

CHINESE DE AND THE DE-CONSTRUCTION*

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This paper analyzes the derivations of the DE construction, showing that an antecedent-free DE construction is derived by deverbalization and an antecedent-dependent DE construction is derived by ellipsis. Semantically, the former process is substantivization and the latter defocalization. Relating the antecedent-dependent DE construction to other nominal ellipses and the verb gapping construction, I discuss a new type of ellipsis which can take an ellipsis site as its linguistic antecedent. Furthermore, I argue that the syntactic status of the word *de* in a nominal is a functional category, heading an nP consistently.

1. INTRODUCTION

In Chinese the word *de* can occur between two phrases and mark the phrase containing the two phrases as a nominal:

- (1) (a) *zhei ben shu de fengpi* hen piaoliang.¹
this-one CL book DE cover very beautiful
'The cover of this book is beautiful.'
- (b) *zhei ben shu de chuban* hen zhongyao.
this-one CL book DE publish very important
'The publication of this book is important.'
- (c) *bu neng ba ziji de kuaile jianzhu zai bieren de tongku* zhishang
not can ba self DE happy build at other DE bitter upon
'One should not build his own happiness on other people's bitterness.'

The word *de* can also follow an NP, AP or VP and again mark the phrase as a nominal. Such a phrase is called DE Construction (DC, hence).

- (2) (a) *suliao zhuozi bi mutou de geng qingbian.*
 plastic table than wood DE more light
 'Plastic tables are lighter than the wooden ones.'
- (b) *tiao ge jieshi de shubao, bie tiao piaoliang de.*
 choose CL durable DE bag not choose beautiful DE
 'Choose a durable bag rather than a beautiful one.'
- (c) *pao cha yao yong zhe ge beizi, bie yong na ge haizi he niunai de.*
 make tea should use this CL cup not use that CL kid drink milk DE
 'Use this cup to make tea, don't use the one which the kid drinks milk with.'

In this paper, I will analyse the derivations of the DE construction and the syntactic status of the word *de*. The main claims include that an antecedent-free DC is derived by deverbalization and an antecedent-dependent DC is derived by ellipsis, that *de* is a functional category, heading an nP, and that in Chinese a certain kind of ellipsis site can function as a linguistic antecedent for the ellipsis of another element.²

I analyze the DC in section 2, and a special ellipsis, which can take an ellipsis site as its linguistic antecedent, in section 3. In section 4, I discuss the syntactic status of the word *de*. Section 5 offers a summary.

2. TWO TYPES OF DE CONSTRUCTION

I distinguish two types of DC, the antecedent-free DC and the antecedent-dependent DC in section 2.1. In section 2.2 I defend an ellipsis approach to the latter. In section 2.3, I analyze the semantic and syntactic differences between the two types of DC. In section 2.4 I make a general discussion on the syntactic derivations and the semantic properties of the antecedent-free DC and the syntactic status of the word *de* in this type of DC.

2.1. THE OCCURRENCE OF AN ANTEDECENT

Comparing the two sentences in (3), we can see that the semantic content of the DC in (3a) can be recovered from the context (the linguistic antecedent is marked by an underline in this paper), while that of the DC in (3b) cannot. Examining the DCs which contain an NP, as in (2a), and an AP, as in (2b), we can see that like the one in (3a), they also need a context to get interpreted. I call this type of DC 'Dependent DC' (DDC). In contrast, I call the type of antecedent-free DC, as in (3b), 'Free DC'

(FDC). The DC in (3b) refers to the agent of the verb *mai* 'sell', while without a linguistic or nonlinguistic antecedent in the context, the DCs in (4) do not provide sufficient information.

- (3) (a) *pao cha yao yong zhe ge beizi, bie yong na ge haizi he niunai de.*
make tea should use this CL cup not use that CL kid drink milk DE
'Use this cup to make tea, don't use the one which the kid drinks milk with.'
- (b) *wo kanjian-le yi ge mai yinliao de.*
I see-ASP one CL sell beverage DE
'I saw a beverage seller.'
- (4) (a) **wo kanjian-le yi ge haizi he niunai de.*
I see-ASP one CL kid drink milk DE
- (b) **wo you ge mutou de.*
I have CL wood DE
- (c) **tiao ge piaoliang de.*
choose CL beautiful DE

The contrast between (3a) and (3b) is parallel to the one between Subdeletion in (5a) and Substantivization in (5b) in Greek.

- (5) (a) *I fitites parakoluthisan to ergo, ala i perisoteri efigan disarestimeni.*
'The student attended the play but most went home disappointed.'
- (b) *I plisii sinithos ksexnun apo pu ksekinisan.*
'The rich usually forget where they started from.'

Stavrou & Giannakidou (1998) present abundant evidence to show that substantivization in this language is nominalization while subdeletion is nominal ellipsis.

In the DC literature, three approaches have been proposed and discussed to pursue a unified analysis of the DC: the ellipsis approach, the nominalization approach, and the approach which proposes a null form whose interpretation must depend on the context (Zhu, 1966, Li & Thompson, 1981; Shi, 1997, etc. See Shi, 1997 for a review). However, it will become evident from the discussion below that the FDC differs from the DDC semantically and syntactically, and that a unified account is untenable. I will show that the DDC is derived by nominal ellipsis. Semantically, such a derivation is a defocusing process. In contrast, the FDC is derived by deverbalization. Semantically, such a derivation is a substantivization process, a similar process to that of the English *the poor* and *the blind*. Before I present the differences between these two

types of DCs, I defend the ellipsis approach to the DDC in the next subsection.

2.2. A JUSTIFICATION FOR AN ELLIPSIS APPROACH TO THE DDC

The hypothesis that the DC can be derived from the deletion of a nominal head has been opposed mainly by Zhu (1966). His worry about the ellipsis approach is that sometimes the linguistic context does not provide an appropriate antecedent. In the ellipsis literature, however, one can also find some cases where there is no apparent linguistic antecedent to the ellipsis at all. A widely discussed example is the following (cited from Johnson, 1996b: 8):

- (6) [Mabel Minerva, a Central Park rental horse, begins galloping at full speed with the terrified Fred atop.]
Fred: 'No, no! Don't [e]!'

It seems that the appropriate form to fill the ellipsis site is something like *do that*, which may be recovered from the context pragmatically.

Notice that an elided element and its antecedent do not need to have the same category. In the following English example, an elided VP takes the italicized NP as its antecedent (Johnson, 1996: 7):

- (7) Today there is little or no OFFICIAL *harassment of lesbians and gays* by the national government, although autonomous government might [e].

The above discussion suggests that one cannot discard the ellipsis approach to the DDC.

If an ellipsis approach is possible, I will claim that the antecedent of an ellipsis in the DDC can be present in either the linguistic or the nonlinguistic context. For instance, the complete information of (8a) can be expressed in a form such as (8b).

- (8) (a) *guanzhong-li chui koushao de bei jinchā daizou le.*
audience-in blow whistle DE by policemen arrest ASP
'Among the audience those who whistled were arrested by the policemen.'
(b) *guanzhong-li chui koushao de ren bei jinchā daizou le.*
audience-in blow whistle DE person by policemen arrest ASP
'Among the audience those who whistled were arrested by the policemen.'

The implicit nominal head of the DDC *ren* 'man' in (8), which refers to one element of the set expressed by *guanzhong* 'audience' in the sentence, is elided in (8a). This elided form can be either a proform, a trace of a certain movement, or simply the result of PF deletion. The choice among these assumptions is up to the theory (see Lobeck, 1995; Johnson, 1996b, and Wilder 1997 for a discussion). I will not discuss this issue in this paper. Instead, I claim that a DDC contains an elliptical site. The antecedent of the elliptical nominal is always present in the context. The interpretation of a DDC requires the context, and accordingly the acceptability of a DDC also requires the context.³

2.3. MAIN DIFFERENCES BETWEEN THE TWO TYPES OF DC

As we noted in section 2.1, all DCs containing an AP and an NP are DDCs. An FDC can only have a VP rather than other categorial phrases. Thus it is a DC containing a VP that can be either an FDC or a DDC. So I will focus on the DC which contains a VP in this section. I will present differences in three respects between a DDC and an FDC, and propose my analyses of them. The differences are exhibited in their interpretations, their structural forms, and their productivity.

2.3.1. THE INTERPRETATIONS OF THE DC

There are only two kinds of interpretations for an FDC. If an FDC contains only a transitive verb and the word *de*, the FDC is interpreted as the theme of the verb.

- (9) *zhe wuzi-li you chi de ma?*
 this room-in have eat DE Q
 'Is there any food in this room?'
 *'Is there any eater in this room?'

In the DC literature, a similar generalization has been under debate. Adopting a nominalization approach to the DC Li & Thompson (1981: 577) claim that 'if both the subject and direct object are unspecified in a nominalization, then that nominalization will generally be understood to have the same reference as the unspecified direct object participant of the verb.' Shi (1997: 36), however, uses some counterexamples to argue against this claim. One of his examples is reproduced as (10). The DCs in this sentence refer to the agents rather than the themes.

- (10) *kaizhang diyi tian daoshi guke yumen, kexi kan de bi mai de duo.*
 opening first day indeed customer full unfortunately look DE than
 buy DE more
 'There were many customers on the first day of grand opening,
 but unfortunately there were more window-shoppers than buyers.'

In the presence of the antecedent *guke* 'customer' for the null nominal of the DCs, it is obvious that the DCs in (10) are DDCs. The contrast between (9) and (10) suggests that the claim made by Li & Thompson is only true of the FDC. My observation shows that if the verb of the DC does not have any overt argument or adjunct, the FDC, which is antecedent-free, always refers to the theme of the verb, as shown in the (9). No such constraint is on the DDC, as shown in the (10) and the following ambiguous (11).

- (11) *jiang-guo de jiu bie jiang le.*
 talk-ASP DE then not talk ASP
 'Don't talk about the things which have been talked about.'
 'Those who have talked do not talk again.'

To interpret (11), either the possible range of the theme (for the first reading) or the possible range of the agent (for the second reading) must be explicit in the context.

An FDC is interpreted as the agent of the verb of the FDC elsewhere, i.e. when the FDC is not composed of a transitive verb and *de* exclusively, as shown in (12):

- (12) (a) *lai le ge mai baozhi de.*
 come ASP CL sell newspaper DE
 'There comes a newspaper seller.'
 (b) *wo xiang zhao yi ge zai zhengfu bumen gongzuo de.*
 I want seek one CL at government department work DE
 'I am looking for a person who works in a government department.'

In contrast, the interpretation of a DDC is not fixed. The exact interpretation of a DDC is determined by its antecedent. In (13), the DC *mai yinliao de* 'sell beverage DE' can have other interpretations than agent only when the readings can be recovered from the context. (13c) has an FDC, while others have DDCs.

- (13) (a) zheli you haojijia shangdian, *mai yinliao de* zai louxia.
 here have several shop shop sell beverage DE at downstairs
 'There are several shops here, and the beverage shop is downstairs.'
- (b) ni yao na ge liang-bei, *mai you de* haishi *mai yinliao de*?
 you want which CL measuring-glass sell oil DE or sell beverage DE
 'Which measuring-glass do you want, the one for selling oil or the one for selling beverage?'
- (c) lu-bian you yi ge *mai yinliao de*.
 road-side have one CL sell beverage DE
 'There is a beverage seller (*shop/*measuring-glass) on the roadside.'

A DDC can have a non-agent reading regardless of the presence of an overt subject. In the above (13a) and (13b), the subject of the verb in the DDCs does not need to have an overt form. It can be a *pro*, as in other cases of a Chinese sentence. In the following data the agent subject of the verb in a DDC is not a *pro* and the DDC can also have non-agent readings. The DC in (14a) has a theme reading, and that in (14b) has a reading related to the instrument of the verb *xie* 'write'.

- (14) (a) zheixie xiaoshuo dangzhong *wo (cong tushuguan) jie de* ta dou kan-wan le.
 these novel among I from library borrow he DE all read-finish ASP
 'Among these novels he has finished reading those I borrowed (from the library).'
- (b) zhuo-shang bi duodeshi, bie yong *ni baba xie-xin de*.
 table-on pen many not use your father write-letter DE
 'There are many pens on the table. Don't use the one which your father writes letters with.'

Shi's (1998) unified context-dependent approach cannot explain why a bare-verb FDC must be a theme and an FDC elsewhere an agent, in contrast to the various possible readings of a DDC. My ellipsis and deverbalization hypothesis can explain the contrasts between the DDC and the FDC. Specifically, if the context provides an antecedent for a certain element of a DDC to undergo ellipsis, it is possible that this element has been present and then is elided. For example, in (14b), at certain stage of the derivation the representation of the DC is *ni baba xie xin de bi* 'the pen which your father writes letters with'. In this phrase, the instrument *bi* 'pen' is present and then is elided due to its identical form with the *pi*

in the previous clause *zhuo-shang bi duodeshi* 'there are many pens on the table'. In contrast, deverbalization has its own semantic features. A similar case can be found in the English V-er nominalization, which can have either an agent reading as in *teacher*, or an instrument reading as in *opener*, but seldom a theme or a place reading.

In the above data, an FDC, which does not have an antecedent in the context, occurs without any formal licensing condition. Certain FDCs, however, need a formal licensing condition. In the following data, the DC *tian-shang fei de* does not seem to have an antecedent and its reading is agent only. These two facts make it look like an FDC. However, the acceptability of the DC needs the presence of a focus marker such as *dou* 'all' and *zhiyou... cai* 'only':

- (15) (a) (fanshi) *tian-shang fei de* wo dou chi.
 whatever sky-up fly DE I all eat
 'I can eat whatever can fly up in the sky.'
 (b) *zhiyou tian-shang fei de* wo cai chi.
 only sky-up fly DE I only eat
 'I only eat those can fly up in the sky.'
 (c) *wo xihuan *tian-shang fei de*.
 I like sky-up fly DE
 'I like those can fly up in the sky.'

There may be some interactions between the FDC construction and the modality operator for the free-choice *dou* (Cheng, 1991; Lin, 1996; Zhang, 1997a) or other focus markers. I will leave this issue for further research.

2.3.2. THE STRUCTURAL FORMS OF THE DC

First, the FDC does not allow its internal argument to contain a demonstrative, while no such constraint affects a DDC.

- (16) (a) wo renshi zheixie shu de zuozhe, xie zhei ben shu de zhu zai Shanghai.
 I know these book DE author write this-one CL book DE live at Shanghai
 'I know the authors of these books, and the one who wrote this book lives in Shanghai.'
 (b) *lai-le ge *mai neixie yinliao de*.
 come-ASP CL sell those beverage DE

Second, as noticed by Zhu (1983), if the subject and object are both overt, the DC will not be able to function independently. Such DCs are DDCs in my terminology. My observation shows that whenever a subject is present in the DC, the DC is unacceptable without an antecedent in the context. In other words, the occurrence of a subject alone can make a DC a DDC rather than an FDC. In the following data (from Shi (1998)), a DC which has an overt subject is unacceptable if the semantic content cannot be recovered from the context.

- (17) (a) yan-qian de Shanghai, bi *wo xiangxiang de* yao piaoliang de duo.
 eye-front DE Shanghai than I imagin DE PART beautiful DEGREE more
 'The real Shanghai is more beautiful than I imagined.'
 (b) **wo xiangxiang de* hen piaoliang. (antecedent-free)
 I imagin DE very beautiful

2.3.3. PRODUCTIVITY

The range of the FDC is more restricted, compared to that of the DDC. Various DCs can occur in natural language speech provided that an antecedent is found in the context. One can find rich DDC data in Hou (1998). The FDC, which is antecedent-free, however, appears to be lexically constrained. The following data show that there are gaps in the FDC. The b-forms, which are not DCs, are alternative acceptable expressions.

- (18) chi de
 eat DE
 'food'
- (19) (a) *du de
 read DE
 (b) du-wu
 read-stuff
 'readable stuff'
- (20) sao dajie de
 clean street DE
 'street-cleaning worker'
- (21) (a) *zhuan dianhua de
 switch telephone DE
 (b) jie-xian-yuan
 connect-line-person
 '(telephone) operator'

This is similar to Greek and English, where AP substantivization is also less productive than subdeletion (Stavrou & Giannakidou, 1998: 11). For instance, in Greek, there is no obvious syntactic reason to explain the following contrasts:

- | | | | |
|----------|---------------|-----|------------|
| (22) (a) | i diskoles | (b) | *i efkoles |
| | the difficult | | the easy |
| (23) (a) | to agnosto | (b) | *to gnosto |
| | the unknown | | the known |

2.4. SUBSTANTIVIZATION OF AN FDC

I have shown that the FDC differs from the DDC. Previous unified treatments of the DC cannot explain the differences. Based on the fact that the semantic content of the DDCs can be recovered from the context, I assume that the DDC contains a nominal ellipsis site. As I mentioned at the end of section 2.1, the syntactic operation of ellipsis is still under debate and I do not make a claim here. In contrast, the semantic content of an FDC cannot be recovered from the context and thus there is no ellipsis involved.

Semantically, the occurrence of a pro and an ellipsis in the DDC is a process of defocusing, since the PF empty elements must not be focused. In contrast, an FDC undergoes a semantic substantivization process, a similar process to that of the English *the poor* and *the blind*.

One can see that both the substantivization of an adjective or participle in Greek, English, Dutch, German and some other languages (Stavrou & Giannakidou, 1998) and the substantivization of a Chinese verbal phrase in the FDC make the resultant nominals express only entities or concepts (abstract entities) rather than events or processes.

- (24) (a) Many people are attracted to *the unknown*.
 (b) He concerned about *the injured*.

Chinese differs from many other languages in that an adjective cannot have an FDC form, as shown in (4c) above. So substantivization can only apply to Chinese verbs, not adjectives.

Comparing Chinese FDCs with German participle substantivization, we can see that the FDC which has only a transitive verb and *de* corresponds to the substantivization of a German past participle of a transitive verb, which has a patient reading only and does not allow the presence of an argument:

- (25) (a) das Vergessene
 the forgotten
 'the thing which has been forgotten'

- (b) Das Abgegebene ist gleich dem Aufgenommenen.
 the output be same the input
 'The output equals to the input.'

Other FDCs seem to correspond to the substantivization of a German present participle of a verb, which has an agent reading and allows the presence of an argument:

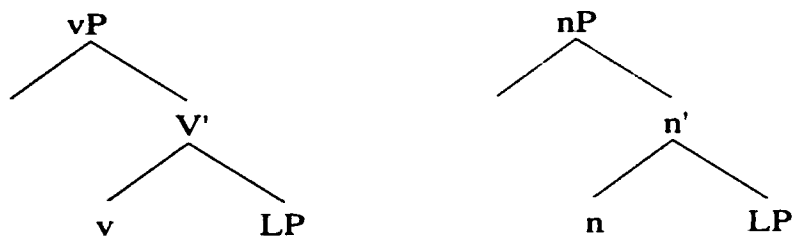
- (26) (a) der dieses Buch Lesende
 the this book reading
 'the person who reads this book'
 (b) mai yinliao de
 sell beverage de
 'a beverage seller'

In addition, in both languages, the reading of a substantivized verb is restricted. No locative or instrument reading is possible in either language.

2.5. THE SYNTACTIC DERIVATIONS OF THE FDC

Marantz (1999) has put forth the hypothesis that the underlying parts of speech are abstract Roots, called L(exical)Ps, which are unspecified for syntactic category. In this view, substantivization can be seen as the Spell-Out of a category-neutral projection in a nominal environment. When the roots are placed in a verbal environment (v), they become verbs (27a); when they are placed in a nominal environment (n), the result is a nominalization (27b) (see also Alexiadou, 1999 for related views).

(27) (a)



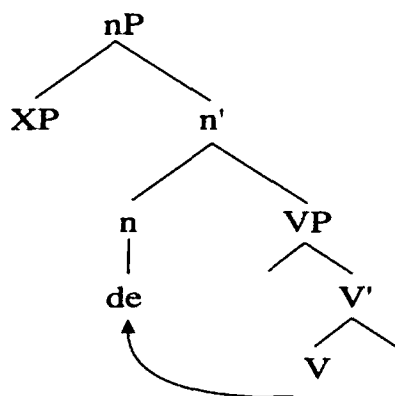
To explain the nominal category of an FDC, I now assume that *de* heads a nominal projection nP, which like vP, is a functional projection. Notice that in English substantivization is licensed by a determiner, as in the expression *the poor* (Kester, 1996; Stavrou & Giannakidou, 1998).

Thus the relevant nominal environment is DP rather than nP. The head *n* can license other types of English nominalization, as in *grow-ing* and *grow-th*, where the suffixes *-ing* and *-th* are related to *n* (Marantz, 1999). In Chinese, however, substantivization is licensed by a *de*-headed nP, which can be dominated by a ClassifierP (ClP), NumP, and DP, as in (28) (See Li, 1997 and 1998 for a discussion on Chinese ClassifierP and NumP. Also see section 4.3 of this paper for more discussion of Chinese nP).

- (28) [_{DP} na [_{NumP} san [_{ClP} ge [_{nP} mai yinliao de]]]] zou le.
 that three CL sell beverage DE leave ASP
 'Those three beverage sellers have left.'

To explain the syntactic properties of an FDC, I assume that a V-to-*n* head adjunction occurs in the derivation of an FDC. A verb, such as *chi* 'eat', adjoins to the word *de* and the resultant new X⁰ element, such as *chi de* 'food', is a noun.

- (29) the structure of the FDC



To explain the structural differences of an FDC from other *de*-nominals, i.e., the absence of a demonstrative with the internal argument of the verb and the absence of a subject, I further assume that an N-to-V incorporation occurs in the derivation of an FDC, but not other *de*-nominals. Specifically, if the verb of an FDC has an argument, the nominal argument undergoes incorporation into the verb, and then the newly formed verb, together with its adjunct, if there is one, adjoins to *de* and forms a new noun. In N-to-V incorporation, as in the English *souvenir-hunting*, *potato-picking*, and *sabre rattling*, neither a subject nor a demonstrative with the object is allowed. The impossibility for a subject to undergo N-to-V incorporation may be accounted for by the

ban of the downward movement, since a subject is base-generated at a higher position than a verb. The impossibility for a determiner to occur with the noun which undergoes an N-to-V incorporation may be accounted for by the blocking effect of the determiner, which is an X^0 element occurring between the two participants of the incorporation, namely, the V and the N. If this is a right analysis, there can be more than one head adjunction operation to derive an FDC: first, the N-to-V adjunction, if there is a nominal argument, and then the [_vV-N]-to-*de* adjunction to form the FDC, which has the structure of [_n [_vV-N]-*de*].

In this section, I have distinguished two types of DE, namely, FDC and DDC, analyzed their semantic and syntactic properties, and proposed their syntactic derivations.

3. ELLIPSES LICENSED BY ELLIPSIS SITES

Certain DCs can be licensed either by a linguistic antecedent or a parallel DC in a conjunction construction. They are not FDCs since they cannot stand alone, as shown below ([31a] is from Shi [1998]).

- (30) (a) *bei ta biao yang de he bei ta pi ping de chao-qilai le.*
 by him praise DE and by him criticize DE quarrel-INCH ASP
 'Those who have been praised by him are and those who have been criticized by him started quarrelling each other.'
- (b) **bei wo biao yang de lai le.*
 by I praise DE come ASP
- (c) *wo de xuesheng dangzhong bei wo biao yang de gei wo xie-le yi feng xin.*
 I DE student among by I praise DE to I write-ASP one CL letter
 'Among my students, whose whom have been praised by me wrote me a letter.'
- (31) (a) *gan de gan, kan de kan, gan de hai yao ai pian.*
 work DE work look DE look work DE also suffer criticism
 'Those who are working keep working while those who are looking keep looking, but the working ones are also being criticized unfairly.'
- (b) **wo yujian-le yi ge kan de.*
 I meet-ASP one CL look DE
- (c) *zheli renmen keyi kan shu ye keyi jie shu, kan de keyi bu ban tushu-zheng.*

here people can read book also can borrow book, read DE
 may not make library-card
 'Here people can read or borrow books. Those who read do
 not need to make a library card.'

It seems that this type of ellipsis requires a formal licensing condition. The condition can be either the occurrence of a linguistic antecedent or the co-occurrence of another similar ellipsis. Notice that the above paired elided forms have identical semantic contents.

This type of ellipsis occurs not only in the DDC, but also in nominals which contain an attributive AP. The following data are from Guo (1998). The nominal head, which denotes a disease, can be elided in the subjects of both conjuncts, if the content can be recovered from non-linguistic context. However, a single ellipsis is not allowed without a linguistic antecedent.

- (32) (a) *jixing ~~changyan~~ hao zhi, manxing ~~changyan~~ bu hao zhi.*
 sudden enteritis easy cure chronic enteritis not easy cure
 'It is easy to cure a sudden (enteritis) than a chronic one.'
 (b) **jixing ~~changyan~~ hao zhi.*
 sudden enteritis easy cure
 (c) *jixing changyan hao zhi, manxing ~~changyan~~ bu hao zhi.*
 sudden enteritis easy cure chronic enteritis not easy cure
 'It is easy to cure a sudden enteritis than a chronic one.'

Similarly, the Verb Gapping construction, like the nominal ellipses above, requires either a linguistic antecedent or a non-linguistic antecedent plus a parallel gapping in the other conjunct. For instance, the verb gap in (33a) has a linguistic antecedent *chi* 'eat' in the preceding conjunct, and the reading is clear without any further antecedent in the nonlinguistic context. In (33b), the two verb gaps do not have a linguistic antecedent. If there is a specific context, the reading of the gap can be recovered from the nonlinguistic context. In addition to the reading of eating, it can also mean buying or cooking, up to the context. Unlike (33b), isolated (33c) and (33d) are simply unacceptable, even in a restaurant or a cooking place.

- (33) (a) *ta chi-le san wan miantiao, wo ~~chi-le~~ liang wan mifan.*
 he eat-ASP three bowl noodle I eat-ASP two bowl rice
 'He ate three bowls of noodle, while I ate two bowls of rice.'

- (b) ta ~~chi-le~~ san wan miantiao, wo ~~chi-le~~ liang wan mifan.
 he eat-ASP three bowl noodle I eat-ASP two bowl rice
 'He ate three bowls of noodle, while I ate two bowls of rice.'
- (c) *ta ~~chi-le~~ san wan miantiao.
 he eat-ASP three bowl noodle
- (d) *wo ~~chi-le~~ liang wan mifan.
 I eat-ASP two bowl rice

This type of ellipsis also occurs in subordinate conjunction constructions, as shown in (34).

- (34) ruguo *bei ta biaoyang de* tichu yi ge guandian,
 if by him praise DE propose one CL idea
 name *bei ta piping de* kending yao fandui.
 then by him criticize DE surely will oppose
 'If those who have been praised by him propose an idea,
 those who have been criticized by him will surely oppose the idea.'

The occurrence of the ellipsis in the subordinate conjunction construction indicates the absence of an Across-The-Board movement, which cannot occur in subordinate conjunction constructions in either English (Johnson, 1996a) or Chinese (Zhang, 1997b). It is also unlikely that a pragmatic antecedent licensed by some nonlinguistic context can license two ellipses only, rather than a single one.

The acceptability of such ellipses suggests that the co-occurrence of the ellipses satisfies certain formal condition which in other cases is the presence of a linguistic antecedent. I propose a mutual-antecedent hypothesis to account for these data. For instance, the derivation of (30a) undergoes the following steps.

- (35) (a) *bei ta biaoyang de* ren he *bei ta piping de* ~~ren~~ chao-qilai le.
 by him praise DE person and by him criticize DE person
 quarrel-INCH ASP
- (b) *bei ta biaoyang de* ~~ren~~ he *bei ta piping de* e chao-qilai le.
 by him praise DE person and by him criticize DE quarrel-INCH ASP

In this analysis, an element in the conjunct A is the antecedent of an ellipsis in the conjunct B, and then the ellipsis site of the conjunct B can be an antecedent of a further ellipsis in the conjunct A. If this analysis is on the right track, it suggests that an ellipsis site can function as a linguistic antecedent for the ellipsis of another element.

4. THE SYNTACTIC STATUS OF DE

In the *de* literature, the functions of *de* have been assumed to be either an attributive phrase marker or a nominal/referential marker (See Guo 1998 for a review). As for the syntactic status of *de*, there are two major views widely accepted nowadays. One is that there are various *des* and one of them is a relative clause complementizer. According to this view, in (36a), *de* introduces a relative clause. Huang (1984), Ning (1993), and Shi (1998: 10) all assume that the DC which consists of a VP and *de* is a nominal, the nominal has an empty nominal head and an overt relative clause, and the word *de* is the complementizer of the relative clause, as in (36b).

- (36) (a) wo renshi nei ge mai yinliao *de* xiao guniang.
 I know that-one CL sell beverage DE little girl
 'I know that little girl who sells beverage.'
 (b) wo renshi nei ge *mai yinliao de*.
 I know that-one CL sell beverage DE
 'I know that beverage seller.'

Obviously, if *de* occurs between two NPs or between an NP and an AP, as in (1a) and (1c), there is no relative clause and *de* cannot be a complementizer. Thus the advocates of the complementizer approach have to assume that *de* is a complementizer when it follows a VP, and something else elsewhere, and thus there are at least two *des* in the lexicon. This assumption misses the true nature of the word *de*, i.e., it must be related to a nominal, wherever it occurs. The word *de* occurs at the end of a relative clause because the relative clause is a non-head element of a nominal projection, and *de* always occurs in a nominal projection. In addition, unlike the English complementizer word *that*, which can occur consistently at the beginning of a relative clause, a complement clause, and a subject clause, the word *de* never occurs at the end of a complement or subject clause. The last two types of clauses are not elements of a nominal projection.

- (37) (a) I read the book *that* you bought.
 (b) I do not know *that* he has bought the book.
 (c) *That* he bought the book surprised me.
 (38) (a) wo renshi nei ge mai yinliao *de* xiao guniang.
 I know that-one CL sell beverage DE little girl
 'I know the little girl who sells beverage.'

- (b) *wo bu zhidao ta mai-guo yinliao (*de).*
 I not know he sell-ASP beverage
 'I do not know that he sold beverage.'
- (c) *ta nayang mai yinliao (*de) rang wo weinan.*
 he so sell beverage DE let me embarrassed
 'That he sold beverage in that way made me embarrassed.'

Thus, if *de* were a complementizer, it would be a special complementizer for a clause in a nominal projection only. Since it has been widely accepted that Chinese declarative clauses do not have complementizers elsewhere, and since the distribution of *de* is not limited to a clause but to a nominal expression, the complementizer hypothesis of *de* is misleading.

The other view on the syntactic status of *de* is that *de* is a bound morpheme which attaches either to a verbal phrase (including an AP) making the phrase nominal, or to a nominal phrase keeping the nominal category of the phrase unchanged (Yuan, 1995: 250). I will analyze the functions and the distributions of *de*, and formalize the intuition expressed by the nominal marker hypothesis.

4.1. FUNCTIONS OF DE

Semantically, *de* relates one phrase with the other and expresses various relationships between the two phrases, such as possession, as in (1a), theme-action, as in (1b), source, instrument, place, etc. (see Yuan 1995 and Hou, 1998 for a classification of the semantic relations denoted by *de*).

The syntactic functions of *de* can be summarized thus: *de* always makes the syntactic node dominating the two phrases between which *de* occurs be a nominal. There is no dispute on this claim, as pointed out by B. Zhang (1993: 257). The nominal properties of the phrase which contains *de* and its two surrounding phrases are shown by the fact that such a phrase can be used as a subject and an object of a verb, as in (39a) and (39e) respectively, as an object of a preposition, as in (39d), to form a BA-phrase, as in (39f), and can be preceded by a classifier, as in (39c). A phrase preceding and following *de* can be an NP, VP, or AP, etc., as shown below:

- (39) (a) *zhei ben shu de fengpi hen piaoliang.* [NP NP de NP]
 this CL book DE cover very beautiful
 'The cover of this book is beautiful.'

- (b) *chuban zhei ben shu de fenti yijing jie jue le.* [NP VP de NP]
 publish this CL book DE issue already resolve ASP
 'The issue of the publication of this book has
 been settled.'
- (c) *ta mai-le yi ba hen piaoliang de xiao san.* [NP AP de NP]
 she buy-ASP one CL very beautiful DE small
 umbrella
 'She bought a beautiful small umbrella.'
- (d) *wo dui zhei ben shu de chuban gandao hen gaoxing.* [NP NP de VP]
 I to this CL book DE publish feel very glad
 'I am glad about the publication of this book.'
- (e) *zai xin li ta biaoda-le dui haizi de xiangnian.* [NP PP de VP]
 at letter in he express-ASP to child de miss
 'He expressed his miss of the child in
 the letter.'
- (f) *bu neng ba ziji de kuaile jianzhu zai bieren de tongku zhishang.* [NP NP de AP]
 not can BA self DE happy build at other
 DE bitter upon
 'One should not build his own happiness on
 the bitterness of others.'
- (g) *ta gei wo jiang-le tamen chuban zhei ben shu de xinku.* [NP VP de AP]
 he to me tell-ASP they publish this CL book
 DE toilsome
 'He told me the hardship of their publishing
 of the book.'

One might argue that the nominal status of a DE-nominal is achieved by the post-*de* phrase rather than the word *de*. Since there is no inflection forms to distinguish nouns from verbs in Chinese, this opinion is not out of expectation. However, B. Zhang's (1993) work shows that the post-*de* forms whose syntactic categories are under dispute between NP and VP exhibit some properties which can distinguish a verbal phrase from a typical nominal phrase.

First, a typical nominal phrase can never be preceded by the negation word *bu*, while a verbal phrase can. Like a regular verbal phrase, a post-*de* verbal phrase can be preceded by *bu*. (40a) is cited by B. Zhang from a popular literature ("Zhonggu Lou", 'The Bell Tower'). (40b) is my example.

- (40) (a) Li Kai *de bu jin hou-tai*, jianjian chuanhua wei yi zhong
 Li Kai DE not enter back-stage, gradually change into one CL
 ji zibei you zi'ao de fuza xinli.
 both inferior and arrogant DE complex mind
 'Li Kai's not entering the back stage gradually developed into
 a complex mind which was both inferior and arrogant.'
- (b) Laoban *de bu jiang qingmian* chuhu wo yuliao.
 boss DE not care face come-out I expect
 'The fact that the boss did not care about (our) feelings is out
 of my expectation.'

Second, a typical nominal phrase can never be preceded by adverbs such as *tongshi* 'at-the-same-time' and *jisu* 'fast', while a verbal phrase can. Like a regular verbal phrase, a post-*de* verbal phrase can be preceded by these adverbs:

- (41) 'shi da jianzhu' *de tongshi chuxian*, gonggong-qiche *de jisu fazhan* ...
 ten big building DE at-the-same-time appear public-car DE fast develop
 'The simultaneous appearance of 'the Ten Big Buildings' and
 the fast development of the bus transportation ...'

Third, a typical nominal phrase can never be preceded by a modal verb, regardless of whether the modal is affirmative or negative, while a verbal phrase can. Although a post-*de* verbal phrase cannot be preceded by an affirmative modal verb, it can by some negative modals. Thus it behaves more like a verbal phrase than a nominal phrase. The following examples are my revised versions of the citation made by B. Zhang (1993: 255).

- (42) (a) wenti *de wei neng xunsu huode jiejie*, zhuyao shi yiwei lingdao *de fangfa* bu duitou.
 problem DE not can fast get resolve mainly be because leader DE method not right
 'It is mainly because the way in which the leaders are doing is wrong that the problem cannot be solved quickly.'
- (b) zhe ge beiju youyu zhang-quan-zhe *de bu ken ren chuo er yu-yan-yu-lie*.
 this CL tragedy because hold-power-person DE not willing admit mistake then worsen

'The tragedy became worse because the people in power were not willing to admit their mistakes.'

On the other hand, B. Zhang's (1993) data also show that a post-*de* phrase does not allow aspect markers *le*, *zhe*, and *guo*, and attitude adverbs such as *dagai* 'probably', *dique* 'indeed', *xingkuai* 'fortunately'. According to Fu (1994), such restrictions on a phrase indicate that the phrase is not a category higher than VP, such as an AspP or IP, and they cannot be used to argue against the VP category of the phrase. If Fu is correct, these restrictions on a post-*de* phrase do not affect the assumption that the phrase can be a VP.

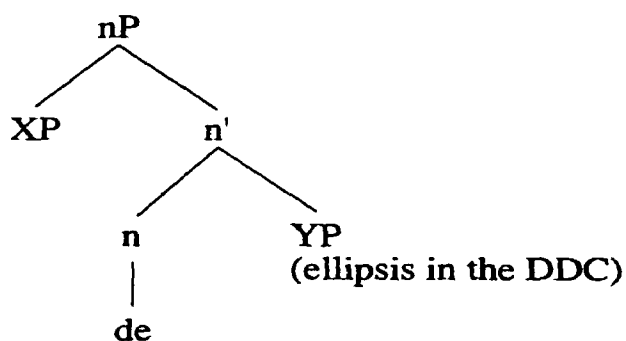
The nominal category of the node dominating the two phrases between which *de* occurs reflects the intuition that *de* is a nominal marker, regardless of the categories of the two phrases. Similarly, the non-head status of the pre-*de* phrase, which is dominated by a nominal category, reflects the intuition that *de* is an attributive phrase marker, again regardless of the categories of the two phrases related by *de*.

4.2. THE LIGHT NOUN PROPOSAL

Recall that I assumed that *de* heads an nP in the FDC. Based on the general syntactic functions of *de* presented above, I extend this assumption to all DE-nominals. Specifically, I assume that *de* is a functional category which heads a nominal projection. Parallel to the light verb, which heads a vP in the Minimalist Program (Chomsky, 1995), *de* heads an nP.

If the *de* in the FDC heads an nP and the *de* elsewhere also heads an nP, we are generalizing one essential property of the word *de*: it is a nominal marker. The syntactic status of the word *de* is expressed in the following structure:

(43) the structure of a DE-nominal



5. SUMMARY

In this paper, I have first analyzed the derivations of the DE construction, showing that an antecedent-free DC is derived by deverbalization and an antecedent-dependent DC is derived by ellipsis. Semantically, the former process is substantivization and the latter is defocalization. Relating the antecedent-dependent DC to other nominal ellipses and the verb gapping construction, I then discussed a new type of ellipsis which can take an ellipsis site as its linguistic antecedent. Furthermore, I have argued that the syntactic status of the word *de* in a nominal is a functional category, heading an nP consistently. This research of the Chinese *de* and the DE-Construction opens interesting perspectives on nominal structures and the computations of ellipsis.

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NOTES

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1. *Zhei* is a contraction form of the demonstrative *zhe* 'this' and the numeral *yi* 'one', and *nei* is a contraction form of the demonstrative *na* 'that' and the numeral *yi* 'one' (Zhu, 1984: 85, among others).

2. In this paper I do not discuss the following three types of *de* usage. First, the cleft construction '*shi* ... *de*' and the pseudo-cleft construction '*de shi*'. In these two constructions *de* is construed with *shi* 'be', as shown in the following:

(i) (a) *ta he Luotuo dou shi tao-chulai de.*

he and Luotuo all be escape-out DE

'He and Luotuo were both those who had escaped.'

(b) *ta nianqing-lizhuang, suo cha de shi yanjing bu da hao.*

he young-strong PARTICLE lack DE be eye not very good

'He is young and strong, and what he lacks is a pair of good eyes.'

Second, the copula usage of *de*, as in (ii):

- (ii) jintian zhei ge hui shui de zhuxi?
 today this-one CL meeting who DE chair
 'Who is chair of the meeting today?'
 Third, the *de* which occurs after an existential WH word, meaning 'things like that', as in (iii):
- (iii) wo xiang mai yixie tangguo binggan shenme de.
 I want buy some bonbon biscuit what DE
 'I want to buy something like bonbons or biscuit.'

3. In the following example (from Zhu, 1966), the DC *you-de* looks more like an idiomatic quantificational word followed by a pro whose antecedent is the topic *haizi-men* 'children'.

- (i) *haizi-men you-de* chang *you-de* tiao.
 child-PL have-DE sing have-DE dance
 'Among the children some sang and some danced.'

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