

The Grammaticalization of Causative Verbs in Chinese Dialects

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Abstract

The current study investigates the syncretism of causative verbs in 257 Chinese dialects and the following arguments are made. (i) All major lexical items of causative verbs (*han*, *huan*, *huang*, *jiao* and *eu*) collected in our database follow the same implicational relationship, and all of them originate from two sources, “to call” and “to teach”. (ii) According to our reconstructed grammaticalization path, it is observed that causative verbs in Chinese dialects undergo polygrammaticalization. A causative verb can directly grammaticalize into a comitative preposition and/or an ablative preposition. (iii) Once a causative verb acquires the function of a comitative preposition, it can further grammaticalize into a coordinating conjunction and/or an allative preposition. (vi) Our reconstructed pathway is supported by the parallel development in non-Sinitic languages. The semantic motivation and syntactic condition for the aforementioned grammaticalization are also provided in this paper.

Keywords

Ablative Preposition, Causative Verbs, Chinese Dialects, Comitative Preposition, Grammaticalization

1. Overview

1.1. The Grammaticalization of Coordinating Conjunctions

It is widely accepted that most coordinating conjunctions are developed by the process of grammaticalization. Traugott (1986) identifies six sources of coordinating conjunctions: (i) spatial and temporal meanings of linear succession (e.g., **hanti* > and in English); (ii) focal additive particles (e.g., **eti* > *et* in Latin); (iii) paragraph linking strategies, particles and adverbs (e.g., *tahnú* in Mohawk); (iv) comitative markers (e.g., *mih* in Sarcee); (v) verbs meaning “go”, “bring” (e.g.,

hodi in Tetun); and (vi) pronominal roots (e.g., **tó* > *ta* in Hittite). The generalization provided by Traugott covers a wide range of European languages as well as some other languages from other parts of the world.

Nonetheless, it is observed that in some studies on the diachronic development of coordinating conjunctions conducted by researchers from non-Chinese backgrounds, the situation in the Chinese context is not adequately represented. For instance, in The World Atlas of Language Structures (WALS), feature 63A only records one data point “Mandarin” from Sinitic languages (Stassen, 2013), and feature 81A records three data points “Mandarin”, “Hakka”, and “Cantonese” (Dryer, 2013). The inadequacy of research in coordinating conjunction can also be exemplified by the following argument.

It is noted in previous literature (such as Zhang, 2010 and Jiang, 2012) that some Chinese dialects (such as Taiwan Mandarin) can use the form/xan⁵¹/ (henceforth, *han*) as a coordinating conjunction. According to Zhang (2010), the coordinating conjunctions *huan* and *huang* are attested in many Chinese dialects (including Beijing, Tianjin, Taiwan, Guangdong, etc.). It is intriguing that *han*, *huan*, and *huang* exhibit similar polysemous pattern, despite the fact that these items scatter across China. All three items function as (i) causative verbs; (ii) comitative prepositions¹; and (iii) coordinating conjunctions. Is it possible for causative verbs in Chinese dialects to undergo grammaticalization and acquire the function of coordinating conjunctions? If so, what is the mechanism and condition for this diachronic development?

This paper adopts a cross-dialectal approach to investigate the grammaticalization of causative verbs in Chinese dialects (also known as Sinitic languages²) and study how the function of coordinating conjunctions can be developed. We created an extensive database of coordinating conjunctions in 257 Chinese dialects. The main goal is to reconstruct the grammaticalization paths of coordinating conjunctions in Chinese dialects, as well as to reveal the conditions for and the mechanisms of these paths.

1.2. Causative Verbs in Chinese Dialects

Causative verb is commonly used in Chinese dialects. It combines with a causee to form the first VP of a serial-verb construction (i.e. S-VP₁-VP₂, with VP₁ formed by a causative verb and a causee). It is well known that verbs located in

¹While many scholars (such as Zhang, 2010) argue that it is not easy to distinguish comitative prepositions from coordinating conjunctions in Chinese dialects, this paper adopts a formal syntactic approach in solving this issue. Coordinating Structure Constraints (CSC, Ross, 1967) can be violated only when a comitative preposition is used, If CSC must be observed, the corresponding grammatical item is identified as a coordinating conjunction. Please see Chan (2020) for the justification of this procedure.

²Chappell (2015: p. 3) regards “Chinese dialects” as “a separate, though unquestionably affiliated, group of languages belonging to the Sino-Tibetan language family and having the technical name of ‘Sinitic’. In addition, Chappell (2015: p. 4) points out that “the Sinitic languages are, grosso modo, as distinct from one another as European languages... [I]f we compared features of the Puxian isolate of the Min dialect group, located in the southeastern coastal province of Fujian, with the Xi’an dialect of Central Plains Mandarin in Shaanxi, northern China, some 1,800 km away, this would be more akin to a comparison between English and Swedish, or Portuguese and Romanian”.

this syntactic position are susceptible for grammaticalization. For instance, comitative verbs often grammaticalize into comitative preposition and coordinating conjunction (Wu, 2003 and Chan, 2020); verbs meaning ‘to give’ in many Chinese dialects are found to grammaticalize into passive markers (Jiang, 2003, among others). Causative verb in various Chinese dialects display a similar trend. Zhang (2010) and Jiang (2012) note that causative verbs share the same forms as (i) ablative prepositions; (ii) passive markers; (iii) comitative prepositions; and (iv) coordinating conjunctions in some Chinese dialects.

In Jiangle Min, the causative verb *han* 喊 also functions as a verb “to allow” and a passive marker: (Xu & Miyata, 1999; Xin, 2004; Zhang, 2010: p. 75)³

- (1) 誰 喊 汝 病病暈暈 也 去 拖 車 嘞?
Who allow 2SG sick.dizzy still go tow car SFP
“Who let you tow the car while being sick and dizzy?”
- (2) 喊 人 話
PASS people speak
“to be scolded by others”

The close-relation between causative verbs and passive markers has been discussed by many scholars (see Newman, 1993; Shibatani & Pardeshi, 2002 for their discussion on the Causative-Passive continuum, see also Jiang (2003) and Zhang (2006) for the relevant investigation on Chinese). Therefore, the syncretism of [causative = passive] was excluded from this study.

Liu (1995: p. 149) reports that the causative verb *gao* 告 can also serve as an ablative preposition, a comitative preposition, and a coordinating conjunction in Nanjing Mandarin:

- (3) 他 告 你 借 了 多少 錢?
3SG ABL 2SG borrow PRF how.much money
“How much did he borrow from you?”
- (4) 我 不 告 他 合夥 了。
1SG NEG COM 3SG be.partner SFP
“I will not form a partnership with him.”
- (5) 下午 頑 了 中山陵 告 明孝陵。
Afternoon play PRF Zhongshanling CONJ Mingxiaoling
“I visited Zhongshanling and Mingxiaoling in the afternoon.”

The following example shows that the causative verb *huang* 惶 in Pingdu Mandarin also function as an allative preposition, a comitative preposition, and a coordinating conjunction:

- (6) 我 惶 你 說 句 話。
1SG ALL/COM/CONJ 2SG say CLF word

³In this paper, all examples from Standard Mandarin are transcribed in pinyin, while examples from other Chinese dialects are transcribed in IPA. Chinese characters are used in sentence (1)-(6) since the transcriptions are not provided by the source papers. The glosses follow the Leipzig Glossing Rules. Other abbreviations used here are: CAUS causative verb, CONJ coordinating conjunction, SFP sentence final particle.

“I have a talk with you.”/“I talk with you.”/“You and I talk (together).”

The causative verb *huan* 喚 in Tangshan Mandarin (Yu, 1988), Northeastern Mandarin, Wuqiao Mandarin, and Shijiazhuang Mandarin (Zhang, 2010; Jiang, 2012) exhibits a similar pattern of polysemy:

- (7) *Lao Zhang huan Xiao Li shangliang shiqing.*
 Lao Zhang CAUS/COM/CONJ Xiao Li discuss matter
 “Lao Zhang asks Xiao Li to have a discussion.” /
 “Lao Zhang has a discussion with Xiao Li.” /
 “Lao Zhang and Xiao Li have a discussion.”

Yu (1988: p. 154) postulates a context for *huan* to be reanalyzed through pragmatic inference: “after one person calls another, these two person perform the same action together” (我先喚你，隨後咱倆人一起去 [sic]). Jiang (2012: p. 296) further states that when the verb *huan* desemanticizes into a causative verb, it is frequently used in a serial verb construction [NP1 + *huan* + NP2 + VP]. NP2 is the object of *huan*, as well as the subject of VP. Therefore, it is possible for *huan* to be reanalyzed into a comitative preposition, highlighting the fact that NP1 and NP2 are the co-agents of the action.

Nonetheless, the grammaticalization pathway of causative verbs in Chinese dialects is yet to be verified. For one thing, while Yu (1988) and Jiang (2012) argue that comitative preposition originates from its causative function, it is not clear whether an intermediate stage is involved. It is also not discussed whether the multifunctionality of causative verbs is a result of polygrammaticalization or not. For instance, does *huang* grammaticalize into an allative preposition before further develop into a comitative preposition? Alternatively, does the causative *huang* undergo polygrammaticalization and acquire the functions of an allative preposition and a comitative preposition through two independent paths? In the case of *gao* in Nanjing Mandarin, it is also not clear whether *gao* acquires the comitative function before it acquires the ablative function, or vice versa.

1.3. Research Methodology

In order to reveal the actual grammaticalization path of causative verbs in Chinese dialects, this paper the comparative method to obtain implicational relationships from various dialects, and thus the grammaticalization paths can be reconstructed. This method is commonly employed by Chinese linguists such as Wu (2003) and Zhang (2015). One advantage of this method is that data collection is much easier, and grammatical testing is possible since native speakers can be consulted. As long as the amount of data is large enough, a relatively reliable generalization can be achieved. Reliability of the reconstructed diachronic pathways can be assessed and verified with a large arsenal of methods, each with its own usefulness and limits.

1) Cross-referencing with previous research. If an argument or generalization made in our research is consistent with the reports from previous scholars, gen-

erally it would have a higher validity. Nevertheless, linguistic reports or investigations might not always be available, especially for less-studied languages. In addition, previous literature can be unreliable as well.

2) Unidirectionality. If the diachronic path reconstructed in our research follows the principle of unidirectionality of grammaticalization (i.e., from lexical item to grammatical item, or from a weak grammatical function to a strong grammatical function), the plausibility of this path would be relatively higher. It should be noted, however, that unidirectionality is just a trend instead of an absolute rule (see Traugott, 2001).

3) Semantic explanation. For a reconstructed pathway [A—B—C], if the node A shares similar semantic properties with node B, and node B with node C (in other words, these three nodes share a family resemblance), the plausibility of this reconstruction can be increased. For one thing, semantic analysis can be employed to screen out cases like coincidence or polygrammaticalization (i.e., [A > B] and [A > C]). This method, however, is highly subjective.

4) Syntactic explanation. If it is possible to find out the syntactic condition for reanalysis/grammaticalization to take place, the reconstruction would be more plausible. Similarly, this can help to screen out cases like coincidence or polygrammaticalization. Nevertheless, it is yet to be proved whether reanalysis is non-optional for all grammaticalization processes.

5) Cross-linguistic tendencies. If similar path can be observed in other non-related languages, this could serve as supporting evidence for our reconstruction, especially when this diachronic development had been confirmed by previous studies in other languages. This method can also help us to screen out cases of coincidence or polygrammaticalization. Nonetheless, it is not necessary for different languages to follow the same path of diachronic development.

1.4. Data Collection

Our survey was conducted from 2009 to 2019. First-hand data are the primary targets of our database. They have been obtained from questionnaires and interviews conducted during our field work. As our research is data-driven, we made no assumption as to the syntactic rules and the polysemy of the coordinating conjunctions and other relevant functions. All the grammatical restrictions on and preferences of the use of comitatives/conjunctions were recorded objectively. As long as a case of polysemy is observed during the research, it was recorded in our database regardless of how common such phenomenon is in other languages, or whether the grammatical behavior/polysemy pattern has been reported in previous literature.

Second-hand data (including those from previous research, reference grammars, language dictionaries, textbooks, etc.) are also consulted as auxiliary evidence. Although the research interests of previous scholars might not be similar as ours, their observations and example sentences could still be useful. Historical record (especially in Standard Chinese), or historical studies conducted by previous scholars were also collected as references.

In order to reveal the polysemy of a certain gram in a language, a questionnaire was designed. It consists of 38 sets of sentences written in Standard Chinese, aiming to solicit polysemy patterns of coordinating conjunctions in the native language of the informant. In addition, the linguistic forms and word order configurations were also collected. Some functions are involved in multiple sentences so that we can verify the consistency of the informants.⁴

2. The Causative Verbs in Yue: A Preliminary Investigation

The following chart illustrates the findings from our field investigation in Yue.

Dialect and form	Verb “to call”	Causative verb	Ablative preposition	Comitative preposition/ Coordinating conjunction
Maoming /han ³³ ; Wuchuan /han ³³ ; Lianjiang (Cheban and Liangdong) /han ³³ ; Xinyi /ham ³³ /	Yes	No	No	No
Hong Kong /kiu ³³ ; Jiangmen /kieu ³³ / and /ham ³³ ; Yangchun /ham ³³ ; Lianjiang (Cheban) /ham ³³ ; Huazhou /han ³³ ; Xinyi /eu ⁵³ ; Suixi /ham ³³ /	Yes	Yes	No	No
Lianjiang (Cheban and Liangdong) /eu ⁵⁵ ; Kaiping /ham ³³ ; Taishan /ham ³³ / Yangjiang /ham ³⁵ / Enping /ham ³³ /	Yes	Yes	Yes	No
Enping /ham ³³ /	Yes	Yes	Yes	Yes

Three main lexicons are employed as causative verbs in Yue: (i) *han*⁵ 喊; (ii) *kiu* 叫; and (iii) *eu*. All follows the same implicational relationship:

(8) CALL > Causative > Ablative > Comitative/Coordinating conjunction

Without exception, if a causative verb in any Yue dialect possesses one of the functions in (8), we can predict that it also possesses all functions on the left. The polysemous pattern [CALL = Causative] is attested in Suixi Yue (F107),⁶ Jiangmen Yue (F108), and Enping Yue (F110):

(Suixi Yue)

(9) *ma*⁵⁵ *tseu*³⁵ *ko*³⁵ *tou*²² *ham*³³?
Who in.here call

⁴Please refer to Chan (2020) for the complete design of the survey.

⁵It should be noted that the cognates of *han* are pronounced as /ham/ in some Yue dialects.

⁶In this paper, all informants are coded in the format M/F + a three-digit code, such as “Suixi Yue (F107)” or “Taishan Yue (M047)”.

“Who is yelling?”

- (10) *ma³¹ ma⁵⁵ ham³³ tɛ^ɛ ma⁵⁵ tɕɛ^ɛ hɔy³³ ma¹³ ts^ho^ɛɕ³.*
 Mother CAUS child go buy food

“The mother asked the child to go and buy some food.”

(Jiangmen Yue)

- (11) *mu¹³ kɔ³³ hɛŋ¹³ tsit⁶⁵ ham³³?*
 Who in.here call

“Who is yelling?”

- (12) *ma³¹ ma⁵⁵ ham³³ do^ɛ hɔy³³ ma¹³ ɕoŋ³³.*
 Mother CAUS child go buy food

“The mother asked the child to go and buy some food.”

(Enping Yue)

- (13) *a³³ ma⁵⁵ ham³³ kɔ³³ ɕɛ^ɛ lou⁵⁵ kɔ⁵⁵ hɔy³³ ma¹³ ts^ho^ɛɕ³.*
 Mother CAUS CLF child go buy food

“The mother asked that child to go and buy some food.”

The syncretism [CALL = causative = ablative] is found in Kaiping Yue (F112), Taishan Yue (M047), and Xinhui Yue (F109), as exemplified below:

(Kaiping Yue)

- (14) *a³³ ɕɛ^ɛ hɛŋ⁵⁵ nɛŋ³⁵ ham³³ a³³?*
 Who in.here call Q

“Who is yelling?”

- (15) *a³³ ma⁵⁵ ham³³ tɛ^ɛ ma⁵⁵ do^ɛ hɔy³³ ma¹³ tɔŋ³³.*
 Mother CAUS child go buy food

“The mother asked the child to go and buy some food.”

- (16) *ŋo^ɛ ham³³ k^ho^ɛ tie³³ yi⁶⁵ pak³³ mu^ɛ.*
 1SG ABL 3SG borrow hundred dollar

“I borrowed \$100 from him.”

(Taishan Yue)

- (17) *ɕo^ɛ hɔ²² nin³⁵ ham³³?*
 Who in.here call

“Who is yelling?”

- (18) *ma³¹ ma⁵⁵ ham³³ ma^ɛ dou⁵⁵ dou³³ si¹³ ɕɛŋ⁵⁵ ma¹³ to^ɛ.*
 Mother CAUS child arrive market buy food

“The mother asked the child to go to the market and buy some food.”

- (19) *ŋɔ¹³ ham³³ k^hɛ¹³ tie³³ yi⁶⁵ pak³³ mu^ɛ.*
 1SG ABL 3SG borrow hundred dollar

“I borrowed \$100 from him.”

(Xinhui Yue)

- (20) *pi²² kɔ³⁵ hɛ^ɛ ni³¹ jit⁶⁵ ham³³?*
 Who in.here call

“Who is yelling?”

- (21) a^{33} ma^{33} ham^{33} sef^{33} $meŋ^{55}$ $jeŋ^{55}$ $hoŋ^{33}$ ma^{13} $soŋ^{33}$.
 Mother CAUS child go buy food
 “The mother asked the child to go and buy some food.”
- (22) $ŋo^{13}$ ham^{33} $kʰoŋ^{13}$ $tsie^{33}$ $yeŋ^{55}$ pak^{23} man^{55} .
 1SG ABL 3SG borrow hundred dollar
 “I borrowed \$100 from him.”

Zhang (2010: p. 75) reports that *han* in Doumen, Taishan, Kaiping, Enping, etc. in Guangdong province functions as an ablative preposition. The following example is quoted from Gan (2010: p. 108):

- (Siyi Yue)
- (23) 你 該 本 書 喊 啊誰 借 架?
 2SG that CLF book ABL who borrow Q
 “Who did you borrow that book from?”

In the Niujiang Yue dialect spoken in Enping (in Guangdong), the expressions / ηua^{31} ham^{33} $ts^{h}ai^{22}$ / is regarded as a first-person plural pronoun. While it is clear that / ηua^{31} / is the first-person singular pronoun and / ham^{33} / is in fact a cognate of *han*, the meaning of / $ts^{h}ai^{22}$ / is yet to be confirmed. Despite this, Zhang (2010: p. 283) points out that *han* in Enping does function as a conjunction.

The implicational relationship (8) we found in Yue is noteworthy since it suggests that [ablative] could be an intermediate stage for causative verbs to grammaticalize into a comitative preposition and a coordinating conjunction. Nonetheless, it should be noted that (8) is reconstructed based on a limited amount of data. For one thing, the polysemy [causative = comitative/conjunction] is attested in Enping Yue only, which is based on the report from Zhang (2010) and Gan (2010). Our informant F110 stated that the comitative/conjunction function of *han* was not acceptable in contemporary Enping Yue. From our field work on Yue, it is clear that causative verb is the source item, but it is yet to be verified whether [ablative] is a non-optional intermediate stage. Hence, it is necessary for us to expand the scope of investigation to other Chinese dialects before a more reliable reconstruction can be made.

3. The Five Lexical Items of Causative Verbs

This section investigates the multifunctionality of causative verbs based on the data from 41 Chinese dialects.⁷ In addition to our first-hand data, previous studies have also been employed. Combining our field data with previous studies, we collected a total of 257 dialects.

The geographical distribution of the grammaticalized causative verbs examined in the current investigation can be generalized as follows. (i) *Huan* is concentrated in the Northeastern China area; (ii) *huang* in Shandong province; (iii) *han* in the Central China (Jiangsu and Anhui) and the Southern China (Guang-

⁷Data were collected between 2015 and 2019; two to five informants (aged 15-35) were invited to contribute for each dialect.

dong, Jiangxi, Fujian, and Hubei); (iv) *jiao* in the Yangzi delta (Shanghai, Zhejiang, and Jiangsu); and (v) *eu* in Guangdong province. The distribution of causative verbs investigated in this paper is displayed in **Figure 1** (Google, n.d.: -a)⁸.

We would like to emphasize that the objective of this study is to show that causative verbs can be grammaticalized into comitatives/conjunctions in Chinese dialects. The data above are not adequate to show a complete picture of all causative verbs in Chinese, which should be left for future studies.

3.1. Phonological forms

3.1.1. Han 喊

Zhang (2010) reports that the verb *han* (喊) “to shout” is adopted as a preposition/conjunction in Jiangyin Wu, Taishan Yue, Lingao in Hainan, etc.⁹

Our database of 257 dialects illustrates that (i) all cognates of *han* bear the initial



Figure 1. The distribution of causative verbs in Chinese dialects.

⁸In this paper, all maps are created by Google MyMap, with annotations and legends provided by us.

⁹Zhang (2010) also hypothesizes that the comitative/conjunction /xan⁵¹/ in old Beijing/Taiwan Mandarin (see Hou, 2010; Jiang, 2012; and Sun, 2013) is also a cognate of *han*. Nevertheless, this argument was not supported by the fact that the highly grammaticalized *han* (with the departing-tone) is only attested in southern Chinese dialects. (see Chan, 2020 for further discussion) Therefore, /xan⁵¹/ in old Beijing/Taiwan Mandarin is not regarded as a cognate of *han* in the current study.

/h-/ or /x-/ , which is consistent with the initial type *xiao* 曉 in Middle Chinese. (ii) In southern dialects such as Yue where the labial-nasal coda /-m/ is preserved, *han* is pronounced with /-am/. In northern dialects, such as Gansu Mandarin (M043), the labial-nasal coda /-m/ is lost, and *han* is pronounced with /-an/. In dialects like Shanghai Wu (M059) and Ji'an Gan (F128) where nasal coda are lost, *han* is pronounced with the nasalized vowel /-ã/ or /hæ̃/. All finals are consistent with those of the *xian* 咸 category. In several dialects where nasal coda or nasalized vowels are absent, it is observed that the finals of *han* are consistent with those under the *xian* 咸 category. An example is Jiangyin Wu where *han* and other words from the *xian* 咸 category are pronounced with the final /æ/ (Liu & Hou, 2013). (iii) As expected, *han* in most contemporary Chinese dialects bear no medium vowel (except Leizhou Min). This is consistent with the “open” label 開口呼 and the I/II division 一/二等韻 in the historical record. (iv) All grams collected in our database share the basic verbal function ‘to shout/to cause’.

Interestingly, the tonal categories of *han* vary among different Chinese dialects. Three types of dialects are identified according to the preferences of the tonal categories. Mandarin, Gan, and Xiang belong to the first type, where the dominating tone for *han* is (yin-)rising. Wu, Min and Hakka belong to the second type, where the tone for *han* can be (yin-)level, (yin-rising) or (yin-)departing. The third type is Yue, where *han* is always pronounced in the yin-departing tone.

Figure 2 displays the areal distribution of *han* in all attested tonal categories in Chinese dialects in our database (Google, n.d.: -b):

Our cross-dialectal investigation is consistent with the historical material. (i) It is clear that the yin tones (yin-level, yin-rising, yin-departing) are much more

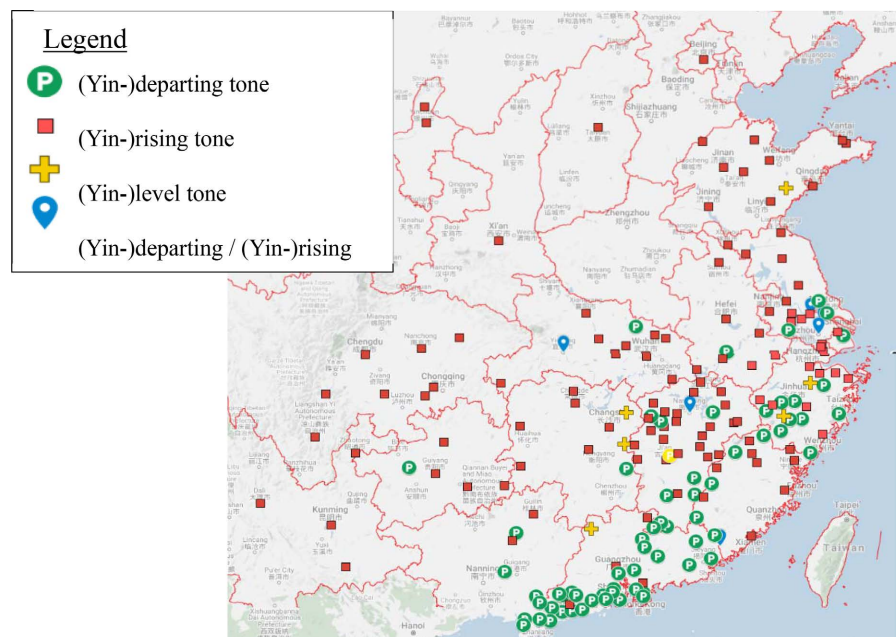


Figure 2. The tonal categories of *han* in various Chinese dialects.

preferred in all dialects in our database. (ii) The (yin-)rising tone is attested in all major dialects, and in all provinces (including Guangdong). (iii) The (yin-)departing tone is concentrated in Southeastern China, especially the far-south region of Guangdong. (iv) In northern China, especially in the region around Beijing, only rising tone is adopted. (v) There are some dialects where both rising and departing tones are acceptable. This case is observed in highly developed cities/capital cities of provinces (perhaps as a result of migration, or frequent contact between different dialects). In these dialects, the two tones of *han* do not exhibit a “division-of-labour” pattern. (vi) None of the *han* collected has the medium vowels such as /-i-/ and /-u-/. This is also consistent with the phonological pattern of the *han* in Middle Chinese (labelled as “open”, division I or II).

3.1.2. Huang 惶

Another causative verb collected in our database is *huang* (惶). It is attested in Pingdu, Ningjin, Yishui, Zhucheng, Juxian, and Mouping Mandarin (all located in Shandong province). The phonological forms are listed in **Table 1**.

The grams above should not be confused with the *han* or *huan* discussed in previous sections. The first reason is that all grams above have the nasal coda /-ŋ/, which is not consistent with the phonological status of *han* or *huan* in Middle Chinese.

3.1.3. Huan 唤

In Beijing, Jianghuai, and Southwestern Mandarin, the verb *huan* bears the lexical meanings of “to call (someone)” (Xu & Miyata, 1999: p. 4802). Furthermore, Jiang (2012: p. 296) notes that since Middle Chinese, the serial verb construction [A + *huan* + B + VP] (A asks/causes B to perform the action of VP) has been commonly used. In modern Chinese dialects, *huan* in Northeastern Mandarin (such as Wuyao, Harbin, Shijiazhuang, etc. See Yin, 1997 and Li, 1995) is commonly employed as a causative verb, an ablative preposition, a comitative preposition, and a coordinating conjunction.

The cognates of *huan* in the aforementioned area are highly consistent in terms of the phonological form. The followings support the idea that *huan* originates

Table 1. The phonological forms of *huang* in Mandarin Chinese.

Dialect	Form	Source
Jimo Mandarin	xuɑŋ ⁴²	Zhao, Shen, & Hu (1991)
Juxian Mandarin	xuɑŋ ³¹	Shi (1995)
Mouping Mandarin	xuɑŋ ⁰	Luo (1992)
Ningjin Mandarin	xɑŋ ³¹	Cao (2003)
Pingdu Mandarin	xɑŋ ³¹	Yu (1992)
Yishui Mandarin	xɑŋ ²¹⁴	Zhang, Wang, & Li (1999)
Zhucheng Mandarin	xɑŋ ⁵³ /xuɑŋ ⁵³	Qian, Zeng, & Luo (2002)

from the lexical item 喚. (i) All cognates of *huan* bear the initial /x-/ , which is consistent with the initial type *xiao* 曉 in Middle Chinese. (ii) The finals of *huan* are consistent with those under the *shan* 山 category. (iii) In most, if not all, contemporary Chinese dialects *huan* bear the medium vowel /-u/. This is consistent with the “close” label 合口呼 and the I division 一等韻 in the historical record. (iv) All instances of *huan* is pronounced in the departing tone. (v) All grams collected in our database share the basic verbal function ‘to call/to cause’.

3.1.4. Jiao 教

Jiang (2012: p. 298) argues that the original lexical function of *jiao*¹⁰ 教 is “to teach”; therefore, the causative function is also implied. In the Tang dynasty, this verb acquired the function of ‘to allow’.

- (24) ...不 教 胡 馬 度 陰山.
 NEG allow foreign horse pass Yinshan
 “...to not allow foreign horses to pass through Yinshan.”
 (*Chusai*, by Wang Changling)

In Standard Chinese, *jiao* is pronounced as /teiao^{55/51}/. The cognates of *jiao* (listed in **Table 2**) in contemporary Chinese dialects (especially those spoken in southern China) are pronounced differently. It is observed that *jiao* in Wu and Mandarin spoken in Southern China is consistently pronounced with the initial /k-/ instead of the initial + medium /tei-/. Jiang (2012: p. 298) believes that this is a result of palatalization in Northern Mandarin, where /k-/ is transformed to /tei-/ (before [+high] vowels).

Since *jiao* in Shanghai Wu was recorded as 教, and since its phonological status matches that of 教 in Middle Chinese, Jiang (2012: p. 299) identifies *jiao* in Shanghai Wu as a cognate of 教 in Middle Chinese.

Unlike the case in Shanghai Wu, *jiao* in Nanjing Mandarin is recorded as 告 and it is pronounced with a departing tone. Despite this, Jiang (2012: p. 299) also regards *jiao* in Nanjing as a cognate of 教 for two reasons: (i) *jiao* (教) in middle Chinese can be pronounced with the yin-level tone as well as the yin-departing tone; and (ii) the causative verb *jiao* was gradually replaced by its

Table 2. The tonal categories of *jiao* in Chinese dialects.

Dialect (source)	Form (tonal category)
Beijing Mandarin (F052)	teiao (yin-level tone/ departing tone)
Shanghai Wu (Xu & Tao, 1997: p. 162)	kɔ (yin-level tone)
Yangzhou Mandarin (Wang & Huang, 1996)	kɔ (yin-level tone)
Nanjing Mandarin (Liu, 1995)	kɔo (departing tone)
Huaiyin Mandarin, Chaoxian Mandarin (Huang, 1996)	kɔ (rising tone)

¹⁰In this paper, the lexical item 教 and its cognates in Chinese dialects are coded as *jiao*, which is its Romanization in Standard Mandarin. It should be noted that the pronunciation of this lexicon varies across different dialects.

synonym *jiao* (叫)¹¹ in Nanjing beginning in the Ming/Qing dynasties. While both share the same phonological status, the latter is pronounced with the departing tone. As the frequency of *jiao* (叫) increased, the departing tone *jiao* came to be preferred instead of its level-tone counterpart.

In Huaiyin and Chaoxian Mandarin, /kɔ/ (搞) is pronounced with the rising tone. Nonetheless, Jiang (2012: p. 299) identifies it as the cognate of *jiao* ‘to teach’.¹² We believe that further investigation is needed before the etymology of *gao* (高), *gao* (告), and *gao* (搞) can be verified. In this study, we subscribe to the argument that *jiao* in Shanghai Wu and *gao* (告) in Nanjing Mandarin are cognates of *jiao* due to the consistency in their phonological status. The lexical item *gao* (高) in Yangzhou Mandarin is also classified as a cognate of *jiao* since it is less likely for the adjective *gao* (高) ‘tall’ to be grammaticalized into a comitative/conjunction. We have reservations about acknowledging *gao* (搞) in Huaiyin and Chaoxian Mandarin as a cognate of *jiao*, as further evidence is needed in order to explain why the level/departing tone *jiao* changed to the rising tone *gao* (搞).

3.1.5. Eu

Not all causative verbs collected in our investigation have a clear etymology. In Lianjiang Yue (Cheban (F093) and Liangdong (F092)) and Xinyi Yue (F085), the lexical source(s) of the causative verbs /ɛu⁵⁵/ and /ɛu⁵³/ is/are unclear. Nonetheless, the same polysemy pattern is observed.

3.2. Implicational Relationship

All causative verbs collected in our database follow the implicational relationship, listed in Figure 3.

In the grammaticalization path of causative verbs, the existence of the ablative function cannot predict the existence of the allative function, or vice versa. On the contrary, in the grammaticalization path of comitative verbs, [allative] is an intermediate stage between [comitative] and [ablative]. Thus, if a comitative verb possesses the function of an ablative preposition, one can predict that it is also an allative preposition and a comitative preposition.

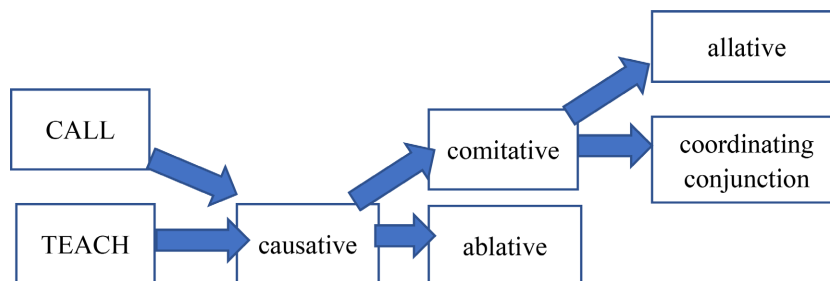


Figure 3. The grammaticalization path of causative verbs.

¹¹In this paper, all instances of *jiao* (叫) ‘to call’ are labelled with pinyin and Chinese character in order to distinguish it from the causative verb *jiao* (教) ‘to teach’.

¹²Despite the difference in the tonal categories, /kɔ/ (搞) should ‘in theory (根據學理) [sic]’ have originated from *jiao* (Jiang 2012: p. 299).

3.2.1. Case I: CALL/TEACH Only

The cognates of *han* attested in Wuchuan (F090), Lianjiang (Cheban (F093) and Liangdong (F092)), Gaozhou (F086), Hong Kong (literal reading), and Xinyi (F085) serves as a verb ‘to call’, but lacks the grammatical functions listed in **Figure 3**. Similarly, *jiao* in Hong Kong Yue, Wuhan Mandarin (F050), Yichang Mandarin (M046), etc. only serves as a verb ‘to teach’.

3.2.2. Case II: CALL/TEACH = Causative

In 39 dialects, *han* possesses the function of a verb ‘to call’ and that of a causative verb; this behavior is scattered across multiple provinces/cities (Guangdong, Jiangxi, Fujian, Jiangsu, Zhejiang, Hubei, Guizhou, and Shanghai) and dialect groups (Yue, Min, Hakka, Gan, Mandarin, and Wu). Please refer to the following examples from Suixi Yue (F107), Jiangmen Yue (F108), and Enping Yue (F110):

(Suixi Yue)

(25) *ma*⁵⁵ *tsɿu*³⁵ *kɔ*³⁵ *tou*²² *ham*^{33?}
Who in.here call

“Who is yelling?”

(26) *ma*³¹ *ma*⁵⁵ *ham*³³ *tɿ*^{ɸ3} *man*⁵⁵ *tsɿ*^{ɸ5} *høy*³³ *ma*⁴³ *ts^hoɪ*^{ɸ3}.
Mother CAUS child go buy food

“The mother asked the child to go and buy some food.”

(Jiangmen Yue)

(27) *miŋ*¹³ *kɔ*³³ *hœŋ*¹³ *tsi*^{ɸ5} *ham*^{33?}
Who in.here call

“Who is yelling?”

(28) *ma*³¹ *ma*⁵⁵ *ham*³³ *doɪ*^{ɸ5} *høy*³³ *ma*⁴³ *soɪ*^{ɸ3}.
Mother CAUS childgo buy food

“The mother asked the child to go and buy some food.”

(Enping Yue)

(29) *a*³³ *ma*⁵⁵ *ham*³³ *kɔ*³³ *sɿ*^{ɸ3} *lou*⁵⁵ *kɔ*⁵⁵ *høy*³³ *ma*⁴³ *ts^hoɪ*^{ɸ3}.
Mother CAUS CLF child go buy food

“The mother asked that child to go and buy some food.”

In the Chongming Wu dialect, *han* functions as a causative verb (Zhang, Du, & Zhong, 2014: p. 283):

(Chongming Wu)

(30) 喊 我 話, 是 冷天 汰冷水肉
CAUS 1SG speak be cold.day swim.in.cold.water
我 弗 高興 個
1SG NEG happy SFP

“In my opinion (Lit. let me speak), I am not willing to swim in winter.”

In Xinyi (F085), *eu* is a causative verb (as in (31)) but not an ablative preposition.

(Xinyi Yue)

- (31) $a^{33} ma^{53} \quad \varepsilon u^{53} \quad sa^{33} noŋ^{35} hoŋ^{33} \quad ma^{31} \quad tʂʊ^{33}$.
 Mother CAUS child go buy vegetable
 “The mother asked the child to go and buy some vegetables.”

3.2.3. Case III: CALL/TEACH = Causative = Ablative

In Hefei (F151) and Suzhou (F150) in Anhui province, Suining (M064) in Jiangsu province (all of which belong to the Mandarin dialect) and another seven dialects, *han* functions as an ablative preposition. The cases in Kaiping Yue (F112), Taishan Yue (M047), and Xinhui Yue (F109) are exemplified below:

(Kaiping Yue)

- (32) $a^{33} soe^{35} \quad heŋ^{55} neŋ^{35} \quad ham^{33} \quad a^{33?}$
 Who in.here call Q
 “Who is yelling?”
- (33) $a^{33} ma^{55} \quad ham^{33} \quad tʂ^{33} maŋ^{55} doŋ^{55} \quad hoŋ^{33} \quad ma^{43} \quad tʊŋ^{33}$.
 Mother CAUS child go buy food
 “The mother asked the child to go and buy some food.”
- (34) $ŋo^{33} \quad ham^{33} \quad k^həy^{13} \quad tie^{33} \quad yi^{65} pak^{33} \quad muŋ^{55}$.
 1SG ABL 3SG borrow hundred dollar
 “I borrowed \$100 from him.”

(Taishan Yue, Sinitic, Sino-Tibetan)

- (35) $səy^{33} \quad ho^{22} niŋ^{35} \quad ham^{33?}$
 Who in.here call
 “Who is yelling?”
- (36) $ma^{31} ma^{55} \quad ham^{33} \quad ma^{31} doŋ^{55} doŋ^{33} \quad si^{43} soeŋ^{55} \quad ma^{43} \quad to^{55}$.
 Mother CAUS child arrive market buy food
 “The mother asked the child to go to the market and buy some food.”
- (37) $ŋo^{13} \quad ham^{33} \quad k^həi^{43} \quad tie^{33} \quad yi^{65} pak^{33} \quad muŋ^{55}$.
 1SG ABL 3SG borrow hundred dollar
 “I borrowed \$100 from him.”

(Xinhui Yue, Sinitic, Sino-Tibetan)

- (38) $piŋ^{22} ko^{35} \quad he^{35} nuŋ^{31} ji^{65} \quad ham^{33} ?$
 Who in.here call
 “Who is yelling?”
- (39) $a^{33} ma^{33} \quad ham^{33} \quad se^{33} meŋ^{55} je^{55} \quad hoŋ^{33} \quad ma^{43} \quad soŋ^{33}$.
 Mother CAUS child go buy food
 “The mother asked the child to go and buy some food.”
- (40) $ŋo^{13} \quad ham^{33} \quad k^həy^{13} \quad tsi^{33} \quad ye^{65} pak^{33} \quad maŋ^{55}$.
 1SG ABL 3SG borrow hundred dollar
 “I borrowed \$100 from him.”

Two issues should be noted regarding Case III: (i) most dialects are Yue and located in Guangdong, except Yichang Mandarin in Hubei; and (ii) if *han* in a

certain dialect functions as an ablative preposition, one can predict that it can also be used as a causative verb and a verb ‘to call’.

Zhang (2010: p. 75) reports that *han* in Doumen, Taishan, Kaiping, Enping, etc. in Guangdong province functions as an ablative preposition. The following example is extracted from Gan (2010: p. 108):

- (41) 你 該 本 書 喊 啊誰 借 架?
 2SG that CLF book ABL who borrow Q
 “Who did you borrow that book from?”

The gram *eu* in Lianjiang Yue is a causative verb and an ablative preposition, as shown in the examples below:

(Lianjiang Yue, Sinitic, Sino-Tibetan)

- (42) ma^{21} ma^{55} εu^{55} $\eta\omega^{13}$ $he\dot{r}^{33}$ mai^{43} $ts^h\omega\dot{r}^{33}$.
 Mother CAUS 1SG go buy vegetable
 “(My) mother asked me to go and buy some vegetables.”

- (43) $\eta\omega^{13}$ mou^{13} $ts^h i\dot{r}^{21}$, ω^{35} ji^{43} εu^{55} $ke\dot{r}^{33}$ tse^{33} .
 1SG NEG money therefore ABL 3SG borrow
 “I didn’t have money, so I borrowed some from him.”

In Harbin Mandarin, the causative verb *huan* also functions as an ablative preposition:

- (44) 沒 錢 喚 他 借.
 NEG money ABL 3SG borrow
 “(If you have) no money, borrow from him.” (Yin, 1997: p. 311)

3.2.4. Case IV: CALL/TEACH = Causative = Comitative = Conjunction

Once a causative verb acquires the function of a comitative preposition, it could be further grammaticalized into a coordinating conjunction. Our reconstructed grammaticalization path [causative > comitative > allative] is supported by the fact that all grams that exhibit the [causative = conjunction] syncretism can, without exception, function as a comitative preposition as well.

In Yichang Mandarin (M046) and Jiangyin Wu, *han* functions as a comitative preposition. The former also functions as an ablative preposition, while the latter possesses the function of a coordinating conjunction as well (Xu & Miyata, 1999; Chao, 1928; Zhang et al., 2014; Liu & Hou, 2013; Qian, 1992). In both dialects, *han* also possesses the function of a causative verb and the verb ‘to call’:

(Yichang Mandarin, Sinitic, Sino-Tibetan)

- (45) wo^{42} xar^{24} $t^h a^{55}$ tao^{24} wu^{42} xar^{24} $ts^h p$.
 1SG call/CAUS/COM 3SG to Wuhan go
 “I call him to go to Wuhan.”/“I ask him to go to Wuhan.” /
 “I go to Wuhan with him.”
- (46) $*wo^{42}$ ε^{42} $xuar^0$ $\varepsilon i a\dot{r}^{55}$ $te i a\dot{o}^{55}$ xar^{24} $p^h i\dot{r}^{13}$ kuo^{42} .
 1SG like banana HAN apple
 Intended: “I like bananas and apples.”

(Jiangyin Wu, Sinitic, Sino-Tibetan)

- (47) 我 喊 你 一起 走.
 1SG call/COM/CONJ 2SG together go
 “I call you to go together.”/“I go with you.”/“You and I go.”

In Xuzhou (F145) and Suining (M064), *han* functions as a comitative preposition. Nonetheless, *han* in these two dialects does not function as a coordinating conjunction. Moreover, *han* in Xuzhou (F145) cannot introduce ablative cases, while that in Suining (M064) can. This observation suggests that the causative verb *han* undergoes polygrammaticalization and acquires the functions of an ablative preposition or a comitative preposition. In other words, P2 in Section 2 is more probable than P2.

The grammatical functions of *huang* (惶) are exemplified below (Zhang, 2010: pp. 76-77):

(Pingdu Mandarin, Sinitic, Sino-Tibetan)

- (48) 我 惶 你 說 句 話.
 1SG ALL/COM/CONJ 2SG say CLF word
 “I have a talk with you.”/“I talk with you.”/“You and I talk (together).”

(Ningjin Mandarin, Sinitic, Sino-Tibetan)

- (49) 他 惶 我 一樣 高.
 3SG COM 1SG same height
 “He is as tall as I am.” (Lit. He and I are the same height)

(Yishui Mandarin, Sinitic, Sino-Tibetan)

- (50) 別 惶 俺 一般 見識.
 Do.not COM 1SG same knowledge
 “Don’t be as stupid as I am.”
- (51) 他 惶 他 老婆 都 沒 在 家.
 3SG CONJ 3SG wife all NEG in home
 “He and his wife are not at home.”

(Zhucheng Mandarin, Sinitic, Sino-Tibetan)

- (52) 我 惶 你 一塊 去.
 1SG COM/CONJ 2SG together go
 “I go with you.”/“You and I go together.”

(Juxian Mandarin, Sinitic, Sino-Tibetan)

- (53) 我 惶 你 打 這 小子 一頓.
 1SG COM/CONJ 2SG hit this kid once
 “I hit this kid with you.”/“You and I hit this kid.”

(Mouping Mandarin, Sinitic, Sino-Tibetan)

- (54) 咱 惶 他 一堆 去.
 1PL.INCL COM/CONJ 3SG together go
 “We go with him.”/“We and he go together.”

In addition, *huan* functions as a comitative/conjunction in Mandarin spoken

in Hebei (such as Shijiezhuang and Wuqiao), Tianjin and Northeastern China (Zhang, 2010: p. 75; Jiang, 2012: p. 296; Li, 1995).

Jiao in Shanghai Wu functions as a verb “to teach/to cause”; it also functions as a comitative preposition and a coordinating conjunction. These are exemplified in (47) and (48) respectively:

(Shanghai Wu, Sinitic, Sino-Tibetan)

- (55) 我 倒 要 教 廣 領導 講 講
 1SG even need COM 2SG:POSS leader talk talk
 清爽 看.
 clear look

“I need to have a thorough discussion with your leader.”

(Huang, 1996: p. 528)

- (56) 我 教 儂 老 朋友 啲.
 1SG CONJ 2SG old friend SFP

“You and I are old friends.” (Huang, 1996: p. 539)

The same polysemy pattern is also attested in our field investigation. Young Shanghai Wu speakers (M059) employ the gram /kɔ³³/ as a causative verb, an ablative preposition, a comitative preposition, a coordinating conjunction and an allative preposition.

In Huaiyin and Chaoxian Mandarin, /kɔ/ (搞) is pronounced with the rising tone. Nonetheless, Jiang (2012: p. 299) identifies it as the cognate of *jiao* ‘to teach’. In both dialects, /kɔ/ functions as a comitative preposition (as in (57, 59)) and a coordinating conjunction (as in (58, 60)):

(Huaiyin Mandarin, Sinitic, Sino-Tibetan)

- (57) 這 傢伙 做 事 搞 人 不 一樣.
 This guy do thing COM people NEG same

“This guy does things unlike the others.” (Huang, 1996: p. 526)

- (58) 晶晶 亮亮 搞 小強子 都 是
 Jingjing Liangliang CONJ Xiaoqiangzi all be
 一 個 班 的.
 one CLF class NOM

“Jingjing, Liangliang and Xiaoqiangzi are from the same class.” (Huang, 1996: p. 538)

(Chaoxian Mandarin, Sinitic, Sino-Tibetan)

- (59) 搞 他 一塊 去 的 人 都 回來 吱了.
 COM 3SG together go DE people all back SFP

“The people who went together with him are all back.” (Huang, 1996: p. 525)

- (60) 前個 搞 昨個 兩 天 下
 Day-before-yesterday CONJ yesterday two day down
 吱 沒 歇.
 PRF NEG stop

“The day before yesterday and yesterday; it has been raining non-stop for two days.” (Huang, 1996: p. 538)

3.2.5. Case V: CALL/TEACH = Causative = Comitative = Allative

Once a causative verb acquires the function of a comitative preposition, it could be further grammaticalized into an allative preposition or a coordinating conjunction. (See Chan, 2020 for relevant discussion) Our reconstructed grammaticalization path [causative > comitative > allative] is supported by the fact that all grams that exhibit the [causative = allative] syncretism can, without exception, function as a comitative preposition as well.

One example of a causative verb acquiring the function of an allative preposition can be found in the Wu dialect spoken in Jiangyin. It is reported that *han* functions as a comitative preposition, an allative preposition, and a coordinating conjunction (Zhang et al., 2014: p. 283):

(Jiangyin Wu, Sinitic, Sino-Tibetan)

- (61) 我 喊 你
 1SG CONJ 2SG
 “You and I...”
- (62) 我 喊 你 一起 走。
 1SG COM 2SG together go
 “I go with you.”
- (63) 喊 你 講
 ALL 2SG talk
 “(someone) talks to you”

Another example is *huang* (噯) in Pingdu Mandarin. Let us consider the ambiguous sentence below where *huang* can be interpreted as an allative preposition, a comitative preposition, and a coordinating conjunction. The resulting meanings are “I have a talk with you”/“I talk with you”/“You and I talk (together)” respectively.

(Pingdu Mandarin, Sinitic, Sino-Tibetan)

- (64) 我 噯 你 說 句 話。
 1SG ALL/COM/CONJ 2SG say CLF word
 “I have a talk with you.”/“I talk with you.”/“You and I talk (together).”

The causative verb *gao* (告) in Nanjing Mandarin functions as an allative preposition in (65). According to the grammaticalization path in Figure 3, one can predict that this gram can also function as a comitative preposition (as in (66)): (Liu, 1995: p. 149)

(Nanjing Mandarin, Sinitic, Sino-Tibetan)

- (65) 有 意見 你 直接 告 我 講 好 了。
 Have opinion 2SG directly ALL 1SG speak good SFP
 “(If you) have any opinion, it would be better for you to talk to me directly.”
- (66) 我 不 告 他 合夥 了。

1SG NEG COM 3SG be.partner SFP
 “I do not form a partnership with him.”

The causative verb /kə³³/ in Shanghai Wu (M059) also follows the grammaticalization path in **Figure 3**; as it functions as an allative preposition, it also functions as a comitative preposition.

4. The Grammaticalization Path of Causative Verbs

Some generalizations can be made from our investigation on the causative verbs in Chinese dialects. (i) All causative verbs (even if we include the suspicious lexical item *gao* (搞) in Huaiyin and Chaoxian Mandarin) exhibit the same polysemy pattern. The implicational relationship discussed in **Figure 3** is applicable to all the causative verbs in our database. (ii) Some grams can function as an allative preposition. Interestingly, all of these grams can function as a comitative preposition as well. (iii) The lexical source of *jiao* is ‘to teach’ instead of ‘to call’, yet it follows the same grammaticalization path as other causative verbs.

4.1. Syntactic Conditions for Grammaticalization

As our approach is data-driven, the grammaticalization path of causative verbs in Chinese dialects in **Figure 3** is reconstructed purely based on the cross-dialectal data collected in our field work and culled from previous reports. In this section, syntactic analysis is carried out in order to reveal the condition(s) for the said grammaticalization. The main question to be addressed is why causative verbs are eligible to be grammaticalized into comitative prepositions and coordinating conjunctions.

It is well known that the syntactic behavior of a lexical item is influenced by its semantic function (Levin, 1993, among others). For instance, the ditransitive verb GIVE has a strong tendency to form clauses with three participants (Margetts & Austin, 2007). In this paper, all verbs involved share two main verbal functions: (i) to CALL/to TEACH; (ii) to cause. The former may or may not involve multiple events/participants, yet the latter must involve (at least) two events:

- (67) *I teach John.* / *I teach John mathematics.*
 (68) *I call John.* / *I call John to find Peter.*
 (69) **I make John.* / *I make John find Peter.*

Therefore, causative verbs frequently (or obligatorily) appear in serial verb constructions in verb-serializing languages like Chinese. This makes causative verbs eligible for reanalysis since the first VP in serial verb constructions are prone to grammaticalize into PP in many languages, particularly verb-serializing languages (Lord, 1993). This explains why, according to our database, causative is a non-optional intermediate stage for CALL/TEACH to be grammaticalized into prepositions.

Moreover, [causative + NP] is canonically placed in the first position for most languages, yet not all languages place PP in a pre-verbal position, particularly VO languages, where PP canonically occurs postverbally:

(70) a. *I* + [cause *John*] + non-finite-VP.

b. *I* + VP + [COM *John*].

(71) a. *wo* + [cause + *Zhang San*] + VP.

b. *wo* + [COM + *Zhang San*] + VP.

Thus [causative + NP] is eligible to be reanalyzed into a PP in Standard Mandarin, but such reanalysis is rather difficult in English.¹³ This argument is also applicable to other related functions discussed in this paper. Note the similarity of the surface structures between (71a) and (71b, 72):

(72) a. *wo* + [ABL + *Zhang San*] + VP.

b. *wo* + [ALLOW + *Zhang San*] + VP.

c. *wo* + [PASS + *Zhang San*] + VP.

b. [*wo* + CONJ] + *Zhang San*] + VP.

e. *wo* + [ALL + *Zhang San*] + VP.

The contexts involved in the grammaticalization of causative verbs are illustrated below:

Stage 0: Single VP clauses (Function involved: TEACH/CALL)

S + VP

Stage 1: Serial verb constructions (Function involved: causative)

S + [causative + NP] + VP

Stage 2: [causative +NP] is reanalyzed into PrepP

(Function involved: comitative/ablative/allative)

S + [Prep + NP] + VP

Stage 3: [S+COM/causative +NP] is reanalyzed into a coordinating construction (Function involved: coordinating conjunction)

[A & B] + VP

4.2. Semantic Explanations and Parallel Developments in Non-Sinitic Languages

At this point, it has been shown that when a verb in the TEACH/CALL category becomes a causative verb, this verb frequently appears in serial verb constructions in verb-serializing languages. This tendency enables Chinese speakers to reanalyze causative verbs into prepositions/conjunctions. In this section, semantic explanations are provided for the mechanism of the said grammaticalization. In addition, parallel developments in non-Sinitic languages are also provided as supporting evidence for our reconstruction.

4.2.1. CALL/TEACH > Causative

Section 4.1 establishes that the development of [CALL > causative] is possible in

¹³Further investigation on languages other than English and Standard Mandarin is needed before a more conclusive argument can be made.

the context of serial verb constructions. As a matter of fact, causative can be developed from CALL through pragmatic inference (the action of “A calls B” results in “A causes B to carry out the action”) and part-for-whole metonymy (“A call B to do something” entails “A causes B to do something”):

Source: A calls B to do something > Target: A causes B to do something

Before CALL is reanalyzed as causatives, the foreground of the statement is the action of calling. After reanalysis, the action of calling becomes the background of the new statement, while the action of “A causes B” becomes the foreground. In other words, the gravity of concern has switched from “how A causes B to do something” to “A causes B to do something”. Let us consider *jiao* (叫) in Standard Mandarin:

(73) *Shuei jiao wo?*

Who call 1SG

“Who called me?”

(74) *Wo jiao ta chuqu.*

1SG ask/CAUS 3:SG go.out

“I ask him/her to get out./I cause him/her to get out.”

(75) *Wo jiao ta si.*

1SG CAUS 3SG die

“I cause him/her to die.”

In (73), *jiao* (叫) appears in a single VP clause and it functions as a verb ‘to call’. In (74) it appears in a serial verb construction. *Jiao* (叫) has two interpretations, ‘to call’ and ‘to cause’. Since “I ask him to get out” entails “I cause him to get out”, reanalysis is possible in such a context. When *jiao* (叫) is interpreted as ‘to call’, the foreground of (74) is the fact that “I call him/her”. After reanalysis, “I call him/her” becomes the background, and “I cause him/her” becomes the foreground. In this sense, (74) can be used even though no actual calling action was involved (for instance, the speaker can force “him/her” to get out by using hand gestures or facial expressions). When *jiao* (叫) becomes a canonical causative verb, sentences such as (75) are considered grammatical. In this statement, no calling action is involved; *jiao* (叫) can only be interpreted as a causative verb and not as “to call”.

The direction of change is believed to be [CALL > causative]. This is because some (if not all) causative verbs in our database exhibit weaker verbal properties throughout grammaticalization. For instance, when employing the QA test (see (76) below) to measure the “verb-ness” of several causative verbs, it is observed that although all causative verbs in our database can be used to form V-not-V questions, some of them cannot be used as a simple yes/no answer. Let us consider the case of *han* in Kaiping Yue (F112, F113, F114):

(Kaiping Yue (F096), Sinitic, Sino-Tibetan)

(76) *a³³ ma⁵⁵ ham³³ m̄²¹ ham³³ tɛi⁸³ mɛn⁵⁵ toɿ⁵⁵ hɔy³⁵*
 Mother CAUS NEG CAUS child go

<i>maʔ</i> ⁴³	<i>toŋ</i> ^{33?}			
buy	food			
“Will the mother ask her child to buy some food?”				
<i>vu</i> ²¹	/	<i>*ham</i> ³³		
Will	/	*CAUS		
“Yes.”				
<i>ni</i> ²¹	<i>vu</i> ²¹	/	<i>*ni</i> ²¹	<i>ham</i> ³³
NEG	will	/	*NEG	CAUS
“No.”				

In addition, CALL can appear in single VP clauses as well as serial verb constructions, while causative verbs can only be used in serial verb constructions. This suggests that causative verbs exhibit fewer verbal properties than the verbs ‘to call’ do. According to the unidirectionality of grammaticalization, together with the implicational relationship obtained in **Figure 3**, the direction of change should be [CALL > causative].

According to the *Database of Cross-Linguistic Colexifications* (Rzyski, Tresoldi et al., 2019) (hereafter, CLICS), the polysemy pattern [CALL = causative] is also attested in non-Sinitic languages, such as *atukuka* in Waurá (spoken in Brazil), *naka* in Ninam (spoken in Brazil and Venezuela), *aʔkapo* in E’ñapa Woromaipu (spoken in Venezuela), *wʔè* in Selk’nam (spoken in Argentina), *kořm* in Komi-Zyrian (spoken in Russia), and *xanzʷ* in Nenets (spoken in Russia).

Similar to CALL/TEACH can also be reanalyzed into a causative verb through pragmatic inference (the action of [A teaches B] would result in [A causes B to carry out the action]) and part-for-whole metonymy ([A teaches B to do something] entails [A causes B to do something]):

Source: A teaches B to do something > Target: A causes B to do something

Nonetheless, the polysemy of [TEACH = causative] is not reported in CLICS or cross-linguistic studies such as Heine and Kuteva (2012). Further study is needed in order to verify if this polysemy/diachronic change is a phenomenon unique to Sinitic languages. If so, it is important to investigate why it is only attested in certain Chinese dialects.

4.2.2. Causative > Ablative

Once a gram obtains the function of a causative verb, it has the full potential to be further grammaticalized into an ablative preposition. The change of [causative > ablative] is made possible by two factors: (i) the syntactic similarities between serial verb constructions and [PP+VP] clauses in Chinese dialects; (ii) the following whole-for-part metonymy:

Source: A causes B to do something > Target: A caused B to do something to A

Please see the examples below:

(Kaiping Yue (F096), Sinitic, Sino-Tibetan)

(77) $\eta\text{ɔ}^{13}$ ham^{33} $k^h\theta y^{13}$ $h\theta y^{35}$ mai^{43} $tu\eta^{33}$.

1SG CAUS 3SG go buy food

“I ask him/her to go and buy some food.”

(78) $\eta\text{ɔ}^{13}$ ham^{33} $k^h\theta y^{13}$ $ti\epsilon^{33}$ $t^h i\eta^{35}$.

1SG CAUS/ABL 3SG lend/borrow money

“I ask him/her to lend some money.” /

“I borrow some money from him/her.”

In (77), *han* in Siyi Yue functions as a causative verb. In contexts such as (78), it is possible to reanalyze the causative verb *han* into an ablative preposition. One might argue that reanalysis is possible in (78) since the main verb /*tiε*³³/ means ‘to lend’ and ‘to borrow’ in most Chinese dialects. Nevertheless, in our field investigation, it is discovered that the reading “I borrow money from him/her” is not possible in Chinese dialects where the polysemy [causative = ablative] is absent (such as Jishou Mandarin (F121)).

Before reanalysis, (78) is interpreted as “I cause him/her to lend some money”. It is not clear who would receive the money. Perhaps s/he would lend the money to a third person, or perhaps s/he would lend to money to the speaker “I”. After reanalysis, a more specific interpretation can be achieved, i.e., “I cause him/her to lend some money”, and “s/he would lend money to me”. Under this interpretation, (78) can be expanded to (79):

(Kaiping Yue (F096), Sinitic, Sino-Tibetan)

(79) $\eta\text{ɔ}^{13}$ ham^{33} $k^h\theta y^{13}$ $ti\epsilon^{33}$ $t^h i\eta^{35}$ $e\eta^{35}$ $\eta\text{ɔ}^{13}$.

1SG CAUS 3SG lend/borrow money give 1SG

“I borrow some money from him/her.”

(Lit. I ask him/her to lend some money to me)

According to the implicational relationship in **Figure 3**, it is believed that the direction of change is [causative > ablative]. This is also in line with the principle of unidirectionality of grammaticalization, since ablative prepositions exhibit more grammatical properties than causative verbs do.

The connection between causative and ablative is also attested in many other languages. Please refer to **Figure 4**, which shows the semantic map constructed by **Zhang (2016)**.

In the semantic map below, the node [causee] is comparable to the causative function, and the node [source] is comparable to the ablative function. The fact that these two nodes are directly connected suggests that it would not be surprising if many languages are found to mark [causee] and [source] with the same strategy. Indeed, the syncretism between causative verbs and ablative markers is attested in a number of languages (data from CLICS): *Iidi* in Epena (an African language), *гъарзи* in Avar (a Caucasian language), *‘ār* and *e’haw* in Tehuelche, *yoka* in Katukína, *mañana* in Quechua, and *jerure* in Guarani (spoken in America).

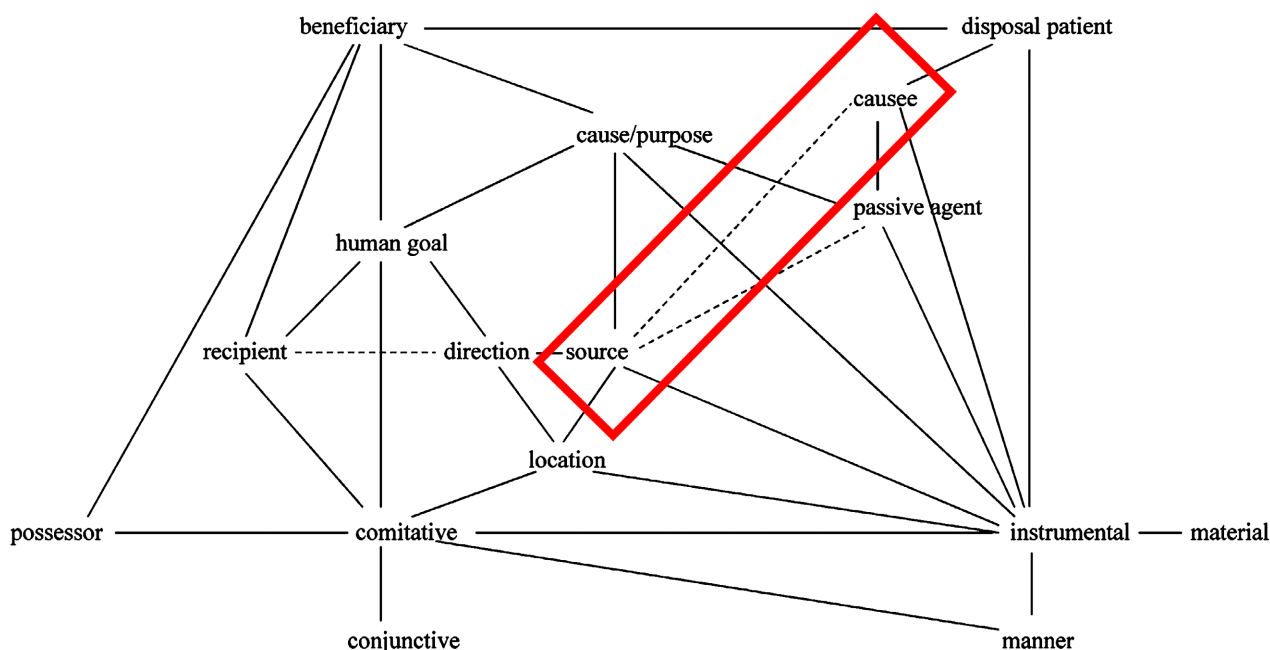


Figure 4. The semantic map of [causee] and [source].

4.2.3. Causative > Comitative > Conjunction

Yu (1988) argues that *huan* in Northern Mandarin could be grammaticalized from a verb ‘to call’ to a comitative preposition. In the context of [A + *huan* + B + VP], it could be interpreted as “A calls B, and then A performs the action VP with B together”.¹⁴ Jiang (2012: p. 296), on the contrary, suggests that an intermediate stage (i.e., causative verb) could be involved in the said grammaticalization. [Casuative > comitative] is believed to happen in the following context:

- (80) 這 事兒 你 怎麼不 喚 我 商量?
 This matter 2SG why NEG CAUS/COM 1SG discuss
 “About this matter, why didn’t you ask me to discuss [it]?” /
 “About this matter, why didn’t you discuss [it] with me?”

According to Jiang (2012), *huan* 喚 in (80) can be interpreted as a causative verb as well as a comitative preposition, producing the readings “ask me to discuss” and “discuss with me” respectively.

While we subscribe to the reconstruction [CALL > causative > comitative] proposed by Jiang (2012), we have reservations regarding the idea that causative verbs can only be reanalyzed/grammaticalized in contexts such as (80). It is well known that grammaticalization as well as other linguistic changes is often triggered by the high frequency of linguistic elements (Haselow, 2018; Chan, 2020, among others). In other words, if a linguistic element is used frequently, it is prone to change. In the case of the Mandarin *huan*, we are not sure if the “bridging context” such as (80) is used frequently enough for the grammaticalization to take place.

Another issue worth noting is that the investigations by Yu (1988) and Jiang

¹⁴The original quotation is 我先喚你，隨後咱倆一塊兒去 (Yu, 1988: p. 154).

(2012) have been limited to the development of *huan* in Beijing/Hebei Mandarin. Without further evidence from historical record and cross-dialectal comparison, it is not easy to determine which argument is more plausible.

From our investigation on *huan* and several causative verbs in Chinese dialects, concrete evidence is obtained. From the implicational relationship in **Figure 3**, it is observed that for any gram which functions as a verb ‘to call’ and a comitative preposition, it must also function as a causative verb, without exception in our sample. In addition, we argue that the grammaticalization [causative > comitative] can occur in any serial verb constructions such as [A + cause + B + together + VP]. Such a construction is possible for any causative verb and for any VP event (including but not limited to ‘to discuss’). Let us consider the following example from Standard Mandarin:

- (81) *Wo jiao Zhang San (yiqi) qu Xianggang.*
 1SG CAUS Zhang San together go Hong Kong
 “I ask Zhang San to go to Hong Kong (together [with me]).”

It should be noted that, even though *jiao* (叫) in Standard Mandarin functions as a causative verb instead of a comitative function, the adverb *yiqi* ‘together’ can be added in (81). Without this adverb, Zhang San would be going to Hong Kong with or without the speaker “I”. If *yiqi* is added, Zhang San would go to Hong Kong with the speaker. Causative verbs in Chinese dialects are believed to be grammaticalized in contexts such as (81). Since the construction [A + cause + B + together + VP] can be used in any VP event, it is much more frequently used than the context as seen in (80). We would like to stress that, (80) is still a possible bridging context between causative and comitatives, yet this should not be the only bridging context.

We also argue that the grammaticalization [causative > comitative] involves the whole-for-part metonymy as a major mechanism:

Source: A causes B to do something > Target: A causes B to do something with A

In the original context, “A causes B to do something” but B might do it with or without A. Therefore, the target proposition [A causes B to do something with A] can be viewed as a subset of the source proposition [A causes B to do something]. Before reanalysis/metonymic transfer, the intention of A is the foreground. After reanalysis/metonymic transfer, the intention of A becomes the background while the co-agency of A and B becomes the foreground. In other words, it is highlighted that A and B do something together, and whether this is the intention of A is no longer important.

The polysemy pattern [causative = comitative] is also attested in *sə* in Maithili (spoken in Eastern India; see [Yadav, 1996](#)), *da* in Hausa (spoken in Africa; see [Smirnova, 1982](#)), and *ka* in Tupi (spoken in Bolivia; see [González, 2005](#)). According to [Berge \(2011\)](#), the comitative marker *asix* in Unangam Tunuu (an Aleut language spoken in the Pribilof Islands) developed from the causative verb:

(82) *a-t* (be-CAUS) > *at* > *asix* (the conjunctive mood of *at*)

Since Unangam Tunuu is an OV language, it is not surprising that the grammaticalized item *asix* functions as a comitative postposition.

5. Conclusion

Our cross-dialectal database displays the polysemous phenomenon of causative verbs in Chinese dialects. Several important observations have been obtained.

First, this paper reveals the geographical distribution of the various lexical sources: *han* is concentrated in Southern China and Central China; *huan* in Northeastern China; *jiao* in the Yangzi delta; *huang* in Shandong province; and *eu* in western Guangdong. Second, the implicational relationship/grammaticalization path of causative verbs in Chinese dialects is reconstructed (as shown in [Figure 3](#)). Third, the above reconstruction is based on cross-dialectal data and is supported by the syntactic and semantic analysis in Section 4. Unique syntactic features (i.e., PP is placed in the pre-verbal position) enable the causative verbs in Chinese (dialects) to be further grammaticalized. These verbs are reanalyzed in serial verb constructions, and metonymy is the major mechanism involved.

Our findings contribute to the field of historical linguistics in several aspects. First, while previous studies reveal the diachronic change of [source > target], it is also important to investigate the grammaticalization chains, i.e. the diachronic change where the intermediate stage(s) is/are involved (e.g., A > B > C; or A > B > ... > E). For example, [Lord \(1993\)](#) reports that the conjunctions in several languages in west Africa were developed from the grammaticalization chain [verb > comitative preposition > coordinating conjunction]. A similar chain is also observed in Chinese ([Liu & Peyraube, 1994](#)). The investigation of grammaticalization chains is important for several reasons: (i) it is yet to be discussed whether languages without a direct relationship can share the same grammaticalization chain; (ii) different sources could result in different chains, yet little attention has been paid to this issue in previous research; and (iii) it is possible for the emerging conjunctions to carry several morphological/semantical/syntactical properties of the source items. Without studies on the grammaticalization chains, this phenomenon could not be explained easily (for instance, the verbal particle *mai* can be attached to the coordinating conjunction *tong* in Yue Chinese, see [Chan, 2008, 2020](#)). Second, Section 4 demonstrates that parallel developments are attested in other languages with no direct geographical or phylogenetical relationships with Chinese. Is it possible for causative verbs in other languages to undergo the same grammaticalization chain as the causative verbs in Chinese do? In other words, this research inspires scholars by posing the question, could the same grammaticalization chain be attested in various languages?

Admittedly, there is still room for further investigation regarding the development of causative verbs. For one thing, the number of tokens in our database could be increased, especially for those grams that function as coordinating con-

junctions. A more refined reconstruction could be achieved if more first-hand data are collected. Some of the second-hand data collected in this research are inadequate to provide a clear picture of the distinction between comitative prepositions and coordinating conjunctions.

Founding

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Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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