

More on Areal Distinctions in Sinitic: Focus on Northern China

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1 Introduction¹

The received view that Chinese ‘dialects’, also known as Sinitic languages, differ mainly in their phonology and lexicon, but very little in terms of grammar (see Chao 1968) has been challenged in recent years, with plenty of studies showing that Chinese ‘dialects’ are, in fact, diverse at all levels, including morphology and syntax. A key element in the appreciation of the diversity of Sinitic is the areal factor: indeed, some of the major differences within Chinese follow an areal pattern, in which contact, both within Sinitic and with non-Sinitic languages, has played a crucial role. Hashimoto’s (1976) seminal paper proposed a major difference between Northern and Southern Sinitic, due to their different histories of contact: namely, that Northern Sinitic underwent ‘Altaicization’, while Southern Sinitic underwent ‘Tai-ization’, as we shall see in greater detail in § 2.

In the decades following Hashimoto’s original proposal, several other models for further areal subdivisions were made in the literature (e.g. Norman 2003; Chappell 2015; Szeto and Yurayong 2021). What these all have in common is that they present Central and Southern China as the regions with the highest degree of diversity, while Northern China is generally seen as the most homogenous region within Sinitic, albeit with the notable exception of the heavily restructured varieties of the Qinghai-Gansu *Sprachbund* (e.g. Slater 2003). However, it has recently been proposed (Arcodia 2021) that there is an area within North-

1 Simplified Chinese characters are used as a default throughout the article; traditional characters are used when required for consistency with the source. I do not add characters when the sources do not provide them. The Pinyin system is used for the transliteration of Standard Mandarin, and the Yale romanization is used for Cantonese. For all other varieties, I use the transcriptions provided by the sources; when no transcription is provided, I use smallcaps (toneless) Pinyin transcriptions following the Standard Mandarin reading of the characters. When present, superscript numbers indicate tone height on a 1–5 scale (see Chao 1968:25–26). The glosses follow the general guidelines of the *Leipzig Glossing Rules*; the only additional gloss is SFP = sentence-final particle.

ern China, spread over Shanxi, Henan, Hebei, and Shandong, where we find a concentration of features which are not common elsewhere in China; namely, nonconcatenative morphology, object markers based on speech act verbs, and structural particles with an *l*-initial. Moreover, at least a subset of the varieties in this area also share a system of (proto-)tense markers, in the form of sentence-final particles: most notably, a particle seemingly related to the verb 来 *lái* ‘come’, used to convey past tense (Arcodia 2023; Xíng 2023; Arcodia and Phan 2024).

This chapter offers a critical discussion of the typological features mentioned above, with a focus on nonconcatenative morphology and tense markers, in the context of the areal typology of the Northern China region. It also gives a comparative analysis of parallel features in Central and Southern Sinitic varieties, highlighting how they appear to be clearly differentiated from what is found in the North (e.g., Chappell 2023). The role that contact (within Sinitic and with non-Sinitic languages) may have played in the development of the features considered here is also assessed.

The paper is organized as follows. In §2, a concise overview of the areal typology of Sinitic, focusing on the position of Northern China and of Northern Sinitic (i.e. Mandarin and Jin) dialects is given. In §3, nonconcatenative morphology is discussed, including the preconditions and evolutionary pathways for its development, with a comparison of Northern Chinese patterns of sub-syllabic morphology with those found in Central and Southern Sinitic, highlighting the differences in their genesis and in their distribution. §4 deals with (proto-)tense markers, again stressing the differences between different areas of China. Lastly, in §5 a summary of my conclusions is given and some possible directions for further research are indicated.

2 The Areal Typology Of Sinitic: An Overview

As mentioned in the introduction, areal patterns of variation within Sinitic, as well as the possible role of contact in their genesis, have long been recognized in the literature. Sinitic is a well-differentiated major branch of the Sino-Tibetan family (see Sagart et al. 2019), and there are ten commonly recognized groups within the family (Lǐ 1989), namely, Mandarin, Jin, Wu, Gan, Xiang, Hui, Hakka, Yue, Min, and Pinghua. However, the classification of Chinese dialects relies heavily on phonetic criteria (the most important being the evolution of Middle Chinese voiced obstruents; see Handel 2014), a practice which has often been criticized in the literature (e.g., Norman and Coblin 1995; Chappell 2001; Chirkova 2013). Indeed, this approach to classification has two main short-

comings: it overlooks the importance of other (in particular non-phonological) features, and it can only represent those relationships due to vertical (genealogical) transmission, failing to account for horizontal transmission (i.e. through contact, rather than by inheritance). This is particularly problematic in the Chinese context, as Sinitic languages developed in a situation of prolonged contact, both within the family and with unrelated (non-Sinitic) languages, with the ‘superimposition’ of different historical strata and diatopic varieties of Northern Chinese on Central and Southern dialects (LaPolla 2001; Chappell 2004).

While the history of the migration and language contact of Chinese-speaking people is too complex to be summarized here, there are a few key trends that should be pointed out. Firstly, while the ‘cradle’ of Chinese civilization may be located in the Yellow River Basin, at least since Qin times (i.e. 221–206 BCE) Sinitic-speaking people started migrating towards (what is now) Southern China: there they came in contact with speakers of Tai-Kadai, Hmong-Mien and Mon-Khmer languages. Secondly, Northern China was (and still is) also inhabited by speakers of Mongolic, Turkic and Tungusic languages, and at times it was even ruled by them: notably, during the Yuan and Qing periods (LaPolla 2001; for a brief overview on language contact in Northern China, see Cao and Yu 2015). Migration of Sinitic-speaking populations also followed the East-West route, and (North-)Western China is, again, a region where Mongolic and Turkic languages are found. Thirdly, migration patterns also led to contact between Sinitic languages from different regions, at different times and in different contexts, after they differentiated from their common source (Chappell 2001, 2004).

The history of population (and language) movements briefly summarized above was first captured in Hashimoto’s (1976) generalization mentioned above in the Introduction. Generally speaking, Sinitic languages tend to share many key typological features with unrelated languages of the Mainland Southeast Asian *Sprachbund* (henceforth: MSEA): for instance, lack of agreement (for number, gender, etc.), verb-medial order, lack of obligatory arguments (zero anaphora), and the obligatory use of nominal classifiers (Enfield 2005; Comrie 2008). The MSEA area, at least in its narrow definition, is generally seen as including “the area occupied by present day Cambodia, Laos, Peninsular Malaysia, Thailand, Myanmar, and Vietnam, along with areas of China south of the Yangtze River” (Enfield and Comrie 2015:1): chiefly languages belonging to the Sinitic, Tai, Mon-Khmer, Hmong-Mien, and Chamic families (Bisang 2015). According to this definition, only Southern China would be part of the MSEA; however, sometimes Sinitic languages as a whole are included, because of the typological properties they share with MSEA languages, as noted above (see

TABLE 2.1 Main differences between Northern and Southern Sinitic according to Hashimoto

North	South
Stress-based and fewer tones	More tones
Higher proportion of polysyllabic words	Higher proportion of monosyllabic words
Simpler syllable structure	More complex syllable structure
Smaller inventory of classifiers	Larger inventory of classifiers
Preponderance of modifier-modified	More instantiations of modified-modifier
IO-DO word order for ditransitives	DO-IO word order for ditransitives
Preverbal adverbs	Possibility of postverbal or clause-final adverbs
Marker-standard-adjective order in the comparative construction	Adjective-marker-standard order in the comparative construction
Passive markers based on causative speech act verbs	Passive markers based on the verb 'give'

e.g. Bisang 2015, who speaks of 'East and Mainland Southeast Asia'). This does not entail all Sinitic languages converging towards MSEA typology in the same way: as may be expected from the very definition of the area, Southern Sinitic languages are a better match for MSEA, while Northern Sinitic tends to diverge more from those areal features. As pointed out above, Sinitic languages in Southern China developed in closer contact with MSEA-type languages, while Northern China was more influenced by 'Altaic-type' languages,² which have a very different typological profile from MSEA languages: they are typically verb-final, place modifiers before the modified element, and they mostly make use of agglutinative morphology. This is precisely why Hashimoto (1976) interpreted the North/South difference within China as the result of the 'Altaicization' of Northern Sinitic, and of the 'Tai-ization' of Southern Sinitic (Thai being perhaps the best representative of the MSEA type; Comrie 2007). In Table 2.1 (adapted from Chappell 2015:17), some of the most significant differences between Northern and Southern Sinitic are listed.

Needless to say, these features cannot be used for a strict separation of Northern and Southern Sinitic languages, rather they are trends allowing for

2 Following an established convention in the literature on language contact in China, I use 'Altaic' as a label of convenience to refer to non-Sinitic languages of China from the Mongolic, Turkic and Tungusic families, without any implication that they constitute a valid genetic or areal subgrouping.

much variation. Also, the idea that the features which distinguish Northern China from Southern China are necessarily due to contact with Altaic-type and MSEA-type languages is not universally accepted: for instance, some features of Southern Sinitic traditionally identified as of MSEA origin, e.g. DO-IO word order for ditransitives, might also be explained as internal developments, rather than as the product of language contact (De Sousa 2015; Peyraube 2015; see Bennett 1979 for a critique of the 'Altaicization' hypothesis).³

In a recent paper, Szeto and Yurayong (2021) identify different subgroups within Sinitic based on the degree of congruence with, respectively, Altaic and MSEA typology. They take into account 32 features, belonging to the domains of phonology (e.g. having contrastive level tones), lexico-semantics (e.g. the differentiation between 'eat' and 'drink'), morphosyntax (e.g. DO-IO order in the double object dative construction), grammaticalization (e.g. 'to get/acquire' > post-verbal modal of ability or possibility), nominal categories (e.g. the presence of an inclusive/exclusive distinction in the first-person plural pronoun), and others (e.g. different morphemes for plain and existential negation). The results of their survey show that the varieties spoken in Northern China tend to diverge the most from MSEA features, while the varieties spoken in the Far Southern area (including dialects belonging to the Southwestern Mandarin, Min, Hakka, Yue, and Pinghua groups, as well as a few unclassified varieties) tend to diverge the most from Altaic typology: this divergence is measured on the basis of the presence of statistically significant differences in the frequency of each given feature with the areal cluster at issue, Altaic or MSEA (see below, Table 2.2). Interestingly, however, Szeto and Yurayong do not claim that the difference between the Northern and the Far Southern areas is necessarily entirely due to contact with Altaic and MSEA languages: they point out that, in some cases, independent parallel developments, or convergence in the opposite direction (i.e. Sinitic influencing neighbouring languages) cannot be ruled out, which is in line with what was noted above (and see footnote 2).

Also, as hinted at in the Introduction, a simple North vs. South division of Sinitic is nowadays mostly regarded as inadequate to describe the complexity of the situation of areal trends within Sinitic. Norman (1988, 2003) first

3 Moreover, the direction of borrowing cannot be given for granted: while Ansaldo (2010) proposes that the 'exceed' comparative construction (i.e. in which the marker of comparison is based on a verb meaning 'surpass'; Stassen 2013) found (mostly) in Southern China should be added to the list of MSEA areal features, Chappell and Peyraube (2015) suggest that this construction likely developed independently in Sinitic, and could even possibly have later spread to MSEA languages (see below and Szeto and Yurayong 2021 for further discussion of the issue of directionality in Sinitic-Altaic/MSEA contact).

proposed a third areal cluster besides Northern and Southern Sinitic, namely the Central dialect type (in his view, including Wu, Gan, and Xiang dialects): this partition was based on the presence vs. absence of fifteen phonological and lexical features characteristic of Northern China (e.g. that the third person pronoun has the same etymon as 他 *tā*). Perhaps unsurprisingly, Norman's Central dialects possess 'hybrid' typology, having both Northern and Southern features: he suggests that this is the product of the influence of Northern dialects, which "eroded" the "original Southern features of these dialects" (Norman 1988:198). Besides proposing a Central group with transitional features, Norman (1988:183) also pointed out that Northern dialects are "by far the most homogeneous", while Central and Southern dialects "exhibit an extraordinary diversity, especially in the phonology and lexicon". Chappell (2015), based on the distribution of the different constructions for differential object marking, passive voice, and comparison, identifies as many as five distinct areas within China: namely, the Northern area, the Central Transitional area (including most Wu dialects, as well as Gan, Xiang, Hui and Jianguhuai Mandarin), the Southwestern area, the Southeastern Area, and the Far Southern Area. Thus, Chappell's areal typology, based on entirely different parameters from Norman's (1988, 2003), appears to confirm the view that the degree of diversity is higher in Central and (especially) Southern Sinitic, while Northern China falls within a single area, although she recognises the existence of two 'aberrant' enclaves in Northern China: the Jiaoliao and Ji-Lu subgroups of Mandarin, mostly spoken in Eastern Shandong, which possess some important non-Northern features, and the above-mentioned (§1) Qinghai-Gansu Mandarin dialects, which were restructured following the 'Altaic' model due to intense contact with Mongolic, Turkic, and Bodic languages (see below, n. 11).

Szeto and Yurayong (2021), again based on the 32 features mentioned above, identify two more areas besides Northern Sinitic⁴ and Far Southern Sinitic: namely, 'Transitional Sinitic' and 'Central Southeastern Sinitic'. Both these groups mostly fall within the area defined by Norman as the Central group. Transitional Sinitic dialects are especially prominent in the regions close to the Qinling Mountains-Huaihe River Line (the conventional border between Northern and Southern China), but they are present also in the Southwest (e.g. parts of Yunnan and Guizhou). Central Southeastern Sinitic is mostly made

4 Note that in this paper I use 'Northern Sinitic' in a loose sense, to indicate the whole of Mandarin and Jin (see §1). However, given the significant typological differences between Mandarin dialects spoken in Northern China and those spoken in Central and Southern China, Szeto and Yurayong's (2021) 'Northern Sinitic' does not include all of Mandarin, as we shall see below.

TABLE 2.2 Four areal groups of Sinitic according to convergence with Altaic/MSEA typology

Group	Degree of internal diversity	Number of contrastive features	
		With Altaic	With MSEA
Northern	14.1 %	9	31
Transitional	27 %	20	23
Central Southeastern	29.1 %	21	22
Far Southern	28.8 %	23	11

up of varieties spoken in the Southeast of the country, including many Min and Hakka dialects (belonging to the Southern type), as well as some dialects of Central China. Just as in Norman’s model, Szeto and Yurayong’s (2021) data reveal that both Transitional Sinitic and Central Southeastern Sinitic are more or less equally distant from Altaic and MSEA typology. Also, Szeto and Yurayong (2021) measured the degree of internal diversity for each of the four areal groups they identified:⁵ again, Northern Sinitic is seen as the least diverse group. In Table 2.2 (adapted from Szeto and Yurayong 2021:592), the number of divergent features with Altaic and MSEA, as well as the degree of internal diversity, for each of the four groups is shown.

If we look at the data in Table 2.2, it is clearly apparent that Northern Sinitic has the lowest degree of diversity of the four: it is roughly half the percentage of the other three, whose degrees of internal differentiation are very close.

It is important to stress that all of the typological groupings identified (except for Norman’s early attempts at areal typology) cross-cut genealogical classification. In Chappell’s areal typology (2015), Mandarin dialects are found not only in the Northern Area, but also in the Central Transitional area (Jiang-Huai Mandarin dialects, as mentioned above) and in the Southwestern area (Southwestern Mandarin dialects). Similarly, in Szeto and Yurayong (2021)’s Transitional Sinitic we find most Jiang-Huai and Southwestern Mandarin dialects; Jiang-Huai varieties are also found in the Central Southeastern Area, and a Southwestern Mandarin variety is even included in their Far Southern area. Interestingly, a strong areal distinction within the Mandarin subgroup

5 The degree of within-group internal diversity is measured by Szeto and Yurayong (2021) as a percentage: in a nutshell, the percentage is an average of the difference among each variety in the group, in terms of number of different features (see Szeto and Yurayong 2021: 582 for more details).

was proposed also by Szeto, Ansaldo and Matthews (2018), who analyze a sample of 42 Chinese dialects, 26 of which belong to the Mandarin group, based on 21 typological features (including phonological, lexical and morpho-syntax features). They show that there is a rather strong North-South divide even within Mandarin dialects; also, while Northern Mandarin dialects (again) tend to be fairly homogeneous, Southern varieties are much more diverse, and tend to cluster areally (rather than forming a consistent subgroup of Mandarin).

In short, what most previous studies in the areal typology of Sinitic consistently tell us, despite the differences in the methods, samples and criteria employed, is that Northern China, including most of Mandarin (to the exclusion of Jiang-Huai, Southwestern, and even some Central Plains varieties) and the totality of Jin, fall within the same area, which is by far the most homogeneous within Sinitic, albeit, again, with the notable exception of the Gansu-Qinghai Sprachbund (and perhaps also of the Eastern Shandong enclave proposed by Chappell).

However, as mentioned in the introduction, in recent research (Arcodia 2021, 2023; Arcodia and Phan 2024) it has been argued that subareas of Northern China seem to show converging features, casting doubts on the received view of this area as strongly homogeneous. Also, these features are most likely a local innovation which, arguably, spread within the family by contact and dialect admixture, rather than being the product of influence from non-Sinitic languages: this is in line with the innovative profile of Northern Sinitic (especially Mandarin). Specifically, Arcodia (2021), based on the analysis of a sample of 96 Sinitic varieties, proposes that in an area spread over Shaanxi, Shanxi, Henan, Hebei, and Shandong, there is a concentration of three features which are not commonly found elsewhere in Sinitic: nonconcatenative morphology (e.g. Xingyang 搵 [k'uən⁵⁵] 'tie' > [k'ue³³] 'tie.PFV'; Wáng 1998:277), object markers based on speech act verbs (cognates to Standard Mandarin 叫 *jiào* 'to call', e.g. Yexian 叫 *teiau*³¹²; Zhang 2005), and structural particles with an *l*-initial (e.g. Huojia 的 *lí?*; Hé 1989). Arcodia (2021) shows that these features cooccur most often in Henan, and in the Central Plains dialects; they are also commonly found in many Shanxi, Hebei, and Shandong dialects, belonging to the Jin group or to the Central Plains, Ji-Lu, and Jiaoliao subgroups of Mandarin. Arcodia (2021:187) also mentions "scattered attestations" in Shaanxi, Anhui, and Hubei, as well as in Southwestern Mandarin dialects and in one Gan dialect. He tentatively proposes that these features "originated in the Central Plains dialects of Henan and then spread outwards", Henan being the focal area in this scenario, as proved by the fact that the features at issue "are attested only in its neighboring provinces, despite the fact that the overwhelmingly dom-

inant subgroup of Mandarin in Henan, i.e. Central Plains Mandarin, is found also elsewhere” (Arcodia 2021:187). Moreover, Arcodia reports no attestation of those features either in the rest of Northern China, nor elsewhere in Central and Southern China, further attesting to their areal nature; however, he does mention instances of nonconcatenative (tonal) morphology in Yue dialects, belonging to the Far Southern Area. As we shall see in the next section (§3), nonconcatenative morphology may indeed be found also in Central and Southern China, but with different characteristics; it is for this reason that it has been chosen as a feature for our comparative study.

Another seemingly innovative feature which appears to characterise sub-areas within Northern China is a system of (proto-)tense markers, generally in the form of sentence-final particles. Xíng (2023) describes a system of tense marking based on a three-way distinction (past vs. present vs. future) found in many Jin dialects, especially in Northern Shaanxi; Arcodia (2023) shows that there are parallel systems also in some Central Plains varieties in the area. However, Arcodia (2023) also argues that what are usually defined as ‘present tense’ markers in the literature are not really exponents of tense *per se*, but rather aspect(/mood) markers which may be used with different temporal reference: Arcodia (2023) believes that “past tense markers are most grammaticalized as dedicated tense markers”, while “future markers overlap to some degree with modality and reality status”. Future tense markers appear to be most grammaticalized in some languages of the Qinghai-Gansu *Sprachbund*, in which they may be regarded as true grammatical markers of tense. On the other hand, sentence final particles seemingly marking past tense, which appear to be related to verb 来 *lái* ‘come’, are found in a broader area, which includes Jin and Mandarin varieties spoken in Shaanxi, Shanxi and Hebei, but they are also attested in Central and Southern China, including e.g. Yue dialects as Cantonese and Lianjiang (Arcodia and Phan 2024). However, the features of these particles show significant differences between Northern China and the rest of Sinitic, as will be shown in §4.

To sum up, this section has shown, through a critical review of the recent literature on the areal typology of Sinitic, that Northern China is universally regarded as an area which is typologically distinct from the rest of the country, no matter what the features considered are. I would further argue that this region may be less homogeneous than usually assumed, as we find clusters of Mandarin and Jin varieties which show some degree of convergence, having properties not common elsewhere in China. Below, a map of China showing the approximate borders of the main subregion of Northern China involved in the innovations discussed in this paper (to the exclusion of the Qinghai-Gansu area, which is only marginally involved; see §4 is given).



MAP 2.1 Map of China highlighting the location of the main subregion under consideration

In the next two sections, nonconcatenative morphology and tense markers will be elaborated on, highlighting their areal features by comparing them to parallel phenomena in Central and Southern China.⁶

3 Nonconcatenative Morphology

Sinitic is commonly regarded as a typical representative of isolating/analytic typology (e.g. Sagart 2004; Packard 2006), in which we find stable morpheme boundaries, little or no cumulative exponence, and little or no allomorphy or suppletion. Affixes are generally said to be transparent, and clearly distinct from the root/stem they combine with. From the diachronic point of view, the present configuration of Sinitic morphology is connected with a key typological feature of the languages of (East and) Mainland Southeast Asia, namely

⁶ An anonymous reviewer suggested to include information on the sources of the data, collection methods, and population samples. However, given that the language phenomena discussed in this paper come from a variety of sources in the published literature (grammars, articles on specific phenomena, typological/comparative studies), it would be impossible to mention the details of all of the data points considered.

having primary grammaticalization (i.e. the development of lexical categories into functional/grammatical categories) without secondary grammaticalization (i.e. morphological bonding/fusion, phonetic erosion, etc.; see Traugott 2002). Thus, in the languages of this area, even fully grammaticalized items tend to retain the shape they had as lexical items (Bisang 2004, *inter alia*). A typical example of this is Standard Mandarin 在 *zài*, which is used as a verb ('to be at'), as a preposition ('at, in') and as a marker of progressive aspect, without significant differences in its shape (Bisang 2004). However, some degree of reduction of grammaticalized items does occur also in Sinitic. For instance, the Standard Mandarin perfective verb suffix/clitic -了 *-le* is generally believed (see e.g. Sun 1996) to be the product of the reduction of the verb 了 *liǎo* 'to finish' (Late Middle Chinese *liaw'*, Early Mandarin *ljeŋ'*; Pulleyblank, 1991): thus, in this case we see both phonetic reduction and an increase in bondedness, since the triphthong nucleus has been reduced to a schwa [ə], the verb has lost its tone, and the aspect marker -了 *-le* can now be found only in the postverbal position, attached to the verb, and nothing can intervene between it and the verb root.

The existence of this type of reduction in Sinitic has already been acknowledged in the literature on grammaticalization in East and Southeast Asian languages. Bisang (2008, 2015) mentions phenomena of erosion in grammaticalization for the languages of this area, but dismisses them as "rather rare" (Bisang 2015:134);⁷ moreover, he points out that this type of reduction may (occasionally) happen in Northern Sinitic but is not expected to occur in Southern Sinitic. Bisang refers to previous work by Ansaldo and Lim (2004), who propose a further typological distinction in the formal correlates of grammaticalization within Sinitic. Specifically, Ansaldo and Lim analyze the phonetic properties of grammaticalized signs in Cantonese and (Singapore) Hokkien, both languages of Southern China, in which reduction does occur, but only in the form of reduced syllable duration, and alterations of vowel quality. According to their analysis, in these varieties syllable and morpheme boundaries remain stable, and there is no significant reduction in pitch for grammaticalized items. Ansaldo and Lim (2004) attribute this feature of Southern Sinitic to the presence of phonemically distinctive tonal registers: in their view, a reduction in pitch (i.e. tone height) would blur distinctive features. For instance, a mid-level tone, if reduced in pitch height, may be misinterpreted as a low tone, rather than as a sign of erosion. Moreover, Cantonese and Hokkien do not seem

7 See also Ansaldo, Bisang and Szeto (2018:225): "[t]one systems and the discreteness of syllable boundaries in EMSEA [East and Mainland Southeast Asian] languages contribute to the relative morphophonological stability of grammaticalized items in these languages".

to have neutral tone (unstressed) syllables: they are syllable-timed languages, in which stress does not play a strong role. Thus, according to Ansaldo and Lim (2004), in Sinitic languages with those features, reduction of grammaticalized signs is expected to occur at the suprasegmental level, rather than at the segmental level. While in fact there are quite a few instances of segmental reduction also in Southern (and Central) Sinitic languages, as shown below, these appear to emerge from different processes from those seemingly active in Northern Sinitic, due to some divergent features in the varieties belonging to these two areal groupings.

The reason why reduction may occur at all in Northern Sinitic is that these languages possess some prosodic preconditions favouring reduction: the presence of stress (a feature which might derive from contact with ‘Altaic’ and Tibetic languages; see Table 2.1 and Lamarre 2015), with a trochaic (strong-weak) pattern, and of neutral tone (i.e. unstressed/weakly stressed) syllables (Ansaldo and Lim 2004; Lamarre 2015).⁸ The trochaic stress pattern characteristic of Northern Sinitic is said to favour the cliticization of post-head elements (see Arcodia 2015). Indeed, several grammaticalized items have the neutral tone in Northern Sinitic, as the above-mentioned Standard Mandarin aspect marker -了 *-le*, as well as other postverbal aspect markers, or structural particles like 的 *de* (the marker of modification/nominalization). The prosodic mechanism behind this type of reduction is summarized by Feng (2018: 3, quoting Kratochvil 1977: 26–27),⁹ as follows (for Beijing Mandarin):

“[u]nder some conditions it (i.e., “the leftward movement of stress” in a disyllabic word [...] causes atonicity, reduction in the segmental structure, and ultimately the loss of syllable status of B altogether, and the fusion of B with A (in an [A+B] construction)” and thus, “Modern Peking Dialect shows signs of a process involving syllable fusion as its ultimate result”

For instance, the ‘verb -了 *-le*’ sequence forms a trochaic foot, and thus the gram is in a weaker prosodic position with respect to the root, becoming tightly associated with it (see Jiāng 1999, Lǐ 2002). This happens not only for aspect markers, but also for compound constituents (e.g. 学生 *xué-sheng* ‘study-pupil’, ‘student’), and also, occasionally, to some derivational suffixes with little semantic

8 See Třísková (2017:31, 37) for a list of the types of reduction in occurring in unstressed items in Mandarin.

9 Kratochvil’s (1977) exact wording is slightly different from Feng’s (2018) quote, but the meaning of the passage is unaffected by this.

content, as e.g. 子 *zǐ* ‘son, child’ > 子 *zi* ‘diminutive suffix’ > ‘noun-forming suffix’. The final stage of this process is total loss of syllabic status: in Standard Mandarin, the only convincing example for this is probably 儿 *ér* ‘child’ > 儿 *-r*.

However, as hinted at above (§ 2), in a subset of Mandarin and Jin dialects of northern China, strong reduction and loss of syllabic status is not as rare as assumed by Bisang (2015). In those varieties, we see ‘uncharacteristic’ phenomena for Sinitic, such as allomorphy, nonconcatenative exponence, and cumulative exponence. A case in point is the Boshan dialect (a Ji-Lu Mandarin variety of Shandong). Qián (1993) describes a ‘schwa suffix’ for Boshan, i.e. a single syllable suffix which is the product of extreme reduction of several neutral tone suffixes/clitics, as perfective -了 *-liǎo* and progressive/continuous -着 *-tʂuə* (cognate, respectively, to Standard Mandarin -了 *-le* and -着 *zhe*). While in Qián (1993) this suffix is conventionally represented with a schwa (ə), its actual shape depends from the rime of the syllable it attaches to (e.g. the verb root): for instance, it is actually ə after syllables ending in ə, iə, uə, yə, but ɛ̃ after aŋ, iŋ, and uaŋ. See the following example (adapted from Qián 1993:18):

- (1) 吃ə饭，出ə门，来ə客
tʂʅ²¹-ɣ fǎ³¹ tʂ'u²¹⁴-ɣ mǎ⁵⁵ lɛ⁵⁵-ɛ k'ə²¹⁴
 eat-PFV food exit-PFV door come-PFV guest
 ‘(I, she, etc.) ate, went out, and a guest arrived’

In (1), the forms -ɣ and -ɛ are both allomorphs of the schwa suffix, and they are the reduced form of the perfective aspect marker -了 *-liǎo*: this is believed to be the product of further reduction and coarticulation of the suffix/clitic with the verb root (Arcodia 2013). Interestingly, in the Boshan dialect reduction can go even further, leading to loss of the suffix, and nonconcatenative exponence, expressed as lengthening of the nucleus vowel and tone change (adapted from Chén 2006:320):

- (2) 炒一盘菜
tʂʅ²¹⁴ YI PAN CAI
 stir.fry.PFV one dish food
 ‘(I, she, etc.) cooked a dish’

In (2), the exponent for perfective aspect is neither -了 *-liǎo*, nor the ‘schwa suffix’: this grammatical meaning is rather conveyed by the change in the shape of verb root (*tʂʅ³⁵* > *tʂʅ²¹⁴*). In the case of Boshan (2), another modification which occurs in the verb root is the lengthening of the nucleus vowel. In yet other

cases, the coarticulation of root and grammatical exponent results in ‘rhyme change’ (变韵 *biànyùn*), i.e. ablaut (in the sense of Bickel and Nichols 2007), as in (3), or ‘rhotacization’ (儿化 *érhuà*), i.e. the addition of a ‘rhotic’ consonant to the nucleus of a syllable, as in (4):

- (3) 买一斤盐
mɛ⁵⁵ i⁴² tɛin²⁴ ian⁴²
 buy.PFV one *jin* salt
 ‘I bought one *jin* of salt’ (Xunxian, Henan, Mandarin; Xīn 2006:47)
- (4) 我问老师
wo uər⁴¹ LAOSHI
 1SG ask.PFV teacher
 ‘I asked the teacher’ (Qixia, Shandong, Mandarin; Zhāng and Lǐ 2007:98)

In the Xunxian example, the ‘basic’ form of the verb *mai⁵⁵* ‘buy’ changes into *mɛ⁵⁵*, with no suprasegmental alteration, (here) marking perfective aspect. In the Qixia example (4), the same meaning is expressed by turning the unmarked form of the verb ‘to ask’, *uən⁴¹*, into *uər⁴¹*, substituting the nasal coda with a rhotic coda, thus somehow blurring morpheme boundaries: this is actually the same phenomenon as the above-mentioned Standard(/Beijing) Mandarin 儿 *-r* suffixation, but its use as a grammatical exponent appears to be mostly limited to some dialects from the area under consideration here (especially, Shandong).¹⁰

The phenomena of reduced/nonconcatenative exponence described here were the object of cross-dialectal research by Arcodia (2013, 2015) and Lamarre (2015). On the basis of the analysis of a sample of 26 Mandarin and Jin dialects of Shaanxi, Henan, Hebei, and Shandong, Arcodia (2013:154) proposes the following cline of grammaticalization for perfective markers (cognate to Standard Mandarin 了 *-le*):

10 Another very marginal pattern of nonconcatenative exponence attested in Sinitic is ‘partial rhyme reduplication’ (韵母局部重叠 *yùnmǔ júbù chóngdié*), which involves the repetition of the rhyme of the syllable, i.e. the nucleus vowel and coda. Interestingly, this ‘reduplication’ is not necessarily a perfect replica of the original rhyme: for instance, *iŋ*, *əŋ*, *uŋ*, and *yŋ* all reduplicate as *aŋ^{2l}*; reduplicated rhymes may be reduced to a schwa (e.g. *ɛ* may reduplicate as *a^{2l}*). The only attestation I could find of this phenomenon is in the Qishan Mandarin dialect (Shaanxi province; Wú and Hán 2016). This is somewhat reminiscent of the above-mentioned ‘schwa suffix’ of Boshan (1), which in some cases does look like an imperfect copy of the syllable rhyme, as e.g. *lɛ⁵⁵-ɛ* ‘come-PFV’ (Arcodia 2021; see Qián 1993: 24–25 for more examples).

(2017), nonconcatenative exponence in the form of tone change may be seen as an instance of a general sandhi phenomenon of Northern Sinitic (not found in Standard Mandarin, though; see Lamarre 2015), namely ‘tone change before toneless syllables’ (轻声字前变调 *qīngshēngzì-qǐán biàndiào*). In essence, when a toneless (monosyllabic) item is added to a verb root, it will lead to tone change in the root; if the concatenative exponent is then lost, the changed tone becomes the sole exponent of the grammatical meaning expressed by the lost suffix/enclitic (Lamarre and Ōta 2017:39; tone sandhi followed by tone merger according to Chappell 2023). In the case of rhyme change, however, the suffix becomes fused with the verb root (see e.g. Lamarre 2009): tone sandhi is indeed not necessary (although sometimes tone change may cooccur with segmental rhyme change, as seen above for Shangxian). The same is often true also for rhotacization, which may not involve tone change (Zhāng and Lǐ 2007:98), and segmental change affects only or mostly the coda, rather than the whole rhyme of the root.

Thus, generally speaking, within Northern Sinitic reduction of grammatical morphemes occurs in a specific syntactic and prosodic context: namely, within a syntactically or semantically tight phrasal unit, normally in a weak prosodic position, such as next to or between stressed content morphemes. Note that, in some (if not most, or even all) dialects, ablaut and/or tonal morphology is restricted to single syllable verbs (Liú 2006; Arcodia 2015), arguably because the combination of a disyllabic verb and a suffixed marker may not fit into the prosodic template described above. While the prosodic prerequisites for those patterns of reduced/nonconcatenative morphology are characteristic of Mandarin and Jin, they appear to be mostly concentrated in a specific subarea of Northern China, as said before (§§1–2), which thus stands out as typologically distinct within this region (Arcodia 2021).

However, as hinted at in the Introduction, recent research shows that patterns of nonconcatenative morphology are also attested in Central and Southern China: a detailed overview of those phenomena may be found in Chappell (2023). Chappell mentions a fairly wide range of nonconcatenative morphology beyond Northern China, mainly expressed by means of suprasegmental alterations: diminutive forms of nouns, pluralization of personal pronouns, and perfective aspect marking. In some cases, there is evidence (often obtained through cross-dialectal comparison) that these “tone morphemes” are “the traces of a former segmental morpheme such as a plural suffix, or an aspectual clitic which through coalescence with the noun or verb stem, erodes its phonetic form in this unaccented position, leading to the loss of an initial or final consonant and other changes” (Chappell 2023:29). Just as seen above for Northern Sinitic, exponence is then ‘transferred’ to the root once the segmental expo-

TABLE 2.3 Evolution of the perfective tone morpheme in Yue and Hakka dialects

Stage I	Verb–perfective enclitic or suffix with its full tonal value
Stage II	In informal or fast speech, omission of the segmental perfective morpheme is accompanied by transferral of its tone value onto the verb stem, replacing the original base tone. The changed-tone verb form freely alternates with the verb in its base tone form, the latter modified by the overt perfective marker.
Stage III	A special tone morpheme is created for the perfective, as seen in less urbanized varieties of Yue and Hakka with little or no alternation with the overt aspect marker.
Stage IV	Under the influence of both the prestige varieties of Yue and the standard language, Mandarin, the overt perfective marker is re-introduced in more educated and formal speech styles of urban centres, from where it diffuses into the less urbanized varieties

ment is lost. What matters most, from our perspective, is that the processes leading to these forms of nonconcatenative exponence are indeed different from those seen in Northern China: let us compare the cline proposed by Arcodia (2013) for the marking of perfective aspect in Northern Sinitic with that proposed by Chappell (2023) for the emergence of perfective tone change in Yue and Hakka dialects (Table 2.3 adapted from Chappell 2023: 27).

Note that the marking of perfective aspect by means of tone change is not at all a marginal phenomenon, as it is attested in more than 35 Yue dialects, as well as in some Hakka varieties (Chappell 2023; see also De Sousa 2024). One first difference that may be highlighted here is that, in Southern Sinitic, the process leading to tone change in the verb root is not tone sandhi caused by a toneless syllable, since perfective aspect clitics/suffixes have their own tone: rather, what happens is that the value of the segmental exponent is transferred to the verb root, leading to tone replacement, rather than tone sandhi (also analyzed as a form of contraction; Yu 2007; Lamarre and Ōta 2017; Chappell 2023). For instance, in Cantonese, the high rising tone (i.e. a 35 contour) of the perfective suffix 𠵼 *jó* is transferred to the verb root, as e.g. 食𠵼 *síhk-jó* ‘eat-PFV’ > 食 *sík* ‘eat.PFV’.¹¹ Thus, different prosodic preconditions mean that different mechanisms are involved between Northern and Southern Sinitic, eventually leading to a similar pattern of exponence, i.e. tone change

11 In the Guangzhou variety, this is realized “by a slight rise or by an extra high pitch value” for the high rising and high level tones (Chappell 2023:22).

TABLE 2.4 Patterns of aspect marking by means of tone change in Xi'an

Basic tone	Perfective	Progressive/continuous	Goal
3 ¹	42	313 and VL	24 or VL
35	242	242 and VL	242 or VL
5 ¹	31	VL	VL
55	553	5 ¹	53

(Arcodia 2021). Nevertheless, due to the different pathways of evolution, patterns of grammatical tone change in Northern Sinitic tend to be more complex. An interesting case is the Xi'an dialect (Central Plains Mandarin, Shaanxi; Sün 2007). In Xi'an, different patterns of tone change may express, respectively, perfective aspect, progressive/continuous aspect, and attainment of a goal, and their actual shape depends on the tone category the verb belongs to (adapted from Arcodia 2015:18; data from Sün 2007:190–193; VL = vowel lengthening).

In Xi'an, not only does tone change vary depending on the original tone value of the root (which is the case also e.g. in Boshan and in Shangxian), but also depending on the type of meaning expressed, leading to some sort of paradigmatic organization.

Furthermore, while in the varieties from Northern China discussed above we have fairly abundant direct (as in the case of Boshan; see also e.g. Zhāng 2011 on Nanhe) or indirect (i.e. obtained through comparison with related dialects; see Xīn 2006 on Xunxian) evidence of the reduction of a segmental exponent of perfective aspect, such evidence seems to be lacking for Yue and Hakka. Chappell (2023:27) only mentions seemingly reduced, single-vowel perfective suffixes in Szeyap Yue varieties, like Taishan [ə³³] and Enping [a³³]: these could be cognates to Cantonese -㗎 *jó* (although other Yue dialects have different etyma for the perfective suffix). Thus, the existence of an intermediate stage in which a reduced form of the clitic/suffix undergoes coalescence with the verb root may only be hypothesized. I would like to suggest another possibility here: that there is indeed no such intermediate stage (between I and II in Table 2.3), and that the suffix, after transferring its tone, is omitted in fast speech, without necessarily getting reduced significantly (as would be predicted by Ansaldo and Lim's 2004 study cited earlier). This might also explain why in this area of Southern China we see tonal morphology, but not rhyme change, which involves a strong degree of coarticulation. The fact that aspect suffixes, apparently, retain their tone (as in the Taishan and Enping examples cited just above), is indicative of the fact that they are still prosodically quite 'strong', and thus may be expected

ted to resist reduction; however, they may still be omitted, without undergoing reduction. Interestingly, while nonconcatenative exponence is mostly limited to monosyllabic verbs in Northern Sinitic, arguably due to the trochaic stress template described above, at least in two Hakka varieties (Shicheng and Yudou) perfective tone change may affect the second or third constituent of a resultative or directional verb compound (Chappell 2023): this, again, suggests that the prosodic template for the genesis of perfective tone change in (Central-)Southern Sinitic is indeed quite distinct from that of Northern China.

Lastly, perfective aspect marking by tone change in Yue appears to be mostly restricted to “a small number of high frequency verbs [...] such as ‘eat’, ‘go’, ‘buy’ and ‘walk’” (Chappell 2023:24), similarly to irregular ablaut and suppletive past tense forms in English, and it is seemingly being replaced by segmental clitics/suffixes in urban varieties, as Hong Kong and Guangzhou Cantonese (stage IV in Table 2.3 above). Chappell (2023:25–26) interprets this as a sign of the fact that the marking of perfective by means of tone change “is apparently on its way to obsolescence in certain of the urbanized Yue dialects”, while Northern Chinese varieties are developing and expanding patterns of nonconcatenative exponence, which belong to “earlier stages on the morphologization chain”. This is perfectly in line with the innovative nature of Northern Chinese (see § 2), as opposed to the relatively more conservative character of Southern Sinitic (see Lamarre 2015).

Other forms of tonal morphology found in Central and Southern China are used to express diminutive forms of nouns and plural forms of pronouns, as mentioned earlier. For some cases, we may find some (indirect) evidence of the progressive reduction of the segmental (suffixal) exponent for the category at issue. This is true for the evolution of diminutive suffixes in Southern Wu dialects: based on the comparison of the expression of diminutive meaning in five Wu varieties, it has been proposed that a syllabic morpheme meaning ‘son’ (just like Standard Mandarin 子 *zǐ*) with a nasal initial may evolve into a simple nasal coda, also with tone change; this may further evolve into simple nasalization of the nucleus vowel, again with tone change, and, in the last stage, into mere tone change, which becomes the sole exponent of the diminutive meaning (e.g. Qingyuan 刀 [*ʔdeu*³³⁴] ‘knife’ > 刀儿 [*ʔdeu*⁵⁵] ‘small knife’; Chappell 2023:11–12). Again, in contrast to the situation described above for Northern Sinitic, there appears to be a single shape for the ‘tonal morpheme’ for diminutive in a given variety. Similarly, in Cantonese the so-called *pinjam* (Cantonese 變音 *binyām* ‘sound change’) is a form of nominal derivation, conveying diminutive, ‘familiarity’, as well as other meanings (see Yu 2007), which is realized mostly by turning the basic tone of the root into a high rising tone, as e.g. 檯 *tòih* ‘stage, terrace’ > *tóih* ‘table’ (Yu 2007:191). According to Yu (2007:202–203),

Cantonese *pinjam* is the outcome of the “elision of certain morphemes that are no longer productive”, also meaning ‘child’ or ‘son’ (he discusses three potential candidates; see the source for the details). The “tonal morpheme” is thus “a relic of an earlier syllable-contraction phenomenon”, just as seen above for perfective marking; some (limited) indirect evidence for this process may be found e.g. in the Bobai Yue dialect (Yu 2007:202; see also De Sousa 2024 on ‘nasal rise’, i.e. the addition of a nasal segment or feature with change to a rising tone for the lexical root, also expressing meanings in the area of diminutive).

Similarly, in the development of tonal morphology for pluralization of personal pronouns, some dialects offer evidence of intermediate stages of evolution. For instance, in Taiwanese and Xiamen Southern Min, we find fused plural forms of pronouns with an [-n] coda, e.g. Taiwanese 汝 *li*² ‘2SG’ vs. 恁 *lin*² ‘2SG.PL’, but in the related Penang Hokkien variety we find a syllabic suffix for the same function, seemingly deriving from 儂 *lang*⁵ ‘person’, as e.g. 汝 *lu*¹ ‘2SG’ vs. 汝儂 *lu*¹-*lay*⁵ ‘2SG-PL’ (Chappell 2023:15). It thus appears that the suffix 儂 *lang*⁵ lost its tone and most of its segments (onset and nucleus), leaving just a nasal coda as a ‘trace’. There are also many Szeyap Yue dialects in which the plural form of personal pronouns involves the addition of a [k] coda, also with changes to the vowel nucleus in some cases (e.g. Doumen *k^hui*³³ ‘3SG’ vs. *k^hiak*²¹ ‘3SG.PL’; Chappell 2023:16), which does look like a form of rhyme change, albeit with incomplete fusion (due to the presence of the velar coda). It has been proposed that this is the product of the fusion of pronouns with a suffix whose etymon is 屋 [ok⁵⁵] ‘home, family’ (Gān 2001, qtd. in Chappell 2023); Chappell (2023) points out that morphemes meaning ‘home, family’ are not uncommon as plural markers in Sinitic, including in Jin and Central Plains Mandarin dialects of the area of Northern China which Arcodia (2021) considers as typologically distinctive for reduced morphology (see § 2). For instance, in the Hongtong dialect (Central Plains Mandarin, Shanxi), the third person plural form is *ŋu*²¹-*tia*, with a suffix -家 -*tia* ‘family’, but the first person plural form is *ŋua*⁴², with a greater degree of fusion of the suffix with the root; in the related Wanrong variety, singular pronouns are pluralized by means of tone change and vowel lengthening (*t^ha*⁵⁵ ‘3SG’ vs. *t^ha*^{.51} ‘3SG.PL’), with stronger integration (Chappell 2023:17). Chappell (2023:17) mentions that tone change only is used to pluralize personal pronouns in some Xiang, Hakka, and Yue dialects, and she suggests that “it is reasonable to assume that the tone morpheme is a trace of a former ‘cheshirized’ suffix”. Thus, pluralization of personal pronouns by means of tone change or rhyme change is actually found in dialects from different branches of Sinitic and areas of China.

To conclude, it is also worth remarking the theoretical significance of the attestation of this type of reduction in grammaticalization: the findings sum-

marized above for Sinitic prove that secondary grammaticalization, with very strong reduction of grammaticalized signs, may happen also in ‘typical’ isolating tonal languages (see also Chappell 2023), casting doubts on the typological constraints proposed in the literature for the languages of the East and Mainland Southeast Asian area (Bisang 2004, 2008, 2015; Ansaldo, Bisang and Szeto 2018).

4 Grammatical Tense Marking

Standard Mandarin, and Sinitic languages in general, are often regarded as ‘tenseless’, i.e. as lacking grammaticalized expression of tense (see e.g. Lin 2006 on Standard Mandarin; Matthews and Yip 2011 on Cantonese; Li 2018 on Yichun Gan; see also Sybesma 2007 for a different proposal). However, in recent research it has been proposed that some Sinitic languages possess grammaticalized markers of tense, mostly in the form of sentence-final particles, which can reportedly be even obligatory in some varieties (see e.g. Bell 2017; Xing 2023).

As for future markers, these seem to have mostly developed in parts of Northern China. As mentioned in §2, a characteristic of some languages of the Qinghai-Gansu *Sprachbund* is that of having an opposition between non-future and future tense, in which future tense is overtly marked. Possibly the clearest case of that of Xining Mandarin, in which, According to Bell (2017:34), a sentence as (5) would be ungrammatical without the future particle 俩 *lia* (characters added):

- (5) 明天我西宁去俩
mingtian no Xining qu lia
 tomorrow 1SG Xining go FUT
 ‘I’ll go to Xining tomorrow’

While the use of the overt time expression 明天 *mingtian* ‘tomorrow’ would normally be enough in the vast majority of Sinitic languages to establish temporal reference, here 俩 *lia* is required, as would be the case in a tensed language like English. Bell (2017) also highlights that the use of past time adverbs cannot override the future temporal frame set by this particle (and their cooccurrence with 俩 *lia* may thus result in ungrammaticality).

Due to space constraints, a full discussion of the features of (proposed) future tense markers in the Qinghai-Gansu languages and in the rest of Sinitic cannot be given here (the reader is referred to Arcodia 2023 for a critical

TABLE 2.5 Areal features of independent markers of futurity

Northern	Generally, high degree of grammaticalization of future markers; Jin dialects of Northern Shaanxi (and Shanxi) seem to have more features of a general future tense marker (compatibility with future time expressions/adverbs, not only imminent future), while in the southern part of this area markers have more semantic and syntactic restrictions in their use, and have a stronger limitation to imminent future
Northwestern	Very high degree of grammaticalization of future markers, more so in the Qinghai-Gansu languages than in 'regular' dialects; can normally be used independently to mark future, not necessarily imminent future
Southwestern	Imminent future sentence-final markers of the form 来了 LAILE reported for Xiangxi Prefecture, northwestern Hunan; no independent marker of (imminent) future reported for the rest of the area
Central Transitional	Several independent markers of future with different etyma, all of which convey imminent future and appear to be connected with perfective aspect
Southeastern	Little to no clear evidence of independent future markers
Far Southern	Very few attestations of independent markers of future

analysis). I will confine myself to citing Chén and Qiū's (2021) study of the areal features of independent (i.e. stand-alone) future 'tense' markers in Sinitic languages from six different areas,¹² the results of which are summarized in Table 2.5.

In their survey, Chén and Qiū (2021) show that the degree of grammaticalization of independent exponents of future tense decreases from West to East, and from North to South: dialects of the Northern and Northwestern regions tend to have more 'tense-like' future encoding, while markers in other areas of China express meaning closer to imminent future tense. The most grammaticalized markers of future tense are found in the Northwestern China region, which includes the Qinghai-Gansu *Sprachbund* varieties discussed above, and in the northern part of the Northern area (including Jin and Mandarin), while

¹² Chén and Qiū (2021) adopt Chappell's (2019) revised version of her original proposal for five distinct areas in Sinitic, which is discussed in § 2: in this version, Northwestern China is seen as separated from the rest of Northern China.

in the southern part of the same area we often find only markers of imminent future. Then, we have a non-contiguous region of future marking in the Central Transitional area, with more independent markers. In the rest of China, we see that future markers are either (mostly) absent, as in the Southeastern Area, or have very limited distribution, as in the Southwestern and Far Southern areas. Also, all the independent future markers found outside the Northwestern and Northern areas seem to express imminent future only, and thus do not seem to qualify as general markers of future tense (see Chén and Qiū 2021:526).

Chén and Qiū (2021) also propose an explanation based on language contact for the different patterns of marking for future tense seen in Sinitic. The Qinghai-Gansu hybridized languages tend to have a parallel system of TAM marking, in which the future(/irrealis) is the only possible temporal category, while realis is split between perfective and imperfective. The use of 哩 [li]/俩 [lia] for future tense and mood marking is very likely to be the product of Mongolic influence on Amdo Sinitic, a point which has already been made in the literature (Bell 2017, Chén and Qiū 2021, Zhào 2021): Chén and Qiū (2021:520) highlight that in many Mongolic languages we find a non-past marker (encompassing progressive, habitual, and future semantics) the shape of which is often *-na*, *-nə*, or *-n*, and they argue that future markers with the form 哩 [li] (and 呢 NE) are likely to have been created under the influence of those Mongolic languages (for other hypotheses on different Mongolic etyma for 哩 [li] / 俩 [lia], see Bell 2017; Chén and Qiū 2021). As for the Jin and Central Plains Mandarin dialects of Shaanxi and Shanxi, Chén and Qiū (2021) propose that the 呀/也 YA/YE-type future markers found in many of those dialects may have evolved from markers of perfective aspect, pointing out that the use of 呀/也 YA/YE-type particles for the latter function is still attested in some Jin dialects of Northern Shaanxi (see Chén and Qiū 2021:519 for some examples and discussion). Chén and Qiū (2021:520) also believe that this pathway of evolution might reflect the influence of Mongolic languages: they mention a suffix *-la*, which is glossed as a past tense/perfective marker in the *Secret History of the Mongols*, and later developed into a marker of future tense. As for the Southwestern area, Chén and Qiū (2021) highlight that the use of markers of imminent future of the form 来了 LAILE found in northwestern Hunan, apparently the only independent markers of future in this area, appear to be basically a calque from local Miao varieties (compare Danqing Miao *lo⁴⁴zo³¹* Chén and Qiū 2021:522). Indeed, these markers are found in varieties of Xiangxi Tujia and Miao Autonomous Prefecture, where Sinitic languages are spoken in close contact with Miao (Hmongic) varieties. Lastly, Chén and Qiū (2021) also point out that the near lack of independent future markers in the Southeastern and Far Southern areas parallels the situation in Kra-Dai languages, suggesting again a possible role for contact.

As for proposed markers of past tense, which are probably related to the verb 来 *lái* ‘come’, that they have been argued to possess a relatively high degree of grammaticalization, at least in Jin and Mandarin varieties spoken in Shaanxi, Shanxi and Hebei (Arcodia 2023; see Table 2.5 above), was already mentioned above in § 2. The actual shape of these markers may be 来 LAI, 来着 LAIZHE, or 着 ZHE, depending on the variety at issue: 来着 LAIZHE is said to be a Northern Mandarin innovation based on the particle 来 *lái*, attested since the early Tang period (618–907) (Sūn 1995; Zǔ and Gāo 2022), while 着 ZHE is likely a shortened form of 来着 LAIZHE (Yáng and Wáng 2006). A very good example is Tangshan Mandarin 着 ZHE, which appears to act as a (non-obligatory) true marker of past tense: it is compatible with time expressions, it can only have past time reference, and it is compatible with all aspectual types (perfective, imperfective, telic, and atelic states of affairs). See the following examples (Zhāng, Lǐ and Lǐ 2006:30):

- (6) a. 我们今儿个吃饺子
 WO-MEN JINRGE CHI JIAOZI
 1-PL today eat dumplings
 ‘We’re eating dumplings today’
- b. 我们今儿个吃饺子着
 WO-MEN JINRGE CHI JIAOZI ZHE
 1-PL today eat dumplings PST
 ‘We’ve had dumplings today’
- (7) a. 这事儿我知道咧
 ZHE SHIR WO ZHIDAO LIE
 this matter 1SG know PFV
 ‘I know about it’
- b. 这事儿我知道咧着
 ZHE SHIR WO ZHIDAO LIE ZHE
 this matter 1SG know PFV PST
 ‘I knew about it’ (> not anymore)

As may be seen by comparing (6a–7a) with (6b–7b), the mere addition of the particle 着 ZHE locates the event (6) or state (7) in the past, before the time of utterance.

Besides the well documented use of these particles in the varieties of the Shaanxi/Shanxi/Hebei area, scattered attestations of 来 LAI may be found also

e.g. in Anhui (Sūn 2018), in some Yue dialects spoken in Guangdong (Fāng 2003), in Sichuan (Lín and Xiāo 2016), and in the Xiang dialects spoken in Hunan (Chén 2012), as hinted at in §2. Arcodia and Phan (2024) analyzed 来(着) LAI(ZHE)-type particles in a small convenience sample of 11 Sinitic languages, taking into consideration six parameters: the type of temporal/aspectual meaning conveyed, whether the particle marks also relative tense (as opposed to absolute past tense only), whether it is compatible with aspect markers, whether it is compatible with telic predicates, whether it is compatible with quantized objects, and whether its use is obligatory (see the source for the rationale behind the choice of criteria). Their results are summarized in Table 2.6 (adapted from Arcodia and Phan 2024:193; '?' indicates uncertain or incomplete information in the available sources).

Arcodia and Phan (2024) highlight both the notable degree of variation among the dialects in their sample, and the existence of some clear trends. If we look separately at the languages in the area of Northern China focused on here (namely Shanxi, Shaanxi and Hebei) and at the languages to the south of this region (namely, Fengtai, Cantonese, Lianjiang, and Zizhong), it becomes apparent that the connection with recency appears to be stronger in the varieties in the second group. This nuance seems to be particularly clear in Cantonese, which is a relatively conservative dialect spoken in the Far Southern Area. Also, the dialects spoken in South-Central and Southwestern China consistently accept the combination of 来 LAI and aspect markers, which is often not possible or restricted in dialects spoken in Shanxi and Shaanxi; a Hebei dialect such as Tangshan seems to pattern with dialects further to the South. Quantized objects are always acceptable in combination with 来 LAI in the dialects in the South-Central and Southwestern regions; however, Arcodia and Phan (2024) point out that they lack information on most of the other dialects, and hence this generalization is admittedly speculative. Also, in the dialects of their sample 来(着) LAI(ZHE)-type particles are generally compatible with telic predicates. As for obligatoriness, Arcodia and Phan (2024) believe it is safe to conclude that 来(着) LAI(ZHE)-type tense particles are overwhelmingly optional, as it has been the case throughout the whole history of 'mainstream' Chinese and present-day Standard Mandarin: even in a Jin dialect as Shenmu, in which 来 $lE^{44/0}$ is said to be obligatory, this particle can be substituted by experiential -过 -GUO in sentences clearly referring to past states of affairs (Xíng 2017).

To sum up, in several dialects of Shanxi and Shaanxi, 来(着) LAI(ZHE)-type markers seemingly developed a stronger temporal function, primarily being used for absolute past (including remote past), although there is much variation in this. These markers are part of a broader system encompassing other

TABLE 2.6 来(着) LAI(ZHE)-type particles in a sample of Sinitic languages

Variety	Group	Province	Meaning	Relative tense?	Aspect markers?	Telic predicates?	Quantized objects?	Obligatory?
Yangquan	Jin	Shanxi	Past (experiential?)	No	No	Yes	?	No; alternates with aspect
Yuxian	Jin	Shanxi	Past	Yes	Yes	Yes	?	?
Ningwu	Jin	Shanxi	Past	No?	No?	Yes	?	?
Shenmu	Jin	Shanxi	Past	Yes	Yes (mostly excluding experiential aspect)	Yes	No	Yes/alternates with experiential aspect
Shang-zhou	C. Plains Mandarin	Shaanxi	Past	No	No	?	?	Yes?
Qishan	C. Plains Mandarin	Shaanxi	Past	Yes	No?	Yes	?	No
Tangshan	Ji-Lu Mandarin	Hebei	Past	No	Yes	Yes	?	No
Fengtai	C. Plains Mandarin	Anhui	Recent past	No?	Yes	Yes	?	Yes?
Cantonese	Yue	Guangdong/ Hong Kong	Past / recency	No	Yes	Yes	Yes	No
Lianjiang	Yue	Guangdong	Experiential recent past / realization	No?	Yes (PFV)	Yes	Yes	No
Zizhong	S.-W. Mandarin	Sichuan	Recent past	Yes (in conditionals)	Yes (PFV)	Yes	Yes	?

possible tense/aspect markers, the most tense-like of which are past tense markers, followed by future markers (see §2). There are several distinct patterns of evolution for the premodern particles 来 *lái* and 来着 *láizhe*, combining retention and innovation: the notable degree of differentiation among the dialects of Shanxi, Shaanxi and Hebei is in line with the general characterization of Northern Sinitic languages as the most innovative within Sinitic.

5 Conclusions

In this chapter, I have tried to show that Northern China is not as homogeneous as is often assumed in the literature. Specifically, I have discussed the prevalence of reduced/nonconcatenative morphology in Jin and Mandarin dialects of Shaanxi, Shanxi, Hebei, Henan, and Shandong, the use of grammaticalized markers of future tense in languages of the Qinghai-Gansu *Sprachbund*, as well as in Jin and Mandarin dialects of Shaanxi and Shanxi, and the use of grammaticalized markers of past tense in dialects of Shaanxi, Shanxi, and Hebei from the same subgroups of Sinitic. As discussed in §§3–4, the phenomena at issue here are not necessarily exclusive to these subregions of Northern China: for instance, it has been shown that nonconcatenative (mainly, tonal) morphology is found in several dialects of Central and Southern China, and that future and past tense marking particles may be found also scattered in several locations in China.

However, these phenomena are not exactly parallel, as they clearly show distinct features in the different areas. As for reduced/nonconcatenative morphology, I would argue that the patterns found in the subregion of Northern China identified by Arcodia (2021) are richer and more complex than in Central and Southern China. Also, even similar patterns of exponence, e.g. tone change for perfective aspect, exhibit very different features. The relative uniformity of tone change patterns in Southern Sinitic appears to be related to different prosodic preconditions: particularly, the lack of the neutral tone option, which seems to hamper strong coarticulation. This chapter suggests that, while in (part of) Northern Sinitic coarticulation leads to the loss of concatenative grammatical exponents, in Southern Sinitic the exponents seem to be generally omitted, rather than incorporated in the root. Actually, some degree of fusion may be found in diminutive markers for Wu, and for pronominal plural markers in Min and Yue, but nonconcatenative patterns are not as prevalent in these languages as in the area of Northern China at issue here (although this may be an artifact of the data, due to a lack of proper documentation). Also, many patterns of

nonconcatenative morphology of Southern China seem to be already towards the end of their life cycle, whereas in Northern China they appear to be at an earlier stage of development.

Tense markers also show strong areal differentiation. True, fully grammaticalized independent markers of future tense are mostly a feature of Northwestern China (particularly, the Qinghai-Gansu hybrid varieties), and to a lesser extent of some Jin and Central Plains Mandarin dialects of Shaanxi and Shanxi, whereas in the rest of the country we may find independent markers of immediate future, which anyway have a significant presence only in the Central Transitional area. The most grammaticalized general markers of past tense are found, again, in some Jin and Central Plains Mandarin dialects of Shaanxi and Shanxi, while in the rest of China we generally see markers with a stronger connection with recency.

As for the role of contact, while it is possible that 'Altaic' and Tibetic languages provided the preconditions for the rise of stress and of the trochaic stress pattern in Northern Sinitic, thus creating a different prosodic environment, more conducive to reduction than what we find in Central and (especially) Southern China, it has been pointed out that stronger and more complex patterns of coarticulation and reduction are found only in a subregion of Northern China, which seems to have its core in Henan, and in the Central Plains Mandarin dialects spoken there and in the surrounding areas. Arcodia (2021) thus suggested that Henan could be the focal area from which this feature spread, as mentioned in §2. Interestingly, there is a partial overlap between the area where nonconcatenative morphology is more common and the area where we find the most grammaticalised markers of past tense, although they are probably not as prominent specifically in Henan and Shandong. While a very plausible explanation in contact with 'Altaic' languages may be proposed for future markers in Northwestern China has been offered, there is no clear indication that (past) tense markers in Shaanxi, Shanxi and Hebei varieties have their origin in language contact. What these observations seem to suggest is that while the salient features of languages of the Qinghai-Gansu *Sprachbund* are typically explained with Altaic and/or Tibetic languages, none of the features of Northern Sinitic considered here seems to be attributable to contact, with the notable exception of stress patterns. Hence, while the interaction between speakers of non-Sinitic languages (for future tense markers, especially Mongolic) in the Qinghai-Gansu area has apparently been strong enough to influence the development of possible tense markers, within a tense/aspect system split between realis and irrealis, in the Mandarin and Jin dialects considered here Altaic influence has arguably provided the preconditions for the development of nonconcatenative morphology, but the specific patterns, as

well as the grammaticalization of past tense marker, seem to be a local innovation, possibly spread through diffusion within Sinitic. The difference between these two subregions may also be explained with the different degree of intensity of contact with Altaic/Tibetic languages, obviously much higher (and prolonged) for the Qinghai-Gansu varieties.

To conclude, in line with Arcodia (2021), the comparative data discussed here seem to confirm that, while Northern China in general has always been seen as the least conservative area of China, the region comprising Shaanxi, Shanxi, Henan, Hebei, and Shandong stands out as being particularly innovative, and that some of these innovations might have spread within this area through contact among Sinitic varieties, rather than due to external influence from non-Sinitic languages. While some of the phenomena characterizing this area may also be found elsewhere, they possess distinct feature, sometimes also leading to the formation of areal clusters (as for perfective tone change in Yue and Hakka). However, more data is needed on the phenomena discussed here to properly assess their features and diffusion, especially on tense marking in spontaneous language use. This is a subject for further research.

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