A Split Analysis of the Affected Experiencers Introducer *"gei"* in Mandarin Chinese

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Abstract: Under the cartographic approach, we argued that beneficiary and maleficiary introducer *"gei"* is not a mere preposition but 2 functional items with different meaning and merging in two places in the syntactic structure. We use some diagnostics to show that they are different in terms of syntactic category, projection height, the tier of meaning and complement selection. The split of *"gei"* can also be extended to the CP layer: the affected "geiwo" and imperative "geiwo" constructions are affected *"gei"* and benefactive *"gei"* projecting in the CP layer respectively, both of which are speaker oriented and encoding the speakers' emotional affectedness from the event. So that "gei" is split into affected and benefactive head, and the split of "gei" can be extended from vP periphery to CP periphery. This is another evidence to show the robust analyticity in Mandarin Chinese.

Key words: *gei*, **benefactive preposition, affected head, ethical dative, analyticity**

1. Introduction

As a multifunctional element, *"gei"*, with the initial meaning of *"give"* in Mandarin Chinese, appears in a variety of circumstances, such as ditransitive construction, dative construction, causative construction, passive construction so on. As for the nature of *"gei"*, besides its verbal use, *"gei"* is labelled as a preposition or an applicative marker which can introduce non core arguments such as beneficiary, maleficiary, recipient, goal and so on. For example:

1. Zhangsan   gei   Lisi xizao.   (benefactive)

    Zhangsan give Lisi bathe

    Zhangsan bathed Lisi.

2. Zhangsan   gei   Lisi dapo   le beizi.   (malefactive)

    Zhangsan give Lisi broke Asp cup

    Zhangsan broke a cup on Lisi.

From a lexical verb to a multifunctional item, *"gei"* undergoes a complex grammaticalization process and yields different usages. It is obvious that the different

syntactic categories of "*gei*" are closely related to each other. No matter in what stories about "*gei*", when it comes to beneficiary and maleficiary, the 2 non core arguments introduced by "*gei*" are usually treated in the same way only with trivial semantic differences. For example, in Zhu (1982:180), he mentioned that one of usage of preposition "*gei*" is to introduce the beneficiary or maleficiary, a joint name, event related argument. Tang&Chang (2004) believed that the malefactive is the sarcastic use of benefactive "gei".

We call the 2 "*geiNP*" benefactive and affected constructions respectively[1], they both use "*gei*" to introduce non core arguments: malefactive(affectee) and benefactive. However, there are some interesting asymmetries between the beneficiary and maleficiary. For example, it is easy for benefactive "*gei*" to be topicalized but difficult for affected "*gei*"; when wh adverbial "*zenme*" preceding "*gei*", it can ask the method of VP in benefactive "*gei*" but in affected "*gei*" it can only ask for the reason; the beneficiary can be negated alone but maleficiary cannot. How come the differences and what is the nature of the affected argument introducer "gei"? In the following sections, we will illustrate these asymmetries in detail. And give a tentative answer to the question.

In Bosse (2012,2015), she found that although benefactive, malefactive and other applicative arguments are marked in the same way in German (dative case), they are actually different in many aspects. Inspired by her works, We investigated the "affected experiencers" introduces by "*gei*" in Mandarin Chinese and drew the similar conclusion. Some syntactic diagnostics indicated "*gei*" is not a mere proposition introducing various non core eventive participants. In fact, there are different functional heads with the same form "*gei*". We argued that benefactive and malefactive can be differentiated in terms of syntactic category, projection height and semantic interpretation. This differentiation can account for some asymmetries between the 2 "*geiNP*"constructions. Furthermore, this construal shed some light on the syntactic and semantic interpretation

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[1] In the affected "gei" construction, "gei" introduces any DP denoting maleficiary, which includes but not limited to the first person singular pronoun "*wo*". So the content of the affected construction we are talking about here is broader than Tsai(2012, 2017), which focus on the "geiwo" affective construal.

of "*geiwo*" construction, which we believe to be the corresponding ethical dative in Mandarin. At last, since affected experiencer is available in various of languages, we will try to put Mandarin into the map of the parametric variation, hope to enrich the inventory of the affected constructions cross linguistically.

In Section 2 we try to define the "beneficiary" and "maleficiary", distinguishing the affected experiencers according to their thematic roles. Section 3 will focus on the systematic asymmetries between affected and benefactive "*gei*". Diagnostics indicate that affected experiencer introducer "*gei*" should be split into 2 items, with different categories, projection heights and semantic interpretations. In Section 4 we tend to bring in our proposal on "*gei*" and account for the asymmetries listed in Section 3. In Section 5 we will extend the split "*gei*" analysis into CP layer and argue that affected "*gei*" and benefactive "*gei*" can be projected in the left periphery, where they are speaker oriented and encodes speakers' negative affectedness or strong order, that's why the affected experiencer can only be the first person singular pronoun "*wo*". They are the counterparts of the ethical dative in other Romance language. The last section is the conclusion.

2. Distinguishing the affected experiencers

2.1 Affected experiencers as applicative arguments

Cross linguistically, affected experiencers are "applicative arguments", which are not in the argument structure of the lexical verb but realized as non core participants in the event structure. From the perspective of Neo-Davidsonian event semantic, applicative arguments are all predicates of the event argument and linked by conjunction. As non core arguments, applicatives are independent of the sentence, which means that they optionally occur in a sentence and can be deleted without influencing the grammaticality of the sentence. According to Baker (1988), these arguments must be introduced by an applicative head which incorporates into the verb later, or realizes as an isolated proposition. Mandarin is a language with very few morphological changes. As a result, applicative arguments are introduced by a bundle of prepositions. "*gei*" is

viewed as one of them.

As we have mentioned, the semantic roles which "*gei*" assigns are various, despite they all indirectly involve in the event. According to Lin and Huang (2015), these arguments are affected theme, goal, source, benefactive, malefactive, undergoer and so on. We will distinguish the affected experiencers according to their thematic roles.

2.2 What counts as beneficiary and maleficiary

The meaning of benefactive seems to be vague, many theta roles such as recipient, undergoers, goals can be included into the so called "benefactive construction". Here we will follow Van Valin and LaPolla (1997), according to which there are three different types of benefactives. All of them can be introduced by "*gei*" in Mandarin:

a. Recipient benefactives: the beneficiary is the (intended) possessor/ recipient;

b. Plain benefactives: the beneficiary undergoes some general benefit, physically or mentally, such as being serviced, helped, praised or worshiped.

c. Deputative benefactives: the agent is the proxy, substituting for the beneficiary doing the action.

The corresponding examples are as follows:

3.   Zhangsan   gei   Lisi kao yi-kuai dangao.   (recipient benefactive)

     Zhangsan give Lisi   bake one-CL cake

     Zhangsan baked Lisi a cake.

4.   Zhangsan gei   Lisi nianshu.   (plain benefactive)

     Zhangsan give Lisi read

     Zhangsan read for Lisi.

5.   Zhangsan gei   Lisi zuo zuoye.   (deputative benefactive)

     Zhangsan give Lisi do homework.

     Zhangsan does homework for Lisi.

Although the three benefactive "*geiNP*" are superficially identical, they are differentiated by the events denoted by the main predicate or through the context. In the meanwhile, there are some syntactic approaches to show their distinctions. In 3, recipient benefactives involves the transfer of possession, the predicate usually denotes

transferring, making, creating or acquiring something, such as "*mai*"(buy) "*hua*"(paint) "*kao*"(bake). Recipient benefactive is distinguished from the other 2 in that it has a prepositional dative variant, the "geiNP" can appear post verbally. Plain and deputative benefactives don't obtain this variant. On the other hand, plain benefactives "gei" can be replaced by another preposition "*wei*"(for), another preposition to introduce beneficiary. In deputative benefactives, "gei" can be replaced by the verb "*ti*"(substitute) without meaning change, it is the deputative meaning that guarantees this replacement.

The malefactive, as another affected argument, is more meaning dependent, usually it involves a kind of negative affectedness. The maleficiary undergoes some bad results which come from diverse sources such as being the possessor of some lost or broken things[2], the target of some evil actions. To make an analogy to the benefactive "*gei*", we classify the affected "*gei*" into 2 types

a. Source affected: the maleficiary is an implied source of the theme.

b. Plain affected: the maleficiary undergoes some general miserables, unsatisfactions being harmed or being negatively influenced such as being disturbed, made trouble or interrupted.

6.　　Zhangsan　gei　Lisi nonghuai le shouji.　　　　　　(source affected)

　　　Zhangsan give Lisi broken　Asp phone

　　　Zhangsan broken the phone on Lisi.

7.　　Zhangsan gei laoshi　　zai keshang daoluan.　　　　　(plain affected)

　　　Zhangsan give teacher　in class　make trouble

　　　Zhangsan made trouble for the teacher in the class.

In 6, Lisi is virtually affected as the possessor of the broken phone, normally he is unhappy about that. The sentence can be paraphrased to a genitive form, with "Lisi" located in the modifier position in the NP. In 7, the teacher is psychologically affected since she is experiencing a student's making trouble. She is the maleficiary as the undergoer of the evil action.

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[2] the possession meaning can be cancelled which means that it is only implied through context but not encoded in the syntax.

2.3 One more step further: sentient or not

At first glance, "*gei*" seems to be the ambiguous when introducing beneficiary and maleficiary, the theta role of NP is dependent on the main predicate or the context. Besides, there is one more method to distinct them.

The maleficiary has to be psychologically affected so the referent NP denotes has to be sentient, with the ability to undergo the affectedness. But beneficiary can merely physically get some beneficial result. Therefore, in the affected "*gei*" construction, NP denotes animate things or some institutes or communities gathered by people, such as "family", "class", "incorporation" or "country". On the other hand, beneficiary can be inanimate things, without the sentience requirement:

8.   Zhangsan gei   mama kaole lingfen.

       Zhangsan give mother get-Asp 0 socre

       Zhangsan got zero score on his mother.

9.   Zhangsan gei   jiali   chuangle huo.

       Zhangsan give family bring-Asp trouble

       Zhangsan brought troubles for his family.

10. *Zhangsan gei shouji shuaihuaile pingmu.

       Zhangsan give phone crack-Asp   screen

       Zhangsan cracked the screen of the phone.

11.   Zhangsan gei   hua   jiaoshui.

       Zhangsan give   flower   water

       Zhangsan watered the flowers.

12.   Zhangsan gei qushide   fuqi   huale   yifu   hua.

       Zhangsan give departed-De father paint-Asp one-CL painting

       Zhangsan painted a painting for his departed father.

In summary, benefactive and affected "*gei*" constructions can be differentiate on the ground of their benefactive or affected meaning as well as the sentience requirement. After classifying them into 2 categories, we will go on investigating the asymmetries between them.

3. The asymmetry between affected and benefactive "*gei*" construction

3.1 Syntactic category: PP or VP

As discussed in the previous section, we can differentiate affected and benefactive "*gei*" from the perspective of semantic, particularly in meaning and sentience requirement. If we shift our focus from semantic to syntax, it is easy to find their different behavior in certain syntactic environments:

One difference is that maleficiary "*geiNP*" constructions never have a preposition dative variant. for the recipient benefactive, it has a corresponding prepositional dative variant. But source maleficiary can never appear postverbal.

13.   Zhangsan kaole   yikuai dangao gei   mama.

        Zhangsan bake-Asp one-Cl cake   give mother

        Zhangsan baked a cake for his mother.

14.   *Zhangsan kaole 0 fen gei mama.

        Zhangsan get-Asp 0 score give mother

        Zhangsan got 0 score which for his mother.

Besides prepositional dative, they show different behaviors in topicalization, which is a typical character of preposition phrases. Topicalization is free for benefactive "*gei*" but not for affected "*gei*":

15.   gei   Lisi, Zhangsan maile   yihu   jiu.

        give Lisi, Zhangsan buy-Asp one-CL wine

        For Lisi, Zhangsan bought a bottle of wine.

16.   *gei   Lisi, Zhangsan   heguangle   yihu   jiu.

         give Lisi, Zhangsan   drinkover-Asp one-CL wine

         Zhangsan drank over a bottle of wine, which does Harm to Lisi. (maybe because it is Lisi's wine.)

Normally in Mandarin, prepositional phrases can freely undergo topicalization, but verbal phrases cannot, since the latter needs a constituent to C command it. The discrepancy in topicalization and prepositional dative indicates that benefactive "*gei*"

is a preposition, "*gei NP*" as an adjunction can move freely. Whereas affected "*gei*" behaves more like a verb, which has a fixed position in syntactic structure and cannot be displaced easily.

3.2 Projection height

In addition, benefactive and affected "*gei*" shows asymmetry when interacting with wh-adverbial "*zenme*" and modal verb "*hui*". According to Tsai (2008, 2010) there are 2 interrogative "*zenme*" in Mandarin, "*zenme1*" is asking for reason or cause, "*zenme2*" for manner or instrument. The 2 meanings of "*zenme*" can be differentiate by several landmarks such as temporal adverbial "*zuotian*", frequantive adverbial "*changchang*", negative operator "*bu*" and so on. The semantic difference can be reflected in the syntactic structure: "*zenme1*" lies in IP layer while "*zenme2*" is lower to the vP periphery. We find that when "*zenme*" precedes benefactive and affected "*gei*", the accessible meanings of "*zenme*" are different. For the benefactive "*gei*", it can be "*zenme1*" or "*zenme2*" but for affected "*gei*", only "*zenme1*" is available.

17. Zhangsan zenme   gei Lisi kaiche?

    Zhangsan how   give Lisi drive

    How does Zhangsan drive for Lisi?

    How come Zhangsan drives for Lisi?

18. Zhangsan zenme   gei   jiali   chuangle dahuo?

    Zhangsan   how   give   home bring- Asp trouble

    *How does Zhangsan make big trouble for his family?

     How come Zhangsan make big trouble for his family?

   17 is ambiguous, with the wh-adverbial "*zenme*", the sentence can be construed as a question asking for the method or for the cause of "driving car". But 18 does not show the ambiguity. With "*zenme*" ahead of affected "*geiNP*", it cannot be used to ask for method, only causal reading is available.[3] If we want to ask the method or instrument,

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[3] Unless we focalize the "*zenme*", here we argue that the focus can license the method or manner reading of "*zenme*".

"*zenme*" must follow "*geiNP*" or we can replace the "*le*" with "*de*"[4].

For the modal verbs "*hui*" and "*yao*", things are quite similar: According to Tsai(2010) "*hui*" and "*yao*" can denote dynamic modal, deontic modal and epistemic modal. They occupy more than one position in the syntactic structure: dynamic modal behaves like a control verb projecting between V and v(voice), below the inner subject and denoting the ability of the agent. Deontic modal projects between inner and outer subject, with a wild interpretation domain. Epistemic modal is a raising predicate which locates in the left periphery, higher than the TP and outer subject. When "*yao*" co-occurs with benefactive "*gei*", we can get the 3 meanings. But for affected "*gei*", only epistemic meaning is accessible.

19. Zhangsan   yao   gei Lisi kaiche.

   Zhangsan MOD give Lisi drive-car

   Zhangsan want to drive the car for Lisi. (he is willing to do that)

   Zhangsan should drive the car for Lisi. (for he is the private driver of Lisi)

   Zhangsan will drive the car for Lisi. (I am not sure)

20.   Zhangsan   yao   gei   mama   chuanghuo le.

   Zhangsan MOD give mother make trouble

   Zhangsan will make trouble for his mother. (For Zhangsan is a very naughty boy)

From 19 to 20, we can see when modal verbs precede the affected "*geiNP*", only epistemic reading is felicitous but when it cooccurs with benefactive "*gei*", epistemic, deontic and dynamic construals are all available. We think the incompatibility between affected "*gei*" and deontic or dynamic modal lies in complemental selection. Affected "*gei*" can only be the complement of epistemic modal, which takes an IP as complement. But benefactive can be the complement of deontic and dynamic modal, which can take vP as its complement. So that there must be an IP projection in 20 to guarantee it to selected by an epistemic modal. But the benefactive "*gei*" doesn't indicate an IP but a

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4 Here we believed that "de" is the retained part of "shi…de," with "shi" omitted. In Tsai(2010), he mentioned "*shi…de*" is the gray zone of "zenme1" and "zenme2", so "zenme" here can ask for manner or method. But the mechanism is still not clear. Since it is beyond the content of this paper. We will leave the question unresolved.

vP projection, so it can become the complement of the dynamic modal or deontic modal. Therefore, the complemental selection constraints of modal verbs can help us determine the projection height of the 2 "*gei*". Affected "*gei*" indicates an IP projection, but benefactive "*gei*" only embodies a vP. Therefore affected "*gei*" projects higher than benefactive *"gei"*.

Another evidence to show affected "*gei*" and benefactive "*gei*" projects in different positions is their interaction with certain adverbs, affected "*gei*" can precede or follow the subject oriented adverbs but benefactive "*gei*" can only follow them:

21.　　Zhangsan　gei　mama　　guyi　　　dasuile　huaping.

　　　　Zhangsan give mother intentionally　broke-Asp vase

　　　　Zhangsan broke the vase intentionally on his mother.

22.　　Zhangsan guyi　　　　　gei mama　　dasuile huaping.

　　　　Zhangsan intentionally give mother　broke-Asp vase

　　　　Zhangsan broke the vase intentionally on his mother.

23.　　Zhangsan ziyuan　　　gei Lisi xie zuoye.

　　　　Zhangsan voluntarily give Lisi do homework

　　　　Zhangsan did homework for Lisi voluntarily.

24.　　*Zhangsan gei Lisi ziyuan xiezuoye.

　　　　　Zhangsan　gei Lisi ziyuan　xie zuoye

　　　　　Zhangsan voluntarily give Lisi do homework.

　　The same for the repetitive adverb again "*you*"

25.　　Zhangsan　gei mama you　　　dasuile heaping.　(zuotian dasuile yige beizi)

　　　　Zhangsan give mother again　broke-Asp vase

　　　　Zhangsan broke the vase on his mother again.

26.　*Zhangsan gei Lisi you　xiule che.

　　　　Zhangsan give Lisi again fix-Asp car

　　　　Zhangsan fixed the car again for Lisi.

The above diagnostics show that Affected "*gei*" projects higher than benefactive "*gei*". Following LCA, benefactive "*gei*" is lower than wh adverbial "*zenme*", lower than subject oriented adverb and repetitive adverb, so we locate it above VP and below vP.

Affected "*gei*" is higher than wh adverbial "*zenme*", subject oriented adverb and repetitive adverb, so it must project above vP and below IP.

3.3 At-issue and Not-At-issue meaning

In Bosse (2012,2015), another important diagnostic to show that there are various types of applicative arguments introducer is through testifying which tiers of meaning they encode. There are 2 tiers of meaning: at issue meaning and not at issue meaning. The pair of definition is introduced by Potts (2005). According to him, besides the truth condition (propositional meaning) derived by semantical composition, there is another tier of meaning which is not from compositionality but conventional implicature. The former is at issue meaning and the latter is not at issue meaning. Not at issue meaning is independent of the truth condition. It is carried by a particular lexical item, viewed as the convention or background information but still different from presupposition. Not at issue meaning is usually speaker oriented and interacting with discourse, so it projects into a relatively high position and sometimes shows root clause effect. Bosse (2012,2015) used some tests to identify the 2 tiers of meaning, they are yes/no questions, negations, wh questions, condition clause and bound variable reading. It is said that not at issue meaning cannot be questioned and negated alone, it does not contribute truth condition in if clause, the quantifier in not at issue tier part cannot bind a variable in the at issue part. Using the 5 diagnostics, we can determine the tier of meaning to which a certain syntactic object contributes. There are 3 possibilities: totally at issue meanings, totally not at issue meanings, and a mixture of at issue and not at issue meanings. Bosse (2015) showed German and English affected applicatives contribute some not at issue meaning but in French and Hebrew affected applicatives are totally not at issue meaning. Nevertheless, benefactive applicative only contributes to at issue meanings, there is a parametric variation among the affected applicative. Let's come to see it in Mandarin.

We applied the 5 diagnostics in Mandarin "*gei*" construction and find that things are quite similar to German. Affected "*gei*" construction contributes to both at issue and not at issue meaning and benefactive "*gei*" construction totally contributes to at issue meaning:

For negation, affected "*gei*" can escape away from the scope of negation, it cannot be negated alone.

27.   Zhangsan meiyou gei Lisi   chuanghuo.

   Zhangsan Neg   give Lisi bring trouble

   Zhangsan didn't make trouble for Lisi.

28.   Zhangsan meiyou gei   Lisi kaiche.

   Zhangsan Neg   give Lisi drive car

   Zhangsan didn't drive for Lisi.

As we can see from the negation test, 27 means that Zhangsan did not apply the action of making trouble. If he did make trouble but the maleficiary is not Lisi but others, we cannot just simply say 27 but have to explain. Therefore, 27 is felicitous only when the event which the main verb denotes does not happen at all, unless we focalize "*gei Lisi*". That is to say, the maleficiary cannot be targeted by negation alone unless the whole event is negated. While in benefactive, either in the situation that Zhangsan didn't apply the action at all or Zhangsan drove the car not for Lisi but for other people, 28 is absolutely felicitous. So benefactive can be negated alone while malefactive cannot, which suggests that affected "*gei*" can escape away from the scope of negation but benefactive "*gei*" cannot. Although the negative marker "*meiyou*" adjacent to "*gei*" superficially, it is always the case that the main predicate is negated but not affected "*gei*". it can be accounted for if affected "*gei*" does not contribute to semantic compositionality but another tier of meaning, specifically, not as issue meaning tier so that it cannot be negated. The mechanism is like this: Zhangsan didn't make trouble, if he did, then Lisi must be the person affected by it. For the benefactive "gei", it can be negated alone within the scope of negative operator. It is a part of semantic compositional meaning.

It is the same for A not A question in Mandarin[5]:

29.   Zhangsan geimeigei   Lisi chuanghuo ?

   Zhangsan give-not-give Lisi bring trouble

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[5] ma question is the typical counter part of yes/no question in English, but the difference between benefactive gei and affected gei is not that obvious compared A not A.

Did Zhangsan make trouble for Lisi?

30. Zhangsan   geimeigei   Lisi   kaiche?

Zhangsan give-not-give Lisi   drive car

Did Zhangsan drive car for Lisi?

A not A question has the same interrogative force as yes/no question in Mandarin. Native speaker's intuition is like that: in 29, although "A not A" operates on "*geiNP*", the interrogative force is applied to the main predicate. The speaker is asking whether Zhangsan did the action of "making trouble" but not whether the trouble is made for Lisi, actually, if the event of "making trouble" did happen, Lisi must be the maleficiary. And merely answering "no" doesn't mean that the event took place but did not matter to the maleficiary. If the reality is as such, the explanation after "no" is a must. But in 30, the speaker who raised the question wonders whether Zhangsan did the action of driving the car or whether the person who benefits from the driving event is Lisi. Now if the truth is that Zhangsan did drive the car but not for Lisi. We can simply say "no". This contrast is another evidence to suggest affected "*gei NP*" encodes not at issue meaning but benefactive "gei" contributes to at issue meaning.

For the wh question, if clause and bound variable reading. Benefactive "*gei*" and malefactive "*gei*" behaves alike as they can both be questioned, contribute to the truth condition in if clauses and bind a variable carrying at issue meaning.

31.   Zhangsan gei   shui chuangleho?

Zhangsan give who make-Asp-trouble

Who did Zhangsan make trouble for?

32.   Zhangsan gei shui kaiche?

Zhangsan give who drive car

Who does Zhangsan drive car for?

33.   Ruguo Zhangsan gei   mama chuanghuo ,   mama hui hen shengqi

If   Zhangsan give mother make trouble, mother will very angry

If Zhangsan makes trouble for his mother, his mother will be very angry.

34.   Ruguo Zhangsan gei   Lisi kaiche ,   Lisi hui fu   ta qian.

If   Zhangsan give Lisi drive can,Lisi will pay him money

If Zhangsan drives car for Lisi, Lisi will pay him.

35.   Zhangsan gei   meige   tongxue$_i$ dapo le   ta$_i$ de   beizi

Zhangsan give every-CL   classmate$_i$ brokeAsp   he$_i$De cup

Zhangsan broken his$_i$ cup on every classmates$_i$.

36.   Zhangsan gei   meige   tongxue$_i$ ji le   ta$_i$ xihuan de liwu.

Zhangsan give every-CL classmates$_i$ send-Asp he$_i$ like-De gift

Zhangsan send every classmates$_i$ his$_i$ favourite gift.

Being a wh in situ language, the maleficiary and beneficiary NP in Chinses can be replaced by the wh word "*shui*" directly to form a wh question, requesting the information about the affected experiencers. And maleficiary and beneficiary NP do contribute to the truth condition to fulfill the if clause. In 23 only when Zhangsan make troubles for his mother but not others will his mother be angry. 24 is the same. Last but not least, the quantifier "gei" introduces can bind a variable in its C command domain. These tests show that affected "*gei*" constructions also contributes at issue meaning.

As we can see form above, the five diagnostics help us further distinguish affected and benefactive "*gei*" constructions in Mandarin. As the maleficiary cannot be negated and questioned alone, it contributes some not at issue meaning. But it can be replaced by a wh phrase or a quantifier and contributes meaning in if clause, therefore it also encodes at issue meaning. Whereas the benefactive "*gei*" construction passes all the five tests, it only contributes to at issue meaning. In a word, the situation in mandarin is very similar to that in German and English. Cross linguistic evidences give us more confidence to differentiate the 2 "*gei*" constructions.

3.4 Complement selection

Before talking about the complement selection of "*gei*", let's move away to something related to gapless passive. We find that for the affected "*gei*" construction, there is always a paraphrasing with the form of gapless passives, i.e. passivize the object of "gei" and omit the "gei" at the same time, or "gei" retained with an obligatory resumptive pronoun. But beneficiary cannot be passivized because of infelicity.

37.   Zhangsan bei Lisi   (geita)   dasuile   sange huaping.

Zhangsan BEI Lisi (give him) broke-Asp   3-CL vase

Zhangsan is suffered from Lisi's breaking 3 vase.

38.   #Zhangsan bei Lisi   (gei ta)   xile   sanjian yifu.

#Zhangsan BEI Lisi (give him)wash-Asp 3-CL clothes

#Zhangsan is suffered from Lisi's washing clothes.

This difference is a semantic issue, since passive in mandarin tend to express some sufferings or unsatisfactory event. It is not compatible with benefactive "*gei*" but felicitous when combining with affected "*gei*", with the maleficiary as the subject. According to Huang (1999), gapless passive is actually a affected construction, the subject of which being the "outermost" object of the predicate, semantically, the affectee. This kind of gapless passive is detailed analyzed in Lin (2009, 2015), it is believed that the gapless "*bei*" selects an accomplishment event as its object. The null operator is inserted into the TP level directly and binds the event variable in T, which can satisfy the selective requirement of "*bei*". If each affected "*gei*" construction has a corresponding gapless passive which selects an accomplishment, then in the affected "*gei*" construction, "*gei*" must also select an accomplishment event.

The difference becomes clearer when we depict the complement selection in terms of event aspectuality: affected "*gei*" only takes a complex bounded event which entails activity and result as its complement but benefactive "*gei*" is compatible with all kinds of situation types. In most cases, a complex bounded event denotes accomplishment:

39.   Zhangsan gei Lisi nongdiu le qianbao.

Zhangsan give Lisi lost -Asp purse

Zhangsan lost the purse on Lisi.

40.   Zhangsan gei Lisi   kaole   yikuai dangao.

Zhangsan give Lisi bake-Asp one-CL cake

Zhangsan baked a cake for Lisi.

For achievement event and activity event, they cannot be the complement of affected "*gei*" but are licensed in benefactive "*gei*". Due to its meaning, a stative event is not compatible with both benefactive and affected event:

41.   Zhangsan gei   xuexiao yingle   bisai.

Zhangsan give school   win-Asp competition

Zhangsan won the competition for school.

42.   *fanren gei jingcha taopao-le.

Prisoner give police run away-Asp

The prisoner ran away on the police.

43.   Zhangsan gei laoban paotui.

Zhangsan give boss   run-errands

Zhangsan runs errands for the boss.

44. *Zhangsan gei mama dazhejia.

Zhangsan give mother fighting

Zhangsan is fighting on his mother.

Namely, affected "*gei*" requires its complement carrying the resultative meaning but benefactive doesn't have this requirement. Accomplishment event denotes a complex bi-event structure: a causative event leads to a resultative event, with a "change of state" meaning and the appearance of a result(end state). We believe that the result acts as the source of affectedness, therefore the predicate in affected "*gei*" construction must entail a newly coming result. The maleficiary introduced by "*gei*" is affected by the appearance of the result. In mandarin, accomplishment event usually takes the form of verbal compounds, resultative *de* complement, locative and goal complement and transitive verbs with numeral phrase as its object. All of these constructions are compatible with affected "*gei*":

45. Zhangsan gei Lisi   nonghuai le diannao.

Zhangsan give Lisi broke-bad Asp computer

Zhangsan broke the computer on Lisi.

46. Zhangsan   gei Lisi ba gongzi huihuo de yifen bushing.

Zhangsan give Lisi Ba wage squander De onecent Neg left

Zhangsan squandered all the money of Lisi.

47. Zhangsan guyi   gei Lisi ba   wenjian   lazai Taibei.

Zhangsan intentionally give Lisi BA document left-in Taibei

Zhangsan intentionally left the document in Taibei on Lisi.

48. Zhangsan   gei Lisi   ba qianbao   diujin   le lajitong.

Zhangsan   give Lisi BA purse   throwinto Asp bin

Zhangsan threw the purse into the bin on Lisi.

But other transitive verbs which don't entail a result are not licensed in affected "*gei*":

49. *Zhangsan gei mama   xiang buqu   shangxue.

Zhangsan   give mother want   Neg   go to school

(intended meaning) Zhangsan doesn't want to go to school, which influenced his mother negatively.

50. *Zhangsan gei lisi zhidao le zhege xiaoxi[6] .

Zhangsan give Lisi knew Asp this-Cl news

(intended meaning) Zhangsan knew the news which influenced Lisi negatively.

In 49 the intentional verb "*xiang*" and 50 the sense verb "*zhidao*" do not entail a result in the predicate, therefore, they are infelicitous in the affected "*gei*" construction.

In terms of syntactic categories of the complement, affected "*gei*" tends to license transitive verbs as their complement, unergative and unaccusative verbs cannot be the selected by it. transitive verbs have a theme which is more or less being affected, so the event is more possible to affect someone related to the theme, most probably, the possessor of the theme(which is implied but not entailed in syntactic strcture). Benefactive can license all kinds of verbs: transitive, unergative and unaccusative.

In the affected "*gei*" construction, the resultative meaning entailed in the main predicate is the key factor. This requirement is related to the fact that the event which VP denotes acts as the source of the affected event. A bounded event with a newly coming result is more appropriate to affect others than an unbounded one. This is the selection restriction between affected "*gei*" and its complement. As for the benefactive construction, it is more flexible, no such semantic requirement is detected.

In summary, we can see benefactive and affected "*gei*" are different in many aspects: in topicalization and prepositional dative variant, affected "*gei*" is more like a verb but

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[6] The sentence is totally fine when "gei" is the passive marker. The sentence means Zhangsan was suffered from Lisi knowing the news. But not Lisi is the affectee but Zhangsan is the agent. The latter is the meaning of affected "gei" construction.

benefactive "*gei*" behaves like a preposition. When taking some adverbs as landmark, we can see that affected "*gei*" projects higher than benefactive "*gei*". Concerning the its scope interaction with negation and yes/no question, affected "*gei*" encodes both at issue meaning and not as issue meaning but benefactive "*gei*" only contributes to at issue meaning. Last but not least, affected "gei" only selects accomplishment event which entails some result as its complement, but benefactive "gei" can select all situation types.

4.The split analysis of benefactive and affected "gei"

All these different behaviors between the 2 "*gei*" remind us that we need a fine-grained discrimination about the non core arguments introducer "*gei*". It is not a mere preposition, but allotropes lie in different positions in the syntactic structure. The differences in topicalization, prepositional dative and complement selection suggests that affected "*gei*" behaves more like a verb or a functional head, it cannot be freely displaced and it imposes a semantic selection on its complement. More importantly, it encodes a new affected event. While benefactive "gei" is more like a preposition which adjuncts to the main predicate, introducing a non core argument and enriches the original event structure but not bring in a new event.

We will follow Bosse (2012,2015)'s analysis on German and English affected applicatives and argue the affected "*gei*" is an Affect head projecting above the vP layer, it introduces an affected argument on its specifier and takes an event as its complement. Affect head "*gei*" introduces a new affected event on the ground of the main predicate, which act as the source of the affected event. "*gei*" both encodes at issue meaning and not at issue meaning: the existence of the affected event and the affected experiencer is at issue meaning, the complement event acting as the source of the affected event is encoded as not at issue meaning. This Affect head enriches the event structure by introducing a new affected event and form a complex bi-event. With affected "*gei*", we have a complex event with 2 subevents: the affected event and its source event, the affected experiencer is not directly involved in the source event but undergoes some

affectedness from it. The 2 event arguments are provided by the V and Aff head respectively. As for the benefactive "*gei*", it is a preposition located in the vP periphery, introducing a NP and assign the "beneficiary" role to it. The PP acts as an adjunction, so quite flexible for movement. In terms of semantics, it is a predicate modifier and enriches the argument structure of the main predicate, not introducing a new event. With benefactive "*gei*", the proposition is still a simple event which contains only one event argument.

Since the affected event takes an event as its complement. Therefore, the Aff head should projects higher than voice P so that "*gei*" can take a complete event as its source. And we mentioned the different behaviors when the 2 "*gei*" interacting with wh-adverb "*zenme*", modal verb "*hui*" and a serious of adverbials. We consider these phenomena as evidence to show that affected "*gei*" projects higher than benefactive "*gei*". We are sure that as a PP, benefactive "*gei*" locates in the vP periphery, so affected "*gei*" must projects higher than vP phase, i.e above vP. Taking all these syntactic and semantic factors into consideration, we tend to locate the Aff head projects higher than VoiceP and take a "mini proposition" as its complement, which contains all the necessary participants of an event, in 51.

51.
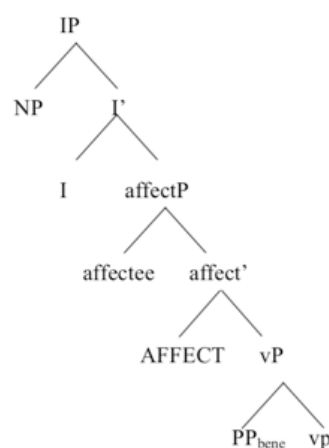
Projection height alone cannot completely account for the differences between affected "*gei*" and benefactive "*gei*". Considering the tiers of meaning they encode, the meaning of the affect head and benefactive preposition is different:

The meaning of the Affect head is as follows:

Aff = λPvt.λx.λe. P(e) & ∃e'(exper(e') & Exp(x)(e')): ∀e''(P(e')→Source(e')(e''))
∈ D<vt,e vt>　　Source →λe.λe'. e is the source of e'

Here before the colon is the semantic interpretation derived by compositionality i.e. at issue meaning, after which is the not at issue meaning, that the second event e'' is the source of the affected e' is implied by conventional implicature.

However, for the benefactive "*gei*", it is merely a preposition or applicative marker, so it saturates the event argument by adding predication modification.

λe. buy(e) & Thm(e)(a book) & Agt(e)(zhangsan) & benefaciary(e)(Lisi)

Up to now, we have differentiated the 2 "*gei*" in terms of their category, syntactic position and semantic interpretation. All the data above support the split analysis of the affected argument introducer "*gei*".

5. From affected and benefactive "*geiNP*" to "*geiwo*" construction

5.1 outer affected "*geiwo*" construction:

According to our analysis in Section 4. The affected "*gei*" is a semi-lexical verb which introduces an affected event, with an affected argument in its spec position and a source event as its complement. The affected head contributes both at issue meaning and not at issue meaning and projects in the inflectional layer, enriching the event structure. What needs to be point out here is that the affected argument (maleficiary) which "*gei*" introduces can be any full NP or pronoun, the referent of which is affected by the source event. Interestingly, Mandarin has another "*geiwo*" construction, this "*gei*" also conveys affected meaning, but the affectee can only be the first singular pronoun "*wo*". Other kinds of NP are not licensed. For example:

52.　　Zhangsan　juran　　　geiwo　　　hele　san ping jiu!

　　　　Zhangsan unexpectedly give me　drunk-Asp three CL wine

　　　　Unexpectedly,　Zhangsan drunk 3 bottles of wine on me!

53. *Zhangsan　juran　　　gei ni/nimen/tamen/Lisi hele　san ping jiu!

　　　　Zhangsan unexpectedly give you/they/Lisi　　drunk-Asp three CL wine

　　　　Unexpectedly, Zhangsan drunk 3 bottles of wine on you/them/Lisi.

The affected argument which "*gei*" introduces can only be the first person singular pronoun, referring to the speaker. The speaker isn't affected virtually by the wine drinking event, put it another way, he is not the possessor of the wine. But he suffered from the drinking event psychologically, for instance, the speaker is a doctor who warned his patient not to drink wine. But his patient is not very obedient and drunk 3 bottles of wine today. When the doctor knew the fact, he can say this sentence to express his disappointment, anger and unsatisfaction with his patient.

Tsai (2012) has given a detailed analysis of this "*geiwo*" construction. He argued that it is a high applicative head in Mandarin which projects in CP layer. "*geiwo*" needs an obligatory evaluative adverb "*juran*", "*que*" or other moods as its licenser, which indicates that it is speaker oriented and closely related to the information structure. There is no doubt that this "*geiwo*" is closely related to the affected "*gei*" we are focusing in the previous section. In fact we believe that they are the same affect heads but project in different layers, with "*geiwo*" is highly enough to the left periphery. Next we will elaborate the syntactic and semantic differences between the affected "*gei NP*" and "*geiwo*".

5.1.1 the force of the sentence:

In Tsai (2012), he mentioned that the affected "*geiwo*" need an obligatory licenser "*juran*". The evaluative adverbial encoding "out of expectation" meaning, acting as the focus operator which introduces a presupposition that the event denoted by the main predicate should never happen. We find "*juran*" is not obligatory as long as the sentence carried the exclamative force. The licenser of the sentence is the exclamative force projecting in the highest position under the split CP perspective. For native speakers, it is easy to perceive the different intonation between "*geiwo*" construction and affected "*gei*" construction. Compare the sentence:

54. Zhangsan   juran   geiwo   chuangle dahuo!

    Zhangsan unexpectedly give me   make-Asp big trouble

    Unexpectedly,   Zhangsan made a big trouble on me.

55. Zhangsan ai   geiwo   chuanghuo.

    Zhangsan love give me make-trouble

Zhangsan loves to make trouble on me.

The former has an exclamative force while the latter is a plain declarative sentence. Exclamative force carries speaker's attitude and emotion about the event, "*geiwo*" specify the feeling is that the event is negative to her, she suffered psychological affectedness from the event. She doesn't need to receive any virtual influence but only emotionally affected. Without the exclamative mood, "*geiwo*" loses all its speech act effect and turns back to the lower affected "*gei*" and the virtual affectedness. Therefore we believe that exclamative force is the true licenser of the affected "*geiwo*", the evaluative adverb "*juran*" is compatible with affected "*geiwo*", without which the "out of expectation" meaning can be inferred by the psychologically affected feeling of the speaker.

5.1.2 Syntactic position

We agree with Tsai (2012), the affected "*gei*" in "*geiwo*", as the highest applicative marker (or another affected head in our story), projects in the CP layer. This is not only evidenced by its obligatory licenser, speaker orientedness and information structure characteristic, but its interaction with other elements which act as hallmarks of syntactic layers. Under the cartographic approach, we can precisely anchor the syntactic position of "*geiwo*" and clearly manifest the difference between the 2 apparently similar affected "*gei*".

First, "*geiwo*" always follow the evaluative adverbial "*juran*", so it projects lower than the evaluative head. And "*geiwo*" can take epistemic modal as its complement, which indicates that "*geiwo*" should be higher than epistemic modality.

56. Zhangsan juran   geiwo keneng   laibuliao!

Zhangsan unexpectedly give me possibly come-Neg-Le

Intended meaning: unexpectedly, Zhangsan possibly not attended (the meeting), which affected me negatively.

Besides, "*geiwo*" can precede temporal adverbs while affected "*gei NP*" follows them: which means that "*gei NP*" is lower than TP while "*geiwo*" is hierarchically higher than TP:

57. Zhangsan   juran   geiwo zuotian jiu   likaile   Beijing.

   Zhangsan unexpectedly give me yesterday just leave-Asp Beijing

    Unexpectedly, Zhangsan left Beijing yesterday on me.

58. *Zhangsan   gei mama zuotian   dapo le   huaping.

    Zhangsan give mother yesterday broke-Asp vase.

    Zhangsan broke a vase on his mother testerday.

   Affected *"geiNP"* follows the negation marker *"meiyou"* but affected " *geiwo"*
precedes it.

59. Zhangsan meiyou gei mama chuanghuo

    Zhangsan Neg   give mother make trouble.

    Zhangsan didn't make trouble for his mother.

60. Zhangsan juran   geiwo   meiyou qu shangxue!

    Zhangsan unexpectly give me Neg   go   school.

    Zhangsan didn't go to school unexpectedly on me!

   At last, affected "*gei NP*" can be embedded in the relative clause but "*geiwo*" cannot:

61. Zhangsan gei Lisi nong diu de nage qianbao.

    Zhangsan give Lisi   lost   De that-CL purse

    The purse which Zhangsan lost on Lisi.

62. *Zhangsan   juran   geiwo nongdiu de nage qianbao

    Zhangsan unexpectedly give me lost   De that purse.

    Intended meaning: The purse which Zhangsan unexpectedly lost on me.

Interestingly, "*geiwo*" and "*geiNP*" can cooccur in one sentence with *"geiwo"*
preceding "geiNP":

63. Zhangsan juran   gei wo guyi   gei laosi   daoluan!

    Zhangsan unexpectedly giveme intentionally give teacher make trouble!

    Unexpectedly, Zhangsan intentionally made troubles for the teacher, which has a

    negative influence on me.

    Above tests show that affected "*geiwo*" projects lower than evaluative adverb but
higher than epistemic modality and temporal adverbial. Temporal adverbial marks the

periphery of TP, so affected "*geiwo*" is above TP. In addition, "*geiNP*" follows negation and can be negated with the main predicate, but "*geiwo*" cannot. Namely, "*geiwo*" is a positive polarity item which expresses the speaker's subjective attitude towards the proposition, it cannot be falsified by means of negation. But "*geiNP*" contributes to some at issue meaning therefore it can be negated. If "*meiyou*" is located in TP, then "*geiwo*" must be higher than TP. "*geiwo*" shows root clause effect as it cannot be embedded in the relative clause, but the affected "*geiNP*" can. So "*geiwo*" cannot be a part of the root clause. The added phenomena confirm the differentiation between the 2 affected "*gei*" is necessary and reasonable, with "*geiwo*" projects higher in the CP periphery, precisely, lower than evaluative head but higher than epistemic modal and temporal phrase, while "*gei NP*" is lower into the vP periphery.

5.1.3 The tier of meaning "*geiwo*" contributes

Another difference between "*geiNP*" and "*geiwo*" lies in the meaning tiers they contribute. This can be confirmed by the not/at issue meaning tests we mentioned before: yes/no question, negation, wh-question, if clause and bound variable reading availability. In section 3 we applied 5 diagnostic tests to the affected "*gei*", the result reflects that it encodes both at issue meaning and not at issue meaning. Now we apply the tests to the affected "*geiwo*", we find this higher affect head "*gei*" only contributes to not at issue meaning. Put it another way, it does not contribute to the truth condition at all, this is reasonable if it projects higher than TP, out of the domain of semantic compositionality. The affected meaning is carried through conventional implicature, in a pragmatic way:

64.　Zhangsan juran　　　　　geiwo　nonghuaile diannao.

　　　Zhangsan unexpectedly give me break-Asp computer

　　　Unexpectedly, Zhangsan broke the computer on me.

65.　*Zhangsan juran　　　　gei wo nonghuai le diannao ma?

　　　Zhangsan unexpectedly give me break-Asp computer Q

　　　*Did Zhangsan unexpectedly break the computer on you?

66.　*Zhangsan juran　　　　mei　geiwo　nonghuai diannao.

Zhangsan unexpectedly   Neg give me break   computer

*Unexpectedly, Zhangsan broke the computer but not on me.

67. *Zhangsan juran   gei shui nonghuai le diannao?

Zhangsan unexpectedly give who break-Asp   computer

*Who does Zhangsan unexpectedly break the computer on?

68. Ruguo Zhangsan geiwo   nonghuai diannao, wo jiu fa   ta qian!

If   Zhangsan give me break   computer, I will fine him money

If Zhangsan break the computer on me, I will fine him.

As is showed above, "*geiwo*" cannot stay in the scope of negation and yes/no question. This is the same as the affected "*gei*". However, unlike the *NP* introduced by the lower "*gei*", the first person pronoun "*wo*" cannot be questioned and does not contributed to the truth condition in if clause. In 68, I will fine Zhangsan if he broke any computer as long as the event disappoints me, the computer neither needs to be mine nor I should undergo some virtual loss because of the breaking event. So "*geiwo*" does not contribute to any truth value in the conditional clause. As for the last diagnostic test, since "*gei*" only licenses first person pronoun as the affected argument, it cannot be replaced by any quantifier, therefore bound variable reading is unavailable. In summary, "*geiwo*" fails all the five diagnostic tests, it only contributes to not at issue meaning.

5.1.4 The requirement on the complement

Furthermore, verbal restriction reveals another difference between the 2 "*gei*". We mentioned that affected "*geiNP*" only licenses transitive verb which denotes an accomplishment event with resultative meaning. Intentional or sense verbs without direct resultative meaning cannot be the complement of "gei", unergative verbs and unaccusative verbs cannot be licensed, either. This requirement is no longer attained in the higher "*geiwo*" construction.

"*geiwo*" can also take unergative and unaccusative verb as its complement:

69.   Fanren   jutan   gei wo   paole!

Prisoner unexpectedly   give me run away-Asp

Unexpectedly, the prisoner run away on me!

70. Zhangsan juran geiwo kule!

Zhangsan unexpectedly give me cry-Asp

Unexpectedly, Zhangsan cried on me!

Affected "*geiwo*" can take intentional complement or irrealis mood (negation *meiyou*) but "gei NP" cannot:

71. Zhangsan juran geiwo xiang bu qu shangxue!

Zhangsan unexpectedly give me want not go school

Unexpectedly, Zhangsan doesn't want to go to school on me!
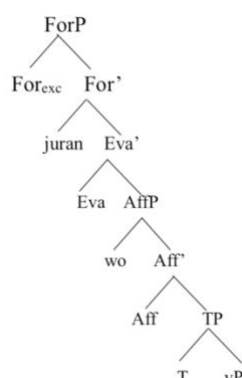
72. *Zhangsan gei mama xiang bu qu shangxue.

Zhangsan give mother want not go school

Intended meaning: Zhangsan doesn't want to go to school, which affected his mother.

Affected "*geiNP*" can neither take intentional predicates nor intransitive verbs as its complements. It can only choose a predicate which entails resultative meaning. But the affected "*geiwo*" does not show this semantic restriction, resultative meaning is not a prerequisite for "*geiwo*", it can take realis and irrealis mood (include negation) in its scope, and freely take any kind of predicate as long as it psychologically affected the speaker.

According to the above analysis, we locate the affected "*geiwo*" in the CP layer, it is companied with the exclamative force or evaluative adverb. Semantically, "*geiwo*" encodes speakers' psychologically affected meaning or negative, unsatisfactory attitude toward the event. It is an affect head lower than evaluative head but higher than epistemic modal and TP, with an exclamative force projects highest, as 73 shows:

73.

```
              ForP
             /    \
         For_exc  For'
               /      \
           juran     Eva'
                    /    \
                  Eva    AffP
                        /    \
                      wo     Aff'
                            /    \
                          Aff     TP
                                /    \
                               T     vP
```

In summary, the affected head "*gei*" cannot only project in vP phase but also in CP phase, with the same affected meaning. When affected "*gei*" projects higher in CP, it is speaker-oriented, encoding speakers' negative attitude and affected emotion, that's why the affected argument can only be the first person singular pronoun, on the ground of the speech act, it expresses the mental or psychological affectedness. When the affect "*gei*" located in the vP periphery, it is propositional oriented, encoding the truth condition, so that the affected argument can be any full NP, on the ground of the proposition meaning, it expresses the virtual or factual affectedness. So the meaning of affectedness is unified to the meaning of different layers in the syntactic structure, which is in line with the spirits of cartography.

5.2 Imperative "geiwo" construction:

Similar to "*gei*", "*geiwo*" is a polysemantic chunk. Besides encoding speakers' abstract psychological affectedness and negative attitude, "*geiwo*" has a more well-known usage which appears in imperative sentences, expressing speakers' strong order or strong desire to have the listener enforcing an action. The speaker strongly wants something to happen because it is beneficial to her[7]. The sentence can be paraphrased as "for my benefit (for god's sake), I command you to …"：

74. Ni gei wo zhan zhu!

You give me stand still

---

[7] The imperative mood is usually in companying with the unsatisfactory or affected emotion about the current situation. So it can be viewed as another kind of affectedness: the speaker is negatively affected by something not happening, so she desperately want the action come true.

You stand still and I want this to happen!

75. Geiwo   ba hua   shuo qingchu zai zou!

   Give me BA words say clear then go

   Explain yourself clearly then go away, I want this to happen!

   On the ground of strong order meaning, rebuke or warn can also be involved in. This kind of meaning is even strongly subjective. Here the argument which "*gei*" introduces can only be the first person singular pronoun "*wo*", referring to the speaker. The speaker will get a special interest (usually mental or psychological satisfaction) so that she strongly wants the event to come true. Again, she is not directly involved in it but only benefit from the happening of the event. Paralleling to the affected "*geiwo*" and affected "*geiNP*", this imperative "*geiwo*" comes from the benefactive preposition "*gei*" merging higher in CP and co-occurs with the imperative mood. The final position of "*gei*" determines its interpretation, it does not introduce a virtual beneficiary related to the event, whereas a potential beneficiary or a psychological beneficiary if the event comes true.

   We will concentrate on the characteristic of the imperative "*geiwo*". Like affected "*geiwo*" needs exclamation force, the imperative "*geiwo*" construction is only licensed by the imperative mood, more precisely, directive mood:

76. Geiwo   zhan qilai!

   Give me stand up

   Stand up for my sake!

77. Bie   gei wo Zhuang sha!

   Neg give me pretend fool

   Don't pretend to be a fool for my sake!

Any other clause type cannot be licensed. The speaker orientedness and imperative licenser remind us to locate it in CP layer, which is evidenced by its preceding temporal adverb and root clause effect:

78. Geiwo   mingtian zai lai.

   Give me tomorrow again come

   Come here again tomorrow, for my sake!

79. *ni   geiwo   zuoxia de shihou, Zhangsan zai xiao.

You give me sit down DE time, Zhangsan PROG laugh

Intended meaning: When you sit down for my sake, Zhangsan was laughing.

It suggests the imperative "geiwo" is located in the CP layer, higher than TP.

On the other hand, the imperative "*geiwo*" failed all the five not/at issue meaning test, it cannot be negated or questioned alone, cannot be replaced by wh operator or quantifiers and doesn't contributed truth condition in if clause. Imperative "*geiwo*" encodes totally not at issue meaning. The benefactive meaning doesn't come from semantical compositionality but is pragmatically implied. This is another reason to locate it above CP, after the derivation of the propositional meaning.

Like affected "*geiwo*", the imperative "*geiwo*" also lies in CP layer, only license first person pronoun as its object, encoding total not at issue meaning and speaker orientedness. But different from affected "*geiwo*", benefactive "*geiwo*" needs an imperative mood to license it. Due to the licenser, this "*geiwo*" is also different from the affected counterpart in terms of complement, benefactive "*geiwo*" can only co-occur with VP which is volitional and in future tense (irreals), but this isn't the effect of "*geiwo*" but the requirements of imperative mood. All that "*geiwo*" needs to do is to co occur with the imperative mood.

We analyze the imperative "*geiwo*" is an CP adjunction, it can only be adjoined to the directive mood, which is the highest CP projection: ForceP. And the imperative mood selects the future tense and volitional predicate. The apparent selection of "*geiwo*" are actually selection of the imperative mood in 80.

80.
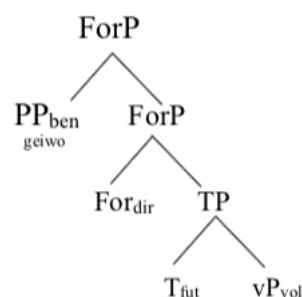
The imperative head denotes a speech act, an order that the speaker uttered to order the addressee to enforce the action. "*gei*" still introduces a potential "beneficiary" who will benefit from the unrealized event. Since it is the addressee wants the event come true, she must be the beneficiary. That is why the argument "*gei*" introduces in CP layer can only be the first person singular, which indicates the speaker is beneficial as long as the yet unrealized situation come true.
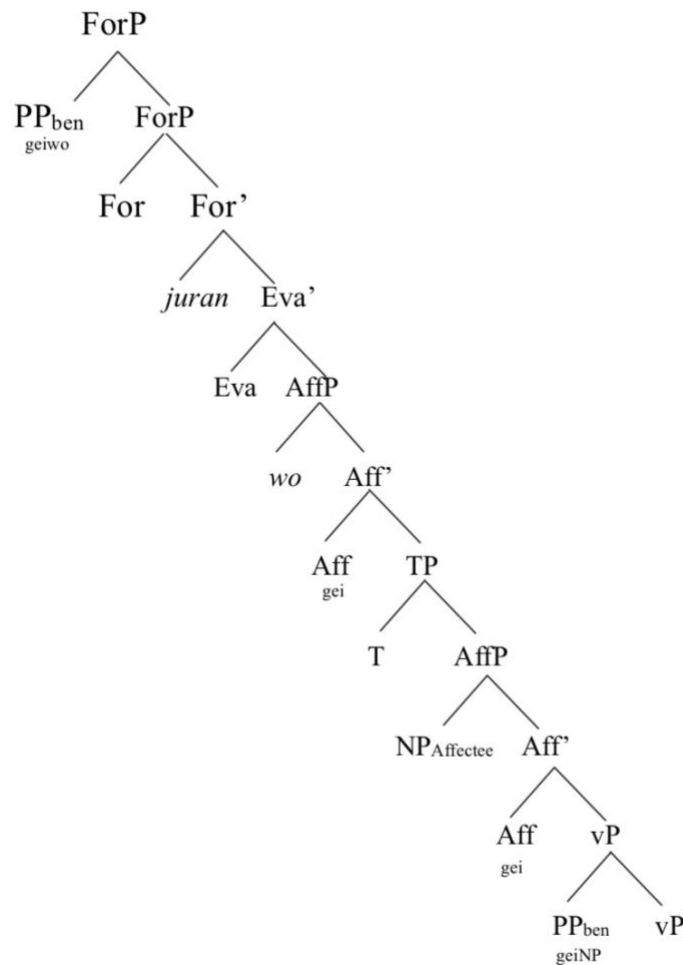
5.3 Unifying the 2 "*geiwo*"

We believe both affected and benefactive "*geiwo*" in CP layer are "evolved" from their vP counterpart. And they should had the similar grammaticalization path[8]. Here "*wo*" is phonologically destressed and cannot be focalized, like a weak pronoun. Affected "*geiwo*" and imperative "*geiwo*" perfectly match the characteristics of the ethical dative in Romance language, which only involves weak pronoun (first or second person), shows speaker orientedness, expresses speakers' affectedness or special interest and requires licensing from imperative, optative and subjective mood. Ethical dative is usually analyzed as CP-adjuncts, or as the realization of the φ-features of a high applicative head which takes the whole event as its argument. the 2 "*geiwo*" are the corresponding ethical dative projecting in CP layer in Mandarin, different from the affected head "*gei*" and benefactive preposition "*gei*" in the vP layer.

Our analysis suggests the affected and benefactive constructions related to "*gei*" can be unified and show strictly corresponding conformity in the vP periphery and CP periphery. Under the cartographic approach, we can draw the topography about the affected and benefactive "*gei*", as 81 illustrates:

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[8] The path of grammaticalization needs more evidence in the historical text, due to the limit of time and space, we cannot elaborate on it, so we put it in the future work.

81.

```
                          ForP
                         /    \
                  PPben       ForP
                  geiwo      /    \
                          For     For'
                                 /    \
                             juran    Eva'
                                     /    \
                                  Eva     AffP
                                         /    \
                                       wo      Aff'
                                              /    \
                                           Aff      TP
                                           gei     /   \
                                                  T     AffP
                                                       /    \
                                               NPAffectee    Aff'
                                                            /    \
                                                         Aff      vP
                                                         gei     /   \
                                                            PPben      vP
                                                            geiNP
```

A caveat is that although we integrate the affected and benefactive "*gei*" in the same syntactic structure, both in the vP and CP layer, they seldom co occur because of the confliction of the meaning. It is hard to think out an event which is beneficial to someone while negatively affected another at the same time. And in the CP layer, affected head "*gei*" and benefactive "*gei*" are licensed by different moods, one exclamative while the other imperative, it is impossible for a sentence to gain 2 moods, due to this reason they never cooccur. but all the phenomena in section 3 and 5 lead us to the split analysis of "*gei*": the split of benefactive "*gei*" and affected "*gei*", the split of vP layer "*gei*" and CP layer "*gei*", which is a good example of analyticity in Mandarin. This is also in line with the result of grammaticalization. In Tsai(2010,2015), the grammaticalization of the modal verbs is different from English in that it violate transparence principles proposed by Lightfoot (1979). Modal verbs retain all its

evolutional usages in the process of grammaticalization, from lexical verb, dynamic modal, deontic modal to epistemic modal, all of which is available for the modal verb "*hui*" and "*yao*". Mandarin is an analytic language, which renders that the diachronic changes are reflected in the synchronic grammar system. This character can also account for the issues of "*gei*" here.

5.4 Affected "*gei*" in the cross linguistic perspective

Finally, let's focus on the affected head "*gei*", which can both merge in the vP periphery and CP periphery. Cross linguistically, Mandarin provides more evidence for the affected parameter proposed by Bosse (2012). According to her, there are 2 parameters accounting for the form of the affected arguments. One is whether the affect head attaches below the voiceP or higher the voiceP. The other is whether the affectedness contributes on the at issue meaning or on the not at issue meaning tier:

|	high attachment	low attachment
experiencer at-issue	Japanese	German, English
experiencer not-at-issue	Hebrew	French

According to our analysis of Mandarin affect head "*gei*", "*geiNP*" is highly attached and contributes to some at issue meaning, while "*geiwo*" is even higher attached and contributes to total not at issue meaning. As Tsai (2012) proposed, there is another covert affect head which occurs in pseudo double object construction and double unaccusative construction:

82. Zhangsan hele   Lisi   sanping jiu.

    Zhangsan drink-Asp   Lisi three CL wine

    Zhangsan drink 3 bottles of wine on Lisi.

83. Zhangsan paole   laopo.

    Zhangsan run-Asp wife

    Zhangsan's wife run away on him.

According to Tsai (2012), these constructions involves a silent affect head projecting between VP and VoiceP, introducing an affectee argument. This is the low applicative

of mandarin. We will follow him and argue that mandarin does have a low attachment affect head. After applying the 5 for the not/at issue meaning tests. The lower affected head totally contributes to at issue meaning. So that mandarin occupies 3 places in the table, namely German, Japanese and Hebrew. Again in 82 we see the robust analyticity of Mandarin, which set more than one parameter and diversify its ways to express affectivity.

84.
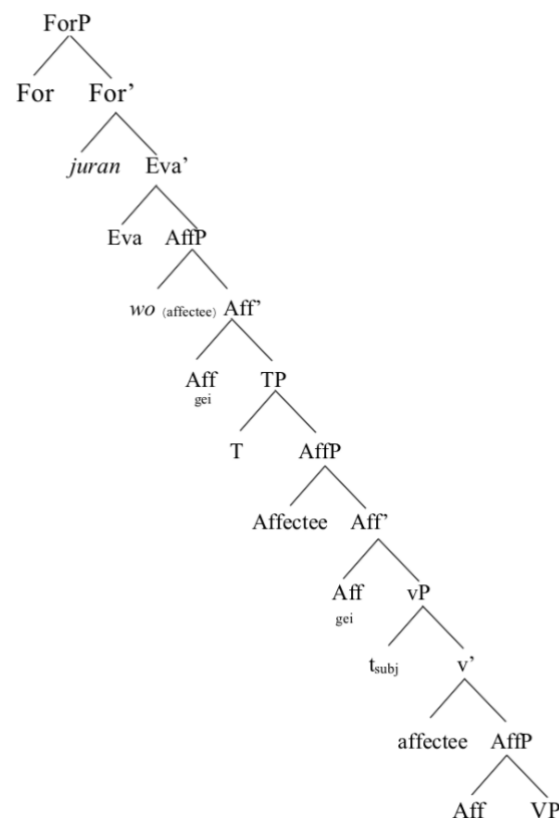
6. Conclusion

In this paper we proposed a split analysis of the affected experiencer introducer "*gei*" to account for the systematic asymmetries on their syntactic and semantic behavior. Affected "*gei*" is a semi-lexical verb but benefactive "*gei*" is a preposition, so that the former cannot be topicalized while the latter is free to do so. Affected head introduces a new complex affected event and projects above voiceP, but benefactive preposition enriches the original event through predication modification, so it adjoins in the vP periphery, this explains their difference when interaction with wh adverbial

"*zenme*", modal verb and some other adverbs. In addition, Affected and benefactive "gei" are difference in terms of scope interaction with negation and A not A operator, this is the result of they contribute different meaning tier, which reflect in their lambda notation. Last but not least, the split of "*gei*" in vP periphery can be extended to the left periphery, with affected head projects in CP layer and benefactive preposition does CP adjunction. Both of which are speaker oriented and licensed by some force ,expressing the speaker's negative attitude to the event or psychological benefits as long as the yet unrealized situation come true. The correspondence of the 2 periphery adds another evidence to the robust analyticity of Mandarin.

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