

What *gei* gives? on ditransitive *gei* in Mandarin Chinese

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Abstract

The give verb '*gei*' in Mandarin is assumed to be a multifunctional element which occurs in double object and its related constructions. It is a ditransitive verb but can also be used as a preposition, introducing the recipient or an affected argument in a preverbal or postverbal position. Moreover, *gei* seems to be a 'verbal suffix' which can form a ditransitive predicate, *V-gei*. Although there seems to be a transformational relation between the prepositional *gei* and the suffix *gei*, this article argues against such a transformational analysis of *gei* with evidence coming from argument configuration and event template meaning, semantic interaction with repetitive adverbs, lexical aspectual properties and so forth. Based on such structural distinction, we propose a contextualized account of the multifunctionality of *gei*. Besides being the ditransitive verb, *gei* is an abstract functional head, i^* , which can be realized as several contextual allosemies: $\theta_{Recipient}$, P_{PATH} and P_{AFF} respectively. This contextualized analysis of *gei* attributes the distinction of verbal *gei*, prepositional *gei*, suffix *gei* to the syntactic structure *gei* occurs rather than *gei* per se. The multifunctionality of an element both comes from and is instantiated by its syntactic environment.

1 Introduction

Descriptively speaking, ditransitive refers to the three place predicates which are able to take a causer/agent as subject, a recipient/goal as indirect object and a theme direct object. Cross linguistically, verbs that inherently signify acts of giving or transferring, namely, thematically entailing a recipient/goal argument, such as 'give' 'sell', 'hand', 'rent', 'send' are typical ditransitive verbs and they can occur in the double object construction(DOC)¹. In Mandarin Chinese (henceforth Chinese), the ditransitive verb which

¹In Chinese, DOC does not only involve the 'giving' type, namely the indirect argument is interpreted as the recipient of the theme, but there are also 'getting' and 'naming' types of DOC, in which the indirect argument is the source or the individual to be named, depending on the lexical meaning of the ditransitive verb. As they are not directly related to *gei*, we leave them for future research.

corresponds to ‘give’ is *gei*. (1) shows *gei* in DOC in Chinese.

- (1) Nana *gei* *le* Xiaoming *yi* *ben* *shu*.
 Nana give PFV Xiaoming one CL book
 ‘Nana gave Xiaoming a book.’

Interestingly, in Chinese not every verb signifying ‘give’ or ‘transfer’ can independently take two object arguments and occur in DOC as *gei* in (1) (Li & Thompson, 1989; Zhu, 1982). To elaborate, although ‘*song*’ (give) or ‘*mai*’ (sell) behaves like ‘*gei*’ in (2a), verbs with very similar semantic feature, such as ‘*jiao*’ (hand) or ‘*ji*’ (send) cannot occur independently in DOC. To put it differently, these verbs in Chinese semantically entail a recipient/goal argument, but unable to introduce it syntactically, as in (2b).

- (2) a. Nana *song/mai/huan/* *le* Xiaoming *yi* *liang* *che*.
 Nana give/sell/return PFV Xiaoming one CL car
 ‘Nana gave/sold/returned Xiaoming a car.’
 b. *Nana *chuan/jiao/ji/you* *le* Xiaoming *yi* *fen* *wenjian*.
 Nana pass/hand/send/mail PFV Xiaoming one CL document
 ‘Nana passed/handed/sent/mailed Xiaoming a document.’

For the latter type of verbs, one way to occur in DOC is by attaching the ditransitive verb ‘*gei*’ onto them and form a chunk, ‘*V-gei*’. Such a verbal complex behaves like a normal ditransitive predicate.² *V-gei* can take a recipient and a theme argument, forming a DOC in (3).

- (3) Nana *chuan/jiao/ji-gei* *le* Xiaoming *yi* *ben* *shu*.
 Nana pass/hand/send-give PFV Xiaoming one CL book
 ‘Nana passed/handed/sent Xiaoming a book.’

Actually, verbs which can combine with *gei* to occur in DOC are beyond those signifying giving or transferring. Normal transitive verbs without a recipient entailment such as ballistic motion verbs like ‘*reng*’ (throw), accompanied motion verbs like ‘*dai*’ (take), verbs of creation and verbs of getting (like ‘*xie*’ (write) and ‘*mai*’ (buy))³, all are able to form a *V-gei* chunk and take an extra recipient argument in DOC, indicated by (4).

²Notice that the chunk can be followed by an aspect marker such as *le* (perfective). The position of the aspect marker indicates that *gei* and its preceding verb are combined tightly to become a single word whose subpart cannot be separated.

³There is individual difference in terms of the acceptability of the last type of *V-gei*.

- (4) a. Nana reng*(-gei) le Xiaoming yi ge qiu.
Nana throw-give PFV Xiaoming one CL ball
'Nana throw Xiaoming a ball.'
- b. Nana dai*(-gei) le Xiaoming yi ge liwu.
Nana bring-give PFV Xiaoming one CL gift
'Nana brought Xiaoming a gift.'
- c. Xiaoming xie*(-gei) le Nana yi feng qingshu.
Xiaoming write-give PFV Nana one CL loveletter
'Nana wrote Nana a loveletter.'
- d. Xiaoming mai*(-gei) le Nana yi chuan xianglian.
Xiaoming buy-give PFV Nana one CL necklace
'Nana bought Nana a necklace.'

Back to the verbs which can independently occur in DOC like 'song' (give) or 'mai' (sell), they also accept such a combination with *gei*. For them, of course, *gei* is optional in DOC, see (5).

- (5) Nana song-(gei) le Xiaoming yi ben shu.
Nana give-(give) PFV Xiaoming one CL book
'Nana gave Xiaoming a book.'

Zooming out, we are establishing a basic classification of verbs which are able to occur in DOC with or without the help of *gei*. To recap, *gei* is a ditransitive verb which is able to independently occur in DOC. In addition, it also serves as a verbal suffix, combining with several types of verbs, enables the *V-gei* chunk to take the recipient argument and appear in DOC. After referring to the cross linguistic ditransitive verb classification formulated in the previous literature (Beavers, 2011a; Boneh & Nash, 2017; Levin, 2008; Li & Thompson, 1989; Pinker, 1989; Zhu, 1982), we reclassify the types of ditransitive verbs which are compatible with suffix *gei* and list them in the following table (6):

- (6) The semantic classification of verbs in *V-gei*:

semantic feature of the verb	recipient entailment	examples	suffix <i>gei</i> in DOC
1. give	yes	<i>gei</i> (the only one)	——
2. verb with giving	yes	<i>song, mai, zeng</i>	optional
3. verb of transferring/sending	yes	<i>you, ji, di, jiao</i>	required
4. verb of instantaneous causation of ballistic motion	no	<i>reng, tou, diu, pao</i>	required
5. verb of continuous causation of accompanied motion	no	<i>dai, liu, na</i>	required
6. verb of getting and creating	no	<i>mai, tou, xie, zhu</i>	required

Besides using the suffixation of *gei* to add the recipient in syntax, this argument can also be introduced by a preposition. What is interesting is that this preposition is also in the form of *gei*. To wit, all the six verb types which accept *gei* suffixation can take the PP headed by *gei*, introducing the recipient argument.

- (7) a. Xiaoming song/ji/di/reng/dai/mai-gei le Nana yi ge liwu.
 Xiaoming give/send/pass/throw/bring/buy-give PFV Nana one CL gift
 'Xiaoming gave/sent/passed/threw/brought/bought Nana a gift.'
- b. Xiaoming song/ji/di/reng/dai/mai le yi ge liwu gei Nana.
 Xiaoming give/send/pass/throw/bring/buy PFV one CL gift to Nana
 'Xiaoming gave/sent/passed/threw/brought/bought a gift to Nana.'

In addition, this postverbal *gei* PP can also occur in a preverbal position:

- (8) a. Xiaoming song/ji/di/reng/dai/mai le yi ge liwu gei Nana.
 Xiaoming give/send/pass/throw/bring/buy PFV one CL gift to Nana
 'Xiaoming gave/sent/passed/threw/brought/bought a gift to Nana.'
- b. Xiaoming gei Nana song/ji/di/reng/dai/mai le yi ge
 Xiaoming to/for Nana give/send/pass/throw/bring/buy PFV one CL
 liwu.
 gift
 'Xiaoming gave/sent/passed/threw/brought/bought a gift to Nana.'

So far, we have identified three ditransitive constructions in which *gei* occurs: DOC, postverbal PP and preverbal PP. In each of them, *gei* co occurs with the VP and modifies the argument structure by introducing a recipient argument, thus the ditransitivity. A natural question to ask is whether the three constructions are structurally related and can be derived from one to another, similar to dative alternation cross linguistically (Boneh & Nash, 2017; Bruening, 2010a; Hallman, 2015; Harley & Jung, 2015; Hovan & Levin, 2008; Larson, 1988; Levin, 2008; Oehrle, 1976; Pesetsky, 1996; Pinker, 1989). In addition, the lexical semantics of each type of verbs and their interaction with *gei* also bring in some interesting questions to explore, i.e, the optionality of *gei* in terms of suffixation (see 6). Finally, what is *gei* in these ditransitive constructions, are they the same in nature? This research aims to address the above three issues by exploring the syntax and semantics of the ditransitive constructions in Chinese.

This article is organized as follows: section 2, 3 and 4 zoom into the syntactic and semantic properties of the DOC *gei*, postverbal *gei* PP and preverbal *gei* PP respectively. The argument configuration, the eventive template meaning and the lexical aspect property

of each structure will be explored. The aim is to figure out the syntactic and semantic contribution of *gei* in each structure and its interaction with the lexical semantics of the co-occurring verb. A comparison of the three *gei* structures on the above aspects signifies a transformational analysis is quite implausible. Based on this, section 5 proposal an analysis of *gei* under the neo-Constructivist approach to argument structure (Acedo-Matellán, 2016, 2018; Bondarenko, 2022; Borer, 2005; Harley, 2002, 2007; Marantz, 1993, 1997, 2013; Ramchand, 2008) by formulating the different event structures to account for the properties of *gei*. The core argument is that the *gei* is realized as the pivotal functional head: $\theta_{Recipient}$, P_{PATH} and P_{AFF} in each structure and which one *gei* is instantiated is contextually dependent, namely the three *geis* are contextual alloosemy (Marantz, 2022; Myler, 2016; Wood, 2015; Wood & Marantz, 2017). Section 6 returns to the optionality issue of suffix *gei* and tries to establish a correlation between the optionality of *gei* and the encoding of *PATH* in the lexicon-syntax interface. The last section concludes.

2 The syntax and semantics of (V-)gei in DOC

This section aims to explore the syntactic and semantic function of the suffix *gei*, mainly through the comparison of the structure without *gei* and the one with it. Obviously, any syntactic and semantic distinction between the two structures is attributed to the property of suffix *gei*. In addition, we also address the similarities and differences of verbal and suffix *gei* in DOC to see if they are the same in nature.

2.1 The argument structure of DOC with V-gei

We start with the cases in which suffix *gei* is obligatory for DOC, namely when it combines with verbs of transferring or sending ('send' type), ballistic motion ('throw' type), verbs of continuous causation of accompanied motion ('take' type), verb of creation ('write' type) and verbs of getting ('buy' type). These verbs are transitive dynamic verbs with a theme internal argument. Adding the suffix *gei* licenses the recipient /possessor in syntax. In this sense, the syntactic function of the suffix *gei* is very similar to the low applicative marker well attested in a variety of languages (Baker, 1988; Pylkkänen, 2008; Wood, 2015; Wood & Marantz, 2017). They both combine with transitive verbs which has an object do not co-occur with stative verbs, passing the low applicative test in (Pylkkänen, 2008).

2.1.1 The asymmetrical C command relation between the recipient and the theme

Following the structural diagnostics implemented in Barss and Lasnik (1986) and Larson (1988), we use anaphor binding and variable binding to detect the syntactic relation of the

two internal arguments of *V-gei*, see (9) and (10). The result indicates that the recipient argument asymmetrically C-commands the theme, thus is hierarchically higher than the other. Such a structural relation is universally attested in Chinese DOC structure.

- (9) a. Nana reng-gei le Xiaoming_i ta-ziji_i de qiu.
 Nana throw-give PFV Xiaoming him-self DE ball
 ‘Nana throw Xiaoming his own ball.’
 b. *Nana dai-gei le ta-ziji_i Xiaoming_i de zuoye.
 Nana bring-give PFV him-self Xiaoming DE homework
 ‘Nana brought himself Xiaoming’s homework.’
- (10) a. Xiaoming ji-gei le mei ge xuesheng_i ta_i de chengjidan.
 Xiaoming send-give PFV every CL student_i his_i DE transcript
 ‘Xiaoming sent every student_i his_i transcript.’
 b. *Xiaoming fa-gei le ta_i de zuozhe mei ben xinshu_i.
 Xiaoming distribute-give PFV it DE author every CL new-book
 ‘Xiaoming distributed its author every book.’

2.1.2 Argument alternations in DOC with *V-gei*

From the perspective of argument alternation, the two internal arguments also exhibit an asymmetrical syntactic relation, in an unexpected way. To elaborate, the theme rather than the recipient argument can be passivized with the marker *bei*, no matter in long or short passive (C.-T. J. Huang et al., 2009), as is shown in (11).

- (11) a. Zhe feng xin bei (Xiaoming) ji-gei le Nana.
 This CL letter PASS (Xiaoming) send-give PFV Nana
 ‘The letter was sent to Nana (by Xiaoming).’
 b. *Xiaoming bei (Nana) ji-gei le yi feng xin.
 Xiaoming PASS (Nana) send-give PFV one CL letter
 ‘(Intended) Xiaoming was sent a letter (by Nana).’

Such an asymmetry indicates the non core status of the recipient, making it patterns with an oblique argument.

In addition, the DOC formed by *V-gei* can undergo causative alternation: every DOC formed with *V-gei* obtains an ‘anticausative’ counterpart, in which the theme argument is promoted to the subject position, the recipient argument stays in the object position and the causer disappears.

- (12) a. Dahua ji-gei le Nana na ben shu.
 Dahua (send-)give PFV Nana that CL book
 'Dahua send Nana that book.'
- b. Na ben shu ji-gei le Nana.
 That CL book send-give PFV Nana
 'That book was sent/given to Nana.'

The relationship between (12a) and (12b) is. cross linguistically, in the same vein as the causative-inchoative alternation. Structurally, the causative one projecting the CAUSE layer and the inchoative one not (Alexiadou et al., 2006, 2015; Beavers & Koontz-Garboden, 2020; Bruening, 2013; Levin & Hovav, 1994).⁴

The anticausative *V-gei* contrasts with the one with passivization (13) in their compatibility with agentive adverbials:

- (13) Na ben shu bei guyi/xiaoxin-de ji-gei le Nana.
 That CL book PASS deliberately/carefully send-give PFV Nana
 'That book was sent/given to Nana deliberately/carefully.'
- a. *Na ben shu guyi/xiaoxin-de ji-gei le Nana.
 That CL book deliberately/carefully send-give PFV Nana
 '(Intended) That book was sent/given to Nana deliberately/carefully.'

The above data suggest that in (13a) the agent argument does not project in syntax and the theme argument undergoes A movement to the subject position. This, in effect, suggests that DOC with *V-gei* in Chinese could in its nature a causative structure, when chopping off the causative layer, we have the anticausative structure of *V-gei*. Moreover, no matter in passive or anticausative *V-gei*, it is always the theme argument, or the so called 'direct object' get promoted to the grammatical subject position, albeit it is hierarchically lower than the recipient. This is the other aspect of asymmetry between the two internal arguments. The above alternations are also available with the lexical verb *gei* and the optional suffix *gei*.

⁴As Chinese allows topicalization by movement as well as *pro*-drop (C.-T. J. Huang, 1984; C.-T. J. Huang et al., 2009), (12b) logically could be derived from (12a) by means of topicalizing the theme and dropping the *pro* agent at the same time. Nevertheless, such an analysis is not on the right track. One piece of evidence comes from the compatibility with agentive/manner adverbs, namely, the causative version of *V-gei* allows agentive or manner adverbials whereas the anticausative version does not. Such a contrast is unexpected under the topicalization plus *pro* drop analysis.

2.2 The (prospective) caused possession meaning in DOC with (V-)gei

2.2.1 Caused possession as a universal event template in languages

Cross linguistically, DOC canonically entails a caused possession relation among its arguments, namely, the agent/causer causes the recipient to have the theme. In this respect, DOC is a subtype of change of state events whose newly coming state is in the form of possession. Such an eventive relation is argued to be realized through the event template in which the ditransitive verb(root) is inserted(Beavers, 2011a; Beck & Johnson, 2004; Hale, Keyser, et al., 1993; Harley, 2002, 2007; Harley & Jung, 2015; Levin, 2008; Petsky, 1996; Pinker, 1989). The event template contains mainly two parts: causation and the resultative state, here possession. In the literature, possession as a event primitive can be encoded by a syntactic functional head(Bruening, 2010a, 2018; Harley, 2002; Marantz, 1993; Pylkkänen, 2008) or a sublexical component 'HAVE', (Beavers & Koontz-Garboden, 2020; Beck & Johnson, 2004; Dowty, 1979; Levin, 2008; Pinker, 1989), depending on the exact theoretical framework to be adopted.

From the perspective of semantics, the availability of such a 'possession' relation is evidenced by an asymmetry in dative alternation. DOC and prepositional dative are different in terms of the compatibility with an locative argument(Beavers, 2011a; Bruening, 2018; Harley, 2002; Levin, 2008; Oehrle, 1976; Pinker, 1989):

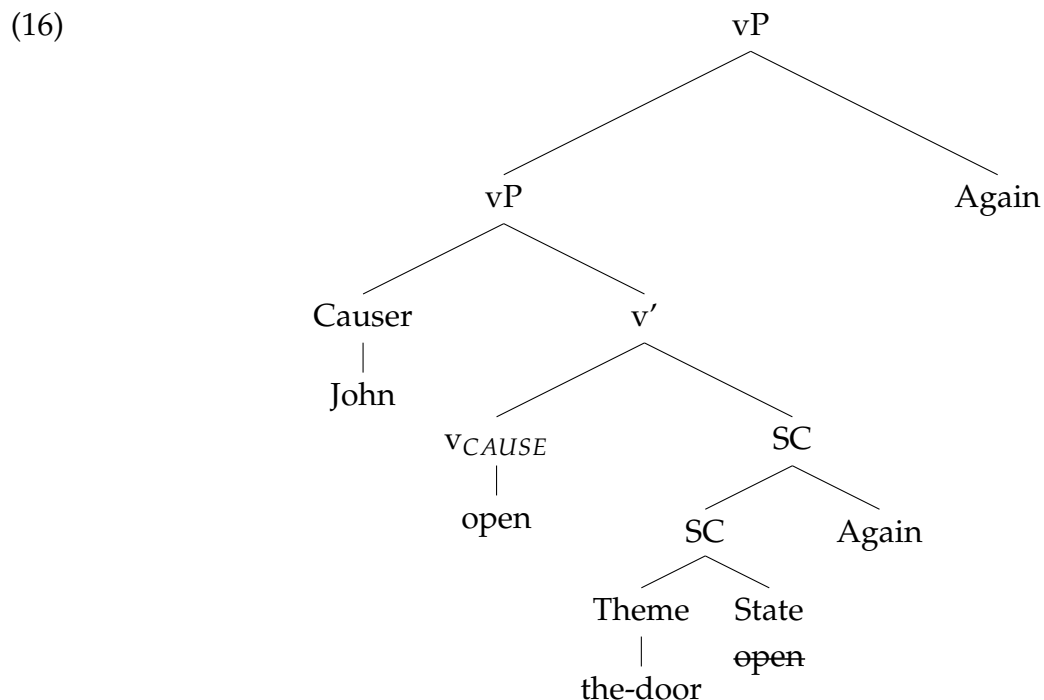
- (14) a. John sent a book to Mary/London.
b. John sent Mary/*London a book.

(14b) is grammatical only if the locative argument 'London' is understood as the 'London office', whereas (14a) has no such semantic requirement. The so called 'London office effect' suggests that DOC imposes a semantic requirement to the indirect object to make sure it has the ability to 'possess' the theme, namely the semantic role of which is possessor rather than a goal, whereas for the dative construction, the oblique argument can be both. In Harley (2002), she uses P_{HAVE} and P_{LOC} respectively to manifest the semantic distinction of DOC and dative construction. Such a 'HAVE' element formally encodes the possession relation and semantically impose an animacy requirement. In addition, 'HAVE' as a semantic primitive in a language not only is responsible for the 'give' meaning, but also is an ingredient for verbs like 'have', 'get' and 'want'(Harley, 1997, 2002, 2004). Cross linguistically, if a language obtains the verb to express the possession relation between an individual and an entity, it must also obtains a verb to express the 'caused-have' relation, namely, 'If you have, you can give'(Harley, 1997). The correlation between 'have' and 'give' can be seen as evidence for the caused-possession meaning in DOC.

Possession meaning in DOC is further evidenced by the interaction of the ditransitive verbs with repetitive adverbs such as ‘again’. It is well attested that when ‘again’ co-occurs with a change of state predicate like ‘open’, ambiguity between a repetitive meaning and restitutive meaning will arise:

- (15) a. John opened the door and the door was open before. (restitutive)
 b. John opened the door and the door was opened by someone before. (repetitive)

Adopting the structural ambiguity approach to the semantics of the repetitive verbs, Beavers and Koontz-Garboden (2020), Beck and Johnson (2004), and Bosse et al. (2012) argues that the distinction of repetitive and restitutive meaning is resulted from the attachment site of ‘again’. Following the verb decomposition approach (Dowty, 1979; Harley, 2005; J. Huang, 2006; Levin & Hovav, 1994), a change of state predicate can be decomposed into a causative sub-event (indicated by a causative v_{CAUSE}) and a resultative state (a small clause (SC) selected by v_{CAUSE}).



Lower attachment of ‘again’ only scopes over the small clause, thus only the resultative state is repeated and generates the restitutive meaning. If ‘again’ is attached higher in the causative vP layer, the whole event is under the scope of ‘again’ and gives rise to the repetitive meaning. This is reflected in (16). In this view, ‘again’ can be used as structural diagnostic of the decomposed verbal structure, namely the availability of the restitutive meaning suggests a resultative state, which can be realized as a small clause or a PP, exists.

Bondarenko (2022) uses this strategy to test the structural difference between a dative argument and a PP in DOC related structures. For example, when adding ‘again’ to DOC in English, both repetitive and restitutive meaning is detected, although superficially there is no PP:

- (17) a. John gave Mary a book again and Mary had that book before.
 b. John gave Mary a book again and Mary had been given that book before.

Bondarenko (2022) argues that the availability of restitutive meaning in English DOC indicates that the ‘HAVE’ component exists in the form of a PP, denoting the resultative state without the involvement of the lexical verb. Whereas the Russian counterpart of (17a) does not exist, indicating that the possession relation in Russian does not encode in the same way.

What needs to be mentioned is that researchers also discovered that the possession relation encoded in DOC can be actual or intensional, namely the recipient argument can possess the theme in the actual world or in a possible world, depending on the lexical semantics of the verb.

- (18) a. *John gave Mary a book but Mary never got it.
 b. John sent Mary a letter but Mary never got it.

The intensionality of possession in DOC is attributed to a modal operator in the event template: Beck and Johnson (2004) and Harley and Jung (2015) argue that there is a progressive operator in DOC. The progressive operator entails that the natural endpoint of the event(possession) has not achieved, thus intensional. Beavers (2011a) and Beavers and Koontz-Garboden (2020) argues that the event template of DOC merely encodes a prospective possession, realized by a sub-lexical modality operator \diamond , following Koenig and Davis (2001). The actual possession meaning idiosyncratically exists in the lexical semantics of the root and the root meaning will override the template meaning. Thus the actual possession meaning is only found in some but not all DOCs.

In the following we will examine the availability of such a caused possession meaning in DOC with (V-)gei in Chinese.

2.2.2 The animacy requirement of the recipient with (V-)gei

As we have mentioned, the argument brought by *gei* is interpreted as a recipient. In DOC, the theme is supposed to be in the possession of the recipient after the activity denoted by the verb. According to Tham (2006), the exact semantics of possession can be alienable (relational noun), inalienable (sortal noun) and control in Chinese (not possession but

temporally control the theme). Furthermore, a pure location is banned in the indirect argument position with *gei*, namely, *gei* impose an animacy requirement to its argument, no matter as a verb or a suffix:

- (19) a. *Xiaoming (ji)-*gei* Beijing yi fen wenjian.
 Xiaoming (send)-give Beijing one CL document
 '(Intended) Xiaoming send Beijing a document.'
- b. *Na chang dayu (dai)-*gei* jiaoshi-li henduo ren.
 that CL heavy-rain (bring)-give classroom-in many people
 '(Intended) The heavy rain brings lots of people in the classroom.'
- c. *Xiaoming (song)-*gei* qiang lanse de youqi.
 Xiaoming give wall blue DE painting
 '(Intended) Xiaoming gave the wall blue painting.'

In Chinese, a locative argument can be served by a proper name like in (19a), or can be overtly manifested by adding a localizer onto a plain noun to denote the location defined by the spatial area with respect to the entity (C.-T. J. Huang, 2014; J. Lin, 2013), as in (19b). Both of them are incompatible with *gei*. Chinese also obtains the verb '*you*' (possess) to express the possession relation between an individual and an entity, making it plausible to predict the existence of the 'HAVE' component, in the spirits of Harley (1997, 2002).

2.2.3 The interaction of (V-)*gei* with repetitive adverbs

So far, verbal *gei* and suffix *gei* behave in the same way, but when we put the repetitive adverbial '*you*' (again)⁵ in a DOC sentence with (V-)*gei*, they begin to show difference in the availability of the restitutive meaning: restitutive meaning is only possible with *gei* but not V-*gei*. To put it differently, ambiguity between restitution and repetition is only detected with the ditransitive verb *gei*, whereas for V-*gei*, only repetitive reading is available:

- (20) The scenario: Nana is a huge fan of a famous singer and she got the singer's signed album three years ago at her live concert. But the album lost accidentally and Nana was very sad about that. The singer knows this and she sent Nana the same signed album again⁶:

⁵Both '*you*' and '*zai*' are used as repetitive 'again' in Chinese and they are different in their compatibility with tense/modalities: '*you*' is used when the repeated event happens in the past and '*zai*' is used for an event has not happened (in the future or under a modal operator).

⁶Notice that here what is restituted is not the token but the type of the album. For me in a scenario with the same token get restituted, both *gei* and V-*gei* are bad.

- a. Na ge geshou you gei le Nana yi zhang qianming zhuanji.
that CL singer again give PFV Nana one CL signed album
'That singer gave Nana a signed album again.'
- b. *Na ge geshou you ji-gei le Nana yi zhang qianming zhuanji.
that CL singer again send-give PFV Nana one CL signed album
'(Intended) That singer sent Nana a signed album again.'

Under the scenario depicted above, a proper description would be (20a) rather than (20b). Such a distinction indicates that 'HAVE' indeed exists as a sub-lexical component of *gei*, thus can be independently targeted by 'you' and gives rise to the restitutive meaning. The unavailability of such meaning for *V-gei* is puzzling, assuming that verbal and suffix *gei* function as the same element in syntax. Arguably, there could be two possibilities, either the possession relation does not exist in *V-gei*, which is implausible; or it exists but somehow always combined with the manner/method through which the possession is achieved. That's why when 'you' is attached, both the action and the possession are repeated.

2.2.4 The intensionality of possession with (V-)gei

Another difference between *gei* and *V-gei* is the intensionality of possession. For *gei*, the possession has to be factual whereas for *V-gei*, the exact semantics of possession is determined by the lexical semantics of the verb. To elaborate, verbs of inherent giving, including *gei* and those optionally combined with *gei* in DOC always entail actual possession (21a)⁷. For verbs of transferring or sending, whether the possession is actual or intensional seems to be dependent on the distance of transfer. The possession is more likely to be actual if such transfer happens in a very short distance, usually within the same physical space, such as the case of 'jiao'(hand) or 'di'(pass) in (21b). For those involve long distance especially in different locative/temporal space, like 'ji'(send) or 'you'(mail), prospective possession is expected in (21c). In this regard, intensionality of possession can be sensitive to this very subtle lexical semantic differences, even those are not encoded by syntax. At last, verbs of ballistic motion, creation, and getting all encode prospective possession as they only entail a potential to 'give' or 'transfer', as is seen in (21d).

⁷Notice that the 'possession' here specifically refers to the 'control' possession in terms of Tham (2006), namely the recipient receives, or 'be with' the theme and can control it temporally or permanently (Of course the recipient can refuse to accept and return the theme but in that sense she still 'possesses' the control of the theme for a short period of time).

- (21) a. *Dahua song/mai/jie(-gei) le Nana yi liang che, keshi Nana meiyou
 Dahua give/sell/loan(-give) PFV Nana one CL car, but Nana NEG
 shoudao.
 get
 'Dahua gave/sold/loaned Nana a car, but Nana didn't get the car.'
- b. ?Dahua jiao/di-gei le Nana yi fen wenjian, keshi Nana meiyou
 Dahua hand/pass -give PFV Nana one CL document, but Nana
 jiedao.
 NEG
 'Dahua handed/passed Nana a document, but Nana didn't get the document.'
- c. Dahua ji/you-gei le Nana yi ge baoguo, keshi Nana meiyou
 Dahua send/mail(-give) PFV Nana one CL package, but Nana NEG
 shoudao.
 get
 'Dahua sent/mailed Nana a package, but Nana didn't get the package.'
- d. Dahua reng/dai/mai-gei le Nana yi ben shu, keshi Nana
 Dahua throw/bring/buy-give PFV Nana one CL book, but Nana
 meiyou jie/shou-dao.
 NEG get
 'Dahua throw/bring/buy Nana a book, but Nana did not get it.'

To sum up, the caused possession meaning in DOC with *gei* is root sensitive, in line with what has been pointed out in Beavers and Koontz-Garboden (2020), Hovan and Levin (2008), and Levin (2008). Although verbal *gei* encodes actual possession, using it as a suffix does not such a factual possession meaning, but the lexical semantics of the verb has to be referred. To put it in a different way, although syntactically suffix *gei* can introduce the recipient, semantically it does not guarantee such possession relation, which is viewed as the natural endpoint of the event, can be achieved. This is related to the lexical aspect, or telicity of the event, see the next subsection.

2.3 The lexical aspect of *V-gei*

This subsection investigates the contribution of suffix *gei* from the perspective of lexical aspect, or the situation type of the predicate. Again, we compare the lexical aspectual properties of the verbal predicate without *gei* and the ones with suffix *gei* to identify its contribution regarding the lexical aspect of the predicate.

2.3.1 Aspect composition and the diagnostics of lexical aspectual properties

Lexical aspect generally describes the inner temporal progress of an event, particularly whether the event has a natural endpoint (telic or not) and whether the event progression is extendable or instantaneous (durative or not). It has been long argued that lexical aspect is a compositional notion, which on the one hand is significantly influenced by the lexical semantics of the verb; on the other, the syntactic context in which such a verb appears, for instance, the quantitative feature of the object or the availability of a resultative phrase (Dowty, 1979; Filip, 2008; Krifka, 1992, 1998; MacDonald, 2008; Rothstein, 2008; Travis, 2010; Verkuyl, 1972, 1989). Lexical aspect, particularly telicity, can be depicted and analyzed with different theoretical tools, such as the classic descriptive approach in Vendler (1957), the quantitative approach (Borer, 2005; Krifka, 1998), the maximality approach (Filip, 2008; Rothstein, 2008) and the scalar approach (Beavers, 2013; Beavers & Koontz-Garboden, 2020; Kennedy & Levin, 2008), etc. Here we are following the classic work Vendler (1957)'s description and classification of the situation types, discussing the telicity of predicate with and without *V-gei*, aiming to anchor the contribution of *gei* with respect to aspect composition.

Before diving to the lexical aspect of *V-gei*, we firstly go over the syntactic diagnostics of telicity and durativity. It is well seen that 'in/for' adverbials and its cross linguistic counterparts are implemented to test telicity (Borer, 2005; Dowty, 1979; MacDonald, 2008; Vendler, 1957; Verkuyl, 1972, 1989): a telic predicate such as accomplishment in (22a) can have the *in* adverbial modifying the duration of the event. An atelic predicate, say an activity in (22b) is only compatible with the *for* adverbial.

- (22) a. John ate an apple in three minutes/#for three minutes.
 b. John drove the car for three hours/#in three minutes.

In Chinese, the situation is very similar:

- (23) a. Xiaoming zai san fenzhong nei chi le yi ge pingguo.
 Xiaoming at three minute in eat PFV one CL apple
 'Xiaoming ate an apple in three minutes.'
 b. Nana kai le san xiaoshi che.
 Nana drive PFV three hour car
 'Nana drove a car for three hours.'

The durativity of a predicate is usually tested through its (in)compatibility with the progressive aspect (Beavers, 2013; Rothstein, 2008; Vendler, 1957). A durative event

obtains a temporal interval thus is compatible with progressive aspect like (24a); a punctual event, say, an achievement, is processless thus it is semantically incompatible with progressive. When they co-occurs, the progressive aspect targets the period before the culmination of the achievement and is understood as 'be about to' (Verkuyl, 1989), as in (24c).

- (24) a. John is driving a car. (duration)
 b. John is eating an apple. (duration)
 c. John is reaching the mountaintop. (culmination)

In addition, 'in/for' adverbials can also be adopted to diagnose the durativity of a predicate (Beavers & Koontz-Garboden, 2020; Kearns, 2000; Vendler, 1957; Verkuyl, 1989). An achievement event is only compatible with 'in' but not 'for' adverbials, see (25b). This makes it patterns with accomplishment rather than activity. But an achievement event with 'in' adverbial only generates an 'after' interpretation and in this aspect it is different from accomplishment; as a processless event is culminated in a very short period of time, this making it hard to be measured by a time span adverbial. Thus, 'in' adverbials only targets the temporal interval between the reference time and the event time, giving rise to the 'after' interpretation, as is shown in (25a).

- (25) a. John reached the mountaintop in three minutes. (after)
 b. *John reached the mountaintop for three minutes.

As for the correlation between durativity and telicity, it is needed to be mentioned that a punctual event always entails telicity as it encodes a two point simplex scale with two atomic parts, the beginning and the ending, the minimum number of points in time needed to tell a change or action occurred (Beavers, 2013; Dowty, 1979; Vendler, 1957; Verkuyl, 1989). The punctuality of the event also entails that the natural endpoint of the event overlaps with the initial point and is always accessible. Thus, punctuality can guarantee telicity.

In Chinese, a punctual event, namely, achievement, is incompatible with the progressive marker *zhengzai*:

- (26) *Nana zhengzai dao jia.
 Nana PROG arrive home
 '(Intended) Nana is arriving home.'

An achievement predicate is incompatible with 'for' adverbials and its co-occurrence with the 'in' adverbial only generates the 'after' interpretation.

- (27) a. *Nana hui dao san fenzhong jia.
 Nana will arrive three minute home
 'Nana is arriving home for three minutes.'
- b. Nana hui zai san fenzhong nei dao jia.
 Nana will at three minute in arrive home
 'Nana is arriving home in three minutes.'

Against this backdrop, we will examine the lexical aspectual properties of *V-gei*.

2.3.2 The lexical aspect properties of *V-gei*

In order to figure out the contribution of *gei* to the lexical aspect, other factors also contributing to the aspect composition will be controlled to form a minimal pair with respect to *gei*.

Firstly, verbal *gei* and verbs with inherently giving meaning (with optional suffix *gei*) are telic *per se*. This is expected if DOC encodes the caused possession meaning since the end point of the event is the achievement of the possession⁸:

- (28) Nana zai yi fenzhong nei gei/song/return le xiaoming yinyue-he.
 Nana at one minute in give/give/huan PFV Xiaoming music-box
 'Nana gave/returned Xiaoming the/a music box in one minute.'

For these verbs, telicity is largely determined by the lexical meaning and suffix *gei* is not essential for a telic interpretation, as it is always optional.

As for verbs which obligatorily require suffix *gei* to occur in DOC. Without *gei*, the verbal predicate can be telic or atelic as a result of aspect compositionality:

- (29) a. Nana ji le san xiaoshi xin. (atelic)
 Nana send PFV three hour letter
 'Nana sent a (the) letter(s) for three hours.'
- b. Nana zai san xiaoshi nei ji le sanbai feng xin.(telic)
 Nana at three hour in send PFV three-hundred CL letter
 'Nana sent three hundred letters in three hours.'

When the suffix *gei* and the recipient argument are added onto (29a), the telic reading appears, as in (30a). Evidently, *gei* imposes a definite/specific interpretation on the bare noun argument. As in (29a), the bare noun argument can have a definite or indefinite

⁸I also tend to understand the temporal adverbial with the 'after' interpretation. Therefore these predicates are achievements

interpretation whereas in (30a), adding *gei* forces a definite/specific interpretation. This could be seen as an semantic effect of telicity: the endpoint of the event requires the object to have a quantized interpretation. Such a correlation is well established in the literature, such as the mereological mapping correlation between the object and the event (Krifka, 1992, 1998), the Figure-Path relation in Beavers (2011b, 2012) or the agree operation on the *Asp_{QUAN}* head in Borer (2005). Thus, the interpretation shift of the object is an indicator of the availability of telicity in (30).

- (30) a. Nana zai san xiaoshi nei ji-gei le Dahua xin.
 Nana at three hour in send-give PFV Dahua letter
 'Nana sent Dahua the letter(s) in three hours.'
- b. *Nana ji-gei le Dahua san xiaoshi xin.
 Nana send-give PFV Dahua three hour letter
 'Nana sent Dahua a (the) letter(s) for three hours.'

Thus, suffix *gei* has the function of encoding telicity; making the predicate be temporally measured by the 'in' but not 'for' adverbial and the interpretation of the theme argument definite. This is natural if suffix *gei* introduce the recipient and the possession relation is established as the natural endpoint of the event. However, recall the intensionality of suffix *gei*, this argument becomes shaky: suffix *gei* does not guarantee that the recipient gets the theme as a result, namely, the event can be atelic! It is puzzling that *V-gei* passes the telicity diagnostic despite the lack of a non prospective, natural result.

Notably, it seems that 'in' adverbial in (30a) only generates the 'after' interpretation. Namely, it is not the case that Dahua receives the letter in three minutes(the duration of the 'transfer' is three minutes) but the letter is sent out after three minutes. The three minutes quantifies the duration of the sending action rather than the transfer of the letter. For instance, Nana spent three minutes 'preparing' for sending out the letter, say, she seal the envelope and stuck the stamp in the three minutes. The same for the combination of other types of verbs with *gei*:

- (31) a. Nana zai san miao zhong nei ti-gei le Dahua yi ge qiu.
 Nana at three seconds in kick-give PFV Dahua one CL ball
 'Nana kicked Dahua a ball in three seconds.'
- b. Dahua zai san fen zhong nei zhai-gei le Nana yi duo hua.
 Dahua at three minutes in pick-give PFV Nana one CL flower
 'Dahua picked Nana a flower in three minutes.'

It seems that the durative adverbials in the above examples never measure the transfer *per se*, but the temporal period preceding the transfer, which could be the duration of the

action in (31b) or the interval before the action in (31a), depending on the lexical semantics of the verb. This actually suggests *V-gei* predicate denotes an achievement event. The punctual property of *V-gei* is further supported by the fact that with *V-gei*, the sentence is never compatible with the progressive aspect, albeit all these types of verbs are *per se* durative:

- (32) a. Xiaoming zhengzai song/fa/ji/reng/mai yi ge liwu.
 Xiaoming PROG give/hand-out/send/throw/buy one CL gift
 ‘Xiaoming is giving/handing-out/sending/throwing/buying a package.’
 b. *Xiaoming zhengzai song/fa/ji/reng/mai-gei Nana yi ge
 Xiaoming PROG give/hand-out/send/throw/buy-give Nana one CL
 liwu.
 gift
 ‘(Intended) Xiaoming is giving/handing-out/sending/throwing/buying Nana a gift’

The contrast in (32) tells us that the suffix *gei* contributes to telicity not by providing a natural endpoint of the event, but by making it no longer durative. To wit, VP *gei* can denote an accomplishment or an activity, but as long as the verb combines with *gei*, *V-gei* together becomes instantaneous. As has been mentioned previously, punctuality encodes a subtype of telicity as the endpoint is always available. Therefore, DOC with *V-gei* in Chinese always denoted an achievement event: telic and punctual. Furthermore, telicity is entailed by punctuality. That’s why although the caused possession meaning in DOC can be intensional, telicity is still accessible.

A summary of the syntactic and semantic properties of (*V-*)*gei* is as follows. Syntactically, the suffixation of *gei* alters the original argument structure by introducing an recipient in syntax, which is structurally higher than the theme argument, evidenced by the binding tests. However, this extra argument is invisible for A (A’) movement⁹. Namely, the theme argument can bypass the recipient and internally merged to the subject position in passive or anticausative *V-gei* structure. Semantically, *V-gei* in DOC encodes caused possession event semantics but the possession can be intensional, depending on the lexical semantics of the verb. When co-occurring with repetitive adverbs, only verbal *gei* can generate both repetitive and restitutive meaning. In terms of lexical aspect, *V-gei* encodes an achievement event, both telic and punctual.

⁹Following C.-T. J. Huang et al. (2009), long passive in Chinese is derived through A’ movement.

3 *Gei* alternation in Chinese: the prepositional usage of *gei*

3.1 A general view of *gei*(dative) alternation

Recall that the initial puzzle of this study is the suffix *gei* requirement in DOC: although verbs signifying ‘sending’ and ‘transferring’ both entail a recipient argument, this argument cannot be directly introduced by the verb, but suffixation of *gei* is needed, as in (33a). Except for this method, the recipient can also be introduced as a prepositional argument in a post-VP position. What is intriguing is that the preposition to introduce the oblique argument is still *gei*, as in (33b).

- (33) a. Xiaoming ji-gei le Nana yi ge baoguo.
 Xiaoming send-give PFV Nana one CL package
 ‘Xiaoming sent Nana a package.’
 b. Xiaoming ji le yi ge baoguo gei Nana .
 Xiaoming send PFV one CL package to Nana
 ‘Xiaoming sent a package to Nana.’

This shows that besides being a verb and a suffix, *gei* can also serve as a preposition which introduces the recipient argument¹⁰. This *gei* is a different syntactic entity from the lexical verb *gei*, as they can co-occur with each other:

- (34) a. Xiaoming gei le Nana yi ge liwu.
 Xiaoming give PFV Nana one CL gift
 ‘Xiaoming gave Nana a gift.’
 b. Xiaoming gei le yi ge liwu gei Nana.
 Xiaoming give PFV one CL gift to Nana
 ‘Xiaoming gave a gift to Nana.’

Other ditransitive verbs which does not require suffix *gei* also accept such a postverbal *gei*PP:

¹⁰In fact, there is a debate in the literature concerning the category of this *gei* and particularly whether it is the same as verbal *gei*. For instance, Zhu (1979), C.-R. Huang and Ahrens (1999), T.-H. J. Lin and Huang (2015) and Badan (2021) argue this *gei* is the same as the verbal *gei*. Li and Thompson (1989), similarly, calls it a coverb. Whereas Ting and Chang (2004) and Her (2006) believe it can be a preposition. However, the labelling issue of *gei* is not yet central to the current description of its property and we will name it ‘preposition’ *gei*. We will discuss the categorial status of *gei* and its multifunctionality in later section.

- (35) a. Xiaoming song le Nana yi ge liwu.
 Xiaoming give PFV Nana one CL gift
 'Xiaoming gave Nana a gift.'
- b. Xiaoming song le yi ge liwu gei Nana.
 Xiaoming give PFV one CL gift to Nana
 'Xiaoming gave a gift to Nana.'

The data above seem to suggest a transformational relation between the two structures, very similar to the dative alternation in English (36).

- (36) a. John sent Mary a package.
 b. John sent a package to Mary.

Due to such a parallel, we name the relationship between suffix and postverbal *gei* as 'gei alternation'.

In the literature of English ditransitive construction, there exists a heated debate concerning whether dative alternation involves structural transformation, namely, whether the DOC and prepositional dative in (36) share the same underlying event structure with one derived from the other. For instance, Larson (1988, 1990, 2014, 2017) argues that DOC is underlying a prepositional dative structure and derived from it through a passivizing like operation; Collins (2021) argues for the transformational approach but in a opposite direction. The prepositional dative is derived from a DOC like structure via smuggling. In Bresnan and Nikitina (2009), the authors argue that transformation between DOC and prepositional dative is bidirectional and information structure based. On the other hand, evidence from the the asymmetry between the two constructions, namely the 'London office effect', depictives, idioms, unavailability of nominalization in DOC, the frozen scope of DOC, ect., all suggests that transformation from one construction to the other is not always possible, thus pointing to a non-derivational approach. Therefore, plenty of researchers argue the two constructions are actually the substantiation of two independent event structures which can express similar eventive meaning (Bondarenko, 2022; Boneh & Nash, 2017; Bruening, 2018, 2020, 2021; Harley, 2002, 2007; Harley & Jung, 2015; Marantz, 1993; Pesetsky, 1996). In this view, prepositional dative is in the same vein as the directed motion structure, with a verb phrase selection a directional PP. whereas DOC, in its nature contains a having relation either encoded by a preposition, P_{HAVE} or an applicative head. Besides the two opposite views, there is also a middle way which argues that the derivational relation is root sensitive and only limited to verbs with inherent giving verbs; for other verbs there are underlying two different templates to generate prepositional dative and DOC respectively (Beavers, 2011a; Beavers & Koontz-Garboden, 2020; Hallman, 2015; Hovan & Levin, 2008).

Back to Chinese, *gei* alternation manifested in (7) seems to support the transformational approach: as the same element *gei* is involved in both structures. To wit, suffix *gei* and preposition *gei* could be the same element in nature and the two constructions in (7) share the same underlying structure. For instance, Ting and Chang (2004) believes that the suffix *gei* is actually a result of P *gei* incorporation, suggesting DOC is derived from the prepositional *gei* construction. However, it does not necessarily to be so. As *gei* is well known to be a multifunctional item in Chinese¹¹, it is logically possible that *gei* in DOC related structures is also polysemous. To figure this out, it is necessary to explore more of the syntactic and semantic properties of the preposition *gei*, particularly from the aspects in which we investigated the suffix *gei*, to see if they behave in the same way.

3.2 More on the preposition *gei*

3.2.1 The asymmetrical C command relation between the theme and the recipient

Adopting anaphor binding and variable binding as the structural diagnostics again, it is found that the syntactic position of *gei* and its object is lower than VP: the theme argument asymmetrically C-commands the recipient, thus is hierarchically higher than the other. Comparing with (9) and (10), the structural relation between the two arguments reverses the pattern in DOC.

- (37) a. Nana reng le Xiaoming_i de qiu gei ta_i-ziji.
 Nana throw PFV Xiaoming DE ball to him-self
 'Nana throw Xiaoming's ball to himself.'
- b. *Nana dai le ta_i-ziji_i de chengjidan gei Xiaoming_i.
 Nana bring PFV him-self DE transcript to Xiaoming
 'Nana brought himself's transcript to Xiaoming'
- (38) a. Xiaoming ji le mei feng chengjidan_i gei ta_i de zhuren.
 Xiaoming send PFV every CL transcript_i to its_i DE owner
 'Xiaoming sent every transcript to its owner.'
- b. *Xiaoming fa le ta_i de xinshu gei mei ge zuozhe_j.
 Xiaoming hand-out PFV his DE newbook to every CL author
 'Xiaoming handed out his new book to every author.'

¹¹Besides the DOC related constructions, *gei* in Chinese can also occur in other syntactic configurations. To illustrate, It also occurs in a benefactive/causative/passive/experiential construction, selects a lexical predicates and brings in the causative/passive flavor. Later we will try to extend our analysis of DOC *gei* to its other usages and formulate a unified analysis of *gei* in Chinese.

The structure diagnostics suggest that the recipient argument occupies a different position in DOC and in prepositional *gei* construction, assuming the theme argument ‘stands still’. This is achievable if the *gei* PP is moved upward. However, when we compare the ungrammatical case in (38) and its corresponding one in (10), repeated below, movement becomes implausible:

- (39) a. *Xiaoming ji le ta_i de chengjidan gei mei ge xuesheng_i.
 Xiaoming send PFV his DE transcript to every CL student
 ‘Xiaoming send his transcript to every student.’
 b. Xiaoming ji-gei le mei ge xuesheng_i ta_i de chengjidan.
 Xiaoming send-give PFV every CL student_i his_i DE transcript
 ‘Xiaoming sent every student_i his_i transcript.’

Notice that (39a) is ungrammatical due to the Weak Cross Over effect(WCO): covert movement of the quantifier phrase ‘*mei ge xuesheng*’(every student) will bypass a pronoun co-referring with it. If such movement becomes overt, say (39b) is derived from (39a) via movement and P incorporation(Ting & Chang, 2004), WCO predicts the result should also be ungrammatical, contrary to the fact. The contrast above falsifies the movement of the *gei* PP.¹²

3.2.2 Possession as a result of transfer

Last section argues for the caused-possession relation in DOC with one piece of evidence coming from the semantic requirement of the indirect object. Recall that the dative construction in English allows a locative argument, suggesting the thematic role licensed by ‘to’ is goal rather than recipient. This constitutes a crucial argument for the ‘directed motion’ event template in prepositional dative, i.e. caused motion/co-location (Beavers, 2011a; Hovan & Levin, 2008; Levin, 2008; Pesetsky, 1996)

- (40) a. John sent a book to Mary/London.
 b. John sent Mary/*London a book.

For the prepositional *gei* in Chinese, a locative argument is unlicensed, different from (40a). *Gei* never takes a locative argument as the object(unless the location is understood

¹²The same for the case of anaphor binding. According to the literature(c.f.Takahashi and Hulsey (2009)), A’ movement must reconstruct(except for the case with an adjunct) as the higher copy is not visible for binding and won’t create new binding possibilities). If there is derivational relation from (37b) to (9b). The ungrammaticality should stay the same, again contrary to the fact.

as an institute or affiliation). The locative argument, or the goal of movement is introduced by a different preposition: *dao*.

- (41) a. *Xiaoming ji le yi fen wenjian gei Beijing.
 Xiaoming send PFV one CL document to Beijing
 '(INT) Xiaoming send a document to Beijing.'
- b. Xiaoming ji le yi fen wenjian dao Beijing.
 Xiaoming send PFV one CL document to Beijing
 'Xiaoming send a document to Beijing.'

The semantic division of *gei* and *dao* signifies the 'London office effect'. This could be evidence to argue that *gei* still encodes the possession meaning, the same as suffix *gei*. Nevertheless, this is not the whole story.

Although we argue that the suffix *gei* encodes a caused-possession meaning, one thing has not been mentioned yet is that the putative possession does not have to be a result of transfer. It is true that most types of verb in DOC capture some flavor of motion, which makes the caused possession a result of transfer: The agent/causer is also the source of the theme, who possesses it initially but ends up with losing it, along with the possession relation established between the recipient of the theme, i.e, the caused possession arises from the transfer of possession (Her, 2006; C.-R. Huang & Ahrens, 1999; Li & Thompson, 1989; T.-H. J. Lin & Huang, 2015; Zhu, 1979). What has been neglected in the literature is that suffix *gei* can also encode the caused possession meaning which does not entail transfer: the case in which the agent/causer does not possess the theme at the beginning, but the theme comes into being and is possessed by the recipient as a result. This is very prominent when the subject is inanimate, which is unable to possess:

- (42) a. Na ci fangtan dai-gei Xiaoming henduo linggan.
 that CL interview bring-give Xiaoming lots-of inspirations
 'That interview brought Xiaoming lots of inspirations'
- b. Na ci juhui liu-gei dajia meihao de huiyi.
 that CL party leave-give everyone beautiful DE memory
 'That party left everyone beautiful memory.'
- c. Shangtian ci-gei Nana yi ge congming de tounao.
 God bless-give Nana one CL clever DE mind
 'God blesses Nana a clever mind.'

In the above examples, the thematic role of the subject is not agent but pure causers of the event, which never 'possess' the theme at all. However the recipient argument possesses

the theme as a result, namely Xiaoming has lots of inspirations in (42a) and Nana has a clever mind in (42c). In these caused possession event which does not involve transfer, it is still possible to use suffix *'gei'* but the prepositional *gei* counterpart is ungrammatical, as is exemplified in (43a) and (43b). A conclusion is that suffix *gei* can encode caused possession as a result of creation or a result of transfer but preposition *gei* is different in that it only encodes caused possession as a result of transfer. In this sense, *gei* alternation is not always possible.

- (43) a. *Na ci fangtan dai le henduo linggan gei Xiaoming.
 that CL interview bring PRV lots-of inspirations to Xiaoming
 '(INT)That interview brought lots of inspirations to Xiaoming'
 b. *Na ci juhui liu le meihao de huiyi gei dajia.
 that CL party leave PFV beautiful DE memory to everyone
 'That party left beautiful memory to everyone.'

Such an asymmetry between suffix *gei* and preposition *gei* again falsifies the derivational relation between the two structures but supports that the two constructions could in principle instantiate two different event structures, as the prepositional *gei* construction encodes a subtype of the eventive meaning encoded by DOC *gei*. To put it differently, there must be a durative, transfer path encoded by the preposition *gei*, but it is not necessarily the case with suffix *gei*. This adds another argument for the distinctness of the two structures. Moreover, the different lexical aspect properties of the two structures also points to this direction.

3.2.3 Preposition *gei* and telicity encoding

In discussing the lexical aspect of *V-gei*, it is found that *V-gei* denotes an achievement event, thus telicity is naturally derived through punctuality. Does prepositional *gei* obtain the function to delimit the event in the same way? The examples in (44) turns down such a possibility. *Gei* PP does not change the durativity of the event.

- (44) a. Xiaoming zhengzai song/ji/reng/mai yi ge liwu.
 Xiaoming PROG give/send/throw/buy one CL gift
 'Xiaoming is giving/sending/throwing/buying a package.'
 b. Xiaoming zhengzai song/ji/reng/mai yi ge liwu gei Nana.
 Xiaoming PROG give/send/throw/buy one CL gift to Nana
 'Xiaoming is giving/sending/throwing/buying a gift to Nana.'

The addition of the *gei* phrase does not influence the durativity of the event, contrasting with the suffix *gei*. Furthermore, the durativity again suggests that there indeed exists a transfer path, or a multi-point scale which leads to the possession relation. Whereas DOC *gei* structure encodes punctual, achievement event with an instantaneous path, which is a simplex scale. The different contribution in lexical aspect making the derivational relation between suffix *gei* and prepositional *gei* implausible. There is still another way for telicity encoding. Semantically, as *gei* introduces the recipient, which is the final ‘human location’ of the theme, *gei* PP is supposed to encode the natural endpoint of the event and brings telicity, very similar to the function of a Goal PP in a motion event. But again, the putative ‘structural telicity’ can be cancelled by the prospective possession meaning. Again, telicity encoding with prepositional *gei* is root sensitive:

- (45) a. *Dahua song/mai/jie le yi liang che gei Nana, keshi Nana meiyou
 Dahua give/sell/loan PFV one CL car to Nana, but Nana NEG
 shoudao.
 get
 ‘Dahua gave/sold/loaned a car to Nana, but Nana didn’t get the car.’
 b. Dahua ji/you le yi ge baoguo gei Nana, keshi Nana
 Dahua send/mail(-give) PFV one CL package to Nana, but Nana
 meiyou shoudao.
 NEG get
 ‘Dahua sent/mailed a package to Nana, but Nana didn’t get the package.’

3.2.4 The availability of the restitutive meaning with ‘again’

When it comes to the prepositional *gei*: both restitutive and repetitive meaning are accessible when it co-occurs with Chinese repetitive adverbs. In the context depicted in (20): it is appropriate to say:

- (46) a. Na ge geshou you ji le yi zhang qianming zhuanji gei Nana.
 that CL singer again send PFV one CL signed album to Nana
 ‘That singer sent a signed album to Nana again.’

In this aspect, prepositional *gei* behaves like verbal *gei* but not suffix *gei* and this constitutes one more piece of evidence to argue against the derivational approach. The availability of restitutive meaning, according to Bondarenko (2022), is predictable under the PP analysis of the post verbal *gei*, which is in the same vein as a small clause to denote

the resultative state. This also suggests the (prospective) possession relation is encoded in *gei*P, thus can be independently targeted by 'you'(again).

To summarize this section, the recipient argument in DOC can also be introduced by the postverbal prepositional preposition, which also happens to be *gei*, constituting the putative 'dative' alternation in Chinese version. However, after a detailed investigation of the syntax and semantics of the prepositional *gei*, the seemingly derivational relation between the two structures collapses at large. Firstly, anaphor binding and variable binding suggests the C commanding relation in the two structures are different and A' movement of the preposition *gei* phrase (scrambling and incorporation) is impossible. Second of all, the prepositional *gei* structure expresses a subtype of DOC eventive meaning and this renders some alternation unsuccessful (caused possession via creation is only available for DOC). Next, the lexical aspectual property of the two structures are different, as *V-gei* always encodes an achievement event but the prepositional *gei* does not. Last but not the least, they behave differently when interacting with the repetitive adverbs.

4 Scrambling or not? *Gei* in a preverbal position

It is known that PPs in Chinese can occur in a preverbal or a postverbal position¹³. *Gei* is one of the prepositions with such flexibility in its syntactic position: it seems that the post-VP preposition *gei* and its object can be moved to a pre-VP position, without changing the meaning of the sentence:

- (47) a. Xiaoming song/ji/di/reng/dai/mai le yi ge liwu gei Nana.
 Xiaoming give/send/pass/throw/bring/buy PFV one CL gift to Nana
 'Xiaoming gave/sent/passed/threw/brought/bought a gift to Nana.'
- b. Xiaoming gei Nana song/ji/di/reng/dai/mai le yi ge
 Xiaoming to/for Nana give/send/pass/throw/bring/buy PFV one CL
 liwu.
 gift
 'Xiaoming gave/sent/passed/threw/brought/bought a gift to Nana.'

At the first sight, (47b) could be derived from (47a) by scrambling the PP from a postverbal to a preverbal position. However, more scrutiny of the preverbal *gei* suggests that the fact is more complicated than scrambling. When *gei* occurs in a preverbal position, its

¹³Chinese obtains the so called 'post verbal constraint'(C.-T. J. Huang et al., 2009) and postverbal prepositions are limited to the ones expressing direction or location.

functional are more diversified than introducing the recipient argument of a transferring event.

4.1 Licensing multiple thematic role with the preverbal *gei*

Preverbal *gei* can serve as a preposition which introduce a non core argument with a variety of thematic roles, As can be seen from (48a) to (48e), the argument licensed by preverbal *gei* ranging from an undergoer to a malefactor.

(48) a. Undergoer:

Xiaoming *gei* hua jiao le shui.

Xiaoming for flower water PFV water

'Xiaoming watered the flower'

b. Goal:

Xiaoming *gei* yanyuan guzhuang.

Xiaoming for actors applaud

'Xiaoming applauded for the actors'

c. Recipient:

Xiaoming *gei* Nana ji le yi feng xin.

Xiaoming for Nana send PFV one CL letter

'Xiaoming sent a letter to/for Nana'

d. Benefactor:

Xiaoming *gei* Nana xie le zuoye.

Xiaoming for Nana write PFV homework

'Xiaoming wrote homework for Nana.'

e. Malefactor:

Xiaoming *gei* Nana nongdiu le qianbao.

Xiaoming for Nana lose PFV wallet

'Xiaoming lost the wallet on Nana (highly likely it is Nana's wallet).'

Different from other *geis*, the argument introduced by the preverbal *gei* does not have to be a recipient nor animate. Therefore, it seems that caused-possession meaning is not encoded with the preverbal *gei*. In effect, the thematic roles can be generalized as the 'affected argument', which is directly or indirectly, positively or negatively influenced by the event denoted by the main predicate. This *gei*, different from the previous ones, neither encodes the caused possession relation nor influence lexical aspect of the predicate. In this sense, this preverbal *gei* functions as the high applicative marker cross linguistically seen in various languages marker (Pylkkänen, 2008). Namely, this *gei* PP is merged higher than VP in the structure, adding an non core argument to the event.

4.2 Interaction with repetitive adverbials

The multiple thematic relation introduced by the preverbal *gei* and its putative merging position suggest that it is not semantically specified to the encoding of caused possession, or generally an resultative state of the event. This predicts that the restitutive meaning would be unavailable even when *gei* is introducing an recipient. Surprisingly, this prediction is not born out. For the scenario mentioned in (20), it is appropriated to say:

(49) a. Recipient:

Na ge geshou you gei Nana ji le yi zhang qianming zhuanji.
that CL singer again to Nana send PFV one CL signed album
'That singer sent a signed album to Nana again.'

The availability of the restitutive meaning is illuminating to the structural position of this *gei* PP. Specifically, this PP must be basically generated in a post VP position, encoding the resultative state of the event, i.e., possession. Further it undergoes movement to the preverbal position, which can be seen as a form of scrambling.¹⁴ When repetitive adverb 'you' (again) targeting the lower copy, the restitutive meaning ensues.

However, as for other instances of preverbal *gei* PP which do not obtain a post VP counterpart, such a movement analysis is impracticable. This is supported by the fact that when 'you' co exists with preverbal *gei* whose argument is not a recipient, only repetitive meaning is possible.

(50) a. Undergoer:

Xiaoming you gei hua jiao le shui.
Xiaoming again for flower water PFV water
'Xiaoming watered the flower again'

b. Goal:

Xiaoming you gei yanyuan guzhuang.
Xiaoming again for actors applaud
'Xiaoming applauded for the actors again'

c. Benefactor:

Xiaoming you gei Nana xie le zuoye.
Xiaoming again for Nana write PFV homework
'Xiaoming wrote homework for Nana again.'

d. Malefactor:

¹⁴This is a case of A scrambling as it can feed binding condition and does not subject to WCO.

Xiaoming you *gei* Nana nongdiu le qianbao.
 Xiaoming again for Nana lose PFV wallet
 ‘Xiaoming lost the wallet on Nana again (highly likely it is Nana’s wallet).’

In effect, each sentence above, regardless all containing the repetitive meaning, is still ambiguous in terms of which part of the event is in repetition. To elaborate, (50c) can mean last time someone else wrote homework for Nana but this time it is Xiaoming (the external argument is not repeated but the benefactor is). It can also mean last time Xiaoming wrote homework for someone else and this time it is Nana (the external argument is in the scope of the repetition but the benefactor is not). Following Bosse et al. (2012), we argue that the preverbal *gei* PP can undergoes optional scrambling to a higher, *vP* external position. This is also evidenced by its flexible position with respect to *ba* phrase, the voice head (Sybesma, 2021).

- (51) a. Mama ba yifu dou *gei* xiaoming xi le.
 mother BA clothes all for Xiaoming wash SFP
 ‘Mom washed all the clothes for Xiaoming’
 b. Mama *gei* xiaoming ba yifu dou xi le.
 mother for Xiaoming BA clothes all wash SFP
 ‘Mom washed all the clothes for Xiaoming’

To summarize, repetitive adverbs as a structural diagnostic helps us unveil the non-homogeneity of the preverbal *gei*. If the argument it introduced is the recipient, the *gei* is moved preverbally from the lower, postverbal position, while for all the other thematic roles, *gei* is based generated in the higher, preverbal position. But both *geis* can undergo scrambling, no matter starting from a postverbal or a preverbal position.

5 *Gei* as a chameleon: a contextual allosemy analysis of *gei*

5.1 Anchoring *Gei* in different event structures

The above three sections provide an elaborated picture of *gei* in DOC and its related structures by focusing on the following four aspects:

- i The argument structure and argument alternation
- ii The availability of caused possession meaning
- iii The interaction with repetitive adverbs

iv The lexical aspect

The syntactic and semantic properties of each *gei* is summarized in the following table (52).

(52) A Summary of the properties of *gei* in different structures¹⁵:

Property of <i>gei</i>	Argument structure	Eventive meaning	Repetitive adverbs	Lexical Aspect
Verbal <i>gei</i>	Recipient \ll Theme	caused possession	repetition and restitution	telic
Suffix <i>gei</i>	Recipient \ll Theme	caused possession	repetition	telic and punctual
Postverbal <i>gei</i>	Theme \ll Recipient	transfer of possession	repetition and restitution	root sensitive
Preverbal <i>gei</i>	Multiple thematic role	—	repetition and restitution (only with recipient)	root sensitive

Zooming into the *gei* alternation structures (the verbal, suffix and postverbal *gei*), *gei* and suffix *gei* occur in DOC, postverbal *gei* in prepositional structures. The consistent properties of the argument structure, particularly the hierarchy of the arguments and the eventive meaning in each structure can be viewed as the embodiment of the event schemas. *Gei* is the realization of a functional head within such event schemas. Therefore, instead of attributing all the above properties to the multifunctionality of *gei*, we are promoting the idea that the syntactic skeleton of events is primitive and universal. In other words, we adopt the neo-constructionalist approach to argument structure (Folli & Harley, 2005, 2006; Folli & Ramchand, 2005; Hale, Keyser, et al., 1993; Hale & Keyser, 2002; Harley, 2010, 2011; Marantz, 1997, 2013; Ramchand, 2008). A verb, when coming out from the lexicon, does not carry any information about the argument structure¹⁶. Different arguments are introduced by functional heads which are hierarchically ordered in the event structure and thereof be interpreted as different thematic roles at LF. The neo-constructivist approach to argument structure is also in line with the notion of ‘arguments’ under the new Davidsonian approach to event semantics by explicating how can

¹⁵‘ \ll ’ for ‘hierarchically higher’.

¹⁶In our own proposal we do believe verb comes with its categorial label, as is argued in Ramchand (2008), rather than an acategorial root in the spirit of Distributed Morphology. *v* functions as the external argument introducer and different flavors of *v* will influence the argument structure and the interpretation of the external argument (Folli & Harley, 2005, 2006, 2007, 2020).

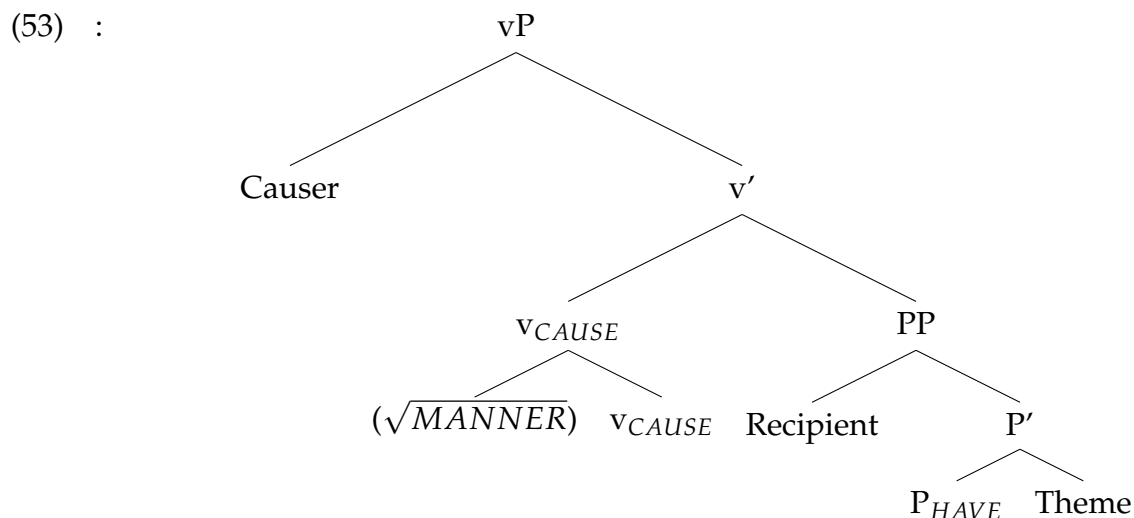
each event participant are integrated into the semantic denotation of an event under the semantic compositionality principle (Champollion, 2015).

Pinning down to the DOC related structure, the event structure that is widely implemented is the caused possession and caused motion. The event structure of a directed caused motion structure is generally formulated by a layered P (P_{PATH} and P_{PLACE}) projection, encoding the path of motion and introducing the goal argument. projection (Acedo-Matellán, 2016; Folli & Harley, 2020; Ramchand, 2008; Svenonius, 2008). While theories still disagree with the exact configuration of the caused possession structure, say, the syntactic position of the recipient argument and the functional head encoding the possession relation Bruening (2010a, 2010b, 2018, 2021), Harley (2002, 2007), Harley and Jung (2015), and Pylkkänen (2008). A detailed discussion is seen in Bruening (2018). In the following we will illustrate on the event structures that is related to *gei*. By occurring in different event structures or different positions of one event structure, *gei* appears to have different identities and properties.

5.1.1 *Gei* as the $\theta_{Recipient}$ head in DOC

A typical view of *gei* in the literature (Badan, 2021; Her, 2006; C.-R. Huang & Ahrens, 1999; T.-H. J. Lin & Huang, 2015; Zhu, 1979) is to treat *gei* in DOC, namely the verbal and suffix *gei* as the same ditransitive verb, with the latter has a manner verb adjoined to *gei*, be this operation happens in syntax or lexicon. This is largely based on their parallel behavior in the argument structure configuration, argument alternation and the caused possession meaning.

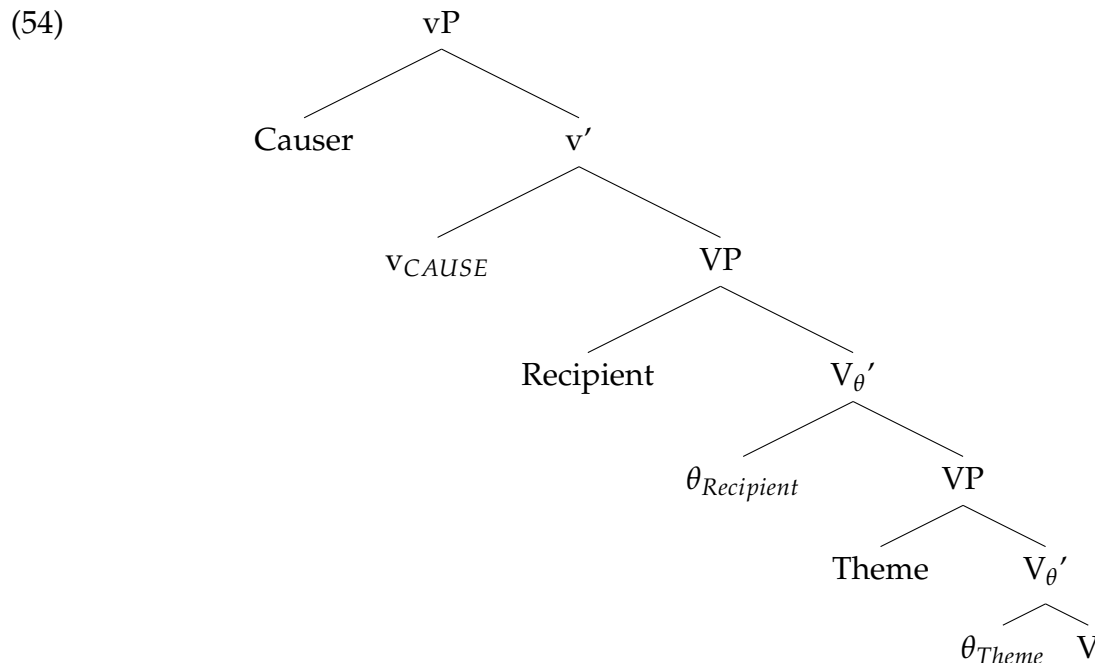
Under the neo-constructivist approach, it is reasonable to adopt Harley's event structure of DOC and treat *gei* as P_{HAVE}, which is exactly the argument of Jiang (2016). See the tree in (53)



According to the structure, *gei* can be viewed as the phonological realization of P_{HAVE} . Verbal *gei* is derived from head movement to v position (P incorporation) and the suffix *gei* has a manner root being adjoined to the v , in the form of ‘manner incorporation’ proposed in Harley (2005) to ‘name’ the verb.

The event structure above can account for most the properties of verbal and suffix *gei*. Firstly, the hierarchical relationship between the two arguments is explicated through the event structure. The possibility to have anticausative alternation is due to the alternation of the semantic flavor or v : v_{CAUSE} or v_{BECOME} (Folli & Harley, 2005). The caused possession meaning and the animacy requirement of the recipient can be attributed to the semantics of P_{HAVE} . What is still puzzling is the movement in passivization and anticausativization. Namely when the causer argument is unprojected, it is the lower theme that is moved to the subject position, bypassing the recipient thus violating minimality. Another flaw of this analysis is that it wrongly predicts that restitutive meaning is always available no matter with verbal or suffix *gei*, as the resultative phrase, $P_{HAVE}P$ is always structurally available. This is opposite to the fact. Henceforth we abandon the analysis in (53) and propose a different structure for DOC in Chinese.

Based on the fact with repetitive adverbials, we argue that the recipient argument is generated higher than VP in the structure. It is introduced by a functional head, the $\theta_{Recipient}$ (Bondarenko, 2022). The theme argument, on the other hand, is generated lower in the VP domain and introduced by the θ_{Theme} , following Champollion (2015). In this sense, the recipient and the theme argument never forms a resultative like constituent without the involvement of the verb, see (54).



Our core assumption is that ditransitive verbs without and without *gei* are all realized in the above structure, which has a $\theta_{Recipient}$ responsible for introducing the recipient argument as well as the possession relation with the theme. The verbal *gei* is merged in V and has a $\theta_{Recipient}$ which is morphologically covert, just as the θ_{Theme} . The suffix *gei*, we believe, is merged at the $\theta_{Recipient}$ which has another verb merged at V and get incorporated into $\theta_{Recipient}$ through head movement. The difference between verbal and suffix *gei* is determined by whether *gei* occurs at the V or the $\theta_{Recipient}$ position¹⁷.

A further theoretical assumption concerns the syntactic nature of $\theta_{Recipient}$. Categorically, it resembles a preposition/applicative head which can assign a dative case to the recipient argument. In this sense, the recipient is an oblique argument and invisible for A movement, based on Bobaljik (2008). Finally cyclic head movement from V-*v* happens, deriving the correct word order.

The DOC structure in (54) plus the assumptions above can account for all the syntactic and semantic properties of DOC *gei*. Firstly, this proposal inherits all the merits of (53) in accounting for the argument configuration, the possession relation and the animacy requirement of the recipient. Moreover, the non blocking effect of the (oblique) recipient in movement is due to case discrimination, as is discussed in Bhatt (2005) and Deal (2017). Most importantly, the (non)availability of restitutive meaning with repetitive adverbs becomes a natural result. For the verbal *gei*, it having a covert $\theta_{Recipient}$ encoding the possession relation between the recipient and the theme. When VP is under the scope of 'you'(again), the restitutive meaning can be generated(The recipient having the theme again) and when *vP*, with the causative semantics, being included in the scope of 'you'(again), we get the repetitive meaning(the recipient becoming having the theme again). However, when *gei* is realized as the $\theta_{Recipient}$, no matter 'you'(again) is merged in the *vP* or VP domain, it has the action(manner of having) denoted by the verb in its scope, thus only generating a repetitive meaning. The gist is that the recipient and the theme argument never forms a resultative like constituent to the exclusion of the verb, thus the action always get repeated, unless the action is semantically vacuous *per se*, as in the case of verbal *gei*.

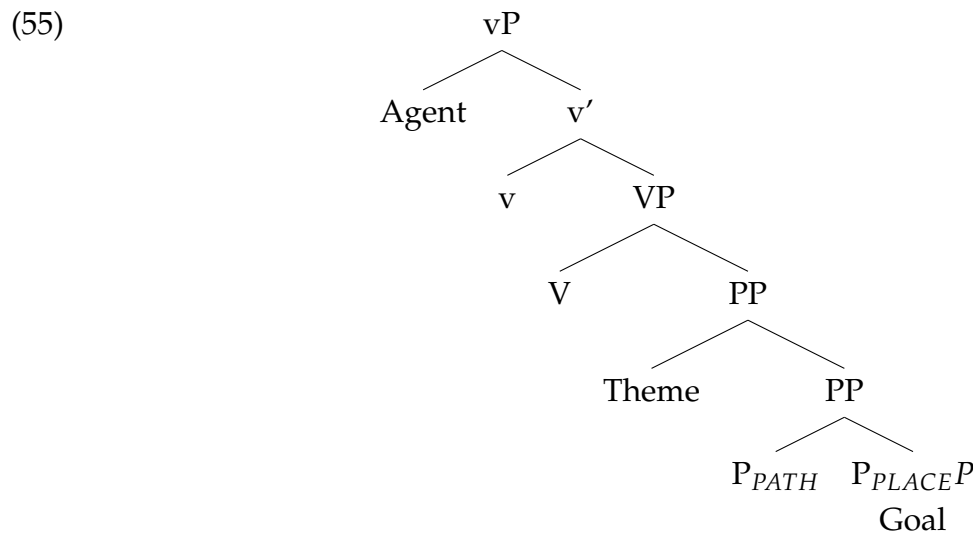
One thing has not been explained is the function of suffix *gei* with respect to lexical aspect. As when *gei*, the $\theta_{Recipient}$, gets incorporated into the verb, it modifies the situation type of the predicate and forms an achievement event. The, can be seen as a semantic effect of the $\theta_{Recipient}$ combining with a dynamic *v*. Although possession is durative, embedded it under the v_{CAUSE} or v_{BECOME} encodes the meaning of 'become having', such a change of state(from non possession to possession) meaning is instantaneous, thus

¹⁷Another way to formulate this is that *gei* can occupy the V and the $\theta_{Recipient}$ at the same time and be reduced to one phonologically

achievement.

5.1.2 *Gei* as the P_{PATH} in the postverbal position

The table in (52) indicates the transformational relation between DOC and prepositional dative is largely impossible and we attributes such distinctions to the different event structure they occur. Specifically, The post verbal *gei* is instantiated in the well acknowledged caused motion structure as the P_{PATH} ¹⁸:



The above event structure is responsible for the argument configuration, namely the C commanding relation between the theme and the goal argument and the movement possibility of the theme rather than the goal, as Chinese does not allow prepositional stranding.

As for the caused possession meaning, *gei*, or the P_{PATH} is responsible for the path information through which the theme gets 'be with' the goal. Therefore, the thematic interpretation of 'recipient' is in its nature a 'human location'(Boneh & Nash, 2017)¹⁹; the (control) possession relation between the 'recipient' and the theme is entailed through such a locative occurrence. In addition, the existence of PATH indicates why such possession relation is always a result of transfer. While in the DOC structure (54), there is no such PATH relation and the $\theta_{Recipient}$ encodes the possession relation between two argument without addressing the origin of such a relation.

¹⁸The complement of P_{PATH} can be further decomposed to P_{PLACE} and the locative argument. Here is a simplification of the structure.

¹⁹When the goal is a pure location, P_{PATH} is spelt out as another form, *dao*. In this sense, *dao* and *gei* are contextual allomorph of P_{PATH} and sensitive to the semantic feature 'animacy' of its argument.

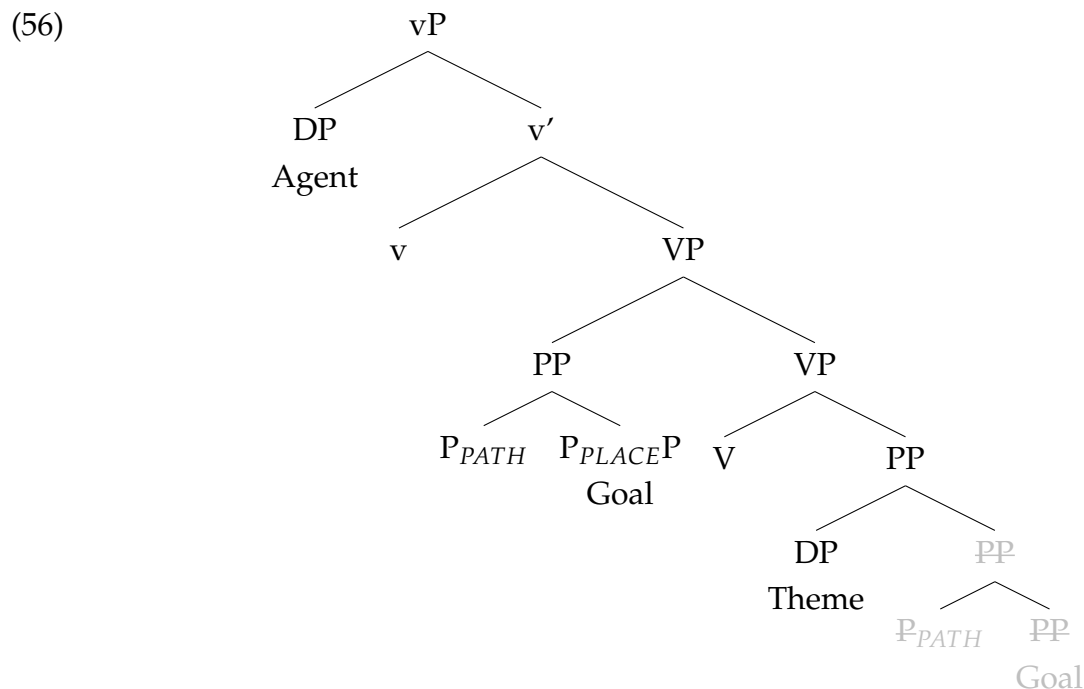
The availability of both restitutive meaning and repetitive meaning is also obvious with such a structure. As PP forms a constituent to the exclusion of the verb and denotes the resultative state. 'you'(again)'s adjunction to PP gives rise to the restitutive meaning.

The existence of PP also spells out the natural endpoint of the event, thus helps with encoding telicity. Furthermore, the semantics of PATH, or 'transfer' entails a process, thus the durativity of the event.

To sum up, the relationship between suffix *gei* and postverbal *gei* not only rejects a transformational analysis between the two constructions; but also suggests the existence of two asymmetrical event structures in which *gei* occurs. DOC involves a $\theta_{Recipient}$ head above VP and prepositional dative a $P_{PATH}P$ below VP. The former encoding a possession relation between the recipient and the theme; the latter is in nature a path-location relation between the figure and ground. The similarity of the two event structures is they both have *gei* to realize the pivotal functional head, $\theta_{Recipient}$ and P_{PATH} respectively, thus the different morphosyntactic and semantic properties of *gei*.

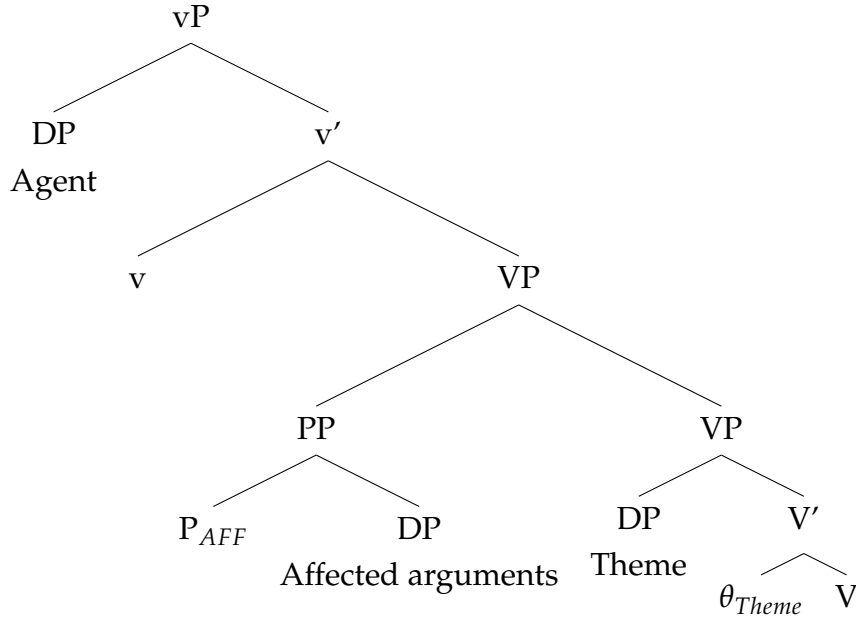
5.1.3 The non homogeneous *Gei* in the preverbal position

Repetitive adverbials as a structure diagnostic has help us reveal the non homogeneity of the preverbal *gei*. Recall that except for that recipient introducer *gei* exhibits ambiguity with 'you'(again), namely both restitutive and restitutive meaning. Such ambiguity is accounted by the movement of $P_{PATH}P$ preverbally:



For all other thematic roles which only show repetitive meaning, *gei* is the preposition based generated above VP and introduces an affected argument. Let's call it P_{AFF} . Syntactically, P_{AFF} resembles the high applicative head (Pylkkänen, 2008) or the affected head proposed in Bosse et al. (2012) in introducing an non core argument²⁰. The specific thematic role of the affected argument is flexible and contextually dependent.

(57)



5.2 Unifying *gei* as an allosemy

So far, we have identified three different event structures to encode caused possession, caused motion and affectedness respectively. We argue that *Gei* is the realization of the core functional head within the structure: $\theta_{Recipient}$, P_{PATH} and P_{AFF} . The multifunctionality of *gei* is ascribed to the structures in which *gei* occurs and there is no overall transformation among them (except for the scrambling of $P_{PATH}P$). A further question to ask is how come a single element, *gei* can occur in such diversified event structures/positions and represent the pivot of it?

From a more general view, the similarity of *gei* in the three structures is its ability to introduce an argument: Recipient, Goal and Affected experiencer are all 'non core' arguments in general. In this regard, *gei* could in principle represent a more abstract argument introducing head whose semantic denotation is not determined until it is inserted in a certain syntactic position, namely it is context sensitive.

²⁰Different from Bosse et al. (2012), this P_{AFF} does not encode an affected event and only encode at issue meaning

This idea is inspired by the work of Wood and Marantz (2017) and Marantz (2022), in which the authors argue that functional heads can work in the form of allosemy: there is a single functional head (i^*), and its exact syntactic category and the thematic interpretation of its argument depend on its syntactic context, mainly the complement. To elaborate: i^* that merges with PP is the $p(P_{PATH})$ which can introduce the Figure argument(theme). i^* merging with vP is the voice which can introduce the Agent. The categorial feature of i^* may also be influenced by whether its selectional feature has been checked when it occurs in the syntactic structure. For instance, if i^* firstly checked its D feature (by combining with a complement) then merging with vP : it is a P but if i^* firstly merging with a vP and then checking its D feature(select an argument), it is an applicative head. Drawing the insight of contextual allosemy, we argue that *gei* in Chinese is such an abstract i^* , whose categorial feature and argument interpretation is determined by :1) the categorial feature of its complement; 2) whether it checks its selectional feature in the first place:

- *Gei*: firstly merging with PP, then checking the selectional feature by DP: *gei* is the P_{PATH} .
- *Gei*: firstly merging with VP, then checking the selectional feature by DP: *gei* is the $\theta_{Recipient}$.
- *Gei*: firstly merging with DP, checking its selectional feature and then merge with VP: *gei* is the P_{AFF} .

6 Coming back to the optionality of *gei*: the division of labor between syntax and lexicon

One thing has not been solved yet is the optionality of suffix *gei* when co-occurring with another verb in DOC. *V-gei* always encode an achievement event: it cannot be selected by the progressive aspect and ‘in’ adverbials gives rise to the ‘after’ interpretation.

It is also known the verb to be combined with *gei* tend to be durative. By this logic, the punctuality must be arose from *gei*. The semantic function of *gei* is to strip off the interval of the event denoted by the preceding verb, making the process syntactically inaccessible. Under the perspective of the scalar approach to lexical aspect(Beavers, 2012, 2013; Hovav, 2008), *gei* function as a scalar reducer, making a multi-point scale become a simplex, two point scalar event. In Lu et al. (2019), they argue for a similar function with the phase complement in Chinese.

In a nutshell, the suffix *gei* contributes to the lexical aspect by highlighting one instantaneous subevent of the durative event denoted by the preceding verb and removing all

the others, thus reduce a multiple point scale into a two point one, only the beginning and the ending point, the question then becomes, which subevent is selected? Considering the telicity of *V-gei*, the natural endpoint to delimit of the event is supposed to be manifested by the resultative state, i.e., possession. The moment at which the recipient receives the theme, the event culminated and end up with a newly coming result, thus we have telicity via punctuality. In this regard, the instantaneous subevent highlighted by *gei* is the final subevent: the achievement of the possession. However, there seems to be a flaw of such an analysis. As previously we mentioned that the possession meaning encoded with *V-gei* can be prospective rather than factual. Namely the end point is possibly to be non-obtained. [Does the prospective possession cancels telicity?](#)

Beavers (2011a) and Beavers and Koontz-Garboden (2020) discuss this issue in detail. For them, a prospective possession along is not sufficient for telicity. They argue that each type of verbs contains at least some non-prospective punctual caused part, which is sufficient to generate telicity. For instance, the release meaning for the ballistic motion verbs guarantees telicity by encoding the punctual, releasing moment, the commencement of the event. In this regard, the encoding of the possession relation, or the supposed end point of the event, does not determine telicity, due to its intensionality. To put it in a different way, the achievement event instantiated by *V-gei* does not necessarily denote the achievement of the possession, the ending subevent of the transferring event. But it can be some other non final subpart of it.

This piece of argument is illuminating as it seems to explain the semantic origins of telicity with *V-gei* and further help us to distinguish the obligatory cases of suffix *gei* from the optional ones. The gist from Beavers (2011a) and Beavers and Koontz-Garboden (2020) is that the prospective possession is not the determining factor of telicity but telicity is root sensitive, different types of verbs can encode different subevents of the (prospective) caused possession, and the achievement of that particular part gives rise to telicity. Recall that in Chinese, although inherent 'giving' verbs and 'sending'/'transferring' verbs both entail a potential recipient/goal argument, they are different in terms of the obligatoriness of *gei* and the intensionality of the possession. This is because the lexical meaning of the two types of verb encodes different subevent(s) of the whole caused-possession event.

To illustrate, think of the caused-possession event as a directed bounded path, or a transfer path. Inherent 'giving' verbs denote the whole path of transfer (including the endpoint), namely '*song*'(give) or '*mai*'(sell) entails the theme arrives the endpoint of the path and become under the control of the recipient. As the whole caused possession event is denoted by the verb, suffix *gei* is not required and telicity is a natural result of true possession. Notably, the addition of *gei* indeed change the other property of the

event, as the semantic function of *gei* is to highlight a subevent of the transfer path (the event denoted by the verb) and make it punctual. In this case, the subevent selected by *gei* is the final one: the achievement of true possession.

For verbs of 'sending' like '*you*'(mail) or '*ji*'(send), their lexical semantics only denotes the initial point of the transfer path: as long as the theme leaves the control of the agent, the act of 'sending' is realized. As only the initial part of the transfer is encoded, *gei* is obligatory to occur to introduce the endpoint of the path, . Notice that *gei* also select a subevent of the 'sending' event, but as these verbs only contains the initial subevent of transfer, *gei*'s function is vacuous. In this regard, telicity is determined by the initial point of the path, or the 'leaving' phase. This explains why the possession is prospective rather than factual.

For verbs of short distance transferring like '*hand*'(jiao) or '*chuan*'(pass), things becomes a little vague in terms of whether they encode the endpoint of the path or only encode intermediate part of the path. If the endpoint of the path is not covered in the lexical meaning of the verb, suffix *gei* is obligatorily required and it explicitly marks the endpoint of the path, just as it is for the 'sending' verbs. However, different from that type of verbs, the intermediate part is already encode in the lexical meaning of the verb, the combination of *gei* will probably give rise to non prospective possession(the theme is highly likely to undergoes the whole path and achieves the true possession relation) and the achievement of the endpoint of the transfer will be selected by *gei* and renders punctuality as well as telicity. In this respect, it patterns with the 'giving' type.

For the other three types of verbs which does not have recipient/goal entailment, namely, the 'throw' type, 'take' type, 'buy'/'write' type. The lexical meaning of these verbs is purely manner: it does not entail a path, as in 'buy'/'write' type, or a path with no direction (undirected unbounded path), as in 'throw/take' type. For them, the suffix *gei* is obligatory to establish such a path/the end of such a path by introducing the recipient argument, thus prospective aspect is expected. As for the punctuality brought by *gei*, *gei* can pick out a subevent of the whole event denoted by the verb and for them it is the final subevent is being selected by *gei*: (a) Verbs of ballistic motion also encodes the initial point of some unbounded path and it is punctual *per se*, thus it patterns with the sending type: telicity is determined by the initial punctual subevent, or the 'leaving' phase. Thus, prospective possession is also expected for them. Verbs of accompanied motion denotes the progress of a path without a potential endpoint. They are durative and after *gei* is added, the final subevent is the achievement of? For verbs of no path, the final subevent is the achievement of the action.

Based on the above discussion, a generalization towards the optionality of *gei* and prospective possession is as follows:

- i For verbs entail a potential goal/recipient: they encode a transfer path with a potential bound. The larger part of the path is encoded in its lexical meaning, the more possible for it to encode non prospective possession and the less it requires the co-occurrence of suffix *gei* in DOC.
- ii For verbs do not entail a potential goal/recipient: they encode no path or a path without a potential endpoint. Suffix *gei* is required to establish such a path by setting an endpoint and it only encodes prospective possession.

After the illustration of “the division of labor” between the verb and *gei* in the *V-gei* chunk, it seems that *gei* marks the endpoint of the path by bring the intensional recipient and the prospective possession relation. But the prospective possession does not directly determines telicity. The functional of *gei* is also reflected in its modification of durativity. The semantic function of *gei* is to highlight the final instantaneous subevent of the durative event denoted by the preceding verb and removing all the others, thus making it punctual and also telic. But at which ending point does the achievement event is anchored is determined by the lexical semantics of the V, which denotes the non intensional phase on the transfer path. Thus, *gei* determines that event is achievement, a two point simplex scale event.

7 Conclusion

The give verb ‘*gei*’ in Mandarin is assumed to be a multifunctional element which occurs in double object and its related constructions. Besides occurs independently as the main verb in DOC, it can be suffixed onto another ‘semantically ditransitive’ or transitive verb, giving rise to argument augmentation. The same *gei* also functions as a preposition, occurring postverbally or preverbally, introducing a recipient/ goal or an affected argument. Although there seems to a transformational relation between the prepositional *gei* and the suffix *gei*, evidence from argument configuration, eventive template, semantic interaction with repetitive adverbs, lexical aspectual properties all falsifies such a transformational analysis.

Based on the structural distinction, we propose a contextualized account of the multifunctionality of *gei* which shifting the multifunctionality of *gei* from its only lexical /functional identity to the syntactic structure it occurs. Basically, *gei*, as an abstract functional head, i^* , can be realized as several contextual allosemies: $\theta_{Recipient}$, P_{PATH} and P_{AFF} respectively. This contextualized analysis of *gei* attributes the distinction of verbal *gei*, prepositional *gei*, suffix *gei* to the syntactic structure *gei* occurs rather than *gei* per se.

There seems to be a chicken or egg problem here, which can be traced back to the long lasting debate concerning the lexicalism VS. Constructivist approach to argument structure, or the lexicon-syntax interface. To be specific, is it because an element is multifunctional per se, such that it can occur in a variety of syntactic environments or the expansion of one element's syntactic environments results in its multifunctionality? Both sides make some sense but here we stands with the latter. The multifunctionality of an element both comes from and is instantiated by its syntactic environment.

References

- Acedo-Matellán, V. (2016). *The morphosyntax of transitions: A case study in latin and other languages* (Vol. 62). Oxford University Press.
- Acedo-Matellán, V. (2018). Exoskeletal versus endoskeletal approaches in morphology. In *Oxford research encyclopedia of linguistics*.
- Alexiadou, A., Anagnostopoulou, E., & Schäfer, F. (2006). The properties of anticausatives crosslinguistically. *Phases of interpretation*, 91, 187–211.
- Alexiadou, A., Anagnostopoulou, E., & Schäfer, F. (2015). *External arguments in transitivity alternations: A layering approach* (Vol. 55). Oxford University Press, USA.
- Badan, L. (2021). Towards a unified account. *Constructional Approaches to Language*, 195.
- Baker, M. C. (1988). Incorporation: A theory of grammatical function changing.
- Barss, A., & Lasnik, H. (1986). A note on anaphora and double objects', *linguistic inquiry* 17, 347-354. Barss34717Linguistic Inquiry1986.
- Beavers, J. (2011a). An aspectual analysis of ditransitive verbs of caused possession in english. *Journal of semantics*, 28(1), 1–54.
- Beavers, J. (2011b). On affectedness. *Natural language & linguistic theory*, 29, 335–370.
- Beavers, J. (2012). Lexical aspect and multiple incremental themes. *Telicity, change, and state: A cross-categorical view of event structure*, 23–59.
- Beavers, J. (2013). Aspectual classes and scales of change. *Linguistics*, 51(4), 681–706.
- Beavers, J., & Koontz-Garboden, A. (2020). *The roots of verbal meaning*. Oxford University Press.
- Beck, S., & Johnson, K. (2004). Double objects again. *Linguistic inquiry*, 35(1), 97–123.
- Bhatt, R. (2005). Long distance agreement in hindi-urdu. *Natural Language & Linguistic Theory*, 23(4), 757–807.
- Bobaljik, J. D. (2008). Where's phi? agreement as a post-syntactic operation. *Phi-Theory: Phi features across interfaces and modules*, 4410, 295–328.
- Bondarenko, T. (2022). On distinguishing dative arguments from pps. In *Building on babel's rubble* (pp. 355–375). Presses Universitaires de Vincennes.
- Boneh, N., & Nash, L. (2017). The syntax and semantics of dative dps in russian ditransitives. *Natural Language & Linguistic Theory*, 35, 899–953.
- Borer, H. (2005). *Structuring sense: Volume 2: The normal course of events*. Oxford University Press.
- Bosse, S., Bruening, B., & Yamada, M. (2012). Affected experiencers. *Natural Language & Linguistic Theory*, 30, 1185–1230.
- Bresnan, J., & Nikitina, T. (2009). The gradience of the dative alternation. *Reality exploration and discovery: Pattern interaction in language and life*, 161–184.
- Bruening, B. (2010a). Ditransitive asymmetries and a theory of idiom formation. *Linguistic inquiry*, 41(4), 519–562.
- Bruening, B. (2010b). Double object constructions disguised as prepositional datives. *Linguistic inquiry*, 41(2), 287–305.
- Bruening, B. (2013). By phrases in passives and nominals. *Syntax*, 16(1), 1–41.
- Bruening, B. (2018). Double object constructions and prepositional dative constructions are distinct: A reply to ormazabal and romero 2012. *Linguistic Inquiry*, 49(1), 123–150.
- Bruening, B. (2020). Idioms, collocations, and structure. *Natural Language & Linguistic Theory*, 38(2), 365–424.
- Bruening, B. (2021). Implicit arguments in english double object constructions. *Natural Language & Linguistic Theory*, 39(4), 1023–1085.

- Champollion, L. (2015). The interaction of compositional semantics and event semantics. *Linguistics and Philosophy*, 38, 31–66.
- Collins, C. (2021). *Principles of argument structure: A merge-based approach*. Ms. NYU [to appear in MIT Press monographs].
- Deal, A. R. (2017). Syntactic ergativity as case discrimination. *Proceedings from WCCFL*, 34, 141–150.
- Dowty, D. (1979). *Word meaning and montague grammar: The semantics of verbs and times in generative semantics and in montague's ptq* (Vol. 7). Springer Science & Business Media.
- Filip, H. (2008). Events and maximalization: The case of telicity and perfectivity" i s. rothstein (red.): Theoretical and crosslinguistic approaches to the semantics of aspect.
- Folli, R., & Harley, H. (2005). Flavors of v: Consuming results in italian & english. *Aspectual inquiries*, 95–120.
- Folli, R., & Harley, H. (2006). Event-path homomorphism and the accompanied-motion reading in motion causatives. *WECOL 2004*, 76.
- Folli, R., & Harley, H. (2007). Causation, obligation, and argument structure: On the nature of little v. *Linguistic inquiry*, 38(2), 197–238.
- Folli, R., & Harley, H. (2020). A head movement approach to talmy' s typology. *Linguistic Inquiry*, 51(3), 425–470.
- Folli, R., & Ramchand, G. (2005). Prepositions and results in italian and english: An analysis from event decomposition. *Perspectives on aspect*, 81–105.
- Hale, K., Keyser, S. J., et al. (1993). On argument structure and the lexical expression of syntactic relations. *An annotated syntax reader*, 312–327.
- Hale, K., & Keyser, S. J. (2002). *Prolegomenon to a theory of argument structure*. MIT press.
- Hallman, P. (2015). Syntactic neutralization in double object constructions. *Linguistic inquiry*, 46(3), 389–424.
- Harley, H. (1997). If you have, you can give. *Proceedings of the 15th West Coast Conference on Formal Linguistics*, 193207.
- Harley, H. (2002). Possession and the double object construction. *Linguistic variation yearbook*, 2(1), 31–70.
- Harley, H. (2004). Wanting, having, and getting: A note on fodor and lepore 1998. *Linguistic Inquiry*, 35(2), 255–267.
- Harley, H. (2005). How do verbs get their names? denominal verbs, manner incorporation, and the ontology of verb roots in english. *The syntax of aspect*, 1(9), 42–65.
- Harley, H. (2007). The bipartite structure of verbs cross-linguistically (or: Why mary can't exhibit john her paintings). *Write-up of a talk given at the 2007 ABRALIN Congres in Belo Horizonte, Brazil*.
- Harley, H. (2010). How do verbs get their names? denominal verbs, manner incorporation, and the ontology of verb roots in english. In *The syntax of aspect: Deriving thematic and aspectual interpretation*. Oxford University Press.
- Harley, H. (2011). A minimalist approach to argument structure. In *The oxford handbook of linguistic minimalism* (Online access). POxford University Press.
- Harley, H., & Jung, H. K. (2015). In support of the p have analysis of the double object construction. *Linguistic inquiry*, 46(4), 703–730.
- Her, O.-S. (2006). Justifying part-of-speech assignments for mandarin gei. *Lingua*, 116(8), 1274–1302.
- Hovan, M. R., & Levin, B. (2008). The english dative alternation: The case for verb sensitivity. *Journal of linguistics*, 129–167.
- Hovav, M. R. (2008). Lexicalized meaning and the internal temporal structure of events. *Theoretical and Crosslinguistic Approaches to the Semantics of Aspect*. Amsterdam: John Benjamins.

- Huang, C.-R., & Ahrens, K. (1999). The function and category of *gei* in mandarin ditransitive constructions. *Journal of Chinese linguistics*, 27(2), 1–26.
- Huang, C.-T. J. (1984). On the distribution and reference of empty pronouns. *Linguistic inquiry*, 531–574.
- Huang, C.-T. J. (2014). On syntactic analyticity and parametric theory. *Chinese syntax in a cross-linguistic perspective*, 1–48.
- Huang, C.-T. J., Li, Y.-H. A., & Li, Y. (2009). *The syntax of chinese*. Cambridge University Press.
- Huang, J. (2006). Resultatives and unaccusatives: A parametric view. *Bulletin of the Chinese Linguistic Society of Japan*, 2006(253), 1–43.
- Jiang, B. (2016). *Gei and the double object construction in mandarin chinese*.
- Kearns, K. (2000). *Semantics*. Bloomsbury Publishing.
- Kennedy, C., & Levin, B. (2008). Measure of change: The adjectival core of degree achievements.
- Koenig, J.-P., & Davis, A. R. (2001). Sublexical modality and the structure of lexical semantic representations. *Linguistics and Philosophy*, 24, 71–124.
- Krifka, M. (1992). Thematic relations as links between nominal reference and temporal constitution/manfred krifka. *Lexical matters*, (24), 29.
- Krifka, M. (1998). *The origins of telicity*. Springer.
- Larson, R. K. (1988). On the double object construction. *Linguistic inquiry*, 19(3), 335–391.
- Larson, R. K. (1990). Double objects revisited: Reply to jackendoff. *Linguistic inquiry*, 21(4), 589–632.
- Larson, R. K. (2014). *On shell structure*. Routledge.
- Larson, R. K. (2017). On “dative idioms” in english. *Linguistic Inquiry*, 48(3), 389–426.
- Levin, B. (2008). Dative verbs a crosslinguistic perspective. *Linguisticae Investigationes*, 31(2), 285–312.
- Levin, B., & Hovav, M. R. (1994). *Unaccusativity: At the syntax-lexical semantics interface* (Vol. 26). MIT press.
- Li, C. N., & Thompson, S. A. (1989). *Mandarin chinese: A functional reference grammar*. University of California Press.
- Lin, J. (2013). Thing-place distinction and localizer distribution in chinese directed motion construction. *Linguistics*, 51(5), 855–891.
- Lin, T.-H. J., & Huang, Y.-S. (2015). Structures of the mandarin *gei* constructions. *Journal of East Asian Linguistics*, 24(3), 309–338.
- Lu, M., Lipták, A., & Sybesma, R. (2019). A structural account of the difference between achievements and accomplishments: Evidence from changsha xiang chinese. *Journal of East Asian Linguistics*, 28, 279–306.
- MacDonald, J. E. (2008). The syntactic nature of inner aspect. *The Syntactic Nature of Inner Aspect*, 1–257.
- Marantz, A. (1993). Implications of asymmetries in double object construction. *Theoretical aspect of Bantu grammar*.
- Marantz, A. (1997). No escape from syntax: Don’t try morphological analysis in the privacy of your own lexicon. *University of Pennsylvania working papers in linguistics*, 4(2), 14.
- Marantz, A. (2013). Verbal argument structure: Events and participants. *Lingua*, 130, 152–168.
- Marantz, A. (2022). Rethinking the syntactic role of word formation. In *Building on babel’s rubble* (pp. 293–316). Presses Universitaires de Vincennes.
- Myler, N. (2016). *Building and interpreting possession sentences*. MIT press.
- Oehrle, R. T. (1976). *The grammatical status of the english dative alternation* (Doctoral dissertation). Mass. Cambridge.
- Pesetsky, D. M. (1996). *Zero syntax: Experiencers and cascades*. MIT press.
- Pinker, S. (1989). Learnability and cognition: The acquisition of argument structure.
- Pylkkänen, L. (2008). *Introducing arguments* (Vol. 49). MIT press.

- Ramchand, G. (2008). *Verb meaning and the lexicon: A first-phase syntax* (Vol. 116). Cambridge University Press Cambridge.
- Rothstein, S. (2008). *Structuring events: A study in the semantics of lexical aspect*. John Wiley & Sons.
- Svenonius, P. (2008). Projections of p. *Syntax and semantics of spatial P*, 120, 63–84.
- Sybesma, R. (2021). Voice and little v and vo–ov word-order variation in chinese languages. *Syntax*, 24(1), 44–77.
- Takahashi, S., & Hulsey, S. (2009). Wholesale late merger: Beyond the a/ \bar{a} distinction. *Linguistic Inquiry*, 40(3), 387–426.
- Tham, S. W. (2006). The definiteness effect in english have sentences. *TLS*, 8, 137–149.
- Ting, J., & Chang, M. (2004). The category of gei in mandarin chinese and grammaticalization. *Taiwan Journal of Linguistics*, 2(2), 45–73.
- Travis, L. d. (2010). *Inner aspect*. Springer.
- Vendler, Z. (1957). Verbs and times. *The philosophical review*, 143–160.
- Verkuyl, H. J. (1972). *On the compositional nature of the aspects* (Vol. 15). Springer Science & Business Media.
- Verkuyl, H. J. (1989). Aspectual classes and aspectual composition. *Linguistics and philosophy*, 39–94.
- Wood, J. (2015). *Icelandic morphosyntax and argument structure* (Vol. 90). Springer.
- Wood, J., & Marantz, A. (2017). The interpretation of external arguments. *The verbal domain*, 255–278.
- Zhu, D. X. (1979). Yu dongci gei xiangguan de jufa wenti. *Fangyan*, 2(2), 151–168.
- Zhu, D. X. (1982). *Yufa jiangyi [lectures on chinese syntax]*. Beijing: Shangwu Yinshuguan [Commercial Press].