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Typology of Sinitic (Chinese)

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Definition

Sinitic, often referred to simply as 'Chinese', is a well-differentiated major branch of the Sino-Tibetan family, further divided into ten commonly recognized groups (Mandarin, Jin, Wu, Gan, Xiang, Hui, Hakka, Yue, Min, and Pinghua), identified mainly on the basis of phonological criteria. Sinitic as a whole stands out for being typologically quite distant from the rest of Sino-Tibetan (i.e., the so-called 'Tibeto-Burman' languages). Sinitic languages overwhelmingly possess verb-medial basic constituent order and isolating/analytic morphology, while Tibeto-Burman languages are dominantly verb-final and exhibit more complex and varied morphological profiles. Moreover, the Sinitic languages themselves show a considerable degree of internal variation, involving aspects such as word order, morphology, and grammaticalization patterns, among others. The development of Sinitic has often been driven by contact, both within the family and with unrelated (non-Sinitic) languages. For instance, Northern Sinitic shows 'Altaic' features due to contact with Mongolic, Turkic, and Tungusic languages, while Southern Sinitic is closer to the Mainland Southeast Asian areal type due to contact with Tai-Kadai, Hmong-Mien, and Mon-Khmer. We also find Sinitic varieties in the Northwest possessing basic verb-final order and postposed markers of case and evidentiality, again due to contact (with Mongolic and Tibetic), as well as other areas of convergence, which contribute to the complexity of the typology of Sinitic.

Keywords: Sinitic; Sino-Tibetan; Tibeto-Burman; Mainland East and Southeast Asia; word order; morphological typology; grammaticalization; areal convergence

1. Introduction

In English, the term 'Chinese' is commonly used to refer to the standard language of the People's Republic of China, as well as one of the official languages of Singapore, i.e., Standard Mandarin Chinese (henceforth: SMC), also known in China as 普通话 *Pǔtōnghuà* (lit. 'common language'). However, 'Chinese' can also be used to refer, more generally, to any variety belonging to the Sinitic branch of the Sino-Tibetan language family (see, e.g., [1,2]). In the Chinese tradition, as well as in much of the international literature on China and its language situation, it is customary to refer to Sinitic languages other than SMC as 'dialects' (方言 *fāngyán*). This is mostly due to the fact that these varieties are not officially recognized as languages, at least in Mainland China, nor did they undergo a process of standardization (with the partial exception of Cantonese; see, e.g., [3]). Also, in the Chinese context, the idea of having only one 'language' is seen as a symbol of national unity, and as a marker of ethnic identity [4]. Thus, the labels 'Sinitic languages', 'Chinese

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languages', and (somewhat paradoxically) '(the) Chinese language' are all used to refer to the same group of varieties.

The idea of 'Chinese' as a unitary language with regional variation, somewhat similarly to English, was famously captured in Yuen Ren Chao's idea of a 'universal Chinese grammar' [5] (p. 13):

> "[…] It is in matters of grammar that the greatest degree of uniformity is found among all the dialects of the Chinese language. Apart from some minor divergencies, […] one can say that there is practically one universal Chinese grammar".

Chao can be considered "the founder of modern Chinese Linguistics", and his views of Chinese/Sinitic have indeed been very influential in the field [6] (p. 217). However, Chao's idea of a fundamentally shared grammar among all Sinitic languages (or, as he puts it, "dialects of the Chinese language") has now been conclusively proven to be highly misleading. A rich and growing body of research has indeed shown that the so-called Chinese 'dialects' are at least as diverse as, e.g., Romance or Germanic languages, or even more, and that their differences are not limited to the phonological and lexical components, but also involve, to a very significant extent, their grammar [6–8]. Besides the above-mentioned factors related to language ideology, another reason for this common misconception concerning Sinitic grammar is that, very often, in Chinese dialects, it is possible to create 'hybrid' structures, making use of SMC grammar, but dialect phonology and even lexicon (a phenomenon known as 'ditaxia' [9]). See the following Cantonese examples (adapted from [9], p. 1277; in this article, the glosses follow the general guidelines of the *Leipzig Glossing Rules*):

(1)	a.	我	比	佢	高
		ngo5	*bei2*	*keoi5*	*gou1*
		1SG	compare	3SG	tall
	b.	我	高過	佢	
		ngo5	*gou1-gwo3*	*keoi5*	
		1SG	tall-surpass	3SG	
		'I am taller than her/him'			

In (1), we see two possible comparative constructions of Cantonese. (1a), based on the marker 比 *bei2* 'compare', follows the 'marker–standard–adjective' order. (1b), on the other hand, makes use of the marker 過 *gwo3* 'surpass', and shows the 'adjective–marker–standard' order. The latter is the 'authentic', colloquial comparative construction for Cantonese, while (1a) belongs to the formal register, and it is more often used by educated speakers [9]. What is crucial here is that (1a), the formal variant, closely corresponds to the 'standard' SMC comparative construction:

(2)	我	比	他	高
	wǒ	*bǐ*	*tā*	*gāo*
	1SG	compare	3SG	tall
	'I am taller than him'			

If we look at the formal register of Cantonese, one might be led to believe that the same constructions of SMC grammar can indeed be used in other Sinitic varieties, with differences mostly limited to the phonological and lexical level; however, this is obviously not true if we look at the informal, colloquial register of dialects [6].

Thus, as pointed out by Norman [1] (p. 72), for the purposes of cross-linguistic comparison, "Chinese is a vast dialectal complex containing hundreds of mutually unintelli-

gible local varieties, each of which can be viewed as a distinct object […]". In this article, we use 'Sinitic language(s)' and 'Chinese dialect(s)' interchangeably, as they normally describe the same entities.

The most recent, generally accepted genealogical classification of Sinitic languages includes ten groups [10], which are sometimes erroneously labeled as 'languages' [1]: namely, Mandarin, Jin, Wu, Gan, Xiang, Hui, Hakka, Yue, Min, and Pinghua, plus some unclassified languages. An earlier partition, which still enjoys some degree of acceptance, includes only seven groups, to the exclusion of Jin, Hui, and Pinghua [11]. Each group is then further divided into several levels of subgrouping, down to the individual varieties (see [4] for details). Since SMC is based on Mandarin dialects, from a historical point-of-view, other Chinese dialects should be seen as sister languages of SMC [11]. This widely applied classification, however, is almost exclusively based on phonological criteria. Chiefly, the evolution of Middle Chinese voiced obstruents [12], as the phonological system of all modern dialects (except the Min group) can be understood as the evolution of that of Middle Chinese, at least in the traditional approach to Chinese historical linguistics (but see [13]). This type of 'family tree' approach to dialect classification can represent only groupings justified on the basis of vertical transmission, while the evolution of Sinitic languages has been strongly shaped by contact, both within the family and with non-Sinitic languages [14,15] (we shall get back to this below); also, a phonology-based genealogical classification may not reflect differences in grammatical aspects [12,14].

Indeed, if we look at the typological features of modern Sinitic languages through the lens of their genealogical classification, we may notice that they appear as very different from the so-called 'Tibeto-Burman' languages (i.e., the non-Sinitic Sino-Tibetan languages; on the structure of the Sino-Tibetan family, see [16]). Sinitic languages are overwhelmingly tonal, verb-medial, and isolating/analytic, while Tibeto-Burman languages are not necessarily tonal, they are dominantly verb-final, and exhibit more varied (and elaborated) morphological profiles, including isolating languages like Karen, languages with transparent and regular agglutinative morphology (Lolo-Burmese, Tibetic, and Boro-Garo), and also paradigmatically complex languages, with elaborate argument indexation and transitivity management systems (Rgyalrongic, Kiranti) [17]. The divergence between Sinitic and the rest of the Sino-Tibetan family has been attributed, at least partly, to contact. At least since the Qin period (221–207 BCE), speakers of Sinitic migrated repeatedly from the Central Plains region to (what is now) Southern China, leading to contact with the so-called 百越 *Bǎi Yuè* (lit. 'Hundred Yue') ethnic groups inhabiting the region, who were likely speakers of Hmong-Mien, Tai-Kadai, and Austroasiatic languages [15,18]. This arguably led to the convergence of Sinitic and the Mainland Southeast Asian language type, characterized, e.g., by the use of lexical tone, isolating/analytic morphology, lack of agreement, verb medial basic constituent order, among other features [19,20] (we will get back to this in Section 2). However, Mainland Southeast Asian traits are actually more common in the Sinitic languages of Southern China. This is because Northern China was a site for contact with speakers of 'Altaic'-type languages, belonging to the Mongolic, Turkic, and Tungusic languages [15,20], leading to the development of some typological features shared with languages of the Northern Asian region [21]. This is commonly referred to as the 'Altaicization' of Northern Sinitic, as opposed to the 'Taiization' of Southern Sinitic [22]. In addition, as mentioned above, internal migration of Chinese-speaking people led to contact, admixture, patterns of areal diffusion and convergence among Sinitic varieties, cross-cutting genealogical subdivisions (see below, Section 5).

This article is organized as follows. In Section 2, we provide a general overview of the main typological characteristics of Sinitic. In Sections 3 and 4, we discuss, respectively, morphological and syntactic aspects, while in Section 5, we focus on the areal patterns of

distribution of typological features. In Section 6, we offer our concluding remarks, as well as some hints on the future prospects of this field of inquiry.

2. Overview

From a typological point of view, Sinitic languages are a perfect example of *concordia in varietate*; they do share a considerable number of key typological traits, but they also differ in many aspects. These differences are often based on areal patterns, rather than following genealogical groupings, as mentioned in Section 1. Also, again as mentioned earlier, many (if not most) of the features which define modern Sinitic languages are consistent with the Mainland Southeast Asian typological profile, a fact which led to the reinterpretation of this areal type as "Mainland East and Southeast Asian" (henceforth: MESEA) [23]. The MESEA area includes languages both of Mainland Southeast Asia (Vietnam, Laos, Cambodia, Thailand, Peninsular Malaysia, and Myanmar) and of China, belonging to the Sinitic, Tai-Kadai, Austroasiatic, Hmong-Mien, and Austronesian families [24]. The core features of the MESEA areal type are [19–21,25,26]:

a. A tendency towards monosyllabism (sesquisillabism for some languages)
b. Isolating/analytic morphology
c. Use of lexical (and grammatical) tone
d. Use of lexical morphemes with grammatical functions
e. Use of classifiers
f. Lack of agreement for number, gender, case, etc.
g. Lack of obligatory arguments (zero anaphora)
h. Topic-prominent syntax
i. Verb-medial, head-modifier order, use of prepositions
j. Use of serial verb constructions
k. Use of (modal) sentence-final particles
l. Prominence of aspect over tense

The above-mentioned features are not all entirely independent from each of the others, since some of them 'conspire' to shape the typological profile of Chinese languages. Most importantly, the combination of the lack of agreement, the lack of obligatory arguments, and topic-prominent syntax leads to the so-called 'indeterminateness' of Chinese (and, more generally, of MESEA languages) [27]. As pointed out by Enfield [19] (p. 188), languages in the MESEA area combine "widespread noun phrase ellipsis (of definite arguments) with noun phrase movement (into clause-external positions like topic), resulting in great indeterminacy of surface sequences"; grammatical categories as, e.g., number, tense, aspect, and reference can also be omitted [27]. See the following SMC example (adapted from [27] (p. 112)):

(3)

她	买	报纸
tā	*mǎi*	*bàozhǐ*
3SG.F	buy	newspaper

'She bought/buys/is buying/will buy a newspaper/ the newspaper/ the newspapers/ newspapers'

Without a context, a sentence such as (3) is open to many different interpretations in terms of tense, aspect, number, and definiteness status, as shown by the suggested possible translations. In actual communication, ambiguity is normally resolved with contextual and non-contextual cues, such as, e.g., verb semantics, topic continuity, and pragmatic expectations, among others [19].

Within this general profile, diversity in Sinitic manifests itself on many levels. As for morphology, while lexical tone is nearly universal in Chinese languages, the use of tone to express grammatical meaning (including derivation) varies considerably; also, the tendency towards having monosyllabic morphemes and stable morpheme boundaries [28] is not as strong in some dialects, especially in Northern China, in which we may find strong reduction in grammatical morphemes, fusion, and cumulative exponence [29]. It is, however, in the domain of syntax where we see the highest degree of diversity among Sinitic languages, both in terms of the actual construction patterns and of the items which are grammaticalized with a certain function. Some of the best-studied aspects of syntactic variation are the comparative, passive, pretransitive, and ditransitive constructions, negation, and aspect. Often, the variation we see in the domains of morphology and syntax is areally skewed, and can sometimes be understood as a product of areal diffusion and convergence, as hinted at above. We shall discuss this in the following sections.

3. Morphology and the Lexicon

As mentioned above, Chinese is widely regarded as a typical instance of isolating/analytic typology. SMC, and Sinitic in general, is said to have little or no inflectional morphology, few affixes (often with a transparent origin [30]), very stable morpheme boundaries [28], and little or no cumulative exponence, allomorphy, or suppletion. Thus, the general picture for Sinitic is that morphemes mostly have only one phonological form, and even grammaticalized items such as affixes remain clearly distinct from the root they combine with [31]. In a diachronic perspective, this translates into a proposed feature of MESEA languages, namely having grammaticalization "without coevolution of form and meaning" [27]; in other words, primary grammaticalization (the development of lexical categories into functional/grammatical categories) without secondary grammaticalization (morphological bonding, phonetic erosion, fusion, etc.). This is, in turn, connected with one of the typological traits mentioned in Section 2, namely the use of lexical morphemes with grammatical functions. If lexical items that grammaticalize into functional elements do not change their shape, from a synchronic point-of-view, they will look like polyfunctional lexical/grammatical items. An example for this is SMC 在 *zài*, a verb meaning 'to be at/in', but also a preposition, 'at/in', and a marker of progressive aspect; the evolution of 在 *zài* did not cause (significant) formal changes in its shape.

Moreover, the above-mentioned lack of inflection and agreement entails that nouns, verbs, and adjectives are not expected to vary morphologically to mark number, gender, case, or TAM, as shown also in (3): a noun as SMC 演员 *yǎnyuán* can be translated as 'actor', 'actors', 'actress', 'actresses'; an adjective like 聪明 *cōngming* means 'clever' for all gender and number values. Hence, the phrase 聪明的演员 *cōngming de yǎ nyuán* can mean 'clever actor', 'clever actors', 'clever actress', 'clever actresses', in the absence of other cues. Besides lexical cues, some grammatical categories, such as, e.g., aspect, may be expressed with analytical markers, like the above-mentioned SMC 在 *zài* 'PROG', or Cantonese -咗 *-zo2* 'PFV'.

Another characteristic of Chinese morphology, which is in line with the general trend of the MESEA area, is the strong tendency towards a 1:1 correspondence between syllables and morphemes. Most morphemes are monosyllabic, although only a subset of them are syntactically free (i.e., able to occur independently in a sentence). Thus, for instance, both SMC 书 *shū* 'book' and 椅 *yǐ* 'chair' are (lexical) morphemes, but only the former is free, and thus corresponds to a (syntactic) word. 椅 *yǐ* 'chair' can be used only in combination with other morphemes to form a word, such as, e.g., 长椅 *cháng-yǐ* 'long-chair, bench'. Note that there are no formal differences between the two types of morphemes, i.e., there is nothing in the shape of a morpheme that might suggest whether it is free or bound. Morphemes

made of more than one syllable, generally speaking, are either loanwords (e.g., Cantonese 多士 *do1si6* 'toast'), onomatopoeias (SMC 噼里啪啦 *pīlipālā* 'crackling sound'), or words which derive from Old Chinese alliterative and rhyming compounds (SMC 徘徊 *páihuái* 'pace back and forth; waver'). Interestingly, the tendency towards a 1:1 relationship between syllables and morphemes sometimes leads to the reanalysis of an individual syllable within a polysyllabic morpheme as a morpheme on its own [11], e.g., Cantonese 多士 *do1si6* 'toast' > 奶油多 *naai5jau4-do1* 'butter-toast, toast with butter and condensed milk'. Again, such a strong overlap between the basic unit of speech (the syllable) and the basic unit of meaning (the morpheme), combined with the stability of morpheme boundaries, should prevent the reduction in morphemic syllables, fusion, and cumulative exponence [32].

However, as hinted at in Section 2, phenomena such as strong reduction in grammatical morphemes, and even erosion of morpheme boundaries, leading to fusion, noncatenative exponence, and cumulative exponence, are all, in fact, attested in a subset of Sinitic. This happens mostly (but not exclusively) in Northern China [29]. For instance, based on a sample of 26 Mandarin and Jin dialects, Arcodia proposes the following cline of grammaticalization for markers of perfective aspect deriving from the verb 了 *liǎo* 'to finish' (Late Middle Chinese *liawˊ* , Early Mandarin *ljɛwˇ* [33]; Figure 1 adapted from [34] (p. 154)):

verb > auxiliary > aspect (clitic) particle > suffix > single vowel > { rhotacization / rhyme change / tone change / vowel lengthening }

Figure 1. Cline of grammaticalization for markers of perfective aspect in Mandarin and Jin dialects.

Indeed, even in the 'typological stereotype' of Sinitic isolating morphology, namely SMC, we do see phonological and prosodic reduction in the perfective aspect marker, whose current shape is 了 *le*; the triphthong has been reduced to a schwa, and the marker bears no independent tone (and stress). In a number of Northern Sinitic languages spread over an area including Shaanxi, Shanxi, Henan, Hebei, and Shandong provinces, the same meaning may be expressed by suffixes made of a single vowel, which can also undergo fusion with the verb root, being expressed cumulatively in the form or rhotacizazion (i.e., addition of a rhotic coda), rhyme change (ablaut), tone change, (and/)or vowel lengthening [29,34], and even combinations of the above. See the examples in Table 1 (Chinese characters omitted for ease of presentation):

Table 1. Reduced morphology marking perfective aspect in Mandarin and Jin dialects.

Marking Pattern	Example	Language and Source
Single vowel	$lɛ^{55}$-$ɛ$ 'come-PFV'	Boshan [35] (p. 18)
Rhotacization	$uɔn^{41}$ 'ask' > $uər^{41}$ 'ask.PFV'	Qixia [36] (p. 98)
Rhyme change	kei^{55} 'give' > $kɛ^{55}$ 'give.PFV'	Xunxian [37] (p. 47)
Tone change	tse^{213} 'cut' > tse^{321} 'cut.PFV'	Juxian [38] (p. 394)
Lengthening	pia^{43} 'weave' > $pia{:}^{443}$ 'weave.PFV'	Nanhe [39] (p. 20)
Tone change, rhyme change, and lengthening	$tɕ'i^{53}$ 'to rise' > $tɕ'ie{:}^{5231}$ 'rise.PFV'.	Shangxian [40] (p. 176)

While direct historical evidence to reconstruct the genesis of processes of strong reduction and fusion of grammatical exponents presented above is lacking, even just through the comparison of synchronic data from different dialects, it can be safely argued that these phenomena are the product of growing integration of a concatenative exponent in a lexical root, at least for most cases [41].

Note that reduction leading to fusional, nonconcatenative, and cumulative exponce is found also in other areas and groups of Sinitic, and may be used to express many different

types of grammatical meaning (see, e.g., the overview in [29,42,43]), also including nominal derivation. An often-quoted example is the (loosely defined) 'diminutive' tone change (known in Cantonese as 變音 *bin3yam1* 'sound change', or 'lexical suprafixing' [3,44]) as, e.g., Cantonese 臺 *toi4* 'stage, terrace' > 臺 *toi2* 'table' [45] (p. 191), found in many Yue dialects also in different forms, including the addition of a nasal coda, or even just a nasal feature on the root, plus tone change [44]. Another use of tone change found in several Yue varieties, as well as in some Hakka and Gan dialects, is marking perfective aspect, with dropping of the perfective aspect marker, as, e.g., Cantonese 落咗堂 *lok6-zo2 tong4* 'finish-PFV class' > 落堂 *lok2 tong4* 'finish.PFV class', two ways of saying 'having finished class' [43] (p. 22). However, at present, there seems to be no consensus as to whether these marking patterns for perfective aspect are due to fusion of root and segmental exponent, or simply due to tone sandhi followed by omission of the aspect marker [43].

As for word formation, the dominant process in Sinitic is compounding, understood as the combination of (either free or bound) lexical morphemes to form a word, as SMC 电脑 *diàn-nǎo* 'electric-brain, computer', Cantonese 甩肺 *lat1-fai3* 'drop-lung, exhausted, wrecked', or Taiwanese (Southern Min) 頭家 *thâu-ke* 'head-family, boss, husband'. Compounding, especially disyllabic/bimorphemic compounding, has become the default word formation strategy for SMC and many other Sinitic languages. This fact has been connected to a preference for disyllabic units, due to emerging prosodic constraints in the historical development of Chinese [32]. Interestingly, this preference for disyllabic units in word formation leads to a tendency towards creating (mostly, but not exclusively) disyllabic abbreviations for longer words and phrases [46], as, e.g., 北京大学 *Běijīng Dàxué* 'Peking University' > 北大 *Běidà*. However, the relative weight of disyllabic words in the lexicon may vary considerably in Sinitic. For instance, Cantonese is known to have a higher proportion of monosyllabic words, compared to SMC, at least in the native layer of its lexicon [47], as, e.g., 眼 *ngaan5* vs. SMC 眼睛 *yǎnjīng* 'eye', or 凳 *dang1* vs. 凳子 *dèngzi*. This has sometimes been interpreted as an areally conditioned difference, since Southern Sinitic should be more closely aligned with MESEA typology, while 'Altaic' typology is characterized by more polysyllabic words (see below, Section 5).

Headedness in Chinese compounds may vary depending on the type of compound, and on its part of speech. As a general rule, endocentric non-coordinate compounds are right-headed (e.g., SMC 面包 *miàn-bāo* 'flour-bun, bread', 心算 *xīn-suàn* 'mind-count, do sums in one's head'), but subordinate verb compounds are left-headed (SMC 开办 *kāi-bān* 'open-class, offer a course). In Central and Southern Sinitic, exceptions may be found in the form of left-headed attributive nominal compounds, as, e.g., (Jieyang) Teochew *kiõ*^{33}*-bo*^{53} 'ginger-mother, old ginger', *hou*$^{35\text{-}21}$*-mui*^{55} 'rain-minute, drizzle' [48] (pp. 65–66). These 'anomalous' patterns alternate with others which follow the general trend for headedness described above (e.g., Teochew *t'au*$^{55\text{-}11}$*-mo*^{55} 'head-hair, hair' [48] (p. 65)). A class of items that are systematically found to the right of the noun they modify in a number of Central and Southern Sinitic varieties is gender markers for nouns denoting animals; see, e.g., Tunxi *tɕie*$^{11\text{-}21}$*-kan*^{11} 'chick-male, rooster' [49] (p. 86) and Taiwanese 鶏母 *ke-bó* 'chick-female, chicken'. These head-initial structures have sometimes been attributed to contact with non-Sinitic MESEA-type languages of Southern China, which tend towards head-modifier order in word formation [50].

The status of derivation in Sinitic languages is still debated. Processes which make use of nonconcatenative exponents, or any other means of reduced segmental exponents, as the above-mentioned 'lexical suprafixing' of Yue dialects, can be safely described as 'derivation', since new words are created by combining lexical morphemes with exponents which, at least synchronically, are definitely non-lexical. This applies also to derivation by means of rhyme change, tone change, and/or vowel lengthening, as, e.g., Boshan 夹 *tɕia*^{33}

'press (from both sides)' > 夹 *tɕia*^{511} 'clip' ([51] p. 316). There are, however, processes of word formation which involve the use of concatenative, syllabic morphemes, which are sometimes treated as compounding, and sometimes as derivation, with no consensus on the borderline between these two processes (for an overview, see [52]). In Sinitic languages, there are several cases in which a constituent in a word is found in a specific position with a stable meaning, similar to an affix, but with no formal difference from the corresponding lexeme. For instance, in SMC 族 *zú* 'clan' is found as the right-hand constituent in many words indicating a group of people who have something in common, as, e.g., 低头族 *dī-tóu-zú* 'lower-head-clan, smartphone addicts', or 啃老族 *kěn-lǎo-zú* 'nibble-old-clan, grownups who live off their parents. Here, we see a semantic evolution of the formative in this construction, if compared to the original meaning of the morpheme, from 'clan', 'ethnic group' to "a category of people with common characteristics or behaviour" ([53] p. 264). This type of formatives, which have some of the characteristics of affixes (fixed position, specialized meaning), but are homonymous to existing lexical morphemes, have also been termed as 'affixoids' (类词缀 *lèicízhuì*) or 'quasi-affixes' (准词缀 *zhǔncízhuì*), to distinguish them from 'proper' affixes; however, the criteria employed to identify them, and the related definitions, vary considerably in the literature [12].

Lastly, another distinctive feature of the Chinese lexicon is the obligatory use of noun classifiers whenever an entity is individuated, as in the following SMC example:

(4)	三	*(张)	桌子
	sān	*(*zhāng*)	*zhuōzi*
	three	CLF	table
	'three tables'		

As shown in (3), in the context of counting, a noun in Chinese must be accompanied by a classifier. The omission of 张 *zhāng* makes the phrase ungrammatical. SMC, and Sinitic varieties in general, are thus often referred to as 'classifier languages' [54,55]: while in a language like English, a unit of counting is required only with mass nouns (e.g., *a bucket of sand*), in Sinitic, this applies to any noun, be it mass or count. Also, classifier languages make use not only of units of measure, or 'mensural classifiers', like *bucket*, but also of 'sortal classifiers', like 张 *zhāng*. Mensural classifiers are grammatical items that divide "the inventory of count nouns into semantic classes" [56]. For instance, the above-mentioned 张 *zhāng* is generally used for flat objects, while 条 *tiáo* is used for long and thin objects, as well as some animals. Note that 'individuation' does not necessarily involve counting [57]; indeed, noun classifiers in Sinitic are also used, e.g., with demonstratives.

While Sinitic languages share the basic defining features of classifier languages, their variety and features may vary. Generally speaking, Northern varieties tend to have a smaller inventory of classifiers, compared to Southern varieties [50], and there are even Sinitic languages that make use of one (sortal) classifier only for all nouns (e.g., Dungan [58]), thus actually performing the function of individuation without classification. Also, some varieties allow bare classifier phrases, with a broad range of diversity in terms of syntactic distribution and referential properties. For instance, in Cantonese, preverbal bare classifier phrases have definite reference, while postverbal ones may be both definite and indefinite (examples adapted from [59] p. 118):

(5) a.

本	書	好睇
bun2	*syu1*	*hou2-tai2*
CLF	book	good-look

'The book is interesting'

b.

畀	杯	茶	我	飲
bei3	*bui1*	*caa4*	*ngo5*	*jam2*
give	CLF	tea	1SG	drink

'Give me the/a cup of tea to drink'

According to Wang [59], Sinitic languages may be divided into seven types, according to whether they allow preverbal and/or postverbal bare classifier phrases, and according to whether these are definite or indefinite. Generally speaking, preverbal bare classifier phrases are less common than postverbal ones, and the preferential associations are preverbal-definite and postverbal-indefinite. The latter trend is related to the general tendency of Sinitic to have definite noun phrases in the preverbal position and indefinite noun phrases in the postverbal position [5,59].

4. Syntax

While most aspects of the syntax of SMC have been studied extensively (see, e.g., the seminal work by Li and Thompson [60]), Sinitic syntax has received relatively less attention in typology-oriented research. Only in recent years has a relatively significant number of comprehensive 'grammars' of Sinitic languages been published, among which the series *Sinitic Languages of China: Typological Descriptions* (De Gruyter Brill, edited by Hilary Chappell) constitutes the most ambitious endeavor, offering extensive grammatical descriptions of lesser-known Sinitic varieties, analyzed in a typological perspective.

We mentioned earlier that, as MESEA languages, Sinitic varieties are verb-medial with a canonical (S)VO word order, meaning that, in a 'canonical' declarative sentence, the objects, including direct and indirect objects, are commonly placed after the main verb. The following shows two declarative sentences in SMC with a VO word order. In Example (6), the object 饭 *fàn* 'rice' is placed after the transitive verb 吃 *chī* 'eat'. In Example (7), both the direct object 一百块钱 *yī-bǎi kuài qián* 'one hundred Yuan' and the indirect object 我 *wǒ* '1SG' follow the ditransitive verb 给 *gěi* 'give'.

(6)

他们	吃过	饭	了
tā-men	*chī-guo*	*fàn*	*le*
3M-PL	eat-EXP	rice	SFP

'They had their meal'

(7)

妈妈	给了	我	一百	块	钱
māma	*gěi-le*	*wǒ*	*yī-bǎi*	*kuài*	*qián*
mom	give-PFV	1SG	one-hundred	CLF	money

'Mom gave me one hundred Yuan'

From the perspective of word order implicational universals, Sinitic varieties are typologically 'anomalous' VO languages, due, e.g., to the relative order of prepositional phrases and verb phrases, or that of relative clauses and their heads. Typologically, VO languages tend to have post-verbal prepositional phrases, yet (adjunct) prepositional phrases regularly precede verb phrases in Sinitic. Preverbal relative clauses in Sinitic also attracted much scholarly attention as a typological 'puzzle', since all Sinitic languages possess prenominal relative clauses, contrary to what VO languages overwhelmingly have: indeed, only five out of 879 varieties in Dryer's [61] sample have both VO order and postnominal relatives, three of which are Sinitic

(SMC, Cantonese, and Hakka). While there are different strategies for relativization within Sinitic, the general rule is that the relative clause virtually always precedes the modified head noun, as in the following Cantonese (adapted from [62] p. 327) and Shaowu (a transitional Min/Gan dialect; [63]: 132) examples:

(8)	識	廣東話	嗰	的	学生	考	得	好	啲
	sik1	*gwong2dung1waa2*	*go2*	*di1*	*hok6saang1*	*haau2*	*dak1*	*hou2*	*di1*
	know	Cantonese	those	CL	student	examine	ADV	well	a-bit

'The students who know Cantonese did better (on the exam).'

Shaowu Transitioanal Gan/Min

(9)	□	处	北京	学	书	个	囝儿
	$xaŋ^{35}$	$thu^{55\text{-}35}$	$pə^{53}kin^{21}$	$xɔ^{35}$	$ɕy^{21}$	$kəi^{213}$	$kin^{53}nə^{0}$
	1SG	LOC	Beijing	study	book	REL	son

'My son who studies in Beijing…'

明朝	归	来
$maŋ^{22}tɕiau^{21}$	$kuei^{21}$	li^{22}

'…will come back tomorrow.'

Nevertheless, for some other constructions, variation in word order is attested across Sinitic, often seen as a manifestation of the general typological distinction between Northern and Southern China. As mentioned earlier (Section 1), different patterns of language contact led Northern Sinitic to develop more OV features, under the influence of the Northern Asian languages, while Southern Sinitic shows more VO features associated with MSEA languages ([22,64], *inter alia*). These include the comparative construction, the pre-transitive object-marking disposal construction, and the ditransitive construction, among others. We will discuss them further, from the perspective of areal typology, in Section 5.

Moreover, while (S)VO is generally considered to be the basic word order for the vast majority of Sinitic languages, many other options are available. This is often connected with one prominent characteristic of Chinese syntax, namely, topic prominence. Sinitic, like, generally speaking, MESEA languages, are very often classified as 'topic-comment' languages (see [5,60,62,65], among others). The 'topic' in topic-comment structures is the element that "sets the spatial, temporal, or other framework in which the predication holds" [66] (p. 50). Indeed, Morbiato [67] goes as far as to contend that grammatical relations, especially subject, do not play a significant role in determining word order in SMC; rather, Chinese sentences are best understood as comprising a 'locatable' frame-setting topic, and a focal element typically following the verb (see also [65]). There is indeed a huge variety of constituents that may appear in the topic position in Sinitic, and other possible 'alterations' of canonical (S)VO order. Direct objects may be topicalized, as in the following SMC example:

(10)	饭	他们	吃过	了
	fàn	*tāmen*	*chī-guo*	*le*
	rice	3PL.M	eat-EXP	SFP

'As for (their) meal, they had it.'

Also, objects may be fronted without placing them in the sentence-initial topic position:

(11)

他们	饭	吃过	了
tāmen	*fàn*	*chī-guo*	*le*
3PL.M	rice	eat-EXP	SFP

'Regarding them, they have had their meal.'

Among the wide variety of sentence constituents that are allowed in the topic position for Sinitic, we also find so-called 'hanging topics', having no argumental relationship with the predicate (12) (Cantonese, adapted from [62] p. 86), and repeated topics with verb fronting (13) (Tunxi, adapted from [49] p. 277).

(12)

而家	嘅	天氣	最	易	傷風
ji4gaa1	*ge3*	*tin1hei3*	*zeoi3*	*ji6*	*soeng1-fung1*
now	GEN	weather	most	easy	catch-cold

'It's easy to catch a cold in this weather.'

(13)

讲	是	介式	讲	口	不	识得
kau^{31}	$ɕi^{24}$	$tɕiɛ^{31}$-$ɕin^{24}$	kau^{31}	$uɛ$,	pu^{11}	$ɕi^{5\text{-}11}$-$ti?^{5}$
talk	COP	this-way	talk	SFP	NEG	know-RES

'As for saying, although I have said this, (I'm) not sure...'

渠	实际	考	不	考	得	上	大学
$k^{h}ɔ^{44}$	$ɕi^{11}tɕ?^{31}$	$k^{h}ə^{31}$	pu^{11}	$k^{h}ə^{31}$	$ti?^{5}$	$ɕiau^{24}$	$(t^{h}o^{11\text{-}21}xɔ^{11})$.
3SG	actually	examine	NEG	examine	PART	RES	university

'…whether s/he can make it (to the university).'

In the Cantonese example (12), the topicalised而家嘅天氣 *ji4gaa1 ge3 tin1hei3* 'the recent weather' has no grammatical relationship with the predicate 最易傷風 *zeoi3 ji6 soeng1-fung1* '(is) easy to catch a cold', but rather sets the frame for discussing further a condition for getting sick. In the Tunxi example (13), the topicalized predicate 讲 kau^{31} 'talk' is fronted to the beginning of the sentences before being repeated, which then establishes the context for the following discussion ('As for saying, although I have said this […]').

Two more key typological features of Sinitic (and, more generally, of MESEA languages; see Section 2) we shall discuss in this Section are the prominence of aspect over tense, and having a rich inventory of sentence-final particles which carry modal/aspectual meaning. Generally speaking, Sinitic languages lack a grammaticalized category of 'tense', i.e., overt, obligatory morphological marking of tense, but rather rely on a variety of factors for interpreting temporal relationships, including, mainly: (grammatical and lexical) aspect, modal verbs, sentence-final particles, time expressions, adverbs, and context ([62,68–70]). As shown in the SMC example below (14), there is no grammatical exponent for past tense on the verb 去 *qù* 'go' itself; rather, past tense reference is established, first and foremost, by the temporal expression 昨天 *zuótiān* 'yesterday'. The perfective aspectual marker -了 *-le* further suggests it is an accomplished event.

(14)

我们	昨天	去了	豫园
wǒmen	*zuótiān*	*qù-le*	*Yù-yuán*
1PL	yesterday	go-PFV	yu-graden

'We went to Yu Garden yesterday.'

Nevertheless, the debate on the 'tenselessness' of Sinitic has not settled yet, especially for Northern Sinitic, such as Mandarin dialects of the Central Plains subgroup [71] and of the Qinghai-Gansu *Sprachbund* (Tangwang, Wutun, Gan'gou, Linxia; we will get back to this area in Section 5), as well as Jin dialects [72–74]. In many of those varieties, there

are sentence-final particles that have been claimed to convey tense. Typically, the LAI-type (likely cognates to SMC 来 *lái*) for past tense, and either the YA/YE-type (for Central Plains Mandarin and Jin, e.g., Shangzhou 呀 [ia] [75]) or the LI-type (for Qinghai-Gansu varieties, e.g., Minhe Gan'gou 哩 [li] [76]) for the future tense [77]. In Yangquan, for instance, propositions are proposed to demonstrate distinctive grammatical marking for the past, present, and future tenses [71] (p. 67; since no transcription is provided in the source, we added one based on SMC pronunciation):

(15) a.

你	干	啥	来
nǐ	*gàn*	*shá*	*lái*
2SG	do	what	PST

'What did you do?'

b.

你	干	啥	嘞?
nǐ	*gàn*	*shá*	*lei*
2SG	do	what	PRES

'What are you doing?'

c.

你	干	啥	呀?
nǐ	*gàn*	*shá*	*ya*
2SG	do	what	FUT

'What will you do?'

While different proposals remain, according to which these tense markers might have developed as a result of language contact with Altaic languages such as Mongolic or Turkic (especially, the markers for futurity; [77–79]), there seems to be no agreement yet as to the origin of these tense markers, which warrants further studies.

Unlike tense, aspect focuses on the "internal temporal constituency of one situation" [80] (p. 5). Aspect marking is generally considered to be a salient feature across Sinitic, although it appears to be more so in Southern Sinitic than in Northern Sinitic. Among various aspectual categories, the fundamental distinction between perfective and imperfective yields the best researched aspect markers of Sinitic, namely SMC: -了 *-le* for perfective (16), -过 *-guo* for the so-called 'experiential aspect' (17), -着 *-zhe* for continuous (18), and 在*zài* for the progressive (19; for a comprehensive analysis of aspect in SMC, please refer to [60,81], among others).

(16)

小明	早上	吃了	两	个	鸡蛋
Xiǎomíng	*zǎoshàng*	*chī-le*	*liǎng*	*gè*	*jīdàn*
Xiaoming	morning	eat-PFV	two	CLF	egg

'Xiaoming ate two eggs (this) morning.'

(17)

他	结过	婚
tā	*jié-guò*	*hūn*
3SG.M	tie-EXP	marriage

'He once got married.'

(18)

门	关着
mén	*guān-zhe*
door	close-CONT

'The door is closed.'

(19)

外婆	在	打	麻将
wàipó	*zài*	*dǎ*	*májiàng*
maternal.grandma	PROG	hit	mahjong

'Grandma is playing mahjong.'

Southern Sinitic varieties, as hinted at above, are reported to possess more complicated aspectual systems, both in terms of forms and of ranges of functions for aspectual markers. For descriptions of aspectual markers/systems of specific Southern Sinitic varieties, see, e.g., [82–85]; comparative studies of Sinitic aspect systems include [86–89], among others. For instance, Cantonese possesses an habitual aspectual marker -開 *-hoi1* to denote a recurrent habitual activity, as shown in (20) ([62] p. 241); this category of habitual aspect is not found in SMC, nor in many other Sinitic languages.

(20)

佢	睇開	中醫	嘅
keoi5	*tai2-hoi1*	*zung1-ji1*	*ge3*
3SG	see-HAB	Chinese-doctor	SFP

'S/he usually goes to a Chinese doctor.'

Another peculiar phenomenon is found in some Jianghuai and Southwestern Mandarin dialects, in which progressive aspect markers seemingly sharing the same etymon as SMC 在*zài* are actually found after the verb phrase, unlike the 'default' pre-VP order for this type of exponent seen in SMC (19) and most other Sinitic languages. See, for instance, the following Huoshan example (21) [90] (p. 10; since no transcription is provided in the source, we added one based on SMC pronunciation):

(21)

他	打	麻将	在
tā	*dǎ*	*májiàng*	*zài*
3SG.M	hit	mahjong	PROG

'He is playing mahjong.'

Also, interestingly, in some varieties, double marking (i.e., pre-VP and post-VP 在*zài*) is also attested, as in Baokang (22) [86] (p. 56; since no transcription is provided in the source, we added one based on SMC pronunciation), showing 'hybridization' between a dialectal construction and the pattern of the standard language (i.e., SMC):

(22)

现在	还	有	谁	在	看	电视	在?
xiànzài	*hái*	*yǒu*	*shuí*	*zài*	*kàn*	*diàn-shì*	*zài*?
now	still	have	who	PROG	watch	electrical-vision	PROG

'Who is still watching TV now?'

Due to space restrictions, we cannot offer here a comprehensive discussion of the similarities and differences among the aspectual systems of Sinitic languages; therefore, in Table 2, we limit ourselves to proposing a simple comparison between the aspectual systems of one representative variety each for Northern Sinitic (SMC), Central Sinitic (Tunxi), and Southern Sinitic (Cantonese).

Another prominent feature of Sinitic aspectual markers is that they are generally considered to have grammaticalized from lexical verbs, a process in which "lexical items and constructions come in certain linguistic contexts to serve grammatical functions, and, once grammaticalized, continue to develop new grammatical functions" [91] (p. 18), although the degree to which such aspectual markers have grammaticalized may vary across different varieties. While consensus is reached on the source lexical verbs of most SMC aspect markers, e.g., the continuous aspect marker -着 *-zhe* 'CONT' grammaticalized from the sta-

tive verb 着 *zhuó* 'to adhere to' [92], and the perfective marker -了 *-le* 'PFV' grammaticalized from the action verb 了 *liǎo* 'to finish' [93], and sometimes also of other major Sinitic varieties, such as the habitual aspectual marker -開 *-hoi1* 'HAB' in Cantonese, grammaticalized from the action verb 開 *hoi1* 'open' [94], the etyma of aspectual markers in the lesser-studied Sinitic varieties remain a topic for further studies.

Table 2. The aspectual systems of SMC, Tunxi, and Cantonese. (data from [49] (p. 219) and [62] (p. 226)).

Aspects	SMC	Tunxi Hui	Hong Kong Yue
Perfective	*-le* 了	*-tɕ^{h}io* 着	*-zo2* 咗
Experiential	*-guo* 过	*ko^{42}* 过	*-gwo3* 过
Perfect (anterior)	?	*-liu^{24}* 了	?
Continuous/durative	*-zhe* 着	*-tɕ^{h}io^{11}* 着	*-zyu6* 住
Progressive	*zài* 在 + VP	*ɕi^{24}-mo^{31}le* + VP	*-gan2* 緊
Delimitative	V + (yi) + V	VV	VV + 吓 *haa5*
Inchoative	*-qǐlái* 起来	*-ts^{h}əʔ^{5}lə^{44}* 出来	*-hei2 soeng5 lai4* 起上嚟
Continuative	*-xiàqù* 下去	*-tau^{11}-k^{h}ə^{42}* 到去	*-lok6 heoi3* 落去
Habitual	—	—	*-hoi1* 開

Yet another aspect related to aspect marking in Sinitic is sentence-final particles (SFPs). As mentioned above, sentence-final particles constitute an evident areal feature of languages spoken in the MESEA region. The SFPs in MESEA, or what Panov [95] (p. 22) refers to as "Asian style" FPs, differ from those of the languages of Europe in that they function to express the speakers' attitudes towards the propositions per se, as well as towards the addressees, instead of reflecting how a proposition is related pragmatically to the previous proposition [96]. The functions of SFPs in Sinitic, as in many other Asian languages, comprise expressing illocutionary force, sentence moods, epistemic modality, evidentiality, and allocutivity, as well as the lesser-discussed aspect marking function. In terms of morphological form and word order, SFPs in Sinitic mostly carry neutral tones and appear precisely as the last morpheme of an utterance. For SMC, Li and Thompson [60] (p. 238) identify six major SFPs, among which four of them express information on the speaker–hearer relationship in a given context, ranging from response to expectation (呢 *ne*), seeking agreement (吧 *ba*) to 'friendly reminder' (喔 *ou*) and softening the tone (啊/呀 *a/ya*). Besides allocutivity, SFPs are also employed to mark sentence mood (e.g., 吗 *ma* for questions), and a *mélange* of pragmatic functions highlighting the current relevance of the proposition (了 *le*). See the following examples showing the contrast between 吧 *ba* and 呢 *ne* (adapted from [60] (pp. 304, 310)):

(23)	她	很	好看	吧?
	tā	*hěn*	*hǎo-kàn*	*ba*
	3SG.F	very	good-look	SFP

'She is pretty (don't you agree?)'

(24)	他	很	开心	呢!
	tā	*hěn*	*kāixīn*	*ne*
	3SG.F	very	happy	SFP

'He is happy (hence no need to worry).'

Besides expressing types of speech acts, a less-studied function of SFPs is aspect marking, which is reportedly attested in some Sinitic varieties. For instance, in Wuhan (23) [86] (p. 57; since no transcription is provided in the source, we added one based on SMC pro-

nunciation), the first clause ends with the SFP 在 *zài* marking the progressive aspect, similarly to the Huoshan and Baokang examples seen above (21–22). Notably, besides marking progressive aspect, this Wuhan sentence-final particle clearly implies the speaker's discontent towards the addressee, indirectly expressing the wish that s/he could stop what s/he is currently doing.

(25)	我	在	听	老师	讲课	在,
	wǒ	*zài*	*tīng*	*lǎoshī*	*jiǎng-kè*	*zài*
	1SG	PROG	listen	teacher	teach-class	SFP.PROG

你	莫闹
nǐ	*mò-nào!*
2SG	NEG.IMP-make.noise

'I am listening to the teacher, don't make noise!'

The dual function of the sentence-final particle 在 *zài* 'SFP.PROG' as both an aspect marker and a sentence-final discourse marker arguably reflects a 'bridging context' between the aspectual function and illocutionary force. This aspect of the evolution of SFPs merits further study, concerning the interplay between tense, aspect, and mood.

5. Areal Typology

The internal classification of Sinitic languages has attracted lots of scholarly discussion, which revolves around two interconnected parameters—phylogenetic classification and areal typology. The traditional 'dialectal' classification of Chinese started with Li Fang-Kuei [97], when he categorized Chinese into eight 'dialect' groups, primarily based on phonological criteria, as pointed out in Section 1. His classification was later modified by Yuan et al. [98] to seven groups, paving the way for modern "dialectological" research, such as the first and second editions of the Language Atlas of Chinese Dialects [99,100], which acknowledges the ten major groups of Sinitic introduced in Section 1. Needless to say, such a traditional approach to Sinitic languages has its own merits, but, as pointed out earlier, phonological traits alone may not suffice to highlight distinctions among a language family with such a remarkable internal diversity, calling for an alternative perspective in accounting for the universality and diversity among Sinitic: namely, an areal-typological approach.

As mentioned in Section 1, the areal-typological approach to the analysis of Sinitic began with Hashimoto's [22,101] north–south division among Sinitic languages along the geographic Qinling–Huaihe Line. His 'Altaicization–Taicization' hypothesis proposed that Northern Sinitic languages converge more towards 'Altaic' typology (i.e., Tungusic, Mongolic, and Turkic), while Southern Sinitic languages affiliate with Mainland Southeast Asian languages to the south. The key parameters for this Northern–Southern distinction are presented in Table 3.

Table 3. Main differences between Northern and Southern Sinitic according to Hashimoto (adapted from [102] (p. 17)).

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

Table 3. *Cont.*

North	South
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'

Following Hashimoto's proposal, Norman ([1,103]) added a third zone to his north–south divide, namely "Central" Sinitic, which exhibits hybrid features of the northern and southern varieties. Norman [103] listed ten (mainly) phonological and lexical diagnostic traits, which he later expanded to 15 ([1]), to be employed for an 'intuitive' classification between Northern (here, essentially Mandarin), Central, and Southern Sinitic: languages with all or nearly all of the 15 traits belong to the Northern group; those which have none or nearly none of the traits belong to the Southern group; those which possess only a part of those 15 traits, and are thus 'hybrid' between the Northern and Southern group, represent the Central zone. In Table 4, we give the list of the features proposed by Norman for his model of areal classification.

Table 4. Norman's diagnostic features for Northern Sinitic ([1] pp. 73–76).

1	The third-person pronoun is *tā*, or cognate to it
2	The subordinative particle is *de*, or cognate to it
3	The copula is *shì*, or cognate to it
4	Velars palatalize before high front vowels
5	Words like *rǎn* 'dye' and *rè* 'hot' have a non-nasal initial
6	Words like *wěi* 'tail' and *wén* 'mosquito' have a non-nasal initial
7	The *qù* tone lacks a register distinction
8	The verb 'to wear (clothing)' is *chuān*, or cognate to it
9	The word for '(cooking) pot' is *guō*, or cognate to it
10	The word for 'house' is *fáng*(*zi*), or cognate to it
11	The word for 'son' is *ér*(*zi*), or cognate to it
12	The word for 'stand' is *zhàn*, or cognate to it
13	The verb in the expression 'to rain' is *xià*, or cognate to it
14	The verb for 'to walk' is *zǒu*, or a cognate of it
15	The gender marker for animals is prefixed

Leveraging on the feature-based methods of these two classic works, Chappell [102] identified three grammatical constructions, namely pretransitive differential object marking, passives, and comparatives of inequality, through which she categorizes Sinitic languages into four convergence zones: Northern, Central Transitional, Southeastern, Southwestern, and Far Southern areas. On the other hand, Iwata [104–106] adopted a different approach to the areal classification of Sinitic, investigating the isoglosses of 49 and 46 lexical items in his Interpretative Maps of Chinese Dialects (vol. 1 [105] in 2009, vol. 2 [106] in 2012). He proposes a 'Yangtze-type' cluster, a much neglected topic in the areal studies of Sinitic, according to which the Yangtze Plains represent a source of regional innovation, providing impetus for linguistic diffusion both to the north and the south.

In recent years, areal-typological studies of Sinitic have witnessed new developments, both in terms of methodological breakthrough and scope of study. Methodology-wise, scholars resort to quantitative methods in areal-typological studies of Sinitic, such as

the NeighborNet algorithm [107] built in the computational phylogenetic program SplitsTree4 [108]. For example, Szeto and Yurayong [50] identify four areal groups in Sinitic, namely Northern, Transitional, Central Southeastern, and Far Southern, based on a sample of 30 typological features, applied to a sample of more than 360 languages. Yang et al. [109] identified a north–south continuum of lexical differences, through phylogenetic analysis and admixture inference on 1018 lexical traits. Huang et al. [110] concluded with a six-cluster analysis, based on a large-scale quantitative analysis with a coverage of 930 data sites and 510 typological features extracted from the Linguistic Atlas of Chinese Dialects [111]. In addition to methodological innovation, linguistic areas shaped by prolonged areal convergence between Sinitic and non-Sinitic languages came under the spotlight too, such as the Gansu-Qinghai (or Amdo) Sprachbund ([112–114]) and the Western Lingnan Sprachbund ([115]).

To conclude, areal-typological studies of Sinitic languages (or, also, of languages of China in the broad sense) have begun to shed light on the synchronic distribution of linguistics features across Sinitic, as well as on their diachronic development and directions of areal diffusion, as a result of the complicated interplay between geoecological constraints, historical evolution of languages, and demic diffusion of population. However, more research is necessary to reconcile the existing classifications and analyses, which do not completely overlap, and to highlight further aspects of the history of Sinitic languages and of their speakers.

6. Conclusions and Prospects

This entry has tried to show that, far from having a 'universal Chinese grammar', 'Chinese', or, better, 'Sinitic', is a highly complex and diversified group of genetically related languages, which owe their current typological features both to genealogy and to areal diffusion and convergence. Particularly, we highlighted the strong commonalities, but also the many facets of diversity within the group, showing how they concern all the domains of language structure, and a huge variety of constructions.

Future challenges for the field of typological studies of Sinitic concern, first and foremost, the enterprise of firsthand data collection, which is becoming more and more urgent due to the dwindling numbers of speakers (and levels of proficiency) for many, if not most, Chinese 'dialects'. Only the availability of high-quality language data may serve as the basis for typological research, needless to say. Also, much more needs to be done in the field of areal typology, in order to bring to light the connections which exist between language change, general typological tendencies, and extralinguistic factors, such as migration patterns, the cultural history of Chinese-speaking communities, and environmental factors.

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References

1. Norman, J. The Chinese dialects: Phonology. In *The Sino-Tibetan Languages*; Thurgood, G., LaPolla, R.J., Eds.; Routledge: London, UK, 2003; pp. 72–83.
2. Eberhard, D.M.; Simons, G.F.; Fennig, C.D. *Ethnologue: Languages of the World*, 28th ed.; SIL International: Dallas, TX, USA, 2025.
3. De Sousa, H. Some observations on the Cantonese lexical suprafixes. *Languages* **2024**, *9*, 311. [CrossRef]
4. Kurpaska, M. *Chinese Language(s). A Look Through the Prism of The Great Dictionary of Modern Chinese Dialects*; Mouton de Gruyter: Berlin, Germany, 2010.
5. Chao, Y.R. *A Grammar of Spoken Chinese*; University of California Press: Berkeley, CA, USA, 1968.
6. Matthews, S.Y.R. Chao and universal Chinese grammar. In *History of Linguistics 1996*; Cram, D., Linn, A.R., Nowak, E., Eds.; John Benjamins: Amsterdam, The Netherlands, 1999; pp. 217–224.
7. Chappell, H. Introduction: Ways of tackling diversity in Sinitic languages. In *Diversity in Sinitic Languages*; Chappell, H., Ed.; Oxford University Press: Oxford, UK, 2015; pp. 3–12.
8. Ansaldo, U.; Szeto, P.Y. Typology of Chinese languages: An introduction to the special issue. *Languages* **2025**, *10*, 160. [CrossRef]
9. Matthews, S. Ditaxia and hybridization in Chinese dialect grammar. In *Pan-Asiatic Linguistics: Proceedings of the Fourth International Symposium on Language and Linguistics*; Premsrirat, S., Ed.; Mahidol University: Salaya, Thailand, 1996; pp. 1274–1283.
10. Li, R. The classification of Chinese dialects. *Fangyan* **1989**, *4*, 241–259.
11. Arcodia, G.F.; Basciano, B. *Chinese Linguistics: An Introduction*; Oxford University Press: Oxford, UK, 2021.
12. Chirkova, K. On principles and practices of language classification. In *Breaking Down the Barriers: Interdisciplinary Studies in Chinese Linguistics and Beyond*; Cao, G., Chappell, H., Djamouri, R., Wiebusch, T., Eds.; Academia Sinica: Taipei, Taiwan, 2013; pp. 715–734.
13. Norman, J.; Coblin, W.S. A new approach to Chinese historical linguistics. *J. Am. Orient. Soc.* **1995**, *115*, 576–584. [CrossRef]
14. Chappell, H. Language contact and areal diffusion in Sinitic languages. In *Areal Diffusion and Genetic Inheritance: Problems in Comparative Linguistics*; Aikhenvald, A.Y., Dixon, R.M.W., Eds.; Oxford University Press: Oxford, UK, 2001; pp. 328–357.
15. LaPolla, R.J. The role of migration and language contact in the development of the Sino-Tibetan family. In *Areal Diffusion and Genetic Inheritance*; Aikhenvald, A.Y., Dixon, R.M.W., Eds.; Oxford University Press: Oxford, UK, 2001; pp. 225–254.
16. Jacques, G. The genetic position of Chinese. In *Encyclopedia of Chinese Language and Linguistics*; Sybesma, R., Behr, W., Gu, Y., Handel, Z., Huang, C.-T.J., Myers, J., Eds.; Brill: Leiden, The Netherlands, 2017; Volume 2, pp. 297–306.
17. Arcodia, G.F.; Basciano, B. Morphology in Sino-Tibetan languages. In *The* Oxford Encyclopedia of Morphology; Lieber, R., Ed.; Oxford University Press: Oxford, UK, 2020.
18. Chappell, H. Synchrony and diachrony of Sinitic languages: A brief history of Chinese dialects. In *Chinese Grammar: Synchronic and Diachronic Perspectives*; Chappell, H., Ed.; Oxford University Press: Oxford, UK, 2004; pp. 3–28.
19. Enfield, N. Areal linguistics and Mainland Southeast Asia. *Annu. Rev. Anthropol.* **2005**, *34*, 181–206. [CrossRef]
20. Ansaldo, U. Surpass comparatives in Sinitic and beyond: Typology and grammaticalization. *Linguistics* **2010**, *48*, 919–950. [CrossRef]
21. Comrie, B. The areal typology of Chinese: Between North and Southeast Asia. In *Chinese Linguistics in Leipzig*; Djamouri, R., Meisterernst, B., Sybesma, R., Eds.; EHESS—CRLAO: Paris, France, 2008; pp. 1–21.
22. Hashimoto, M. The Altaicization of Northern Chinese. In *Contributions to Sino-Tibetan Studies*; McCoy, J., Light, T., Eds.; Brill: Leiden, The Netherlands, 1986; pp. 76–97.
23. Chappell, H.; Lü, S. A semantic typology of location, existence, possession and copular verbs: Areal patterns of polysemy in Mainland East and Southeast Asia. *Linguistics* **2022**, *60*, 1–82. [CrossRef]
24. Bisang, W. Problems with primary vs. secondary grammaticalization: The case of East and Mainland Southeast Asian languages. *Lang. Sci.* **2015**, *47*, 132–147. [CrossRef]
25. Matisoff, J.A. Genetic versus contact relationship: Prosodic diffusibility in South-East Asian languages. In *Areal Diffusion and Genetic Inheritance: Problems in Comparative Linguistics*; Aikhenvald, A.Y., Dixon, R.M.W., Eds.; Oxford University Press: Oxford, UK, 2001; pp. 291–326.
26. Goddard, C. *The Languages of East and Southeast Asia*; Oxford University Press: Oxford, UK, 2005.
27. Bisang, W. Grammaticalization without coevolution of form and meaning: The case of tense-aspect-modality in East and mainland Southeast Asia. In *What Makes Grammaticalization? A Look from its Fringes and its Components*; Bisang, W., Himmelmann, N.P., Wiemer, B., Eds.; Mouton de Gruyter: Berlin, Germany, 2004; pp. 109–138.
28. Ansaldo, U.; Lim, L. Phonetic absence as syntactic prominence: Grammaticalization in isolating tonal languages. In *Up and Down the Cline. The Nature of Grammaticalization*; Fischer, O., Norde, M., Perridon, H., Eds.; John Benjamins: Amsterdam, The Netherlands, 2004; pp. 345–361.
29. Arcodia, G.F. On a possible convergence area in Northern China. *Cah. Linguist. Asie Orient.* **2021**, *50*, 135–206. [CrossRef]
30. Sagart, L. Vestiges of Archaic Chinese derivational affixes in modern Chinese dialects. In *Chinese Grammar: Synchronic and Diachronic Perspectives*; Chappell, H., Ed.; Oxford University Press: Oxford, UK, 2004; pp. 123–142.

31. Packard, J. Chinese as an isolating language. In *Encyclopedia of Language and Linguistics*; Brown, K., Ed.; Elsevier: Oxford, UK, 2006; Volume 2, pp. 355–359.
32. Feng, S. *Prosodic Morphology in Mandarin Chinese*; Routledge: London, UK, 2018.
33. Pulleyblank, E.G. *Lexicon of Reconstructed Pronunciation in Early Middle Chinese, Late Middle Chinese, and Early Mandarin*; University of British Columbia Press: Vancouver, Canada, 1991.
34. Arcodia, G.F. Grammaticalisation with coevolution of form and meaning in East Asia? Evidence from Sinitic. *Lang. Sci.* **2013**, *40*, 148–167. [CrossRef]
35. Qian, C. *A Study of the Boshan Dialect*; Shehui Kexue Wenxian Chubanshe: Beijing, China, 1993.
36. Zhang, Z.; Li, R. The ultimate of grammaticalization: Fusion. *Ludong Daxue Xuebao* **2007**, *24*, 95–100.
37. Xin, Y. Rhyme change in the Xunxian dialect of Henan. *Zhongguo Yuwen* **2006**, *1*, 45–53.
38. Li, S.; Ai, H. Fusion and tone change in the Juxian dialect of Shandong. *Yuyan Kexue* **2008**, *35*, 394–397.
39. Zhang, L. A Survey of Sound Changes in the Nanhe Dialect of Hebei Province. M.A. Thesis, University of Hebei, Hebei, China, 2011.
40. Huang, B. *A Compendium of Chinese Dialect Grammar*; Qingdao Chubanshe: Qingdao, China, 1996.
41. Lamarre, C.; Ōta, I. Discussing the morphological typology of Chinese from the perspective of dialectal sound-change phenomena. *Zhongguo Fangyanxue Bao* **2017**, *7*, 27–48.
42. Chappell, H.; Li, L. Mandarin and other Sinitic languages. In *The Routledge Encyclopedia of the Chinese Language*; Chan, S.-W., Ed.; Routledge: Abingdon, UK, 2016; pp. 605–628.
43. Chappell, H. Tone morphemes in Sinitic: Where prosody meets morphology. *J. Chin. Linguist.* **2023**, *51*, 483–521. [CrossRef]
44. Kwok, B.-C. Tone change in Early Cantonese as revealed in Ch'an (1900). *Bull. Chin. Ling.* **2009**, *3*, 169–184. [CrossRef]
45. Yu, A.J.-L. Understanding near mergers: The case of morphological tone in Cantonese. *Phonology* **2007**, *24*, 187–214. [CrossRef]
46. Yuán, H. Preface. In *Dictionary of Modern Chinese Acronyms*; Yuán, H., Ruǎn, X., Eds.; Yǔwén Chubanshe: Beijing, China, 2002; pp. 1–13.
47. Li, D.C.S.; Wong, C.S.P.; Leung, W.M.; Wong, S.T.S. Facilitation of transference: The case of monosyllabic salience in Hong Kong Cantonese. *Linguistics* **2016**, *54*, 1–58. [CrossRef]
48. Xu, H.L. *Aspects of Chaozhou Grammar: A Synchronic Description of the Jieyang Variety*; Project on Linguistic Analysis: Berkeley, CA, USA, 2007.
49. Lu, W. Aspects of the Grammar of Tunxi Hui: A Transitional Sinitic Language. Ph.D. Thesis, The University of Hong Kong, Hong Kong, China, 2018.
50. Szeto, P.Y.; Yurayong, C. Sinitic as a typological sandwich: Revisiting the notions of Altaicization and Taicization. *Linguist. Typol.* **2021**, *25*, 551–599. [CrossRef]
51. Chen, N. The -r suffix rhyme change and related issues in the Boshan dialect of Shandong. *Fangyan* **2006**, *4*, 316–322.
52. Arcodia, G.F. *Lexical Derivation in Mandarin Chinese*; Crane: Taipei, Taiwan, 2012.
53. Basciano, B.; Bareato, S. Chinese affixes in the internet era: A corpus-based study of X-族 *zú*, X-党 *dǎng* and X-客 *kè* neologisms. In *Corpus-Based Research on Chinese Language and Linguistics*; Basciano, B., Gatti, F., Morbiato, A., Eds.; Edizioni Ca' Foscari: Venezia, Italy, 2020; pp. 237–279.
54. Chierchia, G. Mass nouns, vagueness and semantic variation. *Synthese* **2010**, *174*, 99–149. [CrossRef]
55. Her, O.-S.; Hammarström, H.; Allassonnière-Tang, M. Defining numeral classifiers and identifying classifier languages of the world. *Linguist. Vanguard* **2022**, *8*, 151–164. [CrossRef]
56. Gil, D. Numeral classifiers. In *The World Atlas of Language Structures Online*; Dryer, M.S., Haspelmath, M., Eds.; Max Planck Institute for Evolutionary Anthropology: Leipzig, Germany, 2013.
57. Bisang, W. Classifiers in East and Southeast Asian languages: Counting and beyond. In *Numeral Types and Changes Worldwide*; Gvozdanovic, J., Ed.; Mouton de Gruyter: Berlin, Germany, 1999; pp. 113–185.
58. Yue, A.O.-K. Chinese dialects: Grammar. In *The Sino-Tibetan Languages*; Thurgood, G., LaPolla, R.J., Eds.; Routledge: London, UK, 2003; pp. 84–125.
59. Wang, J. Bare classifier phrases in Sinitic languages: A typological perspective. In *Diversity in Sinitic Languages*; Chappell, H., Ed.; Oxford University Press: Oxford, UK, 2015; pp. 110–133.
60. Li, C.N.; Thompson, S.A. *Mandarin Chinese: A Functional Reference Grammar*; University of California Press: Berkeley, CA, USA, 1981.
61. Dryer, M.S. Relationship between the order of object and verb and the order of relative clause and noun. In *The World Atlas of Language Structures Online*; Dryer, M.S., Haspelmath, M., Eds.; Max Planck Institute for Evolutionary Anthropology: Leipzig, Germany, 2013; Chapter 96.
62. Matthews, S.; Yip, V. *Cantonese: A Comprehensive Grammar*, 2nd ed.; Routledge: London, UK, 2011.
63. Ngai, S.S. *A Grammar of Shaowu: A Sinitic Language of Northwestern Fujian*; De Gruyter Mouton: Berlin, Germany, 2021.

64. Dryer, M.S. Word order in Sino-Tibetan languages from a typological and geographical perspective. In *The Sino-Tibetan Languages*; Thurgood, G., LaPolla, R.J., Eds.; Routledge: London, UK, 2003; pp. 43–55.
65. LaPolla, R.J. Chinese as a topic-comment (not topic-prominent and not SVO) language. In *Studies of Chinese Linguistics: Functional Approaches*; Xing, J.Z., Ed.; Hong Kong University Press: Hong Kong, China, 2009; pp. 9–22.
66. Chafe, W. Givenness, contrastiveness, definiteness, subjects and topics. In *Subject and Topic*; Li, C.N., Ed.; Academic Press: New York, NY, USA, 1976; pp. 25–55.
67. Morbiato, A. Word Order and Sentence Structure in Mandarin Chinese: New Perspectives. Ph.D. Dissertation, Ca' Foscari University of Venice and The University of Sydney, Venice, Italy, 2018.
68. Smith, C.; Erbaugh, M. Temporal interpretation in Mandarin Chinese. *Linguistics* **2005**, *43*, 713–756. [CrossRef]
69. Lin, J.-W. Tenselessness. In *The Oxford Handbook of Tense and Aspect*; Binnick, R.I., Ed.; Oxford University Press: Oxford, UK, 2012; pp. 669–695.
70. Sandman, E. A Grammar of Wutun. Ph.D. Dissertation, University of Helsinki, Helsinki, Finland, 2016.
71. Li, C. The function of tense and aspect of modal particles in the Yangquan dialect. *Shanxi Daxue Xuebao (Zhexue Shehui Kexue)* **2001**, *24*, 65–68.
72. Xing, X. A study on the modal function of Jin dialects' tense markers: The study of tense category of Jin dialects III. *Anhui Daxue Xuebao (Zhexue Shehui Kexue Ban)* **2015**, *4*, 92–102.
73. Xing, X. Differences and similarities between the past tense marker "lai" and the experiential aspect marker "guo" in Jin dialects: The study of tense category of Jin group II. *Yuwen Yanjiu* **2017**, *3*, 44–50.
74. Xing, X. The functions and characteristics of the tense markers in Jin group: The study of tense category of Jin group III. *Fangyan* **2020**, *1*, 5–19.
75. Zhang, C. Modal particles conveying tense in the Shangzhou dialect. *Shangluo Shizhuan Xuebao (Zhexue Shehui Kexue)* **1997**, *11*, 77–80.
76. Zhao, L. Tripartite tense/aspect system of Gangou Chinese dialect in Minhe Hui and Tu Autonomous County in Qinghai Province. *Fangyan* **2021**, *4*, 413–426.
77. Arcodia, G.F. Tense as a grammatical category in Sinitic: A critical overview. *Languages* **2023**, *8*, 142. [CrossRef]
78. Arcodia, G.F. Tense as an 'Altaic' feature in Northern Sinitic? In *Chinese Language Contact and Typology*; Xu, D., Wang, C., Eds.; The Chinese University of Hong Kong Press: Hong Kong, China, 2024; pp. 1–27.
79. Peyraube, A. New perspectives on tense and aspect in Chinese. In *Chinese Language Contact and Typology*; Xu, D., Wang, C., Eds.; The Chinese University of Hong Kong Press: Hong Kong, China, 2024; pp. 28–66.
80. Comrie, B. *Aspect*; Cambridge University Press: Cambridge, UK, 1976.
81. Liu, M. Tense and aspect in Mandarin Chinese. In *The Oxford Handbook of Chinese Linguistics*; Wang, W.S.-Y., Sun, C., Eds.; Oxford University Press: Oxford, UK, 2015; pp. 247–289.
82. Zeng, Y. The inchoative, durative, experiential and perfect aspects in Shicheng (Longgang) dialect. *Yuwen Yanjiu* **1998**, *3*, 53–58.
83. Xu, Y. Aspects in the Nanchang dialect. *J. Nanchang Univ. (Humanit. Soc. Sci.)* **1999**, *3*, 93–96.
84. Wu, W.; Li, L. On the progressive and durative aspects on Lianyuan Liumutang dialect—Grammaticalization of "hai-enli" and "dao-enli" from locative markers to aspect marker. *Stud. Lang. Linguist.* **2009**, *29*, 90–94.
85. Su, J. The origin of the aspectual marker zai in Danjiang dialect. *Jianghan Acad.* **2010**, *29*, 91–95.
86. Chen, S. A typological investigation of the auxiliary word "*zai* (在)" at the end of the sentence in Chinese dialects and the study on its origins. *J. Huizhou Univ. (Soc. Sci. Ed.)* **2006**, *1*, 55–60.
87. Shi, Y. A typological investigation on the mood and aspect of accomplishment in Chinese dialects. *Stud. Lang. Linguist.* **2005**, *3*, 91–103.
88. Rao, H. The distribution and features of the three verbal aspects in Chinese dialects. *Stud. Lang. Linguist.* **2011**, *31*, 108–112.
89. Ding, C.; Rong, J. A cross-linguistic comparison and typology of progressive aspect markers in Sinitic. *Zhongguo Fangyan Xuebao* **2022**, *9*, 223–239.
90. Zhu, X. A Study on the Continuum Marking "Zai, Zaidi" in Huoshan Dialect. Master's Thesis, Central China Normal University, Wuhan, China, 2022.
91. Hopper, P.J.; Traugott, E.C. *Grammaticalization*, 2nd ed.; Cambridge University Press: Cambridge, UK, 2003.
92. Wang, L. *Draft history of Chinese*; Kexue Chubanshe: Beijing, China, 1957.
93. Yue, A.O. The Sinitic languages: Grammar. In *The Sino-Tibetan Languages*, 2nd ed.; Thurgood, G., LaPolla, R.J., Eds.; Routledge: London, UK, 2017; pp. 114–163.
94. Cheung, S.H.-N. *A Grammar of Cantonese as Spoken in Hong Kong*, revised ed.; Chinese University of Hong Kong: Hong Kong, China, 2007.
95. Panov, V. Final particles in Asia: Establishing an areal feature. *Linguist. Typol.* **2020**, *24*, 13–70. [CrossRef]
96. Hancil, S.; Haselow, A.; Post, M. (Eds.) *Final Particles*; Mouton de Gruyter: Berlin, Germany, 2015.
97. Li, F.-K. Languages and dialects of China. *J. Chinese Linguist.* **1973**, *1*, 1–13.

98. Yuan, J. *Outline of Chinese Dialects*, 2nd ed.; Yuwen Chubanshe: Beijing, China, 2001.
99. Wurm, S.A.; Li, R.; Baumann, T.; Lee, M.W. (Eds.) *Language Atlas of China*; Longman: Hong Kong, China, 1987.
100. Institute of Linguistics; CASS (Eds.) *Language Atlas of China*, 2nd ed.; Chinese Dialects; The Commercial Press: Beijing, China, 2012; pp. 152–159.
101. Hashimoto, M. Language diffusion on the Asian continent: Problems of typological diversity in Sino-Tibetan. *Comput. Anal. Asian Afr. Lang.* **1976**, *3*, 49–65.
102. Chappell, H. Linguistic areas in China for differential object marking, passive, and comparative constructions. In *Diversity in Sinitic Languages*; Chappell, H., Ed.; Oxford University Press: Oxford, UK, 2015; pp. 13–52.
103. Norman, J. *Chinese*; Cambridge University Press: Cambridge, UK, 1988.
104. Iwata, R. Linguistic geography of Chinese dialects–Project on Han dialects (PHD). *Cah. Linguist. Asie Orient.* **1995**, *24*, 195–196. [CrossRef]
105. Iwata, R. (Ed.) *The Interpretative Maps of Chinese Dialects*; Kohbun Shuppan: Tokyo, Japan, 2009; Volume 1. [CrossRef]
106. Iwata, R. (Ed.) *The Interpretative Maps of Chinese Dialects*; Kohbun Shuppan: Tokyo, Japan, 2012; Volume 2. [CrossRef]
107. Bryant, D.; Moulton, V. Neighbor-Net: An agglomerative method for the construction of phylogenetic networks. *Mol. Biol. Evol.* **2004**, *21*, 255–265. [CrossRef]
108. Huson, D.H.; Bryant, D. Application of phylogenetic networks in evolutionary studies. *Mol. Biol. Evol.* **2006**, *23*, 254–267. [CrossRef]
109. Yang, C.; Zhang, X.; Yan, S.; Yang, S.; Wu, B.; You, F.; Cui, Y.; Xie, N.; Wang, Z.; Jin, L.; et al. Large–scale lexical and genetic alignment supports a hybrid model of Han Chinese demic and cultural diffusions. *Nat. Hum. Behav.* **2024**, *8*, 1163–1176. [CrossRef]
110. Huang, H.; Grieve, J.; Jiao, L.; Cai, Z. Geographic structure of Chinese dialects: A computational dialectometric approach. *Linguistics* **2024**, *62*, 937–976. [CrossRef]
111. Cao, Z. *Linguistic Atlas of Chinese Dialects. (Volume 2: Lexicon)*; The Commercial Press: Beijing, China, 2008.
112. Slater, K.W. *A Grammar of Mangghuer*; Routledge: London, UK, 2003.
113. Janhunen, J. Typological interaction in the Qinghai linguistic complex. *Stud. Orient.* **2007**, *101*, 85–102.
114. Sandman, E.; Simon, C. Tibetan as a "model language" in the Amdo Sprachbund: Evidence from Salar and Wutun. *J. South Asian Lang. Linguist.* **2016**, *3*, 85–122. [CrossRef]
115. Szeto, P.Y.; Yurayong, C. Establishing a Sprachbund in the Western Lingnan region: Conceptual and methodological issues. *Folia Linguist.* **2022**, *56*, 25–55. [CrossRef]