

The Ideograph-Based Linguistic Chineseness: Evidence from the Disappearance of Derivational Morphology

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ABSTRACT

Many Classical Chinese words were derived through tonal/voicing alternations. New characters were specifically created for some derived words, while other derived words kept using the original characters, making the original characters multifunctional. In the evolution of the Chinese language, those derivations represented by specifically created characters have mostly been preserved, while multifunctional characters were not likely to stay multifunctional: it is common to eliminate some form-meaning pairs, leaving each character with only one pronunciation. Meanwhile, the form-meaning pairs represented by characters began to compound with each other, reducing syntactic freedom. Ideographic characters thereby stabilized the basic units, that is, root morphemes, for the Chinese language, while those phonological alternations that were not clearly represented in writing mostly disappeared, making the language increasingly analytic. This finding sheds light on the stabilizing effect of writing on (the spoken) language and thus challenges the traditional view that writing is secondary to language.

In the field of linguistics, it is assumed that the written language exists for the sole purpose of representing the spoken language (Saussure [1916] 1959, 23). Even if different theoretical frameworks differ in some fundamental issues, this assumption is never doubted. On the other hand, it is admitted by Saussure

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himself that Chinese is an exception, for which written signs should not be envisaged as secondary to the spoken language:

- (1) To a Chinese, an ideogram and a spoken word are both symbols of an idea; to him writing is a second language, and if two words that have the same sound are used in conversation, he may resort to writing in order to express his thought. (Saussure [1916] 1959, 26)

When scholars applied general linguistic theories to the Chinese language over the past century, the special relationship between the Chinese language and writing barely got any attention. Many concepts and theories were applied to the study of Chinese without justification. In fact, even the most basic linguistic units, such as words, can be controversial in Chinese.¹ Against this background, Xu (1994, 2005) and Pan (2002) proposed a character-based grammar (字本位语法 *zìběnwèi yǔfǎ*),² arguing that the ideographic Chinese characters are the basic structural units of the Chinese language. This theory has not been widely accepted due largely to the unintuitive conflation of written signs and the spoken language, but it does shed light on ideograph-based linguistic Chineseness. Even if we admit that language and writing are two different symbolic systems, writing is not necessarily secondary: it may also have an effect on language. Focusing on this point, this essay explores the relationship between writing and linguistic features by investigating the role that ideographic characters play in the disappearance of derivational morphology. Focusing on this topic, the section “Terminology and Taxonomy” reviews relevant terminologies, discusses the specific context underlying each of them, and defines our own taxonomy for the purposes of this study. The next section presents a general introduction to various types of morphology in Classical Chinese, which is followed by a discussion of two case studies that demonstrate the effects of ideographic writing on the disappearance of derivational morphology. “The Ideograph-Based Linguistic Ideology of Chineseness” examines the notion of “Chinese” and reveals its ideograph-based identity and linguistic ideology. The conclusion and implications are presented in the final section.

1. See, e.g., Hockett (1944); Hoosain (1992); Sproat et al. (1996); Miller (2002); Bassetti (2005); Liu et al. (2013).

2. In this essay, Chinese characters are immediately followed by their Pinyin annotations based on the official standard of Modern Mandarin published by the Ministry of Education of China (available at http://www.moe.gov.cn/jyb_sjzl/ziliao/). Acronyms used: FAN = the marker indicating the glosses using the *fanqie* spelling system; MC = Middle Chinese; SFP = sentence final particle; SIP = sentence initial particle; ZHI = the function word *之* *zhī* in Classical Chinese that links a nominal element with its modifiers.

Terminology and Taxonomy

In previous literature, *pictographic*, *ideographic*, *logographic*, and *word/morphosyllabic* have all been used to characterize Chinese writing. To determine which term best fits the present study, this section briefly reviews the contexts in which they frequently occur. *Logographic* and *word/morphosyllabic* are preferred by most modern linguists, despite their relatively late appearance. *Logo-* stems from the Greek word for ‘word’, so both terms resort to linguistic units to refer to writing. In this taxonomy of writing systems, alongside *logographs* (or *word/morphosyllabic writing*), there are also *syllabaries* and *alphabets* (Gelb [1952] 1963, 190; Istrin [1965] 1987, 28). Recommendations to use these terms instead of *pictograph* and *ideograph* tend to emphasize the phonetic value of Chinese characters (e.g., DeFrancis 1984, 133–48; Boltz 1986). For example, DeFrancis (1984, 140) claimed that “the phonetic aspect of Chinese writing is minimized by many people, even specialists in the field,” supported by an example of a rebus using the pictograph for ‘wheat’, 𪎭, to represent the homophonic word in Old Chinese *lǎg ‘to come’.³ Such terms as *logographic* and *word/morphosyllabic* make Chinese writing appear to be more comparable to alphabets and thus less exotic for Western scholars, especially against a background in which Chinese things were always regarded as undermining the “mundane truths” applicable to the West (Hansen 1993).

From a synchronic perspective, the parallel between logographs (morphosyllabic writing), syllabaries, and alphabets is indeed helpful for linguists to understand the linguistic value of Chinese characters, but the underlying mindset is exactly “writing is secondary to language”: writing is assumed to be a sole representation of the spoken language. From a diachronic perspective, writing originates from drawing, and it is simply unimaginable that a perfect association between visual forms and linguistic units could be formed overnight. The earliest writing was undoubtedly in pictographs, and thus it is not rare to see similar pictographs in different places where diverse languages were spoken. Rebuses, as enumerated by DeFrancis (1984, 140), indeed demonstrate an evident combination between the pictographic visual forms and linguistic units, in which pictographs were used to represent words based solely on phonetic similarity instead of semantic association. Therefore, the existence of rebuses makes a good reason to explain the reason why the Chinese writing cannot be conceived of as thoroughly “pictographic.” However, the notion “ideograph” is barely challenged: the concept that visual signs represent ideas is essentially compatible with rebuses.

3. The asterisk is conventionally used to indicate reconstructed forms in Old Chinese.

The fact that pictographs picked up new meanings based on phonetic similarity does not necessarily mean that all words with the same pronunciation could be written by the same pictograph. On the contrary, once the pictograph initially created for “wheat” was conventionally used for the meaning “to come,” the graphic-semantic association has been much more stable than the graphic-phonetic association that has been varying across time (historical evolution) and space (dialectal areas). In fact, the Chinese language is known for involving countless mutually unintelligible varieties across time and space (e.g., Crystal 1987, 312; DeFrancis 1984, 5; Li and Thompson 1989, 2; Norman 1988, 1), in which the same character may have dramatically divergent pronunciations. Evidently, the sign has always been ideographic although it was once used as a rebus: it simply picked up another meaning through that rebus.

A more important reason for choosing “ideographic” instead of “logographic” pertains to the purpose of the present study. To revisit the relationship between language and writing, we must change the mindset that uses linguistic units to refer to writing systems, as this mindset presupposes a secondary position of writing. Instead, writing needs to be conceived of as having its own inherent nature. From this perspective, it can be noticed that the visual signs in some writing systems represent sounds; while the visual signs in some other writing systems have fixed meanings but no fixed sounds. In this article, we call the former type “phonographic,” and the latter type “ideographic.”⁴ With the establishment of taxonomy, it is to be shown in the following sections that the association between the Chinese language and the ideographic characters was initially rather loose, and has been gradually strengthening. In the perennial convergence process, linguistic forms that could not be clearly represented by ideographic characters were eliminated, resulting in the highly analytic structure of Modern Mandarin: the ideographic writing system has been wielding a profound influence on the Chinese language.

Morphology in Classical Chinese

As a representative analytic language, Chinese, Modern Mandarin in particular, is impoverished in inflectional/derivational morphology. However, based on extensive studies on cognates, it is suggested that Chinese is affiliated with the Tibetan-Burman languages, which are rich in agglutinative affixes (Norman

4. The use of the term *ideographic* in this article needs to be distinguished from the term used for one of the six categories (六书 *liùshū*) noted in *An Explanatory Dictionary of Chinese Characters* (说文解字 *Shuōwénjiězì*; see Yong and Peng 2008, 41). I use *ideographic* as an umbrella term for describing the general feature of Chinese characters, as distinct from *phonographic* writing systems.

1988, 12; LaPolla 2019; Sagart et al. 2019; Zhang et al. 2019). The difference between Modern Mandarin and the Tibetan-Burman languages leads linguists to speculate about the derivational morphology in Old Chinese. Some commonly discussed operations include the *s- prefix, the *-s suffix, the *m- prefix, and the *p- (b-) prefix (e.g., Sagart 1999; Pulleyblank 2000; Schuessler 2007; Sagart and Baxter 2012). For example, as shown by Schuessler (2007, 18–19):

- (2) The *s-prefix:
 a. Feed 食 *sì* [*s-ləkh] 'to feed' < causative of 食 *shí* [*m-lək] 'to eat'
 b. Frost 霜 *shuāng* [*sraŋ] 'hoarfrost' < 凉 *liáng* [*raŋ] 'cold'

Due to the lack of historical materials, little consistency can be observed regarding the functions of the speculated affixes, which causes some scholars to question whether these affixes existed or not (e.g., Li 2003; Wang 2006; Sun 2007b, 2007c).

More reliable evidence of morphology in Classical Chinese is drawn from philological works pertaining mainly to Old Chinese (a relatively late stratum) and Middle Chinese. Confucianism was the official ideology of imperial China from the Han dynasty (206 BCE–226 CE) through the Qing dynasty (1644–1911; Hucker 1975, 194). To decipher the Confucian classics (and some other great works) from the pre-Qin period, there is an abundance of literature dedicated to the study of the graphic forms, pronunciations, and meanings of the characters appearing in those works. Systematic phonetic studies emerged around the late Han dynasty, under the apparent influence of Sanskrit, which was imported with Buddhism. The *fanqie* (反切 *fǎnqiè*) spelling system, which employs the pronunciations of two characters to annotate the pronunciation of the target character, was developed: the first character represents the initial (typically the syllable-initial) consonant, while the second character represents the rhyme (with the tone) of the target character. This system makes possible relatively accurate representations of pronunciations that are able to reveal subtle differences including tonal/consonantal contrasts. One of the most influential works employing the *fanqie* method is *Annotations of Classics* (经典释文 *Jīngdiǎn shìwén*), comprising 30 volumes annotating over 680,000 characters (over 8,000 different types of characters) of classics, written by Lu Deming (陆德明 *Lù Démíng*, 556–630 CE). Putting together Lu Deming's annotations for the same character in different contexts, about 50 percent of the characters (over 4,000 types of characters) have more than one pronunciation. It is commonly observed that the same character has different but related meanings when pronounced differently. This phenomenon is taken as evidence of derivational morphology

(音变构词 *yīnbiàn gòuci*).⁵ The most widely recognized operations include tonal alternation and voicing alternation.

As a tonal language, Chinese uses tones to differentiate meanings. Since tone is crucial for rhyming literature, which was highly regarded in imperial China, philological works were especially precise in the representation of tones, with four tones recognized: flat (平 *píng*), rising (上 *shǎng*), departing (去 *qù*), and entering (入 *rù*). Tonal alternations, especially the contrast between the departing tone and other tones, are captured in the pronunciations of many characters. For example, the pictograph 雨 *yǔ/yù* < Middle Chinese (MC) *hju* (𩇛 in the oracle bone script) indicated ‘rain (nominal)’ when pronounced with the rising tone (default pronunciation) but with the derived meaning ‘to fall (from the heavens)’ when pronounced with the departing tone, as shown in (3).⁶

- (3) a. Original text from *Classic of Poetry* (诗 *Shī*·小雅 *xiǎoyǎ*·大田 *dàtián*):
 有 澍 萋萋，兴 雨 祈祈。雨 我 公 田，遂 及 我 私。
Yǒu yǎn qīqī, xīng yǔ qíqí. Yǔ wǒ gōng tián, suì jí wǒ sī.
 SIP clouds gather rise rain slowly fall my public field then reach my private
 “Dark clouds were gathering, bringing the drizzling light rain. The rain fell on our public fields, and then reached my own private fields.”
- b. Lu Deming’s annotation (经典释文 *Jīngdiǎn shìwén*):
 兴 雨， 如 字... 雨 我， 于 付 反。
Xīng yǔ, rú zì... yǔ wǒ, yú fù fǎn.
 rise rain as character fall me *yú fù FAN*
 “The 雨 *yǔ* in 兴雨 *xīng yǔ* is read by the default pronunciation (rising tone); as for the 雨 *yù* in 雨我 *yù wǒ*, the syllable-initial consonant is the same as 于 *yú* < MC *hju*, while the rhyme is the same as 付 *fù* < MC *pju* (departing tone).”

Besides tonal alternation, another commonly discussed operation is voicing alternation: a character might have different meanings when the syllable-initial consonant is voiced versus voiceless. For example, the character 柱 *zhù* meant ‘pillar (nominal)’ when pronounced as *drju* with a voiced syllable-initial consonant but with the derived meaning ‘to pillar, to support (verbal)’ when pronounced as *trju* with a voiceless syllable-initial consonant.

New characters were sometimes created for specific variants in some alternations. For example, the character 右 *yòu* < MC *hjuw* meant ‘right (the opposite of left)’ when pronounced with the rising tone, with the derived meaning ‘to support, to help’ when pronounced with the departing tone; later, the character 佑 *yòu* < MC *hjuw*, which took over the verbal variant with the departing

5. See, e.g., Downer (1959); Mei (1980); Branner (2002); Sun (2007a); Wang (2014); Jacques (2022).

6. As Lu Deming lived in the Tang dynasty (618–906 CE), when Middle Chinese was used, this article presents MC reconstructed pronunciations based on Baxter and Sagart (2014), which echoes the *fanqie* spellings in *Annotations of Classics*.

tone, was created. However, not all derivations involve newly created characters, such as 雨 *yǔ/yù* and 柱 *zhù* mentioned before.

In spite of the rich philological resources, derivational morphology is not without controversy. In fact, disagreements are frequently captured in philological works per se, between Lu Deming and other philologists, and among Lu Deming's own annotations. Therefore, confusions regarding the functions of different operations, especially for those operations involving a great variety of cases, naturally arise. For example, the tonal alternation is suggested to be related to the perfective aspect, causativization, and nominalization (e.g., Downer 1959; Zhou [1966] 2004, 81–119; Mei 1980), while the voicing alternation is believed to be valency changing (Mei 1991; Xie 2015). Regarding the origins of the tonal alternation and the voicing alternation, some scholars suggest that they are descendants of the affixes in the Proto-Sino-Tibetan languages (Haudricourt 1954; Pulleyblank 1962, 1973; Mei 1980; Sagart 1999, 131–33), while those affixes have been debated themselves.

It must be noted that the characters used in the *fanqie* method were not full-time phonographic signs. Instead, they were still used in literature with their own meanings: the ideographic nature was not changed. Working in tandem with the fact that the essential purpose of philology was to help literati to decipher classics, the annotations in philological works were unable to affect the language of laypeople. In fact, the pronunciations of the characters used to annotate other characters were not stable themselves. For example, the character 定 *dìng* < MC *deng* 'to fix, to pacify' was used to represent the voiced syllable-initial consonant *d* in philological works of the Tang dynasty, but it became the voiceless *t* no later than the fourteenth century. Without an effective stabilizing tool, only a small part of derivational morphology leaves remnants in Modern Mandarin. It was previously mentioned that about 50 percent of characters had more than one pronunciation in *Annotations of Classics*, but when it comes to Modern Mandarin, only 10 percent of characters have more than one pronunciation (Zhang and Qin 2016), and Chinese is thus known as an analytic language by modern linguists.

Case Studies of 衣 *Yī* and 坐 *Zuò*/座 *Zuò*

Materials and Methodology

According to philologists' annotations, derivational morphology surely existed in Classical Chinese, as was discussed briefly in the preceding section. Taking two case studies of 衣 *yī* and 坐 *zuò*/座 *zuò* as examples, this section delves into

the mechanisms underlying the disappearance of morphology and discusses the role of ideographic writing therein.

衣 *Yī* < MC *ji* (flat tone) was originally a noun indicating ‘clothes’ and derived the verbal meaning ‘to wear, to dress’ when pronounced with the departing tone: the same character was used in both ways. In contrast, 坐 *zuò* < MC *dzwa* (rising tone) was originally a verb indicating ‘to sit’, and derived the nominal sense ‘seat’ when pronounced with the departing tone, for which the character 座 *zuò* was specifically created: 坐 *zuò*/座 *zuò* represents a case in which distinct characters are used in the derivation. Moreover, the meanings of 衣 *yī* and 坐 *zuò*/座 *zuò* are relatively basic, reflected as stable and high frequencies in diachronic corpora, bringing us a fair number of tokens for analysis. Furthermore, the original sense and the derived sense in both cases are nominal-verbal pairs, making them comparable to the greatest extent.

It was previously mentioned that disagreements are not rare in philologists’ annotations, and the pronunciations of the characters used in the *fanqie* method were not stable themselves. Therefore, philological works can provide only limited materials for the investigation of the disappearance of morphology. Confronted with the difficulty of diachronic phonetic reconstruction, we choose to turn to the meanings/functions of the targets as shown by their usage in diachronic corpora: in addition to philology, China also had a long tradition of vernacular literature, with many works from different historical periods. For the present study, the diachronic corpora are made up of *Zuo’s Commentary* (左传 *Zuǒzhuàn*, about 197,000 characters, fourth century BCE), the *bianwen* texts (about 280,000 characters, 700–900 CE) in the book *A New Collection of Dunhuang Bianwen* (敦煌变文集新书 *Dūnhuáng Biànwénjí Xīnshū*) edited by Pan (1994), *The Plum in the Golden Vase* (金瓶梅 *Jīn Píng Méi*, about 762,000 characters, circa 1600 CE), and six novels (about 500,000 characters, 1988–93 CE) written by Wang Shuo (王朔 *Wáng Shuò*), a contemporary Chinese writer.⁷ The selected texts are narrative and rich in dialogue, representing the vernacular styles of different eras, distinct from the classical literary style.

By definition, derivational morphology derives words with new meanings and/or grammatical functions. Therefore, to investigate the disappearance of derivational morphology, we can simply look at the preservation of the derived meaning/function in the literature of later historical periods. Although it is impossible to know the exact pronunciation of the target character in every specific context of

7. The novels are *Playing for Thrills* (玩的就是心跳 *Wán de jiùshì xīntiào*), *Wild Beasts* (动物凶猛 *Dòngwù xiōngměng*), *Die Satisfied* (过把瘾就死 *Guò bǎ yǐn jiù sǐ*), *I’m Your Dad* (我是你爸爸 *Wǒ shì nǐ bàba*), *You Are Not a Vulgarian* (你不是一个俗人 *Nǐ búshì yí gè sùrén*), and *Nobody’s Applauding* (无人喝彩 *Wú rén hècǎi*).

different eras, we are always able to tell the meaning/function of the linguistic unit represented by the target character from the context. Along this line, I searched for the target characters 衣 *yī* and 坐 *zuò*/座 *zuò* in the diachronic corpora and analyze the role of the corresponding linguistic units for every token to identify their meanings and grammatical functions.

The Diachronic Usage of 衣 *Yī*

衣 *Yī* < MC *ji* (𠂔 in the oracle bone script) is a pictograph for ‘upper garment, clothes’. The default pronunciation had a flat tone. Based on its original meaning and pronunciation, 衣 *yī* derived a verbal meaning ‘to wear, to dress’ when pronounced with the departing tone, as shown in the following examples:

- (4) a. Original text from *Classic of Poetry* (诗 *Shī*·郑风 *zhèngfēng*·丰 *fēng*):

衣 锦 裘 衣。
Yī jǐn jiǒng yī.

clothes/wear brocade outerwear (made of hemp) clothes
 “In terms of the clothes, it is brocade with hemp outerwear” or “Wear brocade with hemp outerwear.”

- b. Lu Deming’s annotation (经典释文 *Jīngdiǎn shìwén*):

衣 锦, 如 字, 或 一 音 於 既 反。
Yī jǐn, rú zì, huò yī yīn yú jì fǎn.

clothes/wear brocade as character or one pronunciation *yú jì FAN*
 “[For one interpretation] the 衣 *yī* in 衣 锦 *yī jǐn* is read by the default pronunciation (flat pronunciation); or (for the other interpretation) the syllable-initial consonant is the same as 於 *yú* < MC *ju*, and the rhyme is the same as 既 *jì* < MC *kji* [departing tone].”

There are two ways to interpret (4a): the first 衣 *yī* can be perceived as a topic that is nominal, pronounced with the flat tone; it can also be understood as a verb that takes an object, pronounced with the departing tone.

A total of 37 tokens of 衣 *yī* are collected from *Zuo’s Commentary*, among which 衣 *yī* is nominal in 25 tokens (67.57 percent) and verbal in 12 tokens (32.43 percent). In our diachronic corpora, the verbal use of 衣 *yī* has been steadily shrinking, as shown in table 1.

It can be observed from table 1 that by the time of the Tang dynasty, when *bianwen* was popular, the verbal use of 衣 *yī* was basically obsolescent. Instead, there began to be other verbs frequently used to indicate ‘to wear, to put on’, such as 着 *zhuó* and 穿 *chuān*, as in the following examples:

- (5) 常 着 鹿 皮 之 衣, 与 鹿 为 伴。

Cháng zhuó lù pí zhī yī, yǔ lù wéi bàn.

often wear deer skin ZHI clothes with deer be friend

“Often wear deerskin clothes, and be friends with deer.”

(*Bianwen*)

Table 1. Diachronic Usage of 衣 *Yī* [%]

	衣 <i>yī</i> < MC <i>ji</i>	
	Nominal (MC flat tone)	Verbal (MC departing tone)
<i>Zuo's Commentary</i>	67.57	32.43
<i>Bianwen</i>	97.01	3.00
<i>The Plum in the Golden Vase</i>	99.76	0.24
Wang Shuo's novels	100	0

- (6) 西门庆起来, 穿衣净手。
Xīmén Qīng qǐ lái, chuān yī jìng shǒu.
 Ximen Qing rise come wear clothes clean hand
 "Ximen Qing got up, put on his clothes, and washed his hands."
 (*The Plum in the Golden Vase*)

In (5) and (6), 衣 *yī* is used as the object of both 着 *zhuó* and 穿 *chuān*. When it comes to Modern Mandarin, the nominal use of 衣 *yī* became standard. Dictionaries list only one pronunciation, that is, the one with the flat tone, for this character. Its use as a verb, pronounced with the departing tone, is no longer considered correct.

In addition, for nominal 衣 *yī*, there has been a tendency toward compounding in the diachronic corpora: its syntactic freedom has been constantly decreasing. In *The Plum in the Golden Vase* and Wang Shuo's novels, 衣 *yī* rarely stands alone as a noun. Instead, it compounds with other elements in the majority of tokens. Some high-frequency compounds are 衣服 *yīfu* 'clothes + clothes = clothes', 衣裳 *yīshang* 'clothes + skirt = clothes', and 衣着 *yīzhuó* 'clothes + wear = clothes'.

The Diachronic Usage of 坐 (座) *Zuò*

The character 坐 *zuò* < MC *dzwa* depicts two people (人) sitting on the earth (土), originally meant 'to sit'. In the rhyming literature until the Han dynasty, 坐 *zuò* was invariably used in the rhyme of the rising tone (Sun 2007a, 289), indicating that its original pronunciation undoubtedly had a rising tone. Based on its original meaning and pronunciation, 坐 *zuò* derived a nominal sense 'seat' when pronounced with the departing tone, as shown in the following examples:

- (7) a. Original text from *Classic of Poetry* (诗 *Shī*·小雅 *xiǎoyǎ*·楚茨 *chúcí*):
 以妥 以侑。
Yǐ tuǒ yǐ yòu.
 to seat to feed
 "[In ancestor worship practices] to seat [ancestors] and to feed [ancestors]."

- b. *Mao's Commentaries to Classic of Poetry* (毛诗 *Máoshī*):
 妥, 安 坐 也。
Tuǒ, ān zuò yě.
tuǒ peacefully sit SFP
 "The character 妥 *tuǒ* means 'to sit peacefully'."
- c. Zheng Xuan's *Interpretations of Mao's Commentaries* (毛诗传笺 *Máoshī zhuànjiān*):
 既 又 迎 尸, 使 处 神 坐, 而 食 之。
Jì yòu yíng shī, shǐ chǔ shén zuò, ér shí zhī.
 then again welcome body make place god seat then eat it
 "[In ancestor worship practices] then welcome the person who acts as the dead ancestor again. Place him in the god's seat and make him enjoy the sacrifices."
- d. Lu Deming's annotation for Zheng Xuan's interpretation (经典释文 *Jīngdiǎn shìwén*):
 神 坐, 才 卧 反。
Shén zuò, cái wò fǎn.
 god seat cái wò FAN
 "For the 坐 *zuò* in 神坐 *shén zuò*, the syllable-initial consonant is the same as 才 *cái* < MC *dzoj*, while the rhyme is the same as 卧 *wò* < MC *ngwa* (departing tone)."

坐 *Zuò* in (7b) is used as a verb, for which Lu Deming did not provide an annotation in *Annotations of Classics*, suggesting that this 坐 *zuò* should be read by its default pronunciation of the rising tone. In contrast, 坐 *zuò* in (7c) is used as a noun, distinct from its common usage, making it necessary to specifically provide an annotation, as shown in (7d).

A total of 19 tokens of 坐 *zuò* are collected from *Zuo's Commentary*, among which 坐 *zuò* is used as a noun in only 1 token (5.26 percent): in all the other tokens it is used alone as a verb. When it comes to *Bianwen*, the percentage of tokens in which 坐 *zuò* is used as a noun increases to 12.90 percent, while the verbal usage remains dominant.

The character 座 *zuò* appeared around the Han dynasty (Sun 2007a, 290), so it is not seen in *Zuo's Commentary*. Although its initial distinction from 坐 *zuò* was not clear-cut, it gradually took over the nominal usage of 坐 *zuò*. In *Bianwen*, 座 *zuò* is nominal, indicating 'seat, pedestal', in 78.46 percent of its tokens, as shown in the following examples:

- (8) 陛 下 但 诏 净 能 上 殿 赐 座。
Bìxià dàn zhào jìngnéng shàng diàn cì zuò.
 majesty just call-in Jingneng enter palace offer seat
 "Your majesty just called in Jingneng, asked him to enter the palace, and offered him a seat."
 (Bianwen)
- (9) 莲 座 希 奇 别 有 名。
Lián zuò xī qí bié yǒu míng.
 lotus seat rare strange particularly have name
 "The rare and strange things on the lotus seat [of the Buddha] are particularly famous."
 (Bianwen)

The division of labor between 坐 *zuò* and 座 *zuò* is clearer in *The Plum in the Golden Vase*: 坐 *zuò* is verbal in 98.79 percent of its tokens, while 座 *zuò* is 100 percent nominal and sometimes used as a classifier based on its nominal sense. When it comes to Modern Mandarin, it is the official standard that 坐 *zuò* is verbal and 座 *zuò* is nominal (including the usage as a nominal classifier), and other usages are thus no longer acceptable. The diachronic usages of 坐 *zuò* and 座 *zuò* are summarized in table 2.

The tendency toward compounding is also observed from the diachronic usages of 坐 *zuò* and 座 *zuò*. In fact, the nominal 座 *zuò* compounds with other elements more often than standing alone as a noun in *The Plum in the Golden Vase* and Wang Shuo's novels. Some high-frequency compounds include 座位 *zuòwèi* 'seat + position = seat', 座椅 *zuòyǐ* 'seat + chair = seat', and 就坐 *jiùzuò* 'to approach + seat = to sit (formal)'. Compared to 座 *zuò*, the verbal 坐 *zuò* has a higher degree of freedom in Modern Mandarin: it stands alone in 62.07 percent of tokens, although it can indeed occur in compounds such as 坐定 *zuòdìng* 'to sit + stable = to be seated' and 坐下 *zuòxià* 'to sit + down = to sit down'.

It is particularly worth mentioning that although the verbal 坐 *zuò* and the nominal 坐/座 *zuò* initially had different tones, their pronunciations converged after the Tang dynasty, under the influence of a systematic change of Chinese phonology whereby the rising tone turned into the departing tone when the syllable-initial consonant was voiced (浊上变去 *zhuó shàng biàn qù*; see Wang [1980] 1996, 193). Notably, the functional division initially associated with tonal alternation has been preserved with distinct characters, even if the phonetic forms have converged.

Summary

The divergent paths of 衣 *yī* and 坐 *zuò*/座 *zuò* are summarized in figure 1. In both cases, a new word is derived from the original word (a combination of the phonetic form and the meaning illustrated in its usage) through tonal alternation,

Table 2. The Diachronic Usages of 坐 *Zuò* and 座 *Zuò* (%)

	坐 <i>Zuò</i> < MC <i>Dzwa</i> (rising tone)		座 <i>Zuò</i> < MC <i>Dzwa</i> (departing tone)	
	Nominal	Verbal	Nominal	Verbal
<i>Zuo's Commentary</i>	5.26	94.74
<i>Bianwen</i>	12.90	87.10	78.46	21.54
<i>The Plum in the Golden Vase</i>	1.21	98.79	100	0
Wang Shuo's novels	0	100	100	0

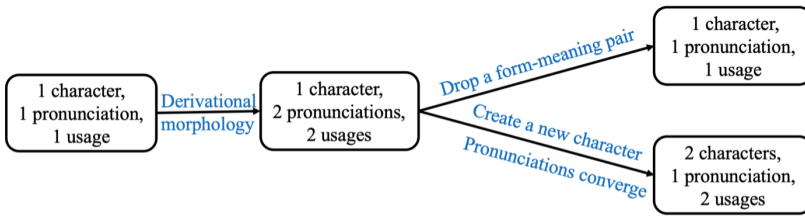


Figure 1. Comparison of the paths represented by 衣 *yī* and 坐 *zuò*/座 *zuò*

resulting in two form-meaning pairs represented by the same character. Divergence occurred when a new character, that is, 座 *zuò*, was specifically created that took over one form-meaning pair initially represented by the character 坐 *zuò*, while no new character was created for 衣 *yī*. In consequence, the verbal use of 衣 *yī* was dropped in language evolution, leaving the character with the original form-meaning pair; while 坐 *zuò* and 座 *zuò* developed a clear division of labor even though their pronunciations have converged. In this process, there is a notable tendency that one character corresponds to one form-meaning pair, indicative of a growing association between language and writing: as previously mentioned, about 50 percent of characters had more than one pronunciation in Classical Chinese (according to *Annotations of Classics*), and this number has dropped to 10 percent in Modern Mandarin. The function of each character has been increasingly specific. It is also demonstrated that the association is closer between the character and the meaning than between the character and the pronunciation: the derived meaning can be preserved by a new character even if the derived phonetic form is eliminated. In this sense, ideographic characters stabilize the basic units, that is, form-meaning pairs, but not the phonological system for the language.

Additionally, given the tendency toward compounding shown in the diachronic usages of 衣 *yī* and 坐 *zuò*/座 *zuò*, the linguistic units stabilized by these characters are evidently not words, but root morphemes. Chinese characters did represent words in the very beginning and could even represent multiple words with derivational morphology. However, multifunctional characters might lead to ambiguity in the written language. For example, *Annotations of Classics* provides two interpretations for example (4a), 衣锦褰衣 *yī jǐn jiǎng yī*, but in the spoken language, the tone of 衣 *yī* could help to disambiguate, as shown in (4b). For a clearer written representation, on the one hand, the function of each character became more specific by dropping additional form-meaning pairs; on the other hand, the linguistic units represented by characters began to compound with each other to denote the subtle semantic differences originally expressed by

derivational morphology: when 衣 *yī* compounds with 服 *fú* ‘clothes’, 衣服 *yīfu* ‘clothes’ is clearly nominal without any ambiguity. The increasing probability of compounding is correlated with the decreasing syntactic freedom. Represented by characters, many words in Old Chinese have been changing in the direction of bound morphemes, such as 座 *zuò* and 衣 *yī*. In this sense, the ideographic nature of Chinese characters pushed the language to choose compounding instead of derivational morphology, as phonological alternations could not be represented by ideographic characters. While the association between language and writing grows, the ideographic writing has been wielding a profound influence on the evolution of the Chinese language.

The cases of 座 *zuò* and 衣 *yī* represent two common situations of derivational morphology. We studied the preservation of 100 pairs of tonal alternation collected by Sun (2007a) and 70 pairs of voicing alternation collected by Zhang (2013) and found that about 70 percent of additional form-meaning pairs were eliminated if no new character was created for the derivation. Other examples are summarized in table 3.

Table 3. Effects of Writing on the Preservation of the Derived Form-Meaning Pairs

	All Form-Meaning Pairs Preserved	Additional Form-Meaning Pairs Eliminated
New character created	About 80 percent 右 <i>yòu</i> /佑 <i>yòu</i> < MC <i>hjuw</i> (rising/ departing), 言 <i>yán</i> /唁 <i>yàn</i> < MC <i>ngjon</i> (flat/ departing), 乳 <i>rǔ</i> /孺 <i>rú</i> < MC <i>nyu</i> (rising/ departing), 采 <i>dí</i> /棗 <i>tiào</i> < MC <i>dí/k</i> (entering/ departing), 景 <i>jǐng</i> /影 <i>yǐng</i> < MC <i>kjaeng/ jaeng</i> (voiceless/ voiced), 说 <i>shuō</i> /悦 <i>yuè</i> < MC <i>syet/ ywet</i> (voiceless/ voiced), etc.	About 20 percent 水 <i>shuǐ</i> /疾 <i>shuǐ</i> < MC <i>sywǐj</i> (rising/ departing), and some other cases involving obsolete characters.
No character created	About 30 percent 数 <i>shù</i> /shù < MC <i>srju</i> (rising/ departing), 重 <i>chóng</i> /zhòng < MC <i>drjowng</i> (flat/ rising), 观 <i>guān</i> /guàn < MC <i>kwan</i> (flat/ departing), 奇 <i>qí</i> /jī < MC <i>gje/ kje</i> (voiced/ voiceless), etc.	About 70 percent 胶 <i>jiāo</i> < MC <i>kaew</i> (flat/ departing), 逐 <i>zhú</i> < MC <i>drjuw/k</i> (entering/ departing), 毛 <i>máo</i> < MC <i>maw</i> (flat/ departing), 高 <i>gāo</i> < MC <i>kaw</i> (flat/ departing), 厚 <i>hòu</i> < MC <i>huw</i> (rising/ departing), 苦 <i>kǔ</i> < MC <i>khu</i> (rising/ departing), 柱 <i>zhù</i> < MC <i>drju/ trju</i> (voiced/ voiceless), 施 <i>shī</i> < MC <i>syē/ yie</i> (voiceless/ voiced), 条 <i>tiáo</i> < MC <i>dew/ thew</i> (voiced/ voiceless), etc.

The Ideograph-Based Linguistic Ideology of Chineseness

In the European context, language is conventionally depicted as the cornerstone of national identity,⁸ but importantly, sound is momentary: the spoken language is not able to maintain a common identity across time and space without the help of writing. In fact, without writing systems, language can change so fast that a person may have difficulty communicating with people three or four generations older (Gelb [1952] 1963, 223–24). The stabilizing effect of writing on language is also observed in the history of English: with written standards spread through media and education, English has changed relatively little over the past four to five centuries, compared with the dramatic changes before that time (Milroy and Milroy 2012, 25). However, since it is assumed that the written language exists for the sole purpose of representing the spoken language (see “Terminology and Taxonomy”), the contribution of writing to the formation of national identity is naturally recognized under (the spoken) language. A precondition has been ignored by this mindset that European nations inherited a writing system that is able to record every single phoneme in the spoken language, with which morphology can be clearly represented and stabilized. In contrast, due largely to its isolated geographical condition, Chinese writing has been evolving uninterruptedly from drawing that apparently lacks a consistent association with the phonetic forms of the spoken language. This difference crucially excludes Chinese from the European model of linguistic ideology.

As a key measure to consolidate the centralized power, rulers of imperial China made active efforts to standardize the writing system of Chinese characters. In 221 BCE, the first Qin emperor (秦始皇 *Qín Shǐ Huáng*) conquered the other warring states and established the first unified empire of China. Among the first few things he accomplished was the standardization of the written language. In the years that followed, orthography was institutionalized periodically by rulers of almost all dynasties. In contrast, up until the twentieth century, very little effort, if any, was made to standardize spoken Chinese. Indeed, rulers of different dynasties claimed the spoken form employed in the capital area as standard (雅言 *yǎ yán* or 通语 *tōng yǔ*), which became the object of philology (see “Case Studies of 衣 *Yī* and 坐 *Zuò*/座 *Zuò*”), but it was also taken for granted that laypeople living in different areas could not communicate orally. In fact, even after compulsory education was promoted in the twentieth century, the promotion of standard Modern Mandarin has still been more challenging than the promotion of character-based literacy. According to the official report published by the

8. Cobarrubias (1982); Urla (1988); Blommaert and Verschuere (1992); Posner (1993); Woolard (1994).

Ministry of Education of the People's Republic of China (2022), the illiteracy rate declined to just 2.67 percent in 2022, while 19.28 percent of people could still not communicate in Mandarin. Evidently, the spoken language was barely involved in establishing a Chinese national identity. It is the unified written language that maintained the cultural commonality of China (cf. Hucker 1975, 9; Norman 1988, 2; Tu 1994, 3–4). Unlike the European pattern, the Chinese pattern can be represented as “written language—national identity—spoken language.”

In fact, scholars frequently cast doubt on whether the European mindset of “nation-state” and “national language” fits China at all (e.g., Pye 1992; Jacques 2012; Xia 2014). Pye (1992, 235) pointed out China is a “civilization pretending to be a state,” that is, a “civilization-state” in which the written language served as a culture carrier and a major unifying force (Hucker 1975, 9). Norman (1988, 187) compared the Chinese language to Romance languages:

- (10) To the historical linguist Chinese is rather more like a language family than a single language made up of a number of regional forms. The Chinese dialectal complex is in many ways analogous to the Romance language family in Europe: both have their roots in a large-scale imperial expansion that took place in the centuries just preceding and just following the birth of Christ, the Qin-Han empire in the case of China and the Roman empire in the case of Europe; in both instances the imperial language was carried by armies and settlers to areas previously occupied by speakers of different languages; in the course of their development both were affected by these “substratum languages”; in both cases, the newly developing vernaculars existed alongside an antiquated written language and were profoundly influenced by it. In view of these parallels, it would not be surprising if we found about the same degree of diversity among the Chinese dialects as we do among the Romance languages, and in fact I believe this to be the case. To take an extreme example, there is probably as much difference between the dialects of Peking and Chaozhou as there is between Italian and French; the Hainan Min dialects are as different from the Xi'an dialect as Spanish is from Rumanian.

A question hereby arises as to what has been unified by ideographic characters for the Chinese language. To answer this question, we need to turn to the origin of writing. There is nearly unanimous agreement that writing started from pictures (e.g., DeFrancis 1984, 151; Gelb [1952] 1963, 11–12): when pictures developed an association with the spoken language, commonly instantiated by rebus

(see “Morphology in Classical Chinese”), they could be called writing. Therefore, for a self-originated writing system such as Chinese characters, the graphic forms are inherently associated with ideas, while the association with the spoken language was gradually developed. This process is illustrated in figure 2.

The initial association between the graphic form and the phonetic form was rather loose. As presented in the preceding sections, one character might have multiple pronunciations contingent on the context. Even if a new phonetic form was derived through tonal/voicing alternations, it could still be represented by the original character in writing. Faced with insufficient written representation, Europeans might typically think about orthographic reformation to align writing with the spoken language, but this is absolutely not the Chinese mindset, as the stable graphic-semantic association is essential to the common identity. Ideographic characters are never expected to change with the spoken language. Instead, the structure of the language could be adjusted to the ideographic nature of characters: those phonological alternations that could not be accurately represented by ideographic characters were mostly eliminated, including tonal/voicing alternations; while as a means to disambiguate, compounding can be clearly represented by ideographic characters and is thus preferred in the evolution of the Chinese language. By definition, compounding is different from derivational morphology in that it happens between root morphemes. In this sense, ideographic characters stabilize root morphemes for the language, which anchor the evolution of the Chinese language, although their phonetic forms and syntactic freedom may open to change. Meanwhile, Chinese words have been having fluid boundaries, changing with the conventionality of compounds, and it is thus infelicitous to conceive of Chinese writing as “logographic” or “word/morphosyllabic” (introduced above in “Morphology in Classical Chinese”).

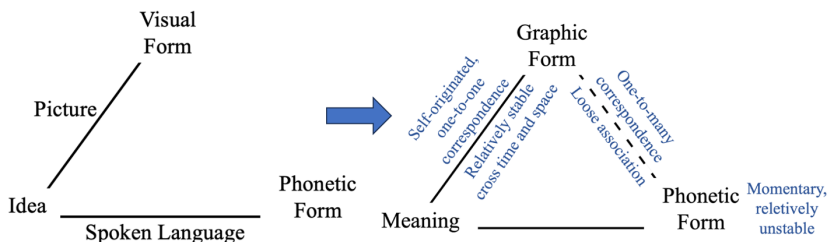


Figure 2. The emergence of writing

Conclusion and Implications

The article analyzes the part that the ideographic writing played in the disappearance of derivational morphology, and thus challenges the traditional belief that writing is secondary to the spoken language. In the first place, the notion of “the Chinese language” is precisely defined by the use of ideographic Chinese characters. By virtue of being “ideographic,” characters have been stabilizing the root morphemes for the language. Derivational morphology such as tonal/voicing alternations could be applied to those root morphemes in Classical Chinese, but the phonological alternations mostly disappeared that were not represented in writing. As a remedy, root morphemes began to compound with each other to help disambiguate. Therefore, in the evolution of the Chinese language, phonology, morphology, and words are not so stable as the root morphemes stabilized by ideographic characters, which radically distinguishes the Chinese language from European languages.

The present finding also sheds light on the overlooked contribution of writing to national identity. Without writing, the spoken language cannot possibly maintain a common identity across time and space. The reason why (the spoken) language receives the undeserved recognition resides in the nature of European writing systems: an alphabet is able to represent every single phoneme in the language, thereby creating a false impression that writing exists for the sole purpose of representing the spoken language. In contrast, when the association between language and writing is loose, as in the case of Classical Chinese, the contribution of writing becomes crystalized, no longer overshadowed by the spoken language.

Finally, there are a few points that await further investigation: I wrote about a “stable” graphic-semantic association intrinsic to ideographic writing, but the word *stable* needs to be understood in a relative sense. In addition to the rebuses introduced in “Morphology in Classical Chinese,” exceptions can also be seen in loanwords whereby foreign concepts were imposed onto pre-existing Chinese characters. For example, the pictograph 米 *mǐ* ‘rice’ (𪎭 in the oracle bone script) has been used to transliterate the length unit *meter*. The percentage of loanwords in the Chinese lexicon is not high (see Wiebusch 2009; Zhang 2024), but it is increasing noticeably in the current era of globalization. It is worth determining to what extent modern loanwords can affect the original graphic-semantic association. Second, this essay deals mainly with the diachronic stabilizing effect of ideographic characters—we have been focusing on the change of the “standard” used in the political centers of different eras—but dialectal variations are barely discussed. In fact, more remnants of derivational morphology can be found in

dialects (Sun 2007a, 366; Jacques 2022), so it will be extremely meaningful to systematically study the preservation of derivational morphology in dialects and, further, to compare the synchronic perspective and the diachronic perspective. In addition, this study hypothesizes a relationship between the type of writing and the evolutionary path of the language, so it should be able to predict divergent evolutionary paths of genetically affiliated languages when different types of writing are employed, such as Chinese and Tibetan. Along this line, more cross-linguistic data are called for to test this hypothesis. Finally, built on linguistic Chineseness (as distinct from the European model), the implications of this essay extend to the formation of national identity in general, but the situations of other societies are conspicuously lacking. Future studies that investigate the relationship between language, writing, and national identity in various contexts are thus warranted.

References

- Bassetti, Benedetta. 2005. "Effects of Writing Systems on Second Language Awareness: Word Awareness in English Learners of Chinese as a Foreign Language." In *Second Language Writing Systems*, edited by Vivian Cook and Benedatta Bassetti, 335–56. Clevedon: Multilingual Matters.
- Baxter, William H., and Laurent Sagart. 2014. *Old Chinese: A New Reconstruction*. New York: Oxford University Press.
- Blommaert, Jan, and Jef Verschueren. 1992. "The Role of Language in European Nationalist Ideologies." *Pragmatics* 2 (3): 355–75.
- Boltz, William. 1986. "Review of *The Chinese Language: Fact and Fantasy* by John DeFrancis." *Journal of the American Oriental Society* 106 (2): 405–7.
- Branner, David P. 2002. "Common Chinese and Early Chinese Morphology." *Journal of the American Oriental Society* 122 (4): 706–21.
- Cobarrubias, Juan. 1982. "Ethical Issues in Status Planning." In *Progress in Language Planning: International Perspectives*, edited by Juan Cobarrubias and Joshua A. Fishman, 41–86. Berlin: Mouton de Gruyter.
- Crystal, David. 1987. *The Cambridge Encyclopedia of Language*. Cambridge: Cambridge University Press.
- DeFrancis, John. 1984. *The Chinese Language: Fact and Fantasy*. Honolulu: University of Hawai'i Press.
- Downer, Gordon B. 1959. "Derivation by Tone-Change in Classical Chinese." *Bulletin of the School of Oriental and African Studies* 22:258–90.
- Gelb, Ignace J. (1952) 1963. *A Study of Writing*. Rev. ed. Chicago: University of Chicago Press.
- Hansen, Chad. 1993. "Chinese Ideographs and Western Ideas." *Journal of Asian Studies* 52 (2): 373–99.
- Haudricourt, André G. 1954. "Comment reconstruire le chinois archaïque." *Word* 10 (2–3): 351–64.

- Hockett, Charles. 1944. "Reviewed Work: *Morphology: The Descriptive Analysis of Words* by Eugene A. Nida." *Language* 23 (3): 273–85.
- Hoosain, Rumjahn. 1992. "Psychological Reality of the Word in Chinese." *Advances in Psychology* 90:111–30.
- Hucker, Charles. 1975. *China's Imperial Past: An Introduction to Chinese History and Culture*. Stanford, CA: Stanford University Press.
- Istrin, Viktor A. (1965) 1987. *Возникновение и Развитие Письма* [The origin and development of writing]. Translated into Chinese by Shaoxing Zuo. Beijing: Peking University Press.
- Jacques, Guillaume. 2022. "On the Nature of Morphological Alternations in Archaic Chinese and Their Relevance to Morphosyntax." *Bulletin of the School of Oriental and African Studies* 85 (3): 475–94.
- Jacques, Martin. 2012. *When China Rules the World: The End of the Western World and the Birth of a New Global Order*. Rev. ed. New York: Penguin.
- LaPolla, Randy J. 2019. "The Origin and Spread of the Sino-Tibetan Language Family." *Nature* 569 (7754): 45–47. <https://doi.org/10.1038/d41586-019-01214-6>.
- Li, Charles N., and Sandra A. Thompson. 1989. *Mandarin Chinese: A Functional Reference Grammar*. Taipei: Crane.
- Li, Xiang. 2003. "关于'去声源于-s尾'的若干证据的商榷 Guānyú 'qùshēng yuányú -s wěi' de ruògān zhèngjù de shāngquè" [Discussion of the evidence supporting the hypothesis that "the departing tone originates from the -s suffix"]. In *语言学论丛 (第二十八辑) Yǔyánxué lùncóng (dì Èrshíbā jí)* [Essays on Chinese linguistics], vol. 28, edited by Center for Chinese Linguistics, 34–42. Beijing: Commercial Press.
- Liu, Ping-Ping, Wei-Jun Li, Nan Lin, and Xing-Shan Li. 2013. "Do Chinese Readers Follow the National Standard Rules for Word Segmentation During Reading?" *PLoS ONE* 8 (2): e55440. <https://doi.org/10.1371/journal.pone.0055440>.
- Mei, Tsu-Lin. 1980. "四声别义中的时间层次 Sishēngbiéyì zhōng de shíjiān céngcí" [Strata in the use of tones to differentiate meanings]. *中国语文 Zhōngguó yǔwén* [Studies of the Chinese language] 29 (6): 427–33.
- . 1991. "从汉代'动杀'、'动死'来看动补结构的发展——兼论中古时期起词的施受关系中立化 Cóng hàndài 'dòng-shā', 'dòng-sǐ' lái kàn dòngbǔ jiégòu de fāzhǎn——Jiān lùn zhōnggù shíqī qící de shìshòu guānxì zhōnglìhuà" [The Han dynasty 'verb-shā' and 'verb-sǐ' constructions and the development of the resultative construction: On the neutralization of the agent-patient relation in Middle Chinese]. In *语言学论丛 (第十六辑) Yǔyánxué lùncóng (dì shíliù jí)* [Essays on Chinese linguistics], vol. 16, edited by Center for Chinese Linguistics, 112–36. Beijing: Commercial Press.
- Miller, Kevin F. 2002. "Children's Early Understanding of Writing and Language: The Impact of Characters and Alphabetic Orthographies." In *Chinese Children's Reading Acquisition: Theoretical and Pedagogical Issues*, edited by Wenling Li, Janet S. Gaffney, and Jerome L. Packard, 17–29. Dordrecht: Kluwer Academic.
- Milroy, James, and Lesley Milroy. 2012. *Authority in Language: Investigating Standard English*. New York: Routledge.
- Ministry of Education of the People's Republic of China. 2022. "全国普通话普及率达 80.72%, 文盲率下降至 2.67% Quánguó pǔtōnghuà pǔjǐlǜ dá 80.72%, wénmánglǜ xiàjiàng zhì 2.67%" [Mandarin speaking rate hits 80.72% nationwide, while the illiteracy rate has

- been reduced to 2.67%]. http://www.moe.gov.cn/fbh/live/2022/54618/mtbd/202206/t20220628_641478.html.
- Norman, Jerry. 1988. *Chinese*. Cambridge: Cambridge University Press.
- Pan, Chonggui, ed. 1994. 敦煌变文集新书 *Dūnhuáng Biànwénjí xīnshū* [A new collection of Dunhuang Bianwen]. Taipei: Wenchin.
- Pan, Wenguo. 2002. 字本位与汉语研究 *Zì běn wèi yǔ Hànyǔ yánjiū* [Zi as the Basic Structural Unit and Chinese Studies]. Shanghai: Huadong Normal University Press.
- Posner, Rebecca. 1993. "Language Conflict in Romance: Decline, Death and Survival." In *Trends in Romance Linguistics and Philology*, vol. 5, *Bilingualism and Linguistic Conflict in Romance*, edited by Rebecca Posner and John N. Green, 41–76. Berlin: Mouton de Gruyter.
- Pulleyblank, Edwin G. 1962. "The Consonantal System of Old Chinese." *Asia Major* 9:206–65.
- . 1973. "Some New Hypotheses Concerning Word Families in Old Chinese." *Journal of Chinese Linguistics* 1 (1): 111–25.
- . 2000. "Morphology in Old Chinese." *Journal of Chinese Linguistics* 28 (1): 26–51.
- Pye, Lucian. 1992. *The Spirit of Chinese Politics*. Cambridge, MA: Harvard University Press.
- Sagart, Laurent, and William Baxter. 2012. "Reconstructing the *s- Prefix in Old Chinese." *Language and Linguistics* 13 (1): 29–59.
- Sagart, Laurent, Guillaume Jacques, Yunfan Lai, Robin J. Ryder, Valentin Thouzeau, Simon J. Greenhill, and Johann-Mattis List. 2019. "Dated Language Phylogenies Shed Light on the Ancestry of Sino-Tibetan." *PNAS* 116 (21): 10317–22. <https://doi.org/10.1073/pnas.1817972116>.
- Sagart, Laurent. 1999. *The Roots of Old Chinese*. Amsterdam: John Benjamins.
- Saussure, Ferdinand de. (1916) 1959. *Course in General Linguistics*. Translated by Wade Baskin. New York: Philosophical Library.
- Schuessler, Axel. 2007. *ABC Etymological Dictionary of Old Chinese*. Honolulu: University of Hawai'i Press.
- Sproat, Richard, Chilin Shih, William Gale, and Nancy Chang. 1996. "A Stochastic Finite-State Word Segmentation Algorithm for Chinese." *Computational Linguistics* 22 (3): 377–404.
- Sun, Yuwen. 2007a. 汉语变调构词研究(增订本) *Hànyǔ biàndiào gòucí yánjiū (zēngdìngběn)* [Studies on tonal morphology in Old Chinese (enlarged edition)]. Beijing: Commercial Press.
- . 2007b. "上古汉语词缀构拟析评(上) Shàngǔ Hànyǔ Cízhuì Gòunǐ Xīpíng (Shàng)" [Comment on reconstruction of Archaic Chinese affixes (1)]. 江汉大学学报(人文科学版) *Jiānghàn Dàxué Xuébào (Rénwén Kēxué Bǎn)* [Journal of Jiangnan University (Humanities and Sciences)] 26 (3): 39–46.
- . 2007c. "上古汉语词缀构拟析评(下) Shàngǔ Hànyǔ Cízhuì Gòunǐ Xīpíng (Xià)" [Comment on reconstruction of Archaic Chinese affixes (2)]. 江汉大学学报(人文科学版) *Jiānghàn Dàxué Xuébào (Rénwén Kēxué Bǎn)* [Journal of Jiangnan University (Humanities and Sciences)] 26 (4): 68–75.
- Tu, Wei-ming. 1994. *The Living Tree: The Changing Meaning of Beijing Chinese Today*. Stanford, CA: Stanford University Press.

- Urla, Jacqueline. 1988. "Ethnic Protest and Social Planning: A Look at Basque Language Revival." *Cultural Anthropology* 3 (4): 379–94.
- Wang, Feng. 2006. "Rethinking the *-s Hypothesis for Chinese Qusheng Tone." *Journal of Chinese Linguistics* 34 (1): 1–24.
- Wang, Li. (1980) 1996. 汉语史稿 *Hànyǔ shǐgǎo* [History of the Chinese language]. Beijing: Zhonghua Book Company.
- Wang, Yueting. 2014. 《经典释文》异读音义规律研究 "Jīngdiǎn shìwén" Yìdú yīn yì guīlǜ yánjiū [On the phonetic-semantic principles of the contrastive pronunciations in *Annotations of Classics*]. Beijing: China Social Science Press.
- Wiebusch, Thekla, and Uri Tadmor. 2009. "Loanwords in Mandarin Chinese." In *Loanwords in the World's Languages: A Comparative Handbook*, edited by Martin Haspelmath and Uri Tadmor, 575–98. Berlin: De Gruyter Mouton.
- Woolard, Kathryn A. 1994. "Language Ideology." *Annual Review of Anthropology* 23:55–82.
- Xia, Guang. 2014. "China as a 'Civilization-State': A Historical and Comparative Interpretation." *The Procedia—Social and Behavioral Sciences* 140:43–47.
- Xie, Weiwei. 2015. "论元结构视角下的上古汉语状态类音变构词 Lùnyuán jiégòu shìjiǎo xià de shànggǔ hànyǔ zhuàngtài lèi yīnbiàn gòucí [The state sound-change words in the perspective of argument structure in Archaic Chinese]." 语言科学 *Yǔyán kēxué* [Linguistic sciences] 14 (4): 429–39.
- Xu, Tongqiang. 1994. "'字'和汉语的句法结构 'Zi' hé hànyǔ de jùfǎ jiégòu ['Character' and the syntactic structure of Chinese]." 世界汉语教学 *Shìjiè hànyǔ jiàoxué* [Chinese teaching in the world] 8 (2): 1–9.
- . 2005. "'字本位'和语言研究 'Zi běn wèi' hé yǔyán yánjiū [Zi as the basic structural unit and linguistic studies]." 语言教学与研究 *Yǔyán jiàoxué yǔ yánjiū* [Language teaching and linguistic studies] 27 (6): 1–11.
- Yong, Heming, and Jing Peng. 2008. *Chinese Lexicography: A History from 1046 BC to AD 1911*. New York: Oxford University Press.
- Zhang, Liulin. 2024. "On the Chinese Resistance to Lexical Borrowing: A Writing-Driven Self-Purification System." *Humanities & Social Sciences Communications* 11:33. <https://doi.org/10.1057/s41599-023-02556-3>.
- Zhang, Menghan, Shi Yan, Wuyun Pan, and Li Jin. 2019. "Phylogenetic Evidence for Sino-Tibetan Origin in Northern China in the Late Neolithic." *Nature* 569 (7754): 112–15. <https://doi.org/10.1038/s41586-019-1153-z>.
- Zhang, Zhongtang, and Min Qin. 2016. "论汉语史上'学'校'的音变构词 Lùn hànyǔshǐ shàng 'xué' 'xiào' de yīnbiàn gòucí [Phonological derivations of *xue* and *xiao* in the history of Chinese language]." 东南大学学报 (哲学社会科学版) *Dōngnán Dàxué Xuébào (Zhéxué Shèhuì Kēxué Bǎn)* [Journal of Southeast University (Philosophy and Social Science)] 18 (1): 137–45.
- Zhang, Zhongtang. 2013. 汉语变声构词研究 *Hànyǔ biàنشēng gòucí yánjiū* [A study on derivation by initial-change in Classical Chinese]. Beijing: China Book Publishing House.
- Zhou, Zumo. (1966) 2004. "四声别义释例 sishēng biéyì shìlì (examples of tonal alternation)." In 问学集(上) *Wèn xué jí (shàng)* [Collection of scholarly research], vol. 1, edited by Zumo Zhou, 81–119. Beijing: Zhonghua Book Company.