b.* zhe-zhong hua [hen-man-de] kai. **generic subject + postverbal AP*
 this-kind flower very-slow-MOD bloom

Last is the fact that all the postverbal APs seen above (and supposedly all other APs that can appear in DCC) can be predicated of individuals (adjectival predication); this is not true for preverbal APs (i.e., genuine adjuncts). Such is not accidental if we take the AP in DCC to be the primary predicate.

4. An alternative solution: DCC as pseudocleft in disguise

The established possibility, based on our observations so far, that a primary predication analysis is demanded for the AP in DCC makes the structure (18a) appealing.⁵ I will, however, suggest that (18b) should be more appropriate where the AP is actually predicated of a *null NP head* modified by α , a type of headless relative (HR) clause in Chinese which, to my knowledge, has never been proposed to exist.

- (18) a. [[α Subj (V_i) Obj V_i-de] [AP]]
 b. [[[α Subj (V_i) Obj V_i-de] NP_{null}] [AP]] (proposed)

4.1. The null NP

One crucial argument for the presence of a covert NP in DCC comes from the available variety of predicative APs, which would not have been possible were the AP predicated of α in (18). In addition to those presented earlier, some more APs allowed in DCC are exemplified below in (19a-f):

- | | |
|--|---|
| <p>(19) a. ta chang-de [hen-dong-ting].
 he sing-DE very-move-hear
 ‘He sings pleasantly.’
 <i>manner description</i></p> <p>c. ta qi-de [hen-wan].
 he arise-DE very-late
 ‘He gets up late.’
 <i>temporal description</i></p> <p>e. ta lai-de [momingqimiao].
 he come-DE inexplicable
 ‘He came inexplicably.’
 <i>reason description</i></p> | <p>b. ta lian-de [hen-pinfan].
 he practice-DE very-frequent
 ‘He practices frequently.’
 <i>frequency description</i></p> <p>d. ta zhan-de [hen-hou-mian].
 he stand-DE very-back-face
 ‘He stood far back.’
 <i>location description</i></p> <p>f. yu xia-de [hen-da].
 rain fall-DE very-big
 ‘It rains heavily.’
 <i>degree/magnitude description</i></p> |
|--|---|

Significantly, such AP-predicates are uncongenial to either finite clausal subjects or ACC-ing gerund subjects (Abney 1987), as revealed by the English data (20a-f). That is to say, (19a-f) are not identical to adjectival predication on sentential subjects.

- (20) a.* [That he gets up] is usually late. b.* [He getting up] is usually late.
 c.* [That he sings] is usually loud. d.* [He singing] is usually loud.
 e.* [That he stands] is in the back. f.* [He standing] is in the back.

It is therefore not implausible to hypothesize the existence of an inaudible NP in DCC that denotes *properties* such as manner, time, location, magnitude, and so on (but, importantly, not concrete nouns like *John* or *a book* that are non-relational). Thus, I conclude that (18b) is the correct structure for DCC.

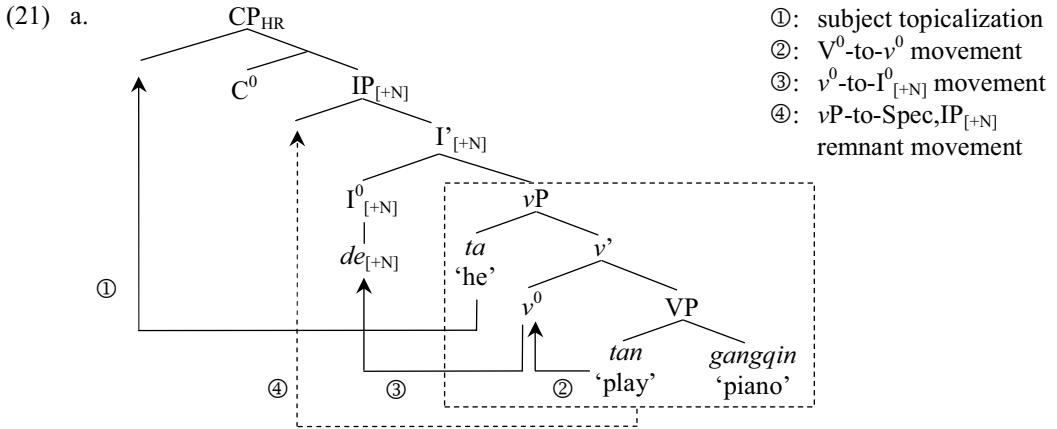
⁵ Though only intransitive examples are discussed in Section 2, it is taken for granted that identical patterns obtain as well for transitive DCCs (where the object is always preverbal, as mentioned).

4.2. The headless relative: Object fronting, verb copying and *de* as a gerund head

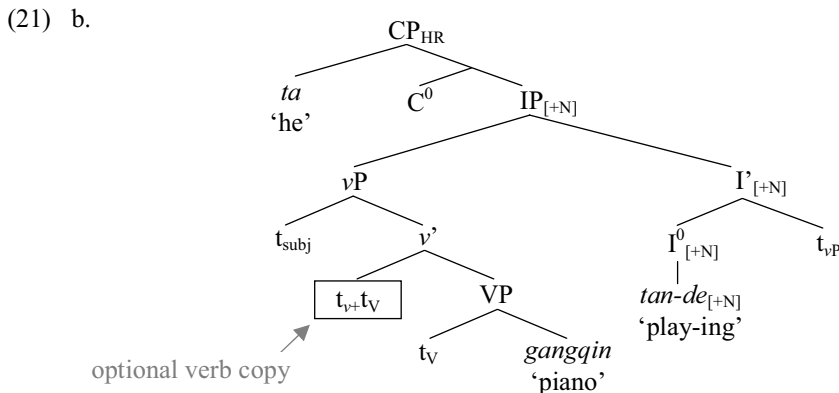
In this section I lay out a pseudocleft analysis of DCC which treats the α -phrase in (18b) as a kind of headless relative modifying the null head noun. This analysis hinges upon the novel assumption that the postverbal particle *de* is a gerund head, much on a par with *ing* in English (Abney 1987).

Two correlated generalizations of the morphosyntax of *de* are: (i) It always suffixes to V^0 , and (ii) the *V-de* complex resists all aspectual markers (Shen & Ting 2008). The complementary distribution between *de* and aspectuality can be explained by analyzing *de* as a nominalizing head that triggers v^0 -movement, akin to verb-/root-movement to *ing* (a type of n^0) in the Distributed Morphology framework (e.g., Kratzer 1996, Harley 2009a).

The overall derivation within the headless relative clause (CP_{HR}) is diagrammed in (21a).



In the first step, the subject is topicalized from Spec- vP to Spec- CP , given the familiar fact that Chinese is a topic-prominent language. What follow are V^0 -to- v^0 and then v^0 -to- I^0 cyclic movements, the latter due to the (phonological) requirement that *de* must suffix to V^0 . Last is the remnant movement of the entire vP (containing t_{subj} , t_{v+tv} and t_v) to Spec- IP , resulting in the tree structure in (21b):



Here one question comes to mind: Why does vP move? I suggest that it moves for the same reason as N^0 -incorporation in English compounds such as *truck-driving* or *wheat-growing*, viz. nominalized expressions with fronted objects. The derivation of these compounds can be represented in (22a-c) (see Harley 2009b for detailed discussions):

- (22) a. [ing [drive [truck]] (N^0 -incorporation into V^0) →
 b. [ing [truck_j - drive [t_j]] (V^0 -to-*ing* movement) →
 c. [[truck_j-drive]_k-ing [t_k [t_j]]

In other words, what forces object movement in (22b) also forces vP movement in (21a-b). The crucial difference lies in where movement takes place: In English it is in the morphological domain (*incorporation*), whereas in Chinese it is a syntactic operation (*phrasal movement*). As a consequence, movement/incorporation of larger units than N^0 is disallowed in *ing*-nominalization (**the-truck-driving*, **trucks-driving*, **one-novel-writing*, etc.), but movement of anything within the scale of a vP is fully legitimate in *de*-nominalization in DCC, provided that *de* serves as the nominalizer. This entails that the trigger of raising in (but not limited to) gerundive nominalization—whatever it is—should be subject to parametric variation (X^0 in English, XP in Chinese).⁶

The optional verb copy in DCC, under this hypothesis, results from optional pronunciation of the (complex) trace t_v+t_V in (21b), a PF condition. This account contrasts Cheng (2007) where verb copying is linked to the theta-requirement of the verb, namely, the verb must check its theta-feature against an internal argument. Here, what bears a feature to check (if any) should be the vP (see footnote 6), not the verb per se, and such feature may be relevant only to modification, instead of theta structure.⁷

4.3. Two types of headless relatives in Chinese

It follows from above reasoning that the kind of HR found in DCC seems to constitute a mirror image of the ordinary HR in Chinese. Typical examples of the latter are given in (23a-b):⁸

- (23) a. wo xiangxin [[ni gaosu wo de] e]. b. [[ta mai de] e] zai zheli.
 I believe you tell I ADN he buy ADN at here
 ‘I believe what you told me.’ ‘What he bought is here.’

There are (at least) two restrictions on the legitimacy of *e*, the null NP heading ordinary HRs. First, it must find a proper antecedent in a preceding discourse. Ordinary HRs are awkward if uttered out of the blue; for instance, (23b) is inappropriate without a given context about the things bought. Second, it only refers to individuals (typically agents and patients/themes) but not such relational nouns as *time*, *place*, *manner*, *reason* and the like (i.e., nominalized event properties), as evidenced by (24).

- (24) *[[ta zoulu de] yangzi] hen-qiguai, [[ni zoulu de] e] ye shi.
 he walk ADN manner very-strange you walk ADN also be
 Intended: ‘The manner of his walking is strange, and so is yours.’

On the contrary, the null NP in DCC needs no antecedent, nor does it observe the referential restriction on relational nouns—in fact, it can *only* refer to those event/state properties, as discussed in Section 3.1. This amounts to saying that the head NP in ordinary HRs, on the one hand, and that of the HRs in DCC, on the other hand, are in complementary distribution as far as referentiality is concerned.

As for their syntax, these two types of relative constructions are similar in being head-final with a modifying CP at the Spec position of the null nominal head. Importantly, however, while the null head of the ordinary/argument type is licensed by a relative operator in the HR clause (cf. Tsai 2008) through predication (Chomsky 1977) and feeding context, that of the adjunct-oriented type (in DCC) is licensed by a relative operator *and* the matrix AP, as visualized in (25) and (26), respectively.⁹ (Also note that only the latter exploits v^0 -to- I^0 movement—in (23a), the adnominal *de* does not attach to the verb.)

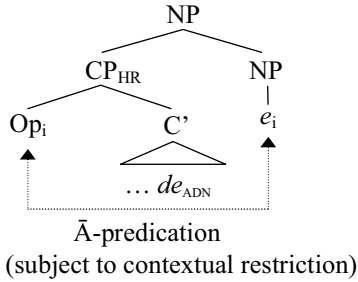
⁶ It is not inconceivable to take raising of N^0 (in English) or vP (in Chinese) as an operation that changes the function of the raised element from being an *argument* to a *modifier*. For instance, *truck-driving* can be understood as “driving of truck” or “truck’s driving” (cf. *last year’s birthday*) where *truck* is no longer the direct object of *driving*. In DCC, on the other hand, what becomes the modifier is a vP . Seen this way, the trigger of raising in (21-22) may be perceived as (an equivalent of) the functional feature [+modifier] that needs to be licensed via raising.

⁷ A residual question is why the verb does not get copied in intransitive DCC (i.e., *Subj V_i V_i -*de* AP). While I have no good answer presently, note that this question challenges other analyses of Chinese verb copying as well.

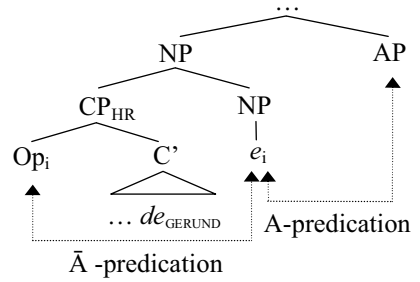
⁸ The adnominal marker *de* (glossed as ADN), a homophone of *de* in DCC, appears in other nominal structures as well including possessives (where it is often treated as a genitive marker) and attributive adjectival modification.

⁹ The requirement of A-/theta-predication between the null head and AP in (26) may be regarded as certain kind of “compensatory effect” for the lack of contextually anaphoric dependency obligatory for ordinary HRs.

(25) Ordinary/argument HR



(26) Adjunct-oriented HR (in DCC)



5. Concluding remarks and implications

The central claim of this paper is that DCC in Chinese can be understood as pseudoclefts with a headless relative (HR) being the subject and a descriptive AP being the primary predicate. I have shown that the verbal suffix *de* in DCC can be analyzed as a gerund head ($I^0_{[+N]}$) that induces verb movement followed by *vP*-raising (as a kind of argument-to-modifier functional change), resulting in apparent object fronting and verb copying. This analysis implicates that Chinese has adjunct-oriented HR structurally resembling ordinary HR but with different, complementary interpretive characteristics.

In addition to those discussed, the pseudocleft analysis also explains quite a few other properties of DCC without stipulation: Clausal modifiers (focus, negation, adverbs, etc.) can intervene between the verb and AP because the latter is the main predicate; A-not-A question formation is banned (**V-not-V-de*) because A-not-A operator movement out of the HR clause violates CED (Huang 1982); suffixation of aspectual markers to verbs in DCC is impossible because DCC features habitual interpretation.

Another implication from this analysis is that gerundive nominalization does exist in Chinese but in a very different form than recently thought. Certain instances of DCCs allow the genitive marker *de* to occur between the agent and fronted object, as in (27a), where the bracketed constituent is sometimes considered a reduced gerundive phrase (Tang 2011). In my treatment, however, the only gerund head in (27a) is the postverbal *de* and the gerund phrase should be bracketed as (27b) instead. The genitive *de* may actually be something else, one candidate being an indication of “genitive subject” like that in relative clauses/nominal complements in Japanese, Turkish and some other Altaic languages; in this sense, the genitive *de* might instantiate a peculiar type of “nominative-genitive conversion” in Chinese.

(27) a. [ta de laoshi] dang-de hao.
he GEN teacher serve-DE well
'He serves well as a teacher.'

b. [ta de laoshi dang-de] hao.
he GEN teacher serve-DE well
'He serves well as a teacher.'

This current account, at first sight, seems to reject the Secondary Predication (SP) approach since Mei (1972) (see Section 1). On second thought, however, it does not. What this paper argues for is that the Primary Predication (PP) approach is valid and demanded, but it does not disprove the SP approach. In fact, my speculation is *both* camps are correct, but they deal with different interpretations of DCC.¹⁰ Specifically, the PP analysis is conceived as adjectival predication between a (null) subject and an AP-predicate along the lines suggested, while the SP analysis represents verbal predication with an *extent* reading (cf. Sybesma 1999): The subject undergoes certain action that reaches a state described by the AP. Take (1a) as an example: Under the PP analysis, it is read: “Something is fast, and that something is the speed of his running”; under the SP analysis, it is read: “He does something, and that something is running to the extent of being fast”. Two syntactic structures, two semantic interpretations.

This non-uniform view predicts that only SP, but not PP, is compatible with agent-oriented clausal operators such as ability modals because the real subject in the PP analysis is a relational noun. This is indeed borne out: The ability modal auxiliary *keyi* ‘can’ is licit only when it precedes *V-de*, as indicated by the contrast in (28a-b) (cf. (9a)):

¹⁰ I thank Amy Rose Deal for inspiring discussions on this issue.

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