

## The polysemy of the Mandarin ditransitive *gei* and its implications for grammaticalization

Shangyan Pan  
*University of Connecticut*

This paper investigates the polysemous word *gei* ‘to give’ and its uses in four different ditransitive related constructions in modern Mandarin Chinese. I analyze *gei* as a main verb, a bare root as part of a serial verb, an applicative head, and a prepositional dative marker in the four constructions respectively. Using Mandarin synchronic data, I shed light on a diachronic pathway of grammaticalization from verbs to prepositions through serial verbs observed by Li & Thompson (1973) and Lord (1973). I argue that the initial step in this grammaticalization process is similar to what Saito (2023) proposes for verbs of ‘saying’ grammaticalizing into complementizers. Namely, the main verb *gei* first loses its verbalizing head and becomes an acategorical bare root (in a serial verb), then grammaticalizes into different functional elements, in this case, an applicative head and a preposition.

### 0. Introduction

It has been widely observed that in many languages (Twi, Ewe, Akan, Yoruba, Thai, Vietnamese a.o.), ‘give’ is a word that is polysemous with different but related meanings and functions, where it can be used as a lexical verb, recipient marker, benefactive marker, causative marker, permissive marker, and so on (Hwang 2000; Iwasaki & Yap 1998; Lord et al. 2002; Newman 1996; Thepkanjana & Uehara 2008). Mandarin Chinese (henceforth Mandarin) is one such language where *gei*, though most commonly used as a ditransitive verb, meaning ‘to give’, has a multitude of other functions including a passive marker, a causative marker, a permissive marker, and so on (Lin & Huang 2015). *Gei* as a standard ditransitive verb indicates an event of transfer of possession and appears in the double object construction (DOC) (1) where two internal arguments follow the verb, with the direct object (DO) *yi-ben-shu* ‘one book’ following the indirect object (IO) *Lisi*.

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

In addition to being a main verb, some of *gei*’s other productive uses are broadly related to the ditransitive verb and the meaning of ‘give’, as shown in (2). In (2a), *gei* immediately follows another ditransitive verb and forms a complex serial verb/verbal compound with

it. I will refer to this construction as the ditransitive serial verb construction (SVC).<sup>1</sup> In (2b), *gei* marks the indirect object when used with a different ditransitive main verb. This use of *gei* resembles the English prepositional dative marker *to*. In (2c), *gei* adds a benefactive argument *Lisi* to the intransitive predicate *gongzuo* ‘to work’.

- (2) a. Zhangsan    song-**gei**-le    Lisi    yi-shu-hua.  
          Zhangsan    gift-give-ASP    Lisi    one-CL-flower  
          ‘Zhangsan gifted Lisi a bouquet of flowers.’  
      b. Zhangsan    ji-le                    yi-feng-xin    **gei**    Lisi.  
          Zhangsan    send-ASP    one-CL-letter    to    Lisi  
          ‘Zhangsan sent a letter to Lisi.’  
      c. Zhangsan    **gei**    Lisi    gongzuo.  
          Zhangsan    for    Lisi    work  
          ‘Zhangsan works for Lisi.’

One property the sentences above have in common is that they all involve either more than one internal argument or additional applied/non-core arguments. One of the goals of this paper is to investigate if and how the different uses of *gei* with such similar meanings are related. In this paper, I propose that the different functions of *gei* in (2) are due to the morpheme instantiating respectively: an acategorial bare root in the serial verb (2a), a prepositional dative marker licensing a recipient or a goal argument (2b), and an applicative marker introducing a benefactive argument (2c). Based on the synchronic generalizations, I show that the functional uses of *gei* can be tied to the main verb ‘give’ through historical change. This study aims to provide a more precise theory of possible grammaticalization paths related to ‘give’ that others have observed, like the change from verbs to prepositions through serial verbs proposed by Li & Thompson (1973) and Lord (1973). Mandarin is an ideal language to investigate this grammaticalization process because synchronically, all the lexical, semi-lexical and functional uses of ‘give’ are retained, allowing us to study the properties of the different stages during the change directly. Crucially, I propose that the grammaticalization process of *gei* from a lexical ditransitive verb to functional elements not only involves an intermediate stage of SVC, *gei* in that stage is also an acategorial bare root, as observed by Saito (2023) in the case of verbs of ‘saying’ grammaticalizing into complementizers.

The paper is organized as follows: Section 1 discusses in more detail the properties of the sentences in (1-2) that need to be accounted for. Section 2 provides formal structural analyses of the DOC, the dative and the applicative constructions, as well as the SVC with

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<sup>1</sup> As Paul (2008) points out, the term SVC has been significantly abused in linguistic literature where it does not refer to a single construction crosslinguistically. Even in a single language like Mandarin, different authors use the term to refer to different constructions that have distinct structures. In this paper, I strictly use SVC to refer to constructions like (2a).

*gei*. Section 3 offers a theory of potential grammaticalization pathway of *gei* that involves serial verbs and a bare root as an intermediate stage. Section 4 concludes the paper.

## 1. Multifaceted behaviors of *gei*

In this section, I will first discuss the preverbal and postverbal particle *gei* and show that the two constructions do not pattern in the same way with regard to the semantics of the non-core argument, and which verb *gei* can combine with, which I will refer to as verb sensitivity. Then I turn to the SVC, which displays the same kind of sensitivity.

### 1.1 Asymmetries of the pre and post verbal *gei*

Let us first carefully examine the properties of (2a-b). Despite the similarities among the different uses of *gei* shown above, in (2a) and (2b), where the position of *gei* differs, the two constructions display asymmetric properties. Sentences in (3) show that when appearing preverbally, *gei* is allowed with both ditransitive verbs (3a) and non-ditransitive verbs (3b). And the non-core argument following *gei* can be interpreted either as a benefactive or a recipient, depending on the argument structure of the main verb.

- (3) a. Zhangsan **gei** Lisi ji-le yi-feng-xin.  
       Zhangsan to Lisi send-ASP one-CL-letter  
       ‘Zhangsan sent a letter to Lisi.’  
       b. Zhangsan **gei** mama zuo-le yi-dun-fan.  
       Zhangsan for mom make-ASP one-CL-meal  
       ‘Zhangsan cooked a meal for his mom’

However, the same thing cannot be said for the *gei* in the postverbal position. When appearing postverbally, *gei* is only compatible with ditransitive verbs as in (2b), repeated here in (4a), but not allowed with a simple transitive or intransitive verb (4b-c).

- (4) a. Zhangsan ji-le yi-feng-xin **gei** Lisi.  
       Zhangsan send-ASP one-CL-letter to Lisi  
       ‘Zhangsan sent a letter to Lisi.’  
       b. ?\*Zhangsan zuo-le yi-dun-fan **gei** mama.  
       Zhangsan make-ASP one-CL-meal for mom  
       Intended reading: ‘Zhangsan cooked a meal for mom.’ (cf. 3b)  
       c. \*Zhangsan gongzuo **gei** Lisi.  
       Zhangsan work for Lisi  
       Intended reading: ‘Zhangsan works for Lisi.’ (cf. 2c)

Additionally, the interpretation of the argument following *gei* in the postverbal position is

restricted to recipients (or goals).<sup>2</sup> This asymmetry in the preverbal and postverbal particle *gei* will be straightforwardly accounted for by the analysis proposed in Section 2. Specifically, I will argue the ambiguity and lack of verb restriction of the preverbal *gei* seen in (3) is due to a structural ambiguity between a benefactive construction where *gei* is realized as an applicative head and a dislocated PP of a prepositional dative construction.

## 1.2 Verb sensitivity in the SVC

Mandarin allows a type of bimorphemic serial verb in a double object serial verb construction, as was shown above in (2a). In the SVC, *gei* immediately follows another verb. The two elements should be treated as one verbal predicate since *-le*, the perfective aspectual marker that usually follows a verb (or occurs in the sentence final position), appears after both *song* and *gei*.

- (5) a. Zhangsan song-**gei**-le Lisi yi-shu-hua.  
       Zhangsan gift-give-ASP Lisi one-CL-flower  
       ‘Zhangsan gifted Lisi a bouquet of flowers.’  
    b. \*Zhangsan gongzuo-**gei** Lisi.  
       Zhangsan work-give Lisi  
       Intended reading: ‘Zhangsan works for Lisi.’

As the contrast of (5a) and (5b) suggests, while not a stand-alone ditransitive verb itself, *gei* here is limited to appearing attached to a ditransitive verb. That is, the first verb (V1) in the SVC is restricted to ditransitive verbs that can occur in DOCs on their own. Additionally, the IO following the complex serial verb must be a recipient. In fact, an ambiguous verb *jie* which can either mean ‘to borrow (from)’ or ‘to lend (to)’ in a traditional DOC can only be interpreted as ‘to lend (to)’ and the IO can only be interpreted as the recipient when used in an SVC with *gei* as illustrated below:

- (6) a. Zhangsan jie-le Lisi wu-kuai-qian.  
       Zhangsan lend/borrow-ASP Lisi five-CL-money  
       i. ‘Zhangsan lent five RMB to Lisi.’  
       ii. ‘Zhangsan borrowed five RMB from Lisi.’  
    b. Zhangsan jie-**gei**-le Lisi wu-kuai-qian.  
       Zhangsan lend-give-ASP Lisi five-CL-money  
       ‘Zhangsan lent five RMB to Lisi.’

<sup>2</sup> With verbs like *ji* ‘to send’, a goal argument after *gei* is only marginally acceptable. In fact, Liu (2006) shows that words that can participate in the DOC but is not compatible with the dative construction (postverbal *gei*) take either a goal or a patient as an IO. However, motion verbs like *reng* ‘to throw’ has the opposite pattern: it is allowed in the dative construction, but not in the DOC. Inter-speaker variations also exist. In this paper, I focus on ditransitive verbs that take recipient arguments. I leave the issue of goal arguments for future research.

Therefore, the second verb (V2) *gei* in the complex serial verb is different from both the prepositional dative use of *gei* in (2b) and (4a) due to it appearing before the aspectual marker, and the applicative (valency increasing) use of *gei* in (2c) and (3b), as no argument is added here or interpreted as a benefactive. Any analysis of the SVC needs to account for the fact that: (i) *gei* is not a stand-alone lexical verb, (ii) *gei* here is not involved in any valency changing functions, and (iii) it can only occur with canonical ditransitive verbs with a recipient indirect object. I will propose in Section 2.3 that this light verb-like use of *gei* is the morphological realization of a functional head position in the verbal domain present in all double object constructions, which is otherwise null in Mandarin.

So far, I have shown that *gei*+NP in the postverbal position behaves like a traditional prepositional dative construction in allowing only recipients; the preverbal *gei*+NP is ambiguous between a dative PP and an applicative phrase with a benefactive NP; the serial verb *gei* is different from all other cases of *gei* but has the same restrictions on verb selection and argument interpretation as the dative construction. These different yet connected properties of *gei* will be accounted for with the synchronic analyses below.

## 2. Syntactic structures of *gei* constructions

### 2.1 DOC and the dative construction

In many languages, including English, ditransitive verbs that have two internal arguments (typically a theme and a recipient/goal), display two argument structures: the DOC where both internal arguments are marked with the same case (7a) (Citko et al. 2017) and the dative construction where the recipient is marked with a dative particle/preposition *to* (7b). This is referred to as the dative alternation or dative shift. In English, the IO immediately precedes the DO in the DOC, while in the dative construction, the DO precedes the IO and the IO is marked with *to*.

- |                                   |                     |
|-----------------------------------|---------------------|
| (7) a. John sent Mary a postcard. | [V IO DO]           |
| b. John sent a postcard to Mary.  | [V DO <i>to</i> IO] |

DOC and the dative construction are also available in Mandarin, as shown below in (8).<sup>3</sup>

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<sup>3</sup> Just like many languages (including English, Icelandic, Slovenian, Czech, etc), Mandarin also displays verb sensitivity asymmetry between the DOC and dative construction, where not all verbs that can participate in the DOC is allowed in the dative construction (Liu 2006).

- (8) a. Zhangsan **gei**-le Lisi yi-ben-shu. [V IO DO]  
       Zhangsan give-ASP Lisi one-CL-book  
       ‘Zhangsan gave Lisi a book.’  
       b. Zhangsan ji-le yi-feng-xin **gei** Lisi. [V DO *gei* IO]  
       Zhangsan send-ASP one-CL-letter to Lisi  
       ‘Zhangsan sent a letter to Lisi.’

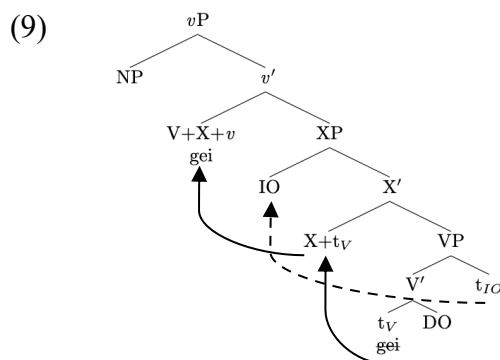
In Mandarin, the word orders of the two constructions are the same as in English. In fact, the construction in Mandarin with *gei*+NP appearing postverbally (4) and (8b) behaves just like the English ditransitive dative construction (7b) in that the argument following *to* can also only be interpreted as a recipient (or sometimes a goal) but not as a benefactive.

The syntax of the DOC and the dative alternation have long been debated in generative linguistics (see Emonds & Whitney (2006) and Harley & Miyagawa (2017) for overviews on this topic). Since the proposal of the VP shell by Larson (1988), almost all analyses of the DOC posit an additional functional verbal layer of some kind on top of the lexical VP to host/license a second internal argument, as well as head movement of the verb to yield the surface word order, regardless of the varying labels and technical details assumed for this extra verbal layer (Bruening 2001; Harley 1995; Marantz 1993 a.o.).

The properties of Mandarin ditransitive constructions can also be accounted for with such an approach. In this paper, I base my analysis specifically on Abels (2024) who draws on Gan & Tsai's (2020) experiment showing that in Mandarin, the dative construction only allows right to left scope where the IO takes wide scope over the DO, which is unusual for a surface scope language like Mandarin (Huang 1982). Based on additional scopal effects of ditransitives in Polish (a QR language) and Vietnamese (a scope rigid language), Abels (2024) and Abels & Grabska (2022) propose structures for DOCs and dative constructions that involve the IOs originating in a right specifier position of the verb. This allows them to account for both word order and scopal interactions while keeping the internal structure of VP identical between the two constructions.

The structure I adopt of the DOC with *gei* as the ditransitive main verb (8a) is shown below in (9)<sup>4</sup>. Since the exact category of the functional projection on top of the lexical VP makes little impact on how the overall syntactic structure works, I will use XP to represent the projection. I define XP as an obligatory functional projection above VP in all DOCs. The silent X head selects the lexical VP as its complement and licenses the internally merged IO in its specifier. Paul & Whitman (2010) have proposed a similar structure of DOC for Mandarin with a raising high applicative head.

<sup>4</sup> For the simplicity of the exposition, I only provide partial structural representations of the various constructions where aspectual information and VoiceP (if different from vP) are left out.



In this structure, the IO originates as a right specifier of the lexical verb but fails to be licensed in the base position,<sup>5</sup> as there is no head to check the  $\phi$ -features for this additional internal argument. After the functional head X merges with VP, the IO must raise to the specifier of the closest head with unvalued  $\phi$ -features in order to be licensed. The silent  $X^0$  meets this requirement, which is why the IO moves to Spec,XP. As with any VP shell analysis of the DOC, to arrive at the correct word order in SVO languages like Mandarin, the lexical verb *gei* undergoes head movement to  $X^0$ , and finally to  $v^0$ /Voice<sup>0</sup>.

Since XP is required only for licensing the IO in DOCs, if a sentence does not have a ditransitive verb that requires licensing for two internal arguments, or the IO can be licensed in situ by some other head, there would be no need for an XP in the structure. Conversely, if there is a ditransitive verb in a sentence, and the IO bears the canonical theta role of a recipient with no overt licenser, then XP must be present in the structure. This aspect of the analysis will be crucial for the derivation of the other Mandarin ditransitive constructions in the continuation of this paper.

In the dative construction in Mandarin (8b), the order of the two internal arguments is different from the DOC, and additionally, the IO is preceded by *gei*. Even though the same morpheme *gei* from the DOC is also present in this sentence, it is categorially and functionally different from the ditransitive main verb in (8a). First of all, *gei* in the dative construction is not a verb. One of the simplest ways to verify the verbal status of a word in Mandarin is a compatibility test with the aspectual marker *-le*. *-le* is generally considered a perfective marker that indicates the completion of a telic event, or that an atelic event has taken place (Klein et al. 2000). It typically can only attach to main predicates. As we saw in (8a), the event of ‘giving’ can be marked with *-le*. However, when a separate verb *ji* ‘to send’ is followed by *-le*, and *gei* is in a postverbal position preceding the IO as in (8b), *gei* cannot bear this aspectual marking (10).

<sup>5</sup> I here assume that there is a distinction between introducing and licensing an argument, and in order for an argument to be licensed, its  $\phi$ -features need to be checked via agreement by a nominal licensing head (Chomsky 2000, 2001).

- (10) \*Zhangsan ji-le yi-feng-xin **gei**-le Lisi.  
 Zhangsan send-ASP one-CL-letter to Lisi  
 ‘Zhangsan sent a letter to Lisi.’

Note that some speakers find (10) acceptable, but only under a bi-clausal construal where there are two events: ‘sending’ and ‘giving’. On the interpretation that there is strictly one event involved, the ‘sending’ event, *gei* is incompatible with *-le*, indicating that it is not a verb in dative constructions like (8b).

I argue that instead, when *gei* appears postverbally between the DO and IO, it is actually a prepositional dative marker, similar to the English *to* in the dative construction (see also Paul & Whitman 2010 for additional discussion of *gei* as a preposition in the dative construction). As mentioned previously, the use of ‘give’ as a dative marker is quite pervasive in various Asian and African languages. Under this analysis, the *gei*+IO sequence is predicted to form a constituent, and this is shown to hold in Mandarin in the following sentence by way of ellipsis. In (11), *gei Lisi* can be elided in the second clause while still having the interpretation that ‘I’ gifted a CD *to Lisi*, the recipient from the first clause. This shows that *gei*+IO, when appearing postverbally, indeed forms a constituent.

- (11) Zhangsan song-le yi-ben-shu **gei** Lisi, wo song-le yi-ge-CD.  
 Zhangsan gift-ASP one-CL-book to Lisi, I gift-ASP one-CL-CD  
 ‘Zhangsan gifted Lisi a book, and I gifted him a CD.’

This prepositional dative marker analysis of *gei* is further supported by the fact that *gei* is used as a dative marker elsewhere in the language. In work in progress (Pan in progress), I show that *gei* together with the 1<sup>st</sup> person singular pronoun *wo* in Mandarin displays morpho-phonological, semantic and syntactic properties parallel to the ethical dative constructions found in languages like French, Spanish, German, Hebrew, and Romanian, among others.

The proposed structural representation for the Mandarin prepositional dative construction (8b) is shown below in (12). The right specifier IO in the structure of the DOC (9) above allows us to have a uniform structure of the lexical VP within the dative alternation of a ditransitive verb while accounting for the word order and scopal effects mentioned previously. In both the DOC and the dative construction, the DO is the complement of the lexical verb, and the IO is in its right specifier c-commanding<sup>6</sup> the DO

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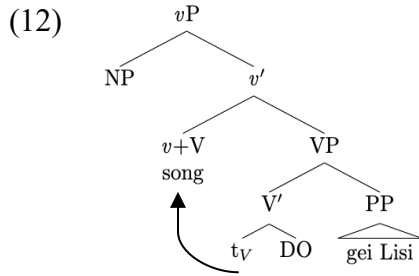
<sup>6</sup> Bruening (2014) argues that PPs are not phasal nodes and thus do not play a role in preventing NPs inside from commanding out of PPs. We can see another case of NP c-commanding out of PP with the following English sentence (based on (Chomsky 1973):

(i) It seems to John<sub>i</sub> to appear to himself<sub>i</sub> that the Moon is flat.

In this case, even though *John* is embedded within a PP, it can still c-command out of the PP to bind the reflexive *himself* since there is no condition A violation.



in all stages of the derivations. The structure below is also in line with the idea proposed by Marantz (1993) that the DOC involves more structure than the dative construction (see also Bruening (2001) and Miyagawa & Tsujioka (2004) for relevant discussion).



Crucially different from the DOC, the IO here does not have to undergo movement for licensing. Since the argument is selected by the preposition *gei*, it is licensed in situ by the preposition. The functional projection XP is not present in the dative construction as there is no argument that requires additional licensing. The NP *Lisi* in the base right specifier position thus gives us the correct word order of the DO preceding the IO and the correct scopal relation, where IO out-scopes DO due to the former asymmetrically c-commanding the latter.

As shown in Section 1.1, the argument following the postverbal *gei* can only be interpreted as a recipient but not a benefactive, and is only compatible with ditransitive verbs. I argue that this is because of the subcategorization requirement of the verb. Only true ditransitive verbs denoting transfer of possession events subcategorize for a PP that contains a recipient (or a goal) argument. Another reason why the postverbal IO cannot be interpreted as a benefactive is due to the fact that the benefactive introducing applicative *gei* cannot appear inside a VP which will be discussed in more detail in Section 2.3.

One part of the asymmetry discussed in Section 1.1 was that a recipient IO marked by *gei* can appear either preverbally or postverbally. In fact, it has been observed that in German, Japanese, Icelandic, and many Slavic languages, the dative construction allows both the IO>>DO and DO>>IO word orders (Anagnostopoulou 2003; Emonds & Whitney 2006; Citko et al. 2017; Holmberg & Platzack 1995; Stegovec 2024). I propose that when the preverbal *gei*-marked IO is interpreted as a recipient, the sentence involves a displaced PP, as the same ellipsis constituency test holds true (13), although the exact mechanism involved in the displacement of the dative PP requires more careful investigation.

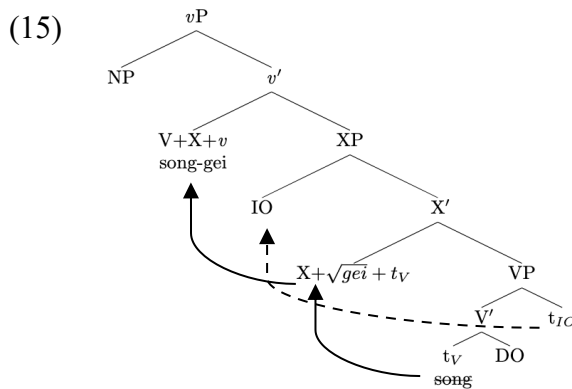
- (13) Zhangsan **gei** Lisi song-le yi-ben-shu, wo song-le yi-ge-CD.  
 Zhangsan to Lisi gift-ASP one-CL-book, I gift-ASP one-CL-CD  
 ‘Zhangsan gifted Lisi a book, and I gifted him a CD.’ (cf.11)

## 2.2 SVC with *gei*

I propose that the *gei* in SVCs (2a), repeated here in (14), is a variant of the DOC, where the structures of the two are nearly identical. As discussed above, the serial verb *gei* is still part of the verbal predicate as it precedes the aspectual marker *-le*. However, *gei* no longer acts like a main lexical verb since the two morphemes *song* and *gei* only describe a single event, and the core meaning of the predicate is conveyed through the first verb (V1) *song* in the serial verb.

- (14) Zhangsan song-(**gei**)-le Lisi yi-shu-hua.  
 Zhangsan gift-give-ASP Lisi one-CL-flower  
 ‘Zhangsan gifted Lisi a bouquet of flowers.’

The proposed structure for the SVC with *gei* as V2, is shown in (15). Note that this structure allows us to account for all the generalizations established in Section 1.2. The *gei* in the SVC can only combine with already ditransitive lexical verbs that take a recipient argument.<sup>7</sup> Furthermore, *gei* does not increase or decrease the valency of the main predicate. Therefore, it should not be treated as a new valency-changing functional verb that is not present in the DOC with V1 alone. Luckily, in a VP shell analysis of the DOC, a position that can accommodate for such an element in the verbal domain already exists. I argue that *gei* as the V2 in a serial verb is an acategorical root inserted at or adjoined to X head while the rest of the structure of the SVC is identical to the DOC proposed above. It is a semi-lexical verb because it cannot function as a fully lexical main verb in (9). Assuming the main lexical verb *song* undergoes head movement in the same way as the lexical verb does in the DOC derivation, the verb picks up the root *gei* when it lands in X, forming a complex serial verb/verbal compound *song-gei* and deriving the correct word order.



<sup>7</sup> Note that *gei* in (14) is optional. Without *gei*, the sentence (14) is a regular DOC with a ditransitive verb *song* ‘to gift’. However, not every verb that has two internal arguments allow the V-*gei* serial verb. Specially, V1 is required to have a recipient IO (canonical transfer of possession ditransitive verbs) to participate in the SVC. See Liu (2006) for related discussion.

(cf. 9)

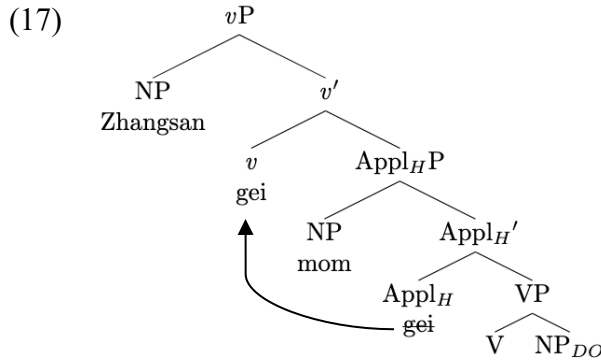
Since the functional projection *XP* already exists in all DOCs, *gei* at  $X^0$  will not change the valency of the predicate. The only difference from the DOC is that the root *gei* now makes visible what was a silent functional head position. The verb sensitivity of the SVC then follows naturally with this structural analysis of *gei*. Because only DOCs with ditransitive verbs require *XP* for the purpose of licensing the recipient IO, sentences with intransitive and transitive verbs cannot host this *gei*, since *XP* is not present then.

### 2.3 The benefactive construction

When *gei* and the IO appear preverbally, the argument can be interpreted as a benefactive as seen in (3b), repeated in (16).

- (16) Zhangsan **gei**-(*\*le*) mama zuo-le yi-dun-fan.  
 Zhangsan for mom make-ASP one-CL-meal  
 ‘Zhangsan cooked a meal for his mom’

Similar to the prepositional dative *gei*, the *gei* in (16) is also not a verb, shown by the incompatibility with the aspectual marker *-le*. I argue that this *gei* morpheme is instead a high applicative ( $\text{Appl}_H$ ) head, in the sense of Pylkkänen (2008). The structure of the benefactive construction is shown in (17).



*Gei* as a high applicative head, selects the lexical VP as its complement, and assigns the benefactive theta role to the argument merged in its specifier position. *Gei* then undergoes head movement to a higher functional verbal projection, deriving the word order in (16). Though in both the dative and the benefactive constructions, *gei* and the IO are linearly adjacent, the structural analysis in (17) crucially predicts that when *gei* is followed by a benefactive NP, the two do not form a constituent, unlike the case with the dative PP. The ellipsis test below shows that when the sequence of *gei mama* is elided in the second clause, the sentence cannot be interpreted as ‘Lisi washed clothes also for mom’. Only the pure transitive reading without a benefactive argument is available.

- (18) Zhangsan **gei** mama zuo-le yi-dun-fan, Lisi xi-le yifu.  
 Zhangsan for mom make-ASP one-CL-meal Lisi wash-ASP clothes  
 ‘Zhangsan cooked a meal for his mom, and Lisi washed clothes (\*for mom).’

In contrast with the ellipsis of the preverbal dative *gei* and the recipient argument in (13), the difference clearly demonstrates that while *gei* as a dative preposition forms a constituent with the recipient IO, it does not form a constituent with the benefactive argument when it is an Appl<sub>H</sub><sup>0</sup>. The fragment answer test reveals the same results regarding the constituency of the dative vs. applicative *gei* and the following NP.

Now I return to the other side of the asymmetry of why the postverbal *gei*-marked NP cannot be interpreted as a benefactive. That is, why can the benefactive argument with *gei* only occur preverbally, as illustrated in (3-4)? I argue that the solution lies in the nature of what *gei* instantiates in the different constructions and positions. Assuming that all benefactive arguments in Mandarin are introduced by high applicative heads, we do not expect to see a benefactive argument and a high applicative head appearing in a postverbal position below VP. This is because of the selectional properties of Appl<sub>H</sub><sup>0</sup>, namely that it requires VP as its complement (Pylkkänen 2008). Therefore, only the preverbal non-core argument marked by the high applicative head *gei* can receive a benefactive reading.

To summarize, I provided detailed structural analyses of the four ditransitive-related *gei* constructions in question. I proposed that when *gei* is followed by a recipient, it is a preposition, which has a flexible position (can appear both preverbally and postverbally). When *gei* is followed by a benefactive, it is a high applicative head, appearing exclusively preverbally. When *gei* immediately follows another verb in the SVC, it is a semi-lexical bare root inserted at X<sup>0</sup>, a silent node that already exist in all DOCs. I also showed how the proposed analyses allow us to explain the asymmetries observed in Section 1.

### 3. Serial verb *gei* & implications on grammaticalization

It is reasonable to assume that synchronically related but distinct functional and lexical uses of an exponent have the same historical origin, since grammaticalization and historical change generally often involve semantic bleaching where a word with a lexical meaning becomes more abstract and functional over time (Roberts & Roussou 2003). In fact, many of the functional markers in Mandarin including *ba*, a preverbal object marker, and *bei*, the canonical passive marker, are argued to have been grammaticalized from lexical verbs (Chen 2003; Sun 1988, 2015; Tse 2013; Yin 2004 a.o.). Many authors have also studied the grammaticalization of the ditransitive *gei* in the Chinese languages (Hwang 2000; Iwasaki & Yap 1998; Lo 2012; Lord, Yap & Iwasaki 2002; Yin 2004, 2023 a.o.). However, no generative analysis of the grammaticalization process has been

proposed so far. I provide below a possible pathway of the process that involves an intermediate step of SVC and a bare root.

Lord (1973) argues that in many African languages like Twi, and Ewe and Gã, prepositions are historically developed from serial verb constructions. Li & Thompson (1973) offers a similar argument for Mandarin coverbs and prepositions. I suggest that the Mandarin ditransitive morpheme *gei* is precisely the case of a verb changing into a preposition and other functional elements through SVCs. The fact that Mandarin has preserved all different kinds of uses of *gei* (lexical, semi-lexical, and functional) provides us with a perfect scenario to study this diachronic change aided by the synchronic structural analyses of the different constructions in question.

I will argue that the different instances of *gei* analyzed above are consistent with what has been proposed concerning a completely unrelated phenomenon: the grammaticalization of complementizers. Recently, Saito (2023) proposes that the grammaticalization process of verbs of ‘saying’ to complementizers involves the verb first losing its categorizing verbal head  $v^0$  and thus becoming a bare root  $\sqrt{\text{SAY}}$ , followed by it gaining the status of a functional category, namely a C head. Crucially, the loss of  $v^0$  makes the verb lose its ability to project an external argument, following Kratzer (1996). During this stage when ‘say’ verbs are acategorical bare roots, the original lexical verb’s phonological and semantic information is still (partly) preserved, unlike in the final stage when they become C heads.

I propose that the V2 *gei* in the SVC is exactly an intermediate stage of the morpheme after the initial historical change started, consistent with both Lord’s (1973) observation and Saito’s (2023) proposal. First of all, like the acategorical root  $\sqrt{\text{SAY}}$ , the phonological form of the original lexical verb *gei* is preserved in the SVC. Even though *gei* in the SVC does not contribute additional meaning to the predicate, the transfer of possession meaning of the prototypical ditransitive verb ‘to give’ is already encoded in V1. Thus, part of the semantic information is also preserved. The restriction on which V1 the semi-lexical *gei* can combine with in the SVC can also be viewed as a remnant of the original meaning of the ditransitive verb. As discussed in Section 1 and 2, the presence of *gei* in the SVC with an already ditransitive verb does not change the valency, which is expected for an acategorical bare root that does not introduce any argument. Structurally, when the main verb *gei* loses its verbal categorizing head, it fails to function as a lexical verb, thus it cannot stay in the lexical  $V^0$ . The acategorical bare root  $\sqrt{\text{gei}}$  is then inserted at a higher functional head that does not introduce any argument or assign any theta role and helps phonetically realize the otherwise silent  $X^0$  in DOCs (15).

A historical study with corpus data from Lo (2012) further supports this proposal. The study shows that the V+*gei*+IO+DO sequence (SVC in this paper) was the first non-main verb usage of *gei* with its possible first appearance in the Western Han dynasty between 145-87 BC. The author observes that in the Ming dynasty (after 1368 AD), there is definitive evidence that the V1 and *gei* have been reanalyzed as a complex compound verb since the aspectual marker *-le* is now present following both elements. As for the

dative and benefactive constructions, the author shows that the postverbal dative *gei* followed by a recipient appeared next after the SVC, with regular usage at around 280s-290s AD. The dative use of *gei* appearing as the next stage after the lexical verb and the serial verb conforms to the general process of reanalysis during historical changes. The new structure/category after a reanalysis needs to be compatible with the current linear word order. Since in both the DOC and SVC, it is always a recipient that follows *gei*, the dative construction is the natural next step during the grammaticalization process. The preverbal dative use of *gei* appeared even later (in the Ming dynasty), as did its preverbal benefactive use (the end of the Ming dynasty). Lo argues that the late emergence of the preverbal benefactive use is connected to the late appearance of the preverbal dative use since the former is also likely reanalyzed from the latter. Under my analysis, the postverbal dative *gei*+recipient does not provide a compatible syntactic environment for this reanalysis of *gei* as a high applicative head. Only once PP displacement to the preverbal position has emerged, can the grammaticalization of *gei* into a high applicative marker take place. Therefore, the analysis proposed in this paper not only explains the synchronic generalizations in modern Mandarin, but also fits the observed patterns of historical change.

#### 4 Conclusion

In this paper, I examined four ditransitive related constructions involving the morpheme *gei*. I argued that in those constructions, *gei* can be the realization of a ditransitive main verb, an acategorial root as part of a serial verb, a prepositional dative, and a high applicative head. Drawing on the synchronic patterns and analyses, I proposed a possible grammaticalization pathway of the ditransitive verb *gei* into its several non-lexical uses. I showed that the SVC is a crucial first stage of change in the process of the ditransitive verb becoming a functional element such as a prepositional dative marker or a high applicative head. I have also shown that the proposed analysis of Mandarin synchronic pattern aligns perfectly with Lord's (1973) observation that verbs often grammaticalize into prepositions through serial verb constructions. The proposed acategorial bare root *gei* in the SVC as the first stage of change is parallel to Saito's (2023) theory of verbs of 'saying' losing its categorizing verbal head and becoming an acategorial bare root before finally being realized as a fully functional complementizer during historical change. The detailed generative analysis provided in this paper not only accounts for the synchronic patterns in Mandarin, but also explains the diachronic order of emergence of the different *gei* constructions observed by Lo (2012) in a historical corpus study. A natural extension of the synchronic and diachronic proposals from this paper would be to examine other Asian and African languages that show similar polysemous usages of 'give' and see how the different kinds of systems found in those languages can be explained in similar terms.

One question that remains open given this analysis of *gei* is: why is there so much uniformity across different constructions, where the exponent remains the same phonologically while realizing heads of distinct categories? Ideally, the different uses of *gei* should have something in common other than the exponent itself and the shared historical origin. There should be some way in which these distinct heads can form a natural class synchronically, not just diachronically. I want to suggest that it is indeed possible to analyze the different functional uses of *gei* as part of a unified syntactic class. Wood & Marantz (2017) argue that all argument-introducing heads can be unified by way of a category neutral head *i*\*. By combining with different category defining heads and obtaining different categorial features, *i*\* can yield syntactic categories as distinct as  $P^0$ ,  $\text{Appl}_H^0$ ,  $\text{Voice}^0$ , etc., though the core function of introducing an argument is given by the same *i*\*. This approach to argument-introducing heads makes possible an analysis where the different functional uses of *gei* can be analyzed in terms of a single unified syntactic property. That is, what the *gei* exponent realizes across its different functional uses is actually *i*\*. For reasons of space, the full details of this proposal cannot be provided here. See Pan (to appear) for details of this analysis and discussion of its further implications.

#### REFERENCES

- ABELS, KLAUS. 2024. Scope and the structure of ditransitives in SVO languages. UCL, ms.
- ABELS, KLAUS & DAGMARA GRABSKA. 2022. On the distribution of scope ambiguities in Polish. *Glossa: a journal of general linguistics*. Open Library of the Humanities 7(1). 1–44.
- ANAGNOSTOPOULOU, ELENA. 2003. *The Syntax of Ditransitives: Evidence from Clitics*. Walter de Gruyter.
- BRUENING, BENJAMIN. 2001. QR Obeys Superiority: Frozen Scope and ACD. *Linguistic Inquiry* 32(2). 233–273.
- BRUENING, BENJAMIN. 2014. Precede-and-Command Revisited. *Language*. Linguistic Society of America 90(2). 342–388.
- CHEN, YANLIN. 2003. *A minimalist approach to the Chinese Ba-construction and its grammaticalization*. Central South University.
- CHOMSKY, NOAM. 1973. Conditions on transformations. In *A Festschrift for Morris Halle*, 232–286. New York: Holt, Rinehart & Winston.
- CHOMSKY, NOAM. 2000. Minimalist inquiries: The framework. In *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*, 89–155. MIT Press.
- CHOMSKY, NOAM. 2001. Derivation by Phase. In Michael Kenstowicz (ed.), *Ken Hale: A life in language*, 1–52. The MIT Press.
- CITKO, BABARA, JOSEPH EMONDS & ROSEMARIE WHITNEY. 2017. Double Object Constructions. In *The Wiley Blackwell Companion to Syntax*, 1365–1410.

- EMONDS, JOSEPH & ROSEMARIE WHITNEY. 2006. Double Object Constructions. In *The Blackwell Companion to Syntax*, 73–144. John Wiley & Sons, Ltd.
- GAN, TIAN & CHENG-YU EDWIN TSAI. 2020. The syntax of Mandarin dative alternation: An argument from quantifier scope interpretation. *International Journal of Chinese Linguistics*. John Benjamins 7(2). 187–222.
- HARLEY, HEIDI. 1995. *Subjects, Events and Licensing*. Cambridge, MA: Massachusetts Institute of Technology Thesis.
- HARLEY, HEIDI & SHIGERU MIYAGAWA. 2017. Syntax of Ditransitives. In *Oxford Research Encyclopedia of Linguistics*.
- HOLMBERG, ANDERS & CHRISTER PLATZACK. 1995. *The Role of Inflection in Scandinavian Syntax* (Oxford Studies in Comparative Syntax). Oxford, New York: Oxford University Press.
- HUANG, C.T. JAMES. 1982. *Logical relations in Chinese and the theory of grammar*. Massachusetts Institute of Technology Thesis.
- HWANG, JYA-LIN. 2000. *On grammaticalization in serial verb constructions in Chinese*. University of Hawai'i at Manoa Thesis.
- IWASAKI, SHOICHI & FOONG-HA YAP. 1998. “Give” constructions in Thai and beyond: A cognitive and grammaticalization perspective. *Proceedings of the International Conference on Tai Studies* 371–382.
- KLEIN, WOLFGANG, PING LI & HEMRIETTE HENDRIKS. 2000. Aspect and Assertion in Mandarin Chinese. *Natural Language & Linguistic Theory* 18(4). 723–770.
- KRATZER, ANGELIKA. 1996. Severing the External Argument from its Verb. In Johan Rooryck & Laurie Zaring (eds.), *Phrase Structure and the Lexicon*, 109–137. Dordrecht: Springer Netherlands.
- LARSON, RICHARD K. 1988. On the Double Object Construction. *Linguistic Inquiry*. The MIT Press 19(3). 335–391.
- LI, CHARLES N. & SANDRA A. THOMPSON. 1973. Serial Verb Constructions in Mandarin Chinese: Coordination or Subordination? *Papers from the Comparative Syntax Festival, Chicago Linguistics Society* 9. 96–113.
- LIN, TZONG-HONG JONAH & YU-SHAN HUANG. 2015. Structures of the Mandarin *gei* constructions. *Journal of East Asian Linguistics* 24(3). 309–338.
- LIU, FENG-HSI. 2006. Dative Constructions in Chinese. *Language and Linguistics* 7(4). 863–904.
- LO, KI WAI. 2012. 漢語給予義動詞語法化的研究. *A Study of the Grammaticalization of the GIVE Verb in Chinese*. Hong Kong: The Chinese University of Hong Kong Thesis.
- LORD, CAROL. 1973. Serial verbs in transition. *Studies in African Linguistics* 4(3). 269–296.
- LORD, CAROL, FOONG-HA YAP & SHOICHI IWASAKI. 2002. Grammaticalization of ‘give’: African and Asian perspectives. In Ilse Wischer & Gabriele Diewald (eds.), *New*



- Reflections on Grammaticalization* (Typological Studies in Language), 217–235. John Benjamins Publishing Company.
- MARANTZ, ALEC. 1993. Implications of asymmetries in double object construction. *Theoretical Aspect of Bantu Grammar*.
- MIYAGAWA, SHIGERU & TAKAE TSUJIOKA. 2004. Argument Structure and Ditransitive Verbs in Japanese. *Journal of East Asian Linguistics* 13(1). 1–38.
- NEWMAN, JOHN. 1996. *Give: A Cognitive Linguistic Study*. Walter de Gruyter.
- PAN, SHANGYAN. To appear. From ‘giving’ to receiving: the synchronic and diachronic of the Mandarin ‘give’. In *Proceedings of the Sixtieth Annual Meeting of the Chicago Linguistic Society (CLS 60)*. Chicago, IL: University of Chicago.
- PAUL, WALTRAUD. 2008. The serial verb construction in Chinese: A tenacious myth and a Gordian knot. *Linguistic Review - LINGUIST REV* 25. 367–411.
- PAUL, WALTRAUD & JOHN WHITMAN. 2010. Applicative structure and Mandarin ditransitives. In Maia Duguine, Susana Huidobro & Nerea Madariaga (eds.), *Argument Structure and Syntactic Relations: A cross-linguistic perspective*. 261–282. John Benjamins Publishing Company.
- PYLKKÄNEN, LIINA. 2008. *Introducing arguments* (Linguistic Inquiry Monographs). Vol. 49. MIT Press.
- ROBERTS, IAN & ANNA ROUSSOU. 2003. *Syntactic Change: A Minimalist Approach to Grammaticalization* (Cambridge Studies in Linguistics). Cambridge: Cambridge University Press.
- SAITO, HIROAKI. 2023. *Ways of Saying-Synchronically and Diachronically*. Storrs, CT: University of Connecticut Thesis.
- STEGOVEC, ADRIAN. 2024. The third way: object reordering as ambiguous labeling resolution. *The Linguistic Review*. De Gruyter Mouton 41(1). 187–223.
- SUN, CHAOFEN. 1988. *A case study of grammaticalization: The grammatical status of “de”, “le”, and “ba” in the history of Chinese*. Ithaca, NY: Cornell University Thesis.
- SUN, CHAOFEN. 2015. The Grammaticalization of the BA Construction: Cause and Effect in a Case of Specialization. In William S-Y. Wang & Chaofen Sun (eds.), *The Oxford Handbook of Chinese Linguistics*, 429–442. Oxford University Press.
- THEPKANJANA, KINGKARN & SATOSHI UEHARA. 2008. The verb of giving in Thai and Mandarin Chinese as a case of polysemy: A comparative study. *Language Sciences* 30(6). 621–651.
- TSE, KEITH. 2013. The grammaticalization of Chinese ba: grammaticalization, “lateral” grammaticalization and Case theory. In *North American Conference on Chinese Linguistics (NACCL)*, vol. 6. Ohio State University.
- WOOD, JIM & ALEC MARANTZ. 2017. The interpretation of external arguments. In Roberta D’Alessandro, Irene Franco & Ángel J. Gallego (eds.), *The Verbal Domain*, 255–278. Oxford University Press.

- YIN, HUI. 2004. Grammaticalization of Mandarin transfer verbs *gei* and *bei* as passive markers. In *Proceedings of the 2004 annual conference of the Canadian Linguistic Association*.
- YIN, HUI. 2023. Grammaticalization of Transfer Verbs in Mandarin Chinese. *Journal of Language Teaching and Research* 14(1). 130–141.