On Structural Particles in Sinitic Languages: Typology and Diachrony

Giorgio Francesco Arcodia
Università Ca' Foscari Venezia, Italia

Abstract   In the Chinese linguistic tradition, the term 'structural particle(s)' (*jiégòu zhùcí* 结构助词) is used to refer to functional elements that mainly act as markers of adnominal modification, nominalisation, adverbial modification and in the so-called verb complement constructions. In Standard Mandarin, the three commonly used structural particles are all realised as /tə/, but they are written with different characters (的, 地 and 得), which somehow reflect their distinct origins. However, the same functions are mapped onto different markers in other Sinitic languages, and each of the functions listed above may be associated to more than one construction. In this paper, we provide an overview of the range of variation in the domain of structural particles in Sinitic, based on the analysis of a convenience sample of 77 Chinese dialects. We highlight some areal and genealogical trends in the distribution of these forms, and we discuss some hypotheses on their origins and on their evolution: specifically, we focus on the markers of adnominal and adverbial modification. We argue that markers of adnominal and adverbial modification may sometimes arise from different sources and undergo formal merger, due to structural analogy and/or to phonetic similarity.

Keywords   Structural particles. Adnominal modification. Adverbial modification. Sinitic. Chinese.

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1 Introduction

The aim of this paper is to investigate the so-called 'structural particles' in Sinitic languages,[1] both in a typological and in a diachronic perspective. Structural particles, the translation of the Chinese term *jiégòu zhùcí* 结构助词, are functional items which are mostly used to connect a head and a modifier or a complement: for instance, Standard Mandarin Chinese (henceforth: SMC) *de* 的 in *wǒ de shū* 我的书 '1SG GEN book = my book'.

Structural particles are ubiquitous in Sinitic languages. In the better described variety, namely SMC, the three main (macro-)functions of structural particles are performed by three markers which are distinguished only in writing, but are perfectly homophonous (they are all /tə/ in the spoken language). However, this is not the case in many other Sinitic languages, as we shall see below: those very same functions may be mapped onto different markers, with all types of connections between form and function, also with additional distinctions which do not trigger different marking patterns in SMC. Moreover, despite being homophonous in the present historical stage of the standard language, these particles most likely have a different origin, somehow reflected in the characters used to write them.

Perhaps also due to the situation in SMC, which is often used as a 'blueprint' for the analysis of other Sinitic languages (see Chappell 2006), typological studies on structural particles appear to be rare (the most notable exceptions being Yue-Hashimoto 1993 and Huang 1996). In this paper, we propose a survey of the range of variation in the domain of structural particles in Sinitic, based on the analysis of a convenience sample of 77 Chinese dialects, as well as on the few previous studies on the topic. Specifically, we focus on markers of

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Simplified Chinese characters have been used as a default throughout the article. However, traditional characters are also used when needed for consistency with the source. For Standard Mandarin Chinese we use the *pinyin* romanisation system; for Cantonese we use the *Yale* romanisation; for the transcription of Shanghainese, we follow the orthography in Zhu 2006. For all other varieties, we use the transcriptions provided by the sources; when no transcription is available, we add toneless smallcaps *pinyin* following the Standard Mandarin Chinese reading of the characters. The glosses follow the general guidelines of the Leipzig Glossing Rules. Additional glosses include: ASSOC 'associative'; CMP 'complement'; MOD 'adjectival modifier'; PTC 'particle'; RES 'resultative complement'; SFP 'sentence-final particle'; SUF 'adjectival suffix'.

[1] Sinitic languages other than Standard Mandarin Chinese are often referred to as 'Chinese dialects' in the literature: indeed, this is virtually the only term used in Chinese to refer to them (*Hànyǔ fāngyán* 汉语方言). This distinction is mostly based on their sociolinguistic status as non-standardised, non-official varieties as opposed to Standard Mandarin Chinese. However, it has long been recognised that, from the linguistic point of view, each Sinitic language/Chinese dialect may be seen as a distinct object for the purposes of comparison (see e.g. Norman 2003). In this paper, we use 'Sinitic language(s)' and 'Chinese dialect(s)' interchangeably, as synonyms.

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adnominal modification and of adverbial modification. Also, we will discuss different hypotheses on the origin of these markers, showing their possible pathways of grammaticalisation.

This paper is organised as follows. In § 2 we provide the background of this study, with an overview on structural particles and on the different constructions included in our survey, and a brief presentation of our sample of Sinitic languages and of the research methodology. In § 3, we present the results of our survey: in § 3.1 we discuss markers of adnominal modification, and in § 3.2 we discuss markers of adverbial modification. § 4 is devoted to the diachronic side of our research, with a discussion of the possible sources and pathways of evolution for markers of adnominal and adverbial modification. Lastly, in § 5 we provide a summary of our findings, as well as some hints for further research.

2 Theoretical and Methodological Background

2.1 Structural Particles in Sinitic. An Overview

As mentioned in the introduction, structural particles are functional items whose main functions are to connect a modifier or a complement to a head. A first distinction can be made between modifiers and complements: in Sinitic modifiers generally appear before the head (with some exceptions, mostly in Southern Sinitic), while complements are placed after the head. Compare the two following SMC sentences:

(1) 张三愉快地回了家

Zhāngsān	*yúkuài*	*de*	*huí-le*	*jiā*
Zhangsan	happy	ADV	return-PFV	home

‘Zhangsan went back home happily’

(2) 张三跑得很快

Zhāngsān	*pǎo*	*de*	*hěn*	*kuài*
Zhangsan	run	CMP	very	fast

‘Zhangsan runs very fast’

In (1), *yúkuài* 愉快 ‘happy’ modifies the verb *huí* 回 ‘return’, and the particle *de* 地 is added to connect the modifier and the head (of the VP). While (2) may appear similar to (1) from the semantic point of view, the order of the constituents is actually the opposite: the complement *hěn kuài* 很快 ‘very fast’ is located after the verb *pǎo* 跑, and the particle *de* 得 is used to connect the two.

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Further subdivisions exist within these two types of constructions. As for modification, we may distinguish between adnominal modification and adverbial modification. (1) is an instance of adverbial modification, while (3) below is an example of adnominal modification:

(3) 张三的词典

Zhāngsān	*de*	*cídiǎn*
Zhangsan	GEN	dictionary

‘Zhangsan’s dictionary’

In SMC, adnominal modifiers (known as *dìngyǔ* 定语 in Chinese) make use of the above-mentioned (§ 1) structural particle *de* 的, while adverbial modifiers (*zhuàngyǔ* 状语) are connected to the verb by means of the particle *de* 地, as said above. Note that both *de* 的 and *de* 地 are not always required in modification: there are indeed cases in which their presence is optional. For instance, *de* 的 may sometimes be omitted with a possessive modifier, as in *wǒ jiějie* 我姐姐 ‘1SG older.sister, my older sister’.[2] As for adverbial modification, there are also cases in which *de* 地 is omitted or optional: for instance, when the modifier is a monosyllabic adjective, as in (4) below.

(4) 明天要早起

míngtiān	*yào*	*zǎo*	*qǐ*
tomorrow	have.to	early	rise

‘Tomorrow (I, you, etc.) have to get up early’

Also, adnominal modification is not limited to possessive relations: all modifiers of the NP, including possessors, ‘associative’[3] modifiers (5), adjectives (6) and relative clauses (7) may be introduced by *de* 的 in SMC:

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[2] It is often suggested that *de* 的 can be omitted when the relation is one of inalienable possession. However, Chappell (1996) convincingly argues that this is an oversimplification, and that the omission of the structural particle depends on several factors (see the source for a detailed discussion).

[3] The term ‘associative’ is used in Yap, Matthews 2008 and in Xu, Matthews 2011 to label a subtype of adnominal relation, but its meaning is never made explicit. In Li, Thompson 1981 “associative phrases” are defined as “a type of modification where two noun phrases […] are linked by the particle *-de*” (113); they also add that “the precise meaning of the association or connection is determined entirely by the meanings of the two noun phrases involved”, hence giving a very broad definition of ‘associative’. Li and Thompson (1981) also include possession among the associative relations, while we treat it as a separate subtype, mostly because it behaves differently e.g. in terms of omission of the structural particle (as mentioned earlier). Also, as we shall see below, some dialects make use of specific markers for possessive modification.

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(5) 法国的作家

Făguó	*de*	*zuòjiā*
France	ASSOC	writer

'French writer(s)'

(6) 聪明的朋友

cōngming	*de*	*péngyou*
clever	MOD	friend

'clever friend(s)'

(7) 说日语的老师

shuō	*Rìyǔ*	*de*	*lǎoshī*
speak	Japanese	REL	teacher

'the teacher(s) who speaks Japanese'

Moreover, *de* 的 is used also as a nominaliser:

(8) 说日语的

shuō	*Rìyǔ*	*de*
speak	Japanese	NMLZ

'the one who speaks Japanese / those who speak Japanese'

Verb complement constructions marked by *de* 得 may also be divided into several subtypes. The sentence in (2) exemplifies the so-called 'manner complement' (usually *zhuàngtài bǔyǔ* 状态补语 or *qíngtài bǔyǔ* 情态补语 in Chinese), expressing the manner of an action. Other verb complement constructions marked by 得 *de* in SMC include the extent complement (9), expressing "the extent reached by an action (or state)" (Lamarre 2004, 85),[4] and the potential complement (*kěnéng bǔyǔ* 可能补语), expressing the possibility (or impossibility) of reaching the result predicated by the complement (10; ex. from Lamarre 2004, 85-6; glosses adapted):

(9) 吵得人家睡不着

chǎo	*de*	*rénjia*	*shùi-bu-zháo*
make.noise	CMP	others	sleep-NEG-RES

'make so much noise that others cannot sleep'

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4 These are often seen as part of the same class as manner complements (see e.g. Liu, Pan, Gu 2004); here we follow Yue-Hashimoto (1993) and Lamarre (2004) in treating them as a separate subtype. Indeed, as we shall see below, they correspond to a different marking pattern from manner complements in some dialects.

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(10) 看得完

kàn	*de*	*wán*
read	CMP	finish

'can finish reading'

Thus, as pointed out also in § 1, all of the above-mentioned constructions make use of a marker realised as *de* (/tə/) in SMC, which however corresponds to three distinct characters in the current written standard. From the point of view of SMC, the difference between these particles has sometimes been seen as a mere graphic distinction: indeed, the character 的 could be used for all these functions in the past (Wiedenhof 2017). However, through the analysis of the diachronic evolution of these items it has been shown that they have different origins (Ōta [1958] 1987; Sun 1996), which are somehow reflected in the characters used to write them. Indeed, both 地 and 得 are the earliest written forms for the markers of adverbial modification and of verb complement constructions: the use of the character 的 to write both particles emerged only after the thirteenth century, and the character *dǐ* 底 was originally used for the marker of adnominal modification (Ōta [1958] 1987; Sun 1996; we will get back to this in § 4).

From our perspective, what matters most is that the identity of the three main structural particles is not universal in Sinitic. For instance, in Cantonese the marker of adnominal modification (11), the two markers of adverbial modification (used in two distinct constructions, 12 and 13), the marker of the manner and potential complement (14) and the marker of the extent complement (15) are all different (ex. from Matthews, Yip 2011, 127, 175, 204-5, 208):

(11) 學生嘅家長

hohksāng	*ge*	*gājéung*
student	GEN	parents

'the student's parents'

(12) 我唔係認真咁學

ngóh	*mhaih*	*yìhngjān*	*gám*	*hohk*
1SG	NEG.COP	serious	ADV	study

'I'm not studying (it) seriously'

(13) 你偷偷哋整嘢食呀?

léih	*tāu~tāu-déi*	*jíng*	*yéh*	*sihk*	*àh*
2SG	steal~steal-SUF?	make	thing	eat	Q

'You've been secretly preparing food, have you?'

(14) 佢學得好快

kéuih	*hohk*	*dāk*	*hóu*	*faai*
3SG	learn	CMP	very	fast

'S/He learns fast'

(15) 我哋飲嘢飲到飽晒

ngóh-deih	*yám-yéh*	*yám-dou*	*báau*	*saai*
1-PL	drink-thing	drink-CMP	full	SFP

'We drank ourselves full'

If we look at the examples above, we see that many Cantonese structural particles do not appear to be related to the corresponding SMC items. Also, Cantonese clearly distinguishes more constructions, as shown by the two distinct constructions of adverbial modification (12-13) and the two verb complement constructions (14-15). In other Sinitic languages, differences may be found even within the domain of adnominal modification: for instance, in the Shexian dialect (Anhui, Hui group), the particle [ka³⁵] 家 is used only for possessive modifiers, and there are also restrictions on the type of head NPs allowed (Huang 1996, 546; see the source for the details). In some dialects, the nominaliser is clearly related to the marker of adnominal modification, but it is not homophonous to it: in Tiantai (Zhejiang, Wu group) we see that the relativiser *koʔ* 格 is not homophonous with the nominaliser *kaʔ* 格, although the relationship between the two seems rather obvious. Moreover, if the relationship is one of possession, the marker is *koʔ* 个, homophonous but written with a different character (in Dai 2006), but the nominalised version would be *kou⁵⁵* 个, rather than *kaʔ*. According to Dai's (2006, 100) analysis, *koʔ* is the weakened form of what were possibly different markers, with possessive *kou⁵⁵* 个 arguably deriving from the classifier *kou⁽⁵⁵⁾* 个, whereas *kaʔ* 格 might have a different origin. There are also cases in which there is no evident formal connection between the marker of adnominal modification and the nominaliser, as e.g. Haikang (Guangdong, Min Group; Cai 1993; Huang 1996) [a³³] 啊 vs [kai¹¹] 个.

There are all sorts of form-function mappings in the domain of particles of modification, as well as in those used in verb complement constructions. Particles of adnominal modification are often used also for adverbial modification, but this is not necessarily the case (as shown above for Cantonese; see ex. 11-13). In some dialects, there may be one and the same particle used in one, some or all types of adnominal and adverbial modifiers, but also other particles used for other types, with a more complex relation between form and function than in SMC. For instance, in Fuzhou (Fujian, Min group), *i* 其 is a general marker of adnominal and adverbial modification; [tuoʔ] / [luɔʔ] 着 is also used both for adnominal and for adverbial modifi-

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cation, but only with a specific subclass of adjectives (the so-called 'state adjectives');[5] also, another marker, lɛ³³ 礼, is used for adverbial modification, and other markers are used specifically in adverbial (but not adnominal) modification with state adjectives (see Huang 1996 and Chen 1998 for the details).

Lastly, note that markers of adverbial modification partly overlap with markers of predicative adjectivals (Yue-Hashimoto 1993), a related category. When (most) state adjectives are used as predicates, they generally require a structural particle after them. In many dialects, the particle used for adverbial modification and for predicative adjectivals is the same: for instance, in the Pucheng Nanpu dialect (Fujian, Wu group; Yue-Hashimoto 1993) the particle [li] (no character in the source) is used in both constructions. However, the two may also be different in some dialects: for instance, in Liancheng (Fujian, Hakka group; Yue-Hashimoto 1993) adverbial modification is unmarked, but there are as many as four distinct particles used to mark predicative adjectivals. In this paper, we are concerned with adverbial modification, rather with predicative adjectivals; however, given the identity between the two types of markers in many varieties, and considering the fact that they can sometimes appear in related constructions (as we shall see below, § 3.2), we will also discuss structural particles used with predicative adjectivals when needed.

Thus, to sum up, in Sinitic languages we may see different associations between form(s) and function(s) in the domain of structural particles, with distinctions between (sub-)types of constructions not seen in SMC; also, even in the standard language, structural particles are likely to originate from different sources, despite their homophony.

As mentioned in the Introduction (§ 1), in our survey we focus on markers of adnominal and adverbial modification only. This is motivated by two reasons. Firstly, from the syntactic and semantic point of view, the verb complement construction is quite distinct from the two constructions of modification, and the former grammaticalised

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5 'State adjectives' here translates the Chinese grammatical term *zhuàngtài xíngróngcí* 状态形容词. At least since Zhu 1982, very often a distinction between 'quality adjectives' (*xìngzhì xíngróngcí* 性质形容词) and 'state adjectives' is made: the former are simple, unmodified adjectives as *dà* 大 'big' or *gānjìng* 干净 'clean', whereas the latter include reduplicated adjectives (intensifying reduplication), non-gradable adjectives as *tōnghóng* 通红 'red through and through', and adjectives preceded by a degree adverb and followed by a structural particle, as e.g. *hěn xiǎo de* 很小的 '(very) small'. What seems to tie together state adjectives is that they cannot be further modified by degree adverbs, as they already include some expression of degree (e.g. reduplication). Note, also, that state adjectives may be freely used as predicates, while quality adjectives, if used as bare predicates (i.e. with no degree adverb) tend to have a comparative reading (e.g. *bigger* rather than *big*; see Zhu 1982).

in a different syntactic environment, if compared to the latter.[6] Secondly, the range of variation in the domain of verb complement constructions in Sinitic has already been investigated before (in Lamarre 2004), while, to the best of our knowledge, no systematic studies based on a large sample of Sinitic languages have been carried out for the markers of adnominal and adverbial modification. Indeed, the above-mentioned surveys by Yue-Hashimoto (1993) and Huang (1996) are part of broader studies on the grammatical typology of Chinese dialects: while they are very valuable as a starting point since they provide an overview of the range of variation, they are not focused on these two specific constructions, and they do not offer any insights on the diachronic evolution of these markers.

2.2 Sample and Methodology

Typological and historical research on Sinitic languages presents several challenges, mainly related to data collection. As for synchronic data, the number of comprehensive grammars of Chinese dialects is indeed quite limited: while there is no shortage of descriptions written in Chinese, many of them focus mainly on phonology and the lexicon, and often do not provide enough analyses and raw data to enable researchers to understand specific grammatical topics. Also, as hinted at earlier (§ 1), many (if not most) dialect grammars are deeply influenced by what Chappell (2006) terms 'Sinocentrism', i.e. the tendency to use SMC as the framework for the analysis of all Sinitic languages: this sometimes leads to overlooking features which are not found in the standard language. The use of the SMC framework in dialect description is problematic also because, very often, rather than illustrating the use of particles in their own terms, grammars and other publications tend to offer only the 'corresponding' SMC particle to gloss the meaning of a dialectal item: however, the overlap between them may be only partial, and thus the comparison can be misleading. Lastly, it is often the case that only Chinese characters are provided as dialect data, with no transcription of their actual phonetic shape: sometimes the choice of character may obscure the actual nature of a morpheme/word, as e.g. when the character *de* 的 is used for a structural particle with a completely different form (e.g. Huojia *liʔ* 的; He 1989). If no transcription is offered, these cases are easily overlooked or misinterpreted. Also, the choice of a certain character in dialect description is no guarantee that the mor-

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6 Indeed, while in Modern Chinese grammars it is customary to refer to SMC *de* 的, *de* 地, and *de* 得 as structural particles, Ōta ([1958] 1987, 320) suggests that *de* 得 should be analysed as an auxiliary verb, rather than as a structural particle.

pheme/word at issue has the same etymon as the morpheme/word written with that character in Standard Chinese: while in most cases this is true, it is not necessarily always so (see Li, Chappell 2013). Indeed, in the transcription of dialect data the use of characters just for their sound value, and not for their meaning, is far from rare: for instance, *xiǔ* 朽 'decayed' is used to write the unrelated Changsha (Hunan, Xiang group) word [ɕiəu⁴¹] 'arrogant' (Wu 2005, 58). However, when working with a large sample, it is simply unpractical (and often impossible) to find out the correct etymon for each morpheme/word in each dialect.

As for diachronic data, the main issue when working with Sinitic languages is that the overwhelming majority of dialects have little or no written tradition: thus, more often than not, there is not enough historical data to use as an empirical basis to reconstruct the pathway(s) of grammaticalisation of an item. On the other hand, Chinese has one of the world's longest uninterrupted written traditions, and data from 'mainstream' historical written varieties, which sometimes even show some dialectal influence, is extremely valuable in the process of diachronic analysis.

For the purposes of the present research, we built a convenience sample of 77 Sinitic languages, as mentioned in § 1. This is not a balanced sample, as not all groups and areas are equally represented: the primary criterion in the choice of the dialects to include was the availability of descriptions which included specific data on the constructions at issue here. However, we made sure to include at least three representatives for each major dialect group(/area), and hence we believe that the sample is varied enough to enable us to make some tentative generalisations. The synchronic data we gathered mainly comes from four sets of sources:

a.   previous typological surveys;
b.   (complete/partial) grammatical descriptions;
c.   articles on structural particles in individual dialects;
d.   dialect dictionaries.

Needless to say, the quality and quantity of data varies considerably, depending on the sources we had for each language. Some dialects are much better described than others, and there are even text corpora available for them (as e.g. Cantonese and Shanghainese); for some dialects we had very detailed comprehensive descriptive grammars (e.g. Taiwanese; Lin 2015), and some descriptions include sample sentences and texts. Also, while for some varieties we had (more or less) detailed studies of modification constructions, for many others we had only (brief) mentions in grammars and/or other publications, or even just unanalysed examples. In Table 1, we provide a list of the varieties in our sample, with the indication of the province where they are (mainly) spoken and of their affiliation.

Table 1   Our sample

Language	Province/region	Affiliation	Language	Province/region	Affiliation
Anyang	Henan	Jin	Shaowu	Fujian	Min
Cantonese (HK)	Hong Kong SAR	Yue	Shexian	Anhui	Hui
Changli	Hebei	Mandarin	Shuangfeng	Hunan	Xiang
Changsha	Hunan	Xiang	Shuochengqu	Shanxi	Jin
Changshan	Shandong	Mandarin	Siyen Hakka	Taiwan	Hakka
Chaoshan (Jieyang)	Guangdong	Min	Suqian	Jiangsu	Mandarin
Daozhou	Hunan	Mandarin	Susong	Anhui	Gan
Datong	Shanxi	Jin	Suzhou	Jiangsu	Wu
Daye Jinhu	Hubei	Gan	Taiwanese (Southern Min)	Taiwan	Min
Dongming	Shandong	Mandarin	Tianzhen	Shanxi	Jin
Enping	Guangdong	Yue	Toishan	Guangdong	Yue
Fuzhou	Fujian	Min	Tunxi	Anhui	Hui
Gong'an	Hubei	Mandarin	Wanrong	Shanxi	Jin
Guiyang	Guizhou	Mandarin	Wenshan	Yunnan	Mandarin
Haimen	Jiangsu	Wu	Wenzhounese	Zhejiang	Wu
Haikang	Guangdong	Min	Xi'an	Shaanxi	Mandarin
Heshun	Shanxi	Jin?	Xiangcheng	Henan	Mandarin
Huojia	Henan	Jin	Xianghua	Hunan	Unclassified
Huolu	Hebei	Jin	Xiangtan	Hunan	Xiang
Kaiping	Guangdong	Yue	Xinhui	Guangdong	Yue
Liancheng	Fujian	Hakka	Xinji	Hebei	Mandarin
Linyi	Shanxi	Mandarin (transitional to Jin)	Xintai	Shandong	Mandarin
Luoyang	Henan	Mandarin	Xinyu	Jiangxi	Gan
Luzhou	Sichuan	Mandarin	Xinzhou	Shanxi	Jin
Nanhe	Hebei	Jin	Xiuning (Xikou)	Anhui	Hui
Nanjing	Jiangsu	Mandarin	Xunxian	Henan	Mandarin
Neihuang	Henan	Mandarin	Xuzhou	Jiangsu	Mandarin
Ningbo	Zhejiang	Wu	Yanggu	Shandong	Mandarin
Pingdingshan	Henan	Mandarin	Yangjiang	Guangdong	Yue
Pinglu	Shanxi	Jin	Yanshan	Jiangxi	Gan
Pingyao	Shanxi	Jin	Yichun	Jiangxi	Gan
Pucheng Nanpu	Fujian	Wu	Yingdong	Anhui	Mandarin
Puqi (Chibi)	Hubei	Gan	Yiyang	Hunan	Xiang
Qishan	Shaanxi	Mandarin	Yiyuan	Shandong	Mandarin
Qimen	Anhui	Hui	Yizhang	Xiang	Mandarin
Quwo	Shanxi	Mandarin	Yuci	Shanxi	Jin
Rucheng	Hunan	Hakka	Yuzhou	Henan	Mandarin

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Language	Province/region	Affiliation	Language	Province/region	Affiliation
Shanbei	Shaanxi	Jin	Zhengzhou	Henan	Mandarin
Shanghainese	Shanghai	Wu			

Before moving to the presentation of the survey, a final remark is necessary. In order to collect the data, we had to identify (potential) structural particles in our sources. For the better described languages, this was relatively straightforward, as the source(s) and/or the texts made it generally possible to easily identify structural particles. However, for many varieties this was not the case. Given the relatively large number of dialects in our sample, and given that we aimed at finding all possible items used for the functions of adnominal and adverbial modification, we included all items which satisfy one or more of the following criteria:

  a. The item is described as a structural particle in at least one source.
  b. The item is translated/glossed with a SMC structural particle in at least one source.
  c. The item is used with at least one of the functions of markers of adnominal/adverbial modification (see above, § 2.1) in the variety at issue.

As we shall see below (esp. § 3.2), sometimes different sources provide conflicting accounts, and the marking of adnominal/adverbial modification may be performed by items which do not consistently behave as structural particles. Also, in some cases items or constructions seem to carry out other functions, besides acting as markers of modification, and their actual status may be dubious. Due to the nature of our survey, we do not aim at a neat separation between structural particles and other related items: we tried to include as many items as possible, and we provide a detailed discussion for each unclear case.

3   Our Survey

Markers of adnominal and adverbial modification are customarily grouped according to their phonetic shape, which is often taken as evidence of their origin: hence, the synchronic and diachronic sides of the issue go hand in hand in many studies (see e.g. Arcodia 2017). Here, however, we separate these two aspects: in §§ 3.1 and 3.2, we focus on the synchronic side, while the discussion of the possible origins of structural particles is deferred to § 4.

3.1 Markers of Adnominal Modification

Previous research shows that most markers of adnominal modification in Sinitic languages belong to two (macro-)groups, the distribution of which is related to the North-South divide within Sinitic (Yue-Hashimoto 1993; Yue 2003; Wu 2005; Arcodia 2017):

a. The *de* 的-type, as e.g. Mandarin *de* 的, identified by their dental onset ([t]); they are the dominant type in Northern China.

b. The *gè* 个-type, typically having a velar stop (mostly, but not exclusively, [k]) as their onset, as e.g. Cantonese *ge* 嘅 (see above, ex. 11); they are found in Central and Southern China (in Wu, Xiang, Gan, Hui, Yue, and Min).

Besides these two types of markers, which are by far the most common throughout Sinitic, there are at least two more types, the distribution of which is much more limited:

c. The *nà* 那-type, as e.g. Kunming Mandarin *nə⁴⁴* (Gui 2000), identified by their nasal onset ([n]), with a single vowel as their 'final' (i.e. syllable nucleus and coda); they are most common in Southwestern Mandarin, but may be found also in Northern China (e.g. *nai* 呐 in Wanrong, Shanxi, Jin group; Shi 2003).

d. The *li* 哩-type, as e.g. Huolu *li* 哩 (Hebei, Jin group; Chen 1990), identified by their [l] onset; there is much variation in their finals ([li], [liɛ], [lɛ], [lei], [lai], [lə]) and in their spelling (including the characters 哩, 咧, 嘞, 奈, 那); they are most common in Henan, but are found also in Shanxi, Shandong, Hebei, and Anhui (Arcodia 2021).

Also, in our survey we found a number of particles used for adnominal modification which do not fall in any of the categories above, and whose distribution appears to be limited to individual varieties. We grouped them together as a miscellaneous category:

e. Other markers, e.g. Fuzhou *i* 其 and [tuoʔ] / [luɔ] 着 (Huang 1996; Zhao 1999); Taiwanese *ê* 的 (Taiwan, Min group; Lin 2015); Xianghua/Waxiang ᴊɪᴇ 皆 (Huang 1996); Ningbo [leʔ¹²] 勒 (Zhejiang, Wu group; Tang, Chen, Wu 1997); Haikang [a³³] 啊 (see above, § 2.1).

Note that, as pointed out earlier, a dialect may have more than one particle used to mark adnominal modification: while in some cases the difference between the particles is unclear, there are also descriptions which provide details as to when a specific form is chosen.

For instance, in Ningbo both [leʔ¹²] 勒 and [goʔ¹²] 喀/个 are used for adnominal modification: the former is used only for possessive modification, while the latter is the general marker of adnominal modification. Also, [kəu⁴⁴] 个 is used after state adjectives, both when they are used as predicates and when they are used as modifiers (Tang, Chen, Wu 1997). Generally speaking, whenever we found some indication of the differences among different particles of adnominal modification, the functions which are associated with a specific item are either marking possessive modification, or modification by a state adjective, as in the cases of Shexian and Fuzhou discussed in § 2.1, or in the case of Ningbo seen here. Different markers of adnominal modification may also be (more or less) freely interchangeable, with no significant difference in meaning: this is the case e.g. of [ta³³] 的 and [la³³] 奈 in the Daye Jinhu dialect (Hubei, Gan group; Huang 1996).

Thus, to sum up, most markers of adnominal modification in our sample can be classified into four consistent groups, based on their phonetic form (specifically, on their onset consonant): types (a) and (b) are dominant in Sinitic, while types (c) and (d) are way less common, and they are mostly concentrated in some specific areas (part of Southwestern Mandarin and the Central Plains region, respectively). Also, while the use of one and the same marker for all relations of adnominal modification is the most frequent pattern, several dialects use dedicated markers for specific relations, or even just as alternative exponents without any functional difference.

3.2 Markers of Adverbial Modification

Given that many Sinitic languages have particles which are used both for adnominal and adverbial modification, the four major types seen in § 3.1 for markers of adnominal modification may be used also in the classification of markers of adverbial modification. However, there appears to be more variation in the latter domain, and hence more types can be identified. Also, as we shall see below, even markers which apparently belong to the same type as those proposed for adnominal modification have a significantly different distribution.

Just as seen above for markers of adnominal modification, the two most common types are (see Yue-Hashimoto 1993):

a. The *de* 地-type, as e.g. Mandarin *de* 地, identified by their dental onset ([t]; also alveolar [ts]); just as the 'corresponding' markers of adnominal modification, they are dominant in Northern China.

b. The *gè* 个-type, as e.g. Wenzhounese *ge* 个 (Zhejiang, Wu group; Zhengzhang 2008) or Xiuning 个 [ka] (Anhui, Hui group; Liu 2014), identified by their velar onset (mostly [k]); their distribution is sim-

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ilar, but not identical, to that of the 'corresponding' markers of adnominal modification (see Wang 2008, 543-4): for instance, they are neither attested in the Yue dialects in our sample which make use of *gè* 个-type particles for adnominal modification (e.g. Cantonese, Toishan), nor in some Gan and Hui dialects (e.g. Tunxi; Lu 2018; see below).

In varieties which make use of a *de* 的-type marker of adnominal modification and of a *de* 地-type marker of adverbial modification, they are homophonous in most cases, but not necessarily so. For instance, in Yuci (Shanxi, Jin group; Li 1982), the marker of adnominal modification is [tʌʔ²¹] 的, while the marker of adverbial modification is [ti³⁵] 地. Interestingly, these non-homophonous particles may also sometimes be used together. For instance, reduplicated adjectives are often followed by [ti³⁵tʌʔ²¹] 地的, although [tʌʔ²¹] 的 alone is also possible in these cases (Liu 2016, 70):

(16) 刚买的新新地的衣裳就给弄脏了
GANG MAI DE XIN~XIN ti³⁵tʌʔ²¹ YISHANG JIU GEI NONG-ZANG LE
just buy MOD new~new ADV-MOD clothes just PASS do-dirty PFV/PERF
'The brand new clothes I just bought got dirty'

This combination of [tʌʔ²¹] 的 and [ti³⁵] 地 is analysed as a 'compound structural particle' (*zhùcízǔ* 助词组) by Liu (2016), and has developed some specific uses (see the source for the details). What matters most, in our perspective, is that the two markers clearly retain a distinct identity in Yuci, despite their similar shape.

Note that *de* 地-type and *gè* 个-type markers of adverbial modification may be present in the same variety. For instance, in the abovementioned Daye Jinhu dialect both [ta³³] 的 and [ko³] 果 are used in this construction. However, they are not actually in free variation, as they convey different meaning nuances: [ta³³] 的 is used to provide an objective description, while [ko³] 果 is used to depict the circumstances of an event (Huang 1996, 551). Moreover, the use of [ko³] 果 is constrained by the type of modifier: it can be used only with a subset of disyllabic adjectives, with a minority of state adjectives, and with some idioms. Thus, [ta³³] 的 appears to be the only generalised marker of adverbial modification, while the use of [ko³] 果 in the same function is not as free.

Markers of adverbial modification belonging to the so-called *nà* 那-type (c), i.e. those with a nasal onset ([n]) and a single-vowel rhyme, seem to have pretty much the same distribution as markers of adnominal modification, i.e. they seem to be mostly limited to Southwestern Mandarin (e.g. Wenshan *ni⁵⁵* 尼; Zou 2020). Interestingly, all the languages in our sample which make use of a *nà* 那-type marker

of adnominal modification also make use of a *nà* 那-type marker of adverbial modification, and *vice versa*.

As for the *li* 哩-type (d), identified by their [l] onset, there are some clear differences in their distribution, if compared to the corresponding class of markers of adnominal modification. [l]-initial markers of adverbial modification appear to be most common in the Central Plains region, as seen above for [l]-initial markers of adnominal modification: in these dialects, most often the same structural particle is used for all constructions of modification, as well as for verb complement constructions.[7] However, [l]-initial markers of adnominal modification seem to be more widespread, and they are found in varieties which do not have a corresponding *li* 哩-type marker for adnominal modification (or verb complement constructions): for instance, Tunxi (Anhui, Hui group; Lu 2018) has a *gè* 个-type marker of adnominal modification, but a *li* 哩-type marker of adverbial modification ([ka] vs [le]). *li* 哩-type markers in adverbial modification are attested also in Xiang dialects, as e.g. Yiyang [li] 哩 (Hunan; Wu 2005): however, it is unclear whether they are best analysed as 'true' structural particles or as adjectival suffixes (Wu 2005, 289-90; we will get back to this below). We already mentioned above (§ 2.1) a Wu dialect with *li* as a marker of adverbial modification, and even a Southern Sinitic language, Fuzhou, in which $lε^{33}$ 礼 is used in the same function. Also, [l]-initial markers of adverbial modification may be found in some Southwestern Mandarin dialects, as e.g. Guiyang (Guizhou; Chen 2007): however, given that in these dialects there is no phonemic distinction between /n/ and /l/, their inclusion in the *li* 哩-type is debatable (we will get back to this in § 4).

Moreover, we identified three more types of adverbial modifiers which appear to be unrelated to markers of adnominal modification:

e. The *jiào* 叫-type, as e.g. Suzhou [tɕiæ²¹³] 叫 (Jiangsu, Wu group; Xie et al. 1989) or Haimen [tɕiɔ⁰²] 叫, identified by their alveolo-palatal affricate ([tɕ]) onset; they appear to be a specific Wu feature, and they are not attested in languages from other groups in our sample.

f. The *néng* 能-type, as e.g. Shanghainese *nen* 能 (Wu group; Qian 1997; Zhu 2006) or Wenzhounese [naŋ³¹] 恁(/能) (Zhengzhang 2008); they are morphemes with a nasal initial ([n]) and a nasal ending ([n] or [ŋ]), and they are found only in the Wu dialects of our sample, just as *jiào* 叫-type markers.

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[7] An uncommon case is that of a dialect with two different [l]-initial particles for adnominal and adverbial modification, as e.g. Linyi (Shanxi, Mandarin group; Shi 2003) [lai] / [ai] 奈 vs [li] 哩, or Heshun (Shanxi, Jin group; Liu 2013) [lei³¹] 哩 vs [lei] 哩.

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g. The *jiè* 介-type, as e.g. Ningbo [ka⁴⁴]/[kɐʔ⁵⁵] 介 (Zhejiang, Wu group; Tang, Chen, Wu 1997); they all seem to share the (base) form [ka] (Qian 1998), and they are also a Wu feature.[8]

h. The *gān* 咁-type, e.g. Cantonese *gám* 咁, Enping [k'ɔu²¹⁵] / [k'un²¹⁵] 噉 or Toishan [k'au³⁵] 噉 (Guangdong, Yue group; Gan 2010); they have an unaspirated or aspirated velar initial, followed by a vowel, a diphthong or a combination of vowel and nasal ending; apparently a Yue feature, as they are not attested in languages from other groups in our sample.

Types (e), (f) and (g) are tightly related because they are typically Wu, and indeed some Wu dialects have more than one of them (e.g. Shanghainese *jiao* 较, *nen*(*ka*) 能(介) and *ka* 介; Zhu 2006). Also, *jiào* 叫-type, *néng* 能-type and *jiè* 介-type markers are often described as suffixes, rather than particles. Type (h), the *gān* 咁-type, is seemingly found only in Yue, as mentioned above, and *gān* 咁-type markers are sometimes described as adverbs, as we shall see below.

Also, just as seen earlier (§ 3.1) for markers of adnominal modification, there are some particles, each of which is seemingly found only in an individual language, which do not fit in the categories presented above:

i. Other markers, e.g. Wenzhounhese [zɿ] 似 (Zhengzhang 2008); Fuzhou [tuoʔ] / [luɔ] 着 (Yue-Hashimoto 1993; Huang 1996); Shuangfeng GAO 搞 and JI 唧 (Hunan, Xiang group; He 2011); Xiangtan [tiẽ⁵⁵] 点 (Hunan, Xiang group; Zeng 2001); Daozhou ZAI 崽 (Hunan, Mandarin group; Huang 1996).

Lastly, there are languages which generally do not make use of markers of adverbial modification. We already pointed out (§ 2.1) that markers of adnominal modification may be omitted under certain conditions, depending on the specific subtype of modification; we also mentioned that, for instance, the SMC structural particle *de* 地 is omitted when the adverbial modifier is a monosyllabic adjective (see ex. 4). However, in some varieties adverbial modification is either systematically unmarked, or 'converted' into other constructions (i.e. another construction is used). A case in point is Yangjiang (Guangdong, Yue group; Huang 1996), in which adverbial modification is said to be plainly unmarked. Taiwanese also has no particle corresponding to SMC *de* 地, and adverbial modification is generally unmarked (Lin 2015, 340):

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[8] Huang (1996, 548) mentions a form written with the character *jiè* 介 in Shanbei, a Jin dialect of Shaanxi. However, since he provides no transcription, we have no way to know whether it belongs to the *jiè* 介-type as defined here.

(17) 伊慢慢行

i	*bān~bān*	*kiâⁿ*
3SG	slow~slow	walk

‘He walked slowly’

However, according to Lin's (2015, 239-40) account, an "optional particle 仔 -*á*" may be added "for euphony" when the modifier is a reduplicated adjective:

(18) 車過了後, 伊慢慢仔行

chhia-hō	*liáu-āu*	*i*	*bān~bān-á*	*kiâⁿ*
car-accident	after	3SG	slow~slow-PTC	walk

‘After the car accident, he walks slowly’

Since the same is true for reduplicated adjectives used in the predicative function, and the particle is anyway optional, we chose not to treat -*á* 仔 as a marker of adverbial modification.

As to 'conversion', a very good example is Gong'an (Hubei, Mandarin group), which makes use of the manner verb complement construction instead of adverbial modifiers. Compare the SMC sentence in (19a) with the corresponding Gong'an construction (19b; Wang 2010, 28):

(19) a. 他刻苦地学习

tā	*kèkǔ*	*de*	*xuéxí*
3SG.M	hardworking	ADV	study

b. 他学得蛮用心

TA	XUE	DE	MAN	YONGXIN
3SG	study	CMP	very	diligent

‘He studies hard’

To sum up, if compared to what we saw earlier for markers of adnominal modification, the picture for adverbial markers is somewhat more complex. The distribution of types (a), (b) and (c) seems to be very similar to that of the corresponding types of adnominal structural particles, but it is not identical, especially since *gè* 个-type markers of adverbial modification seem to have a more limited diffusion than *gè* 个-type markers of adnominal modification. As for *li* 哩-type markers, these have a broader distribution than structural particles for adnominal modification belonging to the same type, and they may be found in dialects which do not have a *li* 哩-type marker for adnominal modifiers. Besides, we have three more types which do not ap-

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pear to be related to markers of adnominal modification, and which are mostly restricted to specific dialect groups: *jiào* 叫-, *néng* 能- and *jiè* 介-type markers are virtually only found in Wu; 咁 *gān*-type markers seem to be exclusively Yue. Also, again if compared to markers of adnominal modification, adverbial structural particles have a more complex form-to-function mapping: the same variety may use more than one marker in adverbial modification.

There are two residual issues which need to be addressed before moving to the next section. The first one concerns the status of the items discussed here: while markers of adverbial modification *stricto sensu* are normally seen as structural particles, as said earlier, there are indeed some items which appear to be used in the same function and are described as suffixes, or even as adverbs.

A case in point are the above-mentioned Wu morphemes belonging to the *jiào* 叫-, *néng* 能- and *jiè* 介-types. For instance, in their analysis of Suzhou suffixes, Xie et al. (1989) describe [tɕiæ²¹³] 叫 ([tɕiæ⁵⁵] 交 in Ye 1993) as a suffix attached to monosyllabic reduplicated adjectives (i.e. a subclass of state adjectives): these are often used as adverbial modifiers, but may also be used as adnominal modifiers or as predicates. In all of these cases, the structural particle [kəʔ] 葛 is optionally present: the fact that reduplicated adjectives suffixed with [tɕiæ²¹³] 叫 may be used as adnominal modifiers without the addition of the marker [kəʔ] 葛 suggests that the function of [tɕiæ²¹³] 叫 is not that of marking adverbial modification, in our view. Given that [tɕiæ²¹³] 叫 is said to be obligatorily added to reduplicated monosyllabic adjectives, it could be analysed as a dedicated suffix for this construction.

In the closely related Shanghai dialect, we see again that monosyllabic reduplicated adjectives are normally followed by an 'adverbial suffix', including *jiao* 较, *nen* 能, *ka* 介, *nenka* 能介, *ti* 点, *li* 哩 and others (Huang 1996, 549; Qian 1997, 67-8; Zhu 2006, 95). When a reduplicated adjective is used as an adverbial modifier, it is generally followed by one of the above-mentioned adverbial suffixes, as e.g. *jiao* 较 (20). If the same reduplicated adjective is used as an adnominal modifier, both the adverbial suffix and the marker of adnominal (and adverbial) modification *xeq/geq* 个 are required (21; Zhu 2006, 95):

(20) 好好较做人
      hao~hao-jiao   *tsu-njin*
      good~good-SUF?   do-man
      'Be a good man (lit. act well as a person)'

(21) 好好较个人
      hao~hao-jiao   *geq*   *njin*
      good~good-SUF?   MOD   man
      'a decent man'

However, when other (non-reduplicated) adjectives are used as adverbial modifiers, only the particle *xeq/geq* 个 is present (Zhu 2006, 103):

(22)   健康个成长

jikong	*xeq*	*zengzang*
healthy	ADV	grow

'grow healthily'

According to Huang (1996, 549) and Qian (1997, 67-8), the adverbial suffixes *jiao* 较 and *li* 哩 may be followed by *xeq/geq* 个 also when used in a construction of adverbial modification: however, *jiao* 较, *nen* 能 and *li* 哩 are mutually exclusive (i.e. they are in a paradigmatic relation), and *nen* 能 is not normally followed by *xeq/geq* 个. Also, Qian (1997) points out that the combination of *jiao* 较 and *xeq/geq* 个 is not always acceptable, depending on the item involved: for instance, *hao~hao-jiao* 好好较 'good~good-SUF?, well' (20) cannot be followed by *xeq/geq* 个 when used as an adverbial modifier. Qian (1997) and Zhu (2006) both highlight that even monosyllabic reduplicated adjectives may be followed by *xeq/geq* 个 in the absence of an adverbial suffix, but this usage is recent and is regarded as non-native, and due to the influence of SMC. Generally speaking, the use of monosyllabic reduplicated adjectives without one of the characteristic Shanghainese adverbial suffixes is seen as the product of SMC influence, and it is limited to a subset of adjectives (Xu, Shao 1998, 25).

   Note, also, that reduplicated monosyllabic adjectives suffixed with *jiao* 较 may have predicative use in Shanghainese, just as seen above for the Suzhou dialect (but without *xeq/geq* 个; Zhu 2006). However, according to Xu and Shao's analysis (1998), reduplicated monosyllabic adjectives suffixed with *jiao* 较 or *ti* 点 are normally used as adverbial modifiers, and hence these items should be seen as adverbialising suffixes: the fact that they are sometimes used as predicates is interpreted by them as the product of the ellipsis of the modified verb.

   Qian (1998) further points out that Shanghainese *ka* 介 may follow *jiao* 较, *nen* 能 and *li* 哩 in adverbial modification, again when the modifier is a reduplicated (monosyllabic) adjective. Indeed, according to Xu and Tang's (1988, 355) description, *ka* 介 may be used as a marker of adverbial modification also for non-reduplicated adjectives:

(23)   侬当心介走

nung	*tongjin*	*ka*	*tseu*
2SG	careful	ADV	walk

'walk carefully'

jiao 较, *ka* 介 and *li* 哩 are all glossed with SMC *di* 地, the marker of adverbial modification, in Xu and Tang (1988). However, they al-

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so specify that *jiao* 较 and *li* 哩 are used only with reduplicated adjectives, and that all three of them are used only with a 'minority' of adjectives, i.e. they are not fully productive and are subject to (apparently) idiosyncratic restrictions (see also Qian 1997, 67 and Zhu 2006, 95). Also, *ka* 介 is used as an adverb too, meaning 'so, such', as e.g. *ka bitong* 介便当 'so convenient(ly)'; *nen* 能 is also used as an adverb, meaning 'just, precisely' (e.g. *nen hao* 能好 'just fine'; Qian, Xu, Tang 2007).

Some insights on the development of these items come also from the analysis of older descriptions of the Shanghai dialect. According to Edkins' (1868) account, manner adverbs are formed in Shanghainese by adding 'affixes' as *nen* 能, *li* 哩 and others to reduplicated adjectives. He also mentions *jiao* 较 (here written as 敎) as a suffix "used in one instance", namely *mae~mae-jiao* 慢慢敎 'slowly' (Edkins 1868, 136). More than 70 years later, Bourgeois (1941) gives a far more detailed account of adjectival reduplication and adverbial modification. In his description, reduplicated monosyllabic adjectives are followed by *xeq/geq* 个 when used as adnominal modifiers, but they are not followed by *jiao* 较, *nen* 能, *li* 哩 or other adverbial suffixes. According to Bourgeois (1941, 32), non-reduplicated adjectives directly modify the verb, without any marker, as in *mae chii* 慢去 'go slowly'; reduplicated adjectives, on the other hand, are used in two construction types. Reduplicated adjectives may directly modify the verb, as e.g. *mae~mae* 慢慢 'slow(ly)'; however, Bourgeois (1941, 111) suggests that most manner adverbs are formed by a reduplicated monosyllabic adjective and one of the above-mentioned adverbial suffixes (as e.g. *du~du-nen* 大大能 'greatly'). Interestingly, Bourgeois does not mention *jiao* 较 as an adverbial suffix, and provides no example of its use. Note also that Qian (1998) shows that in an early Wu text, namely Feng Menglong's *Shāngē* 山歌 (lit. 'Mountain songs'; published 1618 or 1619; Snow, Zhou and Shen 2018), a particle recorded in writing as 介 is used as a general marker of adverbial modification. We thus suggest that the use of a *jiè* 介-type marker of adverbial modification is likely a Wu feature whose use has declined: as for Shanghainese, it is apparently being replaced by *xeq/geq* 个 which, as pointed out above, is often seen as the product of SMC influence (we will get back to this in § 4).

Huang (1996) describes Shanghainese *xeq/geq* 个 as an adverbial suffix too, just as *jiao* 较 and *nen* 能: however, he analyses the related Wenzhounese item [naŋ³¹] 恁(/能) as a structural particle. As a matter of fact, Wenzhounese [naŋ³¹] 恁 appears to be used as a general marker of adverbial modification, and not only with reduplicated adjectives. Indeed, according to You (1981), [naŋ³¹] 恁 is a full-fledged structural particle in Wenzhounese, and he points out that its use is more constrained in other contemporary Wu dialects: Zhengzhang (2008, 333) also glosses it with SMC *de* 地, suggesting a similar analy-

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sis. Just like Shanghainese *nen* 能, [naŋ³¹] 恁(/能) is also used as an adverb, as e.g. [ʔnaŋ³²³ təu³³] 恁多[9] 'this much' (Zhengzhang 2008, 340).

In Ningbo, another Wu dialect (see above, § 3.1), the *gè* 个-type marker [goʔ¹²] 咯/个 is used both for adnominal and for adverbial modification; [ka⁴⁴]/[kɐʔ⁵⁵] 介 is used for adverbial modification only, while [kəu⁴⁴] 个 and [tɕio⁴⁴] 叫 are added to reduplicated monosyllabic adjectives, both when they are used as modifiers and when they are used as predicates (Tang, Chen, Wu 1997). Note that, just as seen above for Suzhounese, when [tɕio⁴⁴] 叫 is added to a reduplicated adjective used as an adverbial modifier, the particle [goʔ¹²] 咯/个 is optionally present (Zhu, Zhou 1991).

Lastly, in yet another Wu dialect spoken in Jiangsu, Haimen (Wang 2011), the item [tɕiɔ⁰²] 叫 is glossed with SMC *de* 地, and is listed among particles, rather than suffixes. Note, also, that in Wang's list of Haimen structural particles (2011, 270-1), no other marker of adverbial modification may be found. However, elsewhere in the same grammar Wang (2011, 288) also describes [tɕiɔ⁰²] 叫, as well as [li²¹] 里 and some other items, as 'suffixes' which can (rather than must) be attached to an undefined subset of monosyllabic reduplicated adjectives: these suffixed adjectives are mostly used as adverbial modifiers, according to Wang's account. Nearly all of the instances of items marked with [tɕiɔ⁰²] 叫 provided in Wang (2011) involve monosyllabic reduplicated adjectives: it is thus unclear whether this is the only usage for [tɕiɔ⁰²] 叫, or if it is used also with other types of adverbial modifiers. The only exception is the following example (Wang 2011, 358)

(24) 过来真正叫开心

ku³⁴	*lɛ⁵³*	*tsən⁵³tsən²¹*	*tɕiɔ²¹*	*kʰɛ⁵³ɕin⁵³*
spend	CMP	real	ADV?	happy

'[They] lived really happily'

On the other hand, we also found what seems to be an instance of the use of a reduplicated adjective as an adnominal modifier, followed both by [tɕiɔ⁰²] 叫 and by the marker of adnominal modification [gəʔ⁰²] 个 (Wang 2011, 355):

(25) 赤赤叫个日头

tsʰɑʔ⁴ tsʰɑʔ⁴	*tɕiɔ²¹*	*gəʔ⁰²*	*n̠iəʔ² dəu⁵³*
red~red	SUF?	MOD	sun

'the red sun'

---

9 The glottal stop ([ʔ]) at the beginning of the first syllable is related to the 阴 *yīn* ('dark') tone register (Zhengzhang 2008, 90).

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Thus, while more data is needed to perform a thorough analysis of patterns of adverbial modification in Haimen, we tentatively suggest that [tɕiɔ⁰²] 叫 appears to be similar to its Shanghainese cognate: compare e.g. (25) and (21) above (but see also 24).

To sum up, what emerges from the discussion is that there are significant differences among *jiào* 叫-, *néng* 能-, and *jiè* 介-type markers, and that their status varies depending on the specific variety. *jiào* 叫-type markers generally behave as adjectival suffixes, rather than as dedicated markers of adverbial modification. This is because they are attached also to adjectives used in the predicative function, and because they are optionally followed by another structural particle. Also, they are not used with all types of adverbial modifiers, but, rather, only with a subset of them. However, we also pointed out that Shanghainese However, we also pointed out that Shanghainese *jiao* 较 sometimes cannot be followed by *xeq/geq* 个, and that its use with adjectives in the predicative function may be seen as the product of ellipsis. Thus, while *jiào* 叫-type markers do not appear to be general full-fledged markers of adverbial modification, they may overlap with structural particles to some extent: in other words, they seem to behave as non-prototypical markers of adverbial modification. They may be further or closer to the prototype, depending on the variety at issue: the use of Shanghainese *jiao* 较 (and of Haimen [tɕiɔ⁰²] 叫) is clearly more similar to that of a marker of adverbial modification, if compared to Suzhounese [tɕiæ²¹³] 叫 and Ningbo [tɕio⁴⁴] 叫.

We may suggest a comparison with a non-Wu northern Chinese dialect, namely Pingyao (Shanxi, Jin group; Hou 1992). In the Pingyao dialect, the marker of adnominal modification is [tiʌʔ] 的, and state adjectives are obligatorily followed by the particle [ti] 底: these are very similar to the particles [tʌʔ²¹] 的 and [ti³⁵] 地 seen above in the related Yuci dialect. In Pingyao, according to Hou's (1992) account, when a state adjective is used as an adverbial modifier, only the particle [ti] 底 is added; however, when the same type of adjective is used as an adnominal modifier, both [ti] 底 and [tiʌʔ] 的 must be present for the sentence to be acceptable (Hou 1992, 6):

26. 黑洞洞底的间居舍

HEIDONGDONG	ti	tiʌʔ	JIAN	JUSHE
pitch-dark	SUF	MOD	CLF	dwelling

'a pitch-dark dwelling'

Note that the particle [ti] 底 is obligatorily added to state adjectives not only when they are used as adverbial modifiers, but rather in all cases, as e.g. when they are used as predicates. Thus, differently from *jiào* 叫-type markers in Wu dialects, Pingyao [ti] 底 is not followed by another particle when used as an adverbial modifier, and the parti-

cle [tiʌʔ] 的 is used also for adverbial modification if the modifier is not a state adjective. However, in a more recent treatment of Pingyao [ti] 底, Zhang (2018) argues that [tiʌʔ] 的 is actually optional when the state adjective is used as an adnominal modifier, while [ti] 底 is always obligatory. Also, Zhang (2018) points out that when state adjectives are used as adverbial modifiers, they are optionally followed by the particle [tiʌʔ] WAI 的歪.

Thus, Zhang (2018) proposes that [ti] 底 in Pingyao is a dedicated suffix for state adjectives, rather than a marker of adverbial modification, being thus akin to *jiào* 叫-type markers. As pointed out earlier, in the related Yuci dialect, [ti³⁵] 地 is used as a general marker of adverbial modification, but the compound particle [ti³⁵tʌʔ²¹] 地的 may be found after reduplicated adjectives used as adnominal modifiers, as in (16): Liu (2016) shows that [ti³⁵tʌʔ²¹] 地的 is commonly used with state adjectives also in the predicative function. A possible interpretation for this is that Yuci [ti³⁵] 地 has a hybrid nature, behaving both as a marker of adverbial modification and as a suffix for state adjectives; however, in the latter function, it combines with [tʌʔ²¹] 的. This shows, once again, that related items may have significantly different uses and status even in closely related dialects.

néng 能- and *jiè* 介-type markers also show considerable variation. As pointed out above, Wenzhounese [naŋ³¹] 恁 is apparently used as a general marker of adnominal modification, while Shanghainese *nen* 能 seems to share the same status of *jiao* 较, i.e. its function seems to be that of a suffix for reduplicated adjectives. Shanghainese *ka* 介 may combine with *nen* 能 as well as with *jiao* 较 and *li* 哩, at least according to Qian's (1998) account: it is even claimed that it can be a general marker of adverbial modification, including modification by non-reduplicated adjectives, but its use is restricted to a minority of adjectival modifiers. Ningbo [ka⁴⁴]/[kɐʔ⁵⁵] 介 also seems to be a marker of adverbial modification, while [tɕio⁴⁴] 叫 is used with reduplicated monosyllabic adjectives, and may be followed by [ka⁴⁴]/[kɐʔ⁵⁵] 介 when used as in adverbial modification. Thus, among *néng* 能-type items, only Wenzhounese [naŋ³¹] 恁 may be seen as a true marker of adverbial modification, while its cognates in the other Wu dialects of our sample are closer to *jiào* 叫-type markers (and they are indeed found in the same contexts as them); as for *jiè* 介-type items, Ningbo [ka⁴⁴]/[kɐʔ⁵⁵] 介 also seems to be a full-fledged structural particle for adverbial modification, differently from Shanghainese *ka* 介, which is being replaced by *xeq/geq* 个.

Note that the issue of the ambiguity between structural particles for adverbial modification and adjectival suffixes (specifically, suffixes for reduplicated monosyllabic adjectives and, sometimes, other types of state adjectives) is not limited to the Wu cases discussed here. For instance, Wu (2005) highlights that in the Xiang dialect spoken in Yiyang (Hunan province) the adjectival suffixes [li] 哩 and

[ka] 家 may be found in the same position of a structural particle, thus having coincident distribution, just as e.g. Shanghainese *jiao* 较 in ex. (20). However, this is possible only when the modifier is a reduplicated monosyllabic adjective, and the same suffixes are used also when the reduplicated adjective is used e.g. in the predicative function. A somewhat similar situation holds for Shuangfeng, another Xiang dialect of Hunan: while GAO 搞 and JI 唧 are described as structural particles in He (2011), they are actually used with the so-called 'vivid' (*shēngdòng* 生动) form of adjectives, which includes reduplication and other patterns which basically turn items into state adjectives. While these are indeed the sole (non-obligatory) markers of the relation of adverbial modification, it appears that they are limited to this class of modifiers, i.e. they do not seem to be general markers; moreover the use of JI 唧 implies a positive evaluation, according to He's (2011) account.

Actually, even the Cantonese constructions exemplified above (12-13) are not straightforward instances of structural particles used to mark adverbial modification. The general marker used with all types of adverbial modifiers is *gám* 咁, which is in itself an adverb meaning 'this way, so, thus', and which could be related to the adverb *gam* 咁 'so', used as a degree adverb to modify adjectives (e.g. *gam lēk* 咁叻 'so good'). *gám* 咁 is used also with reduplicated adjectives as adverbial modifiers, with or without *-déi* -哋. Compare (13), repeated here for the sake of convenience, with (27) and (28) (Matthews, Yip 2011, 205):

(13) 你偷偷哋整嘢食呀?

léih	*tāu~tāu-déi*	*jíng*	*yéh*	*sihk*	*àh*
2SG	steal~steal-SUF?	make	thing	eat	Q

'You've been secretly preparing food, have you?'

(27) 我見到佢傻傻哋咁笑

ngóh	*gin*	*dóu*	*kéuih*	*sòh~só-déi*	*gám*	*siu*
1SG	see	RES	3SG	silly-silly-SUF?	ADV	laugh

'I saw him smiling stupidly'

(28) 佢大大力咁踢個波

kéuih	*daaih~daaih-lihk*	*gám*	*tek*	*go*	*bo*
3SG	great~great-strength	ADV	kick	CLF	ball

'He kicks the ball very hard'

Thus, while *gám* 咁 apparently may perform the function of marking adverbial modification for all types of modifiers, the status of -哋 *-déi* is quite different. The latter item is described in Matthews and Yip

(2011) as an adjectival suffix, used again with monosyllabic reduplicated adjectives, just as *jiào* 叫-type markers (as well as some others) in Wu, also when those adjectives are used as predicates. However, when the adjective suffixed with -*déi* -哋 is used as an adnominal modifier or as a predicate, it also conveys attenuation of the meaning of the adjective itself, similarly to English -*ish*: see e.g. *hùhng~húng-déi* 紅紅哋 'reddish'. On the one hand, we see a clear semantic difference between the use of -*déi* -哋 as a suffix for adjectives used as predicates and adnominal modifiers, and its use with adverbal modifiers: in the latter case, it seems that the only function of -*déi* -哋 is that of turning a reduplicated adjective into an adverb. On the other hand, its use is again limited to reduplicated adjectives, and even in that function it can be followed by *gám* 咁 (27). Thus, it appears that -*déi* -哋 is yet another case in which what is in essence a suffix for reduplicated adjectives may partly overlap with a structural particle used for adverbial modification, i.e. it can have the same distribution.

The second issue concerns the relationship between *gè* 个-type and *jiè* 介-type items. As stated earlier, we identify *gè* 个-type morphemes by their velar onset (mostly, [k], but also [g]), and *jiè* 介-type morphemes as those items sharing the base form [ka]. However, these two criteria may provide conflicting results: a case in point is that of Hui dialect forms as Xiuning [ka] 个. We decided to consider it a *gè* 个-type particle since it is a homophone of the marker of adnominal modification in this dialect: it is indeed unlikely that a *jiè* 介-type marker would develop in this context. Also, the choice of 个 as the character for both the marker of adnominal and adverbial modification in Liu (2014) suggests that the author of the description sees them as related to the classifier [ka^{55}] 个. Similar problems arise with the above-mentioned Yiyang item [ka] 家: while we must remain agnostic as to its origin (see below, § 4), the fact that it appears to behave (judging from the limited data available) more as a suffix rather than as a 'true' marker of adnominal modification means that its significance is limited for our typology (and the same goes for Yiyang [li] 哩). Note, also, that the distinction between *gè* 个-type and *jiè* 介-type items has been called into question for some Wu dialects (Qian 1998): we will discuss this hypothesis in § 4.

To sum up, what seems to emerge from our survey is that there are several items in Sinitic which have an ambiguous status between that of (state) adjectival suffixes (not only predicative adjectivals, but also adnominal modifiers) and markers of adverbial modification. In some cases, even cognate items may be located at different positions in an ideal continuum between adjectival suffixes and structural particle. The diachronic connection between these two classes of items will be explored in § 4.

4 On the Grammaticalisation of Structural Particles

As mentioned earlier (§ 3), the grouping of structural particles according to their phonetic shape is often seen as related to their origin: particles with a similar shape may be claimed to have a shared source. Let us now explore the possible origins for each of the types introduced above.[10]

Much research has focused on the origin of SMC *de* 的 and, consequently, *de* 的-type markers of adnominal modification. However, there still appears to be no consensus on the etymon for this type of structural particles (for an overview, see Wu 2005, 267-8; Yap, Choi, Cheung 2010, 64-79; Lu 2013, 128-9). Proposed sources for *de* 的 include:

a. the marker of modification *zhī* 之;
b. the nominaliser *zhě* 者;
c. both *zhī* 之 and *zhě* 者;
d. the localiser[11] *dǐ* 底 'in', which inherited the genitive function from locative nouns as *suǒ* 所 and *xǔ* 许 via structural analogy;
e. the demonstrative use of *dǐ* 底 'this';
f. the noun *dǐ* 底 'bottom, base, foundation' via a pronominal stage, under the influence of *zhī* 之 and *zhě* 者.

Needless to say, we cannot discuss each of the above-mentioned proposals in detail: here, we shall just offer a summary of the most significant analyses.

We already mentioned (§ 2.1) that in 'mainstream' vernacular Chinese texts *de* 的 was written as *dǐ* 底 roughly until the thirteenth century. It developed most of the uses of SMC *de* 的, starting from the Five Dynasties period (first half of the tenth century CE), and was substituted by *de* 的 as the customary written form during Yuan times (Ōta [1958] 1987). Ōta ([1958] 1987, 322) suggests that *dǐ* 底 derives from the nominaliser *zhě* 者, which was used also as a marker of adnominal modification. Ōta's position may be deemed as representative of the 'traditional' approach to the origin of *de* 的, which saw *dǐ* 底 as the product of sound change (see also Wang [1958] 1980). However, more recent approaches resort to analogy and other mechanisms of grammaticalisation to explain the development of *dǐ* 底 (see the overview in Lu 2013, 130): two proposals worth mentioning here are Shi and Li's (1998; 2002) and Jiang's (1999).

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10 Due to space constraints, here we do not elaborate on the possible origins of particles in the miscellaneous category 'other markers'.

11 'Localisers' (*fāngwèicí* 方位词) are a closed class of items which are added to nouns to express position.

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Shi and Li (1998; 2002) reject the idea that *zhī* 之 and/or *zhě* 者 are possible etyma for *dǐ* 底. In a nutshell, their proposal is that *dǐ* 底 evolved into a structural particle from its functions as a demonstrative and interrogative pronoun. Shi and Li point out that *zhī* 之, one of the main markers of adnominal modification in Classical Chinese, was also a demonstrative; this is true for *gè* 个 as well (we will get back to this below). Actually, even in SMC the demonstratives *zhè* 这 'this' and *nà* 那 'that' are seemingly used *in lieu* of markers of adnominal modification (Liu 2005, 4; we will get back to this below):

(29) 张作霖应该到达这天[…]

Zhāng	*Zuòlín*	*yīnggāi*	*dàodá*	*zhè*	*tiān* […]
Zhang	Zuolin	should	arrive	this	day

'The day on which Zhang Zuolin should have arrived […]'

Thus, Shi and Li believe that demonstrative and interrogative pronouns are "particularly suited for being grammaticalised" into markers of adnominal modification, and that this process "has occurred several times in the history of Chinese" (Shi, Li 2002, 8-9; see also Yap, Matthews 2008).

However, Jiang (1999) highlights a weak point in Shi and Li's (1998; 2002) argumentation: *dǐ* 底 was rarely used as a demonstrative in actual texts, and most examples date to the Song Dynasty (960-1279), while the use of *dǐ* 底 as a structural particle was already quite common in the early tenth century (see also Yap, Choi, Cheung 2010). Thus, the hypothesis that the demonstrative use of *dǐ* 底 is the source construction for its development into a structural particle appears unlikely. Jiang's (1999) proposal is that the structural particle *dǐ* 底 rather derives from the locative *dǐ* 底 'bottom, in', which inherited the genitive function through analogy with other locative nouns as *suǒ* 所 and *xǔ* 许, and later expanded its functions to include all types of adnominal modification and nominalisation (just as SMC *de* 的). See the following Medieval Chinese examples (Jiang 1999, 86, 89):

30. 自许本衣

zì	*xǔ*	*běn*	*yī*
1SG	GEN	original	clothes

'my original clothes' (*Jiù Zá Pì Yù Jīng* 旧杂譬喻经)

31. 画底鸳鸯

huà	*dǐ*	*yuānyāng*
picture	LOC/GEN?	affectionate.couple

a. 'the affectionate couple in the picture'
b. 'the affectionate couple of the picture' (*Cháo Zhōng Cuò* 朝中措)

In (30), we can see how *xǔ* 许 'place' (compare *héxǔ* 何许 'what place, where') is used to mark possession. In (31), we see a 'bridging context' (in the sense of Evans, Wilkins 2000) for *dǐ* 底, which may be interpreted both as a localiser ('in') or as a marker of adnominal modification ('of'). According to Jiang (1999), the use of localisers in the 'noun-localiser-noun' construction, which is structurally analogous to the 'noun-structural particle-noun' construction, favoured the reanalysis of localisers as structural particles. While items as *suǒ* 所, *xǔ* 许 and others were only ever used to mark possession in adnominal modification, and later disappeared, *dǐ* 底 expanded its functions to include all types of adnominal modification and nominalisation.

As for *de* 地-type markers of adverbial modification, despite the fact that they share the same phonetic shape of *de* 的 in SMC as well as in many other dialects, they are not likely to come from the same source (*contra* Wang [1958] 1980). Indeed, the reconstructed pronunciations in Middle Chinese and Early Mandarin provided in Pulleyblank (1991; see also Baxter, Sagart 2014) for *de* 的 and *de* 地 are different, and this is true also for their (supposed) cognates in many modern Sinitic varieties (as e.g. Yuci [tʌʔ²¹] 的 vs [ti³⁵] 地; see § 3.2). The above-mentioned change from *dì* 地 and *dǐ* 底 to *de* 的 as the grapheme for the marker of adverbial and adnominal modification suggests that by the thirteenth century these two morphemes had become (near-)homophones (Feng 2004): indeed, even in a tenth century text as the *Zu Tang Ji* (*Zǔtángjí* 祖堂集) we see cases of *dǐ* 底 used where *dì* 地 would be expected (i.e. in adverbial modification), and *vice versa* (Jiang 1999; see Yao 1998 for more examples).

Ōta ([1958] 1987, 320) believes that *de* 地 derives from *dì* 地 'place' via reanalysis: thus, for instance, *àn dì* 暗地 'dark place' could also be interpreted as 'in a dark place', and was extended to mean 'secretly'. If Ōta's and Jiang's hypotheses are both correct, then *dǐ* 底 and *de* 地 could have both grammaticalised from a (different) localiser or locative noun. Indeed, Jiang (1999) points out that the functions of *dǐ* 底 and *de* 地 as well as the syntactic environment in which they grammaticalised partly overlap: they are both markers of modification, and they can both appear between an adjectival modifier and a head. As mentioned above, there are even instances in which they are 'inverted' in the *Zu Tang Ji*.

A somewhat different reconstruction of the origin of *de* 地 may be found in Zhong (1987). Zhong points out that in Archaic Chinese there were several suffixes which could be added to state adjectives (though, crucially, not to quality adjectives), including e.g. *rán* 然, *rú* 如, and *ér* 而: while there are differences among them, the words formed with those suffixes where generally used as adverbial modifiers and as predicates, and the meaning they added could be roughly glossed as 'in this shape / manner' (Zhong 1987, 91). Zhong points out that the use of those suffixes declined in time, and by the third

century CE basically only *rán* 然 was still productively used: in his view, *dì* 地 inherited the role of *rán* 然 and other suffixes for state adjectives, and extended its functions to combine also with adverbs derived from adjectives. Indeed, already in the tenth century *dì* 地 could be attached to some reduplicated adjectives used in the predicative function, rather than as adverbial modifiers: according to Ōta, in these cases what is being depicted is a situation, and a verb is not necessary (it can be 'implied' as seen above for Shanghainese, § 3.2). Yao (1998) also suggests that, in those cases, the head verb is simply omitted. Moreover, as pointed out above, *dì* 地 started out in Medieval Chinese as a marker for adverbs and various patterns of reduplicated adjectives (which are state adjectives), rather than with non-reduplicated adjectives (Yao 1998).

Thus, the early uses of *dì* 地 appear to be similar to what we saw above (§ 3.2) for several markers in modern Sinitic varieties: while SMC *de* 地 and many other items became dedicated markers of adverbial modification, open to all types of adjectives and generally restricted to adverbial modification, other markers, including cognates to *de* 地 as well as unrelated markers, as those specific to Wu dialects, appear to be closer to the adjectival suffixes of Archaic Chinese. Indeed, Cantonese -*déi* -哋 could be a direct continuation of the Medieval Chinese uses of *dì* 地 as an adjectival suffix, given their formal and functional closeness.[12] Note that even SMC makes use of postposed items as *shìde* 似的 'as if, like', or *yībān* 一般 'same as, just like', generally used after verbs and nouns:

(32) 火车飞一般地向前驰出

huǒchē	*fēi*	*yībān*	*de*	*xiàng*	*qián*	*chí-chū*
train	fly	like	ADV	towards	forward	speed-exit

'The train flashed past like lightning'

While the marker of adverbial modification *de* 地 is anyway used in (32) to connect the modifier and the head, *yībān* 一般 is added to the verb *fēi* 飞 'fly' to turn it into a modifier.

Moreover, the use of adverbs roughly meaning '(in) this way, so' (as e.g. Shanghainese *ka* 介, Wenzhounese [naŋ³¹] 恁, and Cantonese

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12 The Cantonese character *is* 哋, used to write both the adjectival suffix -*déi* and the so-called 'plural' suffix -*deih*: the only difference between them is the tone (high level vs low level). Also, sometimes the character *deih* 地 'place' (cognate to SMC *dì* 地), homophonous to the plural morpheme, is used to write both suffixes. Lastly, note that, according to Rao, Ouyang and Zhou (2009), -*déi* -哋's original tone is actually low level (*deih*), and the high level tone in its use as an adjectival suffix is due to sandhi: indeed, in their dictionary -*déi* -哋 and *deih* 地 'place' are one and the same entry. This is strongly suggestive of a shared origin between Cantonese -*déi* -哋 and SMC *de* 地.

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gám 咁; see above, § 3.2) as markers of adverbial modification is also reminiscent of Archaic Chinese suffixes for state adjectives. We will get back to this below.

The origin of *gè* 个-type particles has also been discussed quite often in the literature (see e.g. Zhao 1999; Wang 2008; Mei 2016). *gè* 个-type markers are often claimed to derive from a classifier, a cognate to the SMC 'generic' classifier *ge* 个, itself deriving from an Archaic Chinese classifier for bamboo, i.e. *gè* 箇 (Shi, Li 2002; Lu 2013; Mei 2016). Indeed, the (near-)identity of a classifier (cognate to SMC *ge* 个) and a *gè* 个-type structural particle is widespread in Central and Southern China: see e.g. Yanshan (Jiangxi, Gan group; Hu, Lin 2008) [ko²¹] 个 'CLF' vs [ko] 个, or Shaowu (Fujian, Min group; Ngai 2021) [kəi²¹³] 个 'CLF' vs [kəi²¹³ / kə] 个. Also, in a non-trivial number of Sinitic languages (mainly, Wu and Yue), 'ordinary' classifiers may be used as marker of adnominal (but, crucially, not adverbial) modification, as in the following Cantonese example (adapted from Matthews, Yip 2011, 128):

(33) 佢本書

    kéuih   *bún*   *syū*

    3SG   CLF   book

    'her/his book'

Note that the construction exemplified in (33) is possible with possessive modification and with clause-sized modifiers (i.e. relative clauses), but generally not e.g. with adjectival modifiers. However, adjectival modifiers are allowed if both a demonstrative and a classifier are present.[13] While not all varieties with a *gè* 个-type structural particle also use classifiers as markers of adnominal modification (Arcodia 2017), examples as (33) suggest that there might be a diachronic connection between classifiers and structural particles. Indeed, Wang (2008) believes that *gè* 个-type structural particles derive directly from related classifiers: he suggests that classifiers grammaticalise into structural particles as a result of the omission of other elements. Thus, starting from a construction like 'possessor – marker of adnominal modification – demonstrative – classifier – possessee', which is extremely common in Sinitic, in some dialects first the demonstrative, and then also the marker of adnominal modification is omitted, leaving only the classifier between the possessor and the possessee: this is the environment in which classifiers are reanalysed as markers of adnominal modification, in Wang's (2008) view.

As mentioned earlier (§ 3.1), *gè* 个-type markers appear to be absent from SMC and, generally speaking, Northern China. However,

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13 Pui Yiu Szeto, personal conversation (November 2021).

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Shi and Li (2002, 7) point out that, between the eleventh and the seventeenth century, the classifier *gè* 个/箇 grammaticalised into a marker of adnominal modification in 'mainstream' Chinese (thirteenth century example; characters added; see also Jiang 1999):

(34) 你個骨是乞骨

nǐ	*gè*	*gǔ*	*shì*	*qǐ*	*gǔ*
2SG	GEN	bone	COP	base	bone

'Your bone is base' (*Zhāng Xié Zhuàngyuan* 张协状元)

In this function, *gè* 个/箇 was in competition with *de* 的. Interestingly, while most research focuses on the use of *gè* 个-type markers of adnominal modification, Shi and Li (2002, 7) also include an example in which *gè* 个/箇 is apparently used for adverbial modification (seventeenth century example; characters added; see also Wu 2005, 290 and Wang 2008, 545):[14]

(35) 你丈夫想是真個不在家了

nǐ	*zhàngfu*	*xiǎngshì*	*zhēn*	*gè*	*bù*	*zài*	*jiā*	*le*
2SG	husband	guess	real	ADV	NEG	be	home	PERF

'Your husband, I guess, is really not at home' (*Shěn Xiǎoxiá Xiānghuì Chūshī biǎo* 沈小霞相会出师表)

Thus, there appears to be an antecedent in Medieval Chinese for the use of a *gè* 个-type item as a marker of adnominal and adverbial modification. However, this usage did not survive in SMC, nor in the vast majority of Northern dialects. Moreover, *gè* 个/箇 was also used as a demonstrative, at least since the (Late) Medieval Chinese stage, as in this seventh-century example (Shi, Li 2002, 7; characters added):

(36) 箇人諱底

gè	*rén*	*huì*	*dǐ*
this	person	taboo	what

'What does this person avoid as taboo?' (*Běi Qí Shū* 北齐书)

As mentioned above, Shi and Li (1998; 2002) propose that *dǐ* 底 evolved into a structural particle from its functions as a demonstrative and interrogative pronoun, and stress the fact that demonstrative pronouns are prone to grammaticalise into markers of adnomi-

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14 An anonymous reviewer pointed out that this usage is attested also in a Tang Dynasty poem by Wang Wei (eighth century), with the character *gè* 箇.

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nal modification. We highlighted above that formal overlap between a classifier and a structural particle is common in Central and Southern China. Here we may add that this pattern of (near-)homophony extends also to demonstratives in a number of central dialects (i.e. Wu, Gan and Xiang) dialects, as well as in some Hakka and Yue varieties (Shi 2002), further suggesting a close connection between these three functions: see e.g. the structural particle [kəʔ] 葛 in Jinhua (a Wu dialect of Zhejiang), which is perfectly homophonous to the proximal demonstratives 'this' and to a classifier (a likely cognate to SMC *ge* 个; Mei 2016, 127; see Wu 2005 for some examples from Xiang dialects).

Indeed, a 'classifier > demonstrative > structural particle' pathway of evolution has been proposed before in the literature (see Zhao 1999; Shi 2002; Mei 2016). For instance, Shi (2002) believes that classifiers in Sinitic have to go through a demonstrative stage before evolving into a structural particle: as for *gè* 个/箇, Shi points out that its use as a classifier emerged during the Wei-Jin period (third-sixth century CE), its earliest uses as a demonstrative date to the sixth-seventh century, while its use as a structural particle did not appear before the late Tang period (i.e. end of ninth-beginning of tenth century), thus following the proposed pathway of evolution (differently from what we saw above for *dǐ* 底). Shi also highlights parallels between the evolution of *gè* 个/箇 and that of other demonstratives: in the following example from the *Dream of the Red Chamber*, an eighteenth century vernacular novel (Shi 2002, 123), the demonstrative *nà* 那 'that' is used where a marker of adnominal modification would be expected, just as in (29).

(37) 谁稀罕吃你那糕!!

shéi	*xīhan*	*chī*	*nǐ*	*nà*	*gāo*
who	care	eat	2SG	that/POSS	cake

'Who cares to eat your cake!!' (*Hóng Lóu Mèng* 红楼梦)

Most of these examples may be analysed as cases of *de* 的-omission: however, note that a sentence as (37) would be ungrammatical without *nà* 那, which hence acts here as the only marker of adnominal modification (Shi 2002).[15] According to Shi (2002), this is the syntactic environment in which demonstratives grammaticalise into structural particles.

Mei (2016) points out that both classifiers and demonstratives share the function of 'individualisation', and they both appear be-

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[15] However, an anonymous reviewer pointed out that similar examples without *nà* 那 may actually be found in the vernacular literature, as e.g. *gǎn chī nǐ gāo* 敢吃你糕?

fore nouns, thus favouring the evolution from classifier to demonstrative. Note that when 'ordinary' demonstratives (ex. 29, 37) and classifiers (33) are used as markers of adnominal modification, they always imply definiteness (Shi 2002; Lu 2013), while full-fledged structural particles (as SMC *de* 的 or Cantonese *ge* 嘅) do not carry that implication: they are 'neutral' with respect to reference.

Moreover, Wu (2005) suggests that the syntactic distribution of the classifier *gè* 个 is inconsistent with the earliest uses of *gè* 个 as a marker of modification: in its earliest uses in Medieval Chinese, *gè* 个 as a structural particle occurred with adjectives only, but the classifier *gè* 个 was not normally found after adjectives. Wang (2008) further points out that *gè* 个, just as any classifier, would appear before nouns, rather than before verbs or adjectives. Thus, Wu proposes that the character *gè* 个(/箇) was used as the grapheme for "a few different forms with a similar sound" (Wu 2005, 281), including the classifier *gè* 个, a demonstrative, and an adjectival suffix: the latter is attached to adjectives used as adnominal modifiers or as nominalisers. She suggests that structural particles (mainly markers of adnominal modification) derive from a [k]-initial demonstrative, with which they share an identical or very close phonetic shape in many Xiang dialects (e.g. Hengyang [ko^{33}] 'this' vs [ko^{22}]; Wu 2005, 281). However, she also proposes that *gè* 个-type markers could derive from a suffix for reduplicated adjectives, similar to those mentioned above when discussing the origin of *de* 地-type markers: this would explain why the early uses of *gè* 个 during Tang times always involved adjectives. Note that Wu's (2005) hypothesis allows also for different sources, depending on the specific variety at issue. Thus, for instance, the above-mentioned Hengyang structural particle [ko^{22}] might derive from the demonstrative [ko^{33}] 'this' or from the classifier [ko^{24}]. However, in a dialect as Lianyuan the structural particle [ku] could have evolved from the adjectival suffix [ka], or it could be the result of a choice among this suffix, the demonstrative [ku^{53}] and the classifier [ko^{55}]: since all three of them can be found in the syntactic slot of a structural particle, they share the same environment for their diachronic evolution.

Incidentally, the role of a [k]-initial adjectival suffix in the evolution of *gè* 个-type structural particles might also help us understand the origin of *gè* 个-type markers of adverbial modification, which do not appear to be discussed often in the literature. We saw before that even in mainstream Chinese *gè* 个 could be used as a marker of ad-

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'(How can I) dare to eat your cake' (lit. 'Dare eat you cake'; examples from the sixteenth century novel *Xī Yóu Jì* 西游记). Thus, Shi's (2002) claim that the omission of *nà* 那 results in ungrammaticality is probably too strong, as this appears to be acceptable at the time, although it was probably not common.

verbial modification at a certain historical stage of the language: this could be explained either by the (analogical) extension of its function as a marker of adnominal modification, or by its use as an adjectival suffix, if Wu's (2005) proposal is correct.

However, an alternative hypothesis is offered by Wang (2008). He argues that *gè* 个-type markers of adverbial modification could derive from the use of a related ([k]-initial) demonstrative meaning 'this, that', but also 'so, such' (in) this/that way': when this item was found between an adverbial modifier and a verb, it first indicated its original meaning 'so, this way', and was then reanalysed as a dedicated marker of adverbial modification. In the case of the Daye Jinhu dialect, this origin of the *gè* 个-type structural particle is somehow reflected in the contrast between the two markers of adverbial modification: as mentioned above (§ 3.2), in this variety the *de* 地-type particle [ta^{33}] 的 is used to provide an objective description, while the *gè* 个-type marker [ko^3] 果 has a more depictive function, and is used only with a subset of modifiers. Note that Wu's (2005) and Wang's (2008) proposals are not incompatible: the use of a *gè* 个-type item between an adjectival modifier and a verb with the meaning 'so, such, in this way' is strongly reminiscent of the adjectival suffixes mentioned above (as e.g. *rán* 然): there might thus be overlap between these two categories.

Another set of markers for which a connection with demonstratives has been proposed in the literature is that of *nà* 那-type structural particles. Indeed, the consensus appears to be that they developed from distal demonstratives, cognate to SMC *nà* 那 'that' (Lu 2013): Thus, for instance, Kunming *nə^{44}* is said to derive from the demonstrative *nə^{212}* 'that'. Lu (2013, 140) suggests that the difference in the tone contour between the demonstrative and the structural particle might be explained by the incorporation into the distal demonstrative of the tone of a generic classifier: thus, in the sequence *nə^{51} kə^{33}* 'that CLF' the classifier is omitted, but *nə^{33}* retains its tone.[16] Note that the use of a '(distal) demonstrative – classifier' construction without a preceding structural particle in adnominal modification is common in many dialects including (colloquial) SMC and Cantonese: indeed, as mentioned above, the 'demonstrative – classifier' construction may be used for more subtypes of adnominal modification in Cantonese, compared to the classifier only. Thus, Lu's hypothesis that the use of *nə^{44}* as a structural particle originates from its use in the 'demonstrative – classifier' construction when used as

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[16] Note that the tone values for the distal demonstrative and the structural particle in Kunming are different in Gui's (2000) grammar of this dialect and in Lu's (2013) monograph. For the sake of consistency with the sources, we included both transcriptions here.

the sole marker of adnominal modification is indeed plausible. There are, however, two residual issues.

Firstly, the use of *nə⁴⁴* (and related *nà* 那-type particles) as markers of adverbial modification is unlikely to come directly from its use as a demonstrative, or from its use with a classifier and a noun: markers of adverbial modification are not followed by NPs, for obvious reasons. Indeed, in Gui's (2000, 42) grammar of Kunming, the marker of adverbial modification is defined as a "manner particle", said to be "pronounced the same as the nominaliser [i.e. *nə⁴⁴*]": they are treated as distinct particles, albeit homophonous. However, the perfect identity of the marker of adnominal modification and the 'manner particle' are probably not due to some coincidence: we may hypothesise that the distal demonstrative first grammaticalised into a marker of adnominal modification, and then extended its functions to marking adverbial modification, given the above-mentioned structural and semantic similarities between these two constructions (see also § 2.1). Or, as proposed by Wang (2008) for *gè* 个-type markers of adverbial modification, items as Kunming *nə⁴⁴* might derive from a demonstrative meaning 'so, such, in this way' used between modifier and verb. In the lack of direct evidence of the evolution of *nà* 那-type particles, neither hypothesis may be confirmed or refuted.

Secondly, it might be the case that not all varieties which make use of a *nà* 那-type structural particle have a (near-)homophonous distal demonstrative: a case in point is Wenshan (see § 3.2). In Wenshan, *ni⁵⁵* 尼 is the marker of adnominal and adverbial modification; the distal demonstrative is recorded in writing with the character 啊, i.e. SMC *a* (Zou 2020). While we have no way of knowing the actual pronunciation of this word in Wenshan, we can reasonably assume that it should not be far from [a]: if this were not the case, there would be no reason for the author not to use the conventional character *nà* 那 for the Mandarin distal demonstrative. However, it could still be the case that a demonstrative cognate to *nà* 那 is the source for the particle *ni⁵⁵* 尼, but then the language either adopted a new demonstrative, or the cognate form to *nà* 那 underwent sound change. Needless to say, in the absence of historical records, any hypothesis must remain speculative.

Thus, the proposed diachronic sources and pathways of grammaticalisation for *de* 的-type, *de* 地-type, *gè* 个-type, and *nà* 那-type markers of modification overlap to a considerable degree. Specifically, markers of adnominal modification are often claimed to be related to demonstratives; *de* 地-type and *gè* 个-type markers of adverbial modification, on the other hand, are sometimes associated with adjectival suffixes. Interestingly, these possible sources have been invoked also for another class of structural particles, namely *li* 哩-type markers of adnominal and adverbial modification.

As said earlier (§ 3.1), there are several different characters which are used in descriptions to write *li* 哩-type markers, and most of them

are not reliable as indicators of the possible origin of this class of markers. There are at least four different hypotheses in the literature concerning their source and pathway of grammaticalisation (see Xiang 2001; Shi 2003; Feng 2004; Chen 2013; Arcodia 2021):

a. from a distal demonstrative cognate to SMC *nà* 那, with sound change ([n] > [l]);
b. from the same etymon as SMC *de* 的, with sound change ([t] > [l]);
c. from a localiser cognate to SMC *lǐ* 里;
d. from different sources, depending on the function, with subsequent formal merge.

To this, we may add a fifth possible source, namely:

e. from a [l]-initial adjectival suffix, of uncertain origin.

If we look at the list above, we may see considerable overlap between the sources discussed above for *de* 的-type, *de* 地-type, *gè* 个-type, and *nà* 那-type structural particles. The first hypothesis on the origin of *li* 哩-type markers, namely from a [n]-initial demonstrative whose initial became [l], was proposed e.g. by Xiang (2001) and Shi (2003). The pathway of grammaticalisation would thus be virtually identical to that proposed above for *nà* 那-type particles, with the addition of a shift in the initial sound. Xiang (2001) discusses data of the Yiyuan dialect (Shandong, Mandarin group): in Yiyuan, the distal demonstrative is *na⁵³* 那, the markers of adnominal modification are *lə* 那 and *lə* / *li* 的, and the nominaliser is *nə* 那. Xiang believes that *lə* 那 evolved from *na⁵³* 那 via an intermediate stage, *nə*, which is still reflected in its use as a nominaliser; the other marker of adnominal modification, *lə* / *li* 的, is said to derive from *ti, just as SMC *de* 的. Shi (2003) analyses data from Shanxi dialects (belonging to the Mandarin and Jin groups), showing that there is some overlap between distal demonstratives and markers of adnominal modification: this connection holds both when the initial sound is [n] and when it is [l]. Thus, in Linyi the demonstrative 'that' is *lai⁴⁴* 奈, and the marker of adnominal modification is *lai* 奈; in Wanrong, 'that' is *nai³³* 奈, and the marker of adnominal modification is *nai* 吶. The pathway of grammaticalisation for distal demonstratives in these varieties would be the same as that outlined above for *nà* 那-type particles: also, the [n] > [l] shift in the initial occurred only in some dialects, hence the formal difference e.g. between Linyi and Wanrong (Shi 2003).

Just as for *de* 的-type and *de* 地-type markers, a diachronic connection with a localiser (or locative noun) has been proposed also for *li* 哩-type structural particles. Similarly to what we saw above (ex. 30-31) for *xǔ* 许 and *dǐ* 底, an [l]-initial localiser could be used in Medieval Chinese to mark possession, as in the following example from a twelfth century text (Liu 2017, 67):

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(38) […] 我里姓名

wǒ   lǐ   xìng-míng
1SG   GEN   surname-name

'[…] my full name' (*Dà Sòng Xuānhé Yíshì* 大宋宣和遗事)

According to Liu (2017), this construction was already fully developed in the late Song period (i.e. twelfth-thirteenth century), as shown by the fact that the first NP could also be a personal pronoun (in 38, *wǒ* 我 '1SG'), and the second NP could be an abstract noun, thus ruling out a locative interpretation. In this construction, we see a reanalysis from predicating the existence of NP$_2$ in the location identified by NP$_1$, to predicating a possession relationship (NP$_1$'s NP$_2$; Liu 2017): this is hardly unusual, as the connection between the domains of 'existence' and 'possession' is quite common (compare the SMC verb *yǒu* 有 'exist; have'; Chen 2007).

Interestingly, Liu (2017) argues that in the Ming period (1368-1644) literature *lǐ* 里 was also used as a marker of adverbial modification. Feng (2004) analyses the use of *li* 哩 in the eighteenth century novel *Qí Lù Dēng* 歧路灯, and shows that *li* 哩 is used as a marker of adnominal and adverbial modification, and also in the verb complement construction: note that here *li* 哩 covers all subtypes of adnominal modification, including adjectival modification and relative clauses (Chen 2007). Feng (2004), however, does not believe that *li* 哩 is connected to the localiser *lǐ* 里, mainly because the verb complement construction is structurally very distant from the environment in which the markers of modification may have grammaticalised: he thus proposes that the particle *li* 哩 is but the product of a [t] > [l] sound change in the three *de* particles (i.e. *de* 的, *de* 地, and *de* 得), which by the time when this novel was written were already homophonous ([*ti]), in his view.

On the other hand, according to Chen (2013), a complete formal merger of *de* 的, *de* 地, and *de* 得 probably occurred after the Yuan period (1279-1368), while instances of *lǐ* 里 as a marker of adnominal modification are already attested in Song times, as shown above (38). If this were the case, Feng's (2004) hypothesis would not be supported by the data. Chen (2013) believes that the different uses of *li* 哩 in the *Qí Lù Dēng* 歧路灯, as well as in many modern dialects, do not come from the same source: she suggests that its uses as a marker of adnominal modification do derive from the localiser *lǐ* 里, while its uses as a marker of adnominal modification and of the verb complement construction derive from the particles *de* 地 and *de* 得, again with a change in the initial.

Based on the fact that, as repeatedly mentioned above, the constructions marking modification do share some common features, and that a locative origin has been proposed for *de* 的 and *de* 地 too,

Arcodia (2021) tentatively suggests that the particle *li* 哩 recorded in the *Qí Lù Dēng* 歧路灯 and in many modern dialects derives from a localiser (*lǐ* 里) at least in its function as a marker of adnominal modification, and that it could then have acquired by analogy the function of marking adverbial modification. Needless to say, the development of the function of marker of the verb complement construction is harder to explain, given the structural differences in the constructions involved. Also, he argues that the hypothesis of an origin of *li* 哩-type particles from 'that' seems unlikely for most dialects, which usually have [n]-initial distal demonstratives.[17]

In the light of the discussion on adjectival suffixes above, we would also like to suggest [l]-initial suffixes as a possible source for *li* 哩-type particles of adverbial modification. Indeed, [l]-initial suffixes in the same slot as a structural particle are not rare in Central China: we already cited Wu examples as Shanghainese *li* 哩, and Xiang examples as Yiyang *li* 哩 (see § 3.2); other examples include Yanshan *li* 哩, Haimen [li²¹] 里, and Tunxi [le] (defined as an 'adverbial suffix' in Lu 2018, 252). Just as proposed by Wu (2005) for *gè* 个-type structural particles in Xiang dialects, we dare suggest that *li* 哩-type particles might also derive from different sources, depending on the specific variety. Cases as those of Wanrong and Linyi seen above are strongly suggestive of an origin from a distal demonstrative, while for Central Plains dialects, in which *li* 哩-type particles tend to act as markers both of adnominal and of adverbial modification, an origin from a [l]-initial localiser is indeed very plausible. On the other hand, an origin from an adjectival suffix may be proposed for the cases mentioned just above in which the *li* 哩-type exponent seems to share features of suffixes for state (mostly, reduplicated) adjectives, rather than being full-fledged markers of adverbial modification. Also, this hypothesis might account for languages as Tunxi in which the marker of adnominal modification does not belong to the *li* 哩-type: in those cases, both the demonstrative route and the localiser route seem unlikely, as an origin in either would arguably be first reflected in the marker of adnominal modification.

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17 Arcodia (2021) proposes a comparison between the Linyi and Wanrong data seen above and the data from Southwestern Mandarin with *nà* 那-type particles. He highlights that in many Southwestern varieties, including e.g. Chengdu, the initials /n/ and /l/ mostly merged into /n/ (Yuan et al. 2001), thus making it hard to argue either in favour or against a [n] > [l] sound change. However, in other varieties, as e.g. the abovementioned Kunming, the /n/ vs /l/ distinction is retained, and 'that' and the structural particle both have a /n/ initial. Actually, Chen (2007) proposes that structural particles in Southwestern dialects as Chengdu or Guiyang might derive from [l]-initial localisers (cognate to *lǐ* 里): she suggests that there might be a connection e.g. between the Chengdu structural particle *ni⁵⁵* and the localiser *ni⁵³*, or between the Guiyang structural particle *lə⁵³* and the localiser *li⁵³*. Since, however, in the dialects at issue the /n/ vs /l/ distinction has been mostly lost, the significance of these data is limited.

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We did not find much literature on the origin of *jiào* 叫-type, *néng* 能-type and *jiè* 介-type markers. As already discussed in § 3.2, their status in modern dialects varies considerably depending on the specific marker and variety; generally speaking, they may be located at different points along an 'adjectival suffix – structural particle' continuum. It clearly appears that *jiào* 叫-type markers and, to a different extent depending on the variety at issue, also *néng* 能-type and *jiè* 介-type markers, show strong similarities with Archaic Chinese suffixes as *rán* 然, with *dì* 地 in its early uses and, also, with the SMC adverb-like items mentioned earlier (*yībān* 一般, *shìde* 似的), which are however used after verbs, rather than adjectives. Apart from 叫 *jiào*-type particles, they all seem to be related to adverbs in the semantic area of '(in) this way, so, like': while we have no credible hypothesis to offer for the etymon of *jiào* 叫-type markers, they do belong in the same 'paradigm' (for lack of a better word) as suffixes for (mostly) state adjectives. The same hypothesis could be extended to the Yue *gān* 咁-type markers of adverbial modification, which seem to be related to adverbs meaning 'this way, so, thus'; the main difference lies in the fact that, at least in some varieties (e.g. Cantonese), they look like full-fledged markers, rather than just suffixes for state adjectives. This, however, is true also for some *néng* 能-type and *jiè* 介-type markers, as pointed out above (§ 3.2): thus, these markers might share a parallel pathway of grammaticalisation, but they appear to have evolved to different degrees, again depending on the specific item and variety.

Note that, as mentioned earlier (§ 3.2), Qian (1998) proposes that *gè* 个-type and *jiè* 介-type items in Wu dialects might come from the same source: thus, in his view, Shanghainese *xeq/geq* 个 should be seen as the 'weakened' (unstressed) form of *ka* 介. Indeed, in Archaic Chinese texts (as e.g. in the Book of Documents) there are examples of *jiè* 介 being used as *gè* 个, and in medieval lexicographic works *jiè* 介 is sometimes seen as a graphic variant for *gè* 个(/個). He argues that *gè* 个-type and *jiè* 介-type items in Shanghainese share some of their core functions, including demonstrative use (marking definiteness) and marking adverbial modification: he sees them as the product of a development from classifier to demonstrative to structural particle, being basically two variants of the same morpheme. If Qian's hypothesis is correct, it would entail that the use of *jiè* 介-type items as full-fledged structural particles, as e.g. Ningbo [ka⁴⁴]/[kɐʔ⁵⁵] 介, is actually indicative of the preservation of this function, rather than an innovation. On the other hand, if *jiè* 介-type items derive from suffixes for state adjectives, their use as structural particles with other adverbial modifier would be an innovation. Also, as mentioned earlier, *gè* 个-type markers could also derive from a demonstrative meaning 'so, such, in this way', just as e.g. Shanghainese *ka* 介, used in the same syntactic slot as adjectival suffixes (i.e. wedged between the adjectival modifier and the verb).

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An origin from some adjectival suffix is also the most credible explanation for the evolution of some other items, in our view. A case in point are GAO 搞 and JI 唧 in Shuangfeng (see § 3.2): they are used only with state adjectives and, besides, may convey other meaning nuances (specifically, evaluative meaning). The same goes for the above-mentioned [ka] 家 of the Yiyang dialect.

To sum up, in this section we discussed different possible source concepts and pathways of grammaticalisation for markers of adnominal and adverbial modification in Sinitic. While there are several conflicting hypotheses on the diachronic evolution of these items, there are clearly some that recur more often in the literature. As for markers of adnominal modification, commonly proposed sources include:

a. demonstratives;
b. classifiers;
c. locative nouns/localisers.

In the case of markers of adverbial modification, all of the above-mentioned diachronic sources apply. However, it is unclear whether there is a direct relationship between these sources and structural particles for adverbial modification: at least for locative nouns/localisers, it appears as more likely that they first grammaticalise into markers of adnominal modification, and then acquire by analogy other functions. Additional sources for markers of adverbial modification include also:

d. deictic adverbs (meaning 'in this way, so, such');
e. adjectival suffixes (mostly, suffixes for state adjectives).

The latter two, i.e. (d) and (e), on the other hand, could well be direct sources for markers of adverbial modification.

We tend to agree with Wu's (2005) stance on the origin of structural particles: different pathways may be involved depending on the specific item and variety, all of which may be true depending on the specific case, even when the markers at issue seem to have an obvious formal (and, perhaps, etymological) relation. A case in point is that of *li* 哩-type particles in different regions of China: as said earlier, while an origin from an *l*-initial localiser may be argued to be the most plausible hypothesis for the origin of those particles in most Mandarin and Jin dialects of Northern China (especially since distal demonstratives usually have an *n*-initial in those dialects; Arcodia 2021), Wu's proposal of an origin from adjectival suffixes for the same type of particles in Xiang is probably the likeliest hypothesis for Central China, including Wu; also, an origin from demonstratives is arguably the most straightforward hypothesis for some Northern Chinese dialects as e.g. Wanrong. For some markers, however, the range of possible pathways of evolution is narrower: this is the case of *jiào* 叫-type, *néng* 能-type, *jiè* 介-type markers, and *gān* 咁-type

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markers, for which deictic adverbs and adjectival suffixes are the most likely sources. Note that the latter are not necessarily mutually exclusive, since adjectival suffixes may be etymologically related to lexemes meaning 'in this way / manner', as mentioned earlier. For *de* 的-type markers, we tend to favour Jiang's (1999) hypothesis of a locative origin, whereas *dì* 地-type markers likely derive from a different source construction, namely when they were used as a suffix for adjectives. As for *gè* 个-type markers, among the different proposed pathways of evolution, the connection with demonstratives appears to be that for which we found the strongest supporting evidence, at least for adnominal modification; for adverbial modification, again, an origin from adjectival suffixes is indeed a possibility. An origin from demonstratives is also the best supported hypothesis for *nà* 那-type structural particles (again, especially in their use as markers of adnominal modification). However, in the case of *gè* 个-type markers the issue of a connection between those demonstratives and classifiers cognate to *gè* 个, despite the similarity in shape, is controversial.

5 Summary and Conclusions

In this paper, we tried to explore the range of variation in the (broadly defined) domain of structural particles in Sinitic: specifically, items which have been described as markers of adverbial and adnominal modification.

What seems to emerge from our survey is that constructions for adnominal and adverbial modification, while sharing many important features, do differ considerably, both in synchronic and in diachronic terms.

One major difference between these two families of constructions is that there is a broader range of variation for adverbial modification. The markers of adnominal modification generally seem to have a more clearly defined status (i.e. they are mostly full-fledged particles), and there are less distinctions between subtypes of modification: whenever we found some specific construction in the domain of adnominal modification, it was either for possessive modification, or for modification by state adjectives. Markers of adverbial modification, on the other hand, seem to be subject to restrictions based on classes of items (e.g. reduplicated adjectives) or even rather idiosyncratic restrictions on specific modifiers; they also show different possibilities for combination with other markers (see e.g. ex. 16 and 26). Moreover, the principles which govern their omission are less clear, if compared to markers of adnominal modification, and they are (nearly) non-existent in some varieties: adverbial modification may be unmarked, or substituted by another construction (e.g. the verb complement construction).

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There is also a broader range of different markers and constructions in the domain of adverbial modification, both at the intralinguistic and at the cross-linguistic level: languages which make use only of one main marker of adnominal modification have several different constructions for adverbial modification (as is the case in some Wu varieties), and we identified more types for adverbial modification than for adnominal modification.

This greater degree of variation seems to apply also to the diachronic development of the two classes of markers of modification. We identified more possible sources for markers of adverbial modification than for markers of adnominal modification, even though research has focused more on the origin of the latter. This is partly explained by the fact that there is some degree of overlap between adjectival suffixes and full-fledged particles marking adverbial modification, and adjectival suffixes show much variety. Indeed, many of the items discussed in this paper (*jiào* 叫-type markers being a case in point) are quite far from the prototypical structural particle: in the case of markers of adnominal modification, we do not see much ambiguity concerning their status, as said above.

Due to space limitations, in this paper we could not provide a more comprehensive discussion of the diachronic evolution of structural particles, including all the items which we found in our sample. Also, we believe that more insights could be gained by examining the (limited) available historical texts describing some of the major dialects. We leave this for further research.

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