

## Case, 20 years later\*

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The theory of abstract Case in the framework of Government and Binding played an important role in capturing cross-linguistic generalizations regarding order and constituency and accommodating exceptions to word order universals. Case was shown to be relevant even in languages without morphological case markings. Indeed, Li (1985, 1990) demonstrated that Case facilitated the understanding of a wide range of grammatical structures in Chinese. However, as the linguistic theory evolved, it became possible to replace a Case approach to word order with a verb-raising analysis, which seems to challenge the significance of Case in the grammar of Chinese. This paper is to show that the empirical generalizations supporting Case in the earlier works but questioned in some other works are still valid, and that the research on Case further sheds light on other issues such as the finer structure of clauses in Chinese.

The notion of Case<sup>1</sup> and the theory of Case in the framework of Government and Binding (Chomsky 1981) have played a very important role in describing cross-linguistic generalizations regarding word order and constituent structures. Languages with overt morphological case markings demonstrate well how cases are good indications of order and constituency. For instance, a nominative case-marked element is generally the subject of a clause, bearing a close relation to Tense (or Agreement) and an accusative case-marked phrase is generally the object of a verb, bearing a close relation to the verb. Therefore, nominative and accusative cases are good clues to grammatical relations and the structural positions occupied by subjects and objects; morphological cases can be understood as encoding structural relations.

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<sup>1</sup> The capitalized “Case” will be used to refer to abstract Case and the lower case “case”, to morphological case.

However, not all languages are marked with morphological cases. Some, like modern Mandarin Chinese (referred to here simply as Chinese), do not exhibit any case markings. Nonetheless, such languages also have grammatical relations like subjects and objects, which typically appear in fixed positions. Structural relations are no less relevant in such languages. Not surprisingly, the theory of abstract Case, which governs the distribution of NPs (arguments) in relation to their Case assigners, such as verbs or Tense (Agreement), helps determine order and constituency in languages like Chinese, which was the theme of Li (1985, 1990). This work built on the insight from typological studies and the generative theory on phrase structures –X'-structures, and captured important generalizations regarding the distribution of various categories and their ordering in Chinese. The research also raised interesting questions that had not been asked in a significant manner.

However, as theories evolved and new insights and tools became available, some important facts regarding ordering in Chinese were captured in a different manner --- specifically, by way of a more elaborate clausal structure which contains light verb positions where verb-movement lands. The word order within verb phrases was derived by the height of verb movement. Such an approach to word order raises the question of whether the notion of Case plays a role in the grammar of Chinese, not having any overt morphological markings. This paper argues that Case is still relevant in capturing the distribution of different categories, including null categories. In the process, we hope to show how linguistic facts can be better understood when they are anchored theoretically, how theories provide road maps to the discovery of significant generalizations, and how better understanding of linguistic facts leads to the refinement of linguistic theories.

This paper is divided into four parts. The first section sketches the interesting challenges Chinese poses for the studies of language universals in typological works and the generative X'-theory. Section two briefly describes a Case approach to word order and its advantages over the earlier accounts. The third touches on the evolution of theories, which made available the verb-movement approach to word order. The last part reviews the current state of affairs and discusses some issues involving the notion of Case.

### **1. Case, X'-theory and word order**

As widely recognized in typological studies of word order possibilities in natural languages, there are cross-categorial similarities among languages (see, for instance, the seminal work by Greenberg 1963,

and the universals archive website <http://typo.uni-konstanz.de/archive/intro/index.php> by Frans Plank and Elena Filimonova, Universität Konstanz), which can be much better understood if phrase structures are couched in X'-theory (Hawkins 1983). X'-theory, specifying that each phrase (XP) is headed by X, is able to capture the generalization that the category of a phrase is normally the category of the head of the phrase and that many languages are consistently head-final (such as OV, Postpositional) or head-initial (such as VO, prepositional), which are not accommodated by the simple re-writing rules of phrase structures in the early transformational grammar  $A \rightarrow B + C$  (cf. Chomsky 1957, 1965). For instance, the patterns below can be straightforwardly described as a consistently head-initial language in the terms of X'-theory [ $XP \rightarrow X + \text{Complement}$ , X being V or P or N]:

- (1) a. [<sub>VP</sub> V + NP ]  
 b. [<sub>PP</sub> P + NP ]  
 c. [<sub>NP</sub> N + NP/PP/clause ]

A strong interpretation of X'-theory is that languages should be consistently head-final or head-initial cross-categorially. Interestingly, Chinese is a problem to the cross-categorial generalizations in ordering: it seems to have both SVO and SOV patterns and both postpositions and prepositions appear to be possible.

(2) SVO

- a. wo xie-wan-le gongke le.  
 I write-finish-LE homework LE  
 'I finished writing the homework'

SOV

- b. wo (ba) gongke xie-wan-le.  
 I BA homework write-finish-LE  
 'I finished writing the homework'

(3) a. prepositional:

*cong* nar  
 from there  
 'from there'

- b. postpositional (localizers: *shang* 'top/on', *xia* 'under/below', *li* 'inside', *wai* 'outside'...)

wu-wai  
house-outside  
'outside the house'

Within NPs,<sup>2</sup> however, Ns always appear in the final position [<sub>NP</sub> ...N]:

- (4) a. ta-de na-ke xiyou-de wo hen xihuan de lanhua  
he-DE that-CL rare-DE I very like DE orchid  
'that rare orchid of his that I like very much'
- b. diren dui chengshi de pohuai  
enemy to city DE destruction  
'the enemy's destruction of the city'

sentence-final question particle (an OV pattern):

- (5) ni xihuan na-ge lanhua ma?  
you like that-CL orchid Q  
'Do you like that orchid?'

Since the 70's, different proposals have been put forward to determine the basic word order of Chinese and to account for the seemingly mixed properties, such as (Li and Thompson 1975, Tai 1973 etc. for SOV and Chu 1979, Huang 1978, Li 1979, Mei 1979, Sun and Givon 1985, among others, for SVO as the basic order of Chinese). Li (1985, 1990) examined the properties of the relevant patterns from a generative viewpoint and argued that Chinese is SVO, SOV being the result of topicalization or focalization or the use of the marked *ba* construction. The apparent postpositions such as localizers behave more like nouns (nominal clitics, see Huang, Li and Li 2008, chapter 1 for a recent perspective of the issue). The distribution of the so-called "postpositional phrases" is actually more like that of noun phrases: they can appear in typical argument positions, such as objects of Ps in the following examples.

- (6) ta zai fang-li xie zi.  
he at room-inside write word  
'He wrote in the room.'

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<sup>2</sup> Since Abney (1987), distinguishing an NP and a DP has been widely accepted (see, among others, Li 1998, 1999a,b for the importance of making such a distinction in Chinese). Because the distinction is not relevant to this work, we only use the label NP for the sake of simplicity.

- (7) ta ba fang-li        he fang-wai        dou qing ganjing le.  
    he BA room-inside and room-outside all clean clean LE  
    ‘He cleaned the inside and outside of the room.’

In other words, Chinese is head-initial with respect to V+ Object and prepositional in regard to P + Object, but is head-final within NPs; i.e., Chinese is essentially head-initial (VO, Prepositional), but noun phrases are exceptions (Huang 1982). Chinese has other properties typical of OV languages, such as the prominence of sentence final particles (question article), and the ordering of modifiers preceding modifyees. The mixed properties make Chinese a challenge to the typological studies or a strong version of X'-theory. Li (1985, 1990) argues that such mixed properties follow from the interaction of a consistently head-final pattern interacting with the requirement on Case assignment --- a Case approach to word order (cf. Koopman 1984, Travis 1984)

## 2. A Case approach

It is clear from languages such as English, which demonstrates overt morphological case marking in some instances, how case encodes structural relation. As mentioned, a nominative case marked NP is generally the subject of a tensed clause. An accusative case generally indicates the direct object of a verb (or a P, in languages that do not distinguish accusative case from oblique case morphologically).

- (8) a. *He* saw *her*.  
    b. *She* has an interest in *him*.

Case is a good indicator of the relation between an NP and the related tense (agreement) or a V/P. Such relations also exist in languages without morphological case markings. The notion of abstract Case brings together languages with and without morphological cases. In the framework of Government and Binding (Chomsky 1981) a V/P is a Case assigner and assigns Case to its complement. In contrast, an N is not a Case assigner, which captures the obligatoriness of prepositions such as *in* and *of*, when nouns take objects (*interest – her*, *fear – him*).<sup>3</sup>

- (9) like him; saw her, about them  
(10) have interest *in* her; in fear *of* him

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<sup>3</sup> The mechanism of Case assignment (a Case feature transferred from a Case assigner to a Case assignee) can also be understood as Case checking of the Case features of the two relevant items.

Such a difference in Case-assigning capabilities provides an understanding of the mixed properties of Chinese. Chinese has many OV properties: it has the ordering of modifiers before modifiees; it has sentence-final (question) particles. On the other hand, it also has prominent VO properties: verb+object, prepositional; apparent postpositions are not adpositions but are more like nouns (nominal clitics). The mixed properties in word order can be understood if Chinese is essentially a head-final language - capturing all the OV properties - except when Case assignment takes place. Case assignment obeys a directionality requirement; specifically, Case is assigned from left to right in Chinese, deriving the word order of an object following a V/P. Because N does not assign Case, NPs are head-final consistently.

The directionality requirement on Case assignment captures in a principled way the exceptions: exceptions are not true exceptions. They are simply the result of the interaction among different modules of grammar: X'-theory and the head parameter (head-initial vs. head-final) interacting with Case theory (an NP must bear a Case and Case assignment is subject to a directionality requirement).

Such an approach makes very specific predictions. First, without other intervening factors, it should be possible to find a language that is a mirror-image of Chinese: head-initial but Case assigned from right to left (cf. Koopman 1984, Travis 1984). In regard to Chinese, we should predict that only constituents receiving Case in Chinese appear on the right of their Case assigning head: V/P + Object. Constituents NOT assigned Case in Chinese should not appear on the right of a head, i.e, nouns in the final position within noun phrases, sentence-final particles (Complementizer head taking an IP complement). Most of these predictions are born out. However, there have also been controversial issues about such a Case approach to word order. The main ones are

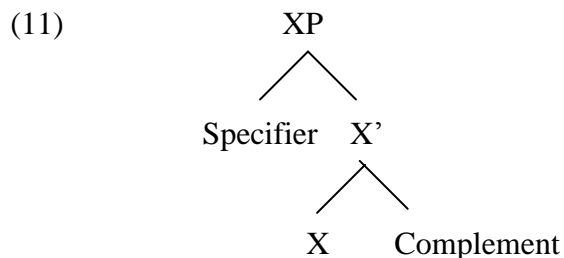
- (i) distribution of PPs, clauses: they should not occur in Case positions due to the Case Resistance Principle as in Stowell (1981) - Case assigners should not appear in positions assigned Case
- (ii) distribution of NPs that are not arguments: should Case be required on every NP or every argument NP?
- (iii) properties of adjectives
- (iv) properties of the constituents occurring postverbally
- (v) distinction between finite and non-finite clauses (tensed clauses or non-tensed)

(vi) whether Chinese has structures corresponding to raising constructions, passives and unaccusatives (ergatives) - verbs not assigning Case to their complements.

These issues have been debated in many works, which we will not repeat here. Interested readers are referred to Ernst (1988, 1994, 2003a,b), Y. Li (1997a), Y.-H. A. Li (1985, 1987, 1990), Paul (1988, 1996, 1999, 2005), Tang (1990, 1993a,b, 1994), Tsai (1994, 1995), among many others. Nonetheless, it is worth pointing out that most of these issues could be raised and better understanding of the many relevant structures became possible because of the precise predictions made by the analysis based on the notion of Case. The predictions led us to the discovery of more generalizations, demonstrating the critical role of methodology to the advancement of research.

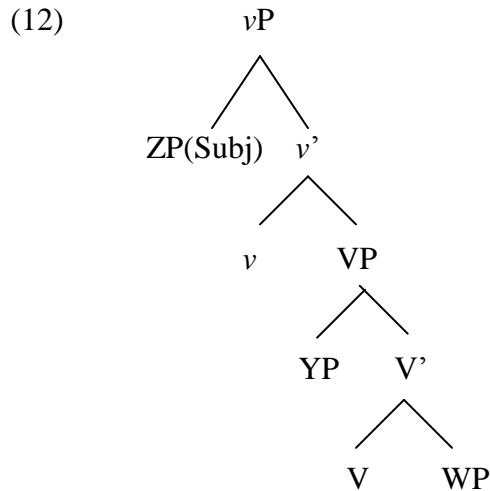
### 3. V-raising

Despite the exciting and bountiful research on the issues centering around the notion of Case, theories keep evolving. New tools and clearer descriptions of the properties and mechanisms of human languages in general and specific languages became available. Pertinent to the issue of word order, there have been proposals about a universal basic word order for all natural languages and other ordering variants are the results of grammatical operations, notably movement. For instance, Kayne (1994) proposes that all languages have the word order of SVO, the result of spelling out a hierarchical structure according to the linearization rule put forward by him (see the discussion of Linear Correspondence Axiom in Kayne 1994). Deviations from this basic word order, such as the SOV order in Japanese, are the products from X or XP-movement. Modifying this proposal, Takano (1996) argues that the universal hierarchical structure should be spelled out as SOV, according to his linearization mechanisms. More precisely, languages share the basic hierarchical structure, such as the one given by X'-theory:<sup>4</sup>



<sup>4</sup> Kayne's 1994 spell out rule forces him to claim that all specifiers are adjoined elements.

Spelling out (linearizing) such a structure derives the ordering of Specifier-Complement-X, i.e., SOV word order (e.g., Japanese), according to Takano. The ordering of SVO, such as in English, is derived by the movement of a verb to a higher projection.



(The verb can have two complements YP and WP (double complement verbs) or only one appears (single complement verbs))

In an earlier study, Pollock (1989) argues that the difference between French and English in ordering is due to the fact that French allows verbs to move to Inflection but English does not.<sup>5</sup> Important differences in ordering between the two languages are illustrated below:

French allows [V Adv Object], not English

- (13) a. \*John likes not Mary  
 b. Jean (n')aime pas Marie.

- (14) a. \*John kisses often Mary.  
 b. Jean embrasse souvent Marie.

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<sup>5</sup> In Pollock (1989), lexical verbs in English do not undergo movement. In the expanded structures containing much more functional projections, it is possible to maintain the insight of Pollock's study and claim that verbs undergo movement in English, as long as the verb moves to a lower position than in French. Nonetheless, the word order facts in English are quite complicated and do not seem to fall under a simple verb movement easily (considering the distribution of adverbs). Various types of XP movement, especially the so-called "remnant movement" might also be involved (see, for instance, Cinque 1999).

- (15) a. \*My friends love all Mary.  
b. Mes amis aiment tous Marie.  
c. My friends all love Mary.  
d. \*Mes amis tous aiment Marie.

According to Pollock, verbs must have moved to a higher position in French but do not do so in English. Other works such as Larson (1988) and many others allow verbs in English to move to a higher projection. This contrasts with Japanese, which does not move its verbs at all, according to Takano (see note 5). The generalization that emerges is that the height of verb movement is responsible for the type of elements appearing postverbally.

Empirically, Chinese is more restricted than English in what may occur postverbally

- (16) a. I will discuss (with John) (carefully) (at school) (tomorrow).  
b. wo hui (mingtian) (zai xuexiao) (zixi-di) (gen Zhangsan) taolun.  
I will tomorrow at school carefully with Zhangsan discuss  
'I will discuss (with Zhangsan) (carefully) (at school) (tomorrow).'
- c. \*wo hui taolun (gen Zhangsan) (zixi-di) (zai xuexiao) (mingtian).  
I will discuss with Zhangsan carefully at school tomorrow  
'I will discuss (with Zhangsan) (carefully) (at school) (tomorrow).'

Even though limited, Chinese still allows some constituents in postverbal position, in contrast to the strict verb-final pattern in Japanese. The contrast between these languages can be captured by a verb movement approach if verbs in Chinese also undergo movement, but the landing position is low in the tree structure (lower than the landing site of verb movement in English, also see note 5). Indeed, there have been important works arguing for the presence of V-to-*v* movement in Chinese: (Huang 1997, Tang 2001, among many others)

- (17) Laoshi song-le Zhangsan yi-ben shu, Lisi yi-zhi bi.  
teacher give-LE Zhangsan one-CL book Lisi one-CL pen  
'The teacher gave Zhangsan a book and Lisi a pen.'
- (18) Zhangsan kan-guo xiao mao yi-ci, xiao gou liang-ci.  
Zhangsan see-GUO little cat one-CL little dog two-CL  
'Zhangsan has seen the kitten once and the puppy twice.'

Huang (1997) suggests that verb movement is responsible for the fact that a logical object appears in the possessor position in (19) and the duration or frequency phrase, postverbally:

- (19) a. tamen bang-le wo-de piao  
           they tie-LE my ticket  
           ‘They kidnapped me.’
- b. qing ni bie kai Lisi-de wanxiao.  
           please you don’t make Lisi’s fun  
           ‘Please do not joke with Lisi.’
- (20) a. ta kan-le san tian (de) shu.  
           he read-LE three day(‘s) book  
           ‘He read (books) for three days.’
- b. ta chang-le liang ci (de) ge.  
           he sing-LE two time (‘s) song  
           ‘He sang twice.’

However, the verb does not move high, therefore disallowing a negation word like *meiren* ‘nobody’ in the object position:<sup>6</sup>

- (21) \*wo xihuan mei-ren.  
       I like nobody

A verb-movement approach seems to capture the word order variations in different types of languages, making the notion of Case to word order irrelevant.<sup>7</sup> Does this mean that the notion of Case can also be

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<sup>6</sup> According to Christensen (1986), Kayne (1998), Huang (2003), negation expressions like ‘nobody’ are the result of negation combined with a negative polarity item such as ‘anybody’. Therefore, these negative words are possible only if negation and the negative polarity item licensed by negation are adjacent to each other at some stage of derivation.

<sup>7</sup> It is possible that Case is the motivation for verb-movement: a verb needs to move to certain positions to check Case features. For instance, French might have subject and/or object agreement projections (plus other likely candidates such as dative projections, oblique projections), requiring verbs to move up to these functional projections for Case purposes; whereas Chinese has fewer and Japanese, none of such functional projections and verbs do not have the same kind of movement for Case purpose (thanks to Catherine Huang for the interesting discussions).

eliminated from grammar, especially for a language like Chinese, which does not show any overt case marking (see note 7)? The answer is clearly negative. Case is still the motivation for movement in the analysis of passives in Huang (1999), Huang, Li and Li (2008, chapter 4), Ting (1995), etc. Case is still referred to in the updated account of the distribution of clauses in Tsai (1995), following the proposal that clauses are assigned Case in Chinese in Li (1985, 1990). In the extensive study of resultative compounds by Y. Li (1993, 1995, 1997b, 1999), Case dictates what can follow the resultative compound verbs. Lin (2001) argues for the unselectiveness of subjects and objects in Chinese but crucially needs the notion of Case to constrain the distribution of NPs. Indeed, looking back to the issues debated in the literature, Case still helps us better understand grammatical properties and assist in the choice of appropriate analyses or structures among available options. In what follows, I will demonstrate the consistent role of Case with two instances: the distribution of PPs and the structure of clauses.

#### **4. The role of Case in some current issues**

Two of the current issues that Case can help us take a fresh look at are those regarding PPs in prenominal positions and the seemingly conflicting claims about the Case status of clauses in Chinese.

##### **4.1. PPs**

PPs being relevant to the issue of Case begins with Stowell's (1981) Case Resistance Principle, disallowing Case to be assigned to a Case assigner. P is a Case assigner and a PP should not be assigned Case. In Chinese, Li (1985, 1990) argued that the Case Resistance Principle is also valid in Chinese and accounts for why real PPs are not found in canonical argument positions. Li also suggested that *de* appearing within nominal expressions might be related to Case: it is a Case assigner, assigning Case to the preceding NP and clauses. P itself is a Case assigner; therefore, PPs do not appear in the position preceding *de* within nominal expressions. This suggestion was challenged in the works questioning the validity of the generalization that PPs do not occur in the modification structure (those with *de* within NPs). Interestingly, Cheung (2006), Larson & Yamakido (2005, 2006) revived the account and analyzed *de* as a Case marker, grouping it with the *eze* marker in Persian and other similar languages. In what follows, I will discuss the relevant empirical generalization and suggest that Li's (1985) original observation holds if we consider the counterexamples raised in the literature from a different perspective. I will also present a modified account for why the modifier preceding *de* can be

understood as an element receiving Case in light of the recent analysis of *de* by Li (2007a).

The empirical issue of concern is what may appear in the XP position in the nominal expression [XP *de* N(P)]. It is clear that many categories are possible, as illustrated below:

- (22) a. zhuyao de (natio) daolu                      Adj + *de* + N(P)  
       main DE that road  
       'the main roads'
- b. (nage) xuesheng de (naben) shu              NP + *de* + N(P)  
       that student DE that book  
       ' (that) student's book'
- c. wo gei ta de (naben) shu                      Clause + *de* + N(P)  
       I give him DE that book  
       'the book that I gave to him'

These facts can be summarized below:

- (23) a. NP ----> Modifier + *de* + N(P)  
       b. Modifier: Adjective or NP or Clause

What is conspicuously missing in the list of categories possible as a modifier is a PP (a VP can be subsumed under a clause, with the subject of the VP relativized). In Li (1985, 1990), the following types of examples were used to demonstrate the impossibility of PPs in the modifier position:

- (24) a. wo wei ta kai le yi-ge wuhui  
       I for him open LE one-CL party  
       'I held a party for him.'
- b. \*wei ta de wuhui  
       for him DE party  
       'party for him.'
- c. wei ta kai de wuhui  
       for him open DE party  
       'party that was held for him.'
- (25) a. ta cong/gen yinhang jie qian.  
       he from/with bank borrow money

'He borrowed money from the bank.'

b. \*cong/gen yinhang de qian  
from/with bank DE money  
'money from the bank.'

c. cong/gen yinhang jie de qian  
from/with bank borrow DE money  
'money borrowed from the bank.'

(26) a. wo dui ta ti le henduo jianyi.  
I to him raise LE many suggestion  
'I made many suggestions to him.'

b. \*dui ta de henduo jianyi  
to him DE many suggestion  
'many suggestions to him.'

However, it has been suggested in the literature that some PPs seem to be possible in the pre-nominal modifier position, specifically, *dui* and *guanyu* phrases (see, for instance, a recent work Paul 2005a).

*dui* phrases:

(27) dui ta de daiyu/taidu  
to him DE treatment/attitude  
'the treatment of/attitude towards him'

(28) guanyu ta de baodao  
regarding him DE report  
'the report regarding him'

Are these true PPs, real counterexamples to the generalization that PPs do not appear in the pre-nominal position in Chinese? I will argue below that neither is a true counterexample.

#### 4.1.1. The *dui* phrase

It is important to note that even though there are cases like (27) showing the occurrence of a *dui* phrase as a pre-nominal modifier, the *dui* phrase actually cannot stand alone in such a position: a subject is always contained in these cases. The following examples demonstrate the obligatory presence of a subject.

- (29) a. ta zhidao/xihuan \*(nimen) dui ta de daiyu  
 he know/like you to him DE treatment  
 ‘He knows/likes \*(your) treatment of him’
- b. ta zhidao/xihuan \*(nimen) dui ta de taidu  
 he know/like you toward him DE attitude  
 ‘He knows/likes \*(your) attitude towards him’
- (30) a. \*(nimen) dui ta de daiyu hen hao  
 you to him DE treatment very good  
 ‘\*(Your) treatment of him is very good’
- b. \*(nimen) dui ta de taidu hen hao  
 you toward him DE attitude very good  
 ‘\*(Your) attitude towards him is very good.’

Even with those that do not seem to have a subject overtly, there is always a covert one as required by interpretation:

- (31) dui ta de daiyu yinggai hao yidian.  
 to him DE treatment should good a.bit  
 ‘(Your) treatment of him should be better.’

The coverb subject glossed as ‘your’ in this example can be another person prominent in the discourse. Regardless of how the subject is interpreted, the fact is that there must be a subject. That is, the *dui* phrase is part of a structure containing a subject. What is such a structure? A very likely candidate is the derived nominal structure investigated in Fu (1994). The noun *daiyu* ‘treatment’ in *ni dui ta de daiyu* ‘your treatment of him’, *taidu* ‘attitude’ in *ni dui ta de taidu* ‘your attitude toward him’ are two place predicates, assigning a subject and an object thematic role. These nouns may be derived by movement of the two-place predicate from within a clausal structure containing the subject, predicate and the object to the modified noun position (cf. Fu’s analysis of derived nominal structures. Also see Ning 1993 for an analysis of this pattern). Alternatively, it is also possible to analyze the modified noun as base-generated and directly assigning thematic roles to its subject and object arguments. The choice of either one is not as important as the fact that a *dui* phrase does not appear alone in the modifier position (preceding *de*). It is part of a bigger structure. Accordingly, a *dui* phrase does not constitute a counterexample to the claim that a PP cannot be a nominal modifier.

**4.1.2. The *guanyu* phrase**

In contrast to a *dui* phrase, a *guanyi* phrase seems to be able to stand alone as a nominal modifier. This is probably the only instance that may qualify as a prenominal PP modifier. The question is why only a *guanyu* phrase is allowed in the modifier position and not any other PPs. A clue to the answer can be found in an interesting difference between a *guanyu* phrase and other real PPs: a real PP cannot appear with the copula *shi* in a predicate position; but a *guanyu* phrase can.

- (32) a. \*Zhangsan **shi** cong Beijing de nanbian.  
 Zhangsan be from Beijing DE south  
 ‘Zhangsan is from South of Beijing.’
- b. \*zhe qian **bu-shi** gen/xiang ta de pengyou  
 this money not-be from he DE friend  
 ‘This money is not (borrowed) from his friend.’
- (33) zhe baodao **shi** guanyu nimen de weilai.  
 this report be regarding you DE future  
 ‘This report is regarding your future’

This suggests an answer to why, in general, PPs are not found in the prenominal modifier position but a *guanyu* phrase can. The latter can come from a clause with a copula *shi*, which is deleted when it is at the beginning of a relative clause at the left periphery of the nominal phrase.

- (34) [[(shi) guanyu nimen de] weilai]  
 be regarding you DE future

If this account is on the right track, again, we do not have a true instance of a PP as a pre-nominal modifier. The *guanyu* PP is simply part of a clausal structure with a copula as its predicate, which happens to be unpronounced. There is support for such a claim from conjunction structures. Aoun and Li (2003), Zhang (to appear) note that Chinese chooses conjunction words according to the categories of the conjuncts. Pertinent to our discussion, the conjunction word *erqie* is used to conjoin two clauses or two verb phrases

- (35) dongwuyuan de he/gen/\*erqie xuexiao de shebei  
 zoo DE and/and/and school DE facilities  
 ‘facilities of the zoo and the school’

- (36) tamen bu xihuan de erqie/\*he/\*gen hen gui de dongxi<sup>8</sup>  
they not like DE and/and/and very expensive DE thing  
'things that they do not like and are expensive'

It is also generally true that conjunction conjoins like categories. Interestingly, the following example shows that a nominal expression seemingly is conjoined with a clause using a clausal conjunction word *erqie*:<sup>9</sup>

- (37) suoyou dongwuyuan de erqie keyi jinjuli jiechu youke de  
all zoo DE and can close contact visitor DE  
  
dongwu dou yao zhushe yimiao.  
animal all should inject vaccine

'All the animals in the zoos and which may have close contact with visitors much receive the vaccine.'

The following example seems to demonstrate that a bare adjective is conjoined with a clause:

- (38) zhuyao de erqie women yijing taolun-guo de shiqing  
main DE and we already discuss-ASP DE matter  
'the main matters that we have discussed'

These two cases do not seem to conjoin like categories, as with conjunction structures in general (see Munn 1993, Zhang to appear, for a clearer understanding of the nature of like-category constraints). However, note that the copula *shi* 'be' is required before the adjective or the nominal expression in the above examples when the ordering of the conjuncts is reversed:

- (39) suoyou keyi jinjuli jiechu youke de erqie \*(shi) dongwuyuan de  
all can close contact visitor DE and be zoo DE

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<sup>8</sup> *He* and *gen* are possible if the conjuncts are two nominal expressions; i.e., there should be an implicit nominal expression directly following the first *de* when these two conjunction words are used.

<sup>9</sup> Thanks to Yafei Li (personal communication) for this example.

dongwu dou yao zhushe yimiao.  
animal all should inject vaccine

- (40) women yijing taolun-guo de erqie \*(shi) zhuyao de shiqing  
we already discuss-ASP DE and be main DE matter  
'the main matters that we have discussed'

Other similar examples are:

- (41) a. jiu de erqie ta hai xihuan de yifu bu duo.  
old DE and he still like DE clothes not many  
'Clothes that are old and he still likes are not many.'
- b. ta hai xihuan de erqie \*(shi) jiu de yifu bu duo.  
he still like DE and be old DE clothes not many  
'Clothes that he still likes and are old are not many.'

Note that it is not that *erqie* cannot be followed by an adjective in such constructions or that the ordering of the conjuncts cannot be reversed. The following sentences show that *erqie* conjoins two adjectival modifiers and the ordering of the two conjuncts can be easily reversed.<sup>10</sup>

- (42) a. jiu de erqie gui de yifu yiding meiren yao.  
old DE and expensive DE clothes certainly nobody want  
'Old and expensive clothes, certainly nobody wants.'
- b. gui de erqie jiu de yifu yiding meiren yao.  
expensive DE and old DE clothes certainly nobody want  
'Expensive and old clothes, certainly nobody wants.'

These peculiar properties regarding conjunction can be nicely captured if there is a *shi* occurring at the left periphery of a relative clause at the edge of the modification structure and it is deleted. Then, all the cases above have same-category conjuncts and the conjuncts of *erqie* are never nominal phrases.

There are other patterns illustrating the deletion of *shi* at the left-periphery of a modification structure [modifier + noun] and some of them

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<sup>10</sup> The sentence is acceptable, even though it sounds redundant because of the brevity of the phrases and the repetition of *de*, when the sentence could mean exactly the same without *de* repeated

are even obligatory. For instance, *shi* is optional in the predicate position preceding an adjective or a nominal phrase with *de*.<sup>11</sup>

- (43) a. zhe-kuai bu (shi) hong de.  
           this-CL cloth be red DE  
           ‘This piece of cloth (is) red.’
- b. ta de lian (shi) yuan de.  
           he DE face be round DE  
           ‘His face (is) round.’
- (44) a. zhe-ge xuesheng (shi) san-nianji.  
           this-CL student be three-grade  
           ‘This student (is) of the third grade.’
- b. zhe-ge xuesheng (shi) shiwu sui.  
           this-CL student be fifteen age  
           ‘This student (is) fifteen years old.’

Such an optional *de* must not occur when the subject of the clause is relativized.<sup>12</sup>

- (45) a. (\*shi) hong de bu  
           be red DE cloth  
           ‘cloth that is red’
- b. (\*shi) yuan de lian  
           be round DE face  
           ‘face that is round’
- (46) a. (\*shi) san-nianji de xuesheng  
           be three-grade DE student  
           ‘student that is of the third grade’

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<sup>11</sup> This is *de*<sub>2</sub> in Zhu’s works such as Zhu (1961, 1982, 1993),

<sup>12</sup> In more complex cases, *shi* can be present happily:

(i) ta qing ke de shihou zhi yong [shi hong de erqie shi zui xiyou de zhuo-bu]  
     he invite guest DE time only use be red DE and be most rare DE table-cloth  
     ‘When he invites guests, he only uses table clothes that are red and most rare.’

- b. (\*shi) shiwu-sui de xuesheng  
 be fifteen-age DE student  
 ‘student that is fifteen years old’

If *shi* is deletable when it is at the left-periphery of a modification structure [modifier + noun], i.e., when it is in the first conjunct, not the second conjunct of a modifying phrase, our proposal would lead us to predict that a *guanyu* phrase (with a deleted *shi*) can be the first conjunct of *erqie* in the pre-nominal modifier position, but not the second conjunct. The prediction is born out, as illustrated by the following examples:

- (47) (shi) guanyu Lisi de erqie women dou hen you xingqu de baogao  
 be regarding Lisi DE and we all very have interest DE report  
 ‘the report that is regarding Lisi and we are all interested’
- (48) women dou hen you xingqu de erqie \*(shi) guanyu Lisi de baogao  
 we all very have interest DE and be regarding Lisi DE report  
 ‘the report that we are all interested and is regarding Lisi’

The distribution of *shi* supports the claim that a *guanyu* phrase modifying a noun actually is part of a clausal structure containing a *shi*, which is deleted at the peripheral position. Accordingly, the claim that a PP cannot be a pre-nominal modifier in Chinese holds.

An important question that arises is why a PP can be a nominal modifier in other languages such as in English but not in Chinese. While the limited space prevents us from detailing a possible account, we would like to suggest that the contrast is related to the modification structure. To illustrate with the contrast between English and Chinese, we note that Chinese modification structure involves *de*, which behaves like a conjunction word (Li 2007a, Zhang, to appear). That is, in a modification structure [ $\alpha$  XP *de* YP], *de* is a conjunction word.<sup>13</sup> When a conjunction structure is in a Case position, both conjuncts are Case-marked. This can be demonstrated by the conjunction pattern in English, which exhibits overt case markings.

- (49) a. [He and she] are best friends.  
 b. I like [him and her].

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<sup>13</sup> Moreover, *de* does not have categorical features and cannot determine the category of the phrase  $\alpha$ . In the nominal structure,  $\alpha$  is still YP and XP becomes an adjunction, as in Aoun and Li (2003).

This amounts to saying that a nominal modifier in Chinese is assigned Case because the entire nominal phrase is in a Case position and the modifier forms a conjunction structure with the modified noun, both in need of Case.

In contrast, Aoun and Li (2003) argue that relativization in English does not have the same structure as in Chinese. It involves complementation (Kayne 1994). Paul (2005a) extends Aoun and Li's analysis of relativization to those with an adjective as a modifier. Li (2007a) also analyzes all cases involving *de* in Chinese nominal phrases as having the same conjunction structure (but end up as adjunction because of the lack of the contribution of categorical features by *de*, see note 13). If this distinction holds, it is expected that only the Chinese type of languages puts nominal modifiers in Case positions (the same Case as the modified noun). The constraint on PPs used as a nominal modifier is just an instance of the empirical generalization captured by Stowell's CRP that PPs in general do not appear in Case positions. Therefore, the notion of abstract Case is quite relevant: it underlies the account for the constraints on what categories may function as nominal modifiers.<sup>14</sup>

#### 4.2. Clauses

Another instance pertinent to the issue of whether the notion of Case plays a role in grammar involves the distribution of clauses, as compared to NPs. In the earlier literature on Case, it was noted that clauses do not appear in the same positions as NPs because the former cannot occur in Case positions and the latter can (Stowell 1981). The contrast can be illustrated by the fact that a Case-assigner is required when the object is an NP in the following instances, but is prohibited when the object is a clause.

- (50) a. Mary was afraid (\*of) that the idea wouldn't work.  
       cf. Mary was afraid \*(of) it.

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<sup>14</sup> Modifiers can precede demonstratives without *de*:

- (i) renshi ta nage laoshi  
     know him that teacher  
     'the teacher that knows him'

This pattern should be derived by the deletion of *de*: *de* is deleted when a modifier directly precedes a demonstrative. Other elements in complementary distribution with demonstratives such as the quantifier *mei* 'every' does not allow such deletion. *De* is obligatory:

- (ii)\*renshi ta meige laoshi  
     know him every teacher  
     'every teacher that knows him'

- b. I am happy (\*about) that he is coming.
- cf. I am happy \*(about) his coming.

The contrast demonstrated in these pairs suggests that NPs must occur with Case assigners, not clauses. The generalization put forward in Stowell (1981) is that clauses do not appear in Case positions (when they seem to occur in typical subject or object positions, they actually have moved to non-Case positions. The Case Resistance Principle was proposed to capture the observed generalization that clauses do not occur in Case positions). The difference in Case requirement between NPs and clauses made it possible to claim that verbs can semantically select something consistently (such as a proposition) but the Case assignment capability of a verb would determine the possibility of an object NP or a clause (see the distinction between the notions of c-selection and s-selection extensively discussed in Grimshaw 1979, Pesetsky 1982).

- (51) a. I asked the question.
  - b. I asked whether he is coming.
- 
- (52) a. I wonder whether he is coming.
  - b. \*I wonder the question.

On the other hand, Li (1985, 1990) noted that clauses in Chinese can appear in typical Case positions, such as the object of a P, just like an NP (also see Tsai 1995):

- (53) a. wo dui ta gai-bu-gai lai meiyou yijian.  
      I to he should-not-should come not-have opinion  
      ‘I have no opinion on whether he should come or not.’
- b. zhe-jian shi gen ta mingtian yao likai meiyou guanxi.  
      this-CL matter with he tomorrow will leave not-have relation  
      ‘This has nothing to do with him leaving tomorrow.’

A logical conclusion in Li’s study on the role of Case in Chinese --- Case describes the distribution of various categories in grammar --- was that clauses are also assigned Case in Chinese, just like NPs.

However, in Li’s (2005, 2007b) recent works on empty categories, the following generalization has been observed: in Chinese, when a verb allows a nominal object, it also accepts a null object; when a verb only

allows a clausal object, it does not accept a null object, as stated and illustrated below,

(54) a. If a verb is subcategorized for a nominal object, the object can be empty.

b. If a verb is subcategorized for a clausal object only, the object cannot be empty.

Verbs allowing a nominal object and a null object:

(55) a. wo tingdao-le na-jian shi.

I hear-LE that-CL matter  
'I heard that matter.'

b. wo tingdao ta de-le da jiang le; ta ye tingdao-le.

I heard he get-LE big prize LE he also hear-LE  
'I heard that he got a big prize; he also heard.'

Verbs disallowing a nominal object and a null object. *Zheme(yang)* 'so' must appear:

(56) a. \*wo renwei/yiwei na-jian shi.

I think/ think that-CL matter  
'I thought/thought that matter.'

b. wo renwei/yiwei ta hen congming; tamen ye \*(zheme(yang))

I think/ think he very smart they also so  
renwei/yiwei.  
think/ think  
'I thought that he was smart; they also thought.'

(57) a. \*wo cai na-jian shi.

I guess that-CL matter  
'I guess that matter.'

b. wo cai ta hen congming; tamen ye \*(zheme(yang)) cai.

I guess he very smart they also so guess  
'I guess that he is smart; they also guess.'

(58) a. \*wo dasuan na-jian shi.

I plan that-CL matter  
'\*I planned that matter.'

- b. wo dasuan mingtian qu; tamen ye \*(zheme(yang)) dasuan.  
I plan tomorrow go they also so plan  
'I planned to go tomorrow; they also planned.'

This correlation can be subsumed under the following condition, in the spirit of the Visibility condition in the Case and theta-theory of Government and Binding (Chomsky 1981, 1986).

(59) Visibility condition on empty categories

Empty categories in argument positions must be Case-marked in order to be visible.

This means that a null object is possible if Case is assigned to the object position. Such a visibility condition may capture the different possibilities of a null object between English and Chinese. As is well-known, Chinese, not English, allows an empty object:

- (60) a. John saw him. \*Mary saw, too.  
b. I like him. \*She doesn't like.

cf.

- (61) a. John kanjian-le ta; Mary ye kanjian-le.  
John see-LE him Mary also see-LE  
'John saw him; Mary also saw.'

- b. wo xihuan ta; ta bu xihuan.  
I like him he not like  
'I like him; he doesn't like.'

This contrast can be captured by an adapted inverse Case filter in Bošković (1997,134-142).

(62) English, not Chinese, requires Case to be realized on a lexical item.

The obligatoriness of realizing Case features and the requirement on null arguments to be Case marked conspire to rule out any null objects in English. If a Case feature is available, it must be realized; if such a feature is not available, a null argument is not licensed. This also captures the fact that the object CPs in the following instances cannot be "deleted" (cf. Lobeck 1995, Merchant 2001 for the impossibility of CP deletion in English).

(63) a. \*Mary was afraid that the idea wouldn't work and Bill was [<sub>AP</sub> [happy [<sub>CP</sub> e]]].

b. \*I suppose that he will come and they suppose [<sub>CP</sub> e], too.

The facts presented so far show two conflicting generalizations: those in (53) show that clauses are like NPs and are Case-marked in Chinese. In contrast, the second set of facts generalized in (54) shows that clauses in Chinese, just like those in English, are not like NPs and cannot be Case-marked. How can this conflict be resolved? Two logical options suggest themselves:

(64) a. Clauses must always be assigned Case in Chinese but not in English.  
(54) should not be accommodated by Case.

b. Different types of clauses must be recognized. That is, we need to recognize finer peripheral structures for clauses (Cinque 1999, 2002; Rizzi 1997, 2004). A clause may have some or all of these projections at the left periphery: Force Phrase, Topic Phrase, Focus Phrase, Operator 1 Phrase, Operator 2 Phrase, etc. Case is required with certain projections but not the others.

The latter option might be on the right track. Note that English also has different Case requirements on different types of clauses. Indeed, it seems that only *that* clauses are not assigned Case.<sup>15</sup> Clauses with *wh*-phrases are Case-marked, in addition to gerundive or participial clauses.

(65) a. I am concerned that he will win the election.  
b. \*I am concerned about that he will win the election.  
c. I am concerned about who will win the election.  
d. \*I am concerned who will win the election.

(66) I am interested \*(in) [him/his presenting this case].

Although Mandarin Chinese generally does not have overt complementizers and it is difficult to identify different types of clauses, it does not mean that

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<sup>15</sup> In a few cases, prepositions can take a clausal object in English: *Stopping that would be a great idea except that the value of the project is tied to it.* *He departs from the tradition in that he does not indicate where the elements are located.* It is not clear if these cases also involve extraposition so that the clauses are not in Case positions (Stowell 1981). More studies are necessary to determine the Case status of clauses in English as well.

Mandarin does not distinguish different types of clauses (see, for instance, recent works by Paul 2005b, 2008). An interesting area to investigate might be those dialects with rich “sentence final particles”. We leave this issue for further research.<sup>16</sup>

## 5. Conclusion

The notion of Case, though quite abstract in Chinese, not having any overt morphological case marking, helps us describe linguistic generalizations in clearer and more precise terms. For instance, it enables us to make sense of why the word order possibilities in Chinese were consistent challenges to typological studies. It also helps us make concrete predictions, allowing us to ask interesting questions that were not questioned before and to discover more generalizations systematically. Even though analyses based on further evolved theories continue surfacing and empirical generalizations questioned, what is important is that theories provide the roadmap for a scientific research to move forward methodologically. Hypotheses can be proved wrong or correct through systematic testing of the relevant predictions. “Counterexamples” provide us opportunity to investigate the relevant structures in different perspectives more carefully and to be able to ask more questions, thereby leading to further research and offering better understanding of the properties of individual languages and human languages in general.

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<sup>16</sup> Simpson and Wu (2002) for *kong* in Taiwanese and the limited distribution of clauses headed by *kong*). Subordinate clauses headed by *kong* generally occur as the object of verbs in postverbal position and do not occur as objects of prepositions.

(i)\**gua tui kong i khi tha tshe jin tsansying.*  
 I to KONG he go read book very agree  
 ‘I quite agree that he goes to school.’

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