Bei2 as a causative and passive marker in Cantonese

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1 Introduction

Existing studies on *bei2* in Cantonese tend to focus on *bei2* as a lexical verb meaning 'to give' in double object constructions (Lam 2014). This is because the word order of *bei2* sentences in double object constructions do not follow a canonical word order. Instead of a [$NP_{subject}$ V $NP_{recipient}$ NP_{theme}] word order, *bei2* constructions tend to follow a [$NP_{subject}$ *bei2* NP_{theme} $NP_{recipient}$] word order. Apart from being a lexical verb, *bei2* is also an indirect object marker, a beneficiary marker, an instrument marker,[1] a causative verb and a passive verb (A. C. Chin 2011). This study focuses on *bei2* as a causative verb and as a passive marker. As *bei2* in both of these uses have a [NP1 *bei2* NP2 VP] structure, some sentences may result in ambiguous readings.

(1) *ngo5 bei2 zek3 gau2 sik6 saai3 di1 faan6*
1.SG BEI CL dog eat all DET.PL rice
Causative reading: 'I let the dog eat all the rice'
Passive reading: 'My rice was eaten up by the dog' (A. C. Chin 2011: 542)

It has been argued that the different uses of Cantonese *bei2* are related to each another via grammaticalization. An example of a morpheme that has completed the grammaticalization process would be the Mandarin passive marker *bei4*. Although it was originally a verb that means 'to cover' or 'to suffer', it has been grammaticalized to become a passive marker (Zhang 1994). Therefore, *bei4* has lost some of its verbal properties, like taking aspect markers (e.g. *guo4*). Similarly, apart from *bei2* meaning 'to give' and its causative causative use, other interpretations of *bei2* may no longer be used with aspect markers. However, *bei2* may still be treated as a main verb in its causative use (10), as it still serves as one of the grammaticalization sources (A. C. Chin 2011). The specific developmental paths of *bei2* are proposed to be as follows: *bei2* separately branches into an indirect object marker, a beneficiary marker and a causative verb. From *bei2*'s causative verb use, *bei2* further branches into an instrument marker and a passive marker respectively. The final path, *bei2* becoming a causative verb and then a passive marker parallels the grammaticalization path for 'give' in Southern Min dialects (Chappell and Peyraube 2006). The causative and the passive *bei2* is our topic of interest. If *bei2* is still undergoing grammaticalization from being a causative verb to a passive marker, one may hypothesize that their syntactic structures are yet to differ much. This is the motivation of the present study. This paper investigates the argument structure of *bei2* in its causative and passive uses. We show that *bei2* embeds a CP complement in both causative and passive constructions. However, NP2 is the matrix object in the causative construction, and NP2 is the embedded subject in the passive construction. We also show that the internal structure of the CP and the theta roles that *bei2* assigns differ in the two constructions. We attribute the causative and passive readings of the sentences to the syntactic structure of the *bei2* constructions. Finally, we consider cross-linguistic implications of 'give' structures with both causative and passive interpretations.

This paper is structured as follows. Section 2 compares *bei2* as a causative verb with a more canonical causative verb *ling6*. We compare them in terms of their argument structure and the size of the complements

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1. Note that the instrumental use of *bei2* is no longer used in Hong Kong Cantonese, apart from the crystallized expression 'bei2 sam1 gei1' ('to use one's heart').

that they embed. Section 3 looks at the distribution of *bei2* as a passive marker. Section 4 summarizes our findings, proposes extensions and implications to the topic of study and concludes the paper. All romanized transcriptions of Cantonese are in Jyutping, and transcriptions of Mandarin Chinese are in Pinyin.[2]

2 *Bei2* as a Causative Verb

In the following section, common ways of expressing a causative meaning in Cantonese will first be introduced. We will then discuss the structure of the embedded clause and the matrix clause of the causative *bei2*, by comparing *bei2* to a more canonical causative verb *ling6*. We argue that *bei2* and *ling6* are both object control verbs, and we run diagnostics to show that they are both exhaustive control verbs.

2.1 *Causatives in Cantonese* A common way to express a causative sense in Cantonese is via resultative verb compounds (Matthews and Yip 2011; Cheng et al. 1997). This involves combining two transitive or intransitive verbs to form a resultative predicate, which is usually transitive and specifically, causative.

(2) *nei5 gei3zyu6 giu3 seng2 ngo5 aa3*
2.SG remember call wake me PRT
'Remember to wake me up' (Matthews and Yip 2011: 174)

Another way of expressing a causative sense would be via causative constructions. It was argued that causative constructions take two forms depending on the type of situation or event caused. The verbs *ling6* 'cause' or *zing2* 'make' are used to express causation of a state of affairs. *Ling6* has the word order of *ling6* - [object] - [adjective], and *zing2* has the word order of *zing2* - [adjective] - [object].

(3) *cin2 ho2ji5 ling6 nei5 hoi1sam1 me1*
money can make you happy PRT
'As if money could make you happy!' (Matthews and Yip 2011: 173)

(4) *m4goi1 bong1 ngo5 zing2 jit6 dip6 coi3 aa1*
please help 1.SG make hot dish vegetable PRT
'Could you heat up the dish of vegetables for me, please?' (Matthews and Yip 2011: 173)

It was argued that a periphrastic construction with *dou3* could be used with *ling6* and *zing2* to express causation of an event, where the use of *dou3* resembles the resultative verb compound construction (Matthews and Yip 2011). *Zing2 dou3* is used in a more colloquial sense, and *ling6 dou3* is used in more formal contexts (Matthews and Yip 2011). Although it is sometimes glossed as "that", and may be glossed as a morpheme meaning "arrive" as well, we will treat *dou3* as an aspect marker in the current study.

(5) *keoi5 gam2 joeng2 zing2 dou3 ngo5 mou5 saai3 sam1gei1*
3.SG so way make that(/ASP) 1.SG not.have all enthusiasm
'That way, he makes me lose all enthusiasm' (Matthews and Yip 2011: 173)

(6) *fu6mou5 jiu3 ling6 dou3 sai3lou6zai2 hoi1hoi1sam1sam1 faan1-hok6*
parent need cause that(/ASP) children happy return-school
'Parents should see to it that their children go to school happily' (TV) (Matthews and Yip 2011: 173)

Bei2 is not often introduced as a causative marker because it does not mean 'to cause' as a causative verb. Instead, it means 'to allow'. As *bei2* is not a canonical causative verb in Cantonese, we will compare *bei2* with *ling6 (dou3)*. *Ling6* was chosen to be compared to *bei2* because the object is documented to follow the verb *ling6* immediately, but *zing2* has a variable word order (Matthews and Yip 2011).

Previous literature on causatives have shown that causatives may embed clauses of different sizes (e.g. Moore 2011). Therefore, we will test the structure of the embedded clause of *bei2* and *ling6* in the following section. We will first show that *bei2* and *ling6* embed intransitives, transitives, non-verbal predicates, and that *bei2* and *ling6* have different stativity requirements. We then show that *bei2* and *ling6* embed AspP, NegP, TP and CPs.

2. When citing Cantonese examples from sources that used Chinese orthography only, or other forms of romanization, such as Yale, transcriptions will be translated to Jyutping.

2.2 *The structure of the embedded clause* Starting off with intransitives, both *bei2* and *ling6* embed unaccusatives. This can be seen in examples (7) and (8).

(7) *go3 zing3fu2 bei2/ling6(-dou3) di1 fo2 maan3jin4*
CL government BEI/LING(-ASP) DET.PL fire spread
'The government allowed/caused the fire to spread'

(8) *go3 zing3fu2 bei2/ling6(-dou3) di1 beng6duk6/sai3kwan2 cyun4-bo3*
CL government BEI/LING(-ASP) DET.PL virus/bacteria transfer-spread
'The government allowed/caused the virus/bacteria to spread'

Example (9) shows that *bei2* and *ling6* also embed unergatives.

(9) *Siu2Lai6 bei2/ling6(-dou3) Siu2Ming4 tiu3*
Siulai BEI/LING(-ASP) Siuming jump
'Siulai allowed/caused Siuming to jump'

Second, both *bei2* and *ling6* embed transitives. In the case of *ling6*, it was noted in the literature that *dou3* is required when the complement expresses an event (Matthews and Yip 2011). Our consultants agree that the inclusion of *dou3* in *ling6* causatives is highly preferred. However, no aspect markers are required for *bei2*.

(10) *Siu2Ming4 bei2/ling6(-dou3) Siu2Lai6 zou6 gung1fo3*
Siuming BEI/LING(-ASP) Siulai do homework
'Siuming allowed/caused Siulai to do homework'

Regarding non-verbal predicates, *bei2* and *ling6* show different distributions. Example (11) shows that *ling6* embeds adjectival[3] predicates, but *bei2* does not. Example (11b) shows that this is not only due to an animacy restriction. In example (11b), although the matrix subject is animate, *bei2* still does not embed an adjectival predicate.

(11) a. *gin6 si6 ling6/*bei2 ngo5 hou2 faan4/hoi1sam1*
CL incident LING/*BEI 1.SG very annoyed/happy
'The incident caused(*allowed) me to be very annoyed/happy'

b. *Siu2Ming4 ling6/*bei2 Siu2Lai6 hou2 hoi1sum1*
Siuming LING/*BEI Siulai very happy
'Siuming caused(*allowed) Siulai to be very happy'

Although *bei2* does not embed adjectival predicates, both causative markers embed prepositional predicates, as shown in example (12). Note that consultants prefer (12c), where the verb "stay" is included.

(12) a. *zek3 maau1 hai2 gaan1 fong2 dou6*
CL cat at CL room place
'The cat is in the room'

b. *? Siu2Ming4 bei2/ling6-dou3 zek3 maau1 hai2 gaan1 fong2 dou6*
Siuming BEI/LING-ASP CL cat at CL room place
'Siuming allowed/caused the cat to be in the room'

c. *Siu2Ming4 bei2/ling6-dou3 zek3 maau1 lau4 hai2 gaan1 fong2 dou6*
Siuming BEI/LING-ASP CL cat stay at CL room place
'Siuming allowed/caused the cat to stay in the room'

3. It has been argued that Cantonese does not have a distinction between verbs, adjectives, and prepositions (Francis and Matthews 2005). Instead, what may be referred to as an "adjective" may be considered "stative verbs" or "property verbs" instead. Instead of "prepositions", Cantonese is argued to have "coverbs" (Matthews and Yip 2011). Since this part of speech division does not affect our analysis, we will continue to refer to "adjectives" and "prepositions" in the present study.

As prepositional predicates are grammatical for both *bei2* and *ling6*, *bei2*'s distribution concerning adjectival predicates may not be a restriction on its syntactic structure per se. Instead, we may attribute *bei2* and *ling6*'s distribution with non-verbal predicates to stativity restrictions. This is possible, as previous literature have shown that some causatives do not embed statives (Baron 1974). We may test this via stativity tests developed for English, including (i) only non-statives occur in the progressive, (ii) only non-statives can occur as an imperative, (iii) only non-statives co-occur with the adverb 'carefully', and (iv) only non-statives occur as complements of 'force' (Dowty 1979).

To start off, only non-statives occur in the progressive (Dowty 1979). For example, it is ungrammatical in English to say *'he/she is knowing'. The same test may be used for Cantonese. Example (13) shows that non-stative verbs may be used in the progressive, and it may also pattern with *bei2* and *ling6*. When a verb does not occur in the progressive, as in (14), it is a stative verb that *bei2* and *ling6* does not embed.[4]

(13) a. *keoi5 paau2 gan2 bou6*
3.SG run PROG step
'she/he is running'

b. *ngo5 bei2/ling6-dou3 keoi5 paau2 bou6*
1.SG BEI/LING-ASP 3.SG run step
'I allow/caused him/her to run'

(14) a. * *keoi5 zi1 gan2 dou3*
3.SG know PROG path
Intended: 'she/he is knowing'

b. * *ngo5 bei2/ling6-dou3 keoi5 zi1 dou3*
1.SG BEI/LING-ASP 3.SG know path
Intended: 'I allowed/caused him/her to know'

In English, only non-statives can occur as an imperative (Dowty 1979). For example, it is grammatical in English to say "run!" as an imperative, but not *"know!". The same test may be used for Cantonese to provide further evidence that 'know' in Cantonese is also a stative verb, as in (15). Example (16) shows that the prepositional predicate from example (12a) is stative. On the other hand, when a verb "stay" is added, the phrase is non-stative. As we have seen, the non-stative clause (12c) is preferred over the stative clause (12b). Example (17) also shows that the adjectival predicate is stative.

(15) *paau2/*zi1 (aa3)!*
run/*know (SFP)
'Run!'/ Intended: 'Know!'

(16) **(laau4) hai2 gaan1 fong2 dou6 (aa3)!*
*(stay) at CL room place (SFP)
'Stay in your room!' / Intended: 'Be in your room!'

(17) *hou2 hoi1sam1 (aa3)!*
very happy (SFP)
'I am very happy' / *Imperative reading: 'be happy!'

Another test to diagnose statives is that only non-statives co-occur with the adverb 'carefully' (Dowty 1979). From the examples below, we confirm that 'know' is a stative verb in Cantonese, and 'run' is not. We also show that to 'stay' in a room is not stative, but to 'be' in a room is stative.

(18) *keoi5 siu2sam1jik6jik6 gam2 paau2-bou6/*zi1-dou3*
3.SG carefully ADV run-step/*know-path
'He/she runs/*knows carefully'

4. Note that it is possible for *bei2* and *ling6* to embed "know-PERF", which means "to discover" or "to find out", which no longer has a stative sense.

(19) a. *keoi5 siu2sam1jik6jik6 gam2 lau4 hai2 gaan1 fong2 dou3*
3.SG carefully ADV stay at CL room place
'He/she stayed carefully in the room'

b. *?? keoi5 siu2sam1jik6jik6 gam2 hai2 gaan1 fong2 dou3*
3.SG carefully ADV at CL room place
'He/she is in the room carefully'

The last stativity test is that only non-statives occur as complements of 'force' in English (Dowty 1979). This test is also applicable to Cantonese. Example (20) shows that the judgements from this test patterns with the grammaticality judgements for *bei2* exactly (11-12). For *ling6*, the judgements from this test (20b-c) also correspond to example (12). Overall, tests on stativity show that *bei2* does not embed statives. On the other hand, *ling6* embeds some statives, including adjectival-predicates, but not others, like the verb "know". Although the precise stativity requirements for *ling6* remains unclear, there is sufficient evidence for the present study to conclude that *bei2* and *ling6* both embed non-verbal predicates, modulo the stativity restrictions.

(20) a. * *Siu2Ming4 bik1 ngo5 hou2 faan4/hoi1sam1*
Siuming force 1.SG very annoyed/happy
Intended: 'Siuming forced me to be very annoyed/happy'

b. *? Siu2Ming4 bik1 zek3 maau1 hai2 gaan1 fong2 dou6*
Siuming force CL cat at CL room place
'Siuming forced the cat to be in the room'

c. *Siu2Ming4 bik1 zek3 maau1 lau4 hai2 gaan1 fong2 dou6*
Siuming force CL cat stay at CL room place
'Siuming forced the cat to stay in the room'

We now test the size of *bei2* and *ling6*'s embedded clause. Example (21) shows that *bei2* and *ling6* embed clauses that are larger than a vP, such as an AspP.

(21) *Siu2Ming4 bei2/ling6(-dou3) Siu2Lai6 m4-zoi3 jat1 fong3-hok6 zau6 zik1hak1*
Siuming BEI/LING(-ASP) Siulai no-longer once release-school right.away immediately
faan1 nguk1kei2
go.back home
'Siuming allowed/caused Siulai to no longer go back home immediately once school ends'

Beyond an AspP, example (22) shows that *bei2* and *ling6* may embed a NegP.

(22) *Siu2Ming4 bei2/ling6(-dou3) Siu2Lai6 m4 faan1 hok6*
Siuming BEI/LING(-ASP) Siulai NEG go.back school
'Siuming allowed/caused Siulai to not go back to school'

Bei2 and *ling6* may also embed temporal adverbs, suggesting that they may embed a TP.

(23) *Siu2Ming4 bei2/ling6(-dou3) Siu2Lai6 ting1jat6 faan1 hok6*
Siuming BEI/LING(-ASP) Siulai tomorrow go.back school
'Siuming allowed/caused Siulai to go to school tomorrow'

(24) *Siu2Ming4 bei2/ling6(-dou3) Siu2Lai6 ji5hau6 dou1 faan1 hok6*
Siuming BEI/LING(-ASP) Siulai from.now.on also go.back school
'Siuming allowed/caused Siulai to go to school from now on'

Lastly, both causatives may embed a CP. Example (25) shows an example of focus in the embedded clause. The object of "make-good" may undergo wh-movement above "self". This suggests that A′-movement to the CP is possible within the embedded clause of both causative verbs.

(25) a. *maa1mi4 bei2/ling6(-dou3) Siu2Lai6 zi6gei2 gaau2-dim6 saai3 saam1-caan1/di1-gong1fo3*
Mom BEI/LING(-ASP) Siulai self make-good all three-meals/CL.PL-homework
'Mom allowed/caused Siulai to handle her meals / homework by herself'

b. *maa1mi4 bei2/ling6(-dou3) Siu2Lai6 mat1-dou1 zi6gei2 gaau2-dim6 saai3*
Mom BEI/LING(-ASP) Siulai whatever-all self make-good all
'Mom allowed/caused Siulai to handle everything by herself'

Note that for *bei2* and *ling* causative constructions, overt subjects are disallowed in the embedded clause. In example (26), the sentence is only grammatical when a second *bei2* or *ling6* is added in the lower embedded clause. This suggests that if NP2 (the teacher) is the matrix object, it is not possible for NP3 (the students) to be an overt subject in an embedded clause. Instead, the sentence must include two embedded clauses.

(26) *go3 haau6zoeng5 bei2/ling-dou3 go3 lou5si1 *(bei2/ling6-dou3) keoi2-ge3 hok6saang1 zou2*
CL principal BEI/LING-ASP CL teacher *(BEI/LING-ASP) 3.SG-ASSOC students early
fong3 hok6
release school
'The principal permitted/caused the teacher to permit/cause his/her students to get out of school early'

2.3 *The structure of the matrix clause* In the following section, we examine *bei2* and *ling6*'s theta role assignment, as well as the status of NP2. To start off, *ling6* may assign a causer theta role to inanimate subjects, but *bei2* requires animate subjects. This is shown in example (27), where the *bei2* causative is ungrammatical, because the subject is inanimate.

(27) a. *gin6 si6 ling6(-dou3)/*bei2 Siu2Lai6 ji5hau6 dou1 m4 faan1 hok6*
CL incident LING(-ASP)/*BEI Siulai from.now.on also NEG go.back school
'The incident caused/*allowed Siulai to not go to school from now on'

Moving on to the status of NP2. Example (28a) shows that if NP2 is part of the embedded clause, an embedded temporal adverb may precede it. However, example (28b) shows that it is ungrammatical for the embedded temporal adverb to precede NP2 in both causative constructions. This suggests that NP2 is the matrix object, and not the embedded subject.

(28) a. *ngo5 gok3dak1 ting1jat6 Siu2Lai6 wui2 faan1 hok6*
1.SG think tomorrow Siulai will go.back school
'I think Siulai will go back to school tomorrow'

b. *Siu2Ming4 bei2/ling6(-dou3) *(Siu2Lai6) ting1jat6 (*Siu2Lai6) faan1 hok6*
Siuming BEI/LING(-ASP) *(Siulai) tomorrow (*Siulai) go.back school
'Siuming allowed/caused Siulai to go to school tomorrow'

Specifically, NP2 is an obligatory matrix object. We test this using weather verbs. In (29a), we see that a subject is not obligatory when weather verbs are used in Cantonese. (29b) shows that when a weather verb is used as an embedded clause in a *bei2* or *ling6* causative construction, a noun phrase preceding the verb (NP2) is required. This suggests that "the sky" is an obligatory matrix object of *bei2* or *ling6*. Consequently, we may hypothesize that *bei2* and *ling6* are object control verbs, which require a matrix object.

(29) a. *(go3 tin1) lok6 jyu5 laa3*
(CL sky) down rain SFP
'It's raining'

b. *go3 mou4si1 bei2/ling6-dou3 *(go3 tin1) lok6 jyu5 laa3*
CL wizard BEI/LING-ASP *(CL sky) down rain SFP
'The wizard allowed/caused the sky to rain'

2.4 *Tests for control* In the following section, we use two tests to show that *bei2* and *ling6* are obligatory control verbs. Specifically, that they are exhaustive control verbs as categorized by Landau (2000).

One diagnostic for obligatory control (OC) is that OC controlees only allow a *de se* 'self' reading, but not a *de re* 'person' reading (Landau 2013). Consider example (30), where Siulai only remembers the identity of her student, Siuming, but could not recognize him. Example (31) uses the verb 'want' which is not obligatory control. In that case, the pronoun could have both a *de se* (31a) and a *de re* (31b) reading. This allows both (31a) and (31b) to be simultaneously true. On the other hand, when PRO is in the embedded clause, only a *de se* reading is possible. Therefore, (32a) is true. However, (32b) could not also be true. This is because the existence of PRO, which only allows a *de se* reading, makes it that the third singular pronoun can also only have a *de se* reading. Siulai could only either cause or not cause Siuming ('self') to become the class president. This suggests that the embedded clause of *bei2* and *ling6* include PRO, and not pro.

(30) Siulai, a teacher, lost her memory in an accident. She knows that she wants her top student named 'Siuming' to become the class president and she advocates for it. However, she does not want the person in the poster - Siuming, whom she does not recognize - to become the class president.

(31) a. *Siu2Lai6 soeng2 keoi5 zou6 baan1-zoeng2*
Siulai wants 3.SG do class-president
'Siulai wants him to become the class president' (True: *de se* ('Siuming'))

b. *Siu2Lai6 soeng2 keoi5 m4 zou6 baan1-zoeng2*
Siulai wants 3.SG NEG do class-president
'Siulai wants him to not become the class president' (True: *de re* (Person in the poster))

(32) a. *Siu2Lai6 ling6(-dou3)/bei2 keoi5 zou6 baan1-zoeng2*
Siuali LING(-ASP)/BEI 3.SG do class-president
'Siulai caused/permitted him to become the class president' (True: *de se* ('Siuming'))

b. *Siu2Lai6 ling6(-dou3)/bei2 keoi5 m4 zou6 baan1-zoeng2*
Siuali LING(-ASP)/BEI 3.SG NEG do class-president
'Siulai caused/permitted him to not become the class president' (False: *de re* (Person in the poster))

Moreover, *bei2* and *ling6* causatives are exhaustive control verbs and not partial control verbs under Landau (2013)'s classification. In exhaustive control, PRO must be identical to the controller. On the other hand, PRO only needs to include the controller in partial control verbs, such as *daa2syun3* 'plan'. For example, (33b) is ungrammatical because the embedded verb 'gather' requires the subject to be semantically plural. However, the controlee in (33b) is only identical to the controller and cannot include more referents. On the other hand, (34) is an example of partial control. It is grammatical because the controlee may include more referents than the object controller.

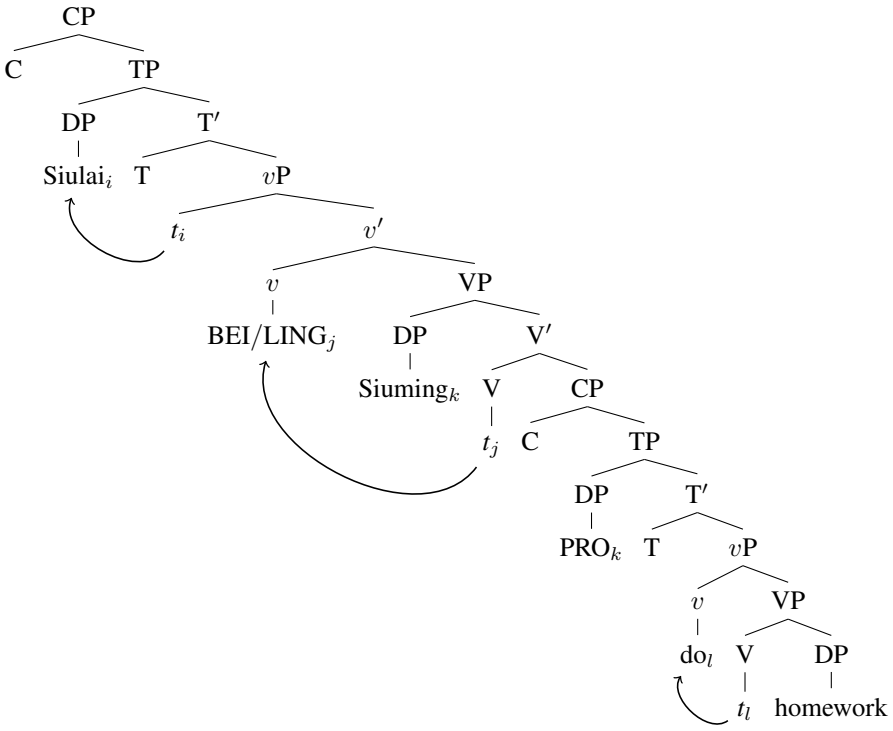
(33) a. *di1/*go3 hok6saang1 sing1kei4-luk6 zaap6-wui2*
CL.PL/*CL student week-six gather-meet
'The students/*student gather on Saturday'

b. ** maa1mi4 ling6(-dou3)/bei2 Siu2Lai6$_i$ (PRO$_{i+}$) sing1kei4-luk6 zaap6-wui2*
mom LING(-ASP)/BEI Siulai$_i$ (PRO$_{i+}$) week-six gather-meet
Intended: 'Mom caused/allowed Siulai (and the others) to gather on Saturday'

(34) *go3 zyu2zik6$_i$ daa2syun3 (PRO$_{i+}$) sing1kei4-luk6 zaap6-wui2*
CL chair$_i$ plan (PRO$_{i+}$) week-six gather-meet
'The chair plans to gather on Saturday'

2.5 *Interim summary* To summarize, the structure of *bei2* and *ling6* as causative verbs are as follows. *Bei2* and *ling6* are both exhaustive control verbs that embed a CP complement. NP2 is the matrix object. The subject of *bei2* must be animate, and *ling6* does not require animate subjects. The full structure is shown below (35).

(35)



3 *Bei2* as a Passive Marker

After comparing *bei2* and *ling6* causative constructions, the structure of *bei2* passives in Cantonese is explored. We start by introducing *bei2* as a passive marker in Cantonese. We will then test the structure of *bei2* passives via (i) an intentionality test, (ii) constituent movement test, (iii) coordination test, (iv) reflexive *zi6gei2* and (v) long distance passivisation.

3.1 *Passive markers in Cantonese* The Cantonese passive marker *bei2* shares a close pronunciation with the Mandarin passive marker *bei4*, which is most often used in Cantonese in standardized writing and is pronounced as *bei6*. Although *bei2* and *bei6* share similar pronunciations, they are different morphemes. There are two pieces of evidence for this. First, is that *bei2* originated from the morpheme meaning 'to give', and *bei6* originated from the morpheme meaning 'to cover', or 'to suffer'. It was also found that the passive marker of multiple Chinese dialects pattern with the verb 'give' (C. O. Chin 2009). Second, when a NP follows the passive marker, it is referred to as 'long passives' in Mandarin, as opposed to 'short passives', where the agent is left out (Huang, Li, and Li 2009). In Cantonese, when *bei6* is used, it patterns with the Mandarin *bei4*, and both long and short passives are possible. *Bei6* tends to be used in formal settings like news reports, and example (36) shows an example of *bei6* being used with the agent left out. However, when *bei2* is used as a passive in Cantonese, it may only be used as a long passive and the agent is obligatory, as in (37).

(36) *zung2gung6 jau5 ng5 go3 caak6jan4 bei6 bou6*
altogether have five CL thief PASS arrest
'Altogether five thieves were arrested' (Matthews and Yip 2011: 169)

(37) *zung2gung6 jau5 ng5 go3 caak2 bei2 *(jan4) laai1 zo2*
altogether have give CL thief BEI *(human) arrest ASP
'Altogether five thieves were arrested'

This is not to say that all sentences in Cantonese require an obligatory agent. In Cantonese, it is also possible to topicalize objects. For example, in (38), the object is used as a topic, with the verb taking a perfective aspect marker and a completive sentence final particle. Although no passive marker is used, sentences with

a topicalized object tends to be translated as a passive. Since object topicalization is possible in Cantonese, passives tend to be spoken less compared to English (Matthews and Yip 2011).

(38) *tou3 sai1zong1 sai2-zo2 laa3*
CL western-suit wash-PFV SFP
'The suit has been cleaned' (Matthews and Yip 2011: 169)

3.2 *The status of NP1* It is not possible to use a NP-movement approach to Cantonese *bei2* passives, where the subject moves from the lowest object position to the specifier of TP. This is because an NP-movement approach may suggest that the grammatical subject of *bei2* passives obtained a patient or theme theta role from a lower position, and retains it from its trace. However, subject-oriented adverbs like *dak6dang1* 'intentionally' suggests otherwise.

(39) *Siu2Ming4 dak6dang1 bei2 Siu2Lai6 haak3*
Siuming intentionally BEI Siulai scare
'Siuming intentionally got scared by Siulai'

The subject-oriented adverb *dak6dang1*, which is above *bei2*, targets the matrix NP. In example (53) *dak6dang1* may only refer to 'Siuming' being intentional, and not Siulai being intentional. This suggests that the grammatical subject could not have obtained a theta role, such as a patient, from a lower position in the embedded clause and moved upwards. Instead, the grammatical subject 'Siuming' should be base generated and obtained its theta role in the matrix clause. This patterns similarly with Mandarin *bei4* (Cantonese *bei6*) passives and English 'get' passives (Huang, Li, and Li 2009).

(40) *Zhang1san1 gu4yi4 bei4 Li3Si4 da3-le0*
Zhangsan intentionally BEI Lisi hit-LE
'Zhangsan intentionally got hit by Lisi' (Huang 2009: 115)

(41) a. * The pedestrian deliberately was hit (Huang 2009: 115)
b. The pedestrian deliberately got hit (Huang 2009: 115)

3.3 *The status of [bei2 + NP2]* Although *bei2* passives in Cantonese may often be glossed as 'by' (Matthews and Yip 2011), as the agent follows *bei2*, [*bei2* + NP2] does not behave as its own constituent. We test this via a constituent movement test. Example (42) shows that when phrases behave as a single PP constituent, such as *deoi3* phrases in Cantonese, it may be moved with the following NP. However, example (43) shows that it is not possible to move [*bei2* + NP2] to the beginning or the end of the sentence. Instead, *bei2* must be followed by both the agent and the verb that follows.

(42) a. *Siu2Ming4 deoi3 Siu2Lai6 (lai4 gong2) dou1 syun3 m4 co3*
Siuming to Siulai (come tell) also count not wrong
'From the perspective of Siuming, Siulai isn't bad'
b. *deoi3 Siu2Ming4 (lai4 gong2) Siu2Lai6 dou1 syun3 m4 co3*
To Siuming (come tell) Siulai also count not wrong
'From the perspective of Siuming, Siulai isn't bad'
c. *Siu2Lai6 dou1 syun3 m4 co3, deoi3 Siu2Ming4 (lai4 gong2)*
Siulai also count not wrong, o Siuming (come tell)
'From the perspective of Siuming, Siulai isn't bad'

(43) a. *Siu2Ming4 bei2 Siu2Lai6 haak3 dou3*
Siuming BEI Siulai scare ASP
'Siuming was scared by Siulai'
b. * *bei2 Siu2Lai6 Siu2Ming4 haak3 dou3*
BEI Siulai Siuming scare ASP
Intended: 'Siuming was scared by Siulai'

c. * *Siu2Ming4 haak3 dou3 bei2 Siu2Lai6*
Siuming scare ASP BEI Siulai
Intended: 'Siuming was scared by Siulai'

Furthermore, a coordination test provides further evidence that [*bei2* + NP2] is not its own constituent. Example (44a) shows that it is possible to coordinate full VPs under *bei2*. This shows that NP2 forms a constituent with the following verb, excluding *bei2*, and that *bei2* is a verb, not a preposition. It also embeds at least full VPs. Example (44b) further shows that [*bei2* + NP2] may not be coordinated and are not constituents.

(44) a. *? Siu2Ming4 bei2 maa1mi4 sek3 baa4baa1 zaan3*
Siuming BEI mom kiss (and) dad praise
'Siuming was kissed by his mom and praised by his dad'

b. ** *Siu2Ming4 bei2 maa1mi4 bei2 baa4baa1 zaan3*
Siuming BEI mom (and) BEI dad praise
'Siuming was kissed by his mom and praised by his dad'

Another argument against [*bei2*+NP2] being a PP constituent would be anaphor binding. It was noted that in Mandarin, the reflexive *zi4ji3* is "subject-oriented", meaning that it must take a subject as its antecedent (Huang, Li, and Li 2009). The Cantonese equivalent to the Mandarin *zi4ji3* is *zi6gei2*, which shows the same pattern. Example (45) shows that the reflexive *zi6gei2* cannot be bound by an NP that is part of a PP ("Siulai"), and can only bind with the subject "Siuming".

(45) *Siu2Ming4$_i$ tong4 Siu2Lai6$_j$ gong2 keoi2 zi6gei2$_{i/*j}$ ge3 fan1sou3*
Siuming with Siulai tell 3.SG self ASSOC scores
'Siuming told Siulai his exam scores'

When using a *bei2* passive construction, *zi6gei2* may be bound by either NP1 or NP2 as shown in example (46). We know that it is not the case that *zi6gei2* only binds logophoric centers. This is because although Siuming is set up as the logophoric center in (46), *zi6gei2* may still be bound by either Siuming or Siulai. Example (47) also shows that NP2 may be bound by *zi6gei2*. This suggests that NP2 in *bei2* passives are not prepositional objects, and that both NP1 and NP2 are subjects, as both can antecede *zi6gei2*.

(46) *Siu2Ming4$_i$ hou2 caam2 aa3, bei2 Siu2Lai6$_j$ so2zyu6 hai2 zi6gei2$_{i/j}$ nguk1kei5*
Siuming very poor SFP, BEI Siulai lock at self home
'Poor Siuming was locked by Siulai in self's home' (modified from Huang 2009: 118)

(47) *go3 gong1zai2 bei2 Siu2Lai6$_j$ dai3 faan1 zi6gei2$_j$ nguk1kei5*
CL stuffed.toy BEI Siulai bring back self home
'The stuffed toy was brought back to self's (Siulai's) home by Siulai' (modified from Huang 2009: 118)

3.4 *Long distance passivization* As for the structure of the embedded clause, *bei2* allows long distance passivization, which tends to be well-formed in Mandarin, but not in English (Huang, Li, and Li 2009). In example (48), Siulai is the agent of the full event, which is that Siulai asked the police to arrest Siuming. Concurrently, the police is the agent of a subevent. In the sub-event, Siuming was arrested by the police. In example (49), the letter is the grammatical subject and the patient, which was sent by Siuming's sister. However, the agent of the main event in the sentence is the 1.SG pronoun, who asked the letter to be sent. Therefore, it appears that Cantonese *bei2* passives, like Mandarin passives, exhibit "unbounded" dependency. This shows that A′-movement is part of the structure of Cantonese *bei2* passives.

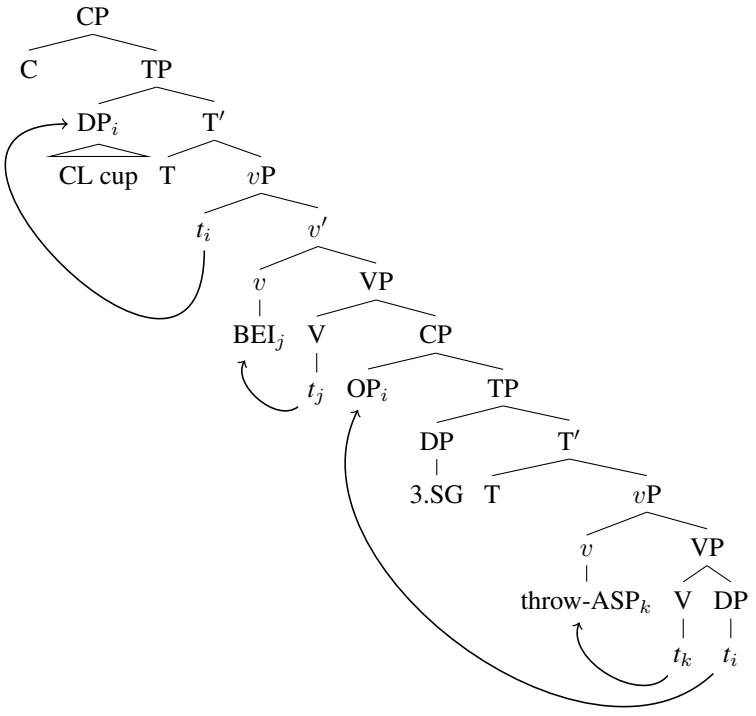
(48) *Siu2Ming4i bei2 Siu2Lai6 wan2 ging2caat3 zok1 zau2 zo2*
Siuming BEI Siulai find police catch away ASP
'Siuming was "sent-police-to-arrest" by Siulai' (modified from Huang 2009: 125)

(49) *fung1 seon3 bei2 ngo5 giu3 aa3-Siu2Lai6 wan2 Siu2Ming4 giu3 keoi2 aa3mui6 gei3*
CL letter BEI I call Ah-Siulai find Siuming call 3.SG sister send
'The letter was "told Siulai to ask Siuming to get his sister to send" by me' (modified from Huang 2009: 125)

3.5 *Interim summary* To summarize what was observed about *bei2* passives in Cantonese, we have made a number of observations. First, the presence of the agent is obligatory in Cantonese passives. Second, the grammatical subject of the *bei2* passive is base generated at the matrix clause as it may be selected by adverbs like "intentionally". Third, [*bei2* + NP2] are not constituents. Instead, *bei2* has a verbal status, and NP2 must be followed by the embedded verb. We have seen that NP2 is a subject, as it is selected by a reflexive *zi6gei2*. Lastly, the observation of long distance passivization in Cantonese shows that *bei2* allows for unbounded dependency, suggesting that A′-movement is involved in the structure of *bei2* passives.

This leads us to the null operator analysis first proposed by Feng (1995), and is used to describe Mandarin passives (Feng 1995; Huang 1999; Huang, Li, and Li 2009). *Bei2* is a verb which embeds full CPs as its complement. Within the embedded CP, the lowest object in the last embedded clause is a null operator that undergoes A′-movement to the specifier of the CP. The null operator and the lowest embedded object position is related via movement, and the null operator is related to the grammatical subject in the matrix position via predication. The subject's theta role is assigned by *bei2*, and it does not have to be a theme, patient or affectee, but it can also be an agent or experiencer. There are no animacy requirements. This analysis allows for as many embedded clauses as required underneath the *bei2* matrix clause, which explains why long distance passivization is allowed. This structure is shown in (50).

(50)



4 Conclusion

Bei2 has multiple uses in Cantonese, including as a causative verb and a passive marker. These two interpretations of *bei2* have been argued to be related by being in the same grammaticalization path, where the passive marker was grammaticalized from the causative *bei2* (A. C. Chin 2011). The present study shows that these two uses of *bei2* share similar structures in that they both embed CPs, with an obligatory NP2 following *bei2*. Nonetheless, both the matrix structure and the embedded structures differ. They have similar theta role

assignment structures, and different theta-role possibilities. They also have different animacy requirements, with only the causative but not the passive *bei2* requiring animate subjects.

In the future, we may compare *bei2* with other causatives, like *gao2* and *zou6*, both of which are translated as "make". The structure of *bei2* in its other functions (e.g. as an indirect object marker and as a beneficiary marker) also remain a potential topic for future study. As *bei2* as an instrument marker has been predicted to also have grammaticalized from the causative *bei2*, but on a separate path that does not coincide with the passive *bei2*, their syntactic structures are worth comparing. Lastly, *bei2* is only one of many 'give' passives that have emerged from causative constructions cross-linguistically. 'Give' passives that are related to corresponding 'give' causatives have been found in several other east or southeast Asian languages, including Korean, Manchu-Tungusic, Mandarin and Malay among others (Yap and Iwasaki 2007). Future work may explore whether 'give' causatives and passives across these languages are structurally comparable.

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