Yuhang Yang and Fuyin Thomas Li*

A diachronic study on the Mandarin complex directional complement *guòlái* 'come over' from the macro-event perspective

Abstract: This study explores the diachronic development of the Mandarin complex directional complement *guòlái* 'come over' from the macro-event perspective. By analyzing data retrieved from the CCL corpus spanning 15 Chinese dynasties (1046 BCE-1920s), this study reveals that *guòlái* 'come over' can be initially traced back to the pattern *guò* N (*ér*) *lái*, where *guò* and *lái* functioned as distinct motion verbs. It then served as a motion verb, which subsequently grammaticalized into a directional complement. The diachronic evolution of the macro-event types represented by the V *guòlái* construction can tentatively be described as: Motion Event > Event of Realization > Event of State Change / Event of Action Correlating (> Event of Temporal Contouring). This study further proposes the Unidirectional Progression Hypothesis concerning the entire closed set of directional complements, suggesting that Mandarin directional complements evolve both in form and meaning along a unidirectional trajectory, becoming syntactically tighter and semantically more abstract.

Keywords: Mandarin; complex directional complements; the Macro-event Hypothesis; diachrony; the Unidirectional Progression Hypothesis

1 Introduction

Mandarin complex directional complements have been widely examined since the 1980s (Yang 2004). Previous research has predominantly concentrated on their semantics (e.g., Liu 1998; Zhang 2010; Zhou 1991), sentence patterns (e.g., Xiao 1992; Zhang and Fang 1996), as well as language acquisition and pedagogy (e.g., Yang 2003; Zhu 2018, 2019). Additionally, some studies have embraced a cognitive perspective, investigating the motivating image schemas (e.g., Ma 2005) and applying the

---
*Corresponding author: Fuyin Thomas Li, School of Foreign Languages, Beihang University, 37 Xueyuan Road, Haidian District, Beijing, 100191, China, E-mail: thomasli@buaa.edu.cn. https://orcid.org/0000-0002-0094-9174
Yuhang Yang, School of Foreign Languages, Beihang University, 37 Xueyuan Road, Haidian District, Beijing, 100191, China, E-mail: yuhangyang920@buaa.edu.cn. https://orcid.org/0009-0006-4413-0482

principle of temporal sequence to their syntactic structures (e.g., Yang 2005, 2017). However, it is worth noting that, apart from a few studies such as Li (2018, 2019) that mainly focused on simplex directional complements from a cognitive semantic perspective, the exploration of complex directional complements from the macro-event perspective has been relatively scant.

According to Talmy (2000b), the macro-event, regarded as fundamental and ubiquitous in the underlying conceptual organization of language, forms the basis of his well-known two-way typology (Talmy 1985, 1991, 2000b). Within this framework, Mandarin is classified as a satellite-framed language, a categorization that has sparked debate over the past few decades (e.g., Shen 2003; Shi 2011; Li 2018) due to its complex grammaticalization processes, which influence both its form and typological classification. Scholars have put forward divergent perspectives: some contend that ancient Mandarin was verb-framed and subsequently evolved into a satellite-framed language in modern times (e.g., Shi 2011; Li J. 2020), while others advocate for classifying Mandarin as a parallel-framed language (Slobin 2004; Luo 2008). Overall, prior research has not only recognized the challenges inherent in the two-way typology but has also emphasized the need for more generalized principles governing the expression of two related events and their semantic relationships across languages. Motivated by these discussions, the Macro-event Hypothesis (Li 2019, 2020, 2023) was proposed as a new theoretical framework to address these issues, introducing four continua: semantic, syntactic, grammaticalization, and typological. While some studies have provided preliminary support (e.g., Li and Liu 2021; Liu and Li 2023), empirical evidence specifically from Mandarin complex directional complements remains scarce. Therefore, to further validate this hypothesis, this study investigates the diachronic development of *guòlái* 'come over' from the macro-event perspective, with a particular focus on its syntactic and semantic evolution.

The paper is structured as follows. Section 2 reviews the fundamental concepts and prior studies on Mandarin directional complements. Section 3 introduces the macro-event and the Macro-event Hypothesis. Section 4 details the methodology, followed by the presentation of results in Section 5. Section 6 discusses the findings in relation to previous research and introduces the Unidirectional Progression Hypothesis. Finally, Section 7 summarizes the major findings and points out the limitations.

2 Mandarin directional complements

In Chinese linguistics, there is a consensus that directional complements, originally independent verbs, have undergone grammaticalization to serve as complements following the main verb. Lyu (1980) identified two types of verb-complement

constructions: directional complement construction and resultative construction, with *guòlái* 'come over' exemplifying the former. Liu (1998) further systematically compiled an exhaustive inventory of Mandarin directional complements from a semantic perspective. She defined directional complements as "directional verbs functioning as complements after a verb or adjective" (p. 1) and identified a closed set of 28 directional complements in Mandarin – 11 simplex and 17 complex – categorizing *guòlái* 'come over' within the latter group (see Table 1).

Specifically, the Mandarin complex directional complement *guòlái* 'come over', the focus of the present research, is a compound of two distinct verbs, i.e., *guò* 'pass' and *lái* 'come'. According to the online version of *Hanyu Da Zidian* (*Great Compendium of Chinese Characters*),[1] the most extensive and comprehensive Chinese dictionary detailing the form, pronunciation, and meaning of each character, *guò* conveys directional meanings such as "pass" and "cross (a river, the sea, etc.)", denoting physical displacement in space. It also extends into the temporal domain, meaning

Table 1: 28 Mandarin directional complements (C = complement) (Li 2018: 595).

Simplex C (11)	Complex C (17)
C_1: 来-*lái* 'come'	Ways of Compounding: C_3-C_{11} + C_1/C_2 = C_{12}-C_{28}
C_2: 去-*qù* 'go'	
C_3: 上-*shàng* 'up'	C_3 + C_1 = C_{12} C_{12}: 上来-*shànglái* 'come up'
	C_3 + C_2 = C_{13} C_{13}: 上去-*shàngqù* 'go up'
C_4: 下-*xià* 'down'	C_4 + C_1 = C_{14} C_{14}: 下来-*xiàlái* 'come down'
	C_4 + C_2 = C_{15} C_{15}: 下去-*xiàqù* 'go down'
C_5: 进-*jìn* 'into'	C_5 + C_1 = C_{16} C_{16}: 进来-*jìnlái* 'come into'
	C_5 + C_2 = C_{17} C_{17}: 进去-*jìnqù* 'go into'
C_6: 出-*chū* 'out'	C_6 + C_1 = C_{18} C_{18}: 出来-*chūlái* 'come out'
	C_6 + C_2 = C_{19} C_{19}: 出去-*chūqù* 'go out'
C_7: 回-*huí* 'back'	C_7 + C_1 = C_{20} C_{20}: 回来-*huílái* 'return come'
	C_7 + C_2 = C_{21} C_{21}: 回去-*huíqù* 'go back'
C_8: 过-*guò* 'pass'	C_8 + C_1 = C_{22} **C_{22}: 过来-*guòlái* 'come over'**
	C_8 + C_2 = C_{23} C_{23}: 过去-*guòqù* 'go over'
C_9: 起-*qǐ* 'up'	C_9 + C_1 = C_{24} C_{24}: 起来-*qǐlái* 'get up'
C_{10}: 开-*kāi* 'away'	C_{10} + C_1 = C_{25} C_{25}: 开来-*kāilái* 'away'
	C_{10} + C_2 = C_{26} C_{26}: 开去-*kāiqù* 'away'
C_{11}:到-*dào* 'to'	C_{11} + C_1 = C_{27} C_{27}: 到…来-*dào…lái* 'come to'
	C_{11} + C_2 = C_{28} C_{28}: 到…去-*dào…qù* 'go to'

---

[1] The online version can be accessed through http://www.kaom.net/img.php?b=xungu_hydzd&p=4105.

"over", as seen in *chī guò fàn* 'eat-PFV a meal'. As for *lái*, it carries the directional meaning of "from there to here" or "from far to near", in contrast to *qù* 'go' or 'leave'. It can also indicate a temporal period, as exemplified in *yòu lái* 'since childhood', a usage attested in the Tang dynasty. Each of these meanings is illustrated with examples from the dictionary, as shown in Table 2.

According to *Xiandai Hanyu Cidian* (7th edition) (2016), when the two lexical items combine to form *guòlái*, it conveys the directional sense of "moving from another place toward the speaker (or the subject of narration)" (p. 502), explicitly indicating both the path and the endpoint of motion. Remarkably, when *guòlái* functions as a complement following another verb, it generates implications distinct from those of *guò* or *lái* respectively, setting it apart from other complex directional complements (Liu 1998: 16–17). For example, *guòlái* can indicate a restoration or transformation to a normal or positive state, as in "*wǒ míngbái guòlái le* 'I came to understand'", whereas *guò* and *lái* alone cannot convey this meaning. This suggests that the diachronic development of *guòlái* exhibits the unique semantic characteristics, making it a compelling subject for further investigation.

Since the 1920s, Mandarin directional complements have drawn scholarly attention, with Li's *New Chinese Grammar* (1924) serving as an early precursor. Following his work, researchers investigated this issue (e.g., Lyu 1953; Zhang 1953; Chao 1968; Lyu 1980; Li and Thompson 1981; Zhu 1982), albeit not systematically. Since the 1980s, research on directional complements has expanded significantly, developing along multiple lines of inquiry. Firstly, many studies adopted a semantic approach, as seen in works by Meng (1987), Liu (1998), Zhou (1991), Xie and Qi (1999), Cao (2023), among others. Liu (1998) provided a comprehensive semantic analysis that remains influential. Xie and Qi (1999) further examined both the core and extended meanings of the complex directional complements *guòlái* 'come over' and *guòqù* 'go over'. The second line of research has focused on syntactic structure, especially the positioning of objects (e.g., Zhang and Fang 1996; Jia 1998; Lu 2002; Yang 2005). Findings reveal that the position of the object depends on factors such as the main verb, context, and the nature of the object. Studies have also examined structural variations in detail, including Zhang's (1991b) and Yang (2001)'s analyses of "V + C + *le*" and "V + *le* + C", as well as Xiao's (1992) comparison of "V + *lái* + N" and "V + N + *lái*". From a cognitive perspective, Zeng (2009) offered an innovative study on the syntactic form "V *dé (bù) guòlái/guòqù*", identifying three distinct meanings – ability, possibility, and evaluation. More recently, research has shifted toward the acquisition and teaching of complex directional complements, especially in Mandarin as foreign language education, with an emphasis on error analysis and acquisition order (e.g., Xu and Gao 2013; Zhu 2018, Zhu 2019).

Notably, studies have increasingly applied a cognitive perspective to Mandarin directional complements (e.g., Ma 2005; Yang 2017; Cao 2021; Yan and Chen 2021; Xu

Table 2: Dictionary meanings of *guò* and *lái*.

过-*guò* 'pass'	1. *Jīngguò* 'pass'.	*Zǐ jī qìng yú wèi, yǒu hékuì ér **guò** kǒngshì zhī mén zhě.*
		Confucius hit Qing at Wei there-be carry-basket CONJ **pass** Confucius GEN door NOM
		'When Confucius was striking a *Qìng* (a kind of musical instrument) in the state of Wei, a man carrying a straw basket **passed** his door.'
		(*Lùn Yǔ · Xiàn Wèn*, the Warring States Period)
	2. *Dùguò* 'cross (a river, the sea, etc.)'.	***Guò** shuǐ cǎi píng.*
		pass river pick-up duckweed
		'**Cross** the river and pick up the duckweed.'
		(*Shī Pǐn · Zì Rán*, the Tang Dynasty)
	3. *Guòqù* 'over'.	*Ruò shì **guò** ér hòu zhī, zé yǔ wúzhìzhě qí yǐ.*
		if affair **pass** CONJ afterwards know CONJ with without-wisdom-NOM equal SFP
		'If someone only understands the event after it **was over**, it is equivalent to being unintelligent.'
		(*Xīn Lùn · Guì Sù*, the Northern Qi Dynasty)
	4. *Dùguò, guòhuó* 'live a life'.	*Nánér zhàng jiàn chou ēn zài, wèi kěn túrán **guò** yīshēng.*
		man hold sword repay favor exist NEG willing in-vain **spend** life
		'A man should repay a favor with a sword, unwilling to **live a life** in vain.'
		(*LuànHòu Sù NánLíng FèiSì Jì ShěnMíngFǔ*, Tang Dynasty)
来-*lái* 'come'	1. *Yóu bǐ zhì cǐ* 'from there to here'; *yóu yuǎn dào jìn* 'from far to near'. *Yǔ "qù" "wǎng" xiāngduì* 'contrasting with *qù* 'go' and *wǎng* 'go''.	*Yǒu péng zì yuǎnfāng **lái**.*
		There-be friend from far-place come
		'It is always a pleasure to greet a friend **coming** from afar.'
		(*Lún Yǔ · Xué Ér*, the Warring States Period)
	2. *(Shìwù) chǎnshēng* '(things) appear'; *dàolái* 'arrive'.	*Fú yōuhuàn zhī **lái**, yīng rénxīn yě.*
		TOP suffering-trouble GEN **come** disturb heart SFP
		'When sorrows **come**, one would suffer from a heartbreaking pain.'
		(*Huái Nán Zǐ · Chù Zhēn*, the Han Dynasty)
	3. *Biǎo mǒu duàn shíjiān* 'symbolizing a period of time'; *yǐlái* 'ever since'.	*Wú yòu **lái** zài jiā héng wén rúshì.*
		I childhood **since** at home constantly hear like-this
		'I've been hearing it at home **since** my childhood.'
		(*Jìn Shū · ShíLè Zàijì Shàng*, the Tang Dynasty)

and Li 2022; Cao 2023). However, few studies have combined the cognitive approach with a diachronic perspective, with notable exceptions including Wu (2003), Wang and Gong (2015, 2018), Li (2018, 2019), Li and Liu (2021). In addition, previous research has primarily focused on simplex directional complements, leaving the diachronic mechanisms underlying the evolution of complex ones unexplored. To address these gaps, the present study delves into the evolution of the Mandarin complex directional complement *guòlái* 'come over', exploring its motivations from a cognitive semantic perspective, especially through the lens of the macro-event framework. The following section provides a detailed discussion of the macro-events and the Macro-event Hypothesis.

3 The macro-events and the Macro-event Hypothesis

According to Talmy (2000b: 213), the "macro-event" is a fundamental and pervasive type of event complex in the conceptual organization of language. It can be conceptualized in two ways: as composed of two simpler events and their relation, or as a single fused event expressed within a single clause. Moreover, Talmy (2000b: 214) proposed 5 types of macro-events: Motion Event, Event of Temporal Contouring, Event of State Change, Event of Action Correlating, and Event of Realization. Table 3 illustrates these categories with examples from both English and Mandarin, including instances where *guòlái* 'come over' is used.

Based on the fundamental concept of the macro-event, Talmy (1985, 1991, 2000a, 2000b) developed his well-known two-way typology: languages that characteristically map the core schema (primarily the Path) of the macro-events into the verb are classified as verb-framed, while those that encode the core schema in the satellite are satellite-framed. He (2000b: 222) further argues that Mandarin Chinese is a satellite-framed language, with verb complements recognized as typical examples. However, when applied to diachronic data in Mandarin, this typology has triggered a heated discussion over the past few decades (e.g., Shen 2003; Shi 2011; Li 2018). Moreover, as highlighted in Section 2, research has rarely focused on Mandarin complex directional complements from the macro-event perspective. Structurally, these complements are formed by combining two simplex directional complements, making them more intricate than simplex ones. This complexity suggests the plausibility of a more elaborate cognitive mechanism underlying their formation.

Beyond Mandarin, Talmy's typology has faced broader challenges in cross-linguistic applications (e.g., Slobin 2004; Croft et al. 2010; Naidu et al. 2018), which led to the emergence of the Macro-event Hypothesis (Li 2019, 2020, 2023). This hypothesis

Table 3: Talmy's five types of macro-events with examples from English and Mandarin.

Types	Talmy's examples	Examples with V *guòlái*
Motion event	The ball rolled *in*.	*Wèishēngyuán pǎo* **guòlái**. medic run **come-over** 'The medic ran **over**.' (*People's Daily*, 2021)
Event of Temporal Contouring	They talked *on*.	*Jǐshínián dōushì zhèyàng xiě* **guòlái**. decades always in-this-way write **come-over** '(He) **has been** written in this way for decades.' (*People's Daily*, 2019)
Event of State Change	The candle blew *out*.	*Háizi zhōngyú xǐng* **guòlái**. kid finally awake **come-over** 'The kid finally woke **up**.' (*People's Daily*, 2021)
Event of Action Correlating	She sang *along*.	*Tā yòu gēn* **guòlái**. She again follow **come-over** 'She followed **over** again.' (Wang Shuo 2012[1992], *Guò Bǎ Yǐn Jiù Sǐ*)
Event of Realization	The police hunted the fugitive *down*.	*Suǒyǐ zhègè quēdiǎn yídìng néng hěnkuài de míbǔ* **guòlái**. therefore this shortcoming definitely can quickly remedy **come-over** 'Therefore, this shortcoming can definitely be remedi**ed** very quickly.' (*People's Daily*, 1951)

comprises four continua, three of which, i.e., the semantic continuum, the syntactic continuum, and the grammaticalization continuum, are targeted in the present study, as demonstrated below:

> The Macro-event Hypothesis: …This dichotomy might alternatively be viewed as a continuum in several aspects. With corresponding semantic gradations, there might exist syntactic gradations from a double to a single clause representation, and, within the single clause, from less to more grammaticalization of certain constituents… (see Li [2023: 139] for the full account).

The most salient advantage of the Macro-event Hypothesis is its diachronic perspective. Talmy's two-way typology is essentially based on synchronic data, overlooking typological shifts driven by grammaticalization, such as Mandarin's evolution from a verb-framed to a predominantly satellite-framed language. By incorporating a diachronic lens, the three continua proposed in the hypothesis offer deeper insights into the inherent complexities of language change. Additionally, the

Macro-event Hypothesis presents several other advantages (Li 2023: 139). By employing the unified terms for both form and meaning – *Macro-event* at the semantic level and *clause* at the syntactic level – it establishes a concise yet powerful one-to-one mapping between meaning and form. This approach not only resolves disputes concerning the two-way typology but also addresses challenges related to categories like "Satellite" and "Path", making it a more explanatory and cohesive model. Furthermore, unlike other models of Motion Event typology, which primarily focuses on motion-related constructions, the Macro-event Hypothesis encompasses a broader range of core linguistic constructions, including resultatives, conditionals, and complex sentences with two events. As a result, it provides a more comprehensive framework for understanding event integration in language evolution.

Previous studies have provided preliminary support for one of the continua, i.e., the grammaticalization continuum. For example, Li and Liu (2021) studied the diachronic development of 11 simple directional complements and argued that "a linguistic form that represents a motion event always grammaticalizes the V2 position," (p. 398) as seen in *lái* 'come' in *shǐ lái* 'drive to', rather than in *lái chī* 'come and eat'. This principle is termed the "position and event type hypothesis in grammaticalization." Furthermore, using diachronic data on the Mandarin causative verb *shǐ* 'make', Liu and Li (2023) traced the semantic shift of *shǐ* from the SEND construction to the MAKE construction, driven by event integration. Their findings further support the grammaticalization continuum in language change. However, additional empirical evidence is required to validate this continuum. To justify the Macro-event Hypothesis and determine the evolutionary order of the macro-events in Mandarin directional complement constructions, this study conducts a diachronic corpus-based analysis of the Mandarin complex directional complement *guòlái*. Employing the measures of frequency and proportion, it aims to explore the syntactic development and the evolutionary order of the macro-events represented by V *guòlái* from 11th century BCE to the 1920s.

4 Data and methodology

4.1 Corpus and periodization

The analyses are based on the 2014 online version of the Center for Chinese Linguistics Corpus, Peking University (abbreviated as CCL)[2] (Zhan et al. 2003, 2019), a widely used corpus of Chinese containing over 700 million characters. Specifically, the data for this study were drawn from its Classical Chinese sub-corpus, which

---

2 The website of the CCL corpus is http://ccl.pku.edu.cn:8080/ccl_corpus/.

comprises 163.7 million characters, 41.05 % of which are categorized by dynasties. This dataset spans from the Western Zhou dynasty (1046 BCE) to the early Republican period (1920s), covering a total of 15 dynasties. Following the traditional periodization in Chinese linguistics (e.g., Wang 1957; Li 2004; Guo 2013) and the chronological segmentation used in the CCL, this study clusters the 15 dynasties into five historical stages, following the periodization used by Du and Li (2021) (see Table 4). This periodization reflects characteristics of Mandarin's phonology, grammar and morphology in each stage and aligns with broader societal changes, providing a structured framework for examining its diachronic evolution.

4.2 Data collection

Firstly, to closely examine the diachronic development of *guòlái* 'come over', we focused on how the two independent verbs, *guò* 'pass' and *lái* 'come', compounded to form a single lexical unit that further grammaticalized into a complex directional complement. To ensure a maximally inclusive search, we used the pattern "过$10来" (*guò* $10 *lái*), which retrieved sentences where the two target words appeared within a span of fewer than 10 characters. In this way, how the two words were combined and further developed could be observed. Finally, 14,524 occurrences were obtained. Given the relatively large number of instances from the Ming Dynasty (*N* = 2586), Qing Dynasty (*N* = 8631), and the Early Republican Period (*N* = 2752), we randomly selected 1,000 occurrences from each period using Python. The resulting dataset was then manually processed to remove semantically unrelated instances. After this refinement, 2,126 sentences were identified as valid data for further analysis (see Table 5).

Table 4: Periodization of data.

Stage	Time span	Dynasties
I: Archaic Chinese	The 11th century BCE – the 3rd century	Western Zhou (1046-771 BCE), Eastern Zhou (770-256 BCE), Han (202 BCE-220)
II: Early Middle Chinese	The 3rd century – the 7th century	Six Dynasties (222–589), Sui (581–618)
III: Late Middle Chinese	The 7th century – the 13th century	Tang (618–907), Five Dynasties (907–979), Song (960–1279)
IV: Early Modern Chinese	The 13th century – the 20th century	Yuan (1271–1368), Ming (1368–1644), Qing (1644–1912)
V: Modern Chinese	The 20th century	The Early Period of the Republic of China (1912–1920s)

Table 5: Frequency of "*guò* $10 *lái*" in each stage.

Stage	Dynasty	Raw data[a]	Valid data	Sum
I	Western Zhou	0	0	1
	Eastern Zhou (the Spring and Autumn Period)	0	0	
	Eastern Zhou (the Warring States Period)	3	0	
	Han (Western Han)	2	0	
	Han (Eastern Han)	16	1	
II	Six Dynasties	47	1	1
	Sui	0	0	
III	Tang	55	11	89
	Five Dynasties	38	16	
	Song (Northern Song)	188	29	
	Song (Southern song)	109	33	
IV	Yuan	97	68	1470
	Ming	1000 (Random)	669	
	Qing	1000 (Random)	733	
V	The Early Republican Period	1000 (Random)	564	564
Total		3555	2126	

[a]'Raw data' refers to the entire dataset retrieved using the search pattern before any manual filtering, including all sampled instances of the target structure, regardless of their semantic relevance.

Secondly, to investigate the evolutionary order of the macro-events represented by the V *guòlái* construction, data points of this form were retrieved. Since the corpus data have not yet been segmented or annotated, the present data utilized the query of "过来" (*guòlái*) and manually processed the extracted occurrences, totaling 7,467.

During manual processing, the syntactic structures of V *guòlái* with objects proved to be a point of debate. As summarized by Zhang (1991a, 1991b), four syntactic forms of "C_{3-11} C_{1-2} (= the complex directional complements)" (see Table 1) involving objects have been identified:

A: V C_{3-11} C_{1-2} O (e.g., *ná guòlái tā* 'bring it over')

B: V C_{3-11} O C_{1-2} (e.g., *ná guò tā lái* 'bring it over')

C: V O C_{3-11} C_{1-2} (e.g., *ná tā guòlái* 'bring it over')

D: *bǎ* O V C_{3-11} C_{1-2} (e.g., *bǎ tā ná guòlái* 'bring it over')

To ensure the accuracy, we adopt Yang's (2005) claim that these syntactic structures reflect different cognitive patterns and adhere to the principle of temporal sequence (Dai and Huang 1988). This principle states that the relative order of two syntactic units is determined by the temporal sequence of states they represent in the

conceptual domain. In Yang's analysis, only in the V $C_{3\text{-}11}C_{1\text{-}2}$ O structure is the complex directional complement fully grammaticalized, as it conceptualizes V $C_{3\text{-}11}C_{1\text{-}2}$ as a unified whole. For example, in *ná guòlái tā* 'bring it over', *ná guòlái* 'bring over' represents the entire movement process, while *tā* 'it' serves as the theme of this movement. In contrast, in other structures, V and $C_{3\text{-}11}$ $C_{1\text{-}2}$ are interpreted as separate cognitive units, with $C_{3\text{-}11}C_{1\text{-}2}$ functioning as a directional verb rather than a grammaticalized complement. Therefore, these structures are better classified as serial verb constructions, where V and $C_{3\text{-}11}C_2$ operate as two independent verbs with no grammatical dependency between them. Specifically, V O $C_{3\text{-}11}C_{1\text{-}2}$ is considered the most typical serial verb construction. In the expression *ná tā guòlái* 'bring it over', the action of *ná tā* 'take it' occurs first, followed by the movement *guòlái* 'come over', making it a clear example of a serial verb construction. Similarly, V $C_{3\text{-}11}$ O $C_{1\text{-}2}$ is also classified as a serial verb construction (see Wang [1989]), as V $C_{3\text{-}11}$ O (*ná guò tā* 'take it') and (O) $C_{1\text{-}2}$ ([*tā*] *lái* 'it comes') represent two sequential actions, though this structure is less typical. Finally, the cognitive pattern of *bǎ* O V $C_{3\text{-}11}C_{1\text{-}2}$, falling under disposal constructions, is similar to that of V O $C_{3\text{-}11}$ $C_{1\text{-}2}$, as exemplified by *Guō Yīng bǎ Wáng Dǐng huóqín guòlái* 'Guo Ying has captured Wang Ding alive and brought him over'. In this example, *bǎ Wáng Dǐng huóqín* 'captured Wang Ding alive', which can be paraphrased as the VO order *huóqín Wáng Dǐng*, represents the initial action, while *guòlái* 'come over' follows as the subsequent event. This sequential structure aligns with the cognitive pattern of V O $C_{3\text{-}11}$ $C_{1\text{-}2}$, where $C_{3\text{-}11}C_{1\text{-}2}$ functions as a directional verb.

Based on the criteria, the present study considers only Form A as valid and excluded data from the other three syntactic structures to avoid ambiguity. Occurrences of "*jiāng* O V *guòlái*" were also removed, as this pattern can be seen as an alternate of Form D (Liu and Cuyckens 2023). Moreover, instances of "V *dé/bù guòlái*" were excluded to prevent ambiguity, as this structure serves a different semantic and functional role from V *guòlái*. Specifically, V *dé/bù guòlái* expresses the notion of ability or inability, as in *ná dé/bù guòlái* 'have/not have the ability to bring over', rather than simply denoting directional movement. Finally, 1,406 occurrences remained, as seen in Table 6.

4.3 Data analysis

This study adopts a data-driven approach to explore the diachronic syntactic development of *guòlái* 'come over'. It traces the syntactic forms relevant to *guòlái* in terms of frequency and distribution across five stages. Furthermore, by calculating the occurrence frequency of the macro-event types represented by V *guòlái* in each stage, this study seeks to identify their evolutionary order.

Table 6: Frequency of V *guòlái* in each stage.

Stage	Dynasty	Raw data	Valid data	Sum
I	Western Zhou	0	0	0
	Eastern Zhou (the Spring and Autumn Period)	0	0	
	Eastern Zhou (the Warring States Period)	0	0	
	Han (Western Han)	0	0	
	Han (Eastern Han)	0	0	
II	Six Dynasties	0	0	0
	Sui	0	0	
III	Tang	6	1	11
	Five Dynasties	7	1	
	Song (Northern Song)	18	8	
	Song (Southern song)	14	1	
IV	Yuan	46	10	774
	Ming	1025	342	
	Qing	5110	422	
V	The Early Republican Period	1241	621	621
Total		7467	1406	

5 Results

5.1 The syntactic development of *guòlái* 'come over'

This section focuses on the diachronic development of the syntactic structures associated with the varied usages of *guòlái* 'come over' in each stage. Since only two relevant occurrences were found in the first two stages, it is reasonable to argue that *guòlái*, or even its earliest form, had not yet become entrenched. From Stage III onward, the frequency of occurrences increased, marking the starting point of our analysis. This observation also corresponds to the findings of Li (2019).

5.1.1 Overall trend

Through data-driven coding, we identified 20 types of syntactic structures associated with *guòlái* 'come over' across all occurrences, as exemplified in Table 7.

Table 8 presents the detailed information on the frequency of each structure across five stages, illustrating the evolution of these syntactic patterns over time. Notably, the absence of *guò* N *lái* (N) V, *guò bù lái*, and V *de guòlái* in Stage V may be attributed to variations in data diversity across different dynasties.

Table 7: 20 types of syntactic structures of *guòlái* from Stage I to Stage V.

Types	Structures	Examples
A	*guò* (N)…(*bù*) *lái* V/N	*Tōu lù ér guò, …lái dào jīnlíngjiāng àn.*
		sneak-down path and pass come arrive JinLing-river bank
		(Xiao Mo He) passed by sneaking down the path…came and arrived at the
		bank of Jin Ling River.
B	*guò* N (*ér*) *lái*	*Zhǔrén guò qiáo lái, …*
		master cross bridge come
		The master crossed the bridge and came (to visit) …
C	*guò* N *lái* (N) V	*Guò jiāng lái tóu.*
		cross river come seek-shelter
		(They) crossed the river and came to seek shelter.
D	V *guò* (N)…*lái* V/N	*Fúzi zǒu guò xītiān, què lái xīnluóguó lǐ.*
		whisk walk past the-West but come Silla inside
		The whisk walked past the West but came to Silla.
E	**guòlái**	*Niānqǐ mùqiáo yuē: "guòlái."*
		pick-up wooden-bridge say come-over
		(The Zen master) picked the wooden bridge up and said: "come over."
F	*guò dé* (N) *lái*	*Wǒ rúhé guò dé lái.*
		I how live AUX come
		How can I live it through?
G	*guò bù lái*	*Biànshì nánzǐ, yě dúzì guò bù lái.*
		even men also independent live NEG come
		Even men cannot live it through independently.
H	**V guòlái**	*Liánmáng jiē guòlái.*
		promptly take come-over
		(He) promptly took (her) over.
I	V *le guòlái*	*Liánmáng pǎo le guòlái.*
		quickly run PFV come-over
		(Xue Pan) quickly ran over.
J	V *dé guòlái*	*Nǎlǐ néng chōngshā dé guòlái.*
		How could (the invaders) have the ability to
		charge over?
K	V *bù guòlái*	*Qì dōu tòu bù guòlái.*
		air ADV get NEG come-over
		(Zhang Qiugu) cannot breathe.
L	V N *guòlái*	*Ná qízǐ guòlái…*
		take pieces come-over
		Take the pieces over…
M	V *le* N *guòlái*	*Biàn qǔ le mǎbiān guòlài.*
		then take PFV horsewhip come-over
		Then (he) took the horsewhip over.
N	V *zhe* N *guòlái*	*Qiàhǎo mǎsǎoér qí zhe gè lǘzǐ guòlái.*
		just Mrs.Ma ride PROG QUAN donkey come-over
		Mrs. Ma just came over riding a donkey.

Table 7: (continued)

Types	Structures	Examples
O	**V *guò* N *lái***	*…Děng wǒ qǔ guò jūnlìngzhuàng lái.*
		wait I-OBJ bring past military-order come
		Wait for me to bring over the military order.
P	V *bù guò* N *lái*	*Mǎchē yīshíjiān zhuǎn bù guò shēn lái.*
		carriage suddenly turn NEG past body come
		The carriage could not turn over suddenly.
Q	*bǎ* N V *guòlái*	*…Bǎ shēnzi zhí pū guòlái.*
		PREP body directly pounce come-over
		(A pig) directly pounced towards (Emperor Shun).
R	*jiāng* N V *guòlái*	*Jiāng xiùqiú qǔ guòlái.*
		PREP embroidered-ball bring come-over
		(The Princess) brought a embroidered ball over…
S	V *jiāng guòlái*	*Chōng jiāng guòlái.*
		rush AUX come-over
		(Beasts) rushed over.
T	*guòlái dè/(zhī)rén*	*Èrrén dōushì guòláizhīrén…*
		the-two both experienced-people
		The two have both been there…

Table 8: The distribution of different structures from Stage I to Stage V.

Types	Stage I	Stage II	Stage III	Stage IV	Stage V	Sum
A	0	1	8	5	3	17
B	0	1	26	23	2	52
C	0	0	4	12	0	16
D	0	0	1	16	9	26
E	1	0	25	313	78	417
F	0	0	0	7	1	8
G	0	0	0	1	0	1
H	0	0	11	351	204	566
I	0	0	0	30	42	72
J	0	0	0	6	0	6
K	0	0	0	14	10	24
L	0	0	4	138	47	189
M	0	0	0	15	8	23
N	0	0	0	6	3	9
O	0	0	8	408	100	516
P	0	0	0	3	5	8
Q	0	0	1	51	15	67
R	0	0	0	8	10	18
S	0	0	1	58	19	78
T	0	0	0	5	8	13
Sum	1	2	89	1470	564	2126

The three most frequently used syntactic structures are Type H, V *guòlái*, Type O, V *guò* N *lái*, and Type E, *guòlái*. Type O represents one of the syntactic forms of complex directional complements involving objects. Its high frequency in our data aligns with previous findings, which indicate that this form is the most frequently used and the least constrained, as it adheres to both syntactic and prosodic rules (Dong 1998). Diachronically, Type B, *guò* N *(ér) lái*, where *guò* and *lái* function as independent verbs, was frequently used in Stage III but gradually declined, giving way to usages characterized by Type E, *guòlái*, and Type H, V *guòlái*, along with their variations. In contrast, V *guòlái* was rarely used in Stage III but increased in frequency in Stages IV and V. By Stage V, V *guòlái* had become the most dominant form, confirming its entrenchment as a complex directional complement. Furthermore, by this stage, more than half of the syntactic structure types were related to V *guòlái*, demonstrating its widespread use. This trend further illustrates the progressive grammaticalization of *guòlái* over time.

Having examined the syntactic forms of *guòlái* from a broad perspective, we explore its development in greater detail across each stage.

5.1.2 Stage III

At Stage III, although the dataset is smaller compared to later periods, there is a noticeable increase in occurrences relative to earlier stages. The syntactic structures identified in Stage III are presented in Table 9.

According to Table 9, Type B, *guò* N *(ér) lái*, is prevalent at this stage, where *guò* and *lái* function as independent verbs denoting motion (e.g., [1]). The first event, *guò*

Table 9: The distribution of different structures in Stage III.

Types	Structures	Sum	Percentage
B	*guò* N (*ér*) *lái*	26	29.21 %
E	*guòlái*	25	28.09 %
G	V *guòlái*	11	12.36 %
A	*guò* (N)…(*bù*) *lái* V/N	8	8.99 %
O	V *guò* N *lái*	8	8.99 %
C	*guò* N *lái* (N) V	4	4.49 %
L	V N *guòlái*	4	4.49 %
D	V *guò* (N)…*lái* V/N	1	1.12 %
Q	*bǎ* N V *guòlái*	1	1.12 %
S	V *jiāng guòlái*	1	1.12 %
		89	100 %

N signifies movement across a location, while the second event, *ér lái*, demonstrates the action of approaching an endpoint.

(1)   *Dámó*   *dàshī*   *cóng*   *nántiānzhúguó*   **guò**   **hǎi**   **ér**   **lái.**
         Dharma   Master   from   Southern-Tianzhu-   **across**   **sea**   **and**   **come**
                              Kingdom
         'Master Dharma **came across the sea and arrived** here from the Southern Tianzhu Kingdom.'
         (*Zu Tang Ji*, the Five Dynasties)

The second most frequent structure is Type E, *guòlái*, in which *guò* and *lái* function collectively to signify the act of approaching or arriving at a specific location, as exemplified in (2). In this context, the meaning of *guò* is comparatively subordinate to that of *lái*, which emphasizes proximity to the reference point. For example, in (2), if *lái* is deleted, the sentence instead conveys the meaning of "the creditor passing (a place)". Regardless of whether *guòlái* is used as a serial verb construction or an independent verb at this stage, its syntactic relationship has become more closely bounded, with speakers increasingly using *guò* and *lái* together to denote a unified, integrated event, i.e., a macro-event.

(2)   *Zhàizhǔ*   *zàn*   **guòlái.**
         Creditor   momently   **come-over**
         'The creditor **came over** momently.'
         (*Tang Shi*, the Tang Dynasty)

The emergence of Type G, V *guòlái*, further supports this point, as *guòlái* started to serve as a complex complement following the main verb, reinforcing the increased syntactic tightness between *guò* and *lái.* For example, in (3), *guòlái* functions as a complement to encode the core schema, [PATH], while the main verb, *qīn* 'invade', represents the [MANNER] of the Motion Event. However, despite its structural significance, V *guòlái* accounts for only slightly more than 10 % of the total instances, indicating that its use as a complex directional complement was not yet widespread at this stage.

(3)   *Ruò*   *zhèbiān*   *gōngfū*   *shǎo,*   *nàbiān*   *bì*   **qīn**   **guòlái.**
         If   this-side   effort   less   that-side   must   **invade**   **come-over**
         'If this side has less effort, that side must **invade it**.'
         (*Zhu Zi Yu Lei*, the Northern Song Dynasty)

Overall, the frequency distribution suggests a preliminary evolutionary path wherein *guòlái* transitions from its earlier use in *guò* N (*ér*) *lái* 'passing through a location and coming' to functioning as a directional verb, eventually undergoing grammaticalization as a complex directional complement denoting "come over".

This shift also reflects the combination of two discrete clauses into a unified, single clause. It is worth noting that the frequency of derivatives of V *guòlái* remains relatively low at this stage, indicating that its development as a complex directional complement was still in its early phase.

5.1.3 Stage IV

This stage accounts for the majority of the data, warranting a thorough examination. According to Chinese Linguistics (Li 2004), the language from this period is considered foundational for modern Chinese. The surge in data can be attributed to the rise of colloquialism during this era. Table 10 presents the frequency and proportion of all syntactic structures, revealing the emergence of 10 additional types compared to Stage III. A higher degree of grammaticalization and entrenchment of *guòlái* is evident at this stage, as *guòlái* and V *guòlái* can accept various intervening linguistic elements, including tense markers such as *zhē* (the progressive marker) (see Type N) and *lē* (the perfect marker) (see Type I, M), negation marker *bù* (see Type K, P, G), and auxiliaries *dé* (see Type F, J) and *jiāng* (see Type S).

Table 10: The distribution of different structures in Stage IV.

Types	Structures	Dynasty	Frequency	Sum	Percentage
O	V *guò* N *lái*	Yuan	20	408	27.76 %
		Ming	270		
		Qing	118		
H	V *guòlái*	Yuan	10	351	23.88 %
		Ming	150		
		Qing	191		
E	*guòlái*	Yuan	9	313	21.29 %
		Ming	62		
		Qing	242		
L	V N *guòlái*	Yuan	20	138	9.39 %
		Ming	72		
		Qing	46		
S	V *jiāng guòlái*	Yuan	1	58	3.95 %
		Ming	37		
		Qing	20		
Q	*bǎ* N V *guòlái*	Yuan	0	51	3.47 %
		Ming	10		
		Qing	41		
I	V *le guòlái*	Yuan	0	30	2.04 %
		Ming	7		
		Qing	23		
B	*guò* N (*ér*) *lái*	Yuan	2	23	1.56 %

Table 10: (continued)

Types	Structures	Dynasty	Frequency	Sum	Percentage
		Ming	17		
		Qing	4		
D	*guò* (N)…*lái* V/N	Yuan	1	16	1.09 %
		Ming	9		
		Qing	6		
M	V *le* N *guòlái*	Yuan	0	15	1.02 %
		Ming	4		
		Qing	11		
K	V *bù guòlái*	Yuan	0	14	0.95 %
		Ming	6		
		Qing	8		
C	*guò* N *lái* (N) V	Yuan	0	12	0.82 %
		Ming	8		
		Qing	4		
R	*jiāng* N V *guòlái*	Yuan	0	8	0.54 %
		Ming	3		
		Qing	5		
F	*guò dé* (N) *lái*	Yuan	0	7	0.48 %
		Ming	6		
		Qing	1		
J	V *dé guòlái*	Yuan	1	6	0.41 %
		Ming	1		
		Qing	4		
N	V *zhe* N *guòlái*	Yuan	2	6	0.41 %
		Ming	3		
		Qing	1		
A	*guò* (N)…(*bù*) *lái* V/N	Yuan	0	5	0.34 %
		Ming	3		
		Qing	2		
T	*guòlái dè/(zhī)rén*	Yuan	2	5	0.34 %
		Ming	1		
		Qing	2		
P	V *bù guò* N *lái*	Yuan	0	3	0.20 %
		Ming	0		
		Qing	3		
G	*guò bù lái*	Yuan	0	1	0.07 %
		Ming	0		
		Qing	1		
				1470	100.00 %

To better illustrate this trend, the frequency and distribution of data at Stage IV are visualized in Figure 1.

According to Figure 1, three types – Type O, V *guò* N *lái* (cf. [4]), Type H, V *guòlái* (cf. [3]), and Type E, *guòlái* (cf. [2]) – exhibit higher frequencies, collectively accounting for nearly 75 % of the data in this stage. Notably, V *guò* N *lái* emerges as the most prevalent usage during this period, reaching its peak in the Ming Dynasty. As discussed in Section 4.2, this form is considered one of the derivations of V *guòlái* that involves the object, further supporting the higher syntactic tightness between *guò* and *lái*. For example, in (4), *qǔ guò shū* represents Event 1, denoting the action of "taking the book", where the displacement applies to the book rather than the agent. Event 2, marked by *lái*, represents the agent's movement of "carrying the book to the reference point". Rather than being expressed in two separate clauses, these two events are integrated into a single clause, validating the syntactic continuum proposed in the Macro-event Hypothesis.

(4)   *Jīng*   *Gōng*   ***qǔ***   ***guò***   ***shū***   ***lái.***
       Jing   Gong   **take**   **come**   **book**   **over**
       'Jing Gong **took the book over**.'
       (*Yuan Dai Hua Ben Xuan Ji*, the Yuan Dynasties)

Unlike V *guò* N *lái*, both V *guòlái* and *guòlái* exhibit a consistent upward trend over time, reflecting their increasing entrenchment and conventionalization. Furthermore, the proportion of V *guòlái* surpasses that of *guòlái*, indicating the gradual
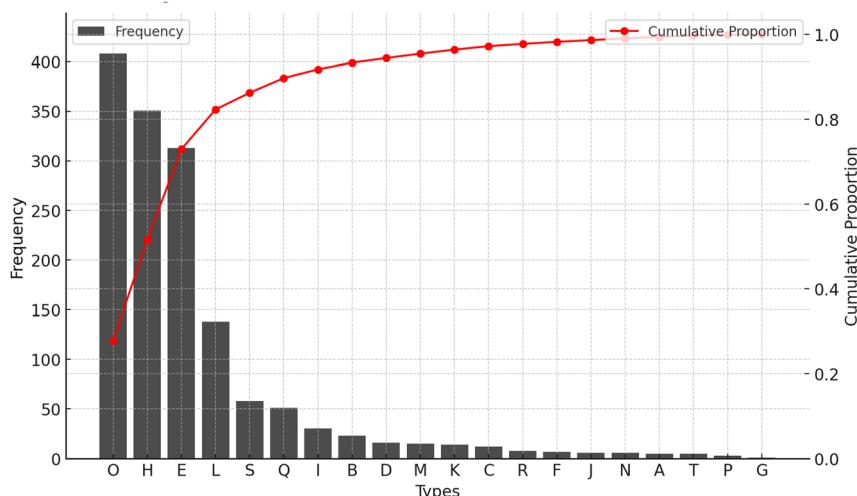
Figure 1: The frequency and cumulative proportion of each type in Stage IV.

establishment of *guòlái* as a complex directional complement rather than as an independent verb.

5.1.4 Stage V

Although this stage covers a relatively short period, the data closely resemble modern Chinese. In addition, the dataset contains over five hundred instances, suggesting the widespread use of *guòlái*. The frequency and distribution of each syntactic structure are shown in Table 11 and visualized in Figure 2.

Drawing insights from the data, it is strikingly evident that Type H, V *guòlái*, now dominates the overall distribution. Its proportion has steadily increased over time, rising from 12.36 % to 23.88 % and then to 36.17 %, further reinforcing the higher degree of grammaticalization of *guòlái* as a complex directional complement. In contrast, Type E, *guòlái*, exhibits the opposite trend, with its proportion decreasing from Stage III to V (28.09 % to 21.29 % to 13.83 %), indicating a shift in *guòlái*'s function from an independent verb to a complement. Remarkably, Type B, from which *guòlái* originated, now appears in only two instances, which supports the hypothesis that its syntactic evolution has progressed from separate clauses to a single clause rather

Table 11: The distribution of different structures in Stage V.

| Types	Structures	Frequency	Percentage
H	V *guòlái*	204	36.17 %
O	V *guò* N *lái*	100	17.73 %
E	*guòlái*	78	13.83 %
L	V N *guòlái*	47	8.33 %
I	V *le guòlái*	42	7.45 %
S	V *jiāng guòlái*	19	3.37 %
Q	*bǎ* N V *guòlái*	15	2.66 %
K	V *bù guòlái*	10	1.77 %
R	*jiāng* N V *guòlái*	10	1.77 %
D	V *guò* (N)…*lái* V N	9	1.60 %
M	V *le* N *guòlái*	8	1.42 %
T	*guòlái dè/rén* (adjective)	8	1.42 %
P	V *bù guò* N *lái*	5	0.89 %
A	*guò* (N)…(*bù*) *lái* V/N	3	0.53 %
N	V *zhe* N *guòlái*	3	0.53 %
B	*guò* N (*ér*) *lái*	2	0.35 %
F	*guò dé* (N) *lái*	1	0.18 %
		564	100.00 %
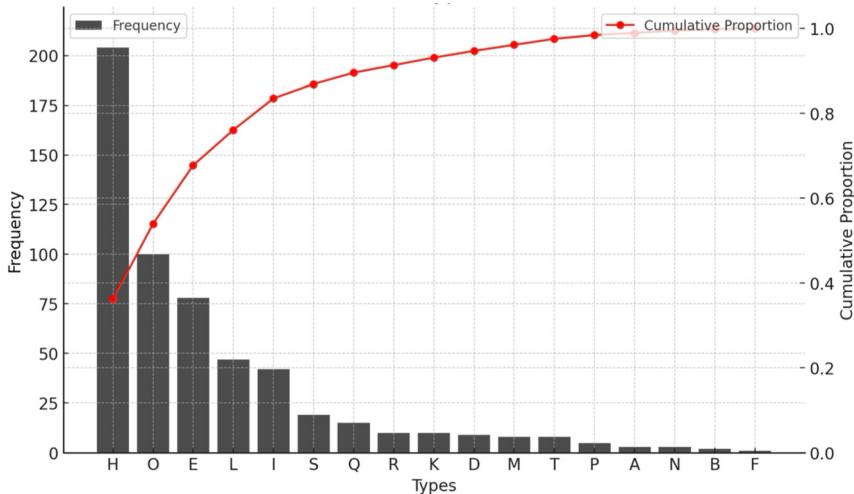
Figure 2: The frequency and cumulative proportion of each type in Stage V.

than the reverse. Finally, with its increased degree of grammaticalization, *guòlái* exhibits greater flexibility and versatility in usage. Particularly noteworthy is the prevalence of object-involving constructions derived from V *guòlái*, such as Type O and Type L, as evidenced by their increasing frequency and proportion.

5.2 The semantic development of the V *guòlái* construction: the evolutionary order of the macro-events

This section delves deeper into the development of the V *guòlái* construction from the macro-event perspective. While its structural composition has remained stable since its emergence, the onset of grammaticalization marked a notable expansion in its semantic scope. Over time, V *guòlái* began to convey a broader range of meanings, initiating its grammaticalization journey. These semantic developments can be roughly categorized into five types of the macro-events.

By tracing the evolutionary sequence of the macro-events represented by this construction, this study aims to provide a cognitive framework that contributes, to some extent, to our understanding of the evolution of Mandarin. Given the absence of valid data from Stage I and II, we tentatively posit the emergence of *guòlái* as a directional complement at Stage III. This finding aligns with previous research in Chinese linguistics such as Wang (2005: 186), which identifies the Song Dynasty as the period of its emergence.

5.2.1 Stage III

As V *guòlái* itself is a directional complement construction, its prototypical function of expressing spatial orientation makes the Motion Event the earliest and most frequent macro-event type represented by this construction. In this usage, *guòlái* functions as a satellite encoding the core schema [PATH], while the main verb V encodes [MANNER]. For example, in (3), the main verb *qīn* 'invade' conveys the manner of the movement, and the complement *guòlái* makes explicit the route, i.e., from far to the reference point. Additionally, a notable expansion in its meaning occurred, where V *guòlái* began to signify Events of Realization, as exemplified in (5):

(5) *shì tā céng **jīnglì guòlái.***
     is   he already **experience come-over**
     'He **has** already **experienced**.'
     (*Zhu Zi Yu Lei*, the Northern Song Dynasty)

Nevertheless, it is imperative to acknowledge the limited availability of data from this period, making it difficult to draw definitive conclusions. In Stage III, only 5 occurrences of Realization Events were recorded (Table 12).

5.2.2 Stage IV

During this stage, the usage of the V *guòlái* construction surged. The corresponding distribution is presented in Table 13, with a visual representation in Figure 3.

It is noteworthy that the macro-event types represented by V *guòlái* became increasingly diverse over time, as illustrated in Figure 3 by the growing variety of colors, confirming its expanding semantic scope. In addition, this construction started to represent events that do not fit into the established five macro-event types, a trend particularly evident during the Qing dynasty. These instances have been

Table 12: The distribution of the macro-event types in Stage III.

Types	Tang	Five dynasties	Song (Northern song)	Song (Southern song)	Sum
Motion	1	1	3	1	6
Temporal	0	0	0	0	0
State Change	0	0	0	0	0
Correlating	0	0	0	0	0
Realization	0	0	5	0	5
Total	1	1	8	1	11

Table 13: The distribution of the macro-event types in Stage IV.

Types	Yuan	Ming	Qing	Sum
Motion	8	325	307	640
Temporal	0	0	0	0
State Change	1	16	98	115
Correlating	0	0	4	4
Realization	1	1	6	8
Others	0	0	7	7
Total	10	342	422	774
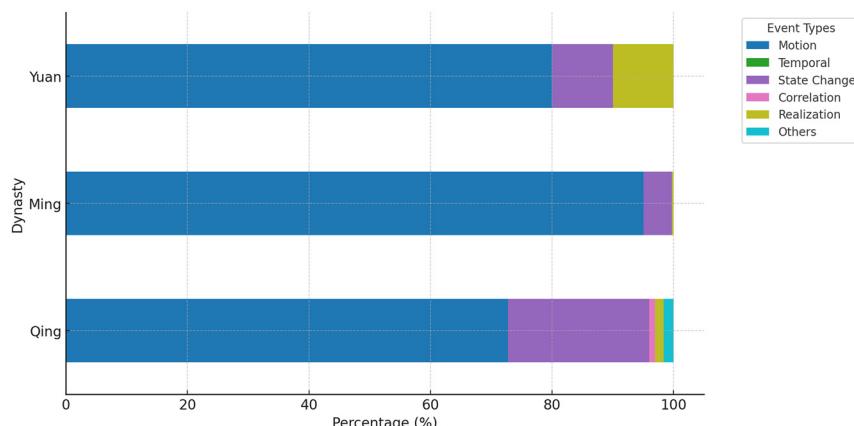
Figure 3: The comparison of distribution in each dynasty in Stage IV.

collectively categorized as "Others", encompassing expressions such as *huíxiǎng guòlái* 'reminiscing about something', *fǎn guòlái* 'in turn'. A more detailed discussion of these cases is provided in Section 6.1.

Despite this diversification, Motion Events remain the most prevalent category across all dynasties, which aligns with the inherent directional nature of V *guòlái*. Notably, the Event of State Change (cf. [6]) has witnessed a consistent rise in proportion, as illustrated by the expanding grey segments in Figure 3. This trend suggests that *guòlái* has developed the capacity to denote changes beyond mere physical displacement, such as marking a transition from the state of being asleep to being awake, as illustrated in (6). It is pertinent to observe that, as of this analysis, the Temporal Contouring Events have yet to appear in the dataset.

(6) *Tiān*   *Shī*   **xǐng**   **guòlái.**
     Tian   Shi   **awake**   **come-over**
     'Tian Shi **woke up**.'
     (*San Bao Tai Jian Xi Yang Ji*, the Ming Dynasty)

5.2.3 Stage V

Similarly, the diverse macro-events observed in Stage V are succinctly summarized in Table 14. The distribution pattern closely mirrors that of the Qing Dynasty, with Motion Events remaining the most dominant, followed by State Change events. Notably, the Event of Temporal Contouring remains conspicuously absent in this period as well.

5.2.4 Overall trend

In conclusion, a comparative analysis of the distribution of the macro-event types across stages is undertaken, offering insights into the potential evolutionary order of macro-events encapsulated by the V *guòlái* construction (Table 15).

Table 14: The distribution of macro-event types in Stage V.

Types	Frequency
Motion	485
Temporal	0
State Change	126
Correlating	2
Realization	2
Others	6
Total	621

Table 15: The distribution of macro-event types from Stage III to Stage V.

Types	Stage III	Stage IV	Stage V	Sum
Motion	6	640	485	1131
Temporal	0	0	0	0
State Change	0	115	126	241
Correlating	0	4	2	6
Realization	5	8	2	15
Others	0	7	6	13
Total	11	774	621	1406

Based on the data analysis, Motion Events consistently dominate each stage, reinforcing the prototypical nature of V *guòlái* as a directional complement construction. Intriguingly, while Events of Realization made an early appearance, their proportional representation has dwindled over time, whereas Events of State Change have exhibited a steady increase in diachronic usage. Meanwhile, Events of Temporal Contouring remain entirely absent. However, since the analysis only includes data up to the Early Republic Period, and Section 3 identified examples of the Event of Temporal Contouring in the contemporary subpart of the CCL corpus, we propose the following hypothesized developmental trajectory of macro-events: Motion Event > Event of Realization > Event of State Change / Event of Action Correlating (> Event of Temporal Contouring). Additionally, the macro-events that fall outside the established five types warrant further attention, as they challenge the classification framework proposed by Talmy (2000b).

6 Discussions

The current study provides significant insights into the diachronic evolution of the Mandarin complex directional complement *guòlái* from two perspectives: syntactic structures and the macro-event types, or more broadly, form and meaning.

6.1 The syntactic development of *guòlái* 'come over'

From a syntactic perspective, the findings indicate that *guòlái*, originally conceived as a motion verb, derives from the pattern *guò* N (*ér*) *lái*, where *guò* and *lái* functioned as two separate motion verbs. Over time, it underwent grammaticalization, ultimately becoming a directional complement in the form of V *guòlái*. With a higher degree of grammaticalization, V *guòlái* has developed the ability to co-occur with various intervening elements, including the Chinese tense marker *zhē* and *lē*, the negation marker *bù*, and the auxiliaries *dé* and *jiāng*. It also allows for intervening objects, as seen in structures such as V N *guòlái* and V *guò* N *lái*. Furthermore, *guòlái* can appear in disposal constructions, including those introduced by *bǎ* and *jiāng*.

The syntactic development of *guòlái* aligns with the syntactic continuum observed in the transition from a double-clause to a single-clause representation. This progression supports the grammaticalization continuum proposed in the Macro-event Hypothesis (Li 2023: 139). For instance, during Stage III, *guò* and *lái* functioned as two distinct independent verbs (cf. [1]). By Stage IV, the combined usage of *guòlái* had significantly increased, predominantly conveying the meaning of "come over". Importantly, the concept of "passing through a location and arriving at

a reference point" became encapsulated within a single clause through the use of *guòlái*, as exemplified in (7):

(7)   *Shícháng*   **guòlái**   *zǒuzǒu.*
    Often   **come-over**   visit
    'Please often **come over** and visit us.'
    (*Yuan Dai Hua Ben Ji Xuan*, Stage IV)

Ultimately, when combined with another verb signifying the manner of movement, *guòlái* undergoes grammaticalization, transforming into a directional complement, as illustrated in (8):

(8)   *Jiàn*   *yòu*   *yǒu*   *liǎnggè* *gōngnǔ* *cóng* *chuáng* *qián* *zǒu*
    See   again have two-PL   maid   from bed   front **walk**
    guòlái
    come-over
    '(Yuan Zhang) saw that two more maids **walked over** from the bed.'
    (*Ming Dai Gong Wei Shi*, Stage V)

The examples above demonstrate that, during the development of V *guòlái*, two distinct events – "passing by a place" and "moving closer to the reference point" – have been diachronically conceptualized as a single, integrated event: "come over." This development is further reinforced by the incorporation of manner verbs, all encapsulated within a single clause. This observation aligns with the syntactic continuum proposed in the Macro-event Hypothesis.

    Drawing upon the developmental sequence of *guòlái*, a broader schema for the syntactic evolution of all complex directional complements can be proposed (cf. Figure 4), providing support for the syntactic and grammaticalization continua outlined in the Macro-event Hypothesis.
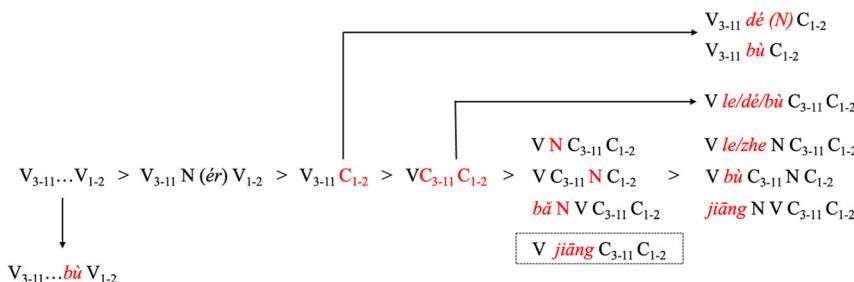
Figure 4: The syntactic evolutionary sequence of Mandarin complex directional complements.

6.2 The semantic evolution of V *guòlái* construction

Concerning the macro-event types represented by V *guòlái* over time, this study hypothesizes its evolutionary order as Motion Event > Event of Realization > Event of State Change / Event of Action Correlating (> Event of Temporal Contouring). The sequence corresponds partially to Zhang (1991b), who posits that the "directional meaning" (Motion Event) of complex directional complements has bleached to resultant meaning (Event of Realization), and to state meaning (Event of State Change) throughout the process of linguistic evolution (p.185). However, it is slightly different from that raised by Li (2019), which illustrates the development path as Motion Event > Event of State Change > Event of Temporal Contouring > Event of Realization by examining the 11 simplex directional complements. The differences can be explained as follows. Firstly, the present study only explores one complex directional complement, *guòlái*, and the final development process may largely result from its own unique characteristics. Secondly, presenting the Event of Realization is the second step of the evolution, which may be due to the meaning of accomplishment expressed by *guò* 'pass'. In addition, since data is limited, it is hard to decide the appearance order of the Event of State Change and the Event of Action Correlating. Therefore, the hypothesized sequence is only tentative and needs support from future studies.

Remarkably, the Event of Temporal Contouring did not appear throughout the whole process. Even though we identified relevant occurrences in the contemporary Chinese corpus included by CCL that are beyond the scope of our discussion, these instances are few in comparison to other types of macro-events and they are not typical examples compared to those proposed by Talmy (2000b). Most of them denote a Temporal Contouring Event with a specific focus on the progression from the past to the present, rather than from the present to the future. This can be explained by the basic directional meaning of *guòlái*. Liu (1998) argues that *guòlái* indicates an object moving closer to the standpoint of the speaker. Zhang (2010) and Wang (2005) also demonstrated that *guòlái* expresses the direction of the move, i.e., to the speaker. Therefore, metaphorically, it refers to a target moving from the past to now (the speaker), rather than from now to the future, such as in *xiě guòlái* "have/has been written". It is possible that the event of "write" continues, but it is not the pivot. However, the activating process of the Event of Temporal Contouring emphasizes the target's "progression through time" (Talmy 2000b: 231), which is in nature opposite to the event presented by V *guòlái*. Thus, Talmy's Temporal Contouring Event should be revised to explain this language phenomenon.

Furthermore, there are instances that cannot be categorized into the five types of macro-events. For example, the above example of *xiǎng guòlái* 'reminiscing about

sth.' or *huíxiǎng guòlái* 'reminiscing about', as well as *fǎn guòlái* 'in turn' or *dào guòlái* 'in turn' in its idiomatic usage, meaning 'reversely' or 'in contrary', as shown by (9). They cannot be classified into any discernible type, which impedes the refinement of the existing macro-event types.

(9)   *Tā*   **diào guòlái**   *biàn   rùle*   *Mǎn Gǔ Er Tài   dè*
       She   **turn   come-over**   then   join-PFV   Mang Gu Er Tai   POSS
       dǎng
       party
       'She, **in turn**, joined Mang Gu Er Tai's party.'
       (*Qing Dai Gong Ting Yan Shi*, Stage V)

Moreover, through data annotation, it is doubtful that whether the core schema of the Event of State Change is expressed by the verbs or by the satellite *guòlái*. For example, (1) verbs indicating 'awake', such as *xǐng, jīngxǐng, qīngxǐng*; (2) verbs indicating 'understand' including *wù, juéwù, míngbái, lǐjiě*; (3) verbs referring to 'change' and 'reverse', such as *biàn, fǎn, dào*; (4) verbs indicating 'marry' consisting of *jià* and *qǔ*. In Chinese, these verbs inherently convey the notion of CHANGE from one stage to another, which aligns with Talmy's (2000b: 238) argument regarding the combination of transition types with states. Consequently, the core schema of the Event of State Change is possibly encoded within the verb itself rather than the satellite. However, Talmy believed that Mandarin is a satellite-framed language, with the core schema encoded by the satellite *guòlái*. This presents a paradox, as he also argues that the core schema of the State-Change Events is represented by the main verb in verb-framed languages but by satellites in satellite-framed ones. The specific location of the core schema in this type of construction remains an issue for future study.

Similarly, the Event of Action Correlating faces a similar dilemma, as the only collocated verb *gēn* 'follow' in Chinese inherently implies two participants. Therefore, it becomes evident once more that Mandarin Chinese does not adhere strictly to the characteristics of a typical satellite-framed language, which contributes valuable insights to language typology debates.

6.3 A qualitative examination on the macro-event types represented by the 28 Mandarin directional complements

The meticulous examination of the diachronic development of *guòlái* 'come over' led us to question whether all Mandarin directional complements undergo a similar developmental process to represent five types of the macro-events. To address this inquiry, this research proceeded by qualitatively analyzing the diachronic data of all

28 directional complements (cf. Table 1). Data retrieval employed the same corpus and periodization as that of *guòlái*, albeit not using a systematic quantitative statistical method. Rather, once we identified more than one occurrence encoding a specific macro-event type, we assumed the directional complement construction's capability to represent that type of the macro-event. This approach aligns with Flach's (2021) perspective that once textual evidence of a certain construction is discovered in corpora, it is reasonable to assume its conventional usage in publishing or correspondence, even within a limited subsection of the speech community. Finally, a tentative development path of all 28 Mandarin directional complements is delineated and visualized in Figure 5. The color blocks, categorized into five types, correspond to five distinct types of the macro-event. The appearance of a color block at a stage signifies the complements' capacity to represent that macro-event type.

From Figure 5, several conclusions can be drawn:

1. Mandarin complex directional complement constructions emerge significantly later, primarily surfacing at Stage III (618–1279), whereas most simplex directional complement constructions appear predominantly in Stage I (1046 BCE-220). Exceptions include *huí* 'back' and *kāi* 'away'. This finding aligns with broader research in Chinese linguistics (e.g., Liang 2007; Song 2012).
2. Directional complement constructions involving *kāi* 'away' and *kāilái* 'away' initially do not represent Motion Events, possibly due to the distinct semantics of *kāi*, as discussed in Wang (2005), Wang and Gong (2015).
3. Generally, the evolutionary sequence of the macro-event types represented by all directional complement constructions can be summarized as follows: Motion
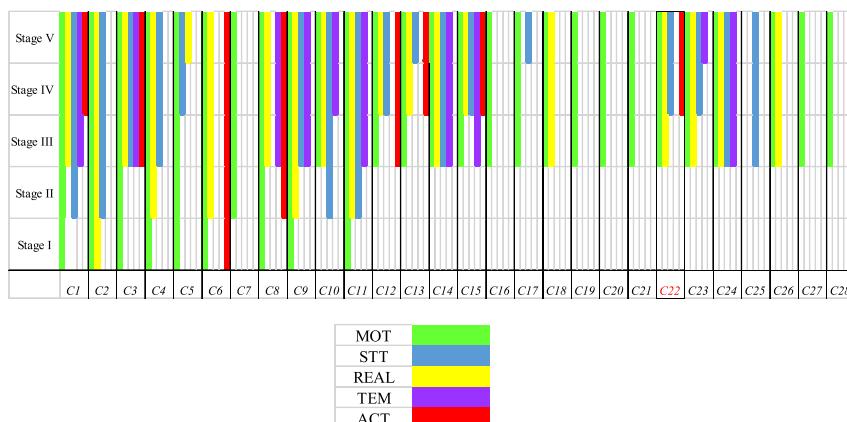

Figure 5: The development of the macro-event types represented by the 28 Mandarin directional complement constructions.

Event > Event of Realization/State Change > Event of Temporal Contouring. The Event of Action Correlating is excluded, since it tends to be encoded within the semantics of the main verb rather than in the directional complements (see Section 6.1). Moreover, since complex directional complements consist of a simplex directional complement (i.e. $C_3 - C_{11}$) combined with *lái* 'come' or *qù* 'go' to indicate reference points, their meanings are more specific and therefore more constrained than those of simplex complements. Consequently, most complex directional complements lack the ability to represent the Event of Temporal Contouring, further validating Liang's (2007) findings.

This developmental process not only corresponds to the grammaticalization cline across the five types of macro-events proposed by Li (2018) but also to the semantic evolution path proposed by Liang (2007) based on a qualitative analysis of *shàng* 'up', *xià* 'down', and *qǐlái* 'get up'. Moreover, it aligns with the widely acknowledged evolution of human cognition, which transitions from spatial to temporal concepts, paralleling the evolution of human language. For instance, Lakoff and Johnson (2003) [1980] argue that temporal metaphors in languages often originate from spatial metaphors. Similarly, Evans (2004: 5) suggests that humans commonly conceptualize and discuss time in terms of motion through and location within three-dimensional space, thereby attributing the emergence of temporal concepts to spatial ones. Heine et al. (1991) proposed a general hierarchical grammatical structure: person > object > activity > space > time > quality. Huang and Heish (2008) further refined this framework by introducing the concept of "non-specific space" between "space" and "time", highlighting the need for a more nuanced categorization. However, these theories may oversimplify the relationship between time and space, treating "time" as a monolithic category rather than recognizing its internal complexity. The evolutionary order of macro-event types represented by Mandarin directional complements suggests that the notion of "time" encompasses multiple dimensions, including culmination and continuation, rather than existing as a singular entity.

Specifically, the evolution follows a continuum from events rooted in spatial configurations to events extending into the future, with events culminating in the present serving as the transitional phase. This transition reflects a gradual shift from concrete spatial relations to temporally abstract meanings, where the boundaries between past, present, and future are relative to the discourse context. Figure 6 illustrates the underlying logic of this continuum, where *S* represents the starting point, and *G* denotes the goal of the conceptual trajectory.

Motion Events are the most tangible, as they occur within the spatial dimension and can therefore be initially represented by most directional constructions. Over time, Events of Realization and State Change begin to incorporate the temporal
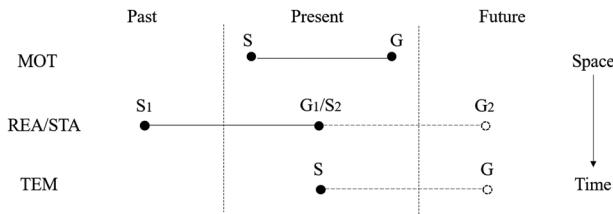
Figure 6: The cognitive explanation for the development of the macro-event types represented by the 28 Mandarin directional complement constructions.

dimension, as they denote event progression along time, especially emphasizing the endpoint of an action or a change-of-state event. Specifically, Events of Realization highlight the accomplishments of actions at present, whereas Events of State Change mark the endpoints of preceding actions or states and the inception of new ones. However, both only encode culmination, rather than temporal continuation. This tendency may explain why Events of State Change typically follow Events of Realization in most directional complements. Finally, Events of Temporal Contouring, being the most abstract, focus on the continuation of actions or states from past or present into the future. Many directional complement constructions, particularly complex ones including *guòlái* in this study, struggle to represent this type of macro-events due to the constraints imposed by *lái* 'come' *and qù* 'go' in the second complement position. In conclusion, Mandarin directional complements witness the development of indicating concepts of space > culmination > continuation. This pattern aligns with the semantic extension path of Mandarin directional complements proposed by Chinese scholars such as Liu (1998), Liang (2007), Song (2007), and Wang and Gong (2018). Future studies can further substantiate this sequence through corpus-based quantitative analysis.

Overall, drawing on the syntactic and semantic development of the entire closed set of Mandarin directional complements, this study proposes the Unidirectional Progression Hypothesis: the closed set of Mandarin directional complements has evolved simultaneously in both form and meaning along a unidirectional trajectory. Syntactically, this evolution has moved toward greater structural compactness – shifting from two clauses to a single clause, with increasing degree of grammaticalization within the single-clause structure. Semantically, it has progressed from concrete to more abstract meanings, starting from two independent motion events that merged into a single macro-event of motion, subsequently expanding to other macro-event types, representing

culmination and continuation in the temporal dimension. Both trends follow a unidirectional path, with later stages exhibiting stronger syntactic integration and a more abstract semantic relationship between the main verb and the directional complement.[3]

7 Conclusions

In summary, this study conducts an in-depth diachronic analysis of the complex directional complement *guòlái* 'come over' from a cognitive semantic perspective.

Syntactically, *guò* and *lái* initially functioned as discrete motion verbs in two clauses, with *guò* signifying "passing through a location" and *lái* denoting "coming to the location (of the speaker)". Over time, they merged into a single verb, *guòlái*, meaning "come over", and began to be used within a single clause. Subsequently, *guòlái* was used after the main verb and further grammaticalized into a directional complement, exhibiting a higher degree of grammaticalization over time, as evidenced by its ability to co-occur with inserted objects and tense markers. A more general schema for the syntactic evolution of all complex directional complements is proposed in Figure 4, further reinforcing the syntactic and grammaticalization continua of the Macro-event Hypothesis.

Semantically, based on the present data, the evolutionary order of the macro-event types represented by *guòlái* can be delineated as Motion Event > Event of Realization > Event of State Change / Event of Action Correlating (> Event of Temporal Contouring). Additionally, this study qualitatively examined the macro-event types represented by all 28 Mandarin directional complements, reaffirming their evolutionary progression in encoding concepts of space > culmination > continuation from the macro-event perspective. However, within the scope of our study, which extends up to the 1920s, due to the semantic constraints imposed by *lái* 'come' and *qù* 'go' in the second complement position, most complex directional complements, including *guòlái*, advance only to the second stage, i.e., culmination. Yet, in the Contemporary Mandarin sub-corpus of CCL, *guòlái* has been observed to represent temporal

---

3 We argue that culmination and continuation represent a more abstract conceptual structure than Motion Events because it does not simply involve two distinct spatially connected events but rather encapsulates an ongoing process within a single event frame. In the case of Motion Events, the directional complement primarily encodes a change in spatial location, maintaining a clearer distinction between the manner of movement (expressed by the main verb) and the path (expressed by *guòlái* 'come over'). However, as the construction extends to expressing culmination and continuation, *guòlái* 'come over' no longer signifies a mere change in physical location but instead conceptualizes a more abstract temporal progression, leading to an increased semantic abstraction and syntactic fusion between the verb and the complement.

continuation, suggesting that other directional complements may exhibit similar developments.

Building on the findings of syntactic and semantic development, this study proposed a broader hypothesis encompassing the entire closed set of complements – the Unidirectional Progression Hypothesis. This hypothesis integrates both syntactic and semantic evolution, suggesting a unidirectional trend toward greater structural tightness and increased semantic abstraction. Therefore, this research contributes to the diachronic study of linguistic typology and offers valuable insights into the intricate cognitive mechanisms that shape human language, with a particular focus on Mandarin complex directional complements.

While offering valuable insights, the present study also has certain limitations that can serve as catalysts for future research. Firstly, the periodization employed in this study spans a vast time frame, making it challenging to precisely delineate the evolutionary order of both syntactic forms and the macro-event types. This issue is inherent to many diachronic studies on Mandarin. However, despite this constraint, the general development pattern can still be identified and warrant further exploration. Furthermore, for verbs that inherently encode the meaning of "change" or "action correlating", further research is needed to explore the nuances of their semantic evolution.

Data availability: The datasets generated during and/or analyzed during the current study are available in the Open Science Framework repository, at https://osf.io/qr7z8/.

References

Cao, Hongyu. 2021. *Hanyu fuhe quxiang buyu yu dongci guanliandu de shizheng yanjiu – Yi "shanglai shangqu xialai xiaqu" weili* [An empirical study on the correlation between compound directional complements in Chinese and verb association – Taking "*shanglai, shangqu, xialai, xiaqu*" as examples]. *Waiyu Yanjiu [Foreign Language Research]* 38(6). 40–45.

Cao, Hongyu. 2023. *Xiandai Hanyu xianhe fanchou kuozhang xiaoying de celiang – Yi fuhe quxiang buyu "qilai" weili* [Measurement of the expanding effect of the prominent category in modern Chinese – A case study of the compound directional complement "*qilai*"]. *Hanyu Xuexi [Chinese Language Learning]*(3). 63–71.

Chao, Yuenren. 1968. *A grammar of spoken Chinese*. Berkeley & Los Angeles: University of California Press.

Croft, William, Jóhanna Barðdal, Willem Hollmann, Violeta Sotirova & Chiaki Taoka. 2010. Revising Talmy's typological classification of complex event constructions. In Hans C. Boas (ed.), *Contrastive studies in construction grammar*, 201–235. Amsterdam: John Benjamins.

Dai, Haoyi & He Huang. 1988. *Shijian shunxu he hanyu de yuxu* [Temporal sequence and word order in Chinese]. *Guowai Yuyanxue [Foreign Linguistics]*(1). 10–20.

Dong, Xiufang. 1998. *Shubu dai bin jushi zhong de yunlyu zhiyue* [Prosodic constraints in verb-complement constructions with objects]. *Yuyan Yanjiu [Studies in Language and Linguistics]*(1). 55–62.

Du, Jing & Fuyin Li. 2021. *Hongshijian lishi yanbian lianxutong* [The diachronic evolution continuum of Macro-events]. *Waiwen Yanjiu [Foreign Studies]* 9(3). 1–9+106.

Evans, Vyvyan. 2004. *The structure of time: Language, meaning and temporal cognition*. Amsterdam & Philadelphia: John Benjamins Publishing Company.

Flach, Susanne. 2021. From movement into action to manner of causation: Changes in argument mapping in the into-causative. *Linguistics* 59(1). 247–283.

Guo, Xiliang. 2013. *Hanyushi de fenqi wenti* [The periodization problem in Chinese language history]. *Yuwen Yanjiu [Linguistic Research]*(4). 1–4.

Heine, Bernd, Ulrike Claudi & Friederike Hünnemeyer. 1991. *Grammaticalization: A conceptual framework*. Chicago & London: The University of Chicago Press.

Huang, Su-miao & Shelley Ching-yu Hsieh. 2008. Grammaticalization of directional complements in Mandarin Chinese. *Language and Linguistics* 9(1). 469–501.

Jia, Yu. 1998. *Lai/qu" zuo quxiang buyu shi dongci binyu de weizhi* [The position of the verb object when "*lai/qu*" functions as a directional complement]. *Shijie Hanyu Jiaoxue [World Chinese Teaching]*(1). 41–46.

Lakoff, George & Mark Johnson. 2003 [1980]. *Metaphors we live by*, 2nd edn. Chicago & London: The University of Chicago Press.

Li, Charles N. & Sandra A. Thompson. 1981. *Mandarin Chinese: A functional reference grammar*. Berkeley & Los Angeles: University of California Press.

Li, Fuyin Thomas. 2018. Extending the Talmyan typology: A case study of the macro-event as event integration and grammaticalization in Mandarin. *Cognitive Linguistics* 29(3). 585–621.

Li, Fuyin Thomas. 2019. Evolutionary order of macro-events in Mandarin. *Review of Cognitive Linguistics* 17(1). 155–186.

Li, Fuyin Thomas. 2020. *Hongshijian jiashuo ji qi zai hanyu zhong de shizheng yanjiu* [Macro-event hypothesis and its empirical research in Chinese]. *Waiyu Jiaoxue Yu Yanjiu [Foreign Language Teaching and Research]* 52(3). 349–360+479–480.

Li, Fuyin Thomas. 2023. The macro-event hypothesis. In Fuyin Thomas Li (ed.), *Handbook of cognitive semantics (Volume 3)*, 119–145. Leiden & Boston: Brill.

Li, Fuyin Thomas & Na Liu. 2021. Potentials for grammaticalization: Sensitivity to position and event type. *Review of Cognitive Linguistics* 19(2). 363–402.

Li, Jiachun. 2020. *Xiandai hanyu shixian shijian cihuihua moshi de leixingxue kaocha – Jiyu kouyu youdao shiyan de zhengju* [A typological investigation of lexicalization patterns for macro-events in modern Chinese – Based on evidence from spoken language induction experiments]. *Jiefangjun Waiguoyu Xueyuan Xuebao [Journal of PLA University of Foreign Languages]* 43(4). 71–77+137.

Li, Jinxi. 1924. *Xinzhu guoyu wenfa [Newly written national language grammar]*. Beijing: Commercial Press.

Li, Jinxi. 2004. *Li Jinxi yuyanxue lunwen ji [Collected linguistic papers of Li Jinxi]*. Beijing: Commercial Press.

Liang, Yinfeng. 2007. *Hanyu quxiang dongci de yufahua [Grammaticalization of directional verbs in Chinese]*. Shanghai: Xue Lin Publishing House.

Liu, Meili & Hubert Cuyckens. 2023. Alternation in the Mandarin disposal constructions: Quantifying their evolutionary dynamics across twelve centuries. *Corpus Linguistics and Linguistic Theory* 21(1). 75–105.

Liu, Na & Fuyin Thomas Li. 2023. Event integration as a driving force of language change: Evidence from Chinese 使-shǐ-make. *Language and Cognition* 36. 1–22.

Liu, Yuehua. 1998. *Quxiang buyu Tongshi* [An inventory of directional complements]. Beijing: Beijing Language and Culture University Press.

Lu, Jianming. 2002. *Dongci hou quxiang buyu he binyu de weizhi wenti* [Concerning the verbal complement of direction and the position of object]. *Shijie Hanyu Jiaoxue [Chinese Teaching in the World]*(1). 5–17.

Luo, Xinghuan. 2008. *Ying han yundong shijian cihuihua moshi de leixingxue yanjiu* [A typological study of lexicalization patterns in motion events in English and Chinese]. *Waiyu Jiaoxue [Foreign Language Education]* 29(3). 29–33.

Lyu, Shuxiang. 1953. *Yufa xuexi [Grammar learning]*. Beijing: China Youth Press.

Lyu, Shuxiang. 1980. *Xiandai hanyu babai ci [Eight hundred words in modern Chinese]*. Beijing: Commercial Press.

Ma, Yubian. 2005. *Quxiang dongci de renzhi fenxi* [Cognitive analysis of directional verbs]. *Hanyu Xuexi [Chinese Language Learning]*(6). 34–39.

Meng, Cong. 1987. *Dongqushi yuyi juli* [Semantic examples of the dynamic-trend type]. In *Zhongguo Shehui Kexue Yuan Yuyan Yanjiusuo Xiandai Hanyu Yanjiushi* [Modern Chinese Research Office of the Institute of Linguistics, Chinese Academy of Social Sciences], *Juxing he dongci [Syntactic patterns and verbs]*, 242–266. Beijing: Language and Culture Press.

Naidu, Viswanatha, Jordan Zlatev, Vasanta Duggirala, Joost Van De Weijer, Simon Devylder & Johan Blomberg. 2018. Holistic spatial semantics and post-Talmian motion event typology: A case study of Thai and Telugu. *Cognitive Semiotics* 2(2). 1–27.

Shen, Jiaxuan. 2003. *Xiandai Hanyu "dongbu jiegou" de leixingxue kaocha* [The resultative construction in Chinese: A typological perspective]. *Shijie Hanyu Jiaoxue [Chinese Teaching in the World]*(3). 17–23+12.

Shi, Wenlei. 2011. *Hanyu yundong shijian cihua leixing de lishi zhuanyi* [The pattern shift of the motion event integration in Chinese: A typological study based on morpho-syntactic features]. *Zhongguo Yuwen [Studies of the Chinese Language]*(6). 483–498+575.

Slobin, Dan I. 2004. The many ways to search for a frog: Linguistic typology and the expression of motion events. In Strömqvist Sven & Ludo Verhoeven (eds.), *Relating events in narrative: Typological and contextual perspectives*, 219–257. Mahwah: Lawrence Erlbaum.

Song, Wenhui. 2007. *Xiandai Hanyu dongjieshi de renzhi yanjiu [A cognitive study of resultative constructions in modern Chinese]*. Beijing: Peking University Press.

Song, Wenhui. 2012. *Xiandai hanyu biaoshi qishiyi de quxiang buyu qilai he qi…lai de guanxi* [The relation between *qilai* and *qi…lai* as directional complement of beginning in modern Chinese]. *Shijie Hanyu Jiaoxue [Chinese Teaching in the World]* 26(4). 463–477.

Talmy, Leonard. 1985. Lexicalization patterns: Semantic structure in lexical forms. In Timothy Shopen (ed.), *Language typology and syntactic description, Volume III: Grammatical categories and the lexicon*, 57–149. Cambridge: Cambridge University Press.

Talmy, Leonard. 1991. Path to realization: A typology of event integration. *Buffalo Working Papers in Linguistics* 91(1). 147–187.

Talmy, Leonard. 2000a. *Toward a cognitive semantics, Volume I: Concept structuring systems*. Cambridge, Mass: The MIT Press.

Talmy, Leonard. 2000b. *Toward a cognitive semantics, Volume II: Typology and process in concept structuring*. Cambridge, Mass: The MIT Press.

Wang, Guoshuan. 2005. *Quxiang wenti yajiu [Analysis of directional issues]*. Beijing: Huaxia Press.

Wang, Li. 1957. *Hanyushi gao [Manuscript of Chinese history]*. Beijing: Science Press.

Wang, Li. 1989. *Hanyu yufa shi [History of Chinese grammar]*. Beijing: The Commercial Press.

Wang, Shuo. 2012 [1992]. *Guo ba yin jiu si [Indulge and perish]*. Beijing: Beijing October Literature and Art Publishing House.

Wang, Yiguang & Lingqiang Gong. 2015. *Dongqushi "V kai" de yuyi kuozhan lujing — Jiyu gainian jiegou lilun* [The semantic extension path of the "V *kai*" — Based on the conceptual structure]. *Hanyu Xuexi [Chinese Language Learning]*(1). 38–46.

Wang, Yiguang & Lingqiang Gong. 2018. *Dongqushi "V shang" de gainian yuyi yaosu ji kuozhan lujing yanjiu* [The mechanism of the semantic extension of V-directional compound "V *shang*"]. *Xinjiang Daxue Xuebao (Zhexue Renwen Shehui Kexue Ban). [Journal of Xinjiang University (Philosophy, Humanities, and Social Sciences Edition)]* 46(3). 135–143.

Wu, Hsiao-Ching. 2003. A case study on the grammaticalization of *guo* in Mandarin Chinese-polysemy of the motion verb with respect to semantic changes. *Language and Linguistics* 4(4). 857–885.

Xiao, Xiumei. 1992. *"Dong + lai + ming" he "dong + ming + lai": Liangzhong jushi de bijiao* [A comparison of two sentence patterns: "V + *lai* + N" and "V + N + *lai*"]. *Yuyan Jiaoxue Yu Yanjiu [Language Teaching and Research]*(1). 59–62.

Xie, Baiyu & Huyang Qi. 1999. *Fuhe quxiang buyu "guolai" he "guoqu" de yuyi fenxi* [Semantic analysis of complex directional complements *"guolai"* and *"guoqu"*]. *Modern Chinese grammar research facing the challenges of the new century*. Shandong: Shandong Education Press.

Xu, Chuan & Ying Gao. 2013. *Hanguo xuesheng xide hanyu quxiang buyu "guolai" de pianwu fenxi* [Error analysis of Korean students acquiring the Chinese directional complement *"guolai"*]. *Yuwen Jianshe [Language Construction]* 36. 69–70.

Xu, Mengmin & Fuyin Li. 2022. *Ji yu hanyu dongbu jiegou de shijian ronghe yanjiu — Yi "V hui" jiegou biaozheng hong shijian weili* [A study on event integration based on Chinese verb-complement structures — Taking "V *hui*" as an example for macro-event representation]. *Zhejiang Waiguoyu Xueyuan Xuebao [Journal of Zhejiang International Studies University]*(2). 49–58.

Yan, Chensong & Donglan Chen. 2021. *Hanyu quxiang buyu biaozheng Talmy wulei hongshijian yanjiu* [A study on Chinese directional complements representing the five macro-events proposed by Talmy]. *Zhejiang Waiguoyu Xueyuan Xuebao [Journal of Zhejiang International Studies University]*(5). 20–28.

Yang, Defeng. 2001. *"Dong + qu + le" he "Dong + le + qu" buyi* [A further discussion on "V + C + le" and "V + le + C"]. *Zhongguo Yuwen [Studies of the Chinese Language]*(4). 329–334.

Yang, Defeng. 2003. *Yingyu muyu xuexizhe quxiang buyu de xide shunxu — Jiyu hanyu zhongjieyu yuliaoku de yanjiu* [Sequence of acquiring the directional complement by English-speaking learners of Chinese]. *Shijie Hanyu Jiaoxue [Chinese Teaching in the World]*(2). 52–65+52–53.

Yang, Defeng. 2004. *20 shiji 80 niandai zhongqi yilai de dongqushi yanjiu shuping* [A review of studies on dynamic trend since the mid-1980s]. *Yuyan Jiaoxue Yu Yanjiu [Language Teaching and Research]*(02). 54–62.

Yang, Defeng. 2005. *"Shijian shunxu yuanze" yu "dongci + fuhequxiang dongci" dai binyu xingcheng de jushi* ["Temporal sequence principle" and sentence formation with "verb + compound directional verb" taking an object]. *Shijie Hanyu Jiaoxue [Chinese Teaching in the World]*(3). 56–65.

Yang, Defeng. 2017. *Quxiang buyu de renzhi he xide yanjiu [Cognitive and acquisition research on directional complements]*. Beijing: Peking University Press.

Zeng, Chuanlu. 2009. *Zhangai tushi yu "V de (bu) guolai/guoqu"* [Obstacle schema and *"V de(bu) guolai/ guoqu"*]. *Yanshan Daxue Xuebao (Zhexue Shehui Kexue Ban) [Journal of Yanshan University (Philosophy and Social Sciences Edition)]* 10(1). 43–46.

Zhan, Weidong, Rui Guo & Yirong Chen. 2003. The CCL Corpus of Chinese Texts: 700 million Chinese Characters, the 11th Century B.C. –present. http://ccl.pku.edu.cn:8080/ccl_corpus (accessed 1 November 2023).

Zhan, Weidong, Rui Guo, Baobao Chang, Yirong Chen & Long Chen. 2019. *Beijing daxue CCL yuliaoku de yanzhi* [Development of the Peking University CCL Corpus]. *Yuliaoku Yuyanxue [Corpus Linguistics]* 6(1). 71–86.

Zhang, Bojiang. 1991a. *Dongqushi li binyu weizhi de zhiyue yinsu* [Constraints on object position in the dynamic trend]. *Hanyu Xuexi [Chinese Language Learning]*(6). 4–8.

Zhang, Bojiang. 1991b. *Guanyu dongqushi dai binyu de jizhong yuxu* [Several word orders of directional complement constructions carrying objects]. *Zhongguo Yuwen [Studies of the Chinese Language]*(3). 183–191.

Zhang, Bojiang & Mei Fang. 1996. *Hanyu gongneng yufa yanjiu [Research on Chinese functional grammar]*. Jiangxi: Jiangxi Education Press.

Zhang, Youdong. 2010. *Quxiang buyu "guolai" "guoqu" yinshenyi de yuyi fenxi* [Semantic analysis of the extended meanings of directional complements "*guolai*" and "*guoqu*"]. *Jilin Shifan Daxue Xuebao (Renwen shehui Kexue ban) [Journal of Jilin Normal University (Humanities and Social Sciences Edition)]* 38(4). 23–27.

Zhang, Zhigong. 1953. *Hanyu yufa changshi [Common knowledge of Chinese grammar]*. Beijing: China Youth Press.

Zhou, Yonghui. 1991. *Fuhe quxiang buyu de quxiang yiyi* [The directional meaning of complex directional complements]. *Sichuan Shifan Daxue Xuebao [Journal of Sichuan Normal University]*(4). 76–82.

Zhongguo Shehui Kexue Yuan Yuyan Yanjiusuo Cidian Bianjishi [Dictionary Editorial Office, Institute of Linguistics, Chinese Academy of Social Sciences]. 2016. *Xiandai hanyu cidian [Modern Chinese dictionary]*, 7th edn. Beijing: The Commercial Press.

Zhu, Dexi. 1982. *Yufa jiangyi [Grammar lectures]*. Beijing: The Commercial Press.

Zhu, Jingjin. 2018. *Renzhi shiye xia quxiang buyu "guolai" xide tongji fenxi* [Statistical analysis of the acquisition of the directional complement "*guolai*" from a cognitive perspective]. *Hanyu Xuexi [Chinese Language Learning]*(4). 96–104.

Zhu, Jingjin. 2019. *V qilai" wudai pianwu de renzhi yuyi fenxi ji jiaoxue yingyong* [Cognitive semantic analysis and pedagogical applications of the misrepresentation bias in "V *qilai*"]. *Yuyan Wenzi Yingyong [Applied Linguistics]*(2). 84–93.