Directionality in Applicatives

A Comparative Study on English and Mandarin Chinese

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ABBREVIATIONS

ABL ablative
ACC accusative
ALL allative
APPL applicative
AQ adverbial quantifier
ASP aspect
BEN benefactive
CL clitic/classifier
COMP complementizer
DAT dative
DEF definite
DIR directionality
DO direct object
DOC Double Object Construction
EA external argument
EPP Extended Projection Principle
FA frequency adverb
FOC focus
FV final vowel
GEN genitive
IO indirect object
INSTR instrument
LK linker
LOC locative
NEG negative
NOM nominative
NOP null operator
OA object agreement
OBJ object
PART particle
PASS passive
PL plural
PRES present
SG singular
SVC Serial Verb Construction
Chapter 1 Introduction

In my thesis, I will explore applicatives in ditransitive constructions in Mandarin Chinese and English. In English we only find Low Recipient Applicatives while in Mandarin we have both Low Recipient Applicatives and Low Source Applicatives, in addition to High Applicatives of a certain kind. Motivated by the puzzle of IO interpretation in English, I compare these two languages with respect to their argument structure and applicative structures. I argue that in Mandarin Chinese the IO is introduced by a Pylkkänen-style Low APPL inside the VP, and then raised higher than the VP, and to capture the raising phenomenon, I posit a functional head DIR, which is located between the little \( v \) and the lexical verb. The DIR head functions to regulate the direction of the transference, i.e. to the possession of the IO or from the possession of the IO. In Mandarin, the particles ‘gei’ and ‘zou’ are overt realizations of the DIR head, with the former indicating ‘To-the-possession’ and the latter indicating ‘From-the-possession’. In the thesis I will examine various kinds of DOC patterns in Mandarin Chinese under the Applicative framework. Then I will compare with English, seeing what the understanding of the Mandarin situation can do to shed light on the interpretation restriction in English.

The thesis is organized in the following way. After this introduction, I will explain the motivations of this study and provide the basic theoretical background concerning Applicative Theory and Mandarin passivization in Chapter 2. In Chapter 3, we come to discuss the ditransitive patterns in Mandarin Chinese and I argue that there is a distinction between the Double Object Construction (DOC) and the Prepositional Construction in Mandarin much like there is in English. DOCs in Mandarin are divided into three groups, i.e. \( GEI \)-suffix Construction, \( ZOU \)-suffix Construction and Non-suffix Construction. In Chapter 4, I will lay out the challenges that the Mandarin DOC presents for a simple applicative analysis and discuss Paul and Whitman’s (2010) Raising analysis. In Chapter 5, we move on to my DIR-APPL Analysis of Mandarin DOCs. In this chapter I will compare the DIR-APPL Approach with the Raising Applicative Analysis and highlight the position and function of the DIR head in applicative structures. In Chapter 6, I will discuss the major differences in English and Mandarin Applicatives and posit that the DIR head can possibly help us to understand IO interpretation in English. Chapter 7 is the concluding part of the thesis.
Chapter 2 Motivation and Theoretical Background

2.1 IO Interpretation in English DOCs

The Double Object Construction (DOC) in English has always been a popular topic in the literature, particularly after Barss & Lasnik (1986)’s article discussing the asymmetrical relation between the direct object (DO) and the indirect object (IO), i.e. the IO asymmetrically c-commands the DO.

(1)

As Citko (2011) points out, researchers posit different elements which mediate the relationship between the two objects: a verb in a VP shell structure (e.g. Larson 1988), a prepositional element (e.g. Pesetsky 1995; Harley 2002, etc.), a small clause head (e.g. Beck & Johnson 2004). Under the Applicative framework, the IO (or the applied argument) is introduced by an applicative head (e.g. Pylkkänen 2000, 2008).

In English DOCs, the IO can only be interpreted as Recipient 1.

(2) John wrote Mary—Recipient a letter.

In (2), the IO ‘Mary’ is the Recipient of the DO ‘a letter’. However, if we look at the DOC from a cross-linguistic view, we find that the IO interpretation is not limited to Recipient. In some languages with case morphology (e.g. German, Korean, Finnish etc.), we can also have a Source interpretation in the DOC, as shown in the following examples.

1My discussion will exclude the seeming DOC sentence like (a).

(a) John charged me fifty dollars.
(b) I gave John a fifty-dollar bill. (DOC)

The sentence in (a) is different from normal DOC sentences. There is no actual transference taking place between the IO ‘me’ and the external argument ‘John’. That is, John can charge me fifty dollars without actually getting the fifty dollars from me. In (b), a normal DOC sentence, there is a strong implication of successful transference, i.e. ‘John got a fifty-dollar bill from me’. We find a very restricted set of verbs in the seeming DOC sentence and it is not productive. In fact, (a) might be better understood as a Recipient DOC, where what I receive is ‘a fifty-dollar debt’.
Chapter 2 Motivation and Theoretical Background

**German** (Recipient IO and Source IO)

(3) a. *(weil) ich* **ihm**-Recipient *ein* Buch *gab*
   
   since I him.DAT a.ACC book.ACC gave
   
   ‘since I gave him a book.’

   b. Jemand *hat mir*-Source *das* Auto *geklaut.*
   
   someone has me.DAT the.ACC car.ACC stolen
   
   ‘I had someone steal my car.’ (McIntyre 2006:186-187)

**Korean** (Recipient IO and Source IO)

   
   Mary.NOM John.ACC book.ACC give-PAST-PLAIN
   
   ‘Mary gave John a book.’ (Jung & Miyagawa 2004:116)

   
   thief-NOM Mary-DAT ring.ACC steal-PAST-PLAIN
   
   ‘The thief stole a ring from Mary.’ (Pylkkänen 2008:16)

**Finnish** (Recipient IO and Source IO)

(5) a. *Liisa kirjoitti Mati-lle*-Recipient *kirjee-n.*
   
   Liisa.NOM wrote Matti.ALL letter.ACC
   
   ‘Liisa wrote Matti a letter.’

   b. *Liisa myi Mati-lla*-Source *talo-n.*
   
   Liisa.NOM sold Matti.ABL house.ACC
   
   ‘Liisa sold a house from Matti.’ (Pylkkänen 2000:4)

But in English, even if we put the verb ‘steal’ in the DOC, the IO still only has a Recipient interpretation.

(6) John stole *Mary*-Recipient a ring.

Example (6) means ‘John stole a ring from someone else and gave it to Mary’ and it cannot mean ‘John stole a ring from Mary’. In this thesis I will explore the reason why English IOs can only be mysteriously interpreted as Recipient but not Source.

Let’s look more closely at the languages with the Source IO.

In German (example 3) both the Recipient IO and the Source IO are dative marked. In Korean (example 4) the Recipient IO and the Source IO are marked with accusative case and dative case respectively. In Finnish (example 5), the Recipient IO and the Source IO are also case-marked differently, with the former allative marked and the latter ablative marked. We thus might think the puzzle of the Source IO is related to case morphology, since English has poor case morphology. However, this explanation is not plausible because we have both the Recipient and the Source IO in Mandarin Chinese, a language without overt case morphology.
Mandarin Chinese (Recipient IO and Source IO)

(7) a. Zhangsan  song-gei-le  Mali-Recipient  yi-ge  jiezhi.  
Zhangsan  give-GEI-ASP  Mali  one-CL  ring  
‘Zhangsan gave Mali a ring.’

b. Zhangsan  tou-zou-le  Mali-Source  yi-ge  jiezhi.  
Zhangsan  steal-ZOU-ASP  Mali  one-CL  ring  
‘Zhangsan stole a ring from Mali.’

In Mandarin Chinese, we find no overt case marking on the Recipient IO ‘Mali’ (in 7a) or the Source IO ‘Mali’ (in 7b).

2.2 Motivation for the Comparison between English and Mandarin

As discussed above, there are actually three kinds of languages, with respect to IO interpretation and case marking in DOCs:

a) English Type  
The IO can only be a Recipient; The language has poor case morphology.

b) German, Korean, Finnish Type  
The IO can be both a Recipient and a Source; The Languages have case morphology.

c) Mandarin Chinese Type  
The IO can be both a Recipient and a Source; The language has no overt case morphology.

If we think the mystery of the missing Source is due to case morphology, Mandarin Chinese poses a strong challenge. Since English and Mandarin, both have poor case morphology, the comparison between them seems to be a plausible way to find the solution to why English lacks the Source interpretation. We can look at the Mandarin DOC examples again, (7) is repeated here as (8):

Zhangsan  give-GEI-ASP  Mali  one-CL  ring  
‘Zhangsan gave Mali a ring.’

b. Zhangsan  tou-zou-le  Mali-Source  yi-ge  jiezhi.  
Zhangsan  steal-ZOU-ASP  Mali  one-CL  ring  
‘Zhangsan stole a ring from Mali.’

There is no overt case marker on the IO and the DO. However, we observe a distinction in the verbal suffixes. In (8a), the verbal suffix is ‘-gei’ and we have a Recipient IO while in (8b), the verbal suffix is ‘-zou’ and then we get a Source IO. In Mandarin Chinese, we actually have two corresponding verbs for these two elements: ‘给 gěi’ which means ‘give somebody something’ and ‘走 zǒu’ which means ‘leave or go away from somebody’. Therefore, these two elements reflect different directions. In (8a), with the gei-suffix, the sentence means
‘Zhangsan gave Mali a ring’. In (8b), with the zou-suffix, the sentence means ‘Zhangsan stole a ring from Mali’.

Let’s look at the English examples:

(9) a. John gave Mary-Recipient a ring.
   b. *John stole Mary-Source a ring.

Comparing (9) with (8), we may imagine that these directional elements (the verbal suffixes ‘-gei’ and ‘-zou’), have something to do with why Mandarin allows both Source and Recipient Applicatives while English has only the latter. So, the comparison between English and Mandarin appears to be a promising way for us to obtain an explanation for the missing Source in English DOCs.

### 2.3 Applicative Theory

#### 2.3.1 High/Low Applicatives

Applicative Theory provides a good way to tackle DOCs, claiming that an applicative is a syntactic element adding an extra, ‘non-core’ argument to a verb (Pylkkänen 2000, 2008; McGinnis 2008 among others).

(10) a. I baked a cake.
   b. I baked him a cake.

In the example (10b), the DO ‘a cake’ is the core argument of the verb. By hypothesis the non-core argument ‘him’ is introduced by an applicative head. In English there is no overt realization of the applicative head.

Pylkkänen (2000, 2008) posits a distinction between High Applicatives and Low Applicatives, which is an important development in the research on applicatives. High Applicatives denote a relation between an individual and an event, and Low Applicatives denote a relation between two individuals.

Let’s look at an example from Chaga.

**Chaga High Applicate**

    FOC-1SG-PRES-eat-APPL-FV 1-wife 7-food
    ‘He is eating food for his wife.’ (Bresnan & Moshi 1993: 49)

In (11) the applied argument (or the IO) ‘m-kā’ (wife) is introduced by an applicative element. The verbal suffix ‘-i’ is the overt realization of the applicative head. The applied argument has a Benefactive reading: his wife benefits from the ‘food-eating’ event. The applicative head thus relates the individual ‘his wife’ to an event ‘food-eating’. Therefore it is a High Applicative.
Consider then the English example.

**English Low Applicative**

(12) I baked him a cake.

In (12) the applied argument (or the IO) ‘him’ is introduced by a null applicative head. The applicative head relates two individuals, the IO ‘him’ and the DO ‘a cake’. (12) means the IO ‘him’ comes to possess the DO ‘a cake’. (12) cannot just mean the IO ‘him’ benefits from the ‘cake-baking’ event, without getting the cake. The applicative head here cannot relate one individual with an event. Thus it is a Low Applicative.

The two types of applicatives can be structurally represented in Tree (13) and (14) respectively:

(13) **High Applicative (Chaga)**

```
vP
  EA
    ‘he’
  v
    HAPPLP
      IO
        ‘wife’
      HAPPL’
    HAPPL
      V
        ‘eat’
      DO
        ‘food’
```

(14) **Low Applicative (English)**

```
vP
  EA
    I
  v
    VP
    V
      bake
    LAPPLP
      IO
        him
      LAPPL’
    LAPPL
      DO
        a cake
```

As for the interpretation of the High and Low Applicatives, Pylkkänen (2008) suggests a universal inventory of High Applicative Heads with the semantics in (15) and Low Applicative Heads with the semantics in (16):
(15) High APPL  
\[ \lambda x.\lambda e.\text{APPL} (e, x) \]  
(collapsing APPL-\text{Ben}, APPL-\text{Instr}, APPL-\text{Loc}, etc.)

(16) Low APPL  
a. Recipient Applicative (Low-\text{APPL}_\text{to})  
\[ \lambda x.\lambda y.\lambda f <e<s,t>\.\lambda e.f (e, x) \& \text{theme} (e, x) \& \text{to-the-possession} (x, y) \]  
b. Source Applicative (Low-\text{APPL}_\text{from})  
\[ \lambda x.\lambda y.\lambda f <e<s,t>\.\lambda e.f (e, x) \& \text{theme} (e, x) \& \text{from-the-possession} (x, y) \]

From (16) we observe a transfer of possession in Low Applicatives, which is not present in High Applicatives. Also we notice there are two directions of transference, To-the-possession (Low Recipient Applicative) and From-the-possession (Low Source Applicative). As we discussed previously, the IO can only be interpreted as Recipient in English, thus we only have Low Recipient Applicatives in the language.

2.3.2 Applicative Diagnostics

In this section we will talk about some of the standard applicative diagnostics for identifying the type of applicatives.

\textit{Diagnostic 1: Transitivity Restriction}

Based on the definition of Low Applicatives, which denote a relation between two individuals, i.e. the IO and the DO, a low applicative head cannot appear in the structure without the DO (Pylkkänen 2008). The first diagnostic is thus that in Low Applicatives, the verbs must be transitive.

In English it is impossible to have intransitive verbs in the applicative structure, as illustrated in (17):

\textit{English Low Applicative}

(17) *John \text{ran} a friend.

In (17) the Benefective reading, i.e. ‘John ran for a friend’, is not available, thus the diagnostic suggests that English has a Low Applicative, not a High one.

In contrast, the transitivity restriction is not present in the High Applicative structure. Let’s look at the Chaga examples:

\textit{Chaga High Applicative}

(18) a. \text{N-ää-į-įi-ą-à \text{m-kà \text{k-élyà}.}}  
\text{FOC-1SG-PRES-eat-APPL-FV \text{1-wife \text{7-food}}}  
‘He is eating food for his wife.’
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b. *N-á-i-zric-i-á  m-búyà.
   FOC-1SG-PRES-run-APPL-FV  9-friend
   ‘He is running for a friend.’ (Bresnan & Moshi 1993: 49-50)

In (18a) ‘eat’ is a transitive verb and in (18b) ‘run’ is an intransitive verb. Both can appear with the Chaga Benefactive Applicative. So, in the High Applicative structure there is no requirement for the DO in the sentence.

By adopting the transitivity test, we are able to determine the applicative type: in Low Applicatives, only transitive verbs are allowed, while in High Applicatives, both transitive and intransitive verbs are allowed.

Diagnostic 2: Verb Semantics

Pylkkänen (2008) points out that because Low Applicatives imply a transfer of possession, static verbs are not allowed in the structure.

Low Applicative

(19) a. *I held him the bag. (English)
   b. *John-i Mary-hanthey kabang-ul cap-ass-ta. (Korean)
      John-NOM Mary-DAT bag-ACC hold-PAST-PLAIN
      ‘*John held Mary her bag.’ (Pylkkänen 2008:20)

In (19) the static ‘hold’, which is not capable of expressing a dynamic transfer, cannot appear in the Low Applicative structure since the Low Applicative involves possession transference i.e. To-the-possession or From-the-possession. In (19), the DO ‘bag’ cannot be transferred from the external argument (EA) to the IO or from the IO to the EA by the ‘holding’ action.

Let’s look at a grammatical Low Applicative sentence in English:

(20) John sent Mary a letter.

The verb ‘send’ is a dynamic verb which can be used to facilitate the transference of possession. In (20), the DO ‘a letter’ is transferred from the EA ‘John’ to the IO ‘Mary’.

In contrast, there is no similar restriction of verb semantics on High Applicatives, shown in an example from Luganda.

High Applicative

(21) Katonga ya-kwaant -i-dde Mukasa ensawo.
    Katonga 3SG.PAST-hold-APPL-PAST Mukasa bag
    ‘Katonga held the bag for Mukasa.’ (Pylkkänen 2008:20)
As we mentioned previously, there is no possession transference in High Applicatives, a big difference between High Applicatives and Low Applicatives. In (21), the High Applicative is used to denote that the applied argument ‘Mukasa’ benefits from the ‘bag-holding’ event and thus the static verb ‘hold’ here is licit. From the discussion we note that we can decide the applicative type by testing the possibility of applicativizing static verbs (Pylkkänen 2008).

Let’s consider the Low Applicatives in more detail. As we mentioned, there is a transfer of possession in Low Applicatives. So, actually there are two important properties in Low Applicatives, i.e. Possession and Transference. We can possibly split them apart: in a Low Applicative, we can test firstly the possession relationship between the IO and the DO, and then we go on to test the transference requirement for the verb.

Let’s see the English example:

(22) John gave Mary a book.

**Possession Property**
In (22), there is a possession relationship created between the IO ‘Mary’ and the DO ‘a book’.

**Transference Requirement**
We also notice the transference process, i.e. the DO ‘a book’ is transferred from the EA ‘John’ to the IO ‘Mary’.

Note that in a Low Recipient Applicative, both the possession relationship and transference property are required. So (23) cannot be analyzed as a Low Recipient Applicative.

(23) John bought Mary’s book.

In (23), there is a possession between ‘Mary’ and ‘book’, but we cannot be sure that there is transference between ‘John’ and ‘Mary’. ‘John’ might buy the book from ‘Mary’ or from someone else. This excludes (23) from being a Low Applicative.

In the following discussion, I will split the *Verb Semantic Diagnostic* into two parts, i.e. the Possession Property and the Transference Requirement.

### 2.4 Relevant Background on Passivization

#### 2.4.1 Passivization and Applicatives

The interaction of passivization and applicatives has been a major focus of attention within Minimalist accounts of ditransitives (Georgala 2012). Movement has been proposed to be constrained by Shortest Move, Relativized Minimality, etc. which are expected to be relevant when we have two object DPs which might move to subject position and are thus in competition. Passives of DOCs are classified into two types, based on whether both objects are allowed to become the subject or not, i.e. symmetric and asymmetric passives (cf. McGinnis
Citko (2011) discusses four distinct passivization patterns in DOCs. The first pattern involves languages like Danish, in which only the IO can passivize. It is a kind of asymmetric passive.

(24)

\[
\begin{array}{c}
\text{TP} \\
\text{T [EPP]} \\
\text{IO} \\
\text{DO}
\end{array}
\]

(25) a. \textit{han blev tilbudt en stilling.} \quad \textit{(Danish)}
he was offered a job
‘He was offered a job.’

b. *\textit{En stilling blev tilbudt han.}
a job was offered him
‘A job was offered to him.’ \quad \textit{(McGinnis 1998:73)}

This is what we would expect based on Minimality.

The second pattern involves languages like German, in which only the DO can passivize. This is another kind of asymmetric passive.

(26)

(27) a. \textit{Ein Buch wurde dem Jungen von dem Mädchen geschenkt.} \quad \textit{(German)}
A book was given to the boy by the girl
‘A book was given to the boy by the girl.’

b. *\textit{Der Junge wurde von dem Mädchen ein Buch geschenkt.}
the boy was by the girl a book given
‘The boy was given a book by the girl.’ \quad \textit{(Woolford 1993:688)}
This would seem to violate Minimality. It is usually proposed that the dative case on the IO (or something related) makes the IO ineligible for the movement, thus allowing the DO to cross over it.

The third pattern involves languages that allow passivization of either object. This is the passive pattern in Norwegian and is called symmetric passive.

(28)

a. \[TP \rightarrow T \{EPP\} \rightarrow IO \rightarrow DO\]  

b. \[TP \rightarrow T \{EPP\} \rightarrow IO \rightarrow DO\]

(29) a. \textit{Jon ble gitt boken.} 
John was given book.DEF  
‘John was given the book.’

b. \textit{Boken ble gitt Jon.}  
book.DEF was given John  
‘*The book was given John.’  
(Holmberg & Platzack 1995:215)

This pattern is tricky to deal with and requires either the assumption of two distinct basic structures or some special operation or configuration that avoids the unexpected Minimality violation.

The fourth pattern involves languages, e.g. Greek, that disallow passivization of either object.

(30) a.*\textit{Ena vivlio dhothike tis Lenas (apo ton Oresti).}  
a book.NOM was.given.3SG the Lena.GEN by the Oresti.ACC  
‘A book was given to Lena (by Orestis)’  
(Georgala & Whitman 2007:81)

b.*\textit{I Lena dhothike ena vivlio.}  
the Lena.NOM was.given.3SG a book.ACC  
‘Lena was given a book.’  
(Georgala & Whitman 2007:85)

Researchers have been trying to explain the different kinds of restrictions on passive types. We should note that what Citko (2011) discusses are passives where movement is driven by the [EPP] feature. In other words, she is concerned with A-movement (not A’-movement). I will discuss more about the distinction concerning movement types in the next section.
The content of the applicative head may also influence passivization possibilities (cf. Jeong 2007). In Swahili, Locative Applicatives are symmetric, i.e. either the applied object or the DO can be passivized, as shown in (31).

(31) Swahili Locative Applicatives ---- Symmetric Passive
   a. **Ofisi-ni** pa-li-l-i-w-a **ch-akula.**
      office-LOC 16SA-PAST-eat-APPL-PASS-FV 7-food
      ‘In the office was eaten food.’
   b. **Ch-akula** ki-li-l-i-w-a **ofisi-ni**
      7-food 7SA-PAST-eat-PASS-FV 9-office-LOC
      ‘The food was eaten in the office.’ (Citko 2011:113, citing Ngonyani 1996)

Benefactive and Goal Applicatives are asymmetric, i.e. only the applied object can be passivized, as illustrated in (32) and (33).

(32) Swahili Benefactive Applicatives ---- Asymmetric Passive
   a. **M-toto** a-li-nunul-i-w-a **ki-tabu.**
      1-child 1SA-PAST-1OA-bring-APPL-PASS-FV 7-book
      ‘The child had a book brought for him.’
   b. * **Ki-tabu** ki-li-nunul-i-w-a **m-toto**
      7-book 7SA-PAST-buy-APPL-PASS-FV 2-boy
      ‘The book was bought for the child.’ (Citko 2011:113, citing Ngonyani 1996)

(33) Swahili Goal Applicatives ---- Asymmetric Passive
   a. **Wa-vulana** wa-li-sukum-i-w-a **j-ongoo.**
      2-boy 2SA-PAST-push-APPL-PASS-FV 5-millipede
      ‘The boys had millipede pushed towards them.’
   b. * **Jongoo** a-li-sukum-i-w-a **wa-vulana.**
      1millipede 1SA-PAST-push-APPL-PASS-FV 2-boy
      ‘The millipede was pushed towards the boys.’ (Citko 2011:113-114, citing Ngonyani 1996)

Cuervo (2003) also mentions the difference between Recipient Applicatives and Source Applicatives in Spanish: passivization of a structure with a Recipient is grammatical (34a) while passivization of a structure with a Source (34b) is ungrammatical.

(34)
   a. El **premio Nobel** (le) fue concedido a Cela el año pasado (Spanish)
      the Nobel prize.NOM CL.DAT was given Cela.DAT last year
      ‘The Noble prize was awarded to Cela last year.’ (Cuervo 2003:98, citing Demonte 1995)
b.*La bicicleta le fue robada a Pablo ayer.
the bicycle.NOM CL.DAT stolen Pablo.DAT yesterday
‘Pablo’s bicycle was stolen yesterday.’ (Cuervo 2003:99)

2.4.2 A-movement and A’-movement

A-movement is about the movement of DPs to argument positions (Cook & Newson 2007). A-movement cares about the [D] feature, and things like Minimality are defined with respect to that. Let’s look at example (35) with the raising verb.

(35) It seems that John [D] thinks that Bill [D] is dumb.
In (35) both ‘John’ and ‘Bill’ bear the [D] feature. The raising verb ‘seem’ can only move the nearer DP ‘John’ to the subject position (36a). The farther DP cannot be raised to the subject position (36b).

(36) a. John [D] seems to <John> think that Bill [D] is dumb.
   b. *Bill [D] seems to John [D] think that <Bill> is dumb.

A-movement is subject to Minimality with respect to [D] features, i.e. only the nearest [D] feature bearing element can move.

A’-movement is about the movement of phrases to non-argument positions (Cook & Newson 2007). A’-movement is not related to [D] features but cares about different features, e.g. [wh].

(37) a. John saw Mary.

In (37c), the nearer element ‘John’ does not move while the farther element ‘who’ moves up to Spec CP. The movement does not violate Minimality because the nearer element ‘John’ does not bear the matching feature [wh], and the probe has to look down and find the [wh] feature bearing element ‘who [wh]’. Then ‘who’ moves up to Spec CP. If both of the two elements bear a [wh] feature, only the nearer one can move, as shown in the following example.


Therefore A’-movement is also subject to Minimality, but it cares about a different feature, i.e. not a [D] feature. If the nearer element does not bear the matching feature, it is not qualified to move (‘John [D]’ in 37c). Then the farther element (‘who [wh]’ in 37c) which bears the matching feature can move across the nearer element. So the key point is for the probe to find the nearest matching feature.
2.4.3 English be-Passive

The English be-passive involves a kind of A-movement. As we discussed in previous sections, in Double Object Constructions the IO asymmetrically c-commands the DO, thus we would expect only the IO to be passivized, due to the Minimal Link Condition. This is what we observe in the English be-passive in (39).

   b. Mary [D] T [☉] was given a book [D] by John.

In (39), both the IO ‘Mary’ and the DO ‘a book’ bear the matching [D] feature. Under the subject requirement, only the nearest element, IO ‘Mary’, can move up to Spec TP, as shown in the following tree.

(40)

2.4.4 Mandarin BEI Passive

The BEI passive is the most typical passive construction in Mandarin Chinese. The basic usage of the word ‘bei’ is to describe a situation in which someone suffers from a negative event (See 41a). The adversity semantics is broad, thus entities are also allowed to be the subject of the BEI passive (See 41b).

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\(^2\) I will limit the current study to Standard American English. When it comes to British English Dialects, the passivization patterns may become rather complicated (cf. Haddican & Holmberg 2012).
Chapter 2 Motivation and Theoretical Background

(41) a. **Zhangsan** bei **Lisi** da-le.
    Zhangsan BEI Lisi hit-ASP
    ‘Zhangsan was hit by Lisi.’

    b. **chezi** bei ren tou-le.
    car BEI person steal-ASP
    ‘The car was stolen by someone.’

Huang et al. (2009) argue that Mandarin BEI passives involve A’-movement rather than A-movement, which is different from the English be-passive. They provide the following evidence to support this proposal.

*Long-distance Passive*

The Mandarin BEI passive exhibits unbounded dependency, which sets no limit on how deeply embedded the gap may go (cf. Huddleston & Pullum 2002).

(42)

**Active**

a. **wo** jiao **Lisi** qing **Wangwu** tuo ta meimei ji-zou-le **nei-feng** xin.
   1SG tell Lisi ask Wangwu entrust his sister send-ASP that-CL letter
   ‘I tell Lisi to ask Wangwu to get the letter sent out by his sister.’

**Passive**

b. **nei-feng xin** bei **wo** jiao **Lisi** qing **Wangwu** tuo ta meimei ji-zou-le.
   that-CL letter BEI 1SG tell Lisi ask Wangwu entrust his sister send-ASP
   ‘That letter was “told-Lisi-to-ask-Wangwu-get-his sister-to-send” by me.’
   (Huang et al. 2009:125)

In (42b), the Patient is ‘nei-feng xin’ (that letter), and the Agent of the entire event is ‘wo’ (I). But within the entire event ‘the letter’ underwent, there are several sub-events, i.e. ‘Lisi asked Wangwu’, ‘Wangwu entrusted his sister’, and ‘his sister sent the letter’. In the English be-passive, a sentence like (43) is entirely ungrammatical.

(43) **That letter** was told by me to **Lisi** [D] to ask **Wangwu** [D] to get **his sister** [D] to send.

Among other things, in an English-style passive with A-movement, this would violate Minimality, since ‘that letter’ would have to move across three closer DPs ‘Lisi’, ‘Wangwu’ and ‘his sister’.

The possibility of an unbounded dependency is a characteristic property of A’-movement. E.g. tough movement sentences in English, which involve A’-movement, also allow long-distance dependencies:

(44) **This problem** i is too easy for me to ask the teacher to help me solve __i.
Chapter 2 Motivation and Theoretical Background

Island Sensitivity

While A’-movement may be unbounded, it is still subject to certain restrictions, e.g. in that it may not cross certain kinds of islands. Consider the following examples with a complex DP island:

(45) 3
Active
a. wo tongzhi Lisi ba zanmei Zhangsan de shu dou mai-zou-le.
1SG inform Lisi BA praise Zhangsan COMP book all buy-zou-ASP
‘I informed Lisi to buy up all the books that praise Zhangsan.’

Passive
b. Zhangsan bei wo tongzhi Lisi ba zanmei *(ta) de shu dou mai-zou-le.
Zhangsan BEI 1SG inform Lisi BA praise (3SG) COMP book all buy-zou-ASP
‘Zhangsan had me inform Lisi to buy up all the books that praise [him]’
(Huang et al. 2009:125)

In (45b), the resumptive pronoun ta ‘him’ is obligatory. The sentence is ungrammatical with a gap in the object position of the verb zanmei ‘praise’, the verb in the relative clause [zanmei ta de shu] ‘the books that praise him’. Thus Mandarin BEI passives are sensitive to DP islands. Chinese long-distance passives show island effects which passes another diagnostic for A’-movement.

Resumptive Pronoun

We find a parallel between Mandarin BEI passives and Mandarin relative clauses regarding the addition of resumptive pronoun. When an embedded subject is passivized or relativized, a resumptive pronoun is optional, as shown in (46).

(46)
BEI Passive
a. Zhangsan bei Lisi huaiyi (ta) tou-le qian.
Zhangsan BEI Lisi suspect (3SG) steal-ASP money
‘Zhangsan was suspected (by Lisi) [he] to have stolen the money.’

3In Mandarin Chinese, a ‘ba’ construction has the following form (disregarding optional elements):
Subject + ba + NP + V
The object of ‘ba’ is typically the object of the verb and this object is ‘disposed’ or ‘affected’ in the event described (cf. Huang et al. 2009). Let’s look at the following example.
Lisi ba na-ben shu mai-zou-le.
Lisi BA that-CL book buy-ZOU-ASP
‘Lisi bought that book.’ or ‘The book was bought by Lisi.’

In the above example, the object ‘na-ben shu’ (the book) was ‘disposed’ in the event, i.e. it was bought by Lisi.
Relative Clause
b. Lisi huaiyi (ta) tou-le qian de nei-ge ren zou-le.
Lisi suspect (3SG) steal-ASP money COMP that-CL person leave-ASP
‘The person that Lisi suspected [he] stole the money has left.’ (Huang et al. 2009:128)

When an object following BA (or any element traditionally analyzed as a preposition) is
passivized or relativized, a resumptive pronoun is obligatory.

(47)  

BEI Passive
a. Zhangsan bei Lisi ba ta pian de tuantuanzhuan.
Zhangsan BEI Lisi BA 3SG cheat DE run-around
‘Zhangsan was pushed around like a fool by Lisi.’

Relative Clause
b. Lisi ba ta pian de tuantuanzhuan de nei-ge ren zou -le.
Lisi BA 3SG cheat DE run-around COMP that-CL person leave-ASP
‘The person that Lisi pushed around like a fool has left.’

(48) John was suspected by Mary (*he) to have stolen the money.

Following Huang et al. (2009), I will adopt the NOP (null operator) approach to analyze the
Mandarin BEI passive. In this analysis, ‘bei’ is treated as an intransitive verb, which takes a
CP as its secondary predicate and an experiencer as its subject.

(49) Zhangsan bei Lisi da-le.
Zhangsan BEI Lisi hit-ASP
‘Zhangsan was hit by Lisi.’

4 In Mandarin the morpheme ‘de’ suffixed to the verb in (47) is used to introduce the resultative.

Lisi ba Zhangsan pian de tuantuanzhuan.
Lisi BA Zhangsan cheat DE run-around
‘Lisi pushed around Zhangsan like a fool.’

In the above example, ‘de’ introduces the result of the event, i.e. the ‘running-around’ state of ‘Zhangsan’.

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In (50) the object of the transitive verb ‘da’ (hit) is actually a Null Operator (NOP) which undergoes A’-movement to Spec CP. The subject of the BEI passive ‘Zhangsan’ binds the NOP in Spec CP. Thus the subject of BEI passive is not directly related to the gap but indirectly via a NOP in Spec CP.

Let’s move on then to the passives of DOCs.

(51) **Zhangsan** bei Lisi qiang-zou-le yi-ge wanju.
Zhangsan BEI Lisi rob-ZOU-ASP one-CL toy
‘Zhangsan had one toy robbed by Lisi.’

(52)
We can explain the passivization behavior with respect to the verb semantics. In (51) the IO ‘Zhangsan’ is the Source of the DO ‘yi-ge wanju’ (a toy), which is consistent with the semantics of the subject of the BEI passive, the entity (an animate DP or an inanimate DP) is adversely affected by some event. Thus the IO, a NOP, undergoes A’-movement to Spec CP. The subject of the BEI passive ‘Zhangsan’ binds the NOP. The DO ‘yi-ge wanju’ (a toy) stays in situ. We note that an animate DP is preferred to be the subject of the BEI passive. However, it is also possible to have an inanimate subject.

(53) na-ge wanju bei Zhangsan song-gei-le Mali.

that-CL toy BEI Zhangsan give-GEI-ASP Mali

‘That toy ends up with the property of being given to Mali.’

In (53) the IO ‘Mali’ is not qualified to be the subject. The semantics of ‘BEI’ can be described as ‘an entity (animate or inanimate) undergoes an event which adversely affects it’. In (53), the IO ‘Mali’ here is the Recipient of the ‘toy’. To put it differently, ‘Mali’ benefits from the event, which goes against the basic semantics of the verb ‘BEI’. Thus the IO cannot move. Instead, the DO, a NOP, undergoes A’-movement to Spec CP. The subject of the BEI passive ‘na-ge wanju’ (that toy) binds the NOP, as shown in (54).

(54)

So from the above discussion we see that the animate DP is preferred to be the subject of Mandarin BEI passives. But when the animate DP fails to qualify to be the subject, due to semantic restrictions, the inanimate DP appears at the subject position.
When we explore passivization in Applicatives, we thus need to be cautious and pay attention to at least two aspects:

a) Movement Type (A-movement or A’-movement);
   The English be-passive involves A-movement and is thus subject to DP Minimality. The Mandarin BEI passive involves A’-movement which cares about a different feature, i.e. not a [D] feature.

b) Applicative Content (e.g. Recipient or Source).
   In Mandarin Chinese, the Source IO can passivize while the Recipient IO cannot passivize. We have discussed that in Spanish, the Recipient IO cannot passivize either. So the Applicative Content can affect the passivization behavior of the objects.
Chapter 3 Ditransitive Patterns in Mandarin Chinese

3.0 Introduction

In this chapter I will discuss Mandarin ditransitive patterns. In the first section, I argue that there is a distinction between the Double Object Construction (DOC) and the Prepositional Construction, and the PP Construction is structurally different from the DOC. Then in the second section, I provide evidence that V-gei/zou is syntactically derived, which is different from the V-V Compound. In the third section I will discuss the applicative types in Mandarin DOCs.

3.1 The Distinction between DOCs and Prepositional Constructions

3.1.1 DOC vs. PP Construction

The PP Construction is structurally different from the DOC. Following Paul & Whitman (2010), I claim that the DOC pattern is not directly derivable from the PP construction or vice versa.

(55) a. Zhangsan song-(gei)-le Lisi yi-ben shu.
    Zhangsan give-GEI-ASP Lisi one-CL book
    ‘Zhangsan gave Lisi a book.’

    b. Zhangsan song-le yi ben-shu gei Lisi.
    Zhangsan give-ASP one CL-book to Lisi
    ‘Zhangsan gave a book to Lisi.’

(55a) is a typical DOC with optional gei-marking, which will be discussed in more detail below. In (55b) the post-object ‘gei’ is claimed to be a preposition (Sybesma 1999; Ting & Chang 2004; Paul & Whitman 2010, etc.).

Constituency tests indicate a clear difference between (55a) and (55b).

(56) *Zhangsan [gei le Lisi] song yi-ben shu.
    Zhangsan GEI ASP Lisi give one-CL book

(57) Zhangsan [gei Lisi] song le yi-ben shu.
    Zhangsan GEI Lisi give ASP one-CL book

(56) shows [gei + Aspect + IO] in the DOC is probably not a constituent while (57) shows [gei + IO] in the PP Construction is possibly a constituent.
In English researchers discussed one important contrast between the DOC and the P-dative, in that in the DOC there is a possession relationship between the IO and the DO. The IO receives a Possessor role. In the English P-dative, however, the possession relationship is not present. The IO in the P-dative receives a Location role. The ‘but test’ is often claimed to distinguish the DOC and P-dative patterns in English on this basis (Oehrle 1976; Stowell 1982; Harley 2002, etc.).

(58) a. # Max taught the students French, but they didn’t learn it.
    b. Max taught French to the students but they didn’t learn it.

(59) a. # I cut Rose a flower but I gave it to Mary.
    b. I cut a flower for Rose but I gave it to Mary.

In (58a) there is a much stronger implication that the students actually learned some French. In other words, ‘the students’ is the Possessor of the language. So it is awkward to have the ‘but’ coordination, which seems like a contradiction. In contrast, there is no implication that the ‘the students’ is the Possessor of the language in (58b). Thus it is quite acceptable to have the ‘but’ coordination. The contrast in (59) can be explained similarly.

The above contrast suggests that the transfer of possession must succeed in the DOC whereas it need not in the P-dative. In Mandarin Chinese we can also notice the difference between the DOC and the PP Construction concerning the strength of the implication of successful transference:

(60) a. # mama qia-gei-le erzi yi-kua rou, dan ta mei jiezhu.
      mother nip-GEI-ASP son one-CL meat but 3SG NEG get
      ‘The mother nipped off the son a piece of meat but he didn’t get it.’
    b. mama qia yi-kua rou gei erzi, dan ta mei jiezhu.
      mother nip one-CL meat for son but 3SG NEG get
      ‘The mother nipped off a piece of meat for the son but he didn’t get it.’

The DOC example (60a) indicates that the meat has been successfully transferred to the son, hence the ‘but’ clause is a contradiction. However, the PP example (60b) just implies that the mother intended to nip off the meat for the son and the ‘but’ clause is quite acceptable.

Consider then the following examples:

(61) a. Zhangsan māi -gei -le Lisi yi -ben shu.
    Zhangsan buy-GEI-ASP Lisi one-CL book
    ‘Zhangsan bought Lisi a book’                         (DOC)
    b. Zhangsan māi -le yi -ben shu gei Lisi.
    Zhangsan buy-ASP one-CL book to Lisi
    ‘Zhangsan bought a book for Lisi.’                     (PP Construction)
Chapter 3 Ditransitive Patterns in Mandarin Chinese

c. \[gei Lisi\] Zhangsan \textit{māi-le} \textit{yi-ben shu.}  
\hspace{1cm} for Lisi Zhangsan buy-ASP one-CL book  
‘For Lisi, Zhangsan bought a book.’  

(Fronted PP)

d. \[gei Lisi\] Zhangsan \textit{māi-le} \textit{yi-ben shu, dan Lisi mei yao.}  
\hspace{1cm} for Lisi Zhangsan buy-ASP one-CL book but Lisi NEG accept  
‘For Lisi, Zhangsan bought a book but Lisi didn’t accept it.’

In the above example, (61c) can only be derived from the PP Construction (61b), since \[gei + Lisi\] is not a constituent in the DOC (61a). We have discussed previously that in the PP Construction, there is no possession relationship between the IO and the DO, whereas in the DOC there is. In (61c), the IO can only be interpreted as Benefactive and the ‘but’ test in (61d) also shows the possession relation between ‘Lisi’ and ‘yi-ben shu’ (a book) is not present. The fronted PP Construction further supports the distinction between DOCs and PP Constructions in Mandarin Chinese.

3.1.2 Prepositional Status of Post-object ‘gei’

As we mentioned previously, we have a corresponding verb ‘\textit{gěi}’ for the verbal suffix ‘-\textit{gei}’ in Mandarin Chinese.

\[(62)\] Zhangsan \textit{gěi-le} \hspace{0.1cm} Lisi \hspace{0.1cm} \textit{yi-ben shu.}  
\hspace{1cm} Zhangsan give-ASP Lisi one-CL book  
‘Zhangsan gave Lisi a book.’

Given this some researchers (Li 1990; Huang & Ahrens 1999) claim that the post-object ‘\textit{gei}’ is also a verb, thus the example (63) is a Serial Verb Construction (SVC).

\[(63)\] Zhangsan \textit{song-le} \hspace{0.1cm} \textit{yi-ben shu} \hspace{0.1cm} \textit{gei} \hspace{0.1cm} Lisi.  
\hspace{1cm} Zhangsan give-ASP one-CL book GEI Lisi  
‘Zhangsan gave a book to Lisi.’

In this section, I will provide evidence that the post-object ‘\textit{gei}’ is a preposition rather than a verb.

The ability to take aspect markers can be used to identify verbhood in Mandarin Chinese (McCawley, 1992; Tang 1990). Prepositions do not allow aspect markers (Her 2006; Paul & Whitman 2010). ‘\textit{zai}’ (at) is a preposition in Mandarin and we cannot attach the aspect marker ‘-\textit{le}’ to the preposition, which leads to ungrammaticality in (64a).

\[(64)\] a. Zhangsan \textit{fang-(le)} \hspace{0.1cm} \textit{yi-ge diaoxiang zai(*le) xuexiao.}  
\hspace{1cm} Zhangsan place-ASP one-CL statue at-ASP school  
‘Zhangsan placed a statue at the school.’  

(Her 2006: 1277)
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b. Zhangsan song-(le) yi-ben shu gei (*le) Lisi.
   Zhangsan give-ASP one-CL book GEI-ASP Lisi
   ‘Zhangsan gave Lisi a book.’

In (64a) the verb ‘fang’ (place) can take the aspect marker ‘-le’ while the preposition ‘zai’ (at) cannot. Similarly in (64b), the verb ‘song’ (give) can have the aspect marker ‘-le’ but the post-object ‘gei’ cannot.

Contrast this with an example of a Serial Verb Construction in (65).

(65) Zhangsan na gunzi da-(le) Lisi.
    Zhangsan use stick hit-ASP Lisi
    ‘Zhang hit Lisi using a stick.’

In the SVC, the second verb allows the aspect marker. In (65) the verb ‘da’ (hit) can take the aspect marker ‘-le’. From the comparison in (64) and (65) we see that the post-object ‘gei’ behaves similarly to a preposition but not to a verb.

Post-object ‘gei’ exhibits another preposition-like property, i.e. post-object ‘gei’ cannot be stranded. Unlike English, Mandarin Chinese does not allow preposition stranding (Zhang 1990; Her 2006; He 2011, etc.).

(66) *Lisi fang-le yi-ge diaoxiang zai t1 de xuexiao1.
    Lisi place-ASP one-CL statue at COMP school
    ‘The school which Lisi placed a statue at.’ (Her 2006:1278)

In (66) the relative clause is ungrammatical because the NP ‘xuexiao’ (school) moves away and the preposition ‘zai’ (at) is stranded, which is not allowed in Mandarin. We observe that the post-object ‘gei’ cannot be stranded either, as shown in (67).

(67) *Lisi song-le yi-ge diaoxiang gei t1 de xuexiao1.
    Lisi give-ASP one-CL statue GEI COMP school
    ‘The school which Lisi gave a statue to.’

In (67) the relativization is also ungrammatical because the NP ‘xuexiao’ (school) cannot move away and leave a stranded ‘gei’.

On the other hand in a Mandarin relative clause a verb can be stranded, as illustrated in (68).

(68) Lisi fang t1 zai xuexiao de diaoxiang1.
    Lisi place at school COMP statue
    ‘The statue which Lisi placed at the school.’

In (68) the object of the verb ‘diaoxiang’ (statue) moves away while the verb ‘fang’ (place) is stranded, which is grammatical in Mandarin. We can find a stranded verb in the Double Object Construction (DOC) as well.
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(69) Zhangsan song-gei-le Lisi t₁ de na-ben shu₁.

Zhangsan give-ASP Lisi COMP that-CL book

‘The book that Zhangsan gave Lisi’

In (69) ‘gei’ together with the verb song (give) can be stranded which is quite different from the post-object ‘gei’ in (67), in which case it is not allowed to be stranded. The distinct behavior in stranding reflects the difference between the DOC and the PP Construction.

We can also compare the construction having a post-object ‘gei’ with a true Serial Verb Construction, with fronting of the relevant object.

(70) a. Lisi, Zhangsan yao na gunzi da t₁.

Lisi, Zhangsan want use stick hit

‘Lisi, Zhangsan wants to use a stick to hit.’

(Zhang 1990:314)

b.*Lisi, Zhangsan song-le yi-ben shu gei t₁.

Lisi Zhangsan give-ASP one-CL book GEI

‘Lisi, Zhangsan gave a book to.’

As Zhang (1990) discusses, a true Serial Verb Construction allows the second verb to be stranded as shown in (70a), but the post-object ‘gei’ in (70b) cannot be stranded.

Another contrast with a SVC is that again the post-object [‘gei NP] can be fronted to the beginning of the sentence while [a serial verb + Object] cannot.

(71) a. Zhangsan māi-le yi-ben shu [gei Lisi]

Zhangsan buy-ASP one-CL book [to Lisi]

‘Zhangsan bought a book and give it to Lisi.’

b. [gei Lisi] Zhangsan māi-le yi-ben shu.

for Lisi Zhangsan buy-ASP one-CL book

‘For Lisi Zhangsan bought a book.’

(72) a. Zhangsan na-le gunzi da Lisi.

Zhangsan use-ASP stick hit Lisi

‘Zhangsan used a stick to hit Lisi.’

b.*da Lisi Zhangsan na-le gunzi.

hit Lisi Zhangsan use-ASP stick

In (71) the post-object [‘gei NP] is allowed to be fronted but in (72) the VP [‘da NP] is not allowed to be fronted. In Mandarin Chinese, a prepositional phrase is allowed to be fronted, as shown in the following example with ‘zai’ (at).
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(73) a. Zhangsan fang-le yi-ge diaoxiang [zai xuexiao].
    Zhangsan place-ASP one-CL statue at school
    ‘Zhangsan placed a statue at the school.’

    b. [zai xuexiao] Zhangsan fang-le yi-ge diaoxiang.
       at school Zhangsan place-ASP one-CL statue
       ‘At the school, Zhangsan placed a statue.’

Let’s summarize what we have discussed now. The post-object ‘gei’ has three preposition-like properties:
   a) Post-object ‘gei’ does not allow aspect marker ‘-le’;
   b) Post-object ‘gei’ cannot be stranded;
   c) Post-object [gei NP] can be fronted.
All these facts lead us to conclude that the post-object ‘gei’ is a preposition.

3.1.3 The Structure of the PP Construction

In this section we will analyze the syntactic structure of the PP Construction.

(74) a. EA V OBJ-Theme gei DP-Recipient (PP Construction)

    b. EA V-gei IO-Recipient DO-Theme (DOC)

In (74a), the Recipient argument in a PP is placed lower than the Theme argument OBJ, which is different from the DOC in (74b). The verbs in the PP Construction include song ‘give’, ji ‘mail’ etc.

(75) a. Zhangsan song-le yi-ben shu gei Lisi.
    Zhangsan give-ASP one-CL book to Lisi
    ‘Zhangsan gave a book to Lisi.’

    b. Zhangsan ji -le yi-feng xin gei Lisi.
       Zhangsan mail-ASP one-CL letter to Lisi
       ‘Zhangsan mailed a letter to Lisi.’

We can analyze the PP Construction in Tree (76), similar to Larson (1988)’s VP Shell analysis but updated with v and V instead of two shells of a single V. In (76) the Recipient ‘Lisi’ is in the complement position of the PP. The object of the lexical verb ‘yi ben shu’ (a book) is positioned in Spec VP. The Spec vP is occupied by the external argument ‘Zhangsan’.
3.2 V-gei/zou vs. V-V Compound

We mentioned previously that in Mandarin Chinese, we have two corresponding verbs to these two elements ‘-gei’ and ‘-zou’: ‘给 gěi’ which means ‘give somebody something’ and ‘走 zǒu’ which means ‘leave or go away from somebody’. Some researchers (e.g. Li 1990) thus analyze V-gei as V-V Compound. In this section, I will provide evidence that V-gei is syntactically derived, which is also discussed in Paul & Whitman (2010). They only talk about V-gei construction, so I will provide evidence to show that V-zou is also syntactically derived. V-gei/zou is thus different from V-V Compounds.

i. Different Behavior in Verb Copying

Verb Copying refers to a grammatical process in which a verb is duplicated after its direct object when in the presence of certain adverbial elements (cf. Li & Thompson 1981), as shown in the following form.

(77) Verb Copying in Mandarin Chinese

Subject  V  DO  V  Adverbial

V-gei/zou and V-V Compound behave differently with respect to Verb Copying.

(78) tamen jian -cha huzhao jian *(-cha) -le bantian.

3PL  inspect-examine  passport  inspect-examine-ASP  long time

‘They examined the passports for a long time’ (Paul & Whitman 2010:10)
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(79) \( \text{wo song gei ta qian yijing song (*-gei)-le haoji ci le.} \)
\( \text{1SG give GEI 3SG money already give -GEI-ASP many time PART} \)
‘I have given him money several times already.’ \((\text{Paul & Whitman 2010:10})\)

In (78) Verb Copying must copy both members of a V-V Compound, but it cannot copy V-gei, as shown in (79). Paul & Whitman (2010) argue that the contrast between (78) and (79) suggests that V-gei is composed by verb raising in the derivation while V-V Compound is formed in the lexicon, thus V-V can be copied as soon as they enter the derivation.

For V-zou, Verb Copying is not allowed either, as illustrated in the following example.

(80) \( \text{Lisi tou zou Zhangsan jiezhi yijing tou (*-zou)-le haoji ci le.} \)
\( \text{Lisi steal ZOU Zhangsan ring already steal -ZOU-ASP many time PART} \)
‘Lisi has stolen Zhangsan the ring several times already.’

\( ii. \) Different Behavior in A-not-A Questions

The Mandarin A-not-A question is a type of question with a function similar to that of a yes/no question, the surface form of which involves two copies of a predicate with one copy negated (cf. Hagstrom 2006), as illustrated in (81).

(81) \( \text{A-not-A Questions in Mandarin} \)
\( \text{Subject V NEG V OBJ ?} \)

We can also identify a difference between V-gei/zou and V-V Compounds in their different behaviors in A-not-A Questions.

(82) a. \( \text{ta [xi-huan] bu [xi-huan] shuxue?} \)
\( \text{3SG like NEG like mathematics} \)

b. \( \text{ta xi- bu xi-huan shuxue?} \)
\( \text{3SG like NEG like mathematics} \)

c. \( \text{ta [xi-huan] shuxue bu [xi-huan] shuxue?} \)
\( \text{3SG like mathematics NEG like mathematics} \)
‘Does he like mathematics?’ \((\text{Paul & Whitman 2010:10})\)

(83) a. \( *\text{Lisi huan gei bu huan gei Zhangsan qian?} \)
\( \text{Lisi return GEI NEG return GEI Zhangsan money} \)

b. \( \text{Lisi huan bu huan gei Zhangsan qian?} \)
\( \text{Lisi return NEG return GEI Zhangsan money} \)
‘Will Lisi return the money to Zhangsan?’
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Observing the above examples we find in a V-V Compound (82) both members of V-V can be treated as a unit, placed before negation. However in a V-gei (83) the two elements cannot be treated as a unit, rather ‘gei’ can only appear with the second occurrence of the verb. Following Paul & Whitman (2010), I assume the difference implies that V-gei is combined in the syntax rather than in the lexicon.

For V-zou we obtain the same observation, as shown in (84).

\[(84) \begin{align*}
\text{a.} & \quad \text*Lisi qi} & \text{iang zou mei qi} & \text{iang zou Zhangsan wanju?} \\
& \quad \text{Lisi rob ZOU NEG rob ZOU Zhangsan toy}
\end{align*}\]

\[b. \quad \text*Lisi qi} & \\text{iang mei qi} & \\text{iang zou Zhangsan wanju?} \\
& \quad \text{Lisi rob NEG rob ZOU Zhangsan toy}
\]

‘Did Lisi steal the toy away from Zhangsan?’

Therefore we note V-gei/zou is not a V-V Compound, and there is evidence that V-gei/zou is syntactically derived or at least crucially that it’s combined in a different way than V-V compounds are.

3.3 Mandarin DOCs and Applicative Types

In this section I will discuss the DOC patterns in Mandarin Chinese. By adopting the standard applicative diagnostics we discussed in Chapter 2, I find three types of Applicatives in Mandarin, i.e. Low Recipient Applicatives, Low Source Applicatives and High Affectee Applicatives.

3.3.0 Verb Classes in Mandarin DOC

In Mandarin Chinese, I find six classes of verbs in DOCs, classified according to IO interpretation and the ‘gei/zou’ marking, as illustrated in (85).

\[5\]

\[I\]

I exclude some marginal patterns in the verb classification. In Mandarin, the verb ‘zu’ (rent) can be followed by a Recipient IO with an obligatory ‘gei’ marking and surprisingly it is less acceptable to have a Source IO with ‘zou’ marking. It is grammatical however, to have a Source IO without the ‘zou’ marking, as shown in the following examples:

\[(a) \quad \text*Lisi zu -gei-le Zhangsan yi-jian fang.} \\
& \quad \text{Lisi rent-GEI-ASP Zhangsan one-CL room}
\]

‘Lisi rented out a room to Zhangsan’

\[(b) \quad \text*? Lisi zu -zou-le Zhangsan yi-jian fang.} \\
& \quad \text{Lisi rent-ZOU-ASP Zhangsan one-CL room}
\]

‘Lisi rented one of Zhangsan’s rooms.’

\[(c) \quad \text*Lisi zu -le Zhangsan yi-jian fang.} \\
& \quad \text{Lisi rent-ASP Zhangsan one-CL room}
\]

‘Lisi rented one of Zhangsan’s rooms.’

I do not have a satisfactory explanation for the phenomenon here. Probably it is related to the verb semantics.
In (85) we observe that the IO in Mandarin DOCs can be interpreted as Recipient, Source and Affectee with sharp contrast to the English IO interpretation, which is limited to Recipient IO. The ‘verb transitivity’ column shows the inherent verb transitivity without a verbal suffix. The ‘V-gei/zou transitivity’ column tells us the transitivity of the suffixed verb. The suffixed verbs are uniformly the same type, i.e. ditransitive. In the last column we observe that there are two kinds of overt marking in Mandarin DOCs, i.e. gei-marking and zou-marking. For some DOC patterns, the overt marking is obligatory while for other patterns, it is optional. Class ⑥ is exceptional, not allowing overt marking at all.

I will divide the six verb classes into four groups according to the verbal suffix they take, i.e. the GEI-suffix Construction, the ZOU-suffix Construction, the V-gei/zou Construction and the Non-suffix Construction.

3.3.1 The GEI-suffix Construction

3.3.1.1 Introduction

Class ① EA V (gei) IO-RECIPIENT DO

In the first class, the IO is the recipient of the DO, and there is an optional overt marking element ‘-gei’. The verbs that enter the construction have the semantics of transference. The verbs are inherently ditransitive. We may illustrate the argument structure of the verb this way: V<RECIPIENT, THEME>. With the overt ‘gei’ marking, the argument structure is still the same: V + gei <RECIPIENT, THEME>.

The verbs in this class include song ‘give’, huan ‘return’ etc.

Zhangsan song-(gei)-le Lisi yi-ben shu.
Zhangsan give-GEI-ASP Lisi one-CL book
‘Zhangsan gave Lisi a book.’

Class ② EA V gei IO-RECIPIENT DO

In this class, ‘-gei’ marking is obligatory. Just like the first class, the IO is interpreted as the Recipient of the DO. The verbs in the construction do not have transference semantics
themselves, but they are compatible with it. By the addition of ‘gei’, they belong to the transference verb group. This can be represented as (87)

(87) V <THEME> → V + gei <RECIPIENT, THEME>

The verbs in this class include xie ‘write’, ti ‘kick’ etc.

(88) Zhangsan xie -gei-le Lisi yi-feng xin.
   ‘Zhangsan wrote Lisi a letter.’

We note the difference between the two classes is the inherent transitivity of the verb: for ditransitive verbs in the first class, the overt marking ‘gei’ is optional while for the monotransitive verbs in the second class, the overt marking is obligatory.

Passivization Behavior

In the GEI-suffix Construction, the IO cannot become the subject in the passive while the DO can, which is different from what occurs in English.

DO bei EA V (gei) /gei IO (89a and 90a)
*IO bei EA V (gei) /gei DO (89b and 90b)

(89) a. na-ben shu bei Zhangsan song-(gei)-le Lisi.
   that-CL book BEI Zhangsan give-GEI-ASP Lisi
   ‘That book was given to Lisi by Zhangsan.’

b. *Lisi bei Zhangsan song-(gei)-le yi-ben shu.
   Lisi BEI Zhangsan give-GEI-ASP one-CL book

(90) a. na-feng xin bei Zhangsan xie -gei -le Lisi.
   that-CL letter BEI Zhangsan write-GEI-ASP Lisi
   ‘That letter was written to Lisi by Zhangsan.’

   Lisi BEI Zhangsan write-GEI-ASP one-CL letter

3.3.1.2 Applicative Classification

(91) a. Zhangsan song-(gei)-le Lisi yi-ben shu.
   Zhangsan give-GEI-ASP Lisi one-CL book
   ‘Zhangsan gave Lisi a book.’
b. Zhangsan xie -gei-le Lisi yi-feng xin.
Zhangsan write-GEI-ASP Lisi one-CL letter
‘Zhangsan wrote Lisi a letter.’

In the GEI-suffix Construction (Class① and Class②) we observe that the applicative head relates two individuals, i.e. the IO and the DO. It does not relate the IO to the event in the VP. By the definition given in Pylkkänen (2008), I argue that the GEI-suffix Construction is a kind of Low Applicative, based on the following tests.

1) Possession Property
   In (91) we can further specify the relation between the IO and the DO, i.e. the IO has the possession of the DO. In (91a), ‘Lisi has the book’. In (91b), ‘Lisi has the letter’.

2) Transference Requirement
   We find a transference process taking place. In (91a) the DO ‘yi-ben shu’ (a book) is transferred from the external argument ‘Zhangsan’ to the IO ‘Lisi’. In (91b) similarly, the DO ‘yi-feng xin’ (a letter) is transferred from ‘Zhangsan’ (the EA) to ‘Lisi’ (the IO).
   We do not expect to find verbs that are not consistent with transference (e.g. static verbs) in the construction. The verb ‘kan’ (watch) does not have the semantics of transference. We’ve seen that in Mandarin, monotransitive verbs can enter the DOC, if they are consistent with transference semantics. So we will test whether the verb ‘kan’ (watch) is compatible with the ‘-gei’ suffix.

(92) *wo kan -gei-zhe Mali bao.
    1SG watch-GEI-ASP Mali bag
The verb cannot have the ‘-gei’ suffix as shown in (92), which is as expected if this construction is a Low Applicative.
The Benefactive argument must be introduced by a preposition ‘wei’ (for), as shown in (93).

(93) wo wei Mali kan -zhe bao.
    1SG for Mali watch-ASP bag
‘I’m watching the bag for Mali.’

3) Transitivity Restriction
   A Low Applicative is not compatible with unergatives, since we need the Theme argument, which undergoes the transference process.

(94) a. *wo tiaowu-gei-le ta.
    1SG dance-GEI-ASP 3SG
b. wo wei ta tiaowu-le.
    1SG for 3SG dance-ASP
‘I danced for him.’
In (94a) a Low APPL is not capable of introducing the additional argument ‘ta’ (him). The Benefactive argument ‘ta’ (him) must be introduced by the preposition ‘wei’ (for) in (94b).

Thus we can conclude that the GEI-suffix Construction is a kind of Low Applicative. Since the IO is interpreted as Recipient, it is a Low Recipient Applicative.

3.3.2 ZOU-suffix Construction

3.3.2.1 Introduction

*Class③ EA V (zou) IO-SOURCE DO*

In the third class, ‘zou’ marking is optional. The IO is interpreted as the Source of the DO, i.e. the DO goes from the possession of the IO. The verbs in this class are transference verbs and they are inherently ditransitive. However, the transference direction is the opposite of that of the GEI-suffix Construction. Semantically, we can say in the transference process, the IO loses the DO. The argument structure of the verb is: V<SOURCE, THEME>. Verbs in this class include ‘tou’ ‘steal’, ‘qiang’ ‘rob’ etc.

(95) Lisi tou -(zou) -le Zhangsan yi-ge jiezhi.
Lisi steal-ZOU-ASP Zhangsan one-CL ring
‘Lisi stole a ring from Zhangsan.’

*Class④ EA V-zou IO-SOURCE DO*

In this class, ‘zou’ marking is obligatory. The IO is interpreted as the Source of the DO, i.e. the DO goes from the possession of the IO. The verbs in this class are derived transference verbs, and inherently they are monotransitive, but compatible with Source transference. We may illustrate derivation this way:

(96) V <THEME> → V + gei <SOURCE, THEME>

The verb ‘kai’ (drive) is a typical verb in this class.

(97) Lisi kai -zou -le Zhangsan yi-liang che.
Lisi drive-ZOU-ASP Zhangsan one-CL car
‘Lisi drove away one of Zhangsan’s cars.’

The two classes (*Class③* and *Class④*) are different in their inherent verb transitivity and the optionality of overt marking. The ditransitive verbs do not need the overt marking element ‘zou’ whereas the monotransitive verbs do need the overt marking, which is parallel to the first group, i.e. the GEI-suffix Construction.
Passivization Behavior

In the ZOU-suffix Construction, the IO can become the subject in the passive while the DO cannot, which is opposite to the case in the GEI-suffix Construction.

\[ \text{IO bei EA V (zou) /zou DO (98a and 99a)} \]
\[ \text{*DO bei EA V (zou) /zou IO (98b and 99b)} \]

(98) a. Zhangsan bei Lisi tou -(zou) -le yi-ge jiezhi.

Zhangsan BEI Lisi steal-ZOU-ASP one-CL ring

‘Zhangsan underwent the event that Lisi stole a ring from him.’

b. *yi-ge jiezhi bei Lisi tou -(zou) -le Zhangsan.

one-CL ring BEI Lisi steal-ZOU-ASP Zhangsan

(99) a. Zhangsan bei Lisi kai -zou -le yi-liang che.

Zhangsan BEI Lisi drive-ZOU-ASP one-CL car

‘Zhangsan underwent the event that Lisi drove a car away from him.’

b. *na-liang che bei Lisi kai -zou -le Zhangsan.

that-CL car BEI Lisi drive-ZOU-ASP Zhangsan

3.3.2.2 Applicative Classification

(100) a. Lisi tou -(zou) -le Zhangsan yi-ge jiezhi.

Lisi steal-ZOU-ASP Zhangsan one-CL ring

‘Lisi stole a ring from Zhangsan.’

b. Lisi kai -zou -le Zhangsan yi-liang che.

Lisi drive-ZOU-ASP Zhangsan one-CL car

‘Lisi drove away one of Zhangsan’s cars.’

In the ZOU-suffix Construction in (100), we observe that the applicative head relates two individuals, i.e. the IO and the DO, which is quite similar to the GEI-suffix Construction. The IO is not related to the event in the VP. By the definition given in Pylkkänen (2008), I argue that the ZOU-suffix Construction is also a kind of Low Applicative. I give tests here to characterize its applicative type and identify the differences between the ZOU DOC and the GEI DOC.

1) Possession Property

In (100) we can specify the relation between the IO and the DO, i.e. the IO loses the possession of the DO. In (100a), ‘Zhangsan lost the ring’. In (100b), ‘Zhangsan lost the car’.

2) Transference Requirement

We find a transference process taking place. In (100a) the DO ‘yi-ge jiezhi’ (a ring) is
transferred from the IO ‘Zhangsan’ to the external argument ‘Lisi’. In (100b) similarly, the DO ‘yi-liang che’ (a car) is transferred from ‘Zhangsan’ (the IO) to ‘Lisi’ (the EA). We do not expect to find verbs that are not consistent with transference (e.g. static verbs) in the construction.

(101) *wo  kan -zou -zhe    Mali  bao.
    1SG  watch-ZOU-ASP    Mali  bag

In (101) we note that the static verb ‘kan’ (watch) is not compatible with the ‘-zou’ suffix. Previously we knew it was not compatible with the ‘-gei’ suffix. Thus the verb is not compatible with transference in either direction.

A Benefactive argument must be introduced by a preposition ‘wei’ (for), as shown in (102).

(102) wo  wei    Mali  kan -zhe   bao.
     1SG  for    Mali  watch-ASP  bag
     ‘I’ m watching the bag for Mali.’

3) Transitivity Restriction

A Low Applicative is not compatible with unergatives, since we need the Theme argument, which undergoes the transference process.

(103) a. *wo  paobu-zou -le    ta.
    1SG  run -ZOU-ASP    3SG

b. wo  wei    ta  paobu-le.
    1SG  for    3SG  run-ASP
    ‘I ran for him.’

In (103a) a Low APPL is not capable of introducing the additional argument ‘ta’ (him). The Benefactive argument ‘ta’ (him) must be introduced by the preposition ‘wei’ (for) in (103b).

Based on the above tests we can conclude that the ZOU-suffix Construction is also a kind of Low Applicative. Since the IO is interpreted as Source, it is a Low Source Applicative.

By Comparison we notice two differences between the Low Source Applicative and the Low Recipient Applicative in Mandarin Chinese.

a) The Directionality of the transference is different and the overt marking elements are ‘zou’ and ‘gei’ respectively;

b) The passivization behavior is different: for the ZOU DOC, the IO becomes the subject of the passive while for the GEI DOC, the DO becomes the subject of the passive.

Otherwise, the two constructions (i.e. the GEI-suffix Construction and the ZOU-suffix Construction) are quite similar, involving various properties of low applicatives and a similar distribution of obligatory vs. optional overt marking.
3.3.3 V-gei/zou Construction

**Class @ EA V gei/zou IO-RECIPIENT/SOURCE DO**

In this class, the verb can be marked with either ‘gei’ or ‘zou’, and the overt marking is obligatory. When the verb is ‘gei’-marked, the IO is the Recipient of the DO. When it is ‘zou’-marked, the IO is the Source of the DO. The verbs in this class are inherently monotransitive. The verbs in this class are compatible with transference in either direction, and the overt marking elements are used to specify the directionality, as illustrated in (104) and (105).

(104) ‘gei’ Marking ---- Recipient Transference

\[ V <\text{THEME}> \rightarrow V + \text{gei} <\text{RECIPIENT, THEME}> \]

(105) ‘zou’ Marking ---- Source Transference

\[ V <\text{THEME}> \rightarrow V + \text{zou} <\text{SOURCE, THEME}> \]

The verb ‘ji’ (mail) is a typical example in this class.


\[
\text{Zhangsan mail-GEI-ASP Lisi one-CL book}
\]

‘Zhangsan mailed Lisi a book.’

b. Zhangsan ji -zou -le Lisi yi-ben shu.

\[
\text{Zhangsan mail-ZOU-ASP Lisi one-CL book}
\]

‘Zhangsan mailed a book from Lisi (to himself or someone else).’

The passivization facts are interesting here since we can get the difference in acceptability of the DO/IO passivization according to Recipient/Source status even with a single verb.

(107) Recipient IO -- DO Passivization

a. na-ben shu bei Zhangsan ji -gei -le Lisi.

\[
\text{that-CL book BEI Zhangsan mail-GEI-ASP Lisi}
\]

‘That book ended up with the property of being mailed to Lisi.’

b. *Lisi bei Zhangsan ji-gei-le yi-ben shu.

\[
\text{Lisi BEI Zhangsan mail-GEI-ASP one-CL book}
\]

(108) Source IO -- IO Passivization

a. Lisi bei Zhangsan ji -zou -le yi-ben shu.

\[
\text{Lisi BEI Zhangsan mail-ZOU-ASP one-CL book}
\]

‘Lisi underwent the event that Zhangsan mailed a book from him’

b. *yi-ben shu bei Zhangsan ji -zou -le Lisi.

\[
\text{one-CL book BEI Zhangsan mail-ZOU-ASP Lisi}
\]
I will not discuss applicative diagnostics for this class, which are exactly parallel to those in the GEI-suffix Construction and the ZOU-suffix Construction. Regarding applicative classification, the fifth class can be either a Low Recipient Applicative (with ‘gei’ marking as in 106a) or a Low Source Applicative (with ‘zou’ marking as in 106b). The directionality of transference in Mandarin Chinese is nicely reflected in this class.

3.3.4 Non-suffix Construction

3.3.4.1 Introduction

Class⑥ EA V IO-AFFECTEE DO

Verbs of this class do not allow an overt ‘gei’ or ‘zou’ in ditransitive uses. Different from the previous classes, we cannot find a possession relation between the IO and the DO. There is no transference taking place in the process. The IO can be interpreted as the one who is negatively affected by the event. In other words, there is a relation between the IO and the event in the VP.

The verbs in this construction do not need to be transference verbs. Nevertheless, they are transitive verbs, since the DO is required by the verb. The DO is the entity which is involved in the affecting event. The verbs in this construction are resultative verbs. The resultativity in the construction creates a relation between the IO and the end state of the DO.

(109) Lisi da-sui -le Zhangsan yi-ge huaping.
       Lisi hit-broken-ASP Zhangsan one-CL vase
‘Lisi broke one vase on Zhangsan.’

In (109) the IO ‘Zhangsan’ is affected by the end state of the DO ‘yi ge huaping’ (a vase), being broken. Actually there is no direct relation between the IO ‘Zhangsan’ and the DO ‘yi ge huaping’ (a vase). The argument structure of the verb in this type can be illustrated this way: V <THEME>. The verbs in this type include chi ‘eat’, hua ‘spend’, da-sui ‘hit-broken’ etc.

Passivization Behavior

We have discussed the special properties of the Mandarin BEI passive. The subject is the entity that is adversely affected by some event. In the Non-suffix Construction, the IO is not surprisingly a qualified candidate for the subject of the BEI passive. We can find support from the Mandarin data in (110).

(110) a. Zhangsan bei Lisi da-sui -le yi-ge huaping.
       Zhangsan BEI Lisi hit-broken-ASP one-CL vase
‘Zhangsan underwent the event that Lisi broke one of his vases.’

b. *yi-ge huaping bei Lisi da-sui -le Zhangsan.
   one-CL vase BEI Lisi hit-broken-ASP Zhangsan

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### 3.3.4.2 Applicative Classification

(111) *Lisi da-sui -le Zhangsan yi-ge huaping.*

Lisi hit-broken-ASP Zhangsan one-CL vase

‘Lisi broke a vase on Zhangsan.’

In the Non-suffix Construction in (111), we observe that the APPL relates one individual to an event, i.e. the IO ‘Zhangsan’ and the ‘vase-broken’ event, which is a kind of High Applicative according to the definition given in Pylkkänen (2008).

1) **Possession Property**

In (111) we might think there is a possession relationship between the IO and the DO, i.e. the IO loses the possession of the DO, i.e. ‘Zhangsan lost the vase’. However, this impression is misleading. The possible possession relationship can be cancelled. Consider the following sentence.

(112) *Lisi da-sui -le Zhangsan yi-ge Mali de huaping.*

Lisi hit-broken-ASP Zhangsan one-CL Mali GEN vase

‘Lisi broke one of Mali’s vases on Zhangsan.’

In (112) the possessor of the ‘huaping’ (vase) is ‘Mali’ rather than ‘Zhangsan’. We can imagine a situation like ‘Zhangsan rents Mali’s apartment and all the stuff in the house is provided by Mali.’ So the Source interpretation of ‘Zhangsan’ is not necessary.

2) **Transference Requirement**

We cannot find a transference process taking place in (111). The DO ‘yi ge huaping’ (a vase) is not transferred from the IO ‘Zhangsan’ to the EA ‘Lisi’, who broke the vase.

In a High Applicative, there is no transference requirement for the verb in the construction. Thus static verbs are allowed in High Applicatives.

Let’s look at the Venda example:

(113) *Nd -o -far-el -a Mukasa khali.*

1SG-PAST- **hold**-APPL-FV Mukasa pot

‘I held the pot for Mukasa.’ (Pylkkänen 2008:21)

In (113), the static verb ‘hold’ is allowed in the High Applicative. In Mandarin this particular applicative requires a resultative. In (111), the result is ‘the vase is broken’ and the IO ‘Zhangsan’ is adversely affected.

3) **Transitivity Restriction**

Pylkkänen (2008) claims that High Applicative is compatible with intransitive verbs and there is not transitivity restriction for High Applicatives. Let’s look at the Chaga example again:
In (114a) ‘eat’ is a transitive verb and in (114b) ‘run’ is an intransitive verb. So, in the High Applicative structure there is no requirement for the DO in the sentence.

Then we go back to the Mandarin example in (111). We mentioned that the verbs in this class are resultative verbs. The IO is affected by the end state of the DO. The DO is required by the transitive verb ‘da-sui’ (hit-broken). In the Chaga example, ‘food’ in (114a) is required by the transitive verb ‘eat’. The resultativity in (111) requires the DO. Therefore when we adopt the transitivity test to decide the applicative type, we need to be clear that in High Applicatives, transitive verbs are allowed, since there may be some other grammatical elements (e.g. resultativity in 111) which require the internal argument.

In Mandarin we have a kind of construction called ‘double unaccusatives’ (cf. Chappell 1999), as shown in (115)

(115) Akiu  pao-le  laopo.
Akiu  run-ASP  wife
‘Akiu’s wife ran away and he is negatively affected by the running-away event’  (Tsai 2009: 14)

As Tsai (2009) mentions, in the literature the double unaccusative construction involves affectedness of some sort (cf. Pan 1997; Tsai 2007 etc.) The sentence (115) means ‘Akiu’s wife ran away and he is negatively affected by the running-away event’. Thus it is a High Applicative. The ‘transitivity requirement’ here is actually a requirement for an internal argument i.e. ‘laopo’ (wife) in (115), which is what we expect for a resultative.

Now we conclude the Non-suffix Construction is a kind of High Applicative. Since the IO is negatively affected in the ‘vase-broken’ event in (111), we term this kind of Applicative as the High Affectee Applicative.
Chapter 4 Issues with a Pure Applicative Analysis of Mandarin DOCs

4.0 Introduction

In this chapter I will start working towards an analysis of the applicative structures of Mandarin DOCs. The obvious starting point would be to assume that the suffixes ‘-gei’ and ‘-zou’ are APPL heads. This, however, would raise two issues, i.e.

1) The ZOU-suffix Construction and the GEI-suffix Construction behave like Low Applicatives but their position in the verbal string makes them look like High Applicatives;
2) There is evidence that the IO is in a position higher than where we would expect the argument of a Low Applicative to be introduced.

Paul & Whitman (2010) posit a Raising Applicative analysis to tackle the above issues but we will see that there are problems with their analysis, which will lead me to propose an alternative in the next chapter.

4.1 The Crucial Properties of Mandarin Applicatives

4.1.1 Low Applicative Status of GEI/ZOU-suffix Constructions

   Zhangsan  write-GEI-ASP     Lisi    one-CL     letter
   ‘Zhangsan wrote Lisi a letter.’

   b. Lisi    kai   -zou- le  Zhangsan    yi-liang    che.
   Lisi    drive-ZOU-ASP  Zhangsan    one-CL    car
   ‘Lisi drove away one of Zhangsan’s cars.’

I have discussed in the previous chapter that the GEI-suffix Construction (116a) and the ZOU-suffix Construction (116b) are Low Applicatives. Both of them relate two individuals, i.e. the IO and the DO. And according to the applicative diagnostics, i.e. the Possession Property, the Transference Requirement and the Transitivity Restriction, they behave like Low Applicatives. The obvious assumption would then be that the verbal suffixes ‘-gei’ and ‘-zou’ are overt realizations of the APPL Head, which is responsible for introducing the applied argument IO, i.e. ‘Lisi’ in (116a) and ‘Zhangsan’ in (116b). Then we might have a structure like (117) for GEI/ZOU-suffix Constructions.
4.1.2 The Ordering of GEI/ZOU

Then let us consider how we would achieve the surface order of the GEI/ZOU-suffix Constructions.

(118) a. Zhangsan xie -gei-le Lisi yi-feng xin.
   Zhangsan write-GEI-ASP Lisi one-CL letter
   ‘Zhangsan wrote Lisi a letter.’

   b. Lisi kai -zou-le Zhangsan yi-liang che.
   Lisi drive-ZOU-ASP Zhangsan one-CL car
   ‘Lisi drove away one of Zhangsan’s cars.’

Under the standard assumption that head adjunction is always to the left, successive head movements in the structure in (117) will yield the surface ordering in (119).

(119) *EA [ASPP gei/zou-V -le [VP <gei/zou-V> [APPLP IO <gei/zou> DO]]].

But the surface ordering in (119) is entirely ungrammatical, as shown in (120).

(120) a. *Zhangsan gei -xie -le Lisi yi-feng xin.
   Zhangsan APPL-write-ASP Lisi one-CL letter

   b. *Lisi zou -kai -le Zhangsan yi-liang che.
   Lisi APPL-drive-ASP Zhangsan one-CL car

Note that the order we actually find is what we would expect if ‘gei/zou’ were high applicative heads (See 121), but this goes against the semantics and other behaviors of the constructions.
In order to have the right surface order we would have to assume that the LAPPL moves up and right-adjoints to the lexical verb. After the right adjunction of the head movement, the unit \[V\text{-gei/zou}\] moves together and left-adjoints to the Aspect. The derivation is illustrated in (122).

Unfortunately the above derivation violates the widespread consensus that head adjunction is always to the left (Kayne 1994; Baker 1996) which is also thought to hold in Mandarin Chinese (Lin 2001). Such an analysis thus goes against the Mirror Principle, i.e. ‘Morphological derivations must directly reflect syntactic derivations (and vice versa)’ (Baker 1988: 13).

4.1.3 The Evidence that the IO Moves up

There is also a question as to where the IO shows up on the surface. Under a Low Applicative Analysis, we expect it to start out in a rather low position, Spec LAPPLP, which is within the VP. If it shows up higher on the surface, this would have to be due to movement.
In this section I will provide evidence that this is exactly what happens by examining the behaviors of the frequency adverb san-ci ‘three times’ and distributive adverbial quantifiers mei-ren ‘every (one)’ and yi-ren ‘each’. Following Paul & Whitman (2010), I claim that the frequency adverb (FA) san-ci ‘three times’ is positioned on the left edge of the VP (Also see Cinque 1999; Soh 2005). This can be used to diagnose the surface position of the IO.

(123) a. Zhangsan mài-gei-le Lisi san-ci [VP shoubiao].
    Zhangsan sell-GEI-ASP Lisi three-time watch
    ‘Zhangsan has sold Lisi watches three times.’

   Zhangsan sell-GEI-ASP three-time Lisi watch

(124) a. Lisi kai -zou -le Zhangsan san-ci [VP che].
    Lisi drive-ZOU-ASP Zhangsan three-time car
    ‘Lisi has driven away Zhangsan’s car three times. ’

b. *Lisi kai -zou -le san-ci Zhangsan che.
   Lisi drive-ZOU-ASP three-time Zhangsan car

Assuming the frequency adverb is positioned on the left edge of the VP, the IO in (123a) and (124a) is placed outside the lexical VP:

(125) IO FA (san-ci) [VP <V>DO]

Note that if the IO were introduced by a High APPL, such a position would be expected, even in the absence of movement. But we have seen that these DOCs pass all of the diagnostics for Low Applicative constructions, so we would expect them to be inside the VP, unless they are moved higher. We thus must look for evidence of movement.

For this, consider the distributive adverbial quantifier mei-ren/yiren ‘every (one)/each’. As Paul & Whitman argue, unlike the frequency adverb san-ci ‘three times’, the distributive adverbial quantifier mei-ren/yiren ‘every (one)/each’ needs to be able to scope over the IO at some stage of the derivation, i.e. to c-command it. However, in (126) we observe that the IO haizi-men ‘the kids’ is placed higher than the adverbial quantifier mei-ren/yiren ‘every (one)/each’.

    Zhangsan give-GEI-ASP kid-PL every (one)/each 100-CL money
    ‘Zhangsan gave the kids each 100 dollars.’

b. Lisi tou -zou -le haizi-men mei-ren/yiren yi-ge wanju.
   Lisi steal-ZOU-ASP kid-PL every (one)/each one-CL toy
   ‘Lisi stole a toy from the kids each.’
Fitzpatrick (2006) argues that adverbial quantifier patterns like this are derived by A-movement of the associated NP over the adverbial quantifier (AQ), as illustrated in (127):

(127) NP AQ (mei-ren/yiren) [XP <NP> . . . ]

Following Fitzpatrick (2006) and Paul & Whitman (2010), I thus conclude that the IO is raised from a lower position and the derivation can be shown this way:

(128) IO AQ (mei-ren/yiren) [XP <IO> . . . ]

Note incidentally that the relative order between the distributive adverbial quantifier (AQ) and the frequency adverb (FA) is fixed, i.e. the adverbial quantifier must precede the frequency adverb. The reversed order is not grammatical, shown in (129) and (130).

   Zhangsan give-GEI-ASP kid-PL every (one) three-time money
   ‘Zhangsan gave every kid money three times.’
   Zhangsan give-GEI-ASP kid-PL three-time everyone money

   Lisi steal-ZOU-ASP kid-PL every (one)/each three-time toy
   ‘Lisi stole toys from the kids each three times.’
   Lisi steal-ZOU-ASP kid-PL three-time every (one)/each toy

As we discussed previously, the frequency adverb san-ci ‘three times’ is placed on the left edge of the lexical VP, thus we have:

(131) IO AQ (mei-ren/yiren) FA (san-ci) [VP <IO>]

We thus see that the IO originates inside VP and then it moves up.

Let’s summarize the relevant properties of Mandarin Applicatives:
1) The DOCs with ‘gei/zou’ behave like Low Applicatives;
2) Assuming that ‘gei’ and ‘zou’ are low applicative heads gets the affix ordering wrong;
3) The IO surfaces in a high position, but seems to have raised from a lower position which we might associate with a Low Applicative.
4.2 Paul & Whitman (2010)’s Raising Applicative Analysis

4.2.1 Paul & Whitman (2010)’s Proposal

Paul and Whitman consider this puzzling situation, where GEI-suffix Constructions look in some ways like Low Applicatives and in others like High Applicatives, and propose a kind of hybrid analysis to deal with it. They treat the verbal suffix ‘-gei’ as the head of an applicative projection, which takes a VP as its complement, similar to Pylkkänen (2008)’s High Applicative, illustrated in (132b).

(132) a. wo mài-gei-le Mali yi-ge shoubiao.
   1SG sell-GEI-ASP Mali one-CL watch
   ‘I sold Mali a watch.’

They note that the GEI-suffix Construction has all and only the properties of ‘Low Applicative’ in Pylkkänen (2008)’s sense, but they claim that the APPL head is always placed above the lexical VP, whether it is a High Applicative or a Low Applicative according to the Applicative classification assumed in Pylkkänen (2008). They also recognize the difference between High Applicatives and Low Applicatives and propose that the two types of Applicatives differ not in the height of the Applicative Head, but in how the applied argument is introduced into the structure and gets its thematic role.

(Paul & Whitman 2010: 7-8)
Chapter 4 Issues with a Pure Applicative Analysis of Mandarin DOCs

(133) **Thematic Applicative**

\[ \text{APPLP DP-Benefactive \[\text{APPL' APPL [VP V DP-Theme]]}]} \]

(134) **Raising Applicative**

\[ \text{APPLP IO-Recipient \[\text{APPL' APPL [VP <IO-Recipient> [V V DO-Theme]]}]} \]

In (133) the Thematic Applicatives, which correspond to Pylkkänen’s High Applicatives, select a DP and a VP as argument. The DP argument is merged in Spec APPLP and receives the Benefactive role from the APPL. In (134) the Raising Applicatives, which correspond to Pylkkänen’s Low Applicatives, do not select a DP but instead attract a DP from within the lexical VP to their specifier. In other words, in their analysis, the APPL does not assign theta role to the IO. The Recipient role of the IO is assigned by the lexical verb.

Let’s see how Paul & Whitman (2010) tackle the issues mentioned in the previous section. Placing the APPL higher than the VP, the *gei*-incorporation problem is solved. In the derivation head adjunction is always to the left, as shown in (135).

\[ \text{(135)} \]

\[ \text{TP} \]

\[ \text{EA} \]

\[ \text{T'} \]

\[ \text{T} \]

\[ \text{ASPP} \]

\[ \text{ASP} \]

\[ \text{V-gei-le} \]

\[ \text{IO} \]

\[ \text{APPLP} \]

\[ \text{APPL'} \]

\[ \text{VP} \]

\[ \text{V-gei} \]

\[ \text{<IO>} \]

\[ \text{V'} \]

\[ \text{V} \]

\[ \text{O} \]

In addition, (135) can also account for the issue of the IO movement in Mandarin DOCs. They assume the APPL bears an [EPP] feature that attracts the IO and moves it to Spec APPLP.

4.2.2 The Problems with Paul & Whitman’s Analysis

We notice three problems in Paul & Whitman (2010)’s analysis:

1) Theta role assignment;
2) Syntax-semantics Mismatch;
3) No discussion of the *ZOU*-suffix Construction.

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i. Theta Role Assignment

The first problem concerns theta role assignment. In Paul & Whitman (2010)’s Raising APPL analysis, the Recipient role of the IO is assigned by the verb not by the APPL. This means that an inherently montransitive verb like ‘xie’ (write) or ‘ji’ (mail) must somehow assign a Recipient role to the IO, which in fact they are not capable of doing unless later they are combined with the applicative head ‘gei’.

\[\text{(136)}\]

\[
\begin{array}{c}
\text{APPLP} \\
\downarrow \\
\text{IO} \\
\downarrow \\
\text{APPL} \\
\downarrow \\
\text{VP} \\
\downarrow \\
\text{V-gei} \\
\downarrow \\
\langle \text{IO} \rangle \\
\downarrow \\
\theta_{-\text{Recipient}} \\
\downarrow \\
\text{xie ‘write’ <THEME>}
\end{array}
\]

The theta role assignment in (136) is not motivated, since the montransitive verb ‘xie’ (write) does not have a Recipient role to assign. Only after the ‘gei’ suffixation, is the Recipient role available: V <THEME> \rightarrow V+ gei <RECIPIENT, THEME>, a fact which is not reflected in their analysis, so it seems that the Applicative Head should somehow be responsible for \(\theta\)-role assignment.

ii. Syntax-semantics Mismatch

The second problem is about the distinction between High Applicatives and Low Applicatives. Pylkkänen (2002, 2008) posit that High applicatives denote a relation between an individual and an event, and Low Applicatives denote a relation between two individuals.

\[\text{(137)}\]

\[
\begin{array}{cccccc}
\text{wo} & \text{mài-gei-le} & \text{Mali} & \text{yi-ge} & \text{shoubiao}. \\
1SG & \text{sell-GEI-ASP} & \text{Mali} & \text{one-CL} & \text{watch}
\end{array}
\]

‘I sold Mali a watch.’
b.

\[
\begin{array}{c}
TP \\
\text{wo} \\
T' \\
T \\
\text{ASPP} \\
\text{ASP} \\
\text{APPLP} \\
\text{mài-gei-le} \\
\text{Mali} \\
\text{APPL'} \\
\text{VP} \\
\text{<mài-gei>} \\
\text{<Mali>} \\
\text{V'} \\
\text{DP} \\
\text{yi ge shoubiao} \\
\text{(Paul & Whitman 2010: 7-8)}
\end{array}
\]

Semantically, (137a) is a Low Applicative, which relates two individuals, i.e. the IO ‘Mali’ and the DO ‘yi-ge shoubiao’ (a watch). Paul & Whitman recognize the ‘Low’ behaviors of (137a) but syntactically they place the APPL higher above the VP in (137b). In (137b) the APPL does not syntactically relate two individuals at all. On the contrary, it seems to add something extra on top of an event within the VP, just like their Thematic Applicative, which is meant to correspond to Pylkkänen’s High Applicative. The result is a somewhat puzzling syntax-semantics mismatch.

iii. GEI-suffix Constructions and ZOU-suffix Constructions

In Paul & Whitman’s Raising APPL analysis, they only discussed the GEI-suffix Construction with an overt ‘gei’ and ignored the parallel structure, i.e. the ZOU-suffix Construction. As we discussed previously, both the GEI-suffix Construction and the ZOU-suffix Construction are Low Applicatives. They differ in the direction of the transference.

(138) a. 
\[
\text{Zhangsan} \text{ song-(gei)-le} \text{ Mali yi-ge jiezhi}
\]

‘Zhangsan gave Mali a ring.’

b. 
\[
\text{Lisi} \text{ tou -(zou)-le} \text{ Mali yi-ge jiezhi}
\]

‘Lisi stole a ring from Mali.’

Paul & Whitman (2010) ignore the parallel structure in (138b). I will argue in the next chapter that an appreciation of the distinction between ‘gei’ and ‘zou’ leads to a better understanding of their nature and structural status.
Chapter 5 DIR-APPL Analysis on Mandarin DOCs

5.0 Introduction

In this chapter I attempt to deal with the issues raised by Mandarin DOCs without running into the problems of Paul & Whitman (2010)’s Raising Applicative account by proposing a novel DIR-APPL analysis. In contrast to Paul & Whitman, I argue that the verbal suffixes ‘-gei’ and ‘-zou’ are not overt realizations of the Applicative head; instead they are overt realizations of a functional head DIR. Just like the English Low Applicative, Mandarin Chinese has a null APPL, and this null APPL is in the standard position for Low Applicatives proposed by Pylkkänen (2000, 2008). The DIR-APPL Analysis provides a solution to the issues concerning Mandarin Low Applicatives discussed in Chapter 4 and also solves the problems in Paul & Whitman (2010)’s Raising Applicative account.

5.1 The DIR-APPL Hypothesis

5.1.1 The DIR Head

i. Mandarin Low Applicative vs. English Low Applicative

Mandarin Low Applicative

(139) a. Zhangsan xie -gei-le Lisi yi-feng xin.
Zhangsan write-GEI-ASP Lisi one-CL letter
‘Zhangsan wrote Lisi a letter.’

b. Lisi kai -zou -le Zhangsan yi-liang che.
Lisi drive-ZOU-ASP Zhangsan one-CL car
‘Lisi drove away one of Zhangsan’s cars.’

English Low Applicative

(140) John wrote Mary a letter.

We may represent the applicative structures of (139) and (140) in (141).
Chapter 5 DIR-APPL Analysis on Mandarin DOCs

(141)

a. English Low Applicative

\[ \ldots \]

\[ V \]

\[ \text{IO} \]

\[ \text{APPL-∅} \]

\[ \text{DO} \]

b. Mandarin Low Applicative

\[ \ldots \]

\[ V \]

\[ \text{IO} \]

\[ -\text{gei/zou} \]

\[ \text{DO} \]

The applicative diagnostics run quite similarly. In the Mandarin Low Applicative (139a) the DO ‘yi feng xin’ (a letter) goes to the possession of the IO ‘Lisi’. In the English Low Applicative (140) the DO ‘a letter’ goes to the possession of the IO ‘Mary’. The major difference is the element positioned above the IO in (141b). We can possibly assume that in Mandarin the applicative head is also null and the higher placed ‘-gei’ and ‘-zou’ are some other kind of syntactic elements, supplying more information to the applicative structure. Then we have a structure like this for the Mandarin Low Applicative:

(142) Mandarin Low Applicative

\[ \ldots \]

\[ -\text{gei/zou} \]

\[ V \]

\[ \text{IO} \]

\[ \text{APPL-∅} \]

\[ \text{DO} \]

As I mentioned in previous chapters, the verbal suffixes ‘-gei’ and ‘-zou’ indeed supply more information to the structure, i.e. they reflect distinct directions of transference. With ‘gei’ suffixation, we get the Recipient IO while with ‘zou’ suffixation, we have the Source IO. Thus I assume the verbal suffixes are overt realizations of a functional head DIR (the abbreviation of Directionality).

ii. gei/zou incorporation

The suffix ordering will not be a problem anymore if we adopt the above DIR-APPL Analysis. I assume that the DIR head is located between the big V and the little v. Because DIR is initially placed higher than the lexical verb, the V-to-DIR movement is ensured to be head adjunction on the left side, followed by the V-DIR movement to ASP. We can represent the derivation in (143). In Tree 143, the lexical verb left-adoins to the DIR head first then they (V-gei/zou) move together to left-adjoin to ASP. Now we have the right surface word order.
iii. Raising IO

In Tree 143, the IO originates in Spec APPLP. I assume that the DIR head bears the [EPP] feature. The IO moves up to Spec DIRP, which is driven by the [EPP] feature as shown in (143). The LAPPL assigns a theta role to the IO, including an underspecified transfer of possession. The choice of DIR head then specifies whether it’s a transfer To or From the possession. With the ‘-gei’ suffix, the IO is interpreted as a Recipient and with the ‘-zou’ suffix, the IO is interpreted as a Source.

5.1.2 Comparison with Paul & Whitman (2010)’s Analysis

We can summarize the main differences between the current analysis and that of Paul & Whitman (2010) as follows:

a) They posit an overt applicative head ‘gei’ while I assume a null applicative head and posit an additional DIR head;
b) They claim that the IO starts in Spec VP and then moves up to Spec APPLP while I argue that the IO starts in Spec APPLP and then it is raised to Spec DIRP;
c) They posit a higher placed APPL head, which mismatches with the Low Applicative semantics, while I pursue a normal placement of the Low APPL;
In Paul & Whitman’s Raising Applicative account, the IO has to be introduced by and get its theta role from the main verb while in my DIR-APPL Analysis, the IO is introduced by and thus gets its basic theta role from the APPL head;
e) They only discussed the Recipient interpretation of the IO while I take both the Recipient and Source interpretations of the IO into consideration.

In this way we can solve several problems concerning Paul & Whitman (2010)’s Raising Applicative account.

Firstly, we solve their problem regarding theta role assignment. Paul & Whitman argue that the High Applicative and the Low Applicative are different in theta role assignment, i.e. the High APPL assigns a theta role to the applied argument while the Low APPL attracts the applied argument to its specifier position without assigning a theta role. I claim that both the High APPL and the Low APPL are able to assign theta roles, which is supposed to be one of the main functions of the applicative heads, introducing the extra argument and assigning the relevant theta role to it. In my DIR-APPL analysis, the LAPPL assigns a theta role to the IO, including an underspecified transfer of possession. The choice of DIR head then specifies whether it’s a Recipient IO or a Source IO. For monotransitive verbs like ‘xie’ (write), it’s difficult for Paul & Whitman to account for theta role assignment. In the current analysis, the LAPPL assigns the theta role to the IO, so the verb doesn’t have to and the transference direction is specified by the DIR-gei head, i.e. Recipient IO.

Secondly, we solve their problem regarding the placement of the APPL. Paul & Whitman (2010) claim that both the High APPL and Low APPL are positioned higher than the VP and for them there is no placement distinction between the High APPL and Low APPL. It's hard to reconcile the semantics of Low Applicatives with a syntactic position outside the VP. In the DIR-APPL Analysis, the Low APPL is placed within the VP, the standard position of LAPPL, and it syntactically relates two individuals, i.e. the IO and the DO, which is in line with the fact that it relates them semantically.

Finally, we include the ZOU-suffix Construction in the Applicative analysis. As we discussed in the previous part, the GEI-suffix Construction and the ZOU-suffix Construction are quite similar, involving various properties of Low Applicatives and a similar distribution of obligatory vs. optional overt marking. The two constructions differ in the direction of the transference. By including the ZOU-suffix Construction in DIR-APPL analysis, we have a better understanding about the applicative structure in Mandarin Chinese. In my analysis, the two constructions are closely related, having the same Applicative head, but differ in the identity of the DIR head.

5.1.3 The Functions of the DIR Head

i. Directionality Specification

There are two different overt realizations of the DIR head, i.e. the ‘-gei’ suffix and the ‘-zou’ suffix. The former denotes the relation ‘To-the-possession’, and the IO is interpreted as the
Recipient of the entity.

(144) Zhangsan  *song*(gei)-le  Mali-Recipient  yi-ge  jiezhi.
Zhangsan  give-DIR-ASP  Mali  one-CL  ring
‘Zhangsan gave Mali a ring.’

The latter denotes the relation ‘From-the-possession’, and the IO is interpreted as the Source of the entity.

(145) Lisi  *tou*(zou)-le  Mali-Source  yi-ge  jiezhi.
Lisi  steal-DIR-ASP  Mali  one-CL  ring
‘Lisi stole a ring from Mali.’

The DIR heads are used to specify the directionality of the transference, i.e. ‘To-the-possession’ or ‘From-the-possession’.

**ii. Transference Specification**

We find two kinds of verbs in Mandarin DOCs, i.e. verbs which are inherently ditransitive (e.g. *song* ‘give’) and verbs which are not inherently ditransitive but consistent with transference (e.g. *xie* ‘write’).

For the ditransitive verbs, the overt DIR is optional.

(146) wo  *song*(gei)-le  ta  qian.
1SG  give -DIR -ASP  3SG  money
‘I gave him the money.’

For the monotransitive verbs (which are consistent with transference semantics), the overt DIR is obligatory.

(147) a. wo  *xie* -gei-le  ta  yi-feng  xin.
1SG  write-DIR-ASP  3SG  one-CL  letter
‘I wrote him a letter.’

b. wo  *ji* -zou-le  ta  yi-ben  shu.
1SG  mail-DIR-ASP  3SG  one-CL  book
‘I mailed a book from him.’

The overt DIR heads i.e. ‘gei’ or ‘zou’ are used to specify the transference semantics of the verb.
5.1.4 DIR head vs. Linker head

I would like to briefly note that the DIR head in my analysis is different from the Linker head assumed by Baker & Collins (2006).

Firstly the surface positioning is different:

(148) a. Zhangsan mài-gei-le Lisi yixie dongxi. (Mandarin)
    ‘Zhangsan bought Lisi some things.’

    b. Besa komm | | ‘ama- | ‘an Oba ko tcisi (Ju | ’hoansi)
        ‘Besa bought Oba some things.’ (Baker & Collins 2006:308)

In (148a) the DIR head ‘gei’ is placed immediately after the verb in Mandarin Chinese while in (148b) the Linker head ‘ko’ is positioned between the IO and the DO in Ju | ’hoansi.

Secondly the status of the two heads is different: the DIR head is actually a verbal suffix while the Linker head is the element which connects two objects.

Thirdly the DIR head functions to regulate the directionality of the transference while the Linker head does not have such function, but rather seems to play a purely formal role in structures with two DPs inside the VP.

5.2 DIR-APPL Analysis of Mandarin DOCs

5.2.1 GEI-suffix Constructions (Low Recipient Applicatives)

In the current approach, we assume that in Mandarin, the applicative head is null and ‘gei’ is an overt realization of the functional head DIR, which denotes the transference direction of the entity DO-Theme. The overt ‘gei’ DIR is used to denote ‘To-the-possession’.

(149) a. Zhangsan song-(gei)-le Lisi yi-ben shu.
    ‘Zhangsan gave Lisi a book.’

    b. Zhangsan xie -gei-le Lisi yi-feng xin.
    ‘Zhangsan wrote Lisi a letter.’

The LAPPL in this approach functions to introduce the applied argument and reflect the possession relation between the IO and the DO. In the GEI-suffix Construction we notice that when the verb inherently has the semantics of transference, the DIR head can be null (149a). When the verb inherently does not have semantics of transference, but it is consistent with
transference, the DIR head must be realized overtly (149b). Thus the DIR head can specify the transference of the verb (e.g. xie ‘write’) in the construction. One could imagine that the structures without overt GEI either have a silent DIR head or lack the DIR head entirely. However, if we consider the facts concerning the FA and the AQ again, we find evidence that the DIR head is in fact always present, but sometimes silent.

(150) a. Zhangsan  song-le  Lisi  san-ci  [VP qian].
   Zhangsan  give-ASP  Lisi  three-time  money
   ‘Zhangsan gave Lisi money three times.’

   b. Zhangsan  song-gei-le  Lisi  san-ci  [VP qian].
   Zhangsan  give-DIR-ASP  Lisi  three-time  money
   ‘Zhangsan gave Lisi money three times.’

From (150a) we observe that the IO is placed outside the VP, i.e.
(IO FA (san-ci) [VP <V>DO]}, which is similar to the overt GEI-suffix Construction in (150b).

   Zhangsan  give-ASP  kid-PL  every (one)/each  100-CL  money
   ‘Zhangsan gave the kids each 100 dollars.’

   Zhangsan  give-DIR-ASP  kid-PL  every (one)/each  100-CL  money
   ‘Zhangsan gave the kids each 100 dollars.’

Observing (151a) we note that the IO must be raised from a lower position, i.e.
(IO AQ (mei-ren/yiren) [XP <IO> . . .]}, which is also similar to the overt GEI-suffix Construction in (151b).

   Zhangsan  give-ASP  kid-PL  every (one)  three-time  money
   ‘Zhangsan gave every kid money three times.’

   Zhangsan  give-ASP  kid-PL  three-time  everyone  money

   Zhangsan  give-DIR-ASP  kid-PL  every (one)  three-time  money
   ‘Zhangsan gave every kid money three times.’

   Zhangsan  give-DIR-ASP  kid-PL  three-time  everyone  money
We find in (152) that the relative order of the AQ and the FA is fixed, i.e. the AQ must precede the FA. Then we conclude the IO is raised from a lower position within the VP, i.e. \{IO AQ (mei-ren/yiren) FA (san-ci) [VP <IO>]\}. I propose that the position it has raised to is Spec DIRP, where the DIR head happens not to be pronounced.

From the above data (150-153), we notice that concerning the FA and AQ facts, the overt ‘gei’ and covert ‘gei’ construction behave exactly the same, which suggests that the DIR head is always there, but not always pronounced.

Again I assume that the DIR head bears the [EPP] feature, which attracts the nearest DP, i.e. the IO, and moves it up to its specifier. The derivation is illustrated in the following tree.

(154) Mandarin Low Recipient Applicatives

```
\[TP
  \[EA \quad T'
    \[Zhangsan \quad T
      \[ASP \quad ASP
        \[vP \quad song-(gei)-le
          \[<EA> \quad v'
            \[<Zhangsan> \quad v
              \[DIRP \quad DIR'
                \[IO-Recipient \quad Lisi
                  \[DIR [EPP]
                    \[VP \quad <song-(gei)>
                      \[V \quad LAPPLP
                        \[<IO> \quad LAPPL‘
                          \[<Lisi> \quad LAPPL
                            \[\emptyset \quad DO
                              \[yi ben shu]

Passivization Behavior

Then we come to the passivization of the GEI-suffix Construction. We can see in (154) that if the passivization of the GEI-suffix Construction involved A-movement as is the case in English, we might expect, based on Minimality, that only the IO could become the subject. However, on the contrary the DO is the subject of the passive.
As we discussed previously, the Mandarin BEI passive is quite different from the English be-passive. Following Huang et al. (2009), we adopt a NOP analysis for the BEI passive. The intransitive verb ‘bei’ takes a CP as its secondary predicate and an experiencer as its subject. The object of the lexical verb is a NOP that undergoes A’-movement to Spec CP. The matrix subject ‘na-ben shu’ (that book) then binds this NOP in Spec CP.

The BEI passive is used to express the following semantics: the entity (animate or inanimate) is adversely affected by some event. Thus, the IO in the GEI-suffix Construction is inherently not qualified to be the subject of the BEI passive, who in fact receives something from the external argument. I assume the A’-movement in Mandarin BEI passive requires an element which bears some relevant feature distinct from [D], call it [F]. Since the IO is not qualified to move up, it must not bear the [F], and the probe looks down the tree and finds the qualified candidate, the DO. We can represent the structure of (155a) in the following tree.
(156) **Passivization of Low Recipient Applicatives in Mandarin**

\[
\begin{align*}
\text{TP} & \quad \text{S} \quad \text{V'} \\
\text{BEI} & \quad \text{C'} \\
\text{NP}_1 & \quad \text{C} \quad [nF] \\
\text{EA} & \quad \text{T'} \\
\text{Zhangsan} & \quad \text{ASP} \\
\text{ASP} & \quad \text{vP} \\
\text{song-(gei)-le} & \quad \text{EA} \\
\text{v'} & \quad \text{<Zhangsan>} \\
\text{DIRP} & \quad \text{I/O} \\
\text{Lisi} & \quad \text{DIR'} \\
\text{V} & \quad \text{APPLP} \\
\text{<IO>} & \quad \text{APPL'} \\
\text{<Lisi>} & \quad \text{<DO [F]>} \\
\end{align*}
\]

5.2.2 **ZOU-suffix Constructions (Low Source Applicatives)**

(157) a. *Lisi tou -(zou) -le Zhangsan yi-ge jiezhi.*

Lisi steal-DIR-ASP Zhangsan one-CL ring

‘Lisi stole a ring from Zhangsan.’

b. *Lisi kai -zou -le Zhangsan yi-liang che.*

Lisi drive-DIR-ASP Zhangsan one-CL car

‘Lisi drove a car away from Zhang.’
In this analysis, the applicative head again has no overt realization. The element ‘zou’ is a functional head, indicating the directionality of the transference event, i.e. in (157a) the DO ‘yi-ge jiezhi’ (a ring) goes from the possession of the IO ‘Zhangsan’, or we can alternatively say the IO loses the DO. In (157a) the overt realization of the DIR head is optional since ‘tou’ (steal) is an inherently ditransitive verb in Chinese. In (157b) the overt realization of the DIR head is obligatory because the verb ‘kai’ (drive) does not specify transference. The overt DIR functions to specify the transference and license the verb ‘kai’ (drive) in the construction.

I assume that the DIR head bears [EPP], which attracts the nearest DP, i.e. IO, and moves it up to Spec DIRP. The derivation is represented in the following tree:

(158) Mandarin Low Source Applicatives

We observe that the structure of the Low Source Applicative, i.e. the ZOU-suffix Construction, is parallel to that of the Low Recipient Applicative, i.e. the GEI-suffix Construction (Compare Tree 158 with Tree 154). The difference between them lies in IO interpretation, i.e. the former has a Source IO while the latter has a Recipient IO, which comes from the two different DIR heads.
Passivization Behavior

We find a big difference between the Low Source Applicative and the Low Recipient Applicative in their passivization behavior. In the Low Source Applicative, the IO becomes the subject of the passive while in the Low Recipient Applicative, the DO becomes the subject of the passive. It poses a puzzle for us since we observe that in the active sentence, the structures of the two applicatives are quite similar.

(159) a. Zhangsan bei Lisi tou -(zou) -le yi-ge jiezhi.
Zhangsan BEI Lisi steal-DIR-ASP one-CL ring
‘Zhangsan underwent the event that Lisi stole a ring from him.’

b. *yi-ge jiezhi bei Lisi tou -(zou) -le Zhangsan.
one-CL ring BEI Lisi steal-DIR-ASP Zhangsan

We can get the explanation for the puzzle from the properties of the Mandarin BEI passive. Again, ‘bei’ is treated as an intransitive verb, which takes a CP as its secondary predicate and an experiencer as its subject. As we discussed before, DO or IO movement in the Mandarin BEI passive involves a kind of A’-movement, which is not subject to DP Minimality. Thus in the Low Recipient Applicative, the DO, a NOP, undergoes A’-movement to Spec CP. The matrix subject binds the NOP in Spec CP (See Tree 156). As we mentioned in previous sections, the BEI passive is actually used to express the following semantics: the subject of BEI passive is adversely affected by some event. Thus, the IO who receives something from the external argument fails to be a qualified moving element.

In the Low Source Applicative, the IO, a NOP, in Spec DIRP undergoes A’-movement to Spec CP. The matrix subject binds the null operator in Spec CP. In the ZOU-suffix Construction, the IO who loses something in the process is qualified to be the subject of the BEI passive. I assume this NOP movement is driven by the feature [F]. I posit that in Mandarin Chinese, there is a restriction on the feature [F]:

(160) Feature [F] Restriction (FFR)
  a) In one clause there is at most one [F] bearing element.
  b) The feature [F] has to be assigned to the most semantically eligible DP, with the animate DP winning out over the inanimate one.

According to (160), in Mandarin GEI-suffix Construction, only the DO bears the [F] feature, since the IO is not an eligible DP due to the semantic restriction. In contrast, in Mandarin ZOU-suffix Construction, the IO is an eligible DP semantically and because it is animate, it wins out over the DO and thus is the only element, bearing the [F] feature.

The [F] Restriction reflects two important properties of Mandarin BEI passive:
  1) The BEI passive is a kind of asymmetric passive, i.e. either the IO or the DO can be the subject of the BEI passive, and the option is based on verb semantics.
  2) An animate DP is preferred to be the subject of BEI passive.
We can represent the passivization of Mandarin Low Source Applicative (159a) in the following tree:

(161) Passivization of Mandarin Low Source Applicatives

In the above tree the \(uF\) on C needs to find the matching feature [F]. I assume there is a competition between the IO and the DO for the matching feature. The verb semantics shows ‘Zhangsan’ is an eligible candidate for the feature [F], who is adversely affected by the ‘ring-stolen’ event. Also, the animate DP ‘Zhangsan’ is preferred to be the subject of the BEI passive. Thus the IO, a NOP, moves up to Spec CP. The subject of the BEI passive binds the NOP in Spec CP. The DO ‘yi-ge jiezhi’ (a ring) does not bear the [F] feature and thus stays in situ.
5.3 The Non-suffix Construction (High Affectee Applicatives)

(162) Lisi    da-sui   -le   Zhangsan   yi-ge   huaping.
    Lisi    hit-broken-ASP   Zhangsan   one-CL  vase
    ‘Lisi broke a vase on Zhangsan.’

We have seen that this construction has the properties of a HAPPL. In this approach, we assume that the applicative head is null. Since there is no transference process taking place in the construction, the DIR head is not present in the structure.

(163) Mandarin High Affectee Applicatives

In the tree above, we see the differences between High Affectee Applicatives and Low Source Applicatives discussed previously:

a) High APPL vs. Low APPL;
b) There is no DIR head in High Affectee Applicatives;
c) There is no IO movement to Spec DIRP in High Affectee Applicatives;
d) IO originates in Spec HAPPLP, higher than the VP in High Affectee Applicatives.

We note that High Affectee Applicatives and Low Source Applicatives differ in the distribution of the adverbial quantifier (AQ).
Contrastive AQ Facts

High Affectee Applicatives

   Lisi hit-broken-ASP kid-PL three-time vase
   ‘Lisi broke the vases three times on the kids.’

      Lisi hit-broken-ASP kid-PL every(one) three-time vase

Low Source Applicatives

(165) a. Lisi tou-zou-le haizi-men san-ci wanju.
      Lisi steal-DIR-ASP kid-PL three-time toy
      ‘Lisi stole the toys from the kids three times.’

   b. Lisi tou-zou-le haizi-men meiren san-ci wanju.
      Lisi steal-DIR-ASP kid-PL every(one) three-time toy
      ‘Lisi stole the toys from the kids each three times.’

In examples (164a, 165a), we observe that both the IO in the High Affectee Applicative and the IO in the Low Source Applicative are placed outside the VP, to the left of the FA. However, we find the AQ facts about these two structures are contrastive: it is not grammatical to have an AQ ‘meiren’ (every (one)) in the High Affectee Applicative, as shown in (164b), but it is grammatical to have the AQ in the Low Source Applicative, as illustrated in (165b).

We can explain the contrastive AQ facts this way. The AQ ‘meiren’ (every (one)) has to c-command the element it quantifies at some stage. The AQ is only allowed to come after a DP if the DP started out down below it and then moved up across it. In the Low Source Applicative (165b), ‘meiren’ quantifies the DP ‘haizi-men’ (the kids), which started out down in the VP and then moved up. The AQ is allowed to come after the DP in this case. In the High Affectee Applicative (164b), ‘meiren’ cannot quantify the DP ‘haizi-men’ (the kids), which starts out high i.e. in a place where ‘meiren’ cannot c-command it.

The above data show that the IO in the High Affectee Applicative starts high, outside the VP, and it does not get there by movement; the IO in the Low Source Applicative starts low, inside the VP, but it moves up to the high position, outside the VP

Passivization Behavior

(166) a. Zhangsan bei Lisi da-sui-le yi-ge huaping.
      Zhangsan BEI Lisi hit-broken-ASP one-CL vase
      ‘Zhangsan underwent the event that Lisi broke one of his vases.’
Chapter 5 DIR-APPL Analysis on Mandarin DOCs

b. *yi-ge huaping bei Lisi da -sui -le Zhangsan.
   one-CL vase BEI Lisi hit-broken-ASP Zhangsan

The passivization behavior of the High Affectee Applicative is similar to that of the Low Source Applicative i.e. ZOU-suffix Construction. The IO, a NOP, in Spec HAPPLP undergoes A’-movement to Spec CP. The matrix subject ‘Zhangsan’ binds the NOP. The derivation is represented in the following tree:

(167)

In (167) there is a [F] feature competition between the IO ‘Zhangsan’ and the DO ‘yi-ge huaping’ (a vase). The verb semantics ‘da-sui’ (hit-broken) shows that the IO is an eligible candidate for the [F] feature. According to the Feature [F] Restriction (FFR) in (160), the IO wins out over the DO and it is the only element in the cause, which bears the [F] feature. The IO, a NOP, moves up to Spec CP. The subject of the BEI passive binds the NOP. The DO ‘yi-ge huaping’ (a vase) does not have the matching feature, thus it stays in situ.
Chapter 6 Comparison between English and Mandarin Applicatives

6.0 Introduction

In this chapter I compare English and Mandarin with respect to their Applicative structure. I claim that English and Mandarin Applicatives differ in two aspects, i.e. the availability of High Applicatives and the IO interpretation. Inspired by the directionality issue from a cross-linguistic perspective, I argue that the difference in IO interpretation is due to the Dir head. In English the argument introducing component [Argu] cannot be separated from the [Dir] component and both of them are essential elements of the APPL. In Mandarin the applicative structure involves a combination of the APPL [Argu] and the Dir [Dir]. With an independent Dir head, the applied arguments can be interpreted either as Recipient or Source.

6.1 The Availability of High Applicatives

In English we can only find Low Applicatives while in Mandarin we can have both Low Applicatives and High Applicatives.

*English Low Applicate*

(168) John wrote Mary a letter.

*Mandarin Low Applicative*

(169) *Zhangsan xie -gei-le Mali yi-feng xin.*

Zhangsan write-DIR-ASP Mali one-CL letter

‘Zhangsan wrote Mali a letter.’

*Mandarin High Applicative*

(170) *Zhangsan he -le Lisi san-ping jiu.*

Zhangsan drink-ASP Lisi three-bottle wine

‘Zhangsan drank three bottles of wine on Lisi.’

It’s ungrammatical to have a sentence like (171) in English.

(171) *John drank Mary three bottles of wine.*

Let’s compare the following examples:
**Mandarin High Applicative**

(172) *zhē-ge* nanhair *da-suí-le* Zhangsan *yīxiē* boli.
this-CL boy hit-broken-ASP Zhangsan some glass

‘The boy broke some glass on Zhangsan.’

The resultative verb ‘*da-suí*’ (hit-broken) can appear in the Mandarin DOC, as shown in (172). The IO in (172) is interpreted as Affectee, which is adversely affected by the ‘glass-broken’ event. It is a High Affectee Applicative. However, with a similar surface structure, the English sentence in (173) has a quite different meaning.

**English Low Applicative**

(173) The boy broke John some glass. (e.g. John needs some glass for his experiment.)

(173) can only mean that ‘the boy broke some glass and give it to John’ i.e. it only works if we interpret it as a Low Recipient Applicative.

### 6.2 Argument Interpretation in Low Applicatives

In Mandarin DOC patterns, we find both the Recipient IO and the Source IO.

(174) a. *Zhangsan* song-(gei)-le *Mali*_recipient *yī-ge* *jiezhi*.
Zhangsan give-DIR-ASP Mali one-CL ring

‘Zhangsan gave Mali a ring.’

b. *Lisi* tou-(zou)-le *Mali*_source *yī-ge* *jiezhi*.
Lisi steal-DIR-ASP Mali one-CL ring

‘Lisi stole a ring from Mali.’

In English the IO can only be interpreted as Recipient.

(175) a. John gave Mary-Recipient a ring.
   b. John stole Mary-Recipient a ring.

Even with the same verb stem, Mandarin allows different interpretations of the IO.

(176) a. *Zhangsan* māi-gei-le *wo*_recipient *yi-ben* *shu*.
Zhangsan buy-DIR-ASP 1SG one-CL book

‘Zhangsan bought me a book.’

b. *Zhangsan* māi-zou-le *wo*_source *yi-ben* *shu*.
Zhangsan buy-DIR-ASP 1SG one-CL book

‘Zhangsan bought a book from me.’ (e.g. I am a book seller.)
In English only the Recipient interpretation is available.

(177) a. John bought me-Recipient a drink.
    b. John sold me-Recipient his shares.

From the above examples, we notice that the DIR head plays an important role in IO interpretation in Mandarin DOC patterns.

### 6.3 The Existence of the DIR Head

#### 6.3.1 The Directionality in Low Applicatives

Cross-linguistically, we find ambiguity in Applicatives with respect to directionality. Cuervo (2003) points out that in Spanish in the context of a verb with underspecified directionality, the dative IO would be ambiguous between a Recipient and a Source.

(178) a. Valeria le vendió el auto a su hermano.
    Valeria CL.DAT sold the car.ACC her brother.DAT
    ① ‘Valeria sold the/her car to her brother.’
    ② ‘Valeria sold the car from her brother.’
    b. Valeria le alquila la casa de Roca a Roberto.
    Valeria CL.DAT rents the house of Roca.ACC Roberto.DAT
    ① ‘Valeria rents the house in Roca to Roberto.’
    ② ‘Valeria rents the house in Roca from Roberto.’

(Cuervo 2003: 71)

In (178a), the dative IO ‘her brother’ can be interpreted as the one who gets the car, i.e. a Recipient, or the one who loses the car, i.e. a Source. Similarly, there are ambiguous readings for (178b): the dative IO ‘Roberto’ can be regarded as a Recipient, who rents the house, or as a Source, who rents out the house.

In Mandarin, the ambiguity problem can be solved by the addition of the overt DIR.

(179) a. Zhangsan ji -gei -le Lisi yi-ben shu.
    Zhangsan mail-DIR-ASP Lisi one-CL book
    ‘Zhangsan mailed Lisi a book.’
    b. Zhangsan ji -zou -le Lisi yi-ben shu.
    Zhangsan mail -DIR-ASP Lisi one-CL book
    ‘Zhangsan mailed a book from Lisi (to himself or someone else).’

When the verb is ‘gei’-marked, the IO is the Recipient of the DO. When it is ‘zou’-marked, the IO is the Source of the DO. The verb ‘ji’ (mail) in Mandarin is compatible with transference in either direction, and the overt marking elements are used to specify the directionality.
So, we have three types of Applicative languages:

a) **English Type**: Only Recipient Applicatives; no Source Applicatives; no Directionality Distinction.

b) **Spanish Type**: Both Recipient Applicatives and Source Applicatives; Ambiguity in Directionality.

c) **Mandarin Type**: Both Recipient Applicatives and Source Applicatives; Overt DIR head; No Ambiguity in Directionality.

From the comparison among these languages, we may assume that it is possibly the DIR head that triggers the different behaviors in directionality.

6.3.2 The DIR Head in the Applicative Structure

I assume that there are two essential elements in the applicative structure, i.e. [Argu] and [Dir]. The [Argu] element functions to introduce the applied argument (or the IO) and reflect the possession relationship between the IO and the DO. The [Dir] element is responsible for regulating the directionality of transference, either *To-the-possession* or *From-the-possession*.

Let’s consider first the possibility that there is no DIR head in English. In other words, the two elements, i.e. [Argu] and [Dir], cannot be separated:

(180) **English Applicative Structure**

\[
\text{APPL} \ [\text{Argu, Dir}]
\]

If we further assume that *To-the-possession* of the IO is the default directionality and the interpretation of *From-the-possession* of the IO can only be derived from a distinct Source DIR head, then we have an account of why we have only the Recipient IO in English DOCs, as shown in (181).

(181) a. John *gave* Mary-*Recipient* a ring.
    b. John *stole* Mary-*Recipient* a ring.

If we want to have the other direction, a PP construction has to be used instead.

(182) John *stole* a ring *from* Mary.

In Mandarin Chinese the applicative structure is composed of two parts, i.e. APPL and DIR, and [Argu] and [Dir] are separated from each other.

(183) **Mandarin Applicative Structure**

\[
\text{APPL} \ [\text{Argu}] + \text{DIR} \ [\text{Dir}]
\]

In Mandarin there are two DIR heads, i.e. ‘*gei*’ and ‘*zou*’ which specify different interpretations. When the DIR head is overt, it clearly identifies which of the two versions it is and thus which interpretation it has. When it’s covert, the semantics of the verb is used to figure out which DIR head and which interpretation is there. Since this will fail with a verb that doesn’t have
inherent transference, those verbs require the DIR head to be overt.

(184) a. Zhangsan song-(gei)-le Mali yi-ge jiezhi.
    Zhangsan give-DIR-ASP Mali one-CL ring

   ‘Zhangsan gave Mali a ring.’
   (Optional -gei)

   b. Lisi tou-(zou)-le Mali yi-ge jiezhi.
    Lisi steal-DIR-ASP Mali one-CL ring

   ‘Lisi stole a ring from Mali.’
   (Optional -zou)

   c. Zhangsan xie -gei-le Mali yi-feng xin.
    Zhangsan write-DIR-ASP Mali one-CL letter

   ‘Zhangsan wrote Mali a letter.’
   (Obligatory -gei)

   d. Lisi kai -zou-le Mali yi-liang che.
    Lisi drive-DIR-ASP Mali one-CL car

   ‘Lisi drove away one of Mali’s cars.’
   (Obligatory -zou)

An overt DIR head can specify the direction and avoid ambiguity.

We can analyze Spanish as being like English in not having an overt pronunciation of the DIR, but like Mandarin in having the DIR present as a distinct head in the structure. Thus unlike English it allows both Source and Recipient readings, but unlike Mandarin there will be examples that are ambiguous.

(185) Spanish Applicative Structure

   APPL [Argu] + DIR [Dir]

Ambiguity in Spanish

(186) a. Valeria le vendió el auto a su hermano.
    Valeria CL.DAT sold the car.ACC her brother.DAT

   ① ‘Valeria sold the/ her car to her brother.’
   ② ‘Valeria sold the car from her brother.’

   (Cuervo 2003: 71)

We notice that in Spanish both the Recipient IO and the Source IO are marked as dative (See 187).

(187) a. Pablo le pasó un mate a Andreína-Recipient.
    Pablo CL.DAT passed a mate Andreína-DAT

   ‘Pablo handed Andreína the mate.’

   b. Pablo le robó la bicicleta a Andreína-Source.
    Pablo CL.DAT stole the bicycle.ACC Andreína.DAT

   ‘Pablo stole the bicycle from Andreína.’

   (Cuervo 2003:69-70)
We may predict that in a language with different case marking, the ambiguity problem does not exist. In fact we can find such examples from Finnish and Korean.

(188) **Finnish Applicative Structure**

\[ \text{APPL } \text{[Argu]} + \text{DIR } \text{[Dir]} \]

In Finnish there is a null DIR head, but the Recipient IO and the Source IO are marked differently, with the former marked as allative and the latter marked as ablative.

(189) a. \textit{Liisa} kirjoitti \textit{Matti-lle} kirjee \textit{-n}.

\text{Liisa.NOM} wrote \text{Matti.ALL} letter-ACC

‘Liisa wrote Matti a letter.’

b. \textit{Liisa} myi \textit{Matti-lta} talo \textit{-n}.

\text{Liisa.NOM} sold \text{Matti.ABL} house.ACC

‘Liisa sold a house from Matti.’ (Pylkkänen 2000:4)

(190) **Korean Applicative Structure**

\[ \text{APPL } \text{[Argu]} + \text{DIR } \text{[Dir]} \]

I assume in Korean there is also a null DIR head. The Recipient IO is marked as accusative while the Source IO is marked as dative.


\text{Mary-NOM} John-ACC book-ACC give-PAST-PLAIN

‘Mary gave John a book.’ (Jung & Miyagawa 2004:116)

b. Totuk-i \textit{Mary-hanthey} panci-lul humchi-ess-ta.

\text{thief-NOM} Mary-DAT ring-ACC steal-PAST-PLAIN

‘The thief stole a ring from Mary.’ (Pylkkänen 2008:16)

Let’s summarize briefly about the case marking in Low Applicatives.

(192) **Case Marking in Low Applicatives**

<table>
<thead>
<tr>
<th>Languages</th>
<th>Case Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IO-Recipient</td>
</tr>
<tr>
<td>Spanish</td>
<td>dative</td>
</tr>
<tr>
<td>Finnish</td>
<td>allative</td>
</tr>
<tr>
<td>Korean</td>
<td>accusative</td>
</tr>
</tbody>
</table>

In (192) all these languages have both the Recipient IO and the Source IO. I assume that there is a distinct DIR head in these languages. In Finnish and Korean, the Recipient IO and the Source IO have different cases. We might posit that there are two different DIR heads, i.e. DIR-Recipient and DIR-Source. The DIR-Recipient assigns allative case to the Recipient IO while the
DIR-Source assigns ablative case to the Source IO.

In Spanish, however, the DIR head is not a case assigner. The IOs, either the Recipient IO or the Source IO, get their case from the APPL. We might explain the ambiguity problem in Spanish this way: there is no overt DIR in the language (in contrast to Mandarin) and the DIR head is not a case assigner (in contrast to Finnish and Korean). It’s not possible to identify the IO interpretation from the verbal suffix or from the different case marking on the IOs. Thus we have the ambiguity problem concerning IO interpretation in Spanish.

We can thus account for the cross-linguistic variation in available IO interpretations and case-marking in terms of the presence of properties of distinct DIR heads.

In the interest of completeness, let’s consider the alternative, i.e. that English does have a distinct DIR head.

(193) John gave the kids each ten dollars.

The distribution of the AQ in (193) might suggest movement of the IO in English. We would then have reason to think that the IO moves across the AQ just as in Mandarin, with the DIR head providing the landing site. However, regarding the adverbial distribution, Mandarin Chinese and English are quite different.

**Contrastive AQ Distribution**

(194) a. John gave the kids each ten dollars.  
   b. John gave the kids ten dollars each.

   Zhangsan give-ASP kid-PL every(one) 10-CL money
   ‘Zhangsan gave the kids each ten dollars.’

      Zhangsan give-ASP kid-PL 10-CL money every(one)

Observing (194) and (195), we find English and Mandarin are different in AQ placement.

**Contrastive FA Distribution**

(196) a. John has sold Bill watches three times.  
   b. John has three times sold Bill watches.  
   c. Three times John has sold Bill watches.  
   d. *John has sold Bill three times watches.

   Zhangsan sell-DIR-ASP Lisi watch three-time  
   (Mandarin)
   ‘Zhangsan has three times sold Bill watches.’

   ‘Zhangsan has sold Lisi watches three times.’

d. Zhangsan mài-gei-le Lisi san-ci shoubiao.
   ‘Zhangsan has three times sold Bill watches.’

From (196) and (197), we notice that the distribution of the FA is also quite different.

I posit that there is something else involved in the distribution of the AQ ‘each’ in English. So the AQ facts in (193) do not provide an argument for the existence of a DIR head. In English we cannot directly relate the adverbial placement to object movement. But in Mandarin Chinese we have evidence to relate the adverbial placement to IO movement, which has been discussed in Chapter 4.

In addition, if we assume there is a DIR head in English, i.e. the [Dir] element can be separated from the [Argu] element, we would have difficulty in explaining the fact that the IO cannot be interpreted as Source. Then we have to posit that in English the DIR head is mysteriously specified only as To-the-possession.

By comparison I conclude that it is more likely that there is no DIR head in English.
Chapter 7 Conclusion

In this thesis, I have analyzed seven types of ditransitive constructions in Mandarin Chinese. I argue that in Mandarin Chinese, like in English, the DOC is not directly derived from the PP Construction and they are structurally different. DOC patterns are discussed under the applicative framework. Throughout the thesis, I compare the differences and similarities between English and Mandarin Chinese regarding Applicative structures. In order to ease the heavy burden of the applicative head and also specify the function of the applicative head, I posit a functional head DIR, which regulates the directionality of the transference. In Mandarin we have overt realizations of the DIR head, i.e. ‘gei’ and ‘zou’.

With a DIR-APPL Analysis, the different behaviors in IO interpretation among languages can possibly be better captured. In English, a language without the Source IO, the argument introducing element [Argu] cannot be separated from the directionality element [Dir]. In languages with both the Recipient IO and the Source IO, the applicative structure is composed of distinct APPL[Argu] and DIR [Dir] heads, with the former reflecting possession and the latter reflecting directionality.

Furthermore I revisit some of the typical applicative diagnostics and point out that the applicative classification should be better defined from a cross-linguistic view. I emphasize that Mandarin BEI passives are different from the English be-passive and involve A’-movement rather than A-movement.

The current study of applicative structures focuses on the comparison between English and Mandarin Chinese and touches on the directionality issue in a small number of languages. Of course, further detailed cross-linguistic research is needed. In addition, there are a large number of verbs in English DOCs and Mandarin DOCs, with highly nuanced properties, so it may well turn out that a more fine-grained verb classification in DOC analyses is also needed.
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