EXPLAINING THE IMMOBILITY OF CONJUNCTS*

Niina Ning Zhang

Abstract. This paper aims to explain the well-observed constraint that no conjunct may move. It is claimed that, with respect to final conjuncts, this constraint simply manifests a morphological property of coordinators shared with many other types of head elements: they need to be adjacent to their complement, and thus neither deletion nor movement of their complement is possible. Final conjuncts therefore may not move. Based on the assumption that the categorial features of initial conjuncts are transferred to the coordinator and, it is claimed that this transference keeps initial conjuncts in situ, since elements without category-features may not move overtly. This new account for the immobility of initial conjuncts is supported by two generalizations. Firstly, in the Chinese de construction, kernel elements may not move because they provide categorial features for de, which has no intrinsic categorial features and is the head of the whole complex. Secondly, in the comitative coordinate construction in Chinese, initial conjuncts may move because they do not provide categorial features for the coordinators, which have their own intrinsic categorial features. This paper specifies the semantic condition of initial conjunct movement: the coordination must be non-distributive. This new account of the immobility of conjuncts suggests that the constraint is not a construction-specific syntactic constraint. Instead, it is related to the lexical/morphological makeup of coordinators. Conjuncts as regular Spec and Complement elements may undergo syntactic movement. It has been generally assumed that movement is driven by morphological considerations. This study further shows that the blocking of movement can also be related to morphological properties of specific syntactic elements in addition to the generally recognized locality restrictions.

1. Introduction

1.1. The CCi and CCe

The Coordinate Structure Constraint (CSC, Ross 1967:89) states: “In a coordination structure, no conjunct may be moved, nor may any element contained in a conjunct be moved out of that conjunct.” As emphasized by Postal (1998:95), the CSC was intended as a linguistic universal. However, it is implausible that the theory of syntax has, in addition to operations such as Merge and Remerge, which apply to the computation system in its constructive sense, construction-specific stipulations such as...
the CSC, which give instructions where the normal operations cannot apply. Nevertheless, in the current literature, it seems that the CSC has remained relatively immune to reduction to other more general principles. When Riemsdijk & Williams (1986:28) introduce various constraints, they state “All the principles discussed here have since been modified, generalized, or replaced. The fate of the CSC has been somewhat different, however, because it has not interacted with the other constraints under these revisions.” The goal of this paper is to reduce the CSC to other general principles.

The CSC has been split into two parts (Grosu 1972, 1973). The first part is that no conjunct may be moved, and the second part is that no element may be extracted from conjuncts. Following Grosu (1972), we call the first part of the CSC Conjunct Constraint (CC), and the second part Element Constraint (EC). This paper discusses the CC only. CC effects are shown in (1) and (2).

(1) a. *John, it seems to be [t_i and Mary] in the room.
   b. *[All the heaviness], had [t_i and the height] gone.
   c. *Who, did John kiss [t_i and a girl]?
   d. *What table, will he put the chair between [t_i and some sofa]?
   e. *The speaker who, I watched [t_i and Bill] was vain.
   f. *[Go to the club], John might [t_i and [have some fun]].
   g. *Can you [t_i and will] stay at home?

(2) a. *Mary, it seems to be [John and t_i] in the room.
   b. *[The height], had [[all the heaviness] and t_i] gone.
   c. *Who, did John kiss [a girl and t_i]?
   d. *What sofa, will he put the chair between [some table and t_i]?
   e. *The speaker who, I watched [Bill and t_i] was vain.
   f. *[Have some fun], John might [[go to the club] and t_i].
   g. *Will you [can and t_i] stay at home?

In each of the sentences in (1), the first conjunct moves, and in each of the sentences in (2), the second conjunct moves. The CC is violated in both groups of sentences. The movement is an instance of A-movement in (1/2a) and (1/2b), interrogative wh-movement in (1/2c) and (1/2d), relativization wh-movement in (1/2e), topicalization movement in (1/2f), and head movement in (1/2g).

CC effects are also observed in other languages. In the following Norwegian examples, a conjunct of the coordinate object complex is raised in (3a), and a conjunct of the post-verbal coordinate subject complex is raised in (3b). Neither is acceptable (Johannessen 1998:222). The failure of the subject raising out of the Spanish coordinate complex in (4a) shows the same restriction (Zoerner 1995:78 (25)).
Postal (1998:83) states: “The Conjunct Constraint is almost never questioned.” The current development of the minimalist program has kept silent on the CC.

The theoretical background of this paper is the following. I assume the complementation structure for coordinate constructions in (5). In this structure, the coordinator is the head, the initial conjunct, called the external conjunct, is the Spec element and the final conjunct, called the internal conjunct, is the complement (Munn 1987, Zoerner 1995, Johannessen 1998, Zhang 2006, among others).

\[
(5) \quad \begin{array}{c}
\text{XP} \\
\downarrow \text{conjunct}^\text{external} \\
\text{X'} \\
\text{coordinator} \\
\downarrow \\
\text{conjunct}^\text{internal}
\end{array}
\]

It is well-recognized that the categorial features of a coordinate complex are identical to those of at least one of the conjuncts. Since Sag et al. (1985:165), sentences like the following have been noted:

(6) a. You can depend on my assistance and that he will be on time.
   b. *You can depend on that he will be on time.
   c. *You can depend on that he will be on time and my assistance.

(6b) shows that the preposition on may not take tensed clauses as complements. However, if the complement of a preposition is a coordinate complex, the internal conjunct can be a tensed clause. In (6a) the internal conjunct is a tensed clause and the external one is a DP. (6c) shows that if we switch the order of the two conjuncts in (6a), the result is not acceptable. The contrast indicates that it is the external conjunct that satisfies the c-selection of the preposition. Zhang (2007a) presents more arguments to show that if the coordinator is and, the categorial features of the coordinate complex are always identical to those of the external conjunct.
Since *and* is the head of the whole coordinate complex, and it has no intrinsic categorial features, Zhang (2007a:sec. 3.3.1) claims that the categorial features of the external conjunct are transferred to *and*. But if the coordinator is specified with certain categorial features, such as *gen* (a nominal coordinator in Chinese), or *erqie* (a verbal coordinator in Chinese), the categorial features of the external conjunct are not transferred to the coordinator.

The feature dependency of XP on the Spec of X has also been independently seen in wh and negation feature percolation. For instance, the negation feature is percolated from Spec in (7a), and the wh-feature is percolated from Spec in (7b) (Grimshaw 1991, Webelhuth 1992, Koopman & Szabolcsi 2000:41):

(7) a. Nobody’s car would I borrow. [Neg feature percolation]
   b. Whose book did you read? [Wh feature percolation]

If the negation in (7a) is a sentential negation, which is able to trigger the subject-modal inversion, the [Neg] feature must move out of the word *nobody*, which is the Spec element of the possessive DP. Likewise, in (7b), in order to check the [Wh] feature of C, the relevant feature must move out of the word *whose*, which is the Spec element of the possessive DP.\(^1\)

I will argue that the CC should be split into the CCe, i.e., no external conjunct may move, and the CCi, i.e., no internal conjunct may move. The CCi means that no coordinators may be stranded. I group coordinators with other types of elements that may not be stranded. As for the CCe, external conjuncts cannot move simply because their categorial features have been transferred to coordinators such as *and*, which do not have any categorial features (Zhang 2007a). In short, it is the lexical/morphological properties of the specific type of coordinators that are responsible for the effects of the CC.

The layout of this paper is as follows. I discuss the problems with current approaches of the CC in 1.2. Then I present my own analysis of the CCi and CCe in Section 1.3. In Section 2, I present my main argument for my new account of the CCi. My two arguments for the new account of the CCe are given in Section 3 and Section 4. Section 5 is a brief summary.

\(^1\) Note that feature percolation can occur either between a Spec and a head, as introduced in the text, or between a complement and its head, as shown in (i):

(i) a. [To nobody] would I speak. [Neg feature percolation]
       b. [To whom] did you speak? [Wh feature percolation]
       c. [Out to whom] did they send a schedule? [Wh feature percolation]

Parallel to this complement-head feature dependency, Zhang (2007a) discusses cases in which the categorial features of internal conjuncts are transferred to coordinators and thus to the whole coordinate complex. Cross-linguistically, coordinate complexes may have the same categories as those of either the external or internal conjuncts. In English, we only see the former situation.

1.2. *A brief introduction to various unified approaches to the CC*

The CC has been analyzed as a unified constraint in syntactic approaches (Sag 1982, Pesetsky 1982, Pollard & Sag 1994, and Zoerner 1995), a semantic approach (Johannessen 1998), a phonological approach (Merchant 2001), and a Parallelism Requirement approach (Napoli 1993).

1.2.1. *Unified syntactic approaches to the CC*

I. The *A-over-A Principle* account

Sag (1982:334) and Pesetsky (1982:435) (see also Riemsdijk & Williams 1986:20) claim that CC effects are accounted for by the so-called *A-over-A Principle*. This approach claims that in (8), neither of the two lower NPs may be moved, since they are hosted by the upper NP.

\[(8) \quad \text{NP} \quad \text{NP} \quad \text{and} \quad \text{NP} \]

Let us examine the *A-over-A Principle* itself. There are two versions of the principle. One version says that if a rule ambiguously refers to A in a structure of the form of (9), the rule must apply to the higher, more inclusive, node A. This principle is claimed to prevent extraction of the NP *Africa* out of the NP *my trip to Africa* in which it is included in (10a) (Ross 1967, Chomsky 1964).

\[(9) \quad \ldots [A \ldots [A \ldots] \]

(10) a. I won’t forget [NP my trip to [NP Africa]]
    b. *Africa, I won’t forget my trip to.
    c. My trip to Africa, I won’t forget.

Chomsky points out several potential counterexamples to the *A-over-A Principle*:

\[(11) \quad \text{a. Who would you approve of my seeing?} \]
\[(11) \quad \text{b. What are you uncertain about giving to John?} \]
\[(11) \quad \text{c. What would you be surprised by his reading?} \]

In (11a), for instance, *who* moves out of the containing nominal *my seeing who*. Examples like the following (12) also show that the principle is too strong. The extraction of the DP *that book* is possible, although it is contained in the DP *five reviews of that book*.

\[(12) \quad \text{That book, they published [DP five reviews of t].} \]

\[(Gazdar \text{ et al. 1985:148)} \]

Since this version of the *A-over-A Principle* is empirically inadequate, we do not think its application to the CC can be justified. Some effects of the
principle can be covered by other constraints. The acceptability of (11) and (12), for instance, can be captured by Davies & Dubinsky’s (2003) semantic condition for extraction from nominals. They claim that extraction from unambiguous process nominals, such as (11), is generally possible, and extraction from representational nouns, such as (12), is possible when the verb is a verb of creation or a verb of use (e.g. *write, edit, publish*), but not when the verb is *destroy*:

(13) *Who did they destroy a book about?

(Davies and Dubinsky 2003:3)

Another version of the principle says that if a rule ambiguously refers to A in a structure of the form of (9), the rule must apply to the *immediately* higher, more inclusive, node A. The following examples may show the principle (Sag 1982:334):

(14) a. Fido jumped [PP from [PP under [DP the table]]].
   b. Fido ran [PP out [PP into [DP the meadow]]].

(15) a. From under the table jumped Fido _.
   b. Out into the meadow ran Fido _.

(16) a. From under which table did Fido jump _?
   b. Out into which meadow did Fido run _?

(17) a. Which table did Fido jump from under _?
   b. Which meadow did Fido run out into _?

(18) a. *Under which table did Fido jump from _?
   b. *Into which meadow did Fido run out _?

The two sentences in (14) are canonical forms. In (15a), the matrix PP is topicalized, and in (15b), the matrix PP is also topicalized. In (16a), the matrix PP has undergone wh-movement, and in (16b) the matrix PP has also undergone wh-movement. Since the topicalization and the wh-movement apply to the matrix PP, rather than the embedded PP, in (15) and (16), the A-over-A Principle is not violated. In (17a), the moved wh-phrase is a DP, rather than PP. Similarly, in (17b), the moved wh-phrase is a DP. The A-over-A Principle does not apply to (17), since the trace of the wh-DP is not immediately dominated by another DP. Instead, it is immediately dominated by the PP headed by *under or into*. In (18a), however, the trace of the PP *under which table* is immediately dominated by another PP, which is headed by *from*. In this case, the A-over-A Principle is violated. Similarly, in (18b), the trace of *into which meadow* is immediately dominated by another PP, which is headed by *out*. As expected, the A-over-A principle is violated. Sag claims that the unacceptability of the two sentences in (18) is captured by the A-over-A Principle.

Like the former version, the latter version of this principle is also empirically inadequate. Firstly, the A-over-A Principle cannot explain
quantifier floating (Sportiche 1988). It is generally assumed, as shown in (19a), that the quantifier all is a D-element, takes a DP complement, and projects another DP. In quantifier floating constructions, the DP complement of all is raised out of the hosting DP (see Adger 2003:263 for a summary).

\[
\begin{array}{c}
\text{a.} \\
\includegraphics[width=0.5\textwidth]{diagram.png}
\end{array}
\]

Secondly, the possibility of possessor DP raising out of possessive DP, as illustrated in (19b) (Szabolcsi 1983, 1994, Landau 1999, among others), indicates that the principle is too strong to rule in such movement of Spec elements.

Since the A-over-A Principle is not a valid principle with respect to movement of either complements or Spec elements, it cannot be used to account for CC effects.

**II. The trace subcategorization account**

Pollard & Sag (1994:201) claim that under virtually any assumptions about the nature of coordinate structures, it is the mother of the coordinate structure that is (strictly) subcategorized, not the individual conjuncts. Since a conjunct is never subcategorized, it can never be realized as a trace, because of the Trace Principle, in their theory. The assumed Trace Principle states that “Every trace must be subcategorized by a substantive head” (p. 172). Note that they discuss how the Trace Principle is also considered in the movement of adverbials (p.176), which are generally considered not subcategorized. However, the movement illustrated in (19b) is wrongly ruled out in this account, since it is the top DP rather than the possessor DP that is subcategorized by a head. Moreover, the account is not able to explain the contrast between Can and will you stay at home and *Can, you [ti and will] stay at home. The contrast has nothing to do with subcategorization.

Sag (2000:8) claims that the CC can be accounted for by the assumption that wh-traces are not syntactic constituents and conjuncts must be syntactic constituents. His claim might cover the c-, d-, and e-sentences in (1) and (2), but it cannot cover the other sentences there, where no wh-conjunct shows up. Thus the CC seems to have nothing to do with the status of wh-traces.

**III. The Minimal Link Condition account**

Zoerner (1995:75ff) proposes that CC effects can be covered by the Minimal Link Condition, since, he assumes, an attracting feature external
to a coordinate complex never looks as low in the structure as the conjunct. He claims that the attracting feature sees features on the &P node and stops its search there. This proposal is too strong. If coordinate complexes have a complementation structure, as he argues, conjuncts are Spec and Complement elements. The raising of Spec elements and Complement elements is possible in general.\(^2\)

1.2.2. A semantic approach

Johannessen (1998:235) proposes that the possibility of the EC violation (see Grosu 1973) and the impossibility of the CC violation can be accounted for semantically:

When something is extracted a special relationship is triggered between two elements. However, when a whole conjunct is extracted, there are no longer two available elements between which such a relationship could exist, and extraction must be ruled out. Thus the semantic factors not only constrain extraction of parts of conjuncts, but constrain extraction of whole conjuncts – to such an extent that the latter is not possible.

Any movement will cause an element to be away from its merger-position, where it is integrated into the structure semantically, and thus seems to have the same problem, according to this semantic approach. Consider possessor raising. If the possessor is moved away from the possessed nominal, does that mean the semantic relation between the two is lost? Also, in sentences like *What kind of beer does John normally drink*, the verb *drink* s-selects the liquid-denoting *what kind of beer*. When the latter moves, does that mean the semantic selection is lost? Since this semantic approach is not plausible, it cannot be used to account for CC effects.

1.2.3. A phonological approach

Grosu (1981:56) proposes a Null Conjunct Constraint (NCC), which states that conjuncts may not be phonologically null. Merchant (2001) claims that the CC can be covered by the NCC. In Merchant’s approach, the CC is related to PF. Considering the cases of null external conjuncts (conjunct-drop), to be presented in Section 2, I do not think that the NCC is applicable to external conjuncts. Null internal conjuncts, however, are indeed not seen. The NCC can explain CCi effects. I discuss this issue in Section 2.

\(^2\) Goodall (1987) proposes an account for the CC in terms of Principle C of the binding theory. Obviously, his effort does not consider non-nominal conjuncts, and thus it still needs another account for such conjuncts. See Sag (2000:6) for arguments against Goodall’s proposal.
1.2.4. *A Parallelism Requirement* approach

Napoli (1993:409) speculates that the CC might be the result of a Parallelism Requirement. However, in the presence of *and*, the CC cannot be the result of a Parallelism Requirement, since even when both conjuncts are moved, satisfying the Parallelism Requirement, the coordinate complex is still unacceptable. Here are some unacceptable examples of the Across-The-Board type of dependency (Grosu 1981):

(20) a. *Which books did Bob read [__ and __]?
b. *I wonder who you saw [__ and __]?  (Gazdar et al. 1985:178)
c. *Eagerer though John seemed to be growing ___ and ___, Mary was still reluctant to introduce herself to him. (cf. Eagerer and eagerer though John seemed to be growing...)
d. *The Pre-Raphaelites, we found [__ and __].  (Sag 1982:332)

Russian allows multiple wh-movement, but wh-movement of both conjuncts is impossible (21).

(21) *[kokogo mal’čika] [kakuju devočku] ty l’ubiš’ [t_i t_j]?
which boy which girl you love and

In the above discussion, I have shown that none of the unified syntactic, semantic, phonological, and the parallelism approaches reveals the full nature of the CC. The effects of the CC are observed whenever a coordinator such as *and* in English or *i* in Russian is present. Since no satisfactory account for the CC is available, I pursue my own account.

1.3. *My new account of the CC*

1.3.1. *The CC*: certain head elements need an overt complement

CCi effects in the presence of *and* are obvious, as seen in (2). I make the following claim: internal conjuncts cannot move in the presence of an *and*-like coordinator because such coordinators share a property with certain other head elements, in that their complements may not be silent. Thus, the entire internal conjunct may not be silent, regardless of whether the silence is caused by movement or deletion.

The fact that certain head elements do not allow their complements to be silent is seen in facts such as the following. For instance, the complementizer *that* cannot be stranded (Saito & Murasugi 1999; see Abels 2003:116 for parallel examples in French and Icelandic):

(22) a. Everyone claimed [*that the poison was neutralized]*.
b. *[That the poison was neutralized] was claimed by everyone.
c. *[The poison was neutralized] was claimed *that* by everyone.
d. It was claimed by everyone [*that the poison was neutralized]*.
e. *It was claimed *that* by everyone [*the poison was neutralized]*.
The complementizer *for* also cannot be stranded (Law 2002:84, among others):

(23) *[John to leave]_{i} is impossible [_{CP} [for t_{i} ]]\]

Although Chinese transitive verbs in general may be stranded, as seen in (24a), causative verbs or particles such as *shi, rang, jiao, ba* ‘cause, make’ may never be stranded in the language, as shown in (24b).

   ‘Baoyu hopes to go to a university, so does Daiyu.’
   b. *Zhe jian shi rang wo hen nankan, na jian
   matter also make I very embarrassed that
   this CLF matter make I very embarrassed that CLF
   Intended: ‘This matter embarrassed me, so did that matter.’

Nominal internal numerals may not be stranded in Chinese either:

(25) Wo mai-le liu ge pingguo, ta mai-le qi *(ge).
   I buy-prf six CLF apple he buy-prf seven CLF
   ‘I bought six apples, and he bought seven.’

Similarly, articles such as *the* in English are never stranded, nor are degree elements such as the word *feichang* ‘very’ in Chinese, nor are prepositions in many languages, including Chinese.

It is thus possible that coordinators have the same property. They neither license movement of their complements, nor allow their complements to be deleted at PF. I will argue for this proposed account of the CCI in Section 2.

1.3.2. *The CCE: categorial features are carriers of overt movement*

Regarding the CCE, I claim that external conjuncts cannot move in the presence of *and* because the categorial features of the former have been transferred to the latter (see Zhang 2007a).

The head element *and* does not have any intrinsic categorial features. It has to get categorial features from a conjunct, so that the category of the projected complex can be specified. In other words, conjuncts provide *and* with categorial features (for a different analysis of category-less elements, see Di Sciullo & Williams 1988:26).

Following the traditional assumptions that the categorial features of a nominal are [+N, -V], the categorial features of a verb are [-N, +V], the categorial features of an adjective are [+N, +V], and so on, I assume that in a coordinate complex headed by *and*, all of the categorial features of the external conjunct are transferred to the whole coordinate complex.
through the head, *and*. This transference does not affect the intrinsic formal features of the coordinator, whatever they may be.

The theoretical background for this claim about the CCe is the following. Any element that undergoes overt movement must have categorial features. In Chomsky (1995:265, see also Ochi 1999:90), all overt movement chains are composed of two sub-chains: a chain of formal features that take part in the required checking (CH <FF>) and a chain of categorial features (CH <CAT>). The latter chain does not involve feature checking, but it is simply the carrier of the former chain. In Chomsky’s terms, overt formal feature movement is always pied-piped with a categorial chain. This implies that in the absence of categorial features, no overt movement is possible. If the categorial features of the external conjunct have been transferred away, the conjunct cannot move anymore, since the carrier is gone.

One might claim that in the copy theory of movement, a lower copy remains after the movement, and thus if categorial features move from external conjuncts, they still remain as a lower copy before any deletion. However, as argued in Zhang (2004a) and asserted in Chomsky (2005:6), movement does not create any new copy of the moved element. Instead, it is simply an operation of remerge. From a derivational perspective, I assume that when x is remerged in a new syntactic position, it disappears in its old position, syntactically (I make no claim about the PF representations), although the history that x has occurred in the old position can never be changed. Movement itself can be defined as remerge in the new position and unmerge in the old position syntactically. Therefore, there is no syntactic operation of deletion or unmerge that is independent of movement.

I will present two arguments for my new claim about the CCe in Section 3 and Section 4.

2. Argument for the new account of the CCI: the asymmetry in conjunct drop

It is possible for one conjunct to be silent, when its meaning is recoverable from the linguistic or discourse context. I call this silence of conjuncts a “conjunct-drop” effect. I claim that in the presence of an overt coordinator, the internal conjunct, which is the complement of the coordinator, may not be silent, therefore internal conjuncts may not move, stranding the coordinator. The main argument for my new approach to the CCI is the asymmetry between external and internal conjuncts in conjunct drop (other arguments are listed in Appendix A and Appendix B).

2.1. Right-branching and left-branching coordinate complexes

Coordinators are not hosted by every conjunct equally. Coordinators can be to the left (prepositive), or right (postpositive) of a conjunct. Even in
the same language, one coordinator can be prepositive and another one can be postpositive (Dik 1968:47, Haspelmath 2004:6). Ross (1967:90–91) observes that a coordinator such as Japanese –to or –si forms a phonological unit with the preceding conjunct whereas a coordinator such as English and forms a phonological unit with the following conjunct (see also Schachter 1985:47 and McCawley 1988:523). The prepositive position of the English coordinator and is shown in (26a), and the postpositive position of the Japanese coordinator si is shown in (26b).

(26) a. The son graduated // and the daughter got married.
   b. musuko-ga sotugyoo sita-si //musume-ga yome-ni itta.
      son-nom graduation did-and daughter-nom bride-dat went
      ‘The son graduated and the daughter got married.’

If the two conjuncts of a coordinate complex were syntactically equal, it would be possible for the coordinator to be merged with either conjunct and thus be grouped with either conjunct phonologically, so long as its position relative to the conjuncts is consistent. We would then expect the following forms to be acceptable:

(27) a. *and the son graduated // the daughter got married
   b. *musuko-ga sotugyoo sita //musume-ga yome-ni
      son-nom graduation did daughter-nom bride-dat
      itta-si went-and

The fact that such forms are not acceptable indicates that the two conjuncts are not syntactically symmetrical, and only one of them is consistently grouped with the coordinator. The acceptability contrast between (26) and (27) clearly shows that coordinate complexes have a binary structure and and-coordinate complexes are right-branching, whereas si-coordinate complexes are left-branching.

One might assume that based on a certain iconicity principle, linking words must occur in the middle of the linked elements, and thus the unacceptability of (27) comes from the fact that the coordinators are not in the middle of the coordinate complexes. However, the Latin coordinator –que almost always occurs after the first word of a conjunct, and if the conjunct is a single word, –que has no way to occur in the middle of a coordinate complex. Examples like (52) falsify the alleged iconicity principle.

(28) Marcus Julius-que
    Marcus Julius-and
    ‘Marcus and Julius’

It is true that in some languages, a coordinator may occur with each conjunct. However, in such cases, the deletable coordinator and the undeletable one are grouped with different conjuncts. If we consider the undeletable one only, we see the same asymmetry of conjuncts in hosting

2.2. Conjunct drop in right-branching coordinate complexes

It has been argued that coordinate complexes have a right-branching binary structure, as in (5), in languages such as English and Chinese (Munn 1987, Zoerner 1995, Johannessen 1998, Zhang 2006, among others). In such complexes, internal conjuncts may not be null, whereas external conjuncts may. In (29), for instance, the speaker directly starts the sentence with the coordinator and. (Hankamer & Sag 1976:410).

(29) [Observing Ivan playing pretty good ragtime piano]
And he doesn’t have a left hand!

A coordinator used in such a way is called discourse-initial or utterance-initial coordinator (Hankamer & Sag 1976:410; see George Huttar’s (April 22, 2003) summary of the relevant literature in Linguist List). Hankamer & Sag (1976:411) state: “It seems that such cases involve essentially pragmatic omission of an understood left conjunct.” Similarly, in (30), the last sentence starts with and, and the meaning of the first conjunct is implied in the previous sentence (One can find Chinese data parallel to (29) and (30) in Shi 1986:sec 2.3. Shao & Rao 1985:6 also discuss contextual or discourse conjuncts in Chinese).


By contrast, silent second conjuncts do not seem to be possible. Although we use the elided expression “And you?” we do not say “You and?” Moreover, the examples in (31b), (32b), and (33b) show that coordinator-final clusters are totally unacceptable when used alone. Note that the negation encoded by not scopes over the whole coordinate complex in each case, parallel to the corresponding a-sentences. The a-sentences are cited from Postal (1998:87) and Lawler (1974) (for a semantic description of the construction, see Goldsmith 1985:141).

(31) a. Can linguists [study negation]? Not e and stay sane they can’t.  
b. *Can linguists [stay sane]? Not study negation and e they can’t.

(32) a. Can Carol [take seven courses for credit]? Not e and (still) stay sane and (still) make the varsity hockey team she can’t.  
b. *Can Carol [stay sane and make the varsity hockey team]? Not take seven courses for credit and e she can’t.
(33) a. Can I [go outside without any clothes on]? Not e and stay healthy, you can’t.
   b. *Can I [stay healthy]? Not go outside without any clothes on and e, you can’t.

The contrast in acceptability between the a-sentences and the b-sentences in these examples indicates that the combination of the first conjunct and the coordinator cannot function independently of the second conjunct.

Similarly, as pointed out by Borsley (1994), a parenthesis can be a combination of a coordinator and a following conjunct, as in (34a), but not a combination of a coordinator and a preceding conjunct, as in (34b):

(34) a. The professor, and he is an expert, thinks the recession will continue.
   b. *The professor, he thinks the recession will continue and, is an expert.

In Irish, as pointed out to me by an anonymous reviewer, the external (i.e., first) conjunct may be a pro while the internal (i.e., second) conjunct can never be a pro (McCloskey & Hale 1984, McCloskey 1986).

In Chinese, as we have seen in (24a), a transitive verb can end a clause, with the meaning of the implied object recoverable from the context. Regardless of how such sentences are derived (pro object, deletion of the object, or VP deletion after raising of the verb), the surface order of (24a) is verb-final. Unlike verbs, however, coordinators in Chinese cannot stand alone, that is, without an internal conjunct to their right.

The above facts from various languages all show that coordinators must be adjacent to their internal conjuncts.3

2.3. Conject drop in left-branching coordinate complexes

In contrast to and-like coordinators, which require an overt final conjunct, in Japanese, the conjunctions –shi and –to, and the disjunction –toka require an overt initial conjunct. The structure of coordinate complexes headed by these coordinators is left-branching (Munn 1987,

3 The adjacency of coordinators to internal conjuncts is also seen in the acceptability contrast between (i) and (ii).

(i) Ich habe ein Buch gekauft und eine Zeitung.
   I have a book bought and a newspaper
   ‘I have bought a book and a newspaper.’

(ii) *Ich habe ein Buch und gekauft eine Zeitung.
   I have a book and bought a newspaper

Zhang (2006:194) argues against any leftward or rightward movement approach to data like (i). Following Hudson (1976), Neijt (1979), Moltmann (1992:22, 48, 228), Johnson (1996), Schwarz (1999:354-355), I assume that such constructions are derived by ellipsis of clausal coordination. The deletion is partial, so that part of the internal conjunct remains (more data like (i) are seen in Johannessen 1998:216).
Zoerner 1995:11, also our 2.1 above), making the initial conjunct the complement of the coordinator, and thus the internal conjunct. Consistent with our analysis of the CCi, then, it is the final, or external conjunct that need not be overt. Hinds (1986:93) describes the relevant facts as follows. “For each of the types of coordination – and, but, and or – there is a sentence type in which the coordinator ends the utterance. While there may be a feeling of lack of closure, this feeling is not necessarily there at all times.” He presents both types of examples. For the first type illustrated in (35), he uses three dots at the end to show the lack of closure:

(35) a. Kyoo-waatsui-shi, ...
    today-tophot-and
    ‘It’s hot today, and (moreover) ...’

b. Kyooto-e-waikanai-shi, ...
    Kyototo-top gonot-and
    ‘[I]’m not going to go to Kyoto, and (moreover) ...’

For the second type, Hinds describes that in (36a) (= his (318) on p. 93), “the first sentence ends in falling intonation. The second sentence is reproduced so the reader can see that it is not a continuation of the first sentence. (QT = quotative morpheme) Similarly, in (36b) (= his (319) on p. 93), “the coordinator toka appears with falling intonation in answer to a question.”

(36) a. Nihon kaet-teojisan ii tsut-tara unten suru
    Japan return-when uncle OK qt-say-if drive do
    kamoshirenai shi. Nihon konde-ru kara wakannai.
    probably and Japan Crowded since know-NEG
    ‘When [I] return to Japan if my uncle says it’s OK [I]’ll probably
    drive, and. Japan’s crowded, so [I] don’t know.’

b. Tatoebaojiichan-gashishinda tokitoka.
    e.g. grandfather-nom died time or
    ‘The time Grandfather died, or.’

The following data (Zoerner 1995:33) further show that unlike English, Japanese does not allow the first conjunct to be contextual or implied in the discourse.

(37) a. A: Robin ate fish. B: And rice!
    b. A: Robin-wasakana-o tabeta. B: *to gohan!
    Robin-topfish-ACCate and rice

Since the –to and –shi coordinate complexes in Japanese are left-branching, final conjuncts are external conjuncts. As in the last subsection, all of the data in this subsection show that external conjuncts can be silent whereas internal ones cannot.
2.4. Clause-final coordinator-like elements

In the above two subsections, I have shown that coordinators require the presence of internal conjuncts. In this subsection I show that although certain coordinator-like elements can appear clause-finally in certain languages, they have different formal properties from regular coordinators. Thus their existence does not challenge the generalization that coordinators may not be stranded.

In German, the word *oder* ‘or’ can occur at the end of a root sentence, building a yes-no question. The *oder*-final sentences are always uttered with a rising intonation. Speakers of such sentences expect a confirmation. Thus the function of this *oder* is similar to that of *isn’t it?* in English (Andre´ Meinunger and Hans-Martin Gürtner, p.c) or question markers in Chinese. In some dialects, the counterpart of *oder* in this usage does not share its form with any disjunction (Andre´ Meinunger, p.c.).

Another case in which questions are introduced by a sentence-final coordinator-like element is the German expression *Na und?* ‘So what?’

Parallel examples are also seen in Norwegian (I thank both anonymous reviewers for bringing me these German and Norwegian facts):

(38) Tror du jeg gidder å være oppe klokken sju eller?
    think you I bothered to be up clock seven or
    ‘Do you really think I can be bothered to be up at seven?’

Similarly, –oo in Malayalam occurs either as a disjunctive, as in (39a), or as a sentence-final particle, as in (39b):

(39) a. John-oo Bill-oo Peter-oo
    John-or Bill-or Peter-or
    ‘John or Bill or Peter’

b. John wannu-(w)oo?
    John came-or
    ‘Did John come?’

Parallel Sinhala and Japanese data can be found in Jayaseelan (2008:3) and Hagstrom (1998). As correctly pointed out by Jayaseelan (2008:3), the disjunctive-like element at the clause-edge position “cannot be a disjunctive connective, since it does not connect anything”. Following Hagstrom (1998) and Jayaseelan (2001:70), I treat the sentence-final coordinator-like elements in these languages as clause-typing particles base-generated in the C-domain. By contrast, regular coordinators do not introduce any clause-typing information. Therefore, I do not think data like (38) and (39) affect the generalization that coordinators require overt internal conjuncts.

In this section I have argued that CCi effects are covered by the general surface constraint disallowing certain stranded head elements from being stranded (see the two appendixes for more arguments for my new analysis.
of CCi. In this approach, CCi effects are not caused by any construction-specific syntactic constraint, but instead they are syntax-phonological interface effects that also affect certain other types of head elements. The phonological side of the constraint rules out any representations in which the complement of the elements is a trace or is affected by deletion, while the sensitivity of the requirement to the part of speech of the head elements reveals a morphosyntactic side to CCi effects. For instance, the complementizer that does not allow any null complement, whereas prepositions such as with and of do (as in (12)). Consequently, we do not consider the CCi to be a purely syntactic constraint specific to coordinate constructions.4

3. Argument A for the new account of the CCe: similar effects in the de constructions

We have seen that external conjuncts can be null (Section 2). Thus the CCe cannot be a phonological constraint. I have proposed that external conjuncts cannot move in the presence of and, because the categorial features of the former have been transferred to the latter.

My arguments for this new account of the CCe come from two sources. (A) When categorial transference occurs in other constructions, the categorial feature-providing elements may not move. In other words, CCe-like effects are attested independently of coordinate constructions. (B) If coordinators have their own intrinsic categorial features, the CCe may be violated, since external conjuncts do not transfer their categorial features away and thus are able to move by pied-piping on the categorial feature chain. In other words, CCe effects are predictably absent in certain types of coordinate constructions. I will present argument A in this section, and argument B in Section 4.

In Mandarin Chinese, de is a bound form (enclitic, see C.R. Huang 1989). It is phonologically weak (it has an intrinsic neutral tone, which means that the syllable is short and cannot bear any stress), and is attached to the element to its left. It occurs between a modifier and the modified element, as in (40a), or between a relational noun and its semantic licensor, as in (40b), or between a noun and its complement, as in (40c).

4 One anonymous reviewer stated that my generalization cannot capture the fact that no middle conjunct may move, in a coordinate complex that has three or more conjuncts, as shown in (i):

(i) *What did John eat apples, and bananas?

Zhang (2004b) argues that in such a coordinate complex, all non-final conjuncts are merged as multiple Specs of the coordinator. If so, no single non-final conjunct may move, because no single Spec element may move in multiple Spec constructions.
In Li & Thompson (1981), *de* is called an “associative marker”, since it occurs between two elements that have a certain semantic relationship. The term “associative marker” is abstract enough to cover the various semantic relations between the two linked elements. The modified element in (40a), the relational noun in (40b), and the Head noun in (40c) are the semantic kernel of the complex nominal. I thus call them kernel element. The non-kernel element of a *de* construction functions as a major constituent of the kernel element. In the examples discussed in this section, the underlined part is the kernel element and the part in brackets is the non-kernel element.

In this section, I firstly distinguish two types of associative markers in Mandarin Chinese (both pronounced *de*), one that occurs in kernel-final constructions and one that occurs in kernel-initial constructions (3.1). Then I present data to show that the *de* of the former type occurs with kernel elements of various categories (3.2), argue that *de* heads the whole complex containing the kernel and non-kernel elements (3.3), and finally report that in such constructions, kernel elements may not move (3.4). If *de* is indeed the head of the whole complex, the fact that it occurs with kernel elements of different categories shows that it must get its categorial features from the kernel element. Therefore, the immobility of the kernel elements supports my claim that transferring the categorial features away from an element blocks it from moving (1.3.2).

3.1. Two kinds of *de* constructions

*De* may follow a modifier, as in (41a) and (42a), forming a kernel-final construction. It may also precede a modifier, as in (41b) and (42b), forming a kernel-initial construction.

---

5 I do not discuss other uses of *de*, such as in resultative constructions, in the *shi...de* ‘be ...de’ constructions, and in nominalization. I assume that the particle *de* in such constructions is different from the associative marker discussed here.

6 The notion of major constituent is borrowed from Hankamer (1973:18). A major constituent is the modifier, complement, or subject of a certain element. Its existence has been attested at least in gapping constructions: the remnants of a gapping operation must be major constituents (Hankamer 1973:18, Neijt 1979:40, 111).
These two constructions are different in at least two aspects. Firstly, in kernel-final constructions the phonological host of de may be a phrase, such as *hen kuai ‘very fast’ in (41a), whereas in kernel-initial constructions it must be a head element, such as langdu ‘read aloud’ in (41b) (Tang 1990:431). Data like the following show that de may not follow a phrase in kernel-initial constructions:

(43) *Baoyu [langdu na pian wenzhang de [hen kuai].

Intended: ‘Baoyu read that paper aloud fast.’

Since the categorial levels of the phonological hosts of the de:s in the two constructions are different, I claim that they are different kinds of bound forms, following Tang (1990:431).

Secondly, the kernel element must be verbal in kernel-initial constructions, whereas it can be other categories in kernel-final constructions. We have seen the verbal kernel elements langdu ‘read aloud’ and ku ‘cry’ in both types of constructions in (41) in (42). The following examples show that the kernel element can be a noun in kernel-final constructions (also (40)), but not in kernel-initial constructions.7

(44) a. [hen shangxin] de xuesheng

‘very sad students’

b. *xuesheng de [hen shangxin]

7 In writing, many people use different characters to distinguish the associative marker that precedes a nominal kernel element (渣) as in (40), (44a), from the one that precedes a verbal kernel element (渣), as in (41a) and (42a), and from the one that occurs in kernel-initial constructions (渣), as in (41b) and (42b). However, the standard grammar books (e.g. Chao 1968, Zhu 1984) do not make this distinction.
We can see that *de* is similar to coordinators in that they both occur with two syntactic constituents. Specifically, the *de* in kernel-final constructions is similar to the English coordinator *and* in that they both occur in complexes of different categories, whereas the *de* in kernel-initial constructions is similar to the Chinese coordinator *erqie*, as in (45), in that neither may occur in complexes of non-verbal categories.

(45) Wo renshi [yi ge xiaoshuo]ja {he/*erqie} yi ge yinyue]ia].
   I know one CLF novelist and/and one CLF musician
   ‘I know a novelist and a musician.’

In the following subsections I focus on the *and*-like *de* of kernel-final constructions.

3.2. The various categories of kernel-final constructions

*De* in kernel-final constructions in Mandarin Chinese exhibits two major properties.

First of all, *de* may occur with non-kernel elements of various types.

(46) a. lao de jiaoshou
    old DE professor
    ‘old professor(s)’

c. yiqian de jiaoshou
    past DE professor
    ‘professor(s) of the old days’

e. yan malu de shangdian
    along street DE shop
    ‘the shops along the street’

g. zuotian lai de jiaoshou
    yesterday come DE professor
    ‘the professor that came yesterday’

8 However, unlike Rebuschi (2005) and Li (2007), I do not claim that *de* and conjunctions are semantically similar. A complex composed of a conjunction and two singular conjuncts can satisfy the plurality requirement of collective verbs or predicates, but a complex composed of *de* and two singular nominals may not:

   (i) Lulu hebing-le {wenjian jia he wenjia yi / *wenjian jia de wenjia yi}.
       Lulu combine-PRF file A and file B file A DE file B
       ‘Lulu combined {file A and file B / * file B of file A}.’
The non-kernel element is an adjective in (46a), a locative nominal in (46b), a temporal nominal in (46c), a personal pronoun in (46d), a prepositional phrase in (46e) and (46f), a relative clause in (46g), a non-restrictive relative clause in (46h), and a non-predicative adjective in (46i) and (46j).

Secondly, *de* may occur with kernel elements of various categories (Tang 1990:421). We have seen that the kernel elements in (46) are nominal, whereas those in (41) and (42) above are not. More data are shown in (47), with the kernel elements underlined.

(47) a. Na ge [hen deyi] de xiaohai ling-le jiang. NP that CLF very proud DE kid receive-PRF award ‘That proud kid received the award.’
   b. Na ge xiaohai [hen deyi] de ling-le jiang. VP9 that CLF kid very proud DE receive-PRF award ‘That kid received the award proudly.’
   c. Na tian wanshang ta [tebie] de xingfen. AP (stage-level) that day evening he especially DE excited ‘That evening, he was especially excited.’
   d. Na du qiang [feichang] de gao. AP (individual-level) that CLF wall very DE high ‘That wall is very high.’
   e. [Diu-le qianbao] de ta hen zhaoji. Pronoun lost-PRF wallet DE he very worried ‘He, who has lost his wallet, was very worried.’
   f. [Diu-le qianbao] de Baoyu hen zhaoji. Proper name lost-PRF wallet DE Baoyu very worried ‘Baoyu, who has lost his wallet, was very worried.’

The kernel element is the nominal *xiaohai* ‘kid’ in (47a), the eventive predicate (verbal) *ling-le jiang* ‘received the award’ in (47b), the stage-level stative predicate (adjectival) *xingfen* ‘excited’ in (47c), the individual-level stative predicate (adjectival) *gao* ‘high’ in (47d), the pronoun *ta* ‘he’ in

---

9 One anonymous reviewer stated: “It is unclear to me how the author knows that the constituency in the kernel final constructions with *de* involves a phrase as the complement of *de*. What rules out the following [[[hen deyi]-de ling-le jiang] or even [[[hen deyi]-de ling-le jiang]. If these are possible analyses, then one of the distinction between kernel final and kernel initial *de* goes away.” The reviewer wanted to see whether the complement of *de* in (47b) is the transitive verb *ling* ‘receive’ alone, without the object of the verb. Note that even in these hypothesized constituency patterns, the complement of *de* is verbal, in contrast to other examples in (47). It is this category contrast that is relevant to my argumentation here. Moreover, even if these hypothesized constituency patterns are possible, they do not affect the observation that the phonological host of *de* may be a phrase in kernel-final constructions, but it must be a head element in kernel-initial constructions, since the transitive verb is not the phonological host of *de*.

In the two kernel-final examples in (48), the non-kernel element is the same, *hen kuaile* ‘very happy.’ However, the kernel element is the nominal *xuesheng* ‘student’ in (48a), but the verbal *qian-le zi* ‘signed the name’ in (48b).

(48) a. Wo kanjian-le yi ge [hen kuaile] de *xuesheng*.
   I see-prf one clf very happy de student
   ‘I saw a very happy student.’
   b. Na ge *xuesheng* [hen kuaile] de *qian-le zi*.
      that clf student very happy de sign-prf name
      ‘That student signed {his/her} name happily.’

Considering a wide range of such data, Tang (1990:424) states “all the occurrences of *de* in question have the same behavior in that they do not carry any specific semantic content but express a modifier/modifiee relation. It does not appear to be the case that these *des* are of different sorts.” She proposes that *de* is a functional head in all of these constructions.

We have mentioned that the *de* in kernel-final constructions is similar to the English coordinator *and*. The two constituents linked by these elements can be any category. However, for *and*-coordinate constructions, it is the left (i.e., external) conjunct that determines the category of the whole complex (see (6)), whereas for *de*-constructions, it is the right (i.e., kernel) element that determines the category of the whole complex.

(49) a. [XP [ext. conjunct XP] and [int. conjunct YP]]
   b. [YP [non-kernel XP] de [kernel YP]]

3.3. *De* as the head of the whole complex nominal

The goal of this subsection is to show that like coordinators, *de* is the head of the whole complex. Many scholars have assumed that *de* is grouped with the modifier (non-kernel), and the combination of the modifier and *de* functions as an adjunct of the kernel element, as shown in (50a). For these scholars, then, *de* is not the head of the whole complex, and thus there is no structural parallelism between (49a) and (49b). In this subsection, I argue against this assumption and argue for the structure

---

10 Proper names and pronouns can be modified by adjectives or relative clauses in Chinese, a language that has no articles. Like the adjective *charitable* in *the charitable Miss Murry*, the modifiers of proper names and pronouns are always non-restrictive in Chinese (Lin 2003). They can be either eventive, as in (46h), or stative, as in (i).

(i) Bu yuan fa-pang de ni yinggai duo yundong.
   Not want get-fat de you should more exercise
   ‘You, who do not want to get fat, should do more exercise.’
in (50b) for kernel-final constructions. In this structure, *de* is the head, taking the non-kernel element (XP) as its specifier and the kernel element (YP₁) as its complement.¹¹

(50) 

```
    YP
  /   \ 
 XP   YP
    /|
   / \
non-kernel non-kernel
element element
```

I assume that if the kernel element is relational (e.g. *taidu* ‘attitude’, *linju* ‘neighbor’, or body part terms such as *shou* ‘hand’), it is possible that the non-kernel element is merged with the kernel element first, satisfying the selection of the latter (Castillo 2001, Ogawa 2001), and then is remerged as the Specifier of *de*.

As for kernel-initial constructions, which are always verbal, I speculate that they are derived from (50b) by the raising of the kernel element (YP₁) (cf. Karimi 2007 for Kurdish *Ezafe* constructions), when the head Y₂ is realized by another type of *de*, which is a suffix and takes a verb head as its morphological base (Shen & Ting 2008). I leave the issue of the exact computation of kernel-initial constructions for future research. In any case, the relation between *de* and the non-kernel element is not that between a head and its complement in either kernel-initial or kernel-final constructions.

In kernel-final constructions, the phonological adjacency between the non-kernel element and *de* does not mean that they form a syntactic constituent, as pointed out by C.R. Huang (1989:30).

As is well-known, phonological phrases are not necessarily isomorphic to syntactic constituents. For instance, the syntactic constituency of (51a) is not reflected in the phonological grouping in (51b) (Jackendoff 1997:26).

(51)  

```
a. [DP a [NP [AP big] house]]
b. [ιφ [ιο a big] [ιο house]]
```

Another example is seen in the position of the Latin coordinator –*que*. This coordinator generally follows the first word of a conjunct, although it does not form a syntactic constituent with the word. Compare the two coordinators, *et* and –*que*, in (52).

---

¹¹ One anonymous reviewer correctly pointed out that in kernel-final constructions, if the non-kernel element were the complement and the kernel element is the Spec of *de*, my argumentation would not be affected. In such a non-Kaynean configuration, the complement is to the left, and the Spec is to the right, of the head.
Thus phonological constituency does not mean syntactic constituency. *De* may undergo morphological merger with every major constituent of the whole complex at PF, regardless of the syntactic category of the constituent, after the complex has been built in syntax (see Matushansky 2006 for the notion of morphological merger).

Despite these considerations, it has been indeed assumed that *de* and the non-kernel element to its left do form a syntactic constituent, excluding the kernel element, as in (50a) (Cheng 1986, Tang 1990:424, Ning 1993, Rubin 2002, 2003, Aoun & Li 2003, among many others). In Cheng (1986), *de* is treated as a complementizer, taking the non-kernel element to its left as its complement, although it “places no restrictions on the category of its complement” (p.319). In Tang (1990:428), *de* is treated as a functional category taking the non-kernel element as its complement, and surfaces to the right of the element. In Rubin (2002, 2003), *de* is a Mod (for modification) element, where “Mod is a functional category forming a shell around the content of the modifier, XP” (Rubin 2002:1) and ModP is an adjunct of the modified element (Rubin 2002, 2003):

\[
\text{(53)} \quad \unicode{x212C} \quad \text{YP} \quad \text{ModP} \quad \text{YP} \quad \text{Mod} \quad \text{de} \quad \text{XP} \quad \text{(modified element)} \quad \text{(modifier)}
\]

In contrast, in Zhang’s (1999) n analysis, Simpson’s (2002) D analysis, and den Dikken’s (2006) Linker analysis of *de*, the complement of *de* is either the kernel element or the element that contains the kernel element. In other words, they do not group *de* with the non-kernel element, separate from the kernel element. This is also the basic characteristics of (50b).

The arguments for the constituent status of the combination of *de* with a non-kernel element, as represented in (53), are not convincing.

One argument given in Ning (1993) for the assumed complementation relation between *de* and the non-kernel element is that when the non-kernel element linked by *de* is a clause, it must contain a gap, a requirement that can be treated as a selectional property of a head on its
complement. Contradicting this putative requirement, however, clauses to the left of de may actually be gapless (Tang 1979:243, 289, Aoun & Li 2003:186, Chang 2006, Zhang 2007d). Unlike English examples such as the time when I left, such constructions do not have any syntactic position for a relative pronoun (there is no relative pronoun in Chinese). Here is an example:

(54) Wo jisuan-chu-le [qiche xingshi] de sudu.
   I calculate-out-PRF car run DE speed
   ‘I calculated the speed of that car’s running.’

Zhang (2007d) argues that the kernel element (54) is a relational noun and the relative clause-like clause is the subject of the noun. Clausal subjects contain no gap that is associated with their predicates (Rothstein 1991:145). Therefore, nothing in data like (54) supports the constituency of a non-kernel element and de.

Another argument for the assumed constituency of modifier plus de is that every modifier can be followed by an instance of de (see Tang 1990), as in (55a), and the combination may appear as a conjunct, as in (55b) (Aoun & Li 2003:150, 250 fn.12):

(55) a. jiaoshi-li (de) zhengzai jianghua de xuesheng
    classroom-in DE PROG speak DE student
    ‘the student who is speaking in the classroom’

  b. zhuyao (de) erqie women yijing taolun-guo de shiqing
    main DE and we already discuss-EXP DE matter
    ‘the main matters that we have discussed’

There are various possible ways to explain the multiple occurrences of de in (55). First, similar multiple occurrences of a functional word with multiple parallel elements appear in other constructions where the functional word is not grouped with the elements syntactically. For instance, determiners may occur with each modifier in Greek, Albanian, and Hebrew, but they do not take the modifiers as their complement.

(56) to megalo to kokkino to vivlio (Greek: Alexiadou & Wilder 1998:303)
    The big the red the book
    ‘the big red book’

If both de in (55) and to in (56) are treated as the head of the entire nominal complexes, their property of being “spread” to each modifier may be represented in a similar way. This analysis of multiple occurrences of de has been proposed in Simpson (2003).

Secondly, based on the fact that only the final de is obligatory, we may claim that other occurrences of de are not syntactic in (55). Instead, they
might simply demarcate major constituents (see footnote 6) of a complex, and such demarcation is not a syntactic operation.

Specifically, in (55a), the optional de marks each Spec in a multiple Spec structure. As for (55b), the optional first de also behaves differently from the final de. The contrasts in form and reading between (57a) (= (55b)) and (57b) are telling. In (57a), the coordinator is erqie, the first de is optional, and the reading is that of modifier coordination. In (57b), however, the coordinator is gen, the first de is required, and the reading is that of nominal coordination.

(57) a. zhuyao (de) erqie women yijing taolun-guo de shiqing (= (55b))
    main de and we already discuss-exp de matter
    ‘the main matters that we have discussed’

b. zhuyao *(de) gen women yijing taolun-guo de shiqing
    main de and we already discuss-exp de matter
    ‘the main matters and the matters that we have discussed’

Recall that erqie may not conjoin nominals whereas gen conjoins nominals only (see (45)). Thus the conjuncts in (57a) are not nominal whereas those of (57b) are nominal. The structure of the first can be (58a), whereas that of the second can be (58b), in which a PF deletion occurs.

(58) a. [[AP zhuyao] erqie [CP women yijing taolun-guo]] de shiqing
    optional spreading

b. [DP zhuyao de shiqing] gen [DP women yijing taolun-guo de shiqing]

The mere availability of these alternative analyses indicates that the occurrence of de with each modifier in multiple modifier constructions is not a convincing argument for the assumed constituency of de plus modifier.

Not only the previous arguments for (50a) and (53) unconvincing, but there are also two additional crucial facts that support (50b) and falsify (50a) and (53), as I now show. They both show the following contrast: in kernel-final constructions, the relationship between de and the kernel element to its right is similar to that between a head and its complement, as represented in (50b); whereas in kernel-initial constructions, the relationship between de and the non-kernel element to its right is not like that between a head and its complement.

The first fact concerns the possible silence of the element to the right of de. In Chinese, ellipsis of a phrasal element is licensed by an overt head element that takes the phrase as its complement. In (59), the null object is licensed by the overt verb mai-le ‘buy-prf’. Similarly, in (60a), the VP ellipsis is licensed by the overt modal hui ‘will’. In (60b), the VP ellipsis
cannot be licensed by the adverb *ye ‘also’, which does not take the VP as its complement. In (60c), the VP ellipsis also cannot be licensed by the adverbial NP *jin-nian ‘this year’.12

(59) Baoyu mai-le xigua, Daiyu ye mai-le xigua.
    Baoyu buy-PRF watermelon Daiyu also buy-PRF watermelon
    ‘Baoyu bought a watermelon, so did Daiyu.’

(60) a. Baoyu hui mai baoxian, Daiyu ye hui mai baoxian.
    Baoyu will buy insurance Daiyu also will buy insurance
    ‘Baoyu will buy insurance, and Daiyu will also buy insurance.’

12 In kernel-final constructions, the non-kernel (left) elements may not be null, whereas the kernel (right) ones may be. *De* is thus different from *and* in coordinate complexes, which allows its specifier (the external conjunct) to be null (see section 2). The difference follows from the fact that is *de* a bound form taking its preceding element as its phonological host, whereas *and* requires its complement (the internal conjunct) to occur to its right.

b. *Baoyu hui mai baoxian, Daiyu ye hui mai baoxian.
    Baoyu will buy insurance Daiyu also will buy insurance

c. *Baoyu qu-nian mai-le baoxian, Daiyu jin-nian ye
    Baoyu last-year buy-PRF insurance Daiyu this-year also
    mai-le baoxian.
    buy-PRF insurance

The generalization to be drawn from the above data is that if XP is the complement of Y, the presence of Y licenses the silence of XP; whereas if XP is not the complement of Y, the presence of Y does not license the silence of XP.

In a kernel-final construction, the presence of *de* can license a null kernel element, as in so-called Headless modification constructions like (61a) and (62a). By contrast, if *de* is not overt, the kernel element cannot be null, as seen in (61b) and (62b).

(61) a. [Dai yanjing de na—ge ren] lai-le.
    wear glasses DE that CLF person come-PRF
    ‘The person who wears glasses came.’

b. *[Dai yanjing de na—ge ren] lai-le.
    wear glasses DE that CLF person come-PRF

(62) a. Zheli bi duodeshi, bie yong ni baba xie xin de bi.
    here pen many not use 2SG Dad write letter DE pen
    ‘Here are many pens. Don’t use the one with which your Dad writes letters.’

b. *Zheli bi duodeshi, bie yong ni baba xie xin de bi.
    here pen many not use 2SG Dad write letter DE pen
element have a head-complement relation, as we claim, the correlation is expected, since a similar correlation is also observed in other head-complement constructions, as in (59) and (60).

In kernel-initial constructions, however, *de* does not license a null modifier to its right, as seen in (63). This is compatible with my claim that *de* never takes a non-kernel element as its complement.

(63) a. *Baoyu xie de hen zixi, Daiyu ze kan de*
      Baoyu write DE very careful Daiyu however read DE
      very careful
      Intended: ‘Baoyu wrote (something) carefully, but Daiyu read (something) carefully.’
   b. *Baoyu zou de hen man, Daiyu ze pao de*
      Baoyu walk DE very slow Daiyu however run DE
      very careful
      Intended: ‘Baoyu walks slowly, but Daiyu runs slowly.’

Our second fact concerns the occurrence of the focus marker (FM) *shi* ‘be’. *Shi* may occur in various positions, but not between a head and its complement. This is shown in (64) (the _ positions are all possible positions for *shi*).

(64) a. _Baoyu _zuotian _mai-le (*shi) na ben shu.
      Baoyu yesterday buy-prf FM that CLF book
      ‘Baoyu bought that book yesterday.’
   b. _Cong (*shi) Taipei _lai-le (*shi) yi wei kexuejia.
      from FM Taipei come-prf FM one CLF scientist
      ‘A scientist has come from Taipei.’

The examples in (65) show that *shi* may not occur between *de* and the kernel element to its right. This indicates that, as represented in (50), the syntactic relationship between *de* and the kernel element is like that between a head and its complement.

(65) a. _Na jian hongse de (*shi) qunzi _zai chuang dixia.
      that CLF red DE FM skirt at bed under
      ‘That red skirt is under the bed.’
   b. _Baoyu _hen kuai de (*shi) pao-zou-le.
      Baoyu very quick DE FM run-away-prf
      ‘Baoyu ran away quickly.’

By contrast, in kernel-initial constructions, *shi* may occur between *de* and the non-kernel element to its right, as shown in (66). This indicates that *de* does not take a non-kernel element as its complement.
(66) a. Baoyu xie de shi hen zixi.
    Baoyu write very careful
    ‘Baoyu wrote indeed very carefully.’

b. Daiyu ku de shi hen shangxin.
    Daiyu cry very sad
    ‘Daiyu cried indeed very sadly.’

The focus marker shi has an interrogative version, shi-bu-shi ‘be-not-be’, which introduces a yes-no question reading to the clause. The distribution pattern of shi-bu-shi in the de constructions is exactly the same as shi:

(67) a. Na jian hongse de (*shi-bu-shi) qunzi zai
    That red skirt at
    ‘Is that red skirt is under the bed?’

b. Baoyu xie de shi-bu-shi hen zixi?
    Baoyu write very careful
    ‘Did Baoyu write very carefully?’

The above two arguments support our complementation structure in (50b), repeated in (68).

(68)

We elaborate the structure in (68) as follows. In this structure, the obligatory occurrence of XP can be accounted for by either or both of the following views. First, de as an enclitic needs some phonological material to its left. Second, de has an edge feature (i.e., an EPP-like feature; see Chomsky 2005 for the notion of edge feature), which requires the merger of XP at the Spec position. Therefore, although a non-kernel element can be a modifier of the kernel and modifiers are optional elements in general, in the presence of de, the occurrence of the non-kernel element becomes obligatory.

The structure proposed in (68) is like Zhang’s (1999) n analysis, Simpson’s (2003) D analysis, and den Dikken’s (2006) Linker analysis of de in not grouping de and the non-kernel element together. However, the current analysis differs from these in a derivational sense, since here de does not have any intrinsic categorial features, and its D or n category is obtained from the kernel element, if the latter is a nominal, and if the latter is not a nominal, as in (47b), (47c), and (47d), de cannot be D or n.
This analysis better captures the wide variety of de constructions. For example, in den Dikken (2006), de is analyzed as a Linker, which is introduced in the syntactic structure as a by-product of the application of Predicate Inversion, a movement operation by which a predicate raises across its subject into a higher position. However, de also occurs with non-predicative adjectives, such as qita ‘rest’ in (46i) and suowei ‘so-called’ in (46j). It is unlikely that the left position of non-predicative adjectives is derived by predicate inversion. My analysis thus gives a more accurate description of the facts than the Linker analysis.

The category of a de complex is always identical to that of the kernel element. As we know, the category of a complex should be projected from the head of the complex. If de takes the kernel element as its complement, it is the head of the complex. Since de, like the coordinator and, does not have categorial features, it has to get categorial features from the kernel element, so that the category of the projected complex can be specified. This implies that kernel elements provide de with categorial features.

3.4. The chameleon-like nature of de keeps the kernel elements in situ

In kernel-initial constructions, kernel elements must be verbal. Their position on the left might be derived by movement, but we leave this speculation for future research. What is important at this point in the argument is the occurrence of two properties of kernel-final constructions: kernel elements can be any category and they may not move.

In the following discussion, we set aside bare noun topic constructions like (69a), since it is hard to rule out the possibility that the sentence-initial topic is base-generated there and thus it is not moved from the gap position. Instead, the gap position may be taken by a null element, replaceable by an overt noun, as in (69b).

(69) a. Yinliao, ta mai-le san bei leng de _.
   beverage he buy-PRF three cup cold de
   ‘As for beverage, he bought three cups of cold one.’

b. Yinliao, ta mai-le san bei leng de niunai.
   beverage he buy-PRF three cup cold de milk
   ‘As for beverage, he bought three cups of cold milk.’

Instead, we focus on a set of elements that in constructions without a category-less linking element may be separated from their modifiers, but in the presence of such an element (e.g. as the kernel of a de construction) they may not move. This set consists of proper names and pronouns.

Note first that proper names and pronouns may move in general:

(70) {Ta/Baoyu}, wo zhao jiu renshi.
   he/Baoyu I early then know
   ‘{He/Baoyu}, I got to know long time ago.’
Moreover, proper names and pronouns may be separated from their modifiers, such as non-restrictive relative clauses, cross-linguistically (de Vries 2002:190):

(71) Ik heb Joop gezien, die twee zusters heeft. [Dutch]
    I have Joop seen who two sisters has
    ‘I have seen Joop, who has two sisters.’

However, modified proper names and pronouns in Chinese (see footnote 10) requires the presence of de, as show in (72a) and (73a), and they may not move, as shown in (72b) and (73b):

(72) a. Diu-le qianbao *(de) {ta/Baoyu} hen zhaoji.
    lose-PRF wallet DE he/Baoyu very worried
    ‘{He/Baoyu}, who lost his wallet, was very worried.’
    b. *{Ta/Baoyu}, diu-le qianbao de __hen zhaoji.
    he/Baoyu lose-PRF wallet DE very worried

    I admire knowledgeable DE Wang Prof.
    ‘I admire Prof. Wang, who is knowledgeable.’
    b. *Wang Jiaoshou, wo congbai boxue de __.
    Wang Prof. I admire knowledgeable DE

It is puzzling that de licenses a null or elided kernel element (see (61a) and (62a)), but does not license the trace of a kernel element. Generally, it has been noted that the sites of ellipsis are all and only those that meet the licensing conditions on traces (Zagona 1988a, Chapter 4, 1988b and Lobeck 1987a,b). In other words, if a syntactic position is a possible ellipsis site, it is also a possible launching site of movement. The fact that de licenses ellipsis but not movement thus needs an explanation.

We correlate this fact of de constructions with the parallel fact observed in coordinate constructions. Recall that and also allows the external conjunct to be null (see Section 2), but does not allow the movement of this same conjunct. Importantly, it is the external conjuncts that provide the categorial features to the whole coordinate complexes headed by and. We now see a parallel situation in the de constructions. I use the following diagram to show the similarity of the external conjunct of and (YP1 in (74a)), and the kernel element of the de constructions (YP1 in (74b)):

(74) a. YP2
    YP1
    Y'
    and (not strandable) XP
    Y2' de (enclitic) YP1

This is the categorial-feature provider for the whole complex. It may not move.
I concluded in the last subsection that the categorial features of a kernel element have been transferred to *de*. The immobility of the kernel element in the *de* constructions supports the claim stated in 1.3.2: Elements may not move if they do not have categorial features, which serve as carrier of overt movement.

4. Argument B for the new account of the CCe: no CCe effect in Chinese comitatives

The CCe is obeyed in coordinate complexes headed by *and*-like coordinators, which have no intrinsic categorial features. In this section, however, I show that the CCe can be violated in coordinate complexes headed by coordinators that do have intrinsic categorial features. This can occur under a certain semantic condition, namely when coordination is non-distributive. Support for this claim comes from the syntactic properties of the *he/gen* constructions in Chinese.

4.1. Introduction: *he/gen* constructions in Chinese

The word *he* or *gen* are usually translated as ‘and’, ‘with’, ‘to’. Constructions containing *he/gen* always have two nominals, DP1 and DP2, such as the underlined parts in the examples in (75) through (77).

(75) Baoyu *{he/gen}* Daiyu ge mai-le yi liang che.
    Baoyu HE/GEN Daiyu each buy-PRF one CLF car
    ‘Baoyu and Daiyu each bought a car.’

(76) a. Baoyu *{he/gen}* Daiyu he-mai-le yi liang che.13
    Baoyu HE/GEN Daiyu co-buy-PRF one CLF car
    ‘Baoyu and Daiyu bought a car together.’
    b. Gongsi hebing-le disan bumen *{he/gen}* diliu bumen.
    company combine-PRF third branch HE/GEN sixth branch
    ‘The company combines the third branch and the sixth branch.’

(77) Jingguo yifan huxiang taojiahuanjia, Baoyu *{he/gen}* Daiyu
    after a.while mutual bargain Baoyu HE/GEN Daiyu
    mai-le yi liang che.
    buy-PRF one CLF car
    ‘Baoyu bought a car from Daiyu, after they bargained for a while.’

Semantically, the construction represented by (75) is distributive. Distributive constructions are indicated by the occurrence of a

---

13 The written form of the word *he* ‘and, with, to’ is 他, whereas that of the verbal prefix meaning ‘together’ is 合. The two forms might be related historically. Unlike in Beijing Mandarin, in Taiwan Mandarin, the former is pronounced as /han/, with the fourth tone, thus the two forms are not homophonous.
distributive adverb, such as ge ‘each’, dou ‘all’ (Lee 1986, Li 1995), and fenbie ‘respectively.’ In (75), the individuals denoted by the two nominals Baoyu and Daiyu take part in a car-buying event separately.

The construction represented by the two examples in (76) is non-distributive or comitative. Such constructions are indicated by the occurrence of a collective or relational predicate, such as xiangzhuan ‘collide,’ jiehun ‘marry,’ and yiyang gao ‘same tall’, by a collective marker, such as the verbal prefix he– ‘co–’, or the adverb yiqi ‘together’, or by a collective verb, such as hebing ‘combine’. In (75), Baoyu and Daiyu are both agents of their respective car-buying action. In (76a), however, Baoyu and Daiyu together are the agent of a single car-buying action. Similarly, in (76b), disan bumen ‘third branch’ and diliu bumen ‘sixth branch’ together are the affected entity of the combining action.

DP1 and DP2 have the same thematic roles in both the distributive and comitative constructions. The construction represented by (77) is neither distributive nor comitative. In this sentence, Baoyu is the goal (also the agent) while Daiyu is the source of the car-buying action, and thus their semantic roles are in contrast.

It is generally accepted that the string “DP1 he/gen DP2” is a nominal constituent in distributive examples like (75) and post-verbal comitative examples like (76b), and the word he/gen is a coordinator inside the constituent. Accordingly, the constituent is a coordinate nominal (Zhu 1982:176, among others). If gen occurs to the right of a collective transitive verb such as hebing ‘combine’, jiajie ‘graft’, hunyao ‘mix’, and bijiao ‘compare’, as in (76b), it cannot be a preposition. This is because in Chinese, no PP adjunct may occur to the right of a verb. Collective verbs require a plural internal argument. In (76b), neither of the two DPs to the right of the verb is plural. A plausible analysis of the example is thus that the two DPs and gen form a coordinate complex, which as a plural nominal satisfies the selection of the collective verb.

Note that coordinate complexes headed by he/gen may be selected only by elements that select DPs. Verbs such as renshi ‘know’ and qu ‘marry’ select a DP exclusively and reject a clausal complement, as shown in (78a). By contrast, verbs such as renwei ‘think’ and dasuan ‘plan’ select a clause exclusively and reject a nominal complement, as shown in (78b).

(78) a. Wo renshi {yi ge xiaoshuojia / *Baoyu yexinbobo}  
   I know one clf novelist Baoyou ambitious  
   ‘I know a novelist / that Baoyu is ambitious.’

   b. Wo renwei {*yi ge xiaoshuojia / Baoyu yexinbobo}  
   I think one clf novelist Baoyou ambitious  
   ‘I think *a novelist / that Baoyu is ambitious.’

14 See Teng (1970:355) for a list of collective predicates in Chinese (he calls them “multiple-reference verbs”).

Coordinate complexes headed by *he/gen* may occur as the complement of *renshi* ‘know’, but not the complement of *renwei* ‘think’. In contrast, the distributions of those headed by *erqie* ‘and’ are just the opposite:

(79) a. Wo renshi [yi ge xiaoshuojia {he/gen/*erqie} yi ge
I know one CLF novelist and/and/and one CLF
musician yinyuejia].

‘I know a novelist and a musician.’

b. Wo renwei [Baoyu yexinbobo (erqie/*he/*gen) ta hen
I think Baoyou ambitious and /and/and he very
rich youqian].

‘I think that Baoyu is ambitious and that he is very rich.’

Such data show that coordinate complexes headed by *he/gen* must be DPs, whereas those headed by *erqie* are not. If the category of a complex is decided by the head of the complex, *he/gen* must have category features. In other words, *he* and *gen* as coordinators are D-elements (in contrast to *erqie*, which is not a D-element). There is no transference of categorial features in such data, since it is hard to explain why the nominal features of the conjuncts fail to move to *erqie* in (79a), and why the verbal features of the conjuncts fail to move to *he/gen* in (79b).

Now turn to data like (77). It is not controversial that in such examples the string “DP1 *he/gen* DP2” is not a syntactic constituent. Instead, DP1 is the subject and “*he/gen* DP2” is an adjunct of the predicate, and the word *he/gen* is a preposition or verb.

What is unclear is the syntactic constituency of the preverbal comitative examples like (76a), and thus the status of the *he/gen* there. In Section 4.2, I argue that in such constructions the string “DP1 *he/gen* DP2” is also a coordinate nominal. Then in Section 4.3, I present evidence showing the correlation between collectivity and the possibility of separating the conjunct and coordinator. The conclusion of this section is that the CCe can be violated in collective *he/gen* coordination.

Note that in comitative constructions, the coordinators *he* and *gen* have identical distributions. Thus in all of the comitative examples of this section, the two words are interchangeable.

### 4.2. The coordinator properties of the comitative *he/gen*

Early discussion of the close relationship between comitative and coordinate constructions can be seen in Jespersen (1924:90). Cross-linguistically, the linking words in comitative constructions are often homonymous with words that have other functions (Mithun 1988, 339, 349, among others). In Chinese, the diachronic evolution of coordinators
is verb > preposition > coordinator (Liu & Peyraube 1994). In modern Chinese, the words he and gen may introduce a comitative nominal, as in (80), a source, as in (81a), or a goal, as in (81b), and they can also be verbs.

(80) a. Baoyu gen Daiyu he-mai-le yi liang che.
   Baoyu GEN Daiyu co-buy-PRF one CLF car
   ‘Baoyu and Daiyu bought a car together.’
   b. Baoyu bijiao-le zhe ben shu gen na ben shu.
   Baoyu compare-PRF this CLF book GEN that CLF book
   ‘Baoyu compared this book and that book.’

(81) a. Baoyu gen Daiyu xue-le bushao dongxi.
   Baoyu GEN Daiyu learn-PRF many thing
   ‘Baoyu learned a lot from Daiyu.’
   b. Baoyu gen xuesheng jiang-qi-le guoqu de jingli.
   Baoyu GEN student tell-INC-PRF past DE experience
   ‘Baoyu started to tell his past experiences to the students.’

For the he/gen in comitative constructions, as in (80), I use the term com-he/gen, and for the he/gen that functions as a preposition, as in (81), I use the term prep-he/gen.

I present two arguments to show the coordinator status of he and gen in comitative constructions. Both arguments indicate that the string “DP1 com-he/gen DP2” is a nominal constituent, and the constituency leads to the conclusion that com-he/gen is a coordinator (see below).

One argument for the constituency of the cluster “DP1 com-he/gen DP2” is that the string may occur in a topic position.

(82) Baoyu gen Daiyu, wo tingshuo yiqi he-xie-le yi bu xiaoshuo.
   Baoyu GEN Daiyu I hear together co-write-PRF one CLF novel
   ‘Baoyu and Daiyu, I heard that they co-wrote a novel.’

Since only syntactic constituents may occur in topic positions, the conclusion is that the cluster “DP1 com-gen DP2” must be a syntactic constituent.

Another argument for the constituency of the cluster “DP1 com-he/gen DP2” is that the string may have an appositive, such as liang ge ren ‘two CLF person’ in (83). Since only syntactic constituents may have appositives, I conclude that the cluster ‘DP1 com-he/gen DP2’ is a syntactic constituent.

(83) Baoyu gen Daiyu (liang ge ren) yiqi qu-le Taipei.
   Baoyu GEN Daiyu two CLF person together go-PRF Taipei
   ‘Baoyu and Daiyu, the two persons, went to Taipei together.’
Arguments such as these support the claim that “DP1 com-he/gen DP2” is a syntactic constituent. If so, the cluster “com-he/gen DP2” cannot be an adjunct of the predicate of the construction. One might, however, still wonder whether the complex-internal cluster gen-DP2 is a PP complement of DP1, like dui Daiyu in (84a), or a PP adjunct of DP1, like yan malu ‘along the street’ in (84b).

(84) a. dui Daiyu *(de) guanxin
to Daiyu de care
‘the care of Daiyu’
b. yan malu *(de) shangdian
along street de shop
‘the shops along the street’

However, even if we ignore the semantics (in (83), for instance, gen Daiyu is neither an argument nor a modifier of Baoyu), we still have two formal considerations that argue against this preposition analysis. First, in Chinese the complement and any adjunct of a nominal must occur to the left of the nominal. In [DP1 com-gen DP2], the cluster gen-DP2 is to the right of DP1. Second, if a PP modifies a nominal or functions as the complement of a nominal, the functional word de must be present (Lü et al. 1999:19). In the constituent [DP1 com-gen DP2], however, de is absent. We thus conclude that the constituent [DP1 com-he/gen DP2] is a coordinate complex, and he/gen is a coordinator. 15

One might assume that he and gen in Chinese comitative constructions are prepositions just like the comitative with in English. However, the syntactic properties of comitative constructions in these two languages are different. For instance, the default position of the with-phrase in English is sentence-final (John is friends with Bill), however, the he/gen-phrase cannot be sentence-final if it is related to the subject. Moreover, when the he/gen-phrase is related to the subject, it must be preverbal; however, the preverbal position is extremely marked for the with-phrase

15 Assuming the EC part of the CSC (i.e., no element may be extracted from single conjuncts) as an effective test for the status of coordination, one anonymous reviewer wondered whether comitative constructions in Chinese pass the EC test. However, following Grosu (1972) and Goldsmith’s (1985) study of English and Johannessen’s (1998:ch. 6) study of other languages, among many others, I do not assume the EC as a reliable test. The same reviewer also wondered whether the constructions may undergo ATB extractions. Data like the following seem to show the possibility, under the assumption that relative clause constructions are formed by the movement of null operators or the antecedents.

(i) [_xihuan chang ge de _] gen [_xihuan tiaowu de _] xuesheng yiqi
like sing song de and like dance de student together
he-zu-le yi jian biaoyan-ting.
cp-rent-prf one CLF performance-hall
‘The students who like to sing and who like to dance have co-rented a performance-hall.’

However, it is hard to rule out the ellipsis analysis of the relevant gaps. I leave this for future research.

We conclude that comitative he/gen-constructions are coordinate constructions, and he and gen there are coordinators, rather than prepositions. We are thus justified in glossing comitative he and gen as ‘and’ in the remainder of this paper.

If comitative constructions are coordinate constructions in Chinese, the he/gen and the two DPs associated with them form a complex nominal in their base positions. In this respect, comitative constructions behave the same as other coordinate constructions. Moreover, since the conjuncts of comitative coordination are semantically related in a single eventuality, the coordination is collective coordination, in contrast to distributive coordination.

The conclusion achieved in this subsection predicts that in the context of a comitative he/gen construction, if either of the two associated DPs is not adjacent to he/gen, the surface position must be derived by movement. Since these DPs are conjuncts, however, such movement would represent a violation of the CCe.

In next subsection, I will demonstrate that separation of DPs from comitative he/gen does occur. Based on the existence of this separation and the nature of its licensing, I will claim that the CCe can be relativized in collective coordination.

4.3. Violation of the CCe in non-distributive coordination

In this subsection, I show that separation of the first conjunct from the rest of a coordinate complex is possible in collective coordination, in contrast to distributive coordination.

In order to show the contrast between collective and distributive coordination, in addition to using distributive adverbs such as fenbie ‘separately’, I also use the coordinator ji ‘and’, which is an exclusively distributive coordinator (Zhang 2008a).

Since comitative complexes are coordinate complexes, their base positions should be the same as those of any other coordinate complexes, depending on the selecting elements. For example, if a comitative coordinate complex is a subject of a transitive predicate, it is base-generated at Spec vP. In this subsection, I will show that the first conjunct can be raised from the base-position of subjects, thus violating the CCe. The raising is observed in comitative coordinate constructions, but not in distributive coordinate constructions.
4.3.1. Raising verbs between first conjuncts and coordinators

One indication that first conjuncts may move is seen in examples where raising verbs appear between first conjuncts and coordinators.

A CCe violation is seen in (85), where the first conjunct and the coordinator are separated by the epistemic \textit{hui} ‘might’ and \textit{yinggai} ‘should’, which are raising verbs (Huang 1988, Lin & Tang 1996).

\begin{enumerate}
  \item (85) a. Huoche hui gen qiche xiangzhuang ma?
      \begin{itemize}
        \item train might and bus collide
        \item `Might the train collide with the bus?'
      \end{itemize}
  
  \item (85) b. Wo caixiang, Baoyu yinggai gen Daiyu xia-zhe qi ne.
      \begin{itemize}
        \item I guess Baoyu should and Daiyu play-chess
        \item `I guess, Baoyu should be playing a chess with Daiyu (now).'
      \end{itemize}
\end{enumerate}

It is generally assumed that if a subject precedes a raising verb, the word order is derived by raising the subject from a position that is c-commanded by the verb. If so, in (85a), \textit{huoche} ‘train’ is raised; and in (85b), \textit{Baoyu} is raised. In each case, the raising launches from a coordinate complex, violating the CCe.

The readings of (85) can also be expressed as in (86). In each sentence in (86), the whole comitative coordinate complex occurs to the left of the modal. In this case, no conjunct moves alone, and thus the data are irrelevant to the status of the CCe.

\begin{enumerate}
  \item (86) a. Huoche gen qiche hui xiangzhuang ma?
      \begin{itemize}
        \item train and bus might collide
        \item `Might the train collide with the bus?'
      \end{itemize}
  
  \item (86) b. Wo caixiang, Baoyu gen Daiyu yinggai xia-zhe qi ne.
      \begin{itemize}
        \item I guess Baoyu and Daiyu play-chess
        \item `I guess, Baoyu should be playing a chess with Daiyu in the yard now.'
      \end{itemize}
\end{enumerate}

There is a consistent reading difference between examples like (85a) and their counterparts in (86a) from the perspective of information structure: the two DPs in (85a) are not symmetrical, whereas the two DPs in (86a) are. Specifically, in the absence of any contrastive stress, the DP preceding the raising verb is foregrounded (emphasized), whereas the one following the raising verb is backgrounded (not emphasized). In (85a), \textit{huoche} ‘train’ is foregrounded and \textit{qiche} ‘bus’ is backgrounded; however, in (86a), there is no such difference between \textit{huoche} and \textit{qiche}. The reading difference can be captured by Seiler’s (1974) generalization that comitative constructions leave the extent of participation of the backgrounded partner in the action underspecified, from mere ‘accompanying’ to full-fledged ‘partnership.’ The foregrounded participant of a comitative construction has the property of ‘Principality’ (Teng 1970:332) in contrast to the other participant. This reading contrast
consistently occurs in other comitative data in which the first conjunct is separated from the rest of the coordinate complex.

Unlike the case with comitative constructions, in distributive coordinate constructions first conjuncts cannot be separated from the coordinators by raising verbs. In (87), fenbie indicates that the coordination is a distributive one, and in (88), the distributive coordinator ji occurs. In (87) the epistemic hui ‘will’ cannot appear between the first conjunct Lao Li and the coordinator, and in (88) the epistemic yinggai ‘should’ cannot appear between the first conjunct Li Xiansheng and the coordinator ji. Since no conjunct may be separated from the coordinator in distributive coordinate constructions, the CCe is obeyed.

(87) a. *Lao Li hui gen Lao Wang fenbie qu-le Shanghai ma?
    Lao Li will and Lao Wang respectively go-PRF Shanghai q
b. Lao Li gen Lao Wang hui fenbie qu-le Shanghai ma?
    Lao Li and Lao Wang will respectively go-PRF Shanghai q
    ‘Might Lao Li and Lao Wang have gone to Shanghai respectively?’

(88) a. *Li Xiansheng yinggai ji qi furen dou zai kan-xi ne.
    Li Mr. should and his wife all PRG watch-play PRT
b. Li Xiansheng ji qi furen yinggai dou zai kan-xi ne.
    Li Mr. and his wife should all PRG watch-play PRT
    ‘Mr. Li and his wife should both be watching a play now.’

4.3.2. Adverbials between first conjuncts and coordinators

Another indication that first conjuncts may move is seen in examples where adverbials appear between first conjuncts and coordinators.

In comitative constructions, first conjuncts can be separated from coordinators by adverbials such as yijing ‘already’ or by temporal or locative adverbials. In (89b) and (90b) the first conjunct and the coordinator are separated by the circumstantial yiqian ‘before, in the past’ or zai Riben ‘in Japan.’ The two b-sentences below are nearly synonymous with the corresponding a-sentences.

(89) a. [Baoyu he Daiyu] yiqian jie-guo hun.
    Baoyu and Daiyu past connet-EXP marriage
    ‘Baoyu and Daiyu married before.’
b. Baoyu t i yiqian [t i he Daiyu] jie-guo hun.
    Baoyu past and Daiyu connect-EXP marriage = (89)a

(90) a. [Akiu gen Baoyu] zai Riben jian-le mian.
    Akiu and Baoyu at Japan meet-PRF face
    ‘Akiu and Baoyu met in Japan.’
b. Akiu t i zai Riben [t i gen Baoyu] jian-le mian.
    Akiu at Japan and Baoyu meet-PRF face = (90)a
Examples (89b) and (90b) show that no resumptive pronoun is allowed:

     Baoyu past he and Daiyu connet-exp marriage
     Akiu at Japan he and Baoyu meet-PRF face

Resumptive pronouns are seen in the gapless topic sentences such as (54). The occurrence of the pronoun shows that the topic is base-generated in the surface position, rather than being moved there.

(92) Akiu, zai Riben, ta meitian da chang-tu dianhua.  
     ‘Speaking of Akiu, he made long-distance phone calls in Japan everyday.’

The ban on resumptive pronouns in examples like (89b) and (90b) indicates that the sentence-initial nominals are not gapless topics, and are thus not base-generated in their surface positions. Instead, they are moved out of a post-circumstantial position. Since the conjuncts and coordinator of a coordinate DP complex must be merged into a constituent which excludes any circumstantial, the occurrence of the circumstantial between the first conjunct and the coordinator in (89b) and (90b) suggests that the conjunct has been moved. If so, the CCe is violated.

Unlike the case with comitative constructions, in distributive coordinate constructions first conjuncts cannot be separated from the coordinators by adverbials. In (93) the distributive coordinator ji occurs; and in (94), the adverb fenbie indicates that the coordination is distributive. In all of these examples, the first conjunct and the coordinator must be adjacent, consistent with the CCe.

     Mayor at Japan and his wife visit-PRF one CLF kindergarten
b. [Shizhang ji qi furen] zai Riben canguan-le yi ge youeryuan.  
     ‘The mayor and his wife visited a kindergarten in Japan.’

     Baoyu yesterday and Daiyu respectively go-PRF Thailand
b. [Baoyu he Daiyu] zuotian fenbie qu-le Taiguo.  
     ‘Baoyu and Daiyu went to Thailand respectively yesterday.’
The two contrasts above between comitative and distributive coordinate constructions with respect to the mobility of first conjuncts show that CCe effects are sensitive to the semantic type of the coordination: the first conjunct can move in comitative coordination but not in distributive coordination. We thus see the semantic side of the CCe. For a discussion of the implications of this semantic side of the CCe, see Zhang (2008a). What is crucial here is the fact that conjuncts may move, and thus the CCe is not a constraint on syntactic operations.\textsuperscript{16}

5. Summary

Based on the assumption that the categorial features of external conjuncts are transferred to the coordinator \textit{and} (Zhang 2007a), in this paper, I concluded that this transference keeps external conjuncts in situ, since elements without any category-features may not move overtly. My analysis explains the effects that the CCe tries to cover.

My account for the CCe is supported by two generalizations. Firstly, in the Chinese \textit{de} construction, kernel elements may not move because they provide categorial features for \textit{de}, which has no intrinsic categorial features and is the head of the whole complex. Secondly, in the comitative coordinate construction in Chinese, initial conjuncts may move because they do not provide categorial features for the coordinators, which have their own intrinsic categorial features.

The CCi, however, simply manifests a morphological property of coordinators shared with many other types of elements: they need be adjacent to their complement. Neither deletion nor movement of their complement is possible. Therefore, internal conjuncts may not move.

In summary, the CC is not a construction-specific syntactic constraint. Instead, it is related to the lexical/morphological makeup of coordinators such as \textit{and}. Theoretically, the CCe, as part of the CSC, has been treated as a construction-specific constraint, while the notion of “conjunct” is a label for elements that are merged with coordinators. Coordinate constructions do not represent any special syntactic structure (Munn 1987, among others), and coordinators do not represent any special category (Zhang 2007a). Thus, coordinate construction is not a primitive notion in syntax. In my claim here, no notion of “conjunct” is required. Conjuncts as regular Spec and Complement elements may undergo syntactic movement. What I state is the relation between the word \textit{and}

\textsuperscript{16} One anonymous reviewer asked why the movement in (i) is impossible:

(i) *And what did John eat apples \textit{and what}?

If the external conjunct \textit{apples} is a Spec element and the internal one, \textit{what}, is the complement of \textit{and}, the cluster [\textit{and what}] is an intermediate projection, which is invisible in syntax and thus may not move (Chomsky 1994). See Zhang (2006: 191–196) for more discussion of the issue.
and its categorial feature provider: the category features of the latter are transferred to the former, which makes the latter unable to move overtly.

In the minimalist program, movement is driven by morphological considerations (Chomsky 1995:262). My study here shows that the blocking of movement can also be related to morphological properties of specific syntactic elements, in addition to the generally recognized locality restrictions.\(^{17,18}\)

**Appendix A: CC effects in covert movement**

No CCi effects in covert movement

In addition to the conjunct drop argument presented in section 2, another argument for our new approach to the CCi comes from the fact that there is no CCi effect in covert movement:

\[(95)\]
\[
\text{a. Who reported that [Max and who] disappeared?}
\]
\[
\text{b. Robin thinks that [Kim and who] went to the store?}
\]
\[
\text{c. ?Who saw John and who?}
\]

\[(96)\]
\[
\text{a. Ta mai-le shu he shenme?}
\]
\[
\text{he buy-PRF book and what}
\]
\[
\text{‘What is the thing x such that he bought some books and x?’}
\]
\[
\text{b. Shei zhidaol Lao Wang he shei dang-xuan-le?}
\]
\[
\text{who know Lao Wang and who be-elected-PRF}
\]
\[
\text{‘Who knows Lao Wang and who have been elected?’}
\]

In the English data in (95) (Fiengo et al. 1988:81, Zoerner 1995:43, Reinhart 1997:339, Bošković & Franks 2000:110) and Chinese data in (96) (Cheung 2006:9), the internal conjuncts are wh-phrases. If wh-elements must move (Pesetsky 2000, Soh 2005), the acceptability of these data indicates that the CCi does not work for covert movement.

\(^{17}\) Since I have linked CC effects with the morphological properties of coordinators, one might want to consider coordinate constructions without overt coordinators. Following Johannessen (1998:84), I assume that such constructions are headed by empty elements. Johannessen (1998: 85) shows that in some languages, empty coordinators head coordinate complexes of specific categories. Since the heads of such complexes are not category-free, no category feature-transference is necessary. Empty elements do not need to have the same morphological properties as corresponding overt elements. Assume the head position of such coordinate complexes is filled by a null element that has categorial features (e.g., null D or null V). Then nothing bans the movement of the conjuncts. See Zhang (2007b) for deriving certain constructions by movement of both external and internal conjuncts in the absence of overt coordinators.

\(^{18}\) The hypothesis made in this paper also leads us to consider other issues, as pointed out by one anonymous reviewer, such as what kind of status a constituent or word has when it has no categorial features left, and what implications this kind of feature transfer has for the ordering of events in the numeration.

This in turn suggests that the CCi can be a PF constraint on representations rather than on syntactic operations.\footnote{I put aside the issue of Quantifier Raising of whole conjuncts. Kasai (2002:5) claims that in (i), the second conjunct every associate professor cannot take wide scope over the subject a student. He claims that this shows that QR is subject to the CC (I thank Thomas Lee for bringing my attention to Kasai’s work).}

A somehow relevant fact is that internal conjuncts can be resumptive pronouns. The following topicalization example in Chinese is perfect:

(97) Baoyu, na-shihou Daiyu he ta; he-zu yi jian wuzi.

Baoyu that-time Daiyu and he co-rent one clf room

‘Speaking of Baoyu, Daiyu and he co-rented a room at that time.

\textit{The issue of CCe effects in covert movement}

External conjuncts behave differently from internal ones with respect to covert movement in English. If we switch the order of the two nominal conjuncts of the English data in 6.1, the resultant sentences all become unacceptable:

\begin{itemize}
  \item[(98)] a. ??Who reported that [who and Max] disappeared?
  \item[(b)] ??Robin thinks that [who and Kim] went to the store?
  \item[(c)] ?Who saw John and who?
\end{itemize}

However, a WH element may be conjoined with a non-WH element in Chinese (Tai 1969:121):

(99) Ni \textit{xihuan} shenme gen li?

you like what and pear

‘What is x such that you like x and pears?’

The two languages show different acceptability patterns in allowing WH external conjuncts. The CCe alone fails to account for the differences. Theoretically, it is not clear to us whether covert movement requires categorial features. We speculate that data like (98) might have an account from the information structure perspective (see 7.2).

\section*{Appendix B: CC effects in sluicing}

\textit{No CCi effects in sluicing}

One more argument for the new account of the CCi is the type of sluicing that Merchant (2001) considers.

According to Merchant’s PF deletion analysis of sluicing, (100a) has the structure in (100b). In (100b), before the PF-deletion of the whole IP, the internal conjunct who undergoes wh-movement, violating the CCi.
(100) a. Irv and someone were dancing in the hall, but I don’t know who.
    b. ... but I don’t know who, [he and t] were dancing together.

In Merchant’s approach, the violation of the CCi is not offending, because the whole CC is taken to be a PF-island effect, which disappears if the relevant island is deleted at PF. He claims that the CC is “a condition whose effects are due to a principle operative at PF, not a principle that bans extraction of a conjunct as a condition on movement rules” (p. 194).

We have shown before that violation of the CCi in the presence of *and* is never acceptable. If data like (100a) are derived by PF-deletion, and the CCi itself is a PF-constraint on coordinators, the acceptability of such data is accounted for by the disappearance of the coordinators. This is basically Merchant’s account, which we adopt. What I want to make precise is that this phonological account works for the CCi, but not for the CCe.  

---

20 Merchant (2001, 2007a:6,10) uses (i) to show that unlike in sluicing, CCi effects emerge in VP ellipsis:

(i) a. *They persuaded Kennedy and some other Senator to jointly sponsor the legislation, but I can’t remember which one they did.
    b. *They got the president and 37 Democratic Senators to agree to revise the budget, but I can’t remember how many Republican ones they DIDN’T.

To account for the contrast, Merchant (2007b: 20) claims that in sluicing more structures are elided than VP-ellipsis. Logically speaking, such data do not pose counter-examples to our claim. Merchant’s account or some other accounts may explain the unacceptability.
account is plausible, the relevant data are irrelevant to the issue of the CCe.

References


Received August 30, 2007
Accepted September 3, 2008

Niina Ning Zhang
Graduate Institute of Linguistics
National Chung Cheng University
168 University Rd., Min-Hsiung
Chia-Yi 62102
Taiwan
Lngnz@ccu.edu.tw