Causative, passive or causal passive: when *gei* meets Voice alternation

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May 29, 2023

1 Introduction

Besides being a ditransitive verb and occurring in a series of double object related constructions, Mandarin *gei* is well know to be a semi-lexical item which hosts a causative, passive or a so called affected '*gei*-VP' construction:

(1) a. Nana gei Xiaoming kan ta de yanjiu-baogao.
Nana GEI Xiaoming read her DE research-report
'Nana let Xiaoming read her research report.'

b. Xiaoming gei (Nana) chaoxiao le.
Xiaoming GEI (Nana) laugh-at SFP
'Xiaoming was/got laughed at (by Nana).'

c. Xiaoming gei shengbing le.
Xiaoming GEI sick SFP
'Xiaoming got sick.'

Causative *gei* in (1a) expresses the 'permissive causation' meaning and passive *gei* in (1b) affected meaning. Actually, *gei* construction can be ambiguous between a causative or passive interpretation, particularly in a gapless passive:

(2) a. Xiaoming gei Nana da le yi quan. (causative or passive)
Xiaoming GEI Nana hit PFV one punch
'Xiaoming let punched by Nana.' or 'Xiaoming got Nana punch him.'

In the above sentence, the subject 'Xiaoming' can either be understood as a 'by standing' causer who lets Nana punch him or an affectee who suffers from Nana's punching, similar to English

'have' causatives. Such ambiguity disappears in its 'short' passive version in (3), but it immediately becomes structurally ambiguous between a short passive or an affected '*gei*-VP' construction.

(3) a. Xiaoming gei da le yi quan. (short passive or affected)
Xiaoming GEI hit PFV one punch
'Xiaoming got punched.'

The nature of *gei* in the affected '*gei*-VP' is a long lasting mystery(Huang, 2013; Shen & Sybesma, 2010; Sybesma, 2021; Tang, 2006). This *gei*-VP construction is different from a (short) passive in that it can be operated on non-alternating unaccusative verbs such as '*si*'(die), '*zou*' (leave) or '*huai*'(rotten), violating the passive generalization in Perlmutter (1978). These unaccusative verbs cannot be causativized (tranzitivized) and do not have a passive *bei* counterpart. But co-occurring with *gei* semantically generates a passive like effect: it brings in a covert external force (causer) and the affected meaning(Shen & Sybesma, 2010). This resembles the causal passive marker-*gda* found in Buryat(Privoznov, 2019), which also can be attached to a transitive or unaccusative verb and brings causative semantics, as what is done by *gei* in (1b) and (1c), thus we call this *gei* a causal passive marker.

To sum up, on the one hand, we seem to have *gei* as three different semi-functional heads encoding causative, passive and causal passive respectively; on the other hand, the similar structural description between them (causative and long passive, causal passive and short passive both share the same form) and the potential semantic ambiguity mentioned above make a uniform analysis among these *gei*s pretty appealing.

2 Research question

(i) Is there a structural distinction between the causative and passive *gei*? if yes, what is it?

(ii) Is *gei* in short passive and causal passive the same element? if it is, how come the same morpheme both marking valence reducing(in passive) and valence increasing(in causal passive)?

(iii) How come the multifunctionality of *gei*? Can the three *gei*s be reduced to one?

3 Exploring along the multiple *gei* approach

In the literature, the multifunctionality of *gei* can be viewed as a result of it occupying more than one position on the causative-unaccusative spectrum and meaning LET, AFFECT and OCCUR respectively(Huang, 2013); being a polysemous item makes it flexible in terms of a control or a

raising analysis. This is equal to say that we have three different *gei*s and the property of each *gei* determines what structure it can occur.

To illustrate, causative *gei* is structurally the same as *rang*, which is a two place predicate selecting a DP subject and a clausal (probably TP) complement. Long passive *gei* resembles *bei*, which, according to Huang (2013) and Liu and Huang (2016), is ambiguous between a control or a raising analysis, depending on context, scenario and lexical choice. As a control analysis is highly likely to be adopted in a gapless *gei* passive (movement seems to be impossible when there is no gap in the complement of *gei*), the ambiguity in (2) is then attributed not to the structural distinction (since both causative and passive involve control) but the exact thematic role *gei* assigns to the subject: causer or affectee. This makes the ambiguity in (2) a pure semantic/interpretation issue. One thing that is very tricky is that, the based generated 'affectee' in passive is supposed to be modified by subject oriented adverbials like '*guyi*'[1] (deliberately). However, this is not born out:

(4) a. Xiaoming guyi gei Nana da le yiquan. (causative only)
Xiaoming deliberately GEI Nana hit PFV one punch
'Xiaoming deliberately got Nana punched him.'

The example in (4) shows that as long as the subject oriented adverbial is added, the sentence is only interpreted as causative rather than passive. To put it in another way, subject oriented adverbials can help with the disambiguation of sentences like (2). Other agentivity diagnostics implemented in the literature(Alexiadou et al., 2015; Bruening, 2013; Huang, 2013; Legate, 2014), namely control clause and instrument PP, point to the same direction:

(5) a. Xiaoming gei Nana da le yi quan lai hong ta gaoxing. (causative only)
Xiaoming GEI Nana hit PFV one punch to make her happy
'Xiaoming let Nana punched him to make her happy.'

b. Xiaoming yong shouji gei Nana kan le ta de baogao. (causative only)
Xiaoming use phone GEI Nana read PFV his DE report
'Xiaoming showed Nana his report on phone.'

These tests all suggest that the ambiguity of *gei* in causative and passive is originated from the structure difference rather than merely thematic interpretation. Specifically, causative *gei* has a based generated thematic subject, patterning with a control verb; while passive *gei* involves raising. Then the question becomes, if passive *gei* involves movement, where does the subject move from when there is a gapless complement like in (2)?

Second of all, *gei* in short passive and causal passive also fail to pass the subject oriented test with '*guyi*'(deliberately):

[1] Subject oriented adverbials are also agentive adverbials, which occurs in the matrix clause pertains to the subject, thus they can be used as a diagnostic for subjectnood.

(6) a. *Xiaoming guyi gei chaoxiao le.
Xiaoming deliberately GEI laugh-at SFP
'(Intended) Xiaoming got laughed at and he did that on purpose.'

b. *Xiaoming guyi gei shengbing le
Xiaoming deliberately GEI sick
'Xiaoming got sick and he did that on purpose.'

This indicates that short passive *gei* and causal passive *gei* could both be a raising structure. As in analysed in Huang (2013), they are the same one place predicate EXIST/OCCUR. This semi-lexical verb consistently selects an unaccusative VP as complement and will trigger object raising. Hence, the derived subjects in (6) fail to pass the subject oriented test.

The affected *gei*-VP is not overall incompatible with these agentive adverbials, as long as these adverbials occur in a different position from (6). To wit, when these adverbials occur below *gei*, it is not a subject oriented adverbial but is oriented to a covert agent/causer which does not project in syntax, as in (7a). We apply other agentive diagnostics implemented above and find similar result, as in (7b) and (7c).

(7) a. Qianbao gei buxiaoxin diu le.
Purse GEI unintentionally lost SFP
'The purse got lost unintentionally.'

b. Bingkuai gei ronghua diao lai zuo naixi.
Ice-cube GEI melt fall to make milkshake
'The ice cubes got melt to make milkshake.'

c. Lunchuan gei yong da shitou chen le .
ship GEI use heavy stones sink
'The ship got sunk by heavy stones.'

By contrast, these agentive adverbials/control clauses/instrument PPs are unlicensed without *gei*, as in (8). This manifests the passive VS. anticausative distinction cross linguistically(Alexiadou & Anagnostopoulou, 2004; Alexiadou et al., 2006, 2015; Bruening, 2013; Embick, 2004b; Koontz-Garboden, 2009).

(8) a. Bingkuai gei guyi ronghua le.
icecube GEI deliberately melt SFP
'The ice cube was melt deliberately.'

b. *Bingkuai guyi ronghua le.
icecube deliberately melt SFP
'(Intended)The ice cube melt deliberately.'

In this regard, *gei*-VP is passive like. Without *gei*, the unaccusative VP denotes a change of state event but adding *gei* implies an external argument(EA), which can be targeted by these agentive tests. This is again parallel to the causal passive marker in Buryat and reveals the causative (passive) nature of this *gei*: *gei* encoding causative semantics and implies a covert EA. A natural question to ask is how do we know this covert external argument does not exist in syntax as a pro form, considering Chinese being a *pro*-drop language(Huang, 1984). There is evidence excluding the *pro* drop analysis of the covert EA. Unlike pronouns, the covert EA cannot be bound by a c-commanding quantifier, or be discourse-anaphoric and it does not create an antecedent(these diagnostics are adopted from Privoznov (2019)).

(9) a. *Meiyou ren chengren mifan gei zhuhu le.
no body admit rice GEI burnt SFP
'(Intended) Nobody$_i$ admits that the rice get burned by him$_i$.'

b. *Wo you yi zhi xiaogou, jintian huabing gei dasui le.
I have one CL puppy, today vase GEI broke SFP
'(Intended) I have a puppy$_i$. Today the vase got broke by him$_i$.'

c. *Huaping gei dasui le, ta shi wode xiaogou .
vase GEI broke SFP, he is my puppy
'(Intended) The vase got broke by someone and he was my puppy.'

So far, we seem to anchor the function of this *gei*. *Gei* is causative: it encodes the causative eventuality, thus an implicit external force is semantically accessible(Shen & Sybesma, 2010). *Gei* is passive: it cannot introduce the causer in syntax; To sum up, we have a 'causal passive' *gei*.

Then rethink the one place predicate 'EXIST/OCCUR' analysis of this *gei*. Such a one place predicate 'EXIST/OCCUR' marks the unaccusative nature of *gei*, denying *gei*'s ability to encode causativity in syntax. If there is no such a causative component, how come the structure *gei* passes all the agentivity test[2]?

To sum up, it seems that the multiple *gei* approach, namely *gei* as LET, AFFECT and OCCUR respectively, although explains most of the facts concerning its syntax-semantics behaviors, is not perfect in accounting for:

(i) *Gei* as AFFECT seems to require a raising analysis, as they are incompatible with subject oriented adverbials, but the starting point of movement is unclear with a gapless complement.

(ii) *Gei* as OCCUR does not encode causativity or any EA information, but agentive adverbials

[2]Huang (2013) argues the causative meaning exists as a structural change residue: subject suppression under the causative-unaccusative alternation making the causer exist as a haunting phantom. However, subject suppression should be viewed as a result of grammaticalization. From the synchronic perspective, how come the unaccusative 'EXIST/OCCUR' also contain causation?

are able to occur in syntax, indicating the existence of the causativity and a causer (external force).

In the following we are going to reconsider the issue from a contextualizational perspective, trying to shift the multifunctionality of *gei* from its lexical property to the syntactic context it occurs.

4 A contextual allosemy analysis of *gei*

Now reevaluate the disambiguating function of the subject oriented (agentive) adverbials:

(10) a. Xiaoming gei Nana da le yi quan. (causative or passive)
Xiaoming GEI Nana hit PFV one punch
'Xiaoming got punched by Nana.' or 'Xiaoming let Nana punch him.'

b. Xiaoming guyi gei Nana da le yi quan. (causative only)
Xiaoming deliberately GEI Nana hit PFV one punch
'Xiaoming deliberately let Nana punched him.'

c. Xiaoming gei Nana guyi da le yi quan. (passive only)
Xiaoming GEI Nana deliberately hit PFV one punch
'Xiaoming got punched by Nana deliberately.'

(10a) can be construed as a causative or a passive but such ambiguity disappears as long as we add the subject oriented (agentive) adverbial '*guyi*' (deliberately) in different positions. The position of the subject oriented adverb indicates the grammatical function of the constituent preceding it: a true, based generated subject. In this regard, '*guyi*' (deliberately) can be seen as an indicator of the structure (control or raising) in which *gei* occurs. When the structure is figured out, the ambiguity of *gei* is resolved. To put it differently, it is the structure in which *gei* occurs determines the interpretation of *gei*, rather than the other way around. When the structure *gei* occurs is uncertain, *gei* is ambiguous; as long as the structure is determined (here identified by '*guyi*' (deliberately)), the interpretation of *gei* is also settled. This point of view leads us to the argument that *gei* is *per se* not a multifunctional element with can assign a variety thematic roles and selections different complements, but in the opposite, it is the syntactic configuration it occurs determines *gei*'s interpretation.

The idea that the interpretation of a functional element can be determined contextually is well discussed in the researches under the framework of Distributed Morphology(Kastner, 2017; Marantz, 2013, 2022; Myler, 2016; Wood, 2015, 2016; Wood & Marantz, 2017). The choice between different interpretations of a functional head or a root can be determined by its context, where it is inserted. This works in a similar way to contextual allomorphs in syntax-morphology mapping and is regarded as an LF counterpart of allomorph, i.e., allosemy. Following this spirit, we will argue

that *gei* is an abstract causative functional head who bares several contextual allosemies and gets interpreted differently under different syntactic contexts.

4.1 The main proposal

The split-VP analysis has been widely taken as a basic assumption for syntactic structure since 1980s. The fundamental idea is to formulate a functional head above V, which is *v* or Voice. This functional head has a series of syntactic-semantics properties such as (1) introducing the external argument; (2) assigning accusative case; (3) verbalizing the root; (4) encoding causative semantics; (5) enclosing the argument structure and forming a phase to spell out. In the early ages, *v* and Voice are alternated with each other to serve (some of) these roles(Chomsky, 1993; Kratzer, 1996) but later, it is proposed *v* and Voice have a division of labor among these functions and they can co-occur in a syntactic structure(Harley, 2013; Pylkkänen, 2008). In Harley (2017), the author proposes a 'Voice bundling parameter' to argue for the cross linguistic variation in terms of whether the syntactic structure of a language is 'Voice and *v*' or 'Voice or *v*'(exclusive 'or'). Such a fine grained distinction within the verbal structure and also the flexibility provide us with more theoretical tools to model the argument structure in a language, particularly its argument introducing mechanism. Against the backdrop, the **basic theoretical assumptions** for argument structure in the current research are addressed as follows:

(i) External argument is severed from the verb and being introduced independently by a functional head, Voice(Kratzer, 1996). Verbs come with their categorial label(Ramchand, 2008) and its internal argument (IA, often a theme) being encoded in lexical semantics(Privoznov, 2019)[3].

(ii) Chinese can be a Voice splitting language(Sybesma, 2021): Voice and *v* can be separately projected to serve different functions. *v* is responsible for encoding (causative) event semantics by introducing an event variable (and sometimes for categorization). Voice is projected for external argument introducing and also case licensing the internal argument (thus the Burzio' s generalization).

(iii) Voice come with different 'flavors': active Voice contains a D feature and can introduce a DP in syntax while passive Voice (non active Voice) does not have such a D feature (Alexiadou et al., 2015; Embick, 2004a), thus the external argument cannot occur in syntax but get existentially bound in semantics(Alexiadou, 2012; Alexiadou et al., 2018; Bruening, 2013; Legate,

[3]Alternatively, we could adopt a standard DM view and argue that verbs come out of lexicon without any argument information or categorial label. *v* functions as a categorizer and the theme is introduced via a thematic introducing head, θ_{Theme}, à la Champollion (2015) and Coppock and Champollion (2019). However, there is no empirical result between the two assumptions and for simplicity we adopt the former one.

2014; Schäfer, 2017). Voice is combined into the structure via event identification(Kratzer, 1996). The semantic denotation of Voices is below[4]:

- Voice$_{ACT}$:λx.λe. Initiator(e,x)
- Voice$_{PASS}$:$\exists$x.λe. Initiator(e,x)

Based on the assumptions, when a *v*P is projected, either an active or a passive Voice can be posed above it and give rise to different syntactic-semantic effects. When a passive Voice is on the top, it suppresses a syntactically projected EA, leaving the EA only semantically accessible. This also results in the movement of the object to subject position, mainly due to EPP (or case licensing the object argument). To wit, a passive Voice always triggers object raising.

The core argument: *Gei* a pure causative *v* head which can introduce a causative event and a causation relation. The semantic denotation of *gei* is seen below:

(11) $\|Gei\|$: $\lambda f_{vt}.\lambda e.\exists e'.f(e')$ & cause(e, e')

The different interpretations among LET, AFFECT and OCCUR are contextually dependent on two factors: (1) Whether an active/passive Voice is projected above this *v*; (2) Whether the complement of this *v* is a VoiceP or a VP. To illustrate:
Gei is causative(LET) when there is an active Voice above it and below it. *Gei* is passive(AFFECT) when it there is a passive Voice above it and a VoiceP below it and *Gei* is the causal passive(OCCUR) when it has a passive Voice above it and a VP below[5]:

(12) a. *gei*$\rightarrow$ v_{CAU}/ [EA Voice$_{ACT}$ [*gei* [VoiceP]]]
b. *gei*$\rightarrow$ v_{PASS}/ [Voice$_{PASS}$ [*gei* [VoiceP]]]
c. *gei*$\rightarrow$ $v_{CAU-PASS}$/ [Voice$_{PASS}$ [*gei* [VP]]]

4.2 The illustration of each syntactic configuration in which *gei* occurs

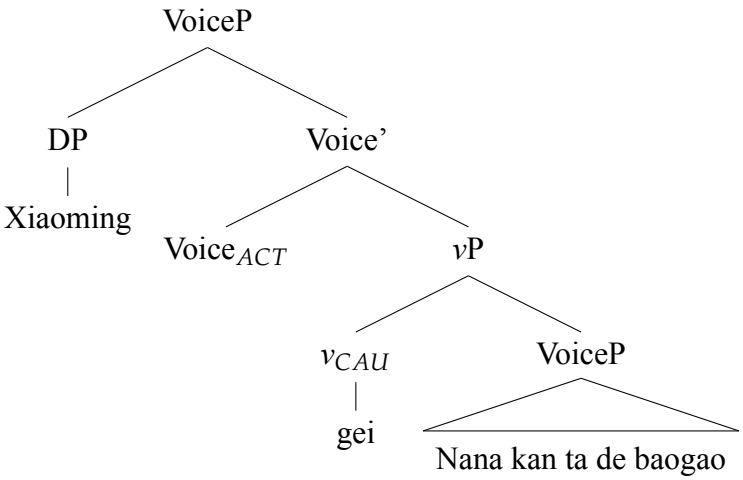
4.2.1 Causative *gei*

The causative interpretation is achieved when *gei* is inserted in between two active Voice heads, as in (13). The double active Voice projection brings in two structural subjects: a causer as the outer subject; a causee as the internal subject. Both causative eventuality and causer are encoded in syntax, by *gei* and the upper active Voice head respectively. As the active Voice licenses an externally merged subject, this captures the 'control' nature of the causative structure and accounts for the licensing of the subject oriented adverbial such as '*guyi*'(deliberately) in the matrix clause, see (10b).

[4]The thematic role introduced by Voice is summarized as 'Initiator', which includes causer, agent, experiencer, ect. It has been proposed that the exact interpretation of the EA is also determined contextually(Alexiadou et al., 2015; Bruening, 2013; Wood, 2023).

[5]a *v*P is also possible, but the *v* with a BECOME flavor.

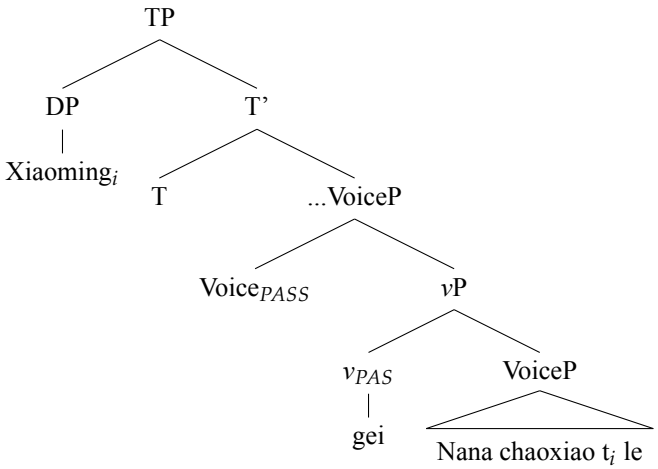
(13)



4.2.2 Passive *gei*

The passive *gei* is different from the causative one in having a passive Voice above *gei*. As we have mentioned, the function of a passive Voice is to suppress the syntactic projection of the external argument and trigger the movement of an object below, as in (14)[6]. This means that the subject of the sentence is internally merged, echoing the raising analysis of the passive *gei*. The rejection of a subject oriented adverbial is then explained: the derived subject originated from a lower object position from where it is assigned a thematic role: patient; thus it is incompatible with an agentive adverbial in the derived position.

(14)



[6]One problem for the movement is that it violates minimality, as the embedded subject is blocking in between the object and the landing position. This is an issue for the raising analysis of long passive in Chinese, since Chinese lacks morphological marking, we are not sure whether the lower subject is demoted to an oblique argument position (it is not in an A position thus is invisible to the object movement). We will try to address this issue later.

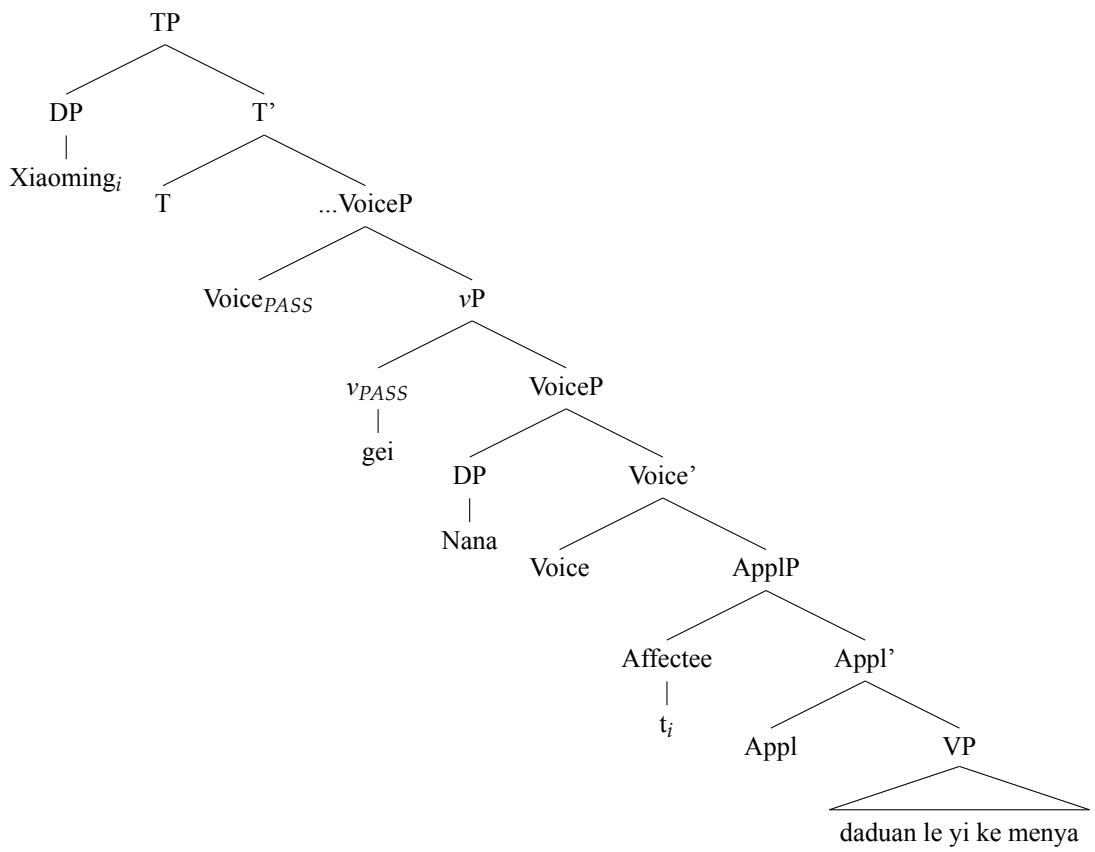
Previously it is mentioned that there is a potential problem concerning the raising analysis of the passive structure, i.e., when there is no gap in the complement position, the movement seems to start from nowhere. This constitutes a strong argument against the raising analysis of passive in Chinese(Huang, 1999, 2013; Huang et al., 2009; Liu & Huang, 2016). We would like to maintain the raising analysis of *gei* passive by arguing that the affectee in a gapless passive is raised from an applied argument position, as in the double object sentences:

(15) a. Xiaoming chi le Nana san he qiaokeli.
Xiaoming eat PFV Nana three CL chocolate
'Xiaoming ate three boxes of chocolate on Nana.'

b. Nana daduan le xiaoming yi ke menya.
Xiaoming broke PFV Xiaoming one CL front-tooth
'Nana broke a front tooth of Xioaming.'

It has been argued that the indirect object in (15), although semantically being interpreted as the possessor of theme, actually does not exist in the DP internal but in a VP internal object position(Lu, 2000). Following Tsai (2018), Chinese contains a covert applicative head which is projected above VP to introduce the affected argument. The affected argument is indirectly affected by the event, usually through its relation with the object (typically, the possession relation). In this sense, it is the 'outer object' of the VP (Huang et al., 2009). We argue that an apparent gapless passive *gei* sentence has a gap on this outer object position. It is this affected argument(outer object) rather than the lower theme (internal object) that is raised to the matrix subject position.

(16)



The structure above explains why the lower part accepts agentive adverbial modification but the higher does not, as in (10c). The matrix subject is derived from the (outer) object position; its derived subject status also accounts for the affected meaning of the *gei* passive, as this moved argument carries its thematic role: affectee/patient to the subject position.

Coming back to the first research question, namely whether there is structural difference between causative and passive *gei*, considering the ambiguity cases like (2). We argue that there is a structural distinction, not due to *gei* but Voice alternation. The difference between causative and passive *gei* is the flavor of the higher Voice head, which constitutes the syntactic contexts to choose *gei*'s allosemy, influencing the interpretation of *gei*.

In essence, such Voice alternation determines whether a higher, A(rgument) position can be provided to enrich the information of the argument structure, further determines whether we have a control or a raising structure. This can have an influence on the semantic interpretation of *gei*: a causative event necessarily needs an initiator to CAUSE. An externally merged subject makes a perfect fulfillment to complete the causative eventuality. Under this context, interpreting *gei* as CAUSE is quite natural. But if such a position reserved for causer is unavailable, namely, when there is a passive Voice, an internally merged argument has to be promoted to the subject position. Nonetheless, it has already received its thematic role in the previous derivation, which cannot be altered in the next phase. This means that this moved IA cannot be reinterpreted as a causer

but retains as an affectee or patient(depending on where it moves from); this is why the affected meaning is quite prominent in passive *gei* construction. Following this logic, with an internally merged subject on a CAUSE head is equal to merely addressing there is a causative event without adding more information about its participants, making the causative meaning very slim. When the causative meaning is very vague but the affected meaning is more obvious, *gei* is reasonable to be construed as a passive marker.

To sum up, the difference between causative and passive *gei* is traced back to the flavor of the higher Voice, which determines whether we have a causer externally merged as an outer subject or an affectee internally merged from an (outer) object, thus influencing the interpretation of *gei*. With such Voice alternation, all of these syntax-semantic effects ensue.

4.2.3 Causal passive *gei*

At last, the causal passive *gei* is different from the passive one in that its complement is 'truncated': not a VoiceP but a VP, which means that no EA projection is available under *gei*. This, on the one hand, accounts for the verb selection of this *gei*: it only compatible with unaccusative but not unergative verbs.

(17) a. *Xiaoming gei xiuxi le.
Xiaoming GEI rest SFP
'(Intended) Xiaoming rested for some reason.'
b. Xiaoming gei shengbing le.
Xiaoming GEI sick SFP
'Xiaoming got sick for some reason.'

Under the current framework, an unaccusative VP which lacks EA, is a typical instantiation of structure without Voice projection (Alexiadou et al., 2015). For an unergative verb, according to Hale and Keyser (1993), its sole argument is an EA and this requires the active Voice to project, making it impossible to co-occur with causal passive *gei*, henceforth the contrast in (17).

On the other hand, that causal pavssive *gei*'s complement does not have a Voice also explains the 'unaccusativization' function of *gei*, namely why EA is not allow to occur when *gei* meets a transitive verb, unless other semi functional items such as *ba* is involved:

(18) a. Pingguo gei chi le.
Xiaoming GEI eat SFP
'The apple got eaten.'
b. *Xiaoming gei chi pingguo le.
Xiaoming GEI eat SFP
'(Intended) Xiaoming got the apple eaten.'

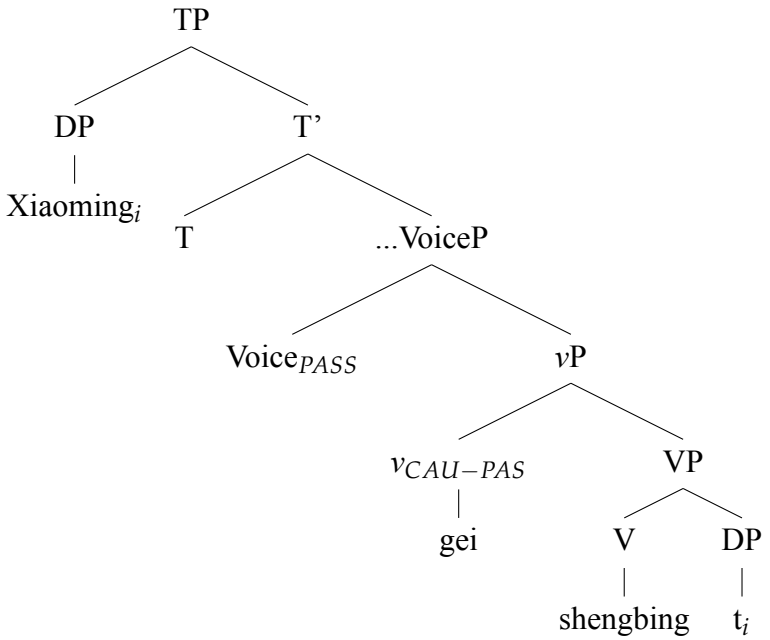
c.??Xiaoming gei pingguo chi le.
Xiaoming GEI apple eat SFP
'(Intended) Xiaoming got the apple eaten.'

d. Xiaoming ba Pingguo gei chi le.
Xiaoming BA apple GEI eat SFP
'Xiaoming got the apple eaten.'

The contrast in (18a) and (18b/18c) shows that a transitive verb with its full argument structure is unlicensed with *gei* but a truncated one raises no problem. This is natural if no Voice is projected below *gei*. To sum up, the unaccusativization function of *gei* can be seen as a side effect of the missing Voice head below *gei*. Although having a lower active Voice head to introduce the EA is impossible, *gei* seems to permit another causative semefunctional *v*/an active Voice standing on top of it, namely the appearance of *ba* in (18d). Such a functional head licenses a causer, which can be identical to the default EA of the lower event[7].

When there is no *ba*P projection, we argue that causal passive *gei* is selected by a passive Voice and triggers the movement of the IA, as in (19).

(19)



The projection of passive Voice head rejects a syntactic EA, again ruling out the impossible case in (18b/18c). This also accounts for *gei*'s incompatibility with subject oriented adverbials in (6) , due to the non based generated status of the subject. But a passive Voice indeed brings

[7]In effect, other causative verbs such as *jiao*(let) or *rang*(let) (even *gei* itself) can be superimposed onto this causal passive *gei* and introduce the EA(causer). However, we cannot explain why with other head above *gei*, object shifting (the movement of theme to a position higher than *gei*) is still required.

in a semantically accessible EA, which gets existentially bound. We believe this covert EA is the intuitive external force mentioned in Shen and Sybesma (2010). More importantly, the covert argument is encoded in the semantic denotation of the passive Voice head, rather than just a residue semantic effect of subject suppression. Such semantic encoding of EA enables the causal passive *gei* to pass the agentivity tests mentioned in (7), just like standard passives.

Thus far, we have not account for the most prominent characteristic of the causal passive *gei*, its 'affectedness' meaning. To recap, the subject is strongly affected when *gei* is added, comparing with a plain unaccusative VP:

(20) a. Xiaoming shengbing le. (unaccusative)
Xiaoming sick SFP
'Xiaoming became sick.'

b. Xiaoming gei shengbing le. (causal passive)
Xiaoming GEI sick SFP
'Xiaoming got sick (and he is strongly affected by that) .'

We argue that such an affected meaning, basically towards the subject (or an implicit third party), is not equal to the external force which is brought by the passive Voice as an existentially bound causer. The affectee reading towards the subject is also not (completely) resulted from the thematic inheritance of the moved IA, which is a theme. As such a movement is also obtained in a unaccusative structure like (20b). We argue that the affected meaning is resulted from the encoding of the causative eventuality in syntax, by *gei*. Such causation implies an effect, highly likely on the theme. To make it concrete, causativity is not encoded in (20a) but is in (20b). (20a) merely expresses a change of state event with a theme, or undergoer 'Xiaoming'; while *gei* adds an causative event, or the external force to the change of state, making the theme an receiver of the external force, i.e., a patient/affectee. In this sense, *gei* modifies the thematic role of the IA from a state holder to an affectee, henceforth the affected meaning. While in a plain unaccusative VP, there is no such causative event, thus no affected reading.

Coming back to the second research question, namely whether short passive *gei* and causal passive *gei* are the same in nature. Our answer is yes. They are both the causal passive *gei*, or *gei* is realized in between a passive Voice and a VP. That is to say, short *gei* passive is not the long *gei* passive with a *pro* drop agent, which has been proved in (9). Long and short passive *gei* are not derived via the same mechanism. This is reflected in the size of their complements: long *gei* passive selects a VoiceP with an EA in syntax but short *gei* passive selects a VP whose EA is not syntactically available. The reason why they both forbid subject oriented adverbials is because they are both selected by a passive Voice. Although they pattern the same in the agentive tests but this is due to different reasons: for long passive *gei*, agentivity is oriented to the syntax EA which is introduced by the lower Voice head. For short passive *gei*, agentivity is oriented to the semantic

EA which is entailed by the higher Voice head.

5 Some potential issues and our tentative solutions

So far so good, but there is a severe problem we have not addressed: in the structure with passive *gei* in (14) and (16), why the (outer) object, rather than the subject moves out, if such movement is driven by EPP?

We will make two hypotheses for such an apparent minimality violation. The first concerns the argumenthood of the embedded subject: it could be that the putative embedded subject in passive *gei* is actually an adjunct rather than an argument. Notice that being under a causative head makes the subject in the embedded clause also a causee. The double thematic role on this argument can make it peculiar in syntax. In the literature, it has been reported that the syntactic realization of a causee is various (Akkuş, 2021). According to Akkuş (2022), Legate (2014), and Neu (2023), the causee can be introduced as an oblique argument, but which is also able to satisfied the D feature of an active Voice head. We argue that this could also happen in Chinese. Unfortunately Chinese obtains no case morphology for us to verify this hypothesis.

Another possibility is about the 'flavor' of Voice. Legate (2014) proposes a three way distinction of the voice head: active, passive and object Voice. The last type of Voice head is widely seen in Austronesian languages. The characteristic of object Voice is that it can introduce the EA but also trigger the movement of IA. The author attributes this movement to case licensing. Therefore, the syntactic context to anchor the passive *gei* is an object Voice rather than an active Voice below it. In this sense, an EA can be introduced below but finally it is the IA moves upward. We will leave this issue for future research.

We have argued Chinese makes use of both active and passive Voice (maybe also object Voice) for argument structure building but both of them are morphologically inert. Generally in a language with multiple Voices, we expect to see Voice morphology, particularly on the non default ones, such as the *se* clicit marking in Romance languages and the non active morphology in Greek or Hebrew(Alexiadou, 2012; Alexiadou & Anagnostopoulou, 2004; Alexiadou et al., 2006, 2015). We see two potential issues for the overall unmarkedness of the Voice system in Chinese.

Firstly, active and passive Voice heads should be equally possible to be posed upon a transitive VP(V+theme), forming an active transitive and an unmarked passive structure respectively. In fact, this is never possible. We argue that active and passive Voice, although are both unmarked in terms of morphology, indeed show asymmetries. Active Voice is more default/unmarked than passive, in terms of complement selection: an active Voice can select both VP and *v*P but a passive Voice only selects *v*P. Thus, for a transitive VP (V+theme) to be selected by passive Voice, *gei* or other *v* has to be attached to it beforehand, making the structure ready to be selected by a passive Voice. Other possible scenarios in which *v*P is selected by the passive Voice could be the middle construction

'*V-qilai*' in Chinese and some passive constructions (the raising ones) involving *bei*.

The selectional contrast between active and passive Voice also shed some light on why some pure unaccusative verbs like '*si*'(die), '*zou*' (leave) or '*huai*'(rotten), while fail to be causativized but still possible to occur in causal passive. In the current analysis, this is because these verbs do not encode causative semantics, CAUSE, in the root (or in the verb meaning), thus directly combining with an active Voice makes no sense, as active Voice encodes information about the initiator, which presumes the existence of the causative eventuality. Combining with *gei* equips an unaccusative VP with causative semantics, but as long as *gei* is added, *v*P can only be selected by a passive Voice(recall that this is the contextual requirement of this *gei*). Therefore, these unaccusative verbs cannot be causativized but can be causal passivized. In this sense, the inertia of morphology on Voice system does not prevent us from exploring the phenomena from the perspective of Voice, but requires us to observe the data from a more 'syntactic' view to discover the effect equals to morphology marking.

The second issue is that if both active and passive Voice are always morphologically null, what is the point to say Chinese is a Voice splitting language, considering their function can always be incorporated into another morphologically overt item? Say, the causal passive *gei* can be seen as the bundling of the causative *v* and passive Voice and the light verb *ba* can be the bundling of an active Voice and *v*, as is discussed in Sybesma (2021). We believe the significance to have Voice and *v* split still lies in the motivation to offset the multifunctionality of the semi-lexical items in Chinese(and more prominently in its dialects, as is mentioned in Cheng et al. (1999) and Huang (2013)). Splitting Voice and *v* opens the possibility to have a more fine grained argument structure, thus the Voice alternation upon the same semi lexical head and the same semi-lexical item selecting different complement size. This brings in carious effect in terms of argument structure and also the interpretation of the same semi-lexical item. In a nutshell, it is necessary to assume Chinese is a split Voice language, at least in some cases(Sybesma, 2021).

6 Conclusion

This paper adopts a contextualized approach to account for the multifunctionality of *gei* in causative, passive and causal passive structure. Instead of ascribing these structures to the diversified function of *gei*, it is argued that the *gei* is a causative *v* head which introduces a causative event. Different interpretations of *gei*, namely LET, AFFECT or OCCUR are contextual allosemy which is conditioned by Voice alternation and its complement size. Causative and passive *gei* differs in the upper Voice is active or passive. Passive *gei* and causal passive *gei* differs in terms of the size of complements: a VoiceP or a VP. Compared with the lexical approach, to adopt the contextual approach is not just telling the same story of *gei* from a different perspective, but it is advantageous in figuring out why and how *gei* comes to be multifunctional and particularly, in drawing on the insight from

the ambiguity and the disambiguation of *gei* in syntax.

Furthermore, it is potentially possible that the ditransitive *gei*, namely when it means 'give' can also be analysed as causative *v* head when it is conditioned by a HAVE component, namely 'giving' is also 'cause having'. The same logic can also be extended to other usages of *gei* such as the benefactive, converbal, etc. We leave this for future research.

References

Akkuş, F. (2021). Variable embedded agent in sason arabic. *Journal of Linguistics*, *57*(2), 233–277.

Akkuş, F. (2022). On causee in sason arabic. *Syntax*, *25*(3), 299–334.

Alexiadou, A. (2012). Noncanonical passives revisited: Parameters of nonactive voice. *Linguistics*, *50*(6), 1079–1110.

Alexiadou, A., & Anagnostopoulou, E. (2004). Voice morphology in the causative-inchoative alternation: Evidence for a non-unified structural analysis of unaccusatives. *The unaccusativity puzzle: Explorations of the syntax-lexicon interface*, 114–136.

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 Studies in Theoretical.

Alexiadou, A., Anagnostopoulou, E., & Schäfer, F. (2018). Passive. *Syntactic Structures after 60 years: The impact of the Chomskyan revolution in Linguistics*, 403–425.

Bruening, B. (2013). By phrases in passives and nominals. *Syntax*, *16*(1), 1–41.

Champollion, L. (2015). The interaction of compositional semantics and event semantics. *Linguistics and Philosophy*, *38*, 31–66.

Cheng, L. L.-S., Huang, C.-T. J., Audrey, Y.-H., & Jane Tang, C.-C. (1999). Hoo, hoo, hoo: Syntax of the causative, dative, and passive constructions in taiwanese. *Journal of Chinese Linguistics Monograph Series*, 146–203.

Chomsky, N. (1993). A minimalist program for linguistic theory.

Coppock, E., & Champollion, L. (2019). Invitation to formal semantics. *Manuscript, Boston University and New York University. eecoppock. info/semantics-boot-camp. pdf*.

Embick, D. (2004a). On the structure of resultative participles in english. *Linguistic Inquiry*, *35*(3), 355–392.

Embick, D. (2004b). Unaccusative syntax and verbal alternations. *The unaccusativity puzzle: Explorations of the syntax-lexicon interface*, *5*, 137–158.

Hale, K., & Keyser, S. J. (1993). On argument structure and the lexical expression of syntactic relations. *An annotated syntax reader*, 312–327.

Harley, H. (2013). External arguments and the mirror principle: On the distinctness of voice and v. *Lingua*, *125*, 34–57.

Harley, H. (2017). The "bundling" hypothesis and the disparate functions of little v. *The verbal domain*, *3*, 3–28.

Huang, C.-T. J. (1984). On the distribution and reference of empty pronouns. *Linguistic inquiry*, 531–574.

Huang, C.-T. J. (1999). Chinese passives in comparative perspective. *Tsing Hua Journal of Chinese Studies*, *29*(4), 423–509.

Huang, C.-T. J. (2013). Variations in non-canonical passives. *Non-canonical passives*, 95–114.

Huang, C.-T. J., Li, Y.-H. A., & Li, Y. (2009). The syntax of chinese. *(No Title)*.

Kastner, I. (2017). Reflexive verbs in hebrew: Deep unaccusativity meets lexical semantics. *Glossa: a journal of general linguistics*, *2*(1).

Koontz-Garboden, A. (2009). Anticausativization. *Natural Language & Linguistic Theory*, *27*, 77–138.

Kratzer, A. (1996). Severing the external argument from its verb. *Phrase structure and the lexicon*, 109–137.

Legate, J. A. (2014). *Voice and v: Lessons from acehnese* (Vol. 69). MIT Press.

Liu, N., & Huang, C.-T. J. (2016). Control and raising passives, and why mandarin does not smuggle. *Journal of East Asian Linguistics*, *25*, 385–404.

Lu, J. M. (2000). A double object analysis of the mandarin pattern of 'chi le ta san ge pingguo. *Chinese studies of linguistics*, *289*(4), 317–325.

Marantz, A. (2013). Locality domains for contextual allomorphy across the interfaces. *Distributed morphology today: Morphemes for morris halle*, 95–115.

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.

Neu, E. (2023). Against a low subject analysis of causatives of unergatives. *Proceedings of the Linguistic Society of America*, *8*(1), 5527.

Perlmutter, D. M. (1978). Impersonal passives and the unaccusative hypothesis. *annual meeting of the Berkeley Linguistics Society*, *4*, 157–190.

Privoznov, D. (2019). Causality of passive and paradigmatic gaps. *Proceedings of the 14th Workshop on Altaic Formal Linguistics:(MIT Working Papers in Linguistics# 90)*, 239–252.

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.

Schäfer, F. (2017). Romance and greek medio-passives and the typology of voice. *The verbal domain*, 129–152.

Shen, Y., & Sybesma, R. (2010). The syntactic marker *[jifa jiegou biaoji gei yu dongci jiegou de yansheng guanxi]gei* and the derivational relations in the strcture of the verb. *Studies of The Chinese Language*, 222–237.

Sybesma, R. (2021). Voice and little v and vo-ov word order variation in chinese languages. *Syntax*, *24*(1), 44–77.

Tang, S.-W. (2006). A minimalist view on the syntax of become. *Minimalist views on language design*, 301–311.

Tsai, W.-T. D. (2018). High applicatives are not high enough: A cartographic solution. *Lingua Sinica*, *4*, 1–21.

Wood, J. (2015). *Icelandic morphosyntax and argument structure* (Vol. 90). Springer.

Wood, J. (2016). How roots do and don't constrain the interpretation of voice. *Working Papers in Scandinavian Syntax*, *96*, 1.

Wood, J. (2023). Voice jim wood and matthew tyler march 21, 2023. *To appear in The Cambridge Handbook of Comparative Syntax*.

Wood, J., & Marantz, A. (2017). The interpretation of external arguments. *The verbal domain*, 255–278.