

THE AFFILIATION OF THE THREE ZHŌNGSHĀN MǐN VARIETIES: A REVIEW & SOME ADDITIONAL NOTES*

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Abstract

In the Pearl River Delta, three enclave Mǐn Chinese varieties can be found in Zhōngshān: Longdu 隆都 (Lóngdū), Namlong 南朗 (Nánlǎng), and Samheung 三鄉 (Sānxiāng). They are often said to be closely related Southern Mǐn varieties. In this article, we review the existing arguments on the affiliation of these three Zhōngshān Mǐn varieties, and provide some extra perspectives. Based on shared innovations, the genealogical affiliation of Longdu and Namlong lies not with Southern Mǐn, but with Eastern Mǐn, and more specifically, the Northern subgroup of Eastern Mǐn. Samheung, on the other hand, is indeed Southern Mǐn. Samheung is primarily a Southern Mǐn variety of the Zhāngzhōu-type, and it also has a few traits of the Cháo–Shàn (Teochew–Swatow) type. In addition to the large superstratum from the dominant Yuè varieties (Shekki and Cantonese), the Zhōngshān Mǐn varieties also have their own retentions and innovations which make them typologically less typical of their respective Mǐn sub-group. This is especially the case with Longdu and Namlong; they are typologically rather different from the better-known Eastern Mǐn varieties like Fúzhōu (Hokchew) and Fúqīng (Hokchia). This has caused their Eastern Mǐn affiliation to be overlooked by many people.

Keywords: Sinitic, Zhongshan Min, dialect island, comparative method, Proto-Min

三種中山閩語的系屬問題：回顧及觀察

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摘要

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位處珠江三角洲的中山市有三種閩語方言島方言：隆都、南萌和三鄉。這些方言島中的閩語常常被描述成大同小異的閩南區方言變體。本文首先回顧前人對這三種方言的系屬所作的討論，接著提出一些自己的看法。基於共同創新，隆都話及南萌話肯定不屬於閩南區，而是屬於閩東區。更準確一點說，應該是閩東區北片的成員。另一方面，三鄉話的確系屬閩南。它和漳州類的閩南區方言接近，同時摻雜了一些潮汕類閩南區方言的特徵。這三種中山閩語方言，除了擁有來自權威粵語（石岐話、廣州話）的龐大表層影響外，亦有自身的存古及創新成份；這使它們的類型面貌與原鄉的閩語有所區別，其中以隆都話及南萌話尤其明顯也就是這個原因，隆都話、南萌話與閩東的聯繫常常被人忽略。

關鍵詞：漢語、中山閩、方言島、比較法、原始閩語

1. Introduction

Many languages (Sinitic, Kra-Dai, and Hmong-Mien) are traditionally spoken in Guǎngdōng Province in Far Southern China. Most people speak a speech variety belonging to one of these three Sinitic dialect groups: Yuè 粵 (which includes Cantonese), Hakka 客家 (Kèjiā), and Mǐn 閩. Mǐn originated in neighbouring Fújiàn Province to the northeast, and in Guǎngdōng about a quarter of the population speaks a Mǐn variety (Wǔ Wēi 伍巍 & Zhān Bóhuì 詹伯慧 2012: 160–161). The Guǎngdōng Mǐn varieties are primarily found in two coastal flanks: Teochew–Swatow 潮州汕頭 (Cháozhōu–Shàntóu) and Hai–Lok Hong 海陸豐 (Hǎifēng–Lùfēng, “Haklau”) in the eastern flank, and Luichew 雷州 (Léizhōu) in the western flank. Less well known are the many little Mǐn enclaves elsewhere in Guǎngdōng (e.g. Zhuāng Chūshēng 莊初升 2002). Amongst the Guǎngdōng Mǐn enclaves, the most populous, and also the most linguistically divergent, are found in Zhōngshān 中山 (Chungshan) in the Pearl River Delta in central Guǎngdōng. The Zhōngshān Mǐn [ZSM] varieties are the main foci of this article. The three ZSM varieties – Longdu 隆都 (Lóngdū), Namlong 南萌 (Nánlǎng), and Samheung 三鄉 (Sānxiāng) – are often assumed to be closely-related Southern Mǐn varieties. However, this is only partially true. Firstly, it is debatable how closely related they are to each other; even Longdu and Namlong, the closest pair out of the three, are mutually unintelligible without prior exposure. Secondly, as we shall see in this article, while Samheung is indeed Southern Mǐn, Longdu and Namlong are Eastern Mǐn genealogically.

In section 1, various introductory remarks are made. Section 2 is primarily a review of Akitani 秋谷 (2022a)’s arguments that Longdu is a member of Eastern Mǐn, and more specifically, the Northern subgroup of Eastern Mǐn. We also present some additional data which support this view. Also discussed in our article are a few counterexamples, e.g. likely borrowings from Southern Mǐn, as well as how Longdu is typologically different from the typical Eastern Mǐn varieties. These typological traits have lead many people to think that Longdu is Southern Mǐn. Section 3 on Namlong has exactly the same structure as section 2 on Longdu. Namlong is largely similar to Longdu in terms of its historical phonological developments, and is hence also a variety of Eastern Mǐn. In section 4, we compare Samheung with the innovations that have occurred in the various branches of Coastal Mǐn. The conclusion is that Samheung is primarily a Zhāngzhōu-type Southern Mǐn variety, and it also has some traits which resemble Guǎngdōng–Hǎinán-type Southern Mǐn.

In section 5, we discuss some traits which are common to the three ZSM varieties, including two lexical items which link ZSM with far northeastern Fújiàn:

the word for “yesterday”, and 翁 $\varepsilon\eta^1 / \mathfrak{a}\eta^1 / a\eta^1$ ‘grandfather’. A conclusion is made in section 6.

1.1 Zhōngshān and the Zhōngshān languages

Zhōngshān 中山 (Chungshan, ‘middle mountain’)¹ is located in the Pearl River Delta, on the western side of the Pearl River Estuary. Going clockwise, to the south are Zhūhǎi 珠海 and Macau 澳門. To the west is Kongmoon 江門 (Jiāngmén), i.e. the Szeyap 四邑 (Sìyì) area (a.k.a. Ngyap 五邑 (Wǔyì)). To the north are Fatshan 佛山 (Fóshān) and Canton 廣州 (Guǎngzhōu). East of Canton is Tungkun 東莞 (Dōngguǎn). To the east of Zhōngshān, across the Pearl River Estuary are Shēnzhèn 深圳 and Hong Kong 香港. (See Map 1.)

Zhōngshān 中山 was previously known as Heungshan 香山 (Xiāngshān, ‘fragrant mountain’). The traditional Heungshan County included Macau and most of Zhūhǎi to the south. Heungshan was historically one big island, surrounded by smaller islands.² Mǐn was the majority in the Heungshan Islands, and Yuè – Heungshan Yuè – was a strong minority. Most Mǐn-speaking villages in Heungshan were established during the Southern Sòng Dynasty (1127–1279) (Gāo Rán 高然 2018: 5). That Samheung Mǐn speakers call Yuè speakers 客儂 $k^hvi^2 na\eta^2$ (guest person) (and, e.g., 講客 $k\epsilon u^{3-6} k^hvi^2$ (speak guest) ‘speak Yuè’; Gāo 高 2018: 330)³ is a testament that Mǐn speakers settled in the Heungshan Islands on average earlier than Yuè speakers. There are other minorities in the Heungshan Islands. The majority of Hakka speakers arrived in Heungshan during the Qīng Dynasty (1616–1911) (Gāo 高 2018: 7), primarily settling in mountainous areas. In the 1550s, the Portuguese settled in Macau Peninsula, a tip of Heungshan Island.⁴

During the Míng Dynasty (1368–1644), the number of Yuè speakers grew rapidly. The number of Heungshan Yuè villages surpassed the number of Mǐn villages (Gāo 高 2018: 4). Sedimentation gradually joined Heungshan Island and many of the surrounding small islands to the Pearl River Delta. The newly formed sandy lowlands were primarily settled by people from elsewhere. Most of these new migrants spoke the Shuntak 順德 (Shùndé) type of Yuet Hoi 粵海 (Yuèhǎi) Yuè from the immediate north. Many Boat People, who spoke similar types of Yuet Hoi Yuè, also settled in the new lands. Also amongst the new immigrants were smaller

¹ Zhōngshān City is a prefectural-level city (one level below the provincial level). After Zhūhǎi was carved out, the ex-Zhōngshān County was upgraded to become a prefecture on its own. In other words, Zhōngshān is a prefecture, but its geographical size is that of an average county.

² For instance, Shekki, Namlong, and Samheung were on the main Heungshan Island, whereas Longdu was a separate island. This explains the stronger influence that Shekki Yuè has on Namlong Mǐn than it has on Longdu Mǐn, despite Longdu being geographically closer to Shekki. Shekki’s influence on Samheung Mǐn is also not very strong, due to there being mountains in between, mountains that are primarily populated by Hakka speakers (Gāo Rán 高然 2002: 120–121).

³ On the other hand, Hakka 客家, the even newer “guest”, is called 僑子 $gvi^{2-6} tsu^3$ (Gāo 高 2018: 10) in Samheung Mǐn, based on the first person pronoun gai^2 in the local variety of Hakka (2018: 370).

⁴ Macau and Zhōngshān are important to each other in multiple ways. Traditionally, Macau was the main international port, and Shekki was the county seat, midway between Macau and Canton. One interesting linguistic fact is that many Heungshan languages have borrowed the Portuguese word *tomate* ‘tomato’ (/toˈmati/ in Macanese Creole): Older Macau Cantonese $ta^5 ma^1 ti^2$ [t̚ ɿ ɿ] ~ $tai^6 ma^1 ti^6$ [t̚ ɿ ɿ], Samheung SM [t̚ ɿ maː ti] GR, Shekki Yuè $tai^5 ma^1 ti^3$ [t̚ ɿ ɿ] GR, Longdu EM [tuː baː tat] GR. In contrast, most of Sinitic Guǎngdōng, eastern Guǎngxī, and eastern Hǎinán use a cognate of the Cantonese word 番茄 $fān^1 k^h\epsilon^{2-3}$ (foreign eggplant) (Cáo Zhìyún 曹志耘 2008: Lexicon map 022).

numbers of speakers of Kun–Pou 莞寶 (Guǎn–Bǎo) Yuè from the northeast, and Szeyap 四邑 (Sìyì) Yuè from the west.⁵

Zhōngshān has a population of around 4.4 million (2020 census). (Further rounding has been applied here:) Gāo Rán 高然 (2018: 9) estimates that in 2015, about 1.16 million people in Zhōngshān spoke a traditional Zhōngshān speech variety: 185,000 spoke Heungshan Yuè (Shekki 石岐 (Shíqí) / Northern Heungshan Yuè, and Hafong 下方 (Xiàfāng) / Southern Heungshan Yuè), 796,000 spoke other types of Yuè that are native to Zhōngshān (the 沙田 ‘sandy land’ Yuè varieties: Shuntak/Boat-type Yuet Hoi Yuè, Kun–Pou Yuè, Szeyap Yuè), 153,500 spoke ZSM (Longdu 87,500, Namlong 54,500, Samheung 23,000), and 25,500 spoke Zhōngshān Hakka [ZSH].⁶

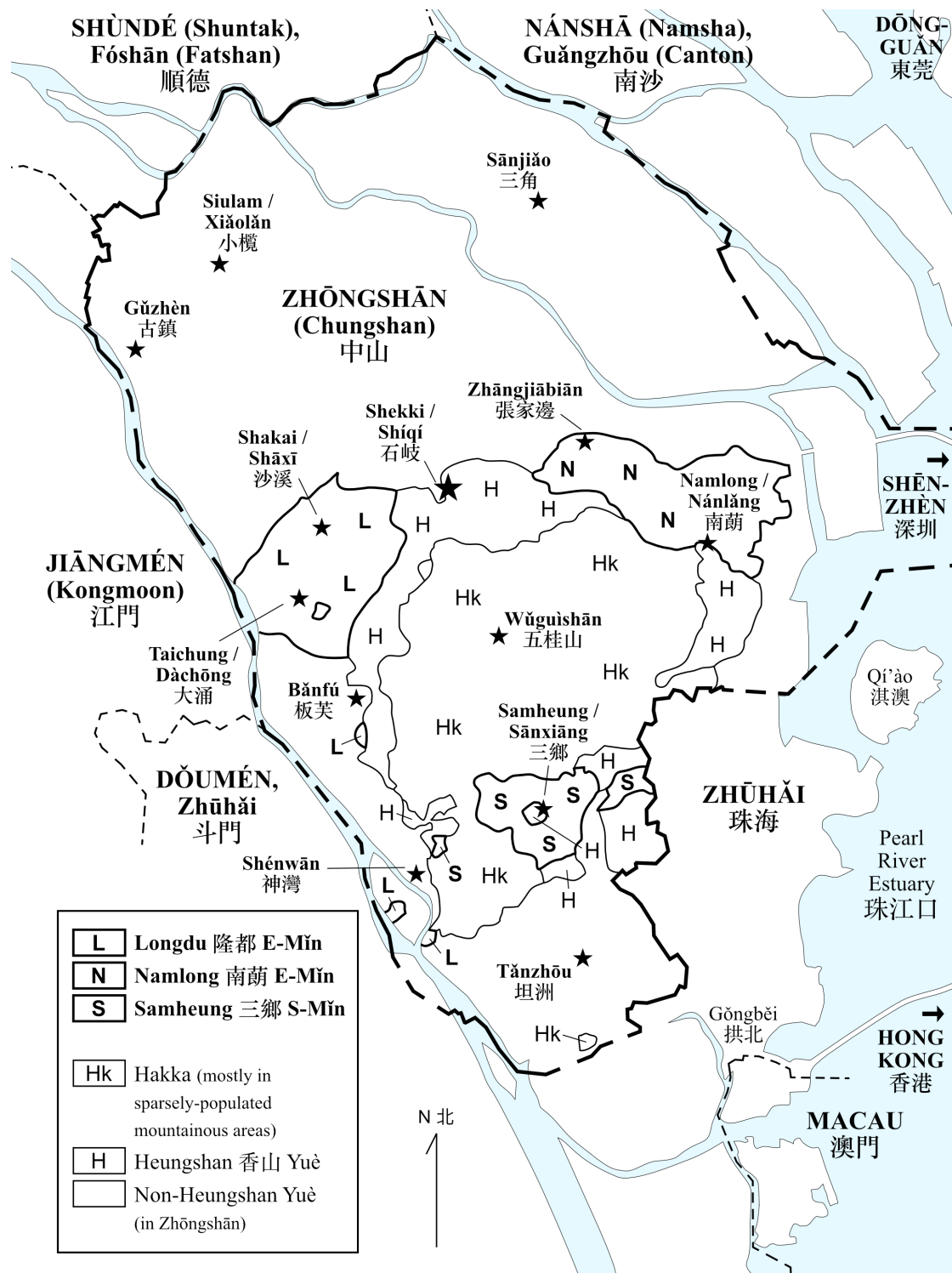
The traditional lingua franca in Zhōngshān is the Yuè dialect of Shekki 石岐 ([siak¹ k^{hi}], Shíqí; e.g. Chao Yuen Ren 趙元任 1948; Marjorie Chan 1980; Lín Bǎisōng 林柏松 1987) in central Zhōngshān, the traditional county seat. In this article, “Zhōngshān Yuè” [ZSY] is by default the Yuè dialect of Shekki. Another lingua franca that is universally known is Cantonese, i.e. Yuè dialect of Canton, the provincial capital.⁷ Everyone in Zhōngshān understands Cantonese, and most can speak it fluently. The three ZSM varieties are spoken in non-contiguous areas in Zhōngshān: Longdu 隆都 primarily to the west of Shekki, Namlong 南朗 to the east of Shekki, and Samheung 三鄉 to the south, across the Wǔguìshān 五桂山 Mountains where ZSH (e.g. Gān Jiǎcái 甘甲才 2003, Gāo Rán 高然 2018: 351–385) is spoken. (In this article, “Longdu”, “Namlong”, and “Samheung” are by default Longdu Mǐn, Namlong Mǐn, and Samheung Mǐn respectively; varieties of Yuè are also spoken natively in those areas, and also Hakka in the case of Namlong and Samheung.) See Map 1 for the distribution of Mǐn, Hakka, and Yuè varieties in Zhōngshān.

⁵ Here, Zhān Bóhuì 詹伯慧 et al. (2002)’s classification of the Pearl River Delta Yuè dialects is followed. Zhān 詹 et al.’s Yuet Hoi 粵海 (Yuèhǎi; which includes Cantonese), Kun–Pou 莞寶 (Guǎn–Bǎo), and Heungshan 香山 (Xiāngshān) groups correspond with the Guǎngfǔ 廣府 group in the Language Atlas of China (Wurm & Li 1987; Zhāng 張 et al. 2012).

⁶ Like the rest of the old Heungshan County, Zhūhǎi and Macau also have a mixture of Yuè, Mǐn, and Hakka populations traditionally. This article only deals with the Sinitic varieties within the modern boundaries of Zhōngshān City.

⁷ A rather narrow definition of Cantonese is adopted here (de Sousa 2022): Cantonese is the Yuè dialect of Canton (Guǎngzhōu), and the derivatives of Canton Yuè spoken in a great number of enclaves elsewhere (the “Cantonese enclaves”), e.g. Hong Kong, Macau, some parts of Diànbái, Zhànjiāng (Fort Bayard), and Nánning city centre. Cantonese also dominates many Chinatowns overseas, e.g. Saigon, Kuala Lumpur.

Map 1. Distribution of Mǐn, Hakka, and Yuè varieties in Zhōngshān (Based on Gāo Rán 高然 2018: xi)



1.2 Mǐn and the ZSM varieties

Mǐn Chinese originated in Fújiàn Province in southeastern China, but the Coastal Mǐn varieties have a long history of spreading to other provinces and overseas. The Mǐn group is often divided into two branches: Inland Mǐn [InM] and Coastal Mǐn

[CsM].⁸ There are three subgroups within CsM: Eastern Mǐn [EM], Pú–Xiān Mǐn [PXM], and Southern Mǐn [SM]. As we shall see later, Longdu (§2) and Namlong (§3) are EM varieties, while Samheung (§4) is a SM variety. Figure 1 shows a combination of some common views on the internal structure of the Mǐn group.

Figure 1. One view of the internal structure of the Mǐn group

Inland Mǐn [InM]:	NM + WM:	Northern Mǐn [NM] Western Mǐn [WM] (a.k.a. Shào–Jiāng)
	Central Mǐn [CnM]	
Coastal Mǐn [CsM]:	Eastern Mǐn [EM]:	North [NEM] (a.k.a. Fú–Níng) South [SEM] (a.k.a. Hòuguān)
	SM + PXM:	Pú–Xiān Mǐn [PXM] Southern Mǐn [SM]: Quánzhōu-type [QzSM] Zhāngzhōu-type [ZzSM] Guǎngdōng–Hǎinán [GHSM]

Reconstructions exist for Proto-Mǐn (Norman 1969, 1973, 1974, 1981, 1986, 1991a), Proto-CsM (Norman 1969; Bodman 1985; Kwok 郭 2023, 2024; Shěn 沈 2023), Proto-EM (Akitani 秋谷 2018: 709–712; 2020: 851–858; 2022b), Proto-SM + PXM (Bodman 1985), Proto-SM (Zhāng Jìngfēn 張靜芬 2013, 2022; Kwok 2018). In this article, unless otherwise indicated, Norman’s Proto-Mǐn, and reconstructions of the lower nodes by Akitani and Kwok are used. As for Proto-PXM, Pútíán 莆田 and Xiānyóu 仙遊 Mǐn are linguistically very close to each other (with Xiānyóu being slightly more conservative; see, e.g., Cài Guómèi 蔡國妹 2016, Lǐ Rúlóng 李如龍 et al. 2019). PXM has a mixture of SM and EM features; the majority opinion is that PXM is genealogically closer to SM, and the EM features are later influences (e.g. Bodman 1985, Kwok 郭 2024; also cf. Shěn 沈 (2023: 527)’s “temporary assumption” of a “Proto-Puxian-Southern-Min” node). When we talk about a “SM feature” in ZSM, it can be a feature of SM + PXM, or just SM. When we talk about an “EM feature” in ZSM, it can be a feature that has also been diffused from EM to PXM. We have not found PXM-specific innovations in the ZSM varieties, despite the fact that many ZSM speakers claim that their ancestors came from the Pútíán area (see, e.g., §4.1.6 for Samheung).

The diversity amongst the three ZSM varieties is often understated. This has contributed towards the often-encountered characterisation that the three ZSM varieties are very close to each other. The degree of mutual intelligibility – without prior exposure – amongst the three ZSM varieties is “quite minimal” (e.g. Bodman 1982: 2–3, Gāo Rán 高然 2000: 250). Traditionally, speakers of different ZSM varieties use ZSY (or Cantonese) as their *lingua franca*.

⁸ See also, e.g., Coblin (2018), Shen (2022), and Shěn Ruìqīng 沈瑞清 & Shèng Yímín 盛益民 (2024) on their opinions on the relationship between InM and CsM. For instance, Shěn 沈 & Shèng 盛 (2024)’s viewpoint is that CsM is genealogically more closely related to Wú than to InM. (However, the Wú varieties, except the southwestern / inland subgroups of Wùzhōu 婺州 and Chǔ-Qú 處衢, have been strongly impacted by Northern Chinese later on.) Proto-CsM and Proto-Wú are descendents of the documented “Southern Dynasties Wú” or “Jiāngdōng 江東 dialect” (specifically the fourth-century CE Wú dialect spoken around Sūzhōu). Southern Dynasties Wú and Proto-InM are descendents of “Proto (Wu) Min”. The Proto-Mǐn reconstructed by e.g. Norman would then be this “Proto (Wu) Min”, originally spoken outside Fújiàn.

Another characterisation commonly found in Chinese literature is that the ZSM varieties are all Southern Mǐn, as they are clearly Mǐn, typologically like Southern Mǐn, and all the other Mǐn varieties in Guǎngdōng are Fújiàn Southern Mǐn or derivatives thereof (see e.g. §2.5). These opinions have been noted by Western linguistic circles as well. For instance, Glottolog 5.1 (Hammarström et al. 2024) lumps all three ZSM varieties under a single ZSM node under Southern Mǐn (Mǐn Nán): Sino-Tibetan > Sinitic > Min > Coastal Min > Min Nan Chinese > Zhongshan Min > Longdu / Nanlang / Sanxiang.

There has been research discussing the EM vs. PXM vs. SM features in the ZSM varieties, e.g. Gāo Rán 高然 (2000), Lín Lúnlún 林倫倫 & Chén Xiǎofēng 陳小楓 (1996: 181–187), and Chén Xiǎofēng 陳小楓 (2007a). Nonetheless, retentions, shared innovations, and parallel developments are not distinguished in many of these discussions. In addition, the historical phonological characteristics of the ZSM varieties are often discussed only in relation to Middle Chinese categories, when a significant portion of the material came from Proto-Mǐn and not from Middle Chinese. There are relatively few discussions on the relationship that the ZSM varieties have with Proto-Mǐn and its daughter nodes as reconstructed through the comparative method.

The aim of this article is to gather in one place the arguments on the linguistic affiliation of the three ZSM varieties found in the literature. Many of these arguments are made in Chinese publications; we aim to bring (our take on) these arguments to the Anglophone audience. We review some of these arguments, and we also contribute some extra data which further support the conclusions that Longdu and Namlong are EM and Samheung is SM. We also show some borrowed features.

The ZSM data are from various published sources. An abbreviation in small caps follows a ZSM form indicating its source if the source is not clear from the main text. See the beginning of each section (Longdu §2, Namlong §3, Samheung §4) or the “data sources” section at the end of this article for these abbreviations.

For research on an individual ZSM variety, see their respective section. General research on ZSM, or wider research which includes discussions on ZSM, include Lín Lúnlún 林倫倫 & Chén Xiǎofēng 陳小楓 (1996), Chén Xiǎofēng 陳小楓 (1995, 1996, 2007b), Lín Bǎisōng 林柏松 (1997), Hé Huǐlíng 何惠玲 (2008), and Gāo Rán 高然 (1997, 2000, 2018).

1.3 Other background issues

There are two background issues which are not discussed in detail in this article. The first is the givenness that the ZSM varieties are members of Mǐn, and more specifically CsM. The Mǐn affiliation of the ZSM varieties is obvious. They have typical Mǐn vocabulary (e.g. Norman 1991; Lǐ Rúlóng 李如龍 2001b) like 厝⁹ ‘house’ (Longdu *ts^hiə⁵* GR, Namlong *ts^hiə⁵* GR, Samheung *ts^hu⁵* GR) and 𩇛 ‘son’ (Longdu *kien³* GR, Namlong *kien³* GR, Samheung *kia³* GR). (Contrasting with ZSY / Cantonese 屋 *ok⁷* ‘house’, ZSH 屋 *vuk⁷* ‘house’; ZSY / Cantonese 仔 *tsei³* ‘son’, ZSH -仔 *-tse³* DIM, 賴子 *lai⁵ tsz²* ‘son’.) The forms in the colloquial stratum trace to Proto-Mǐn and not Middle Chinese, e.g. 樹 ‘tree’ Proto-Mǐn **džh-* > Longdu *ts^hiu⁵*

⁹ The Mǐn morpheme for “house” (e.g. Taiwanese SM *ts^hu⁵*, Fúzhōu EM /*ts^huo⁵*/ [*ts^huo⁵*]) is commonly written 厝. Zēng Nányì 曾南逸 et al. (2024) show that 厝 is a newer rendition; this morpheme was written 舍 (‘lodge’) in earlier documents, and Zēng et al. argue that 舍 (Old Chinese **[ɭ]Ak-s*) is the etymon of this morpheme. There is also Norman (1988: 232)’s theory that the etymon of this morpheme is 戍 (‘barracks’, Old Chinese **[ŋ]o-s*).

ZL, *ts^{hiu}6* GR, Namlong *ts^{hiu}5* GR, Samheung *ts^{hiu}6* GR/LC, cf. Teochew (CháoZhōu) SM *ts^{hiu}6*, Fúqīng EM /ts^{hiu}5/ [ts^{hiu}]. (Contrasting with 樹 ‘tree’ Middle Chinese *ʃ-* > ZSY *sy*⁵, Cantonese *sy*⁶, ZSH *su*⁵, Mandarin *ʃu*⁵.) Another example is 蟲 ‘insect’ Proto-Mǐn ***dh-* > Longdu *t^hɛŋ²* ZL, Namlong *t^hɔŋ²* GR, Samheung *t^hɑŋ²* LC, cf. Teochew SM *t^hɑŋ²*, Fúqīng EM *t^huŋ²*. (Contrasting with 蟲 ‘insect’ Middle Chinese *ʈ-* > ZSY / Cantonese *ts^hoŋ²*, ZSH *ts^huŋ²*, Mandarin *ʈ^hoŋ²*.) ZSM has not developed labiodentals (in the colloquial stratum), like most other Mǐn varieties, e.g. 飛 ‘fly’ Proto-Mǐn ***p-* > Longdu [pʊɔɪ¹] KS, *pɔi*¹ GR, Namlong *pɔi*¹ GR, Samheung *pɔi*¹ GR, cf. Teochew SM *pue*¹, Fúqīng EM *puoi*¹. This is unlike most Sinitic languages, where Middle Chinese bilabial oral initials¹⁰ have turned into labiodentals when followed by roundedness (e.g. 飛 ‘fly’ Middle Chinese *p-* > ZSY *fɪ*¹, Cantonese *fei*¹, ZSH *fui*¹, Mandarin *fei*¹).¹¹ The ZSM varieties also have rich systems of right-headed tone sandhi, which is typical of CsM. This contrasts strongly with Yuè and Hakka, which are on average poor in tone sandhi (but see also the comment below on some Hafong varieties).

That the ZSM varieties are Coastal Mǐn [CsM] and not Inland Mǐn [InM] is also obvious. The ZSM varieties follow the CsM development of Proto-Mǐn ***lh-* > **l-* ~ **n-* (e.g. 聾 ‘deaf’ ***lh-* > Longdu *lɛŋ²* ZL, *lɛŋ²* LC, Namlong *lɔŋ²* GR, Samheung *laŋ²* LC, cf. Teochew SM *laŋ²*, Fúqīng EM *lɔŋ²*), whereas InM has **lh-* > **s-* (e.g. 聾 ‘deaf’ ***lh-* > Jiàn’ōu 建甌 Northern Mǐn [NM] *soŋ⁵*, Shàowǔ 邵武 Western Mǐn [WM] *suŋ⁷*, Yǒng’ān 永安 Central Mǐn [CnM] *saŋ³*). Also like other CsM varieties, a distinction between the Proto-Mǐn plain and “softened” initials (e.g., Norman 1986; Handel 2003; Baxter 2014; Kwok 2018: 176) is absent in ZSM. The Mǐn lexical items in the ZSM varieties align with those in CsM and not InM. For instance, for the third person singular pronoun, ZSM uses the CsM 伊 (Longdu *i*¹ GR, Namlong *i*³ GR, Samheung *i*¹ GR, cf. Teochew SM *i*¹, Fúqīng EM *i*¹), whereas InM tends to use 渠/佢 (e.g. Jiàn’ōu NM 佢 *ky*⁸, Yǒng’ān CnM 佢 *gy*^h),¹² same source as Yuè (e.g. ZSY 渠 *k^hy²*, Cantonese 佢 *k^həy⁴*) and Hakka (e.g. ZSH 其 *ki*³).¹³ For “pig”, the ZSM varieties use the generic Sinitic morpheme 豬 (Longdu *ti*¹ GR/ZL/LC, Namlong *ti*¹ GR, Samheung *tu*¹ GR/LC), similar to other CsM varieties (e.g. Teochew SM *tu*¹, Fúqīng EM *ty*^h), and not InM 豨 (e.g. Jiàn’ōu NM *k^hy³*, Yǒng’ān CnM *k^hyi*³). That the ZSM varieties are CsM and not InM is given; this article is about the affiliation of the three ZSM varieties within CsM.

The second background matter that is not discussed in detail in this article is the language contact situation between ZSM, ZSY, and ZSH. As small minorities in Zhōngshān, and the wider Pearl River Delta, the ZSM varieties have been very

¹⁰ Chinese linguistics traditionally uses the “initial–final” model of syllabification. For instance, Mandarin 關 [kuan¹] ‘barrier’ has a /k-/ initial and a /-uan/ final; 員 [yɛn⁴] ‘personnel’ has a zero initial and a /-yan/ final. On the other hand, Cantonese and many other Yuè and Southern Pínghuà dialects are often described using the “onset–rime” model of syllabification. For instance, Cantonese 關 [kuan¹] ‘barrier’ has a /k^w-/ onset and an /-an/ rime; 員 [yɛn⁴] ‘personnel’ has a /j-/ onset (or a zero onset with an inserted phonetic [ɥ-]) and an /-yn/ rime. Usually “initial” and “final” are used in this article, and “onset” and “rime” are used when appropriate.

¹¹ Many Hakka dialects and some Yuè dialects have kept a bilabial pronunciation for this initial in some instances, e.g. Moiyen (Méixiàn) Hakka 飛 ‘fly’ colloquial *pi*¹ (literary *fɪ*¹), Nánhǎi Shātóu Yuè 飛 *p^hei*¹.

¹² Shàowǔ WM has totally different pronouns; see Ngai (2021: 51–55, forthcoming).

¹³ More specifically, there are two forms of the third person singular pronoun 渠: the unrounded “渠 1” and the rounded “渠 2” (Mei Tsu-Lin 梅祖麟 2013: 167–173). InM shares the rounded “渠 2” with Yuè and Hakka (the rounded vowel is maintained in some Yuè dialects and a few peripheral Hakka dialects). The unrounded “渠 1” can be seen in Gàn and Wú (see also Shěn Ruìqīng 沈瑞清 & Shèng Yìmín 盛益民 2024: 228–229).

strongly influenced by the dominant Yuè. This makes them very distinct from other Mǐn varieties. (It is common for the Guǎngdōng Mǐn varieties to have some Yuè influence, but the level of Yuè influence in ZSM is of a different magnitude.) The composition of the Yuè influence is different in the three ZSM varieties. The Yuè influence in Longdu is a mix of Cantonese and Shekki. The Yuè influence in Namlong is primarily Shekki. The Yuè influence in Samheung is a mix of Cantonese and Hafong (Gāo Rán 高然 2018: 16).

The large amount of phonological, lexical, and grammatical influences from Yuè can be easily seen in the three ZSM varieties. For Longdu, see Egerod (1956: 76–82) for the Yuè influence on Longdu in general. The CsM varieties are famous for having many doublets; they have a “colloquial stratum”, which is usually pronunciations inherited from Proto-Mǐn, and a “literary stratum”, which is usually pronunciations borrowed from Middle Chinese. The ZSM varieties, on the other hand, have borrowed yet another entire literary stratum from Yuè, with additional Yuè segments and tones. (The Yuè segments and tones have also “infected” some of the native Mǐn morphemes.) For instance, the ZSM varieties have all borrowed /f-/ from Yuè.¹⁴ The Mǐn languages are famous for not having developed labiodentals; the very few Mǐn varieties that have labiodentals are all strongly impacted by other languages, e.g. Shàowǔ WM (e.g. Ngai 2021) with its Gàn and Hakka influences, many Zhèjiāng EM varieties (e.g. Akitani 秋谷 2005) with their Wú influences, and the ZSM varieties with their Yuè influences. Another typical-Yuè trait that the ZSM varieties have is their /a/ vs. /ɐ/ contrast. (This contrast is sometimes described as long versus short /a/ in Yuè studies.) See, e.g., Gāo Rán 高然 (2002) on the native Mǐn versus borrowed Yuè tones in ZSM, Chén Xiǎofēng 陳小楓 (2007b) on the Yuè phonological influences in Longdu EM, and Chén Xiǎofēng 陳小楓 & Xǔ Dōnghuī 許冬暉 (2012) on the three phonological strata in Namlong EM.

The lexical influence is also obvious. Words depicting “modern” concepts are all calqued or phonetically loaned from Yuè. Even some basic words have been Yuè-ised. For instance, they all use a local Yuè word 肴/餚 (“meat dish” in literary Chinese) for “meat” (Chén Xiǎofēng 陳小楓 1996: 44): Longdu EM 瘡肴 *sen*³⁻⁷ *gau*² GR (thin meat) ‘lean meat’, Namlong EM 豬肴 *ti*¹⁻² *gau*² GR (swine meat) ‘pork’, Samheung SM 豬肴 *tu*¹ *gau*² GR ‘pork’, 瘡肴 *san*³⁻⁶ *gau*² GR ‘lean meat’, cf. older ZSY 肴 *ŋau*² GR ‘meat’, Zhōngshān Gǔzhèn Yuè (Szeyap) 肴 [ŋau¹] GR ‘meat dish’. Mǐn varieties usually use 肉 (Proto-Mǐn **nh-*) for “meat”, e.g. Fúzhōu EM *nyʔ*⁸, Proto-SM **nhuk*⁸ > Quánzhōu SM *hiak*⁸, Teochew SM *nek*⁸, or another form **baʔ*⁷ in SM, e.g. Xiàmén SM *baʔ*⁷ (see Zēng Zhìchāo 曾智超 (2021) for words for “meat / flesh” in SM). For the word “egg”, Longdu EM and Namlong EM use an obviously Yuè (and Hakka) word 春 ‘spring (season)’ (Chén 陳 1996: 44): Longdu EM 雞春 *kie*¹⁻² *ts^hun*¹ (fowl egg) GR, Namlong EM 雞春 *kia*¹⁻³ *ts^hən*¹ GR, cf. ZSY 雞春 *kɛi*¹ *ts^hən*¹ GR, Hafong 雞春 *kɛi*¹⁻² *ts^hən*¹ GR, ZSH 雞春 *kai*¹ *ts^hun*¹ GJ. (Samheung SM, on the other hand, uses a typical Mǐn word 卵 (Proto-SM **nu*⁴), e.g. 雞卵 *ke*¹ *nui*¹ GR ‘chicken egg’, 鴨卵 *aʔ*⁷ *nui*¹ GR ‘duck egg’.)

¹⁴ Usually in words directly borrowed from Yuè with *f-*. The cognates in other Mǐn dialects are usually *p-*, *p^h-*, or *h-*. There are also the interesting cases of Longdu hypercorrecting the Mǐn initial *h-* to *f-*. For instance, 雨 ‘rain’ Proto-Mǐn ***y-* > Samheung SM *ho*¹ LC (normal *h-* reflex), but Longdu EM *fuo*⁶ LC (**h-* > *f-*). The Namlong cognate is *ϕo*⁶ GR (Namlong [ϕ-] can be /f-/ or /h-/). (In contrast, 雨 ‘rain’ Late Middle Chinese *j-*, Yuè and Southern Píngguà dialects have a *j-*, *o-*, *z-*, *h-*, or *v-* onset, but not *f-*, e.g. ZSY *y*³, Cantonese *jy*⁴, Nánning Píngguà *hɔi*⁴. Also cf. ZSH *i*³, Mandarin *jy*³.) Another case is 園 ‘garden’: Longdu EM *fuen*² LC, cf. Namlong EM *hen*² GR, Samheung SM *hui*² LC, Teochew SM *hɲ*², Fúzhōu EM *huoŋ*². (ZSY *yn*², Cantonese *jyn*², Nánning Píngguà *win*².)

As for grammatical influences, one sees, e.g., Yuè particles like Cantonese 緊 *kən*³ for progressive aspect in all three ZSM varieties (Longdu and Namlong EM *kin*³, Samheung SM *kin*³). Fújiàn Mǐn varieties usually do not allow bare [CLF + N] phrases in isolation (e.g. Wang 2015, Chappell 2019). On the other hand, ZSM and many other Guǎngdōng Mǐn varieties allow them, under the influence of Yuè. See, e.g., Chén Xiǎofēng 陳小楓 & Chén Shùhuán 陳淑環 (2003) on the Yuè grammatical influences in ZSM in general, and Sio (2024) on Longdu noun phrase semantics.

In the other direction, Mǐn has also influenced Heungshan Yuè. In earlier times, ZSM was the majority, and Heungshan Yuè was the minority in the Heungshan Islands. One feature that sets Heungshan Yuè apart from the other Yuè groups is its Mǐn traits. For instance, ZSY has many cases of *h*- corresponding with *f*- in Cantonese and other Yuè dialects, e.g. 風 ‘wind’ ZSY *hoŋ*¹ vs. Cantonese *foŋ*¹ (also Mandarin *fēng*¹). This is an influence from ZSM, cf. Longdu EM *hoŋ*¹ ZL/LC, Namlong EM *hɔŋ*¹ GR, Samheung SM *hoŋ*¹ LC. (For this initial, Mǐn languages usually have *p*-/*p*^h- in the colloquial stratum, and *h*- in the literary stratum, e.g. Fúqīng EM 風 ‘wind’ colloquial *p^huŋ*¹, literary *huŋ*¹.) The surnames 馮 (Cantonese *foŋ*², Mandarin *fēng*²) and 洪 (Cantonese *hoŋ*², Mandarin *hóng*²) are both *hoŋ*² in ZSY. There is also 回 *hui*² ‘return’ in ZSY; in Yuè and Southern Pínghuà this onset is usually *w*-, e.g. Cantonese *wui*², Nánning Pínghuà *wəi*². Zhān 詹 et al. (2002: 200) argue that in ZSY, the onset in *wui*² was first Hakka-ised to *f*- (cf. ZSH *fui*²), and then *f*- was Mǐn-ised to *h*- in ZSY *hui*². Heungshan Yuè also has some Mǐn vocabulary. For instance, from Mǐn 風颶 ‘typhoon’ (e.g. Fúzhōu EM *huŋ*¹ *nai*¹, Taiwanese SM *hoŋ*¹ *t^hai*¹, Teochew SM *huan*¹ *t^hai*¹, Longdu EM *ɸoŋ*¹⁻² *t^hai*¹ GR, Namlong EM *hɔŋ*¹⁻³ *t^hai*¹ GR, Samheung SM *hɔŋ*¹ *t^hai*¹ GR) comes Heungshan Yuè 風颶 ‘typhoon’ (ZSY *hoŋ*¹ *t^hai*¹, Hafong *hoŋ*¹⁻² *t^hai*¹ GR). This form is inherited by Older Macau Cantonese as 風颶 *foŋ*¹ *t^hai*¹, e.g. 打風颶 *ta*³ *foŋ*¹ *t^hai*¹ (hit typhoon) ‘to be hit by typhoon’. (Modern Cantonese has 颶風 *t^hɔi*² *foŋ*¹ ‘typhoon’, calqued from Modern Mandarin *t^hai*² *fēng*¹, with a different morpheme order, and 颶 having a different vowel and tone.)¹⁵

Unlike CsM, which is famous for its complex tone sandhi, Yuè and Hakka varieties are on average poor with tone sandhi. Nonetheless, some varieties of Hafong Yuè have right-headed tone sandhi (Gāo Rán 高然 2018: 73–74), similar to SM. Even the tone values are somewhat similar to Samheung SM. (See Table A1 in the appendix for the tone categories and values in the Zhōngshān languages.)

ZSH is small, and does not have an overall influence on ZSM. However, there are some localised interactions. For instance, Hakka might have a minor role in Samheung SM having some Middle Chinese “tone 4” syllables pronounced in tone 1 (§4.3). Samheung SM also has some Hakka words which are not shared by nearby Yuè and Mǐn varieties (Gāo 高 2018: 326). See also Gān Jiǎcái 甘甲才 (2003: 262–274) on the language contact situation in Zhōngshān from a ZSH point of view.¹⁶

¹⁵ The traditional word for “typhoon” in Standard Cantonese is 風颶 *foŋ*¹ *kəu*⁶. See Kwok 郭 (2004: 591–592) on the pronunciation of 颶 *kəu*⁶ in 風颶 *foŋ*¹ *kəu*⁶. See, e.g., Lǐ Róng 李榮 (1990, 1991a, 1991b) and Wú Lìguǎng 吳力廣 (2020) on Cantonese *foŋ*¹ *kəu*⁶ and other Sinitic terms for “typhoon”.

¹⁶ The following are some presentational issues. Proto-Mǐn forms are indicated by two stars, whereas reconstructions at the lower levels carry one star. (Early) Middle Chinese forms are transcriptions of the *Qièyùn* phonology system (i.e. they are not reconstructions), and they carry no star. The Middle Chinese transcriptions used in this article take Baxter & Sagart (2014) and Hill (2023) into account. The Old Chinese reconstructions are those of Baxter & Sagart (2014). Tone categories are indicated by superscript numbers: tones 1, 3, 5, and 7 for Proto-Mǐn and Middle Chinese tones A, B, C, and D,

2. Longdu Eastern Mǐn

Longdu 隆都 EM (Lóngdū, Lungtu, [loŋ˥ tu˧], [loŋ˥ tu˧ wa˨] (Longdu language) JS p.c., [loŋ˥ tu˧] EG), spoken to the west of Shekki, is the largest of the three ZSM varieties. Longdu is also the most researched out of the three. Research that focuses on Longdu includes Egerod (1956), Huáng Jiājiào 黃家教 (1985, 1988), Chén Xiǎofēng 陳小楓 (2007a, b), Kratochvíl & Sio (2018), and Sio (2024). The following are the sources of the Longdu data used in this article:

- AE: Akitani Hiroyuki 秋谷裕幸 (2022a), uses data from Egerod (1956), with changes in transcription
AE2: Akitani Hiroyuki 秋谷裕幸 (2022b), uses data from Egerod (1956), with changes in transcription
CSH: Chang Song-Hing 張雙慶 (2005)
CX2: Chén Xiǎofēng 陳小楓 (1995)
EG: Søren Egerod (1956), data from Shan Ming T'ing 申明亭 (Shēnmíngtíng) in Sha-K'ai 沙溪 (Shāxī)
GR: Gāo Rán 高然 (2018: 246–282), data from Shakai 沙溪
GR2: Gāo Rán 高然 (2000), data from Lóngtóuhuán 龍頭環 in Shakai 沙溪
JS: Joanna Sio Ut-Seong (2024), data from Taichung 大涌 (Dàchōng)
KS: Kratochvíl & Sio (2018), data from Taichung 大涌
LC: Lín Lúnlún 林倫倫 & Chén Xiǎofēng 陳小楓 (1996)
ZL: Zhān Bóhuì 詹伯慧 & Cheung Yat-Shing 張日昇 (1987); the Longdu data therein were compiled by Patrick Lín Bǎisōng 林柏松

Longdu is often said to be SM (see §2.5). On the other hand, Norman (e.g. 1973, 1974) groups Longdu with the EM varieties of Fúzhōu and Fú'ān in his reconstruction of Proto-Mǐn. Bodman (1982) agrees, and argues that both Namlong (§3) and Longdu are EM (which he calls “Northeastern Mǐn”). Gāo Rán 高然 (2018: 15) notices that the phonology and lexicon of Longdu show stronger ties with EM and PXM, and not so much with SM. Akitani 秋谷 (2022a) demonstrates that the genealogical affiliation of Longdu lies firmly with EM, and more specifically the Northern subgroup of EM. Akitani 秋谷 (2022a), written in Chinese, is carefully crafted, clearly distinguishing innovative and retentive features. Sections 2.1, 2.2, 2.3, and 2.4 in this article are structured around the Longdu features discussed in Akitani’s §2, §3, and §4. Akitani discusses the features which link Longdu with EM in his §2. However, the innovative and retentive features are intersplined in his §2; here we review the innovative features and one EM-specific lexical form in our §2.1, and the retentive features in our §2.2. At the end of our §2.1, in §2.1.6 we provide an additional set of innovative features which is not discussed in Akitani (2022a). Akitani discusses the features which link Longdu with the Northern

and tone 2, 4, 6, and 8 for the “Lower” tones if tones A, B, C, and/or D have developed two tonal reflexes. Mǐn studies and Yuè studies often use tone numbering systems that are different from the Pan-Sinitic tone numbering system used here. Phonetic tone values are indicated using Chao tone letters, e.g. [4] is a high rising tone. Post-sandhi tones (and suprafixes) in phonemic form are preceded by a hyphen, e.g. -3, and in phonetic form the tone letters face the other direction, e.g. [˥]. (Post-sandhi tones are not always indicated.) The rendition of forms may be slightly altered from the published sources for consistency in this article. The vernacular forms in *italic type* are in broad phonetic transcription, i.e. phonemes with their “main” allophones, following the norm in Chinese linguistics. Akitani 秋谷 (2022a, b)’s rendition of Longdu <uə> has been changed to uə in this article; see §2.3.5 and footnote 37 therein.

subgroup of EM in his §3. Our §2.3 discusses these Northern EM features. Akitani’s §4 and our §2.4 discuss two Longdu-specific sound changes.

In our §2.5, we discuss some traits in Longdu which might cause people to mistake Longdu for SM. In §2.5.1, the typical EM typological features which Longdu lacks are discussed. In §2.5.2, some SM-looking morphemes in Longdu are demonstrated.

A big part of our §2 is based on Akitani 秋谷 (2022a). Firstly, it is our aim to bring snapshots of Akitani 秋谷 (2022a), an excellent article written in Chinese, to the Anglophone audience. Secondly, the presentation of our §2 comes from a different viewpoint. Akitani 秋谷 (2022a) comes from the viewpoint of Mǐn: how the historical phonology of Longdu fits in with that of the various subgroups of CsM. Understandably, as an article on historical phonology, he uses the conservative Longdu data from Egerod (1956), which are decades older than the data found in the other sources. On the other hand, we come from the viewpoint of the Zhōngshān languages. We supplement the Akitani–Egerod data with data from a number of modern sources. We agree with Akitani’s viewpoint that Longdu is a member of Northern EM, but we are also interested in the counterexamples, e.g. modern data which do not align with Akitani’s arguments, traits which Longdu might have acquired from other branches of Mǐn (§2.5.2), and how Longdu compares with Namlong, Samheung, and the other Zhōngshān languages.¹⁷

2.1 EM innovations and EM-specific forms in Longdu

2.1.1 Proto-Mǐn **N- and **ŋ- > Proto-EM *N-

Akitani’s feature (2-1) is about the Proto-Mǐn voiceless sonorant initials having merged into the voiced sonorant initials in EM, whereas the distinction is often somehow kept in SM and PXM. Longdu aligns with EM. The following pair of examples is given by Akitani 秋谷 (2022a: 4):

麥 ‘wheat’ Proto-Mǐn **m- > Longdu EM *maʔ*⁷, Gǔtián Dàqiáo EM *maʔ*⁸,
 vs. Xiàmén SM *beʔ*⁸, Zhāngpíng Yǒngfú SM *bia*⁶, Xiānyóu PXM *pa*⁶
 脈 ‘pulse’ Proto-Mǐn **mh- > Longdu EM *maʔ*⁷, Gǔtián Dàqiáo EM *maʔ*⁸,
 vs. Xiàmén SM *mēʔ*⁸, Zhāngpíng Yǒngfú SM *miā*⁶, Xiānyóu PXM
*maʔ*⁸

While we think that this is correct, the following are two other possible scenarios. One possible scenario is that Longdu has this trait due to the strong impact of Yuè, of which the ancestor, Middle Chinese, only has voiced sonorants: 麥 ‘wheat’ and 脈 ‘pulse’ Middle Chinese *m*- > ZSY / Cantonese *mek*⁸. Another possible scenario is that the merger is a parallel development in Fújiàn EM and Longdu (without the involvement of Yuè). If Proto-Mǐn **mh- (and **ŋh- etc.) were indeed voiceless,¹⁸

¹⁷ The difference in viewpoints also comes from our different backgrounds. Amongst Akitani’s main areas of expertise are EM, NM, and Wú; we deeply appreciate Akitani’s expertise. (Egerod (1956) is also not the easiest to deal with in terms of its presentation; we are fortunate that Akitani, with his expertise on EM, did all the work sorting out Egerod (1956)’s data.) We, on the other hand, have more experience working with, e.g., SM, Yuè, and Píngguà. Our backgrounds complement each other’s well for the study of Longdu EM.

¹⁸ While it is clear that there were two series of nasal and liquid initials in Proto-Mǐn, Norman (1991b) expresses uncertainty that **mh-, **nh-, **ŋh-, and **lh- were indeed voiceless in Proto-Mǐn. One anomaly is that Proto-Mǐn tone **A, **B, and **D syllables with a “voiceless” nasal / liquid initial are often in a Lower tone in the modern CsM varieties (Shěn 沈 2023: 520–524), and Lower tones are associated with voiced initials. Nonetheless, there are also traits which suggest that these were indeed voiceless. For instance, in SM varieties, **nh- and **ŋh- often have *h*- reflexes (e.g. Kwok 2018: 36–37, 43; Shěn 沈 2023: 527–528). Outside CsM, there is Shàowǔ WM where the

then it is not surprising that ****m-** and ****mh-** merged into one initial: voiceless sonorants are cross-linguistically rare, and are prone to being devoiced (e.g. Blevins 2018).

2.1.2 Proto-Mǐn ****dz-** is fricativised in EM

Akitani's feature (2-2) is about Proto-Mǐn ****dz-** becoming fricative in EM and PXM. In contrast, ****dz-** remains an affricate in SM (2022a: 5; see also, e.g., Norman 1991a: 353, Branner 1999: 40–44, Lǐ Rúlóng 李如龍 2002: 218).¹⁹ Proto-Mǐn ****dz-** often has fricative reflexes in Longdu in the colloquial stratum, same as EM and PXM. Akitani gives the following Mǐn examples (2022a: 5), here we also include Longdu forms from other publications, and some non-Mǐn examples for comparison:

坐 'sit' Proto-Mǐn ****dz-** > Longdu EM $\int \text{ɔi}^6$ AE [soi^6 ZL, soi^6 LC], Gǔtián Dàqiáo EM soi^6 , Xiānyóu PXM $\text{t} \emptyset^6$, vs. Xiàmén SM tse^6 , Zhāngpíng Yǒngfú SM tsie^6

[Middle Chinese dz- > ZSY $\text{ts}^h\text{ɔ}^3$, Cantonese $\text{ts}^h\text{ɔ}^4$, ZSH $\text{ts}^h\text{ɔ}^7$]

前 'front' Proto-Mǐn ****dz-** > Longdu EM $\int \text{æn}^2$ AE [sen^2 ZL, sen^2 LC], Gǔtián Dàqiáo EM sein^2 , Xiānyóu PXM $\text{t} \text{ɿ}^2$, vs. Xiàmén SM tsin^2 , Zhāngpíng Yǒngfú SM tseĩ^2

[Middle Chinese dz- > ZSY / Cantonese ts^hin^2 , ZSH ts^hen^2]

Here we include one more example.

槽 'trough' Proto-Mǐn ****dz-** > Longdu EM sɔ^2 ZL/LC, Gǔtián EM so^2 , Xiānyóu PXM $\text{t} \emptyset^2$, vs. Samheung SM tsau^2 LC, Xiàmén SM tso^2

Middle Chinese dz- > ZSY / Cantonese ts^hou^2 , ZSH ts^hau^2

Probably also related is the Mǐn morpheme for 'many' (written 穡/侈/多/濟 etc.).²⁰ Many branches of Mǐn have a ts- initial for this morpheme, e.g. Jiàn'ōu NM tsai^6 , Yǒng'ān CnM tse^5 , Proto-SM *tsoi^6 > Teochew SM tsoi^6 , Zhāngzhōu SM tse^6 , Samheung SM tse^1 GR. On the other hand, Longdu is like other EM varieties in having a fricative initial: Longdu EM se^6 GR, Fúzhōu EM $/\text{se}^6/$ [sq^6], Zhōuníng Xiāncūn EM $\text{t} \emptyset^6$. (Also Xiānyóu PXM $\text{t} \text{e}^5$.)

2.1.3 Proto-Mǐn ****o** conditioned by labial vs. non-labial initials in Fújiàn EM

Akitani's feature (2-9) is about the innovation in Fújiàn EM (i.e. not including the small EM area in Zhèjiāng) that Proto-Mǐn ****o** has different reflexes depending on whether the initial is labial or not. This has not occurred in PXM and SM. Longdu

Proto-Mǐn voiceless nasals are indeed in Upper tones (Norman 1974: 31–32). Baxter & Sagart (2014) reconstruct the ancestors of these in Old Chinese as $\text{*C.m}^{(ʰ)}$ -, $\text{*C.n}^{(ʰ)}$ -, $\text{*C.ŋ}^{(ʰ)}$ -, and $\text{*C.r}^{(ʰ)}$ -, respectively, with " *C. " being a "tightly attached" unidentified preinitial consonant. Loans of these in Proto-Hmong–Mien are usually voiceless, and in the earliest Chinese loadwords in Vietnamese, these are in Upper tones (Baxter & Sagart 2014: 171–173).

¹⁹ Akitani 秋谷 (2022a: 5) also talks about Proto-Mǐn ****dž-** having the same development, but here we ignore Proto-Mǐn ****dž-**. Proto-Mǐn ****dž-** indeed has fricative reflexes in Longdu, but their cognates are usually also fricatives in Yuè and Hakka, so Proto-Mǐn ****dž-** > Longdu f-/s- does not distinguish between inheritance from EM (or PXM) and borrowing from Yuè (or Hakka). For instance, 石 'stone' Proto-Mǐn ****dž-** > Longdu EM $\text{fu} \emptyset^7$ AE [$\text{s} \emptyset^7$ LC], Gǔtián Dàqiáo EM $\text{sy} \emptyset^8$, Xiānyóu PXM $\text{t} \text{ieu}^2$, vs. Xiàmén SM tsio^8 , 石 'stone' Middle Chinese z- > ZSY siak^8 , Cantonese sek^8 , ZSH sak^8 .

²⁰ Probably a cognate of 穡 Middle Chinese dzey^C 'sheaf / bundle'. On the other hand, Shàowǔ WM has an unrelated form vai^3 'many', perhaps a reflex of 夥 Old Chinese $\text{*}[g^{wʰ}]aj^?$ 'many'. Nearby Shùnrú 順昌 WM and Tàiníng 泰寧 Gàn also use 夥 for "many", while Shāxiàn 沙縣 and Sānmíng 三明 CnM further to the south use a combined form 夥穡 for "many" (Cáo 曹 2008: Lexicon map 159).

aligns with Fújiàn EM. The following are examples of Proto-Mǐn **-o with different initials (Akitani 秋谷 2022a: 9):

- 布 ‘cloth’ Proto-Mǐn **labial-: Longdu EM *puə*^{5,21}, Gǔtián Dàqiáo EM *puo*⁵,
vs. Xiàmén SM *pɔ*⁵, Xiānyóu PXM *pɔu*⁵
醋 ‘vinegar’ Proto-Mǐn **coronal-: Longdu EM *tʃ^hu*⁵, Gǔtián Dàqiáo EM
*ts^hu*⁵, Xiàmén SM *ts^hɔ*⁵, Xiānyóu PXM *ts^hɔu*⁵
苦 ‘bitter’ Proto-Mǐn **velar-: Longdu EM *k^hu*³, Gǔtián Dàqiáo EM *k^hu*³,
Xiàmén SM *k^hɔ*³, Xiānyóu PXM *k^hɔu*³

2.1.4 Some Tone C syllables unexpectedly in tone 5 instead of tone 6 in EM

Akitani’s feature (2-11) is about how tone C syllables in EM are frequently in Upper tone C (tone 5) instead of the expected Lower tone C (tone 6) when the Proto-Mǐn initial is voiced and aspirated (obstruent or sonorant) (see also Norman 1991a: 353, 1991b; Branner 1999: 47–51). This is not necessarily an innovation that started in the EM region; this trait is a rather widespread areal trait that covers EM, PXM, some inland SM varieties, Inland Mǐn, and even some neighbouring Hakka and Gànn varieties. Coastal SM varieties do not have this trait. Kwok considers this an influence from an unknown substrate language (2018: 119–121). Longdu often also has this trait; this strongly suggests that Longdu is not a coastal variety of SM, the type of Mǐn that is geographically closest to Longdu (other than Namlong). Sometimes we see a tone 5/6 variation amongst Longdu varieties; the tone 6 can be an influence from Cantonese, or perhaps SM. (ZSY and ZSH do not have a tone 5/6 distinction.) The following is an example given by Akitani 秋谷 (2022a: 10):

- 面 ‘face’ Proto-Mǐn **mh- tone C > Longdu EM *min*⁵ AE, [*min*⁵ LC, but *min*⁶ ZL], Gǔtián Dàqiáo EM *miŋ*⁵, Xiānyóu PXM *miŋ*⁵, Zhāngpíng Yǒngfú inland-SM *bin*⁵, vs. Xiàmén coastal-SM *bin*⁶
[Also cf. Middle Chinese *m*- tone C > Cantonese *min*⁶]

Here we provide two other examples.

- 樹 ‘tree’ Proto-Mǐn **džh- tone C > Longdu EM *ts^hiu*⁵ ZL, (but *ts^hiu*⁶ GR/LC,) Gǔtián EM *ts^hiu*⁵, Fúqīng EM /ts^hiu⁵/ [ts^hieu↓], Xiānyóu PXM *ts^hiu*⁵, vs. Samheung coastal-SM *ts^hiu*⁶ GR/LC, Teochew coastal-SM *ts^hiu*⁶, Xiàmén coastal-SM *ts^hiu*⁶

Also cf. Middle Chinese *ʃ*- tone C > Cantonese *sy*⁶

- 鼻 ‘nose’ Proto-Mǐn **bh- tone C > Longdu EM *p^hi*⁵ ZL/LC/CSH, [p^hi:] (tone 5) KS, (but *p^hi*⁶ GR,) Gǔtián EM *p^hi*⁵, Fúqīng EM /p^hε⁵/ [p^hæ↓], Xiānyóu PXM *p^hi*⁵, vs. Teochew coastal-SM *p^hi*⁶, Xiàmén coastal-SM *p^hi*⁶

Also cf. Middle Chinese *b*- tone C²² > Cantonese *pei*⁶

See also discussions on Samheung SM 鼻 ‘nose’ *pei*⁵ LC in §5.

2.1.5 EM 兩 ‘two’ < Proto-Mǐn **-aŋ

²¹ Akitani 秋谷 (2022a, b) renders this final as <uə>. This is problematic; see §2.3.5 and footnote 37 therein.

²² In the *Qīyèyùn* (Early Middle Chinese), 鼻 is *byi*^C. Many Yuè and Hakka dialects have this tone C version of 鼻 ‘nose’. However, most descendants of Middle Chinese have instead a tone D version of 鼻 ‘nose’. Mandarin *pi*² is an example (Middle Chinese tone D with voiced obstruent initial > Standard Mandarin Lower Tone A / tone 2). Píngguà and western Yuè dialects also have 鼻 ‘nose’ in tone D, e.g. Nánning Píngguà *pət*^{sb}. Cantonese also has fossilised instances of this, e.g. *tsæŋ*⁶ *pət*⁸ *p^hɔŋ*⁴ (elephant nose clamp) ‘geoduck’.

Akitani’s feature (2-12) does not fit well with the innovation–retention dichotomy; it is nonetheless still useful for determining phylogeny. Akitani’s feature (2-12) is about the numeral 兩 ‘two’: in EM, the final traces to Proto-Mǐn ****-aŋ**, whereas in SM and PXM, it traces to Proto-Mǐn ****-oŋ**.²³ Longdu aligns with EM (2022a: 11):

兩 ‘two’ Proto-Mǐn ****-aŋ** > Longdu EM *laŋ*⁵ AE,²⁴ [*laŋ*⁶ GR, [*uaŋ*ʔ] (sandhi tone?) JS,] Gǔtián Dàqiáo EM *laŋ*⁶

兩 ‘two’ Proto-Mǐn ****-oŋ** > Xiānyóu PXM *nŋ*⁶, Xiàmén SM *nŋ*⁶, Zhāngpíng Yǒngfú SM *lŋ*⁶, [Samheung SM *neu*⁶ GR]

Compare:

病 ‘sick’ Proto-Mǐn ****-aŋ** > Longdu EM *paŋ*⁶ AE, [[*pa:ŋ*ʔ] KS,] Gǔtián Dàqiáo EM *paŋ*⁶, (Xiānyóu PXM *pā*⁶, Xiàmén SM *pī*⁶, Zhāngpíng Yǒngfú SM *pī*², [Samheung SM *pai*⁶ LC, *pēi*¹ GR])

長 ‘long’ Proto-Mǐn ****-oŋ** > Xiānyóu PXM *tŋ*², Xiàmén SM *tŋ*², Zhāngpíng Yǒngfú SM *tŋ*², [Samheung SM *teu*² GR, *tou*² LC,] (Longdu EM *toŋ*² AE, Gǔtián Dàqiáo EM *touŋ*²)

2.1.6 Reflexes of Proto-CsM ***-ə** finals in Proto-EM

²³ One reviewer kindly reminded us that, beyond Akitani 秋谷 (2022a)’s account presented here, we should reference two other accounts of the development of 兩 ‘two’ in Mǐn: Wu Rui-wen 吳瑞文 (2022) and Yang Hsiu-Fang 楊秀芳 (2020). (They do not affect the analysis here that Longdu aligns with EM and not with SM.)

Wu 吳 (2022) argues that Norman (1981)’s reconstruction of Proto-Mǐn ****-oŋ** and ****-ioŋ** should be reconstructed as ****-oŋ** and ****-jaŋ** respectively instead ([ɒ] [a] are allophones of a single /ɒ/). As for the numeral ****loŋ** 兩 ‘two’ (2022: 219), EM experienced the irregular sound change of ****loŋ** > ***laŋ**. As for SM, the changes involved are ****loŋ** > ***lō** > ***lŋ**. The form ***lō** is commonly seen in Guǎngdōng, e.g. Cháozhōu / Teochew SM *nō*⁴ ([n-] and [l-] are not contrastive), and the form ***lŋ** is commonly seen in Fújiàn, e.g. Xiàmén / Amoy SM *nŋ*⁶. (In Wu 吳 (2022: 222), we see that he reconstructs 兩 ‘two’ as ****loŋ**⁴, and 兩 ‘tael’ as ****liŋ**³ in Proto-Mǐn.)

Yang 楊 (2020) is an article on sub-syllabic derivations amongst Sinitic varieties. These lexical differences found in the modern Sinitic varieties may or may not be documented in historical Chinese texts. Yang 楊 (2020) is not an article giving reconstructions, but e.g. discusses the chronology of the various forms involved. As for 兩 (2020: 17–28), the meanings of ‘two’ and ‘tael’ are homophonous in all historical texts consulted. Looking at the modern Sinitic varieties, within every Sinitic dialect group, while it is common to find dialects where ‘two’ and ‘tael’ have remained homophonous (e.g. Běijīng Mandarin *liǎng*), many dialects have the two pronounced differently. Yang argues that all of these dialects have used pronunciations from literary vs. colloquial layers, or sometimes newer vs. older colloquial layers, to distinguish between these two meanings. Due to these developments being relatively recent and localised, the formal differentiations are quite diverse amongst different Sinitic varieties, and there is variation in whether an older or a newer pronunciation is associated with which meanings. Mǐn has the more common pattern of using an older pronunciation for “two”, and a newer pronunciation for “tael”, e.g. Xiàmén SM *nŋ*⁶ ‘two’ from an older colloquial layer, and *niū*³ from a newer colloquial layer (Yang 楊 2020: 25). (However, we disagree with Yang’s characterisation (2020: 24–25) that Yuè dialects with this distinction, e.g. Cantonese *læŋ*⁴ ‘two’ vs. *læŋ*³ ‘tael’, are also manifesting a literary vs. colloquial phenomenon. The phenomenon here is a high-rising tone lexical suprafix having been applied to *læŋ*³ ‘tael’, a suprafix that is often described as diminutive. See, e.g., Kwok 郭 (2016), de Sousa (2024). The minority of Yuè dialects where the high-rising suprafix is not used, or not as commonly used, borrowed *læŋ*³ ‘tael’ from nearby Yuè dialects. Lexical suprafixation is perpendicular to the literary-vs.-colloquial dimension; a lexical suprafix can be applied to both literary and colloquial pronunciations.)

²⁴ Akitani 秋谷 (2022a: 11) raises a question over the tone 5 in the form 兩 *laŋ*⁵ recorded by Egerod. Looking at other publications, in Longdu tone 5 is not a possible sandhi tone of tone 6. (兩 is meant to be in tone 4, and in many Mǐn varieties tone 4 has merged into tone 6.). The tone 5 in 兩 *laŋ*⁵ is an influence from ZSY: Egerod’s Longdu tone 5 [ɿ] ~ [ɿ̌] is the phonetic equivalent of ZSY tone 3 [ɿ̌], or [ɿ̌] in sandhi situations, e.g. ZSY 兩個 /liŋ³ kō⁵/ [liŋ̌ɿ̌ kōɿ̌] (two CLF). (ZSY does not have a tone-3/4 distinction.)

Here we provide a small set of Proto-EM innovations that are not mentioned in Akitani 秋谷 (2022a). We shall have a look at the finals containing the vowel $*ə$ in Proto-Coastal Mǐn [Proto-CsM]. With Proto-CsM finals containing other vowels, the Proto-EM reflexes tend to be conservative, or change only a little, in contrast to the often-drastic changes in Proto-SM. An example is Proto-CsM $*-ian >$ Proto-EM $*-ian$, vs. Proto-SM $*-iuā \sim *-uā$. On the other hand, with the $*ə$ -series of finals in Proto-CsM, the magnitude of change is similar for both Proto-EM and Proto-SM, and the differences are obvious, thus making it extra clear that a Proto-EM innovation is unquestionably an innovation in Proto-EM, in no way possible a retention from Proto-CsM.²⁵ The Longdu forms consistently align with the Proto-EM innovations; these are clearly innovations shared between Longdu and the other EM varieties. (See also §3.1.6 for the cognates in Namlong EM, Yuè, and Hakka. The Longdu and Namlong forms are, in most cases, clearly not loans from Yuè or Hakka.)

來 ‘come’ Proto-CsM $*-əi$:

Proto-EM $*-i >$ Longdu EM li^2 LC/ZL, [liʔ¹] KS, Fúzhōu EM li^2 , Fú’ān EM lei^2 , Zhōuníng Xiáncūn EM lei^2

PXM li^2

Proto-SM $*-ai >$ Samheung SM lai^2 GR, Teochew SM lai^2 , Xiàmén SM lai^2

雷 ‘thunder’ Proto-CsM $*-uəi(?)$:

Proto-EM $*-ai >$ Longdu EM lai^2 ZL, [la:ɿ] (tone 3) KS, Fúzhōu EM lai^2 , Fú’ān EM lai^2 , Zhōuníng Xiáncūn EM lai^2

Proto-SM $*-ui >$ Samheung SM lui^2 GR, Teochew SM lui^2 , Xiàmén SM lui^2

PXM lui^2

腿 ‘thigh’ Proto-CsM $*-uəi(?)$:

Proto-EM $*-ai >$ Longdu EM t^hai^3 ZL, t^hei^3 LC,²⁶ Zhōuníng Xiáncūn EM $-lai^3$ (very few EM varieties have kept this colloquial pronunciation)

Proto-SM $*-ui >$ Samheung SM t^hui^3 LC, Teochew SM t^hui^3 , Xiàmén SM t^hui^3

PXM t^hui^3

鱗 ‘fish scale’ Proto-CsM $*-ən$:

Proto-EM $*-in >$ Longdu EM lin^2 LC/ZL, Fúzhōu EM $liŋ^2$, Fú’ān EM $leiŋ^2$, Zhōuníng Xiáncūn EM len^2

PXM: Pútián PXM $liŋ^2$, Xiānyóu PXM $leiŋ^2$

Proto-SM $*-an >$ Samheung SM lan^2 LC, Teochew SM $laŋ^2$, Xiàmén SM lan^2

陳 surname *Chén* Proto-CsM $*-ən$:

²⁵ Norman (1981) has a different treatment for some of these cases; these are considered “mixed” cases, with different branches of Mǐn tracing to different forms in Proto-Mǐn. The mixed cases relevant here are 來 ‘come’ $**li \sim **ləi$ (: 42), 鱗 ‘fish scale’ $**lin \sim **lən$ (: 58–59), 力 ‘strength’ $**lit \sim **lət$ (: 58–59).

²⁶ Longdu colloquial 腿 t^hai^3 LC / t^hei^3 ZL is not borrowed from Yuè, cf. 腿 ‘thigh’ ZHY t^hui^3 , Cantonese t^hey^3 . (On the other hand, Longdu literary 腿 t^hui^3 LC/ZL is probably from Yuè, or at least Yuè influenced.)

Proto-EM *-in > Longdu EM *ten*² LC, *ten*² ZL, Fúzhōu EM *tiŋ*², Fú'ān EM *teiŋ*², Zhōuníng Xiáncūn EM *ten*²
 PXM *teŋ*²
 Proto-SM *-an > Samheung SM *tan*² LC, Teochew SM *taŋ*², Xiàmén SM *tan*²

力 ‘strength’ Proto-CsM *-ət:

Proto-EM *-it > Longdu EM *lit*⁸ LC/ZL, Fúzhōu EM *li?*⁸, Fú'ān EM *leik*⁸,
 Zhōuníng Xiáncūn EM *let*⁸
 PXM: Xiānyóu PXM *li?*⁸ (Lǐ 李 2001a), Pútián PXM *li?*⁸
 Proto-SM *-at > Samheung SM *lak*⁸ LC,²⁷ Teochew SM *lak*⁸, Xiàmén SM *lat*⁸
 PXM: Xiānyóu PXM *la?*⁸ (Lǐ 李 et al. 2019)

With Proto-CsM *-ək, there is no change to Proto-EM *-ək. Nonetheless, the difference between EM and SM with this is still interesting. In Longdu, at least 北 ‘north’ aligns with the other EM varieties. (However, see §2.5.2 on 墨 ‘ink’ (also from Proto-CsM *-ək); Longdu 墨 ‘ink’ is perhaps from Proto-SM *-ak.)

北 ‘north’ Proto-CsM *-ək:

Proto-EM *-ək > Longdu EM *pok*⁷ LC/ZL, Fúzhōu EM /pøy?⁷/ [pøy?⁷],
 Fú'ān EM *pæk*⁷, Zhōuníng Xiáncūn EM *pæk*⁷
 Proto-SM *-ak > Samheung SM *pak*⁷ LC, Teochew SM *pak*⁷, Xiàmén SM *pak*⁷
 PXM *pa?*⁷

2.2 EM retentions in Longdu

Akitani 秋谷 (2022a) also discusses some features in Longdu which align with some retentive features in EM. Retentions cannot be used for arguing genealogical relationships (which Akitani acknowledges). That Longdu and the EM varieties in Fújiàn and Zhèjiāng share certain retentive features does not infer that Longdu is a member of EM; amongst possibilities is that Longdu and EM are sister nodes. Nonetheless, one purpose of showing these retentions is to demonstrate that Longdu has not participated in the SM or SM + PXM innovations.

We shall begin by talking about two of Akitani’s features which he considers innovations; from our perspective, these show retentions.

2.2.1 Proto-Mǐn **-a > Proto-EM *-a

Akitani’s feature (2-6) is about EM and PXM having merged the Proto-Mǐn finals of **-a and **-au. SM has kept these separate. The following pair of examples is given by Akitani 秋谷 (2022a: 8):²⁸

架 ‘shelf’ Proto-Mǐn **-a > Longdu EM *ka*⁵, Gǔtián Dàqiáo EM *ka*⁵,
 Xiānyóu PXM *kɔ*⁵, vs. Xiàmén SM *ke*⁵, Zhāngpíng Yǒngfú SM *kia*⁵

²⁷ This -k coda in Samheung SM is an influence from Yuè: ZSY / Cantonese 力 *lek*⁸ ‘strength’. As for Teochew SM, there was a (somewhat recent) shift from *-n *-t to -ŋ -k.

²⁸ Kwok 郭 (2024) reconstructs from the intermediate step of Proto-CsM:

架 ‘shelf’ Proto-CsM *-a > Proto-EM *-a, Proto-SM *-e

教 ‘teach’ Proto-CsM *-a > Proto-EM *-a, Proto-SM *-a

Kwok’s reconstruction has a separate *-au > *-au, e.g. 包 ‘wrap’ (Xiàmén SM *pau*¹, Longdu EM *pau*¹ ZL).

教 ‘teach’ Proto-Mǐn **au > Longdu EM *ka*⁵, Gǔtián Dàqiáo EM *ka*⁵,
Xiānyóu PXM *kɔ*⁵, Xiàmén SM *ka*⁵, Zhāngpíng Yǒngfú SM *ka*⁵

Akitani considers the merger an innovation in EM and PXM. Nonetheless, there is an alternative way of looking at this. Whatever intermediate sound changes are involved in **au [> ...] > *-a, and whatever order they have, the end result is that both Proto-EM and Proto-SM have *-a as the reflex of Proto-Mǐn **au. That Longdu has -a reflexes for Proto-Mǐn **au does not tell us whether Longdu acquired this trait through Proto-EM or Proto-SM.

This leaves Proto-Mǐn **a > Longdu -a as the useful trait. This trait is a retentive trait. The bundle of traits in Akitani’s feature (2-6) only tells us that Longdu is not SM.

2.2.2 Proto-Mǐn **ak **ok > Proto-CsM *-a? *-o? > Proto-EM *-a? *-o?

Akitani’s feature (2-4) concerns the lenition of plosive codas. In SM and PXM, after Proto-Mǐn **a, **a, or **o, all cases of **p, **t, and **k have lenited (i.e. at least debuccalised). On the other hand, in EM, only **k has lenited after **a or **o (**ak does not exist in Proto-Mǐn). These look like separate sets of innovations in SM+PXM vs. EM. However, Akitani compares EM, PXM, and SM directly with Proto-Mǐn; if one takes the intermediate step of Proto-CsM into account (Kwok 郭 2024), **ak **ok > *-a? *-o? are in fact innovations of Proto-CsM,²⁹ and not of the daughter node Proto-EM. Both Proto-EM and Proto-SM+PXM show **ak **ok > *-a? *-o?. Longdu -? is a retention from Proto-CsM. The bundle of traits in Akitani’s feature (2-4) only tells us that Longdu has not participated in the extra innovations in SM and PXM (the lenition of **p and **t). Akitani gives the following examples (2022a: 6–7):³⁰

接 ‘connect’ Proto-Mǐn **iap > Longdu EM *tʃiep*⁷, Gǔtián Dàqiáo EM *tɕiek*⁷, vs. Xiàmén SM *tsi*⁷, Zhāngpíng Yǒngfú SM *tsi*⁷, Xiānyóu PXM *tɕi*⁶

八 ‘eight’ Proto-Mǐn **at > Longdu EM *pæt*⁷, Gǔtián Dàqiáo EM *peik*⁷, vs. Xiàmén SM *pue*⁷, Zhāngpíng Yǒngfú SM *pei*⁷, Xiānyóu PXM *pe*⁶

百 ‘hundred’ Proto-Mǐn **ak > Longdu EM *pa*⁷, Gǔtián Dàqiáo EM *pa*⁷, Xiàmén SM *pa*⁷, Zhāngpíng Yǒngfú SM *pia*⁷, Xiānyóu PXM *pa*⁶

Compare how **k does not lenite (or not as lenited in PXM) when the Proto-Mǐn vowel is not **a, **a, or **o:

六 ‘six’ Proto-Mǐn **ək > Longdu EM *læk*⁸, Gǔtián Dàqiáo EM *lɔk*⁸, Xiàmén SM *lak*⁸, Zhāngpíng Yǒngfú SM *lak*⁸, Xiānyóu PXM *la*⁸

See also §2.3.1 on the dropping of *-? in Longdu.

2.2.3 Proto-Mǐn **m **n **ŋ > Proto-EM *-m *-n *-ŋ

²⁹ One reviewer’s comment was that *-k and *-? would be in complementary distribution in Proto-CsM, and hence do not need to be reconstructed separately. In Kwok’s reconstruction of Proto-CsM (Kwok 郭 2024), there are contrasts like *-ok versus *-o?, and EM has faithfully retained these contrasts, e.g. 博 ‘broad’ *-ok > Proto-EM *-ɔk; 薄 ‘thin’ *-o? > Proto-EM *-ɔ?). There is already a rudimentary literary–colloquial distinction at the Proto-CM stage, with, e.g., *-ok being a literary final, and *-o? being a colloquial final.

³⁰ In Kwok 郭 (2024)’s reconstruction of Proto-CsM, the finals *(i)a? *(i)o? already exist in Proto-CsM. The plosive coda in the finals *(i)ap *-at *(u)ot *-ok *(i)ep *(i)et lenites in Proto-SM+PXM, but the coda in the finals *(i)ap *-at does not lenite.

As for the rest of the retentions, we shall demonstrate them only very briefly here. Akitani’s feature (2-3) is about Longdu having retained $**\text{-m}$ $**\text{-n}$ $**\text{-ŋ}$, whereas SM and PXM have lenited them after Proto-Mǐn $**\text{a}$, $**\text{a}$, or $**\text{o}$, e.g. (2022a: 5–6).³¹

三 ‘three’ Proto-Mǐn $**\text{-am}$ > Longdu EM *ʃam*¹, Gǔtián Dàqiáo EM *saŋ*¹,
vs. Xiàmén SM *sã*¹, Xiānyóu PXM *ʃɿ*¹

Contrast this with:

心 ‘heart’ Proto-Mǐn $**\text{-im}$ > Longdu EM *ʃim*¹, Gǔtián Dàqiáo EM *siŋ*¹,
Xiàmén SM *sim*¹, Xiānyóu PXM *ʃiŋ*¹

2.2.4 Proto-Mǐn $**\text{-an}$ $**\text{-at}$ > Proto-EM $*\text{-an}$ $*\text{-at}$

Akitani’s feature (2-5) is about Longdu lacking the SM+PXM innovation of breaking Proto-Mǐn $**\text{-a}$ into $*\text{-ua}$ in front of $**\text{-n}$ or $**\text{-t}$. This applies together with the coda lenition discussed in §2.2.2–3. For instance (2022a: 7–8):

寒 ‘cold’ Proto-Mǐn $**\text{-an}$ > Longdu EM *kan*², Gǔtián Dàqiáo EM *kaŋ*², vs.
Xiàmén SM *kũã*², Xiānyóu PXM *kuã*²

割 ‘sever’ Proto-Mǐn $**\text{-at}$ > Longdu EM *kat*⁷, Gǔtián Dàqiáo EM *kak*⁷, vs.
Xiàmén SM *kua*⁷, Xiānyóu PXM *kua*⁶

2.2.5 Proto-Mǐn $**\text{-i}$ $**\text{-ie}$ > Proto-EM $*\text{-i}$ $*\text{-ie}$

Akitani’s feature (2-7) is about Longdu lacking the SM+PXM innovation of merging Proto-Mǐn $**\text{-ie}$ into $**\text{-i}$, e.g. (2022a: 8):

四 ‘four’ Proto-Mǐn $**\text{-i}$ > Longdu EM *ʃi*⁵, Gǔtián Dàqiáo EM *si*⁵, Xiàmén
SM *si*⁵, Xiānyóu PXM *ʃi*⁵

匙 ‘key’ Proto-Mǐn $**\text{-ie}$ > Longdu EM *ʃie*², Gǔtián Dàqiáo EM [-liet¹], vs.
Xiàmén SM *si*², Xiānyóu PXM [-li¹]

2.2.6 Proto-Mǐn $**\text{-eu}$ > Proto-EM $*\text{-eu}$

Akitani’s feature (2-8) is about Longdu lacking the SM+PXM innovation of Proto-Mǐn $**\text{-eu}$ acquiring an $*\text{-i}$ onglide, e.g. (2022a: 8–9):

鳥 ‘bird’ Proto-Mǐn $**\text{-eu}$ > Longdu EM *tʃæu*³, Gǔtián Dàqiáo EM *tseu*³, vs.
Xiàmén SM *tsiau*³, Xiānyóu PXM *tɕieu*³

Nonetheless, looking at data elsewhere, “bird” with an $*\text{-i}$ onglide can be found amongst EM varieties, e.g. Matsu 馬祖 EM *tsiau*³, Níngdé 寧德 EM *tsieu*³. Three descriptions of Longdu have an $*\text{-i}$ onglide in the morpheme 鳥 ‘bird’: *tsieü*³ GR/ZL, *tsieu*³ LC. More investigations are needed on this (see also §3.2.6 on Namlong).³²

2.2.7 EM 曝 ‘to sun’ Proto-Mǐn $**\text{-yok}$

Akitani’s features (2-10) is about the verb 曝 ‘to sun’. Norman (1981: 71) reconstructs this Proto-Mǐn final as $**\text{-yok}$. EM and PXM have retained $**\text{-yok}$ for this verb, but SM has a form which seemingly traces to $**\text{-ək}$. Longdu aligns with EM and PXM (2022a: 9–10).

³¹ In Kwok 郭 (2024)’s reconstruction of Proto-CsM, the nasal coda in the finals $*(\text{i/u})\text{aŋ}$ $*(\text{i/u})\text{am}$ $*(\text{i/u/y})\text{an}$ lenites in Proto-SM ($*\text{-aŋ}$ does not exist), but the nasal coda in the finals $*(\text{i})\text{am}$ $*(\text{i/u})\text{an}$ does not lenite.

³² Like many Sinitic languages, the Min word for “penis” derives from the word for “bird”. The irregular sound change may result from the word’s taboo nature. See Akitani (2022c) for more on the EM case.

曝 ‘to sun’ Proto-Mǐn **-yok > Longdu EM *p^huoʔ⁷*, Gǔtián Dàqiáo EM *p^huoʔ⁸*, Xiānyóu PXM *p^hɔʔ⁸* (see §2.4 on Longdu tone 7)
 曝 ‘to sun’ Proto-Mǐn **-ək (?) > Xiàmén SM *p^hak⁸*, Zhāngpíng Yǒngfú SM *p^hak⁸*, [also Samheung SM *p^hak⁷* GR]

Compare:

粟 ‘grain’ Proto-Mǐn **-yok > Longdu *tʃ^huoʔ⁷*, Gǔtián Dàqiáo EM *ts^huoʔ⁷*, Xiānyóu PXM *ts^hɔʔ⁷*, (Xiàmén SM *ts^hik⁷*, Zhāngpíng Yǒngfú SM *ts^hok⁷*)

覆 ‘lie down’ Proto-Mǐn **-ək > Xiàmén SM *p^hak⁷*, Zhāngpíng Yǒngfú SM *p^hak⁷*, (Longdu EM ?, Gǔtián Dàqiáo EM *p^huk⁷*, Xiānyóu PXM *p^haʔ⁷*)

2.3 Longdu as a member of Northern EM [NEM]

Akitani 秋谷 (2022a)’s §3 presents arguments that Longdu is a member of the Northern subgroup of EM [NEM]. EM is divided into the genealogical subgroups of NEM and Southern EM [SEM] by Akitani 秋谷 (2010b).³³ The SEM subgroup includes the better-known EM varieties of Fúzhōu 福州 (Hokchew) and Fúqīng 福清 (Hokchia). Akitani argues that Longdu is a NEM variety.

The following is a small introduction to the linguistic geography of the NEM area (following Akitani 秋谷 (2010b)’s definition of the NEM subgroup). Some of the following place names and concepts come up repeatedly in this article. The NEM area is roughly the Níngdé 寧德 Prefecture in the northeastern corner of Fújiàn, minus Gǔtián 古田 County which primarily speaks SEM. Píngnán 屏南 County shows a mixture of SEM and NEM features (Akitani 秋谷 2020). The modern political and economic centre of this region is Níngdé (i.e. Níngdé-proper, or Jiāochéng 蕉城 District). Traditionally, the NEM variety spoken in neighbouring Fú’ān 福安 City had the most linguistic influence over the region. Inland from Níngdé(-proper) and Fú’ān is Zhōuníng 周寧 County. Most of the Mǐn features in Longdu and Namlong EM can be traced to these three county-level entities in northeastern Fújiàn. (The other county-level entities in the prefecture are Fúdǐng 福鼎 City, and Shòuníng 壽寧, Zhèróng 柘榮, and Xiápǔ 霞浦 Counties.) NEM is also spoken in some parts of Cāngnán 蒼南, Tàishùn 泰順, and Qìngyuán 慶元 Counties in neighbouring Zhèjiāng Province to the north (there they are strongly influenced by Wú, the dominant Sinitic dialect group in Zhèjiāng). On the coast in northeastern Fújiàn and southeastern tip of Zhèjiāng are large migrant communities of SM speakers (speaking Quánzhōu-type SM), and also some PXM speakers. In the area there are also many enclaves of Shē 畬, a Hakka-like language spoken by people of the Shē nationality, a Hmong–Mien ethnic group (Yóu Wénliáng 游文良 2002).

³³ This division of EM into northern vs. southern subgroups is common. For instance, the Language Atlas of China (Wurm & Li 1987; Zhāng 張 et al. 2012) has a Fú–Níng 福寧 subgroup (i.e. NEM) and a Hòuguān 侯官 subgroup (i.e. SEM). (Wurm & Li 1987 classify the Zhèjiāng EM dialects into a third subgroup: Mánhuà 蠻話 subgroup, but this has been subsumed into the Fú–Níng (NEM) subgroup in Zhāng 張 et al. 2012.) Nonetheless, opinions vary slightly on where the boundary lies, and the features that are used to define them. The most prominent difference is the treatment of Níngdé-proper (Jiāochéng District). Akitani 秋谷 (2010b) and Lín Hánshēng 林寒生 (2002) consider Níngdé as part of the northern subgroup. The first edition of the Atlas (Wurm & Li 1987) considers Níngdé as part of the southern subgroup. The second edition (Zhāng 張 et al. 2012) considers the city centre as southern, and the rest of Níngdé northern. The speech of Níngdé city centre has now been strongly influenced by Fúzhōu SEM, but we follow Akitani in classifying the whole of Níngdé as NEM.

In our §2.3.1 to §2.3.6, we discuss Akitani 秋谷 (2022a)’s features (3-1) to (3-6) respectively. The arguments in Akitani’s §3 are on average somewhat weak. Nonetheless, the bundle of NEM-like features in Longdu discussed in his §3 does suggest that Longdu has a closer affinity with NEM than with SEM. In our §2.3.7, we extend the discussion by comparing Longdu with some sound changes discussed in another publication, Akitani 秋谷 (2022b). The results strengthen the argument that Longdu is a member of NEM.

See also §5 on two lexical features that link Longdu (and Namlong) with NEM.

2.3.1 NEM more conservative with Proto-EM *-m *-n *-ŋ *-p *-t *-k *-ʔ

Akitani’s feature (3-1) is a retention (and hence does not help with genealogical classification). Longdu has preserved the Proto-EM consonantal codas of *-m *-n *-ŋ *-p *-t *-k *-ʔ. The NEM varieties are on average more conservative by somehow keeping at least a few of these distinctions apart (but this is quickly changing due to the influence from SEM), whereas the SEM varieties typically only have -ŋ -k or -ŋ -ʔ left. Longdu has not participated in these SEM-centred innovations.

Akitani 秋谷 (2022a)’s data are from Egerod (1956), which is conservative with the codas. Many modern Longdu varieties have dropped *-ʔ to at least some degree. Compare the following data from three modern Longdu varieties: 學 ‘learn’ *hɔʔ*⁷ GR, *hɔʔʔ*⁷ ZL, *hoʔʔ*⁷ LC; 石 ‘stone’ *siθ*⁷ GR, *səʔ*⁷ ZL, *səʔʔ*⁷ LC. The Longdu variety documented by GR has no -ʔ finals left. It is interesting to see a change in progress in the variety documented by JS: the word 好吃 (good eat) ‘tasty’ alternates between [hɔʔ hieʔ] and [hɔʔ hieʔʔ] in her Longdu examples (cf. 喫 *hie*⁷ GR, 吃 *hieʔ*⁷ ZL).

See also §2.4 for discussions on how Longdu *-ʔ syllables can only be in tone 7.

2.3.2 The vowel in Proto-EM *-yŋ *-yk is commonly backed in NEM

Akitani’s feature (3-2) is about the backing of the vowel in at least one of the Proto-EM finals *-yŋ *-yk in many NEM varieties. SEM has the vowel quality intact. For instance (2022a: 15–16):

腫 ‘swell’ Proto-EM *-yŋ > Longdu NEM *tʃoŋ*³, Fúǎng Báilín NEM *tsuŋ*³, Zhōuníng Xiáncūn NEM *tʃoŋ*³, vs. Fúzhōu SEM *tsyŋ*³, Gǔtián Dàqiáo SEM *tɕyŋ*³

肉 ‘meat’ Proto-EM *-yk > Longdu NEM *nok*⁸, Fúǎng Báilín NEM *nuʔ*⁸, vs. Zhōuníng Xiáncūn NEM *nək*⁸, vs. Fúzhōu SEM *nyʔ*⁸, Gǔtián Dàqiáo SEM *nyk*⁸

While we think that Akitani is correct that Longdu shares this innovation with the NEM varieties in Fújiàn and Zhèjiāng, it is not easy to discount the alternative hypothesis: ZSY and Cantonese also have /-uŋ/ [-oŋ] /-uk/ [-ok] for these finals (腫 *tsoŋ*³, 肉 *jok*⁸); Longdu could easily have the vowel in these finals influenced by Yuè, if Longdu had another vowel in these finals previously.

2.3.3 Proto-EM *-uŋ *-uk > Proto-Fújiàn-NEM *-œŋ *-œk, and unrounding of rounded front vowels

Akitani’s feature (3-3) is a combination of two traits. The first trait is Proto-EM *-uŋ *-uk > Proto-Fújiàn-NEM *-œŋ *-œk (i.e. not including Zhèjiāng NEM), whereas in SEM the vowel tends to be not as low in tongue height, e.g. -œyŋ -œyʔ in Fúzhòu SEM, -œyŋ -œyk in Gǔtián SEM, -œŋ -œʔ in Fúqíng SEM. The second trait is how in

Longdu, and also in a small area in northeastern Fújiàn, e.g. Fúdǐng 福鼎, these two finals have lost their roundedness (2022a: 16–17):³⁴

蟲 ‘insect’ Proto-EM *-uŋ > Longdu NEM *tʰæŋ*², Fúdǐng Bálín NEM *tʰeŋ*²,
vs. Zhōuníng Xiáncūn NEM *tʰæŋ*², Shòuníng Nányáng NEM *tʰæŋ*²,
vs. Fúzhōu SEM *tʰøyŋ*², Gǔtián Dàqiáo SEM *tʰøyŋ*², [Fúqīng SEM
*tʰøŋ*²]

六 ‘six’ Proto-EM *-uk > Longdu NEM *læk*⁸, Fúdǐng Bálín NEM *leʔ*⁸, vs.
Zhōuníng Xiáncūn NEM *læk*⁸, Shòuníng Nányáng NEM *læʔ*⁸, vs.
Fúzhōu SEM *løyʔ*⁸, Gǔtián Dàqiáo SEM *løyk*⁸, [Fúqīng SEM *løʔ*⁸]

These changes in Longdu and Fújiàn NEM are said to be “一脈相承” [inherited through one continuous vain] (2022a: 17). The first trait is most probably indeed an innovation shared between Longdu and Fújiàn NEM. (Namlong, on the other hand, has -ɔŋ -ɔk for these finals; see §3.3.3.) The second trait, on the other hand, is debatable. It is indeed the case that there is an area in northeastern Fújiàn where all or most rounded front vowels have been unrounded, when the wider region (i.e. most EM varieties and Wú) is rich in rounded front vowels. Within this “unrounded enclave” in northeastern Fújiàn are NEM varieties like Fúdǐng 福鼎 and Fú’ān 福安. Nonetheless, the unrounding of front vowels in this part of northeastern Fújiàn is very recent: within the last two to three hundred years for Fúdǐng (Dài Lígāng 戴黎剛 2011), and within the last one hundred years for Fú’ān (Dài 戴 2007a). Ibáñez (1941)’s dictionary of Fú’ān EM still has rounded front vowels. On the other hand, Mǐn people have a much longer history in Zhōngshān than this; the majority of Mǐn-speaking villages in Heungshan (for all three ZSM varieties) can be traced to the Southern Sòng Dynasty (1127–1279) (Gāo Rán 高然 2018: 5).

In the case of Fúdǐng EM, Dài 戴 (2011: 560–561) considers both internal and external factors, and concludes that the unrounding of rounded front vowels in Fúdǐng EM is primarily caused by the pressure from the migrant SM varieties. SM is spoken by 30% of the population in Fúdǐng, and the SM population in the neighbouring counties in Zhèjiāng is four times the population of Fúdǐng EM. Amongst the EM varieties in Fúdǐng, the varieties furthest away from the SM-speaking area in the north still have rounded front vowels.

The unrounding of the rounded front vowels in Longdu is not directly related to that in northeastern Fújiàn. Nonetheless, one commonality is the SM influence. One trait that sets Heungshan Yuè and Yuet Hoi / Kun–Pou Yuè apart is that Heungshan Yuè varieties usually do not have rounded front vowels. (Shekki-proper has rounded front vowels, but this is a later development (Gāo Rán 高然 2018: 32).) That Heungshan Yuè usually does not have rounded front vowels was caused by Mǐn influence, and the branch of CsM that is notable for not having rounded front vowels is SM. The entire coast of Guǎngdōng has a continuous history of visits by SM-speaking fisherfolk (e.g. Egerod 1956: 6), and some SM speakers have settled in Heungshan for quite some time (Samheung SM; see §4). Under the influence of probably both SM and the “unrounded” varieties of Heungshan Yuè, Longdu and Namlong EM also do not have rounded front vowels.³⁵

2.3.4 [mb] [ŋg]

³⁴ Akitani 秋谷 also exemplifies this unrounding with the Proto-EM finals *-y *-yn (2022a: 16). Here only examples of *-uŋ *-uk > *-æŋ *-æk are shown.

³⁵ Although there are no rounded front vowels in Longdu and Namlong EM, in nearly all descriptions there is a rounded close-mid central vowel /ø/. This is the reflex of various earlier vowels.

Akitani's feature (3-4) is about how /m/ /n/ /ŋ/ in Longdu are pronounced [mb] [nd] [ŋg]. Akitani mentions that this is also the case in northeastern Fújiàn, primarily around Níngdé 寧德 and Fú'ān 福安 (2022a: 17–18). (We shall ignore /n/, as its realisations in Longdu and many Mǐn dialects have other complications.) The realisation of /m/ in Longdu is variously described as [m], [m^b], [m^b], or [b] by different authors, and similarly with /ŋ/ as [ŋ], [ŋ^g], [ŋ^g], or [g]. Some authors render these phonemes as /b/ /g/ instead. All these reflect the variations between and within speakers of Longdu.³⁶ (See Kratochvíl & Sio (2018) on the phonetics of these initials in Taichung / Dàchōng 大涌 Longdu, and Chan & Ren (1987) on these in ZSY.)

This oral–nasal variation is somewhat similar to the situation in Fújiàn SM: there is no phonemic contrast between [m] [b] and [ŋ] [g], and the [b] [g] allophones are described variously as pure-oral plosives, pre-nasalised plosives, or post-oralised nasals (see, e.g., Pan 1994, Hú Fāng 胡方 2005, Zhū Xiǎonóng 朱曉農 2010: 201–202, Ding 2011).

Akitani's feature (3-4) does little in distinguishing between the scenario of Longdu and Níngdé / Fú'ān NEM having shared this innovation, and the scenario of Longdu and Níngdé / Fú'ān NEM having developed this innovation in parallel. We think that the latter is correct. The likely commonality is again the SM influence.

2.3.5 The raising of the nucleus in *-ia *-iaŋ *-iaʔ *-ua

Akitani's feature (3-5) is about the vowel *a in earlier *-ia *-iaŋ *-iaʔ *-ua having raised in tongue height in Longdu: *-ie -ieŋ -ieʔ -uə* (2022a: 19). (Akitani's renditions of <uə> and <uəʔ> are problematic; these finals are rendered *-uə* and *-uəʔ* respectively in this article.)³⁷ Similar raising of *a has also occurred in NEM, but not in SEM. Akitani admits that this raising of *a in NEM may lack time-depth by looking at Early Fú'ān NEM as shown in Ibáñez (1941). Akitani discusses in depth the sound changes related to this raising of *a amongst NEM varieties.

Looking at the phonological systems of Longdu and some other Fújiàn NEM varieties, one sees slight differences in the wider situation. In northeastern Fújiàn, e.g., Zhōuníng Xiáncūn NEM, *-iaŋ becomes *-ieŋ* (e.g. 行 *kieŋ*² 'walk', 命 *mieŋ*⁶ 'life'), except that *-iaŋ remains *-iaŋ* in tone *B (e.g. 餅 *pieŋ*³ 'cake', 鼎 *tieŋ*³ 'pot') (-i is dropped in some cases; Akitani 秋谷 2018: 618–622). Similarly, *-ian becomes *-ien* (e.g. 鱸 *cieŋ*⁶ 'eel'), except that, in most cases, *-ian remains *-ian* in tone *B (e.g. 囡 *kian*³ 'son') (2018: 571–573). With one exception, all cases of *-ia did change to *-ie* (e.g. 野 *ie*⁶ 'wild', 車 *cie*¹ 'vehicle').³⁸ The situation in Longdu is different: all cases of *-iaŋ has changed to *-ieŋ* (e.g. 鼎 *tieŋ*³ GR 'pot', 行 *kieŋ*³ GR 'walk'), all cases of *-ian has changed to *-ien* (e.g. 囡 *kien*³ GR 'son'), while *-ia

³⁶ Heungshan Yuè also has this trait, and has had it for a long time. For instance, Early Macau Yuè borrowed Portuguese *bacalhau* 'cod' as 馬介休, inherited by modern Macau Cantonese as [ma⁴ kɛ¹ jɛu¹], i.e. 馬 *ma* was once [ba] in Macau. Macau originally spoke Heungshan Yuè (e.g. Ball 1897), but was Cantonised in the 1940s (Zhān 詹 et al. 2002: 201–202).

³⁷ This final is rendered /ua/ [oʊ] in Egerod (1956: 45). The "vowel cluster" of [oʊ] is described as "[o] + non-syllabic [ɔ̥], which differs only in length from [ɔ̥]" (1956: 30). On the same page, [ɔ̥] is described as "lower-mid, central or back-central, rounded, short", i.e. something like [ə] or [ɜ̥] in IPA. (The "dot above" diacritic indicates centralisation in Americanist phonetic notation.) In other words, [oʊ] is [o] with a mid-central off-glide. The offglide is not as fronted as Akitani's <uə> suggests.

³⁸ The final *-ia* exists in one morpheme, *ia*⁶ 'mother', said to be from *ia³ in tone *B (Akitani 秋谷 2018: 482). In the nearby NEM dialects of Hǔpèi 虎浞 and Jiǔdū 九都, they show the more common pattern of *-ia becoming *-ie*, except in tone *B, where *-ia remains *-ia*, or becomes *-a* (2018: 482).

Proto-Mǐn *-iai > Proto-EM *-yai⁴⁰ >

Proto-NEM *-ya

(The geographically peripheral Longdu in Guǎngdōng and Cāngnán in Zhèjiāng make a distinction based on velar vs. coronal initials. On the other hand, in mainstream NEM, Proto-NEM *-ya > *-ia in all cases.)

Velar initial:

倚/企⁴¹ ‘stand’ (*k^h-): Longdu NEM *k^hi³* ZL, *k^hie³* GR,⁴² *k^hie⁶* LC, [k^hiɛ^ɿ] (tone 6) KS, Cāngnán Yántíng NEM *dzio⁶*, Níngdé NEM *k^hie⁶*, Fú’ān NEM *k^he⁶*, Zhèróng NEM *k^hia⁶*

蟻 ‘ant’ (*ŋ-): Longdu NEM *ŋie⁶* AE2/ZL, *ŋie⁶* LC, *ge⁶* GR, [ŋiɛ^ɿ] (tone 6?) KS, Cāngnán Yántíng NEM *jio⁶*, Níngdé NEM *ŋie⁶*, Fú’ān NEM *ŋe⁶*, Zhèróng NEM *ŋia⁶* or *ŋie⁶*

外 ‘outside’ (*ŋ-): Longdu NEM *ŋie⁶* AE2, *ŋe⁶* ZL, *ŋie⁶* LC, *gie⁶* GR, [ŋiɛ^ɿ] (sandhi tone?) KS, Cāngnán Yántíng NEM *jio⁶*, Níngdé NEM *ŋie⁶*, Zhèróng NEM *ŋia⁶*

Coronal initial:

紙 ‘paper’ (*tʃ-): Longdu NEM *tʃuə³* AE2, *tsuo³* ZL, *tsə³* LC/GR vs. Níngdé NEM *tsa³* (irregular), Fú’ān NEM *tse³*, Zhèróng NEM *tsia³*

蛇 ‘snake’ (*θ-): Longdu NEM *ʃuə²* AE2, *sə²* ZL/LC/GR, Cāngnán Yántíng NEM *zo²*, vs. Níngdé NEM *sie²*, Fú’ān NEM *se²*, Zhèróng NEM *sia²*

Proto-SEM *-iai > Fúqīng-type SEM *-ia

倚 ‘stand’: Fúqīng SEM /k^hia⁶/ [k^hia^ɿ]

蟻 ‘ant’: Fúqīng SEM /ŋia⁶/ [ŋia^ɿ] or /ŋie⁶/ [ŋie^ɿ] (< Fúzhōu influence?)

外 ‘outside’: Fúqīng SEM /ŋia⁶/ [ŋia^ɿ]

紙 ‘paper’: Fúqīng SEM *tsia³*

蛇 ‘snake’: Fúqīng SEM *sia²*

Proto-SEM *-iai > Fúzhōu -type SEM *-iai

倚 ‘stand’: Fúzhōu SEM /k^hie⁶/ [k^hie^ɿ]

蟻 ‘ant’: Fúzhōu SEM /ŋie⁶/ [ŋie^ɿ]

外 ‘outside’: Fúzhōu SEM /ŋie⁶/ [ŋie^ɿ]

紙 ‘paper’: Fúzhōu SEM *tsai³* (irregular)

蛇 ‘snake’: Fúzhōu SEM *sie²*

Proto-Mǐn **-(u)ai⁴³ > Proto-EM *-uai >

Proto-NEM *-ua

沙 ‘sand’: Longdu NEM *sə¹* ZL/LC/GR, Níngdé NEM *suo¹*, Fú’ān NEM *so¹*, Zhèróng NEM *sua¹*

⁴⁰ Akitani 秋谷 (2022b: 84) argues that the Proto-EM *-iai reconstructed elsewhere, namely Bodman’s unpublished reconstructions shown in Walton (1986: 474–477), Wu Rui-wen 吳瑞文 (2007: 271–273), and Akitani 秋谷 (2018: 701; 2020: 856), should be changed to *-yai instead.

⁴¹ The character 倚 (“stepping stone” or “stand” in Classical Chinese) is used more in Mǐn studies. The character 企 (“tiptoe” in Classical Chinese) is used more in Yuè studies, but 企 is also used in some publications on ZSM, e.g. GR.

⁴² Tone 3 is an influence from ZSY: 企 *k^hi³* ‘stand’ (Cantonese 企 *k^hei⁴* ‘stand’). The vowel in *k^hi³* ZL is most probably an influence from ZSY.

⁴³ Akitani 秋谷 (2022b: 82–84) argues that Norman (1981)’s Proto-Mǐn finals *-ai and *-uai (: 44–45, 50–51) are “大致上” [basically / largely] in complementary distribution, and “有可能可以” [can possibly] be combined into one proto-final.

籬 ‘basket’: Longdu NEM *luo*² ZL, *luo*² LC, Níngdé NEM *luo*³, Zhèróng NEM *lua*²
 大 ‘big’: Longdu NEM /tua⁶/ [təɔ̃⁶] EG, *tuo*⁶ ZL, *tuo*⁶ LC, *tə*⁶ GR, [təɔ̃⁶] (tone 6) KS, Níngdé NEM *tuo*⁶, Fú’ān NEM *to*⁶, Zhèróng NEM *tua*⁶
 破 ‘damage(d)’: Longdu NEM *p^ho*⁵ ZL/GR, *p^huo*⁵ LC, Níngdé NEM *p^huo*⁵, Fú’ān NEM *p^ho*⁵, Zhèróng NEM *p^hua*⁵
 磨 ‘grind’: Longdu NEM *muo*² ZL, *muo*² LC, *bə*² GR, [m(b)əɔ̃²] (tone 3) KS, Níngdé NEM *muo*², Fú’ān NEM *mo*², Zhèróng NEM *mua*²
 However, 我 ‘I’ (Proto-NEM *ua³) is different in Longdu and Níngdé:⁴⁴
 我 ‘I’: Longdu NEM *ua*³ ZL/LC/GR, [wa(:)ɿ] (tone 3) JS, Níngdé NEM *ua*³ vs. Fú’ān NEM *ŋo*³, Zhèróng NEM *ŋua*³

Proto-SEM *-uai > Fúqīng-type SEM *-ua

沙 ‘sand’: Fúqīng SEM *sua*¹
 籬 ‘basket’: Fúqīng SEM *lai*² (< Fúzhōu influence?)
 大 ‘big’: Fúqīng SEM /tua⁶/ [tuəɿ]
 破 ‘damage(d)’: Fúqīng SEM /p^hua⁵/ [p^huaɿ]
 磨 ‘grind’: Fúqīng SEM *mua*²
 我 ‘I’: Fúqīng SEM *ŋua*³

Proto-SEM *-uai > Fúzhōu-type SEM *-ai, *-uai

沙 ‘sand’: Fúzhōu SEM *sai*¹
 籬 ‘basket’: Fúzhōu SEM *lai*²
 大 ‘big’: Fúzhōu SEM /tuai⁶/ [tuaiɿ]
 破 ‘damage(d)’: Fúzhōu SEM /p^huai⁵/ [p^huaiɿ]
 磨 ‘grind’: Fúzhōu SEM *muai*²
 我 ‘I’: Fúzhōu SEM *ŋuai*³

For NEM and Fúqīng-type SEM, the reflexes of Proto-EM *-uai are the same as those of Proto-EM *-ua.

瓜 ‘melon’ *-ua: Longdu NEM *kuo*¹ ZL, *kuo*¹ LC, *kə*¹ GR, [kəɔ̃¹] (tone 1) KS, /kúa/ [koɔ̃¹] EG, Níngdé NEM *kuo*¹, Fú’ān NEM *ko*¹, Zhèróng NEM *kua*¹, Fúqīng SEM *kua*¹, (Fúzhōu SEM *kua*¹)
 花 ‘flower’ *-ua: Longdu NEM *fə*¹ ZL, *fuo*¹ LC, *fə*¹ ~ *hə*¹ GR, /fúa/ [foɔ̃¹] EG, Níngdé NEM *xuo*¹, Fú’ān NEM *ho*¹, Zhèróng NEM *xua*¹, Fúqīng SEM *hua*¹, (Fúzhōu SEM *hua*¹)
 瓦 ‘tile’ *-ua: Longdu NEM *ŋə*⁶ ZL, *ŋuo*⁶ LC, *gə*⁶ GR, Níngdé NEM *ŋuo*⁶, Fú’ān NEM *wo*⁶, Zhèróng NEM *ua*⁶, Fúqīng SEM /mua⁶/ [muəɿ], (Fúzhōu SEM /ŋua⁶/ [ŋuaɿ])

For Fúzhōu-type SEM, the reflexes of Proto-EM *-uai are the same as those of Proto-EM *-ai / *-uai.

雷 ‘thunder’ *-ai: Fúzhōu SEM *lai*², (Longdu NEM *lai*² ZL, [laɿɿ] (tone 3) KS, Níngdé NEM *lai*², Fú’ān NEM *lai*², Zhèróng NEM *lai*², Fúqīng SEM *lai*²)

⁴⁴ It is not surprising that the pronoun ‘I’ has a conservative pronunciation. For instance, in Pínghuà as spoken in the western suburbs of Nánning, the Middle Chinese 歌 -a rime mostly have -ɔ̃ reflexes, like Nánning Cantonese, e.g. 歌 *kɔ*¹ ‘song’, 蛾 *ŋɔ*² ‘moth’. However, some morphemes with a more “personal” meaning have retained an -a pronunciation, e.g. 歌 *ka*¹ ‘love song’, 我 *ŋa*⁴ ‘I’.

怪 ‘blame’ *-uai: Fúzhōu SEM /kuai⁵/ [kuai↓], (Longdu NEM kai⁵ ZL, kuai⁵ LC, Fú’ān NEM kuai⁵, Zhèróng NEM kuai⁵, Fúqīng SEM /kuoi⁵/ [kuoi↓])

2.4 Longdu-specific sound changes

Akitani 秋谷 (2022a)’s §4 is a small section talking about two Longdu-specific sound changes. The first shows development parallel with Zhèjiāng NEM. (It is also interesting to compare Namlong with these Longdu sound changes; see §3.4.)

The first Longdu-specific sound change is Proto-EM *-œ > Longdu -i, for instance (2022a: 21–22):

梳 ‘comb’ *-œ: Longdu NEM ʃi¹ AE, [si¹ ZL/LC/GR,] vs. Zhōuníng Xiáncūn NEM θœ¹, Gǔtián Dàqiáo SEM sœ¹

初 ‘beginning’ *-œ: Longdu NEM tʃ^{hi2} AE, [ts^{hi2} ZL,] vs. Zhōuníng Xiáncūn NEM tʃ^{hœ1}, Gǔtián Dàqiáo SEM ts^{hœ1}

Proto-EM *-œ has the same reflexes as *-i and *-y in Longdu.

四 ‘four’ *-i: Longdu NEM ʃi⁵ AE, [si⁵ ZL/LC/GR,] Zhōuníng Xiáncūn NEM θi⁵, Gǔtián Dàqiáo SEM si⁵

鼠 ‘rat’ *-y: Longdu NEM tʃ^{hi3} AE, [ts^{hi3} ZL/LC/GR,] vs. Zhōuníng Xiáncūn NEM ɕy⁶, Gǔtián Dàqiáo SEM tɕ^{hy3}

Akitani proposes that the sequence of sound changes was *-œ > *-œy > *-y > -i. The *-œy stage is manifested by the other peripheral NEM subgroup: Zhèjiāng NEM. Akitani gives the examples of Tàishùn Sānkú NEM 梳 sœy¹ ‘comb’ and 初 ts^{hœy1} ‘beginning’. Cāngnán Yántíng NEM 梳 ‘comb’ has an -ai final, which is an unrounded version of *-œy.

The second Longdu-specific sound change concerns tone **D syllables. While Proto-EM *-p *-t *-k syllables in Longdu have tone 7 or 8 as expected, all *-ʔ syllables have tone 7 in Longdu. The following are some examples (2022a: 22–23).

Proto-EM *-ʔ:

百 ‘hundred’ *paʔ⁷: Longdu NEM paʔ⁷ AE, [paʔ⁷ ZL, pɐʔ⁷ LC, pa⁷ GR,] Zhōuníng Xiáncūn NEM paʔ⁷, Gǔtián Dàqiáo SEM paʔ⁷

白 ‘white’ *paʔ⁸: Longdu NEM paʔ⁷ AE, [paʔ⁷ ZL, pɐʔ⁷ LC,] vs. Zhōuníng Xiáncūn NEM paʔ⁸, Gǔtián Dàqiáo SEM paʔ⁸

Proto-EM other plosive coda:

八 ‘eight’ *pɛt⁷: Longdu NEM pɛt⁷ AE, [pɛt⁷ ZL, pɛt⁷ LC,] Zhōuníng Xiáncūn NEM pɛt⁷, Gǔtián Dàqiáo SEM peik⁷

十 ‘ten’ *θɛp⁸: Longdu NEM ʃɛp⁸ AE, [siep⁸ ZL, sep⁸ LC,] Zhōuníng Xiáncūn NEM θɛp⁸, Gǔtián Dàqiáo SEM seik⁸

The following are some other examples.

索 ‘string’ *θɔʔ⁷: Longdu NEM sɔʔ⁷ ZL, sɔʔ⁷ LC, Zhōuníng Xiáncūn NEM θɔʔ⁷, Gǔtián SEM sɔʔ⁷

糴 ‘purchase grain’ *tiaʔ⁸: Longdu NEM tieʔ⁷ ZL, tieʔ⁷ LC, vs. Zhōuníng Xiáncūn NEM tieʔ⁸, Gǔtián SEM tiak⁸

學 ‘learn’ *ɔʔ⁸: Longdu NEM hɔʔ⁷ ZL, hɔʔ⁷ LC, hɔ⁷ GR,⁴⁵ vs. Zhōuníng Xiáncūn NEM ɔʔ⁸, Gǔtián SEM oʔ⁸

箬 ‘leaf’ *niɔʔ⁸: Longdu NEM niθ⁷ GR, vs. Zhōuníng Xiáncūn NEM nyʔ⁸, Gǔtián SEM nyøk⁸

⁴⁵ Longdu EM has copied a Yuè initial h-, cf. ZSY / Cantonese 學 hɔk⁸ ‘learn’. Namlong EM did not do this: 學 ɔ⁸ GR/CX ‘learn’.

曝 ‘to sun’ *p^huoʔ⁸: Longdu NEM p^huoʔ⁷ AE, p^həʔ⁷ GR, vs. Zhōuníng Xiáncūn NEM p^huʔ⁸, Gǔtián Dàqiáo EM p^huoʔ⁸

2.5 Traits in Longdu that look like other branches of Mǐn

2.5.1 EM vs. SM typological traits

The three ZSM varieties are often said to be SM varieties. This opinion is often found in popular literature. This conclusion can easily be made, as the Mǐn varieties that most people have come across in Guǎngdōng are obviously Fújiàn SM or derivatives of Fújiàn SM. The opinion that all three ZSM varieties are SM is also found in linguistic research, e.g. Lín Bǎisōng 林柏松 (1997: 1386), Chén Xiǎofēng 陳小楓 (1995: 249), and Lín Lúnlún 林倫倫 & Chén Xiǎofēng 陳小楓 (1996: 183). Chén 陳 (1995) and Lín 林 & Chén 陳 (1996)’s arguments are that (with rephrasing here): 1. ZSM has the consonantal codas of *-m -n -ŋ -p -t -k*, similar to SM but different from EM and PXM (they typically only have one nasal coda and one plosive coda); 2. ZSM has no rounded front vowels, similar to SM; ZSM has not developed rounded front vowels even under the strong influence of Yuè (Shekkiproper and Cantonese have rounded front vowels); 3. ZSM does not have the EM and PXM type of onset lenition; and 4. ZSM does not have the EM type of tone-conditioned rime allophony.⁴⁶

The four aforementioned traits are typological traits. Using typological traits is one valid way of classifying speech varieties. Nonetheless, this classification cannot be understood as a genealogical classification. Each of these is unsuitable as an argument for genealogical relationship in its own way.

Trait 1 (having *-m -n -ŋ -p -t -k*) is a retention, which already makes this inadmissible as an evidence for genealogical relationship. Having kept the Proto-Mǐn codas of *-m -n -ŋ -p -t -k -ʔ* is indeed typical of the SM varieties in Fújiàn, but it is not universal amongst the Fújiàn SM varieties. In addition, as discussed in §2.3.1, having only *-ŋ -k* or *-ŋ -ʔ* is not a trait of EM as a whole: it is a trait common in SEM. Some NEM varieties, e.g. Níngdé NEM as spoken by the oldest speakers (Níngdé 寧德 1995: 932), still have a complete set of *-m -n -ŋ -p -t -k -ʔ* inherited from Proto-EM. Longdu (and Namlong) are simply EM varieties that are conservative with their codas (except with **-ʔ*, see §2.3.1 and §3.3.1); they are supported by Heungshan Yuè and Cantonese, which are conservative with Middle Chinese *-m -n -ŋ -p -t -k*. (ZSH is also mostly conservative with these.)

Trait 2 (no rounded front vowels) is an innovation from the point of view of Proto-Mǐn. However, it does not follow that ZSM and SM have to have inherited this trait from a common ancestor. Not having rounded front vowels is a widespread areal trait in Far Southern China, and in the wider Mainland Southeast Asia (e.g. de Sousa 2015: 383–385). In Zhōngshān, ZSM, ZSH, and most Heungshan Yuè

⁴⁶ The last two traits can be demonstrated using the Fúzhōu EM word 輕重心 [k^hiŋ¹-l nøyŋ⁶ niŋ¹] (light heavy heart) ‘bias’. The morphemes are pronounced 輕 [k^hiŋ¹] 重 [tøyŋ⁶] 心 [siŋ¹] individually. When put together: a) onset lenition refers to the changing of the second and third onsets from [t-] [s-] to [n-] [n-] due to the preceding nasal codas; b) tone sandhi rules cause the first and second tones to change from [1] [4] to [1] [1]; c) tone-conditioned rime allophony in EM refers to the nucleus vowel phonemes having two allophones which are used with different tones in non-tone-sandhi settings; after tone-sandhi, all vowels in sandhi-tone syllables revert back to the “basic” allophone. The vowel in the first syllable /k^hiŋ/ [k^hiŋ] (underlying tone 1) is already in its basic allophone, but the vowel in the second syllable /tøyŋ/ [tøyŋ] (underlying tone 6) has to revert back to [øy] after tone sandhi. See, e.g., Chén Zépíng 陳澤平 (1998), Hirayama Hisao 平山久雄 (2010), and C. Donohue (2013) on these rules in Fúzhōu EM. The rules in the other EM varieties are often different from the ones in Fúzhōu EM, sometimes considerably more complex. See, e.g., Dài Língāng 戴黎剛 (2007b).

varieties do not have rounded front vowels. (That Shekki-proper and Standard Cantonese have rounded front vowels cannot be viewed as the norm in Far Southern China.)

Trait 3 (onset lenition) is indeed near universal amongst the PXM and EM varieties in Fújiàn and Zhèjiāng.⁴⁷ However, that Longdu (and Namlong) do not have this trait stems simply from the fact that this trait is a rather-recent innovation in Fújiàn. Looking at the most influential dialect in this region, Fúzhōu EM, while opinions vary as to when this innovation started, the earliest estimate is merely two to three hundred years ago (see, e.g., Chén Zépíng 陳澤平 2010, Dài Lígāng 戴黎剛 2016). Longdu (and Namlong) EM have splintered off Fújiàn EM much earlier than this, and hence it is not surprising that they do not have the EM type of onset lenition.

Trait 4 (tone-conditioned rime allophony) is not a trait that defines EM as a whole. Many SEM varieties and some NEM varieties have this trait. One has to note that this trait is not even universal in SEM where this is most famous for, e.g. Gǔtián SEM does not have this trait. Longdu (and Namlong) have splintered off before this innovation developed in mainstream EM. (See also, e.g., Tu Chia-lun 杜佳倫 2022 on traits 3 and 4.)

Longdu is typologically rather different from the better-known EM varieties like Fúzhōu (Hokchew) and Fúqīng (Hokchia). Nevertheless, as we have seen in §2.2 and §2.3, Longdu is genealogically an EM variety, and more specifically a NEM variety, as evidenced by many shared innovations.

Lastly, we must mention one typological trait of Longdu (and Namlong) which aligns more with EM (and PXM) than with SM. All of these branches of CsM have complex tone sandhi, but SM is comparatively not as complex. In SM varieties, each isolate tone (non-sandhi tone, citation tone) is usually linked to only one, or sometimes two, sandhi tones. In other words, when tone sandhi rules are applied, often no “guesswork” is needed as to which tone a tone would be transformed into. This is the case with Samheung SM. On the other hand, things are less predictable in EM and PXM: an isolate tone is often linked to more than one sandhi tone. The regular rules are also on average more complex, e.g. more conditioning by the tone of the following syllable, and sometimes even the tone of the final syllable in a tone-sandhi domain has to change. Longdu (and Namlong) align more with EM; their sandhi rules are slightly less complex than an average EM variety, but are still noticeably more complex than a typical SM variety. (See Gāo Rán 高然 2002 on ZSM tones.)

2.5.2 SM-like lexical items

Longdu EM has some morphemes which look like they were borrowed from SM. (Or PXM; it is not necessarily easy to tell SM and PXM lexical items apart.) It is not surprising that Longdu has some SM influences. Firstly, Longdu people claim that their ancestors came from various locations along the Fújiàn coast, including coastal locations in the PXM and SM regions. Secondly, historically Zhōngshān had frequent visits by SM-speaking fisherfolk (Egerod 1956: 6), and there is still the SM

⁴⁷ Onset lenition is not present in some geographically peripheral EM varieties: Shòuníng 壽寧 and Fúdǐng 福鼎 in far northeastern Fújiàn, and Píngtán 平潭 off the coast of Fúqīng (Yuán 袁 & Wáng 王 2013: 52). In the Yóuxī 尤溪 dialect, which has a mixture of features from the nearby N, S, E, Cn, and PX Mǐn groups, onset lenition only exists in some common words (Lǐ Rúlóng 李如龍 2021). Onset lenition in PXM is commonly thought of as an influence from EM (e.g. Lǐ 李 2001a: 138; Dài 戴 2016: 44).

variety of Samheung (§4) spoken in Zhōngshān. The following are a few SM-like morphemes in Longdu noticed by us.

The first is the morpheme “know”. Longdu 知 *tsai*¹ ZL/LC ‘know’ looks very SM and PXM. So far we have not found forms like *tsai*¹ for “know” in the EM varieties in Fújiàn and Zhèjiāng.

知 ‘know’ Longdu EM *tsai*¹ ZL/LC, PXM *tsai*¹, Proto-SM **tsai*¹ > Samheung SM *tsai*¹ GR, *tsɛi*¹ LC, Zhāngzhōu SM *tsai*¹, Teochew SM *tsai*¹

知 ‘know’ Fúzhōu EM *ti*¹, Fúqīng EM *ti*¹, Fú’ān EM *tei*¹

(SM varieties often also have *ti*¹ as a literary pronunciation of 知 ‘know’.)

Also cf. 知 ‘know’ Middle Chinese *t-* > ZSY / Cantonese *tsi*¹, Longdu literary *tsi*¹, ZSH *ti*¹.

The Longdu morpheme 佇 *ti*⁵ GR/EG ‘(be) at’ looks like it was borrowed from a Fújiàn SM variety:

佇 ‘(be) at’ Longdu EM *ti*⁵ [ɿ] GR/EG

cf. Samheung SM *tu*¹ [ɿ] GR, Huì’ān SM *ti*⁴ ~ *tur*⁴ [ɿ], Taiwanese SM *ti*⁶ ~ *tu*⁶ ~ *tur*⁶ [ɿ]

This is unlike:

著 ‘(be) at’ Pútián PXM *to*² [ɿ], Fúzhōu EM *tu*² [ɿ], Fúdǐng EM *tie*² [ɿ], Zhōuníng Xiáncūn EM *ti*² (~ *te*²) [ɿ]

? ‘(be) at’ Teochew SM *to*⁴ [ɿ]

洽 ‘(be) at’ Fúzhōu EM *ka*² [ɿ]

在 ‘(be) at’ ZSY *ts^hɔi*³ GR [ɿ], Hafong *ts^hui*³ GR [ɿ], ZSH *ts^hɔi*¹ [ɿ]

喺 ~ 响 ‘(be) at’ Cantonese *hei*³ ~ *hœŋ*³ [ɿ]

There is a question of whether Longdu *ti*⁵ [ɿ] is from the EM form 著 **ti*² or not. The form *ti*⁵ [ɿ] is found in Egerod (1956: 53), which is conservative with the codas and not known to drop *-ʔ. Nonetheless, we have seen the very similar looking form *ti*² in Zhōuníng Xiáncūn EM. In Longdu, all *-ʔ syllables are in tone 7 (see §2.4); a possible scenario would be that Longdu had **ti*², and then for some irregular reason **ti*² [ɿ] became *ti*⁵ [ɿ]. Either way, it remains most likely that either Longdu *ti*⁵ was directly borrowed from SM, or Longdu **ti*² [ɿ] became *ti*⁵ [ɿ] irregularly under the influence of a similar-sounding form in SM.

In §2.1.6, we mentioned that for the Proto-CsM **ə* series of finals, Longdu consistently sides with the developments in Proto-EM. This includes 北 ‘north’ (< Proto-CsM *-ək). However, 墨 ‘ink’ (also < Proto-CsM *-ək) is different. The morpheme 墨 ‘ink’ *mak*⁸ LC⁴⁸ in Longdu is perhaps borrowed from SM (or PXM).

墨 ‘ink’ Proto-CsM *-ək:

Proto-SM *-ək > Samheung SM *mak*⁸ [ɿ], Zhāngzhōu SM *bak*⁸, Teochew SM *bak*⁸

Longdu EM *mak*⁸ [ɿ] LC, PXM *pa*²

Proto-EM *-ək > Fúzhōu EM *møy*², Fúqīng EM *mø*², Fú’ān EM *mæk*⁸

The Longdu form 墨 *mak*⁸ [ɿ] LC is not borrowed from ZSY / Cantonese 墨 *mæk*⁸ [ɿ]; Longdu keeps /-ək/ /-ɛk/ clearly apart (unlike Namlong and Samheung), and ZSY / Cantonese morphemes with -ɛk are usually borrowed as -ɛk in Longdu.⁴⁹ The

⁴⁸ GR records a form 墨 *bek*⁸ [ɿ], with a Yuè-influenced vowel. ZL records only a literary form 墨 [mɛkɿ], with Yuè vowel, and a tone that does not occur in native morphemes. (ZSY 墨 *mæk*⁸ [ɿ].)

⁴⁹ Slightly further afield, Shuntak 順德 (Shùndé) Yuè and Zhōngshān Gǔzhèn 古鎮 Yuè (Szeyap) to the north experienced *-ɛk > -ək (while -ɛŋ is intact): Shuntak 墨 *mak*⁸ [ɿ], Gǔzhèn 墨 *mak*⁸ [ɿ]. To

tone values also do not match. Longdu *mak*⁸ [ɿ] LC is also not borrowed from ZSH 墨 *met*⁸ [ɿ]. Longdu 墨 ‘ink’ *mak*⁸ LC looks like it was borrowed from SM.

In a form recorded by ZL, the initial in 艾 *hai*⁶ ‘artemisia’ looks like it was borrowed from SM or PXM:

艾 ‘artemisia’ Proto-Mǐn **ɣh- > Longdu EM *hai*⁶ [ɿ] ZL, Samheung SM *hia*⁵ LC, Xiàmén SM *hĩã*⁶, Teochew SM *hĩã*⁶, Xiānyóu PXM *hya*⁵, vs. Fúqīng EM /ɲia⁵/ [ɲiaɿ], Fú’ān EM *ɲe*⁵, (Longdu EM *ɲie*⁵ LC)

(Also cf. 艾 ‘artemisia’ Middle Chinese *ɲ*- > Cantonese *ɲai*⁶ [ɿ], ZSY *ɲai*⁵ [ɿ], Longdu literary *ɲai*² [ɿ] ZL, ZSH *ɲici*⁵ [ɿ].)

The Longdu form 艾 *ɲie*⁵ LC is regular (for EM), with the expected initial *ɲ*- and tone 5. On the other hand, the Longdu form 艾 *hai*⁶ ZL has the initial *h*- and tone 6; *h*- is from SM or PXM, and tone 6 is what one would expect from a coastal SM variety (§2.1.4). (The final *-ai* is from Yuè.) Interestingly, the tone 5 in Samheung SM 艾 *hia*⁵ is what we would expect from EM; see discussions in §5.

3. Namlong Eastern Mǐn

Namlong 南朗 EM (Nánlǎng, *nem*²⁻³ *lɔŋ*³, *nem*²⁻³ *lɔŋ*³ *βa*⁶ (Namlong language) GR; also written 南朗 or 南塋, a.k.a. 得都 Dédū, 得能都 Dénéngdū) is the second largest ZSM variety, spoken to the east of Shekki in Namlong 南朗 and Zhāngjiābiān 張家邊 Towns. Bodman conducted an intelligibility test between speakers of Longdu (§2) and Namlong in Honolulu (1982: 3).⁵⁰ The level of mutual intelligibility “was quite minimal”. Their lexicons “differ considerably”, and their tone values are very different (see Table A1 in the appendix). Nonetheless, their historical phonological developments are largely the same, and Bodman concludes that Longdu and Namlong are closely related EM varieties. (Bodman (1982) calls EM “Northeastern Min”.) Gāo Rán 高然 (2018: 284) also notices that Namlong is linguistically closer to EM and PXM, and not so close to SM.

Unlike Longdu EM, of which the Yuè influence is a mix of Cantonese and Shekki, the Yuè influence in Namlong EM is more solidly Shekki, more specifically the “unrounded” type of Shekki (i.e. no rounded front vowels) that is spoken in the Namlong area (Gāo Rán 高然 (2018: 16); see Ruǎn Héng huī 阮恆輝 (1983) on Namlong Shekki). Amongst the Namlong Mǐn-speaking villages, some are shared with Yuè speakers, but none are shared with Hakka speakers (Gāo 高 2018: 283).⁵¹

In contrast to Longdu, very few data are available on Namlong EM. The following are the sources of the Namlong data used in this article:

BMN: Nicholas Bodman (1982), data from Namlong

CX2: Chén Xiǎofēng 陳小楓 (1995), data from Namlong

the west, most Szeyp dialects do not have an /a/ /ɐ/ distinction, e.g. Taishanese 台山 *m̥bak*⁸ [ɿ]. We currently assume that Longdu 墨 *mak*⁸ [ɿ] LC ‘ink’ is unrelated to these cases; Longdu is not known to have particularly strong interactions with these Yuè varieties.

⁵⁰ Honolulu (檀香山 *tʰan*² *hioŋ*¹ *san*¹ ‘sandalwood mountain’) has a large Heungshan 香山 community. All the Chinese schools in Honolulu at Bodman’s time used Shekki as the primary medium of instruction. The cities of Honolulu and Zhōngshān are twinned due to the strong historical links.

⁵¹ However, there are Hakka-speaking villages in the area. For instance, Sun Yat-Sen 孫逸仙, the founding father of the Chinese republic, came from Cuihēng 翠亨 in Namlong, which is a Shekki Yuè-speaking village. To the east, south, and west are numerous Hakka-speaking villages (Qiū Jié 邱捷 2006: 75–76). Slightly further away is the Namlong Mǐn-speaking village of Zuǒbù 左部, which is where the Sun family ancestral shrine is located, and where most of the extended Sun family members were based (Gāo Rán 高然 2018: 386).

CX: Chén Xiǎofēng 陳小楓 & Xǔ Dōnghuī 許冬暉 (2012), data from Namlong (data slightly different from the other Chén data)
 GR: Gāo Rán 高然 (2018: 283–317), data from Lǎnbiān 欖邊 in Namlong
 GR2: Gāo Rán 高然 (2000), data from Lǎnbiān 欖邊 in Namlong
 LC: Lín Lúnlún 林倫倫 & Chén Xiǎofēng 陳小楓 (1996: 158–164)

Despite the paucity of data, one could already tell that Namlong and Longdu are very closely related to each other in terms of their historical phonology. From the conclusion that Longdu is EM (§2), it follows that Namlong is also EM. The amount of innovations shared between Namlong and Longdu are numerous enough, and some of them unique enough (e.g. §3.3.7, and *-æ > -i in §3.4), that they must share a common ancestor that is more recent than Proto-NEM (§2.3, §3.3). We call this Proto-Heungshan-EM preliminarily. However, there are two scenarios between which we are currently unable to discern: a) Proto-Heungshan-EM was spoken in Heungshan, i.e. Namlong and Longdu diverged after their common ancestor group arrived in Heungshan; and b) “Proto-Heungshan-EM” was spoken in northeastern Fújiàn, meaning that they diverged in northeastern Fújiàn, but the two groups both ended up in Heungshan (not an unusual occurrence in a mass migration event). See discussions in §3.3.3.

The rest of this §3 on Namlong is structured exactly the same as §2 on Longdu: the numbering and titles of the subsections are basically the same in both §2 and §3. Under each subheading, when Namlong data are available, we show how Namlong behaves the same as Longdu, and in very few cases different from Longdu. (Samheung SM data are also often given as a reference.) When Namlong and Longdu behave the same, the arguments that support the view that Longdu is EM in §2 also apply to Namlong, and we usually do not repeat these arguments here in §3. Thus, when the reader reads, e.g., §3.1.6, discussions that are relevant are also found in §2.1.6. Due to the paucity of Namlong data, sometimes we have to provide alternative sets of examples which are less “neat” than the ones given for Longdu in §2.

In Namlong EM, /a/ is often reduced to /ɐ/ (GR/CX’s notation) or /ə/ (BMN/LC/CX2’s notation) in what is described as an unstressed environment by Bodman (1982: 12–13). These two vowels (/a/ and /ɐ/~ə/) are separate phonemes, e.g. 南 *nam*² ‘south’ vs. 脰 *nəm*² ‘soft’ BMN (< Yuè *nəm*² ‘malleably soft’). An example of this vowel reduction is 南 *nam*² ‘south’ becoming *nəm*² in 南朗墟 *nəm*² *loŋ*³ *hi*¹ ‘Namlong Market’ (BMN: 12). In GR one sees alternations like 兩儂 *laŋ*³⁻² *nəŋ*² ‘two people’ (GR: 305) and 兩斤 *leŋ*³⁻⁶ *kin*¹ ‘two catty’ (GR: 303). When the reader sees an *ɐ* ~ *ə* in the Namlong data, it is possible that it is underlyingly an /a/. This phonemic reduction from /a/ to /ɐ/~ə/ also occurs in Samheung SM (§4), but not in Longdu EM (§2), ZSH, ZSY, and Cantonese.⁵²

3.1 EM innovations and EM-specific forms in Namlong

3.1.1 Proto-Mǐn **N- and **N̊- > Proto-EM *N-

Namlong behaves the same as Longdu. Here we provide a different set of examples.

⁵² The phonetic reduction that occurs in Cantonese sentence final particles is non-phonemic.

尾 ‘tail’, Proto-Mǐn ****m-**⁵³ > Namlong EM *bəi*³ GR, Longdu EM *bəi*³ GR, Fúzhōu EM *muoi*³, Teochew SM *bue*³, Xiàmén SM *be*³, Xiānyóu PXM *puoi*³

毛 ‘hair’, Proto-Mǐn ****mh-** > Namlong EM *bɔ*² GR, Longdu EM *bɔ*² GR, Fúzhōu EM *mo*², vs. Teochew SM *mō*², Xiàmén SM *mɿ*², Xiānyóu PXM *mɿ*²

(These Mǐn varieties do not have a *b-* *m-* phonemic distinction except Teochew SM (but see also §3.3.4 on Namlong). In PXM, ***b-** > *p-*. The SM and PXM varieties have managed to keep the Proto-Mǐn ****m-** ****mh-** distinction by adding nasality to the final in the case of ****mh-**. Both 尾 ‘tail’ and 毛 ‘hair’ have oral finals in Proto-Mǐn, cf. the EM forms. The Samheung SM forms 尾 *moi*³ LC, *bɔi*³ GR ‘tail’ and 毛 *mou*² LC ‘hair’ do not help, as Samheung SM has denasalised all its nasalised vowels, and there is no *b-* *m-* phonemic distinction.)

3.1.2 Proto-Mǐn ****dz-** is fricativised in EM

Namlong behaves the same as Longdu.

坐 ‘sit’ Proto-Mǐn ****dz-** > Namlong EM *sɔi*⁶ GR, Longdu EM *sɔi*⁶ ZL, Fúzhōu EM /søy⁶/ [sɔy⁶], Xiānyóu PXM *ɬø*⁶, vs. Samheung SM *tsai*⁶ LC, Teochew SM *tso*⁴, Zhāngzhōu SM *tse*⁶

前 ‘front’ Proto-Mǐn ****dz-** > Namlong EM *sen*² GR, Longdu EM *sen*² ZL, Fúzhōu EM *seij*², Xiānyóu PXM *ɬi*², vs. Samheung SM *tsai*² LC, Teochew SM *tsōi*², Zhāngzhōu SM *tsij*²

Also, the word for “many”: Namlong EM *se*⁶ GR, Longdu EM *se*⁶ GR, Fúzhōu EM /se⁶/ [sa⁶], Xiānyóu PXM *ɬe*⁵, vs. Samheung SM *tse*¹ GR, Teochew SM *tsoi*⁶, Zhāngzhōu SM *tse*⁶.

3.1.3 Proto-Mǐn ****o** conditioned by labial vs. non-labial initials in Fújiàn EM

Namlong behaves the same as Longdu. Here we provide a slightly different set of examples.

布 ‘cloth’ Proto-Mǐn ****labial-**: Namlong EM *pø*⁵ GR, Longdu EM *puɔ*⁵ LC, Fúzhōu EM /puo⁵/ [puɔ⁵], vs. Samheung SM *p^hɔ*⁵ LC/GR, Teochew SM *pou*⁵, Taiwanese SM *pɔ*⁵, PXM *pɔu*⁵

粗 ‘thick’ Proto-Mǐn ****coronal-**: Namlong EM *ts^hu*¹ GR, Longdu EM *ts^hu*¹ LC, Fúzhōu EM *ts^hu*¹, Samheung SM *ts^hɔ*¹ GR, Teochew SM *ts^hou*¹, Taiwanese SM *ts^hɔ*¹, PXM *ts^hɔu*¹

褲 ‘pants’ Proto-Mǐn ****velar-**: Namlong EM *k^hu*⁵ GR, Longdu EM *k^hu*⁵ LC, Fúzhōu EM /k^hu⁵/ [k^hou⁵], Samheung SM *k^hɔ*⁵ GR, Teochew SM *k^hou*⁵, Taiwanese SM *k^hɔ*⁵, PXM *k^hɔu*⁵

3.1.4 Some Tone C syllables unexpectedly in tone 5 instead of tone 6 in EM

Namlong behaves the same as Longdu.

面 ‘face’ Proto-Mǐn ****mh-** tone C > Namlong EM *bin*⁵ GR, Longdu EM *min*⁵ LC, Fúzhōu EM /miŋ⁵/ [meiŋ⁵], Xiānyóu PXM *miŋ*⁵, Zhāngpíng Yǒngfú inland-SM *bin*⁵, vs. Samheung coastal-SM *bin*⁶ LC, Xiàmén coastal-SM *bin*⁶, Teochew coastal-SM *miŋ*⁶

⁵³ Coastal Mǐn varieties have experienced a “flip-flop” with tone ****B**: ****N-** syllables have Upper tone B (tone 3), and ****N̥-** syllables have Lower tone B (tone 4) (Shěn 沈 2023: 521–522), opposite of what one would expect. Amongst these Mǐn varieties, Teochew SM still has a separate category of tone 4 (which is not merged into tone 3 or 6). See also footnote 18.

鼻 ‘nose’ Proto-Mǐn ****bh-** tone C > Namlong EM *p^{hi}5* GR, Longdu EM *p^{hi}5* ZL/CSH, (but *p^{hi}6* GR,) Gǔtián EM *p^{hi}5*, Fúqīng EM /p^hε⁵/ [p^hæ⁵], Xiānyóu PXM *p^{hi}5*, vs. Samheung coastal-SM *pi*¹ GR (< tone *6), (but *pei*⁵ LC,) Xiàmén coastal-SM *p^{hi}6*, Teochew coastal-SM *p^{hi}6*

樹 ‘tree’ Proto-Mǐn ****džh-** tone C > Namlong EM *ts^{hiu}5* GR/LC, Longdu EM *ts^{hiu}5* ZL, Fúqīng EM /ts^{hiu}5/ [ts^{hiu}ɿ], Xiānyóu PXM *ts^{hiu}5*, vs. Samheung coastal-SM *ts^{hiu}6* GR/LC, Xiàmén coastal-SM *ts^{hiu}6*, Teochew coastal-SM *ts^{hiu}6*

3.1.5 EM 兩 ‘two’ Proto-Mǐn **** -aŋ**

Namlong behaves the same as Longdu.

兩 ‘two’ Proto-Mǐn **** -aŋ** > Namlong EM *laŋ*³ GR (< ZSY tone category), Longdu EM *laŋ*⁵ AE (< ZSY tone value), *laŋ*⁶ GR, Fúqīng EM /laŋ⁶/ [laŋ⁶]

兩 ‘two’ Proto-Mǐn **** -oŋ** > Samheung SM *neu*⁶ GR, Xiàmén SM *nŋ*⁶, Zhāngpíng Yǒngfú SM *lŋ*⁶, Xiānyóu PXM *nŋ*⁶

Compare:

平 ‘flat’ Proto-Mǐn **** -aŋ** > Namlong EM *paŋ*² GR, Longdu EM *paŋ*² LC, Fúqīng EM *paŋ*², (Samheung SM *pei*² GR, Xiàmén SM *pĩ*², Xiānyóu PXM *pā*²)

床/牀 ‘bed’ Proto-Mǐn **** -oŋ** > Samheung SM *ts^{heu}2* GR ‘table’, Xiàmén SM *ts^hŋ*², Xiānyóu PXM *ts^hŋ*² ‘table’, (Namlong EM *ts^hŋ*² GR, Longdu EM *ts^hŋ*² GR/ZL/LC, Fúqīng EM *ts^hoŋ*²)

3.1.6 Reflexes of Proto-CsM ***-ə** finals in EM

Namlong mostly aligns with Longdu, based on available data.

來 ‘come’ Proto-CsM ***-əi**:

Proto-EM ***-i** > Namlong EM *li*² BMN, Longdu EM *li*² LC/ZL, [li²ɿ] KS

Proto-SM ***-ai** > Samheung SM *lai*² GR

(ZSY *loi*², Cantonese *lei*², ZSH *loi*²)

雷 ‘thunder’ Proto-CsM ***-uəi(?)**:⁵⁴

Proto-EM ***-ai** > Namlong EM *lei*² GR, Longdu EM *lai*² ZL, [la:ɿ] (tone 3) KS

Proto-SM ***-ui** > Samheung SM *lui*² GR

(ZSY *lui*², Cantonese *ley*², ZSH *lui*²)

腿 ‘thigh’ Proto-CsM ***-uəi(?)**:

Proto-EM ***-ai** > Namlong EM *t^hvi*³ GR, Longdu EM *t^hai*³ ZL, *t^hvi*³ LC

Proto-SM ***-ui** > Samheung SM *t^hui*³ LC

(ZSY *t^hui*³, Cantonese *t^həy*³, ZSH *t^hui*³)

⁵⁴ In fact, Namlong EM has both 雷翁 *lei*²⁻³ ɔŋ¹ and *lui*²⁻³ ɔŋ¹ ‘thunder deity’, 雷拍 *lei*² p^ha⁷ and *lui*² p^ha⁷ ‘thunder strike’ (all GR). The *lui*² pronunciation presents some questions. Turning first to Longdu, the literary pronunciation of *lui*⁶ [ɿ] ZL in Longdu is clearly a borrowing, as it has a Yuè-like tone (ZSY *lui*² [ɿ], Cantonese *ley*² [ɿ]). On the other hand, the *lui*² form in Namlong has the same tone as the colloquial pronunciation *lei*² [ɿ]. The literary forms of 雷 ‘thunder’ in EM varieties usually have a more-open vowel, e.g. Níngdé EM *loi*², Fúqīng EM *loi*², Fúzhōu EM *ley*². (The colloquial pronunciation is *lai*² in these three EM varieties.) The *lui*² pronunciation in Namlong EM is perhaps an EM literary pronunciation that has been overlaid by a vowel from Yuè, Hakka, and/or SM.

鱗 ‘fish scale’ Proto-CsM *-ən:

Proto-EM *-in > Namlong EM *lin*² [ɿ] BMN, Longdu EM *lin*² [ɿ] ZL/LC

Proto-SM *-an > Samheung SM *lan*² LC

(ZSY *len*², Cantonese *len*². The Namlong and Longdu forms are similar to ZSH *lin*¹ [ɿ], but this is perhaps just a coincidence.)

陳 surname *Chén* Proto-CsM *-ən:

Proto-EM *-in > Namlong EM *ten*² CX, Longdu EM *ten*² LC

Proto-SM *-an > Samheung SM *tan*² LC

(ZSY / Cantonese *ts^hen*², ZSH *ts^hin*³)

力 ‘strength’ Proto-CsM *-ət:

Proto-EM *-it > Namlong EM *lit*⁷ [ɿ] GR, Longdu EM *lit*⁸ [ɿ] ZL/LC/GR

Proto-SM *-at > Samheung SM *lak*⁸ LC (< Yuè coda)

(ZSY / Cantonese *lek*⁸. The Namlong and Longdu forms are similar to ZSH *lit*⁸ [ɿ], but this is perhaps just a coincidence.)

Proto-CsM *-ək > Proto-EM *-ək is not an innovation, but the reflexes in EM versus SM are nonetheless still interesting (see also §2.1.6). Namlong seems to align with EM on this.

北 ‘north’ Proto-CsM *-ək:

Proto-EM *-ək > Namlong EM -ək GR/CX (only found in GR and CX’s examples of Namlong finals), Longdu EM *pok*⁷ LC/ZL

Proto-SM *-ak > Samheung SM *pak*⁷ LC

(ZSY / Cantonese *pək*⁷, ZSH *pet*⁷)

A Namlong colloquial stratum pronunciation of 墨 ‘ink’ (Proto-CsM *-ək) has not been found. (There is a Yuè-like pronunciation [bəkɿ] GR, with a non-native-tone, cf. ZSY / Cantonese *mək*⁸ [ɿ].)

3.2 EM retentions in Namlong

3.2.1 Proto-Mǐn **-a > Proto-EM *-a

Namlong behaves the same as Longdu. Namlong did not participate in Proto-Mǐn **-a > Proto-SM *-e. Here we provide a different set of examples.

茶 ‘tea’ Proto-Mǐn **-a > Namlong EM *ta*² GR, Longdu EM *ta*² GR, Fúzhōu EM *ta*², vs. Samheung SM *tai*² LC, Xià mén SM *te*², Teochew SM *te*²

炒 ‘fry’ Proto-Mǐn **-au > Namlong EM *ts^ha*³ GR, Longdu EM *ts^ha*³ GR, Fúzhōu EM *ts^ha*³, Samheung SM *ts^ha*³ LC, Xià mén SM *ts^ha*³, Teochew SM *ts^ha*³

3.2.2 Proto-Mǐn **-ak **-ok > Proto-CsM *-aʔ *-oʔ > Proto-EM *-aʔ *-oʔ

Namlong behaves the same as Longdu (but see §3.3.1 on the dropping of *-ʔ). Namlong did not participate in the lenition of *-p and *-t in Proto-SM + PXM.

接 ‘connect’ Proto-Mǐn **-iap > Namlong EM *tsip*⁷ GR, Longdu EM *tʃip*⁷ AE, Zhōuníng Xiáncūn EM *tɕip*⁷, vs. Samheung SM *tsi*⁷ LC, Xià mén SM *tsi*⁷

八 ‘eight’ Proto-Mǐn **-at > Namlong EM *pət*⁷ GR/CX2, Longdu EM *pæt*⁷ AE, *pət*⁷ ZL, Zhōuníng Xiáncūn EM *pət*⁷, vs. Samheung SM *pai?*⁷ LC, Xiàmén SM *pue?*⁷

百 ‘hundred’ Proto-Mǐn **-ak > Namlong EM *pa*⁷ GR, Longdu EM *pa*⁷ GR, *pa?*⁷ AE/ZL, Zhōuníng Xiáncūn EM *pa?*⁷, Samheung SM *pai?*⁷ LC, Xiàmén SM *pa?*⁷

Compare how **-k does not lenite when the Proto-Mǐn vowel is not **a, **a, or **o:

毒 ‘poison’ Proto-Mǐn **-uk > Namlong EM *tək*⁸ GR, Longdu EM *tek*⁸ LC, Zhōuníng Xiáncūn EM *tok*⁸, Samheung SM *tak*⁸, Xiàmén SM *tak*⁸

3.2.3 Proto-Mǐn **-m **-n **-ŋ > Proto-EM *-m *-n *-ŋ

Namlong behaves the same as Longdu. Namlong did not participate in the lenition of **-m, **-n, and **-ŋ after **a, **a, or **o in Proto-SM + PXM.

三 ‘three’ Proto-Mǐn **-am > Namlong EM *sam*¹ GR, Longdu EM *sam*¹ LC/ZL, vs. Samheung SM *sa*¹ LC, Xiàmén SM *sā*¹

生 ‘give birth’ Proto-Mǐn **-aŋ > Namlong EM *səŋ*¹ GR, Longdu EM *saŋ*¹ GR/ZL, vs. Samheung SM *sai*¹ LC, Xiàmén SM *sī*¹

Contrasting with:

心 ‘heart’ Proto-Mǐn **-im > Namlong EM *sim*¹ GR, Longdu EM *sim*¹ LC/ZL, Samheung SM *sim*¹ LC, Xiàmén SM *sim*¹

3.2.4 Proto-Mǐn **-an **-at > Proto-EM *-an *-at

Namlong behaves the same as Longdu. Namlong did not participate in the breaking of Proto-Mǐn **-a into *-ua (in front of **-n or **-t) in Proto-SM + PXM.

寒 ‘cold’ Proto-Mǐn **-an > Namlong EM *kan*² GR, Longdu EM *kan*² AE, vs.⁵⁵ Xiàmén SM *kũã*²

割 ‘sever’ Proto-Mǐn **-at > Namlong EM *kat*⁷ ~ *kət*⁷ GR, Longdu EM *kat*⁷ AE/ZL/LC, vs. Samheung SM *kua?*⁷ LC, Xiàmén SM *kua?*⁷

3.2.5 Proto-Mǐn **-i **-ie > Proto-EM *-i *-ie

Namlong behaves the same as Longdu. Namlong did not participate in the merger of **-ie into **-i in Proto-SM + PXM.

四 ‘four’ Proto-Mǐn **-i > Namlong EM *si*⁵ GR, Longdu EM *fi*⁵ AE, Samheung SM *si*⁵ GR, (*si*¹ LC < Yuè tone value), Xiàmén SM *si*⁵

匙 ‘key’ Proto-Mǐn **-ie > Namlong EM *sia*² GR, Longdu EM *fiε*² AE, vs. Samheung SM *si*² GR, Xiàmén SM *si*²

3.2.6 Proto-Mǐn **-eu > Proto-EM *-eu

Namlong’s behaviour in terms of Akitani 秋谷 (2022a: 8–9)’s feature (2-8) requires more investigations. The point of Akitani’s feature (2-8) is that EM varieties should not have participated in the Proto-SM + PXM innovation of *-eu > *-ieu (see §2.2.6). Akitani’s Longdu form (from Egerod 1956) 鳥 *tʃæu*³ AE ‘bird’ conforms to this rule. So does the Namlong final 鳥 -eu recorded by CX (different from 笑 -ieu ‘laugh’; both belong to the colloquial stratum). However, the Namlong form 鳥 *tsieu*³ ‘bird’ recorded by GR, and the Longdu forms *tsieu*³ GR/ZL and *tsieu*³ LC, do

⁵⁵ In Samheung SM, we could only find a Cantonese pronunciation for 寒 ‘cold’: *hən*⁶ [J] LC (cf. Cantonese 寒 *hən*² [J]). There are other words for “cold”, like *ts^hin*⁵ GR (cf. Taiwanese SM 清 *ts^hin*⁵).

not conform to this rule. (Samheung SM has 鳥 *tsiu*³ GR/LC. See also §2.2.6 on Longdu.)

3.2.7 EM 曝 ‘to sun’ Proto-Mǐn *-yok

Namlong seems to behave the same as Longdu. Norman (1981: 71) reconstructs 曝 ‘to sun’ as *-yok. Namlong and Longdu align with EM and PXM in having a retentive *-yok form. SM, on the other hand, has a form which seems to have descended from *-ək.

曝 ‘to sun’ Proto-Mǐn *-yok > Namlong EM *p^{huo}o*⁸ BMN, *p^ho*⁸ GR, Longdu EM *p^{huo}o*⁷ AE, *p^ho*⁷ GR, Fúzhōu EM *p^{huo}o*⁸, Xiānyóu PXM *p^ho*⁸

曝 ‘to sun’ Proto-Mǐn *-ək (?) > Samheung SM *p^hak*⁷ GR, Xiàmén SM *p^hak*⁸, Zhāngpíng Yǒngfú SM *p^hak*⁸

Compare (perfect comparisons cannot be found):

粟 ‘grain’ Proto-Mǐn *-yok > Namlong EM *ts^hio*⁸ BMN, *ts^hio*⁷ GR, Longdu EM *t^huo*⁷ AE, *ts^hio*⁷ GR, Fúzhōu EM /*ts^huo*⁷/ [ts^huo⁷], Xiānyóu PXM *ts^hio*⁷, (Samheung SM *ts^hio*⁷ LC, *ts^hio*⁷ GR, Xiàmén SM *ts^hio*⁷)

剥 ‘to peel’ Proto-Mǐn *-yok > Namlong EM *b^o*⁵ GR, Longdu EM *mo*⁷ LC, Fúzhōu EM /*puo*⁷/ [p^huo⁷], Xiānyóu PXM *po*⁷

剥 ‘to peel’ Proto-Mǐn *-ək (?) > Samheung SM *pak*⁷ LC, Xiàmén SM *pak*⁷

腹 ‘belly’ Proto-Mǐn *-ək > Xiàmén SM *pak*⁷, (Longdu EM *p^hek*⁸ GR, Fúzhōu EM /*pu*⁷/ [pou⁷], Xiānyóu PXM *pa*⁸)

3.3 Namlong as a member of Northern EM [NEM]

3.3.1 NEM more conservative with Proto-EM *-m *-n *-ŋ *-p *-t *-k *-ʔ

Both Namlong and Longdu have most usually kept Proto-EM *-m *-n *-ŋ *-p *-t *-k *-ʔ intact. The following are Namlong examples with these codas from CX2: 藍 *lam*² ‘indigo’, 天 *t^hien*¹ ‘sky’, 窮 *koŋ*² ‘poverty’, 十 *sep*⁸ ‘ten’, 襪 *met*⁸ ‘sock’, 福 *hək*⁷ ‘bliss’. ZSY and Cantonese, which are similarly conservative with these codas, have helped with this conservatism in Namlong.

As for *-ʔ, Chén Xiǎofēng 陳小楓 (1995: 238) [CX2] and Lín 林 & Chén 陳 (1996: 161) [LC] mention that in Namlong EM as spoken in Namlong, there is one final with -ʔ left: -ʔ (e.g. 膜 ‘membrane’). Otherwise all cases of *-ʔ have been dropped, including 落 *lo*³ [ŋ] ‘descend’. However, -ʔ is intact in Namlong EM spoken in neighbouring Zhāngjiābiān (e.g. 落 *lo*⁷ [ʔ] LC).

In a later publication, the Namlong variety documented by Chén 陳 & Xǔ 許 (2012) [CX] does not have [-ʔ] (but this variety is different from that in LC and CX2, based on other features, e.g. tone values). Bodman (1982: 6) specifically mentions that all cases of *-ʔ have been dropped in Namlong EM. Gāo Rán 高然 makes the same claim (2018: 288), and this can be seen in his data from both Namlong-proper and Zhāngjiābiān. Some examples are Namlong 學 ‘learn’ *ɔ*⁸ GR/CX; 石 ‘stone’ *siə*⁸ GR, *sio*³ LC.

Contrast these with Longdu, which has often kept *-ʔ to some degree, depending on the variety: Longdu 學 ‘learn’ *ho*⁷ GR, *ho*⁷ ZL, *ho*⁷ LC; 石 ‘stone’ *siə*⁷ GR, *sə*⁷ ZL, *sə*⁷ LC. (The main point of Akitani’s feature (3-1) is that Longdu NEM is unlike the SEM varieties, which have collapsed most, if not all, of the place-of-articulation contrasts of the codas. However, given that the keeping of codas in Longdu is a retention, this does not prove that Longdu is NEM.)

See also §3.4 and §2.4 on the tone assignment in *-ʔ syllables in Namlong and Longdu respectively.

3.3.2 The vowel in Proto-EM *-yŋ *-yk is commonly backed in NEM

Namlong behaves the same as Longdu with this innovation. Here we provide a slightly different pair of examples. (See also §2.3.2.)

胸 ‘chest’ Proto-EM *-yŋ > Namlong EM *hoŋ*¹ GR2, Longdu EM *hoŋ*¹ GR2,
vs. Fúzhōu SEM *hyŋ*¹, Gǔtián SEM *hyŋ*¹

肉 ‘meat’ Proto-EM *-yk > Namlong EM *nok*⁷ GR, Longdu EM *nok*⁸ AE/GR,
vs. Fúzhōu SEM *ny*⁷, Gǔtián SEM *nyk*⁸

3.3.3 Proto-EM *-uŋ *-uk > Proto-Fújiàn-NEM *-œŋ *-œk, and unrounding of rounded front vowels

Namlong is different from Longdu with the development of Proto-EM *-uŋ *-uk. Looking first at Longdu, Longdu participated in the sound change of Proto-EM *-uŋ *-uk > Proto-Fújiàn-NEM *-œŋ *-œk, and then Longdu unrounds the front vowels.

Longdu EM:

蟲 ‘insect’ *t^hæŋ*² AE, *t^hɛŋ*² ZL, *t^heŋ*² LC

毒 ‘poison’ *tɛ*⁷⁸ ZL, *tek*⁸ LC

六 ‘six’ *læk*⁸ AE, *lek*⁸ ZL, *lek*⁸ LC

On the other hand, the cognates in Namlong have *-œŋ -œk* in the colloquial stratum, and *-oŋ -ok* in the literary stratum (Gāo Rán 高然 2018: 288). (Bodman (1982: 13) renders the colloquial finals as *-oŋ -ok* and the literary finals as *-uŋ -uk*.)

Namlong EM:

蟲 ‘insect’ Namlong EM *t^hœŋ*² GR, *t^hoŋ*² BMN

毒 ‘poison’ *tœk*⁸ GR

(As for 六 ‘six’, only a literary pronunciation is found: *lok*⁷ GR, cf. the vowel in ZSY/Cantonese /luk⁸/ [lok⁴].)

Namlong *-œŋ -œk* is clearly descended from Proto-EM *-uŋ *-uk. However, whether Namlong participated in the change to Proto-Fújiàn-NEM *-œŋ *-œk or not requires further investigations. One possibility is that Namlong did not undergo the sound change of Proto-EM *-uŋ *-uk > Proto-Fújiàn-NEM *-œŋ *-œk. This can be due to one of the following possibilities: a) Namlong is not Fújiàn NEM; b) Namlong is Fújiàn NEM, but escaped this innovation before this sound change occurred in mainstream Fújiàn NEM; or c) the sound change of *-uŋ *-uk > *-œŋ *-œk is a later sound change that started somewhere in the Fújiàn NEM region, and this has been diffused to the most other NEM varieties, including the Fújiàn ancestor of Longdu, but not to Zhèjiāng NEM and the Fújiàn ancestor of Namlong. Given how close Longdu and Namlong are, perhaps scenario c is correct. Scenario b could also be correct if, e.g., the ancestors of Namlong and Longdu came from the same place in Fújiàn, but the ancestors of Namlong left Fújiàn slightly earlier than the ancestors of Longdu. Another possibility is that Namlong did go through the sound change of Proto-EM *-uŋ *-uk > Proto-Fújiàn-NEM *-œŋ *-œk, but perhaps in Namlong *œ > *io > ɔ, cf. how second language learners of Cantonese from a background of not having [œ] (e.g. SM, Hakka) often pronounced Cantonese [œ] as [io].

Namlong is the same as Longdu in not having rounded front vowels.

3.3.4 [mb] [ŋg]

Descriptions of these initials in Namlong vary. Chén Xiǎofēng 陳小楓 (CX, CX2, LC)’s descriptions of Namlong EM have /b/ /m/ /g/ /ŋ/ as separate phonemes, while /n/ has the allophones of [n] and [ɲ]. (This contrasts with her Longdu descriptions, which only have /m/ /n/ /ŋ/; the oral versus nasal realisations of these are not contrastive in Longdu.) Gāo Rán 高然 (GR)’s Namlong EM has the phonemes of /b/ and /g/; GR mentions that [b] and [g] are the main realisations, but [ᵐb] ~ [m] and [ᵑg] ~ [ŋ] are free variations that are also sometimes used (2018: 286). Bodman [BMN] renders these phonemes as /m/ /ŋ/: the main allophones are [m] [ŋ], and the [mb] [ŋg] realisations mainly occur in front of /i/ (1982: 4).

3.3.5 The raising of the nucleus in *-ia *-iaŋ *-iaʔ *-ua

The raising of *a in these finals has occurred in far fewer cases in Namlong than in Longdu, e.g. Namlong EM 鼎 *tiaŋ*³ ‘pot’, 行 *kiaŋ*² ‘walk’, 冏 *kien*³ ‘son’, 野 *ia*³ ‘wild’, 車 *ts^hia*¹ ‘vehicle’, 瓜 *kua*¹ ‘melon’ (all from GR). Contrast these with Longdu EM 鼎 *tiɛŋ*³ GR ‘pot’, 行 *kieŋ*² GR, *kieŋ*² LC ‘walk’, 冏 *kien*³ GR ‘son’, 野 *ia*³ ZL/LC/GR ‘wild’, 車 *ts^hie*¹ ZL (*ts^hɛ*¹ GR) ‘vehicle’, 瓜 *kuo*¹ ZL (*kø*¹ GR) ‘melon’.

3.3.6 The pronunciation of 目 ‘eye’

Namlong 目睷 *bi*² *tsiu*¹ GR ‘eye’ is essentially the same as Longdu 目睷 *bi*⁵⁻² *tsiu*¹ GR ‘eye’.

3.3.7 Proto-EM *-yai *-uai > Proto-NEM *-ya *-ua

Namlong behaves slightly differently from Longdu (see also §2.3.7). Firstly, the following is a recapitulation of the development of Proto-EM *-yai, *-uai, and *-ua in Longdu.

Longdu EM:

- | | | | | | |
|-----|------------------|------------------|--------|------|-------|
| a1. | Proto-EM *-yai > | Proto-NEM *-ya > | *-ia > | *-iɛ | (*K-) |
| a2. | | | *-ua > | *-uɔ | (*T-) |
| b. | Proto-EM *-uai > | Proto-NEM *-ua > | *-ua > | *-uɔ | |
| c. | Proto-EM *-ua > | Proto-NEM *-ua > | *-ua > | *-uɔ | |

For Namlong, Bodman (1982: 9–10) [BMN] mentions that there are “conservative” and “innovating” varieties. (With our rephrasing here:) in the conservative varieties, Namlong *-ia* corresponds with Longdu **-iɛ*, and Namlong *-ua* corresponds with Longdu **-uɔ*. On the other hand, in the innovating Namlong varieties, Namlong *-ua* has changed to *-ia*, except when the initial is velar or zero. The more-recent descriptions of Namlong EM are all of the innovative type. There is a slight lack of data from the conservative varieties of Namlong EM, but from the available data, it does appear that Namlong has the same development as Longdu with the splitting of Proto-NEM **-ya* (development a1/a2) as discussed in Akitani 秋谷 (2020b: 78–79). (In the innovative Namlong varieties, all cases of c. have remained *-ua* because the initial is always velar or zero.)

Namlong EM:

- | | | | | | |
|-----|------------------|------------------|------------|------------|-----------|
| | | | old | new | |
| a1. | Proto-EM *-yai > | Proto-NEM *-ya > | <i>-ia</i> | <i>-ia</i> | (*K-) |
| a2. | | | <i>-ua</i> | <i>-ia</i> | (*T-) |
| b1. | Proto-EM *-uai > | Proto-NEM *-ua > | <i>-ua</i> | <i>-ia</i> | (*P- *T-) |
| b2. | | | <i>-ua</i> | <i>-ua</i> | (*K- *0-) |

c. Proto-EM *-ua > Proto-NEM *-ua > -ua -ua (*K- *0-)

The following are the Namlong data, with Longdu data repeated from §2.3.7. Of particular interest are BMN's data, underlined below, showing what has changed and what has remained the same between the conservative and innovative varieties of Namlong.

Proto-Mĩn **-iai > Proto-EM *-yai > Proto-NEM *-ya

Velar initial:

倚/企 'stand' (*k^h-): Namlong *k^hia³* GR, Longdu *k^hie³* GR, *k^hie⁶* LC, [k^hiɛ̃] (tone 6) KS

蟻 'ant' (*ŋ-): Namlong *gia⁶* GR, *gie⁶* CX, Longdu *ŋie⁶* AE2/ZL, *ŋie⁶* LC, *ge⁶* GR, [ŋiẽh] (tone 6?) KS

外 'outside' (*ŋ-): Namlong *ŋia⁶* BMN, *gia⁶* GR, Longdu *ŋie⁶* AE2, *ŋe⁶* ZL, *ŋie⁶* LC, *gie⁶* GR, [ŋiẽ] (sandhi tone?) KS

Coronal initial:

紙 'paper' (*tʃ-): Namlong *tsua³* > *tsia³* BMN, *tsia³* GR, *-ia* CX, Longdu *tʃue³* AE2, *tsuo³* ZL, *tse³* LC/GR

蛇 'snake' (*θ-): Namlong *sia²* GR, vs. Longdu *ʃue²* AE2, *sə²* ZL/LC/GR

Proto-Mĩn **-(u)ai > Proto-EM *-uai > Proto-NEM *-ua

沙 'sand' (*s-): Namlong *sua¹* > *sia¹* BMN, *sia¹* GR, Longdu *sə¹* ZL/LC/GR

大 'big' (*t-): Namlong *tua⁶* > *tia⁶* BMN, *tia⁶* GR/CX2, Longdu /tua⁶/ [tə̃] EG, *tuə⁶* CL, *tuo⁶* LC, *tə⁶* GR, [tə̃] (tone 6) KS

破 'damage(d)' (*p^h-): Namlong *p^hua⁵* > *p^hia⁵* BMN, *p^hia⁵* GR, Longdu *p^hə⁵* ZL, *p^huo⁵* LC, *p^hə* GR

磨 'grind' (*m-): Namlong *bia²* GR, Longdu *muə²* ZL, *muo²* LC, *bə²* GR, [m(b)ə̃] (tone 3) KS

(Longdu is irregular:)

我 'I' (*0-): Namlong *ua³* GR, Longdu *ua³* ZL/LC/GR, [wa(:)̃] (tone 3) JS

Proto-Mĩn **-ua > Proto-EM *-ua > Proto-NEM *-ua

瓜 'melon' *-ua: Namlong *kua¹* BMN/GR, Longdu *kuə¹* ZL, *kuo¹* LC, *kə¹* GR, [kə̃^h] (tone 1) KS, /kúa/ [kõ] EG

花 'flower' *-ua: Namlong *ɸa¹* GR, *ɸua¹* CX, Longdu *fə¹* ZL, *fuo¹* LC, *fə¹* ~ *hə¹* GR, /fúa/ [fõ] EG

瓦 'tile' *-ua: Namlong *va³* GR (< ZSY tone category), Longdu *ŋə⁶* ZL, *ŋuo⁶* LC, *gə⁶* GR

3.4 Longdu-specific sound changes

This section is about how Namlong measures against the Longdu-specific sound changes discussed in §2.4.

The first Longdu-specific sound change is Proto-EM *-æ > Longdu *-i*. No comparable data are found for 初 'beginning' (only a Yuè-like pronunciation is found: 初 *ts^hɔ¹* GR, cf. ZSY/Cantonese 初 *ts^hɔ¹*). On the other hand, with 梳 'comb', Namlong shares the same development as Longdu.

梳 'comb' *-æ: Namlong EM *si¹* GR, Longdu EM *ʃi¹* AE, *si¹* ZL/LC/GR

This has the same reflex as Proto-EM *-i and *-y.

四 'four' *-i: Namlong EM *si⁵* GR, Longdu EM *ʃi⁵* AE, *si⁵* ZL/LC/GR

鼠 'rat' *-y: Namlong EM *ts^hi³* GR, Longdu EM *tʃ^hi³* AE, *ts^hi³* ZL/LC/GR

Namlong does not share the Longdu trait of having all *-ʔ syllables in tone 7. Namlong has basically dropped all cases of *-ʔ (see §3.3.1). In BMN's variety of Namlong, tone 7 in syllables with *-p -t -k* is [ɿ], and tone 7 in syllables with *-ʔ dropped is [ɿ]; tone 8 in syllables with *-p -t -k* is [ɿ̃], and tone 8 in syllables with *-ʔ dropped is [ɿ̃], the same shape as tone 3 [ɿ̃]. However, tone 8 [ɿ̃] and tone 3 [ɿ̃] have different tone sandhi behaviours, so tone 8 and tone 3 have not yet totally merged. In the varieties described by CX and GR, tone 7 is [ɿ], and tone 8 is [ɿ̃], the same shape as tone 3 [ɿ̃]. The variety described by LC and CX2 is different: tone 7 is [ɿ], and tone 8 has the same shape as tone 6 [ɿ̃]. However, ex-tone 8 syllables that have dropped *-ʔ are explicitly said to have usually merged into tone 3 [ɿ̃] (LC: 161).

百 'hundred' *paʔ⁷: Namlong EM *pa*⁷ GR, Longdu EM *paʔ*⁷ AE, *paʔ*⁷ ZL, *pɐʔ*⁷ LC, *pa*⁷ GR

索 'string' *θɔʔ⁷: Namlong EM *sɔ*⁷ GR, Longdu EM *sɔʔ*⁷ ZL, *soʔ*⁷ LC

白 'white' *paʔ⁸: Namlong EM *pa*⁸ GR, *pa*³ LC/CX2 vs. Longdu EM *paʔ*⁷ AE, *paʔ*⁷ ZL, *pɐʔ*⁷ LC

學 'learn' *ɔʔ⁸: Namlong EM *ɔ*⁸ GR/CX, vs. Longdu EM *hɔʔ*⁷ ZL, *hoʔ*⁷ LC, *hɔ*⁷ GR (Longdu has copied a Yuè initial *h*-)

箸 'leaf' *niɔʔ⁸: Namlong EM *niə*⁸ GR, vs. Longdu EM *niə*⁷ GR

曝 'to sun' *p^huɔʔ⁸: Namlong EM *p^huo*⁸ BMN, *p^hə*⁸ GR, vs. Longdu EM *p^huəʔ*⁷ AE, *p^hə*⁷ GR

3.5 Traits in Namlong that look like other branches of Mǐn

3.5.1 EM vs. SM typological traits

As discussed in §2.5.1, Namlong and Longdu have typological traits that are unlike the typical EM varieties. Namlong has *-m -n -ŋ -p -t -k* (while *-ʔ is basically lost; see §3.3.1), no rounded front vowels, and no SEM-style onset lenition and tone-conditioned rime allophony.

3.5.2 SM-like lexical items

Namlong EM has the SM-like morpheme 知 'know' *tsai*⁵ [ɿ] GR. The tone already tells us that this is not a native Namlong morpheme, as 知 'know' should have tone 1 [ɿ̃]. Perhaps this was borrowed from Longdu *tsai*¹ [ɿ̃] GR (itself non-native), or Samheung SM *tsai*¹ [ɿ̃] GR, or from another SM variety where tone one is [ɿ̃], i.e. Eastern Guǎngdōng Mǐn or Diànbái Mǐn.⁵⁶

The word *tiə*⁵ [ɿ̃] GR '(be) at' in Namlong presents some questions. It looks somewhat like Longdu *ti*⁵ [ɿ̃] GR '(be) at', with matching tone categories. While the Longdu form *ti*⁵ looks very much like Fújiàn SM *ti* ~ *tu* ~ *tu*¹ '(be) at' (also Samheung SM *tu*¹ GR), the Namlong form *tiə*⁵ resembles the SM forms less. Another possibility is that Namlong *tiə*⁵ is the EM morpheme 著 '(be) at', e.g. Fúzhōu EM *tuə*⁸, Fúdǐng EM *tiə*⁸. However, former tone **D syllables (syllables that had a plosive coda) cannot have tone 5 [ɿ̃] in Namlong, thus making this theory less likely correct.

⁵⁶ An alternative to 知 *tsai*⁵ GR 'know' is 捌 *pet*⁷ GR 'know', which is likely a native morpheme in Namlong EM. Other than "know", 捌 *pet*⁷ is also a modal for ability. This morpheme 捌 *pet*⁷ is found in many Mǐn varieties, e.g. Fúzhōu EM /peiʔ⁷/ [paiʔ⁷] 'know', Taiwanese SM *bat*⁷ ~ *pat*⁷ 'know'. This is theorised to be an Austroasiatic substrate word, cf. Vietnamese *biết* 'know' (Norman & Mei 1976). However, see also Sagart (2008: 141–143)'s alternative viewpoint.

(The following items are discussed in relation to the SM-like morphemes found in Longdu; see §2.5.2.) Only a literary pronunciation of 墨 ‘ink’ has been found for Namlong: [bək¹] GR (< Yuè *mək*⁸ [4]; the tone in [bək¹] is a not a native Namlong tone). The word 艾 ‘artemisia’ is not found in the Namlong data.

4. Samheung Southern Mǐn

Samheung 三鄉 SM (Sānxiāng, *sa*¹ *hioŋ*¹ GR/BMS, a.k.a. 谷都 Gǔdū) is the smallest of the three ZSM varieties. Samheung is spoken in southern Zhōngshān, about halfway between Shekki and Macau (see Map 1 in §1.1). From its native Mǐn elements, one can easily tell that Samheung is a SM variety, albeit one with some unusual features, some of which are not influences from Yuè or Hakka. The main aim of this section is to demonstrate how Samheung fits in with the various branches of SM. The following are the sources of the Samheung data used in this article:

BMS: Nicholas Bodman (1988), data from Pha-O 平湖 (Píng hú) in Samheung proper, and Tio-Pou 大布 (Dà bù); here Pha-O forms are shown by default

CX2: Chén Xiǎofēng 陳小楓 (1995)

GR: Gāo Rán 高然 (2018: 318–350); here his data from 小三鄉 ‘Little Samheung’, i.e. Samheung proper, are shown by default

GR2: Gāo Rán 高然 (2000), data from Yāgǎng 鴉崗 in Samheung proper

LC: Lín Lúnlún 林倫倫 & Chén Xiǎofēng 陳小楓 (1996)

ZZ: Zhāng Zhènxīng 張振興 (1987), data from Wūshí 烏石 in Samheung proper

One notable trait in Samheung SM is that all nasal vowels have been denasalised, e.g. 三 ‘three’ Samheung SM *sa*¹ LC/BMS, vs. Teochew SM *sã*¹, Xiàmén SM *sã*¹. (This is similar to Western Guǎngdōng SM and Hǎinán SM, e.g. Diànbái SM *ɬa*^{1a}, Wénchāng SM *ta*¹.) Another trait that the reader has to take note of is that in Samheung, /a/ is sometimes reduced to /ə/. These two vowels are separate phonemes, e.g. 慚 *ts^ham*⁶ GR ‘ashamed’ vs. 尋 *ts^hem*⁶ GR ‘seek’ (both are Cantonese loans, based on the tone value [J], which is Cantonese tone 2 [J], the expected tone category of these two morphemes). In an “established” compound word, /a/ in a non-final syllable is reduced to /ə/ if the following coda is not /-ʔ/ or zero. For instance, 紅 *aŋ*² ‘red’ becomes *əŋ*² in 紅薯 *əŋ*²⁻⁶ *tsu*² (red potato) ‘sweet potato’ (Gāo Rán 高然 2018: 323). (However, there seems to be many cases where /a/ became /ə/ even in independent morphemes.) The reader has to note that an *ə* in the Samheung data can potentially be /a/ underlyingly. This phonemic reduction from /a/ to /ə/ also occurs in Namlong EM (§3), but not in Longdu EM (§2), ZSH, ZSY, and Cantonese.

Similar to the other ZSM varieties, Samheung has been majorly impacted by Yuè. The Yuè influence in Samheung is a mix of Cantonese and Hafong 下方 (Southern Heungshan Yuè). Amongst the Samheung Mǐn-speaking villages, some are shared with Yuè and/or Hakka speakers (Gāo Rán 高然 2018: 318).

Samheung SM has some Hakka influences. For instance, Samheung SM has some Hakka calques which are not found in the nearby Yuè and Mǐn varieties, e.g. 知得 *tsai*¹ *tit*⁷ ‘know’ (Gāo 高 2018: 326), cf. ZSH 知得 *ti*¹ *tet*⁷ GJ ‘know’, Moiyen Hakka 知得 *ti*¹ *tet*⁷ ‘know’. Samheung SM quite often has expected tone 6 syllables pronounced in tone 1 instead. One source of Samheung SM tone 6 syllables is Proto-SM tone *4 syllables. Hakka is famous for having some cases of “expected” tone 4

syllables pronounced in tone 1 instead; Hakka probably has a minor role in this tone 6 > 1 sound change in Samheung SM (see discussions in §4.3).

For tone **D syllables in LC, CX2, and ZZ’s varieties of Samheung SM, there are separate tones 7 and 8 as expected. On the other hand, in BMS and GR’s varieties, the native morphemes usually have the same low tone [ɿ] / [ʅ], which we label as tone 7. (A few tone **D syllables have a high tone [ɿ̃] borrowed from Yuè, even for native morphemes.)

As can be seen throughout this §4, Samheung SM has quite a number of unusual vocalisms (from a SM point of view). It is unfortunately beyond the scope of this article to discuss all the unusual vocalisms in Samheung SM. In most cases, it can be assumed that the immediate ancestral state of the Samheung SM vocalisms is like that in Zhāngzhōu SM. Also, different varieties of Samheung SM often have rather different (and equally unusual) vocalisms. All discussions in this §4 are in relation to the 小三鄉 ‘Little Samheung’ varieties, i.e. the majority Samheung-proper varieties, which are spoken more to the west of Samheung Town.

Many Samheung forms have been shown in the preceding sections, especially in §3.1 and §3.2 where many Longdu EM and Samheung SM forms were given as references to the Namlong EM forms discussed. Unlike the preceding two sections where the subsections have exactly the same structure, this §4 on Samheung SM is structured totally differently. Section 4.1 discusses how Samheung SM has participated in the segmental innovations of Proto-SM+PXM and Proto-SM. Section 4.2 discusses how the segmental features of Samheung SM fit in with the various branches within SM. Section 4.3 discusses the tones of Samheung SM.

“Southern Mǐn” 閩南 (Mǐn Nán) in this article is SM in the wider sense, which includes Hǎinán SM and Guǎngdōng SM. SM in the narrower sense, i.e. Fújiàn SM and their more-recent migrant communities elsewhere, is “Fújiàn SM” [FSM] in this article.

4.1 Samheung Mǐn as SM

As noted by Gāo Rán 高然 (2018: 319), while many Samheung Mǐn people claim that their ancestors were from Pútán in Fújiàn, linguistically Samheung SM is clearly SM and not Pú–Xiān Mǐn [PXM]. In this §4.1 we discuss how Samheung SM has participated in the SM+PXM and SM innovations, but none of the PXM-specific innovations.

4.1.1 Proto-Mǐn **nh- **ŋh- sometimes have h- reflexes in SM

Proto-Mǐn **nh- and **ŋh- commonly have *h*- reflexes in the modern SM varieties. (However, *h- is not necessarily reconstructable all the way to Proto-SM; see also Shěn Ruìqīng 沈瑞清 2023.) In Proto-EM, these simply became voiced nasals (see also §2.1.1 and §3.1.1 on this trait in Longdu EM and Namlong EM respectively). PXM sometimes aligns with SM, and sometimes with EM. Samheung SM aligns with SM.

箸 ‘leaf’ Proto-CsM *nh-:

Proto-SM *nh- > Samheung SM *hiu*?⁷ GR/BMS, *hio*?⁸ ZZ, Zhāngzhōu SM *hio*?⁸, Chénghǎi SM *hie*?⁸, Luichew SM *hi*?⁴

Proto-EM *n- > Longdu EM *niə*?⁷ GR, Namlong EM *niə*?⁸ GR, Fúzhōu EM *nuo*?⁸, Fúqīng EM *nyo*?⁸, Gǔtián EM *nyək*?⁸

PXM: Pútán PXM *niau*?², Xiānyóu PXM *niu*?²

肉 ‘meat’ Proto-CsM *nh-:

Proto-SM *nh- > Samheung SM *hip*⁷ GR2/BMS, Xiàmén SM *hik*⁸, Teochew SM *nek*⁸, Luichew SM *hip*⁸ (see §4.2.4 on this -p in Samheung and Luichew SM)

Proto-EM *n- > Longdu EM *nok*⁸ AE/GR, Namlong EM *nok*⁷ GR, Fúzhōu SEM *ny*⁷, Fúqīng EM *ny*⁷, Gǔtián EM *nyk*⁸

PXM: Pútían PXM *nœ*⁷, Xiānyóu PXM *nyø*⁷

耳 ‘ear’ Proto-CsM *ŋh-:

Proto-SM *h- > Samheung SM *hi*⁶ ZZ, *hi*¹ GR, Zhāngzhōu SM *hi*⁶, Xiàmén SM *hi*⁶, Teochew SM *hī*⁴, Luichew SM *hi*⁴, Diànbái SM *hi*⁶

PXM *hi*⁶

Proto-EM *ŋ- > Longdu EM *gi*⁶ GR, Namlong EM *gi*⁶ GR, Fúzhōu SEM /ŋi⁶/ [ŋei⁶], Fúqīng EM *ŋi*³, Gǔtián EM *ŋi*⁶

魚 ‘fish’ Proto-CsM *ŋh-:

Proto-SM *h- > Samheung SM *hu*² GR/ZZ/BMS, Zhāngzhōu SM *hi*², Xiàmén SM *hi*², Teochew SM *hur*², Luichew SM *hu*², Diànbái SM *hu*³

PXM *hy*²

Proto-EM *ŋ- > Longdu EM *gi*² GR, Namlong EM *gi*² GR, Fúzhōu SEM *ŋy*², Fúqīng EM *ŋy*², Gǔtián EM *ŋy*²

4.1.2 Coda lenition and breaking of *a in Proto-SM + PXM

After Proto-CsM *a, *e, or *o, the codas *-m *-n *-ŋ *-p *-t *-k lenite in Proto-SM + PXM (VN > *Ũ*, VP > V?). The Proto-CsM vowel *a breaks into *ua in many (but not all) finals in Proto-SM + PXM (Kwok 郭 2024). (See §2.2.2-4 and §3.2.2-4 on the development of these in EM.) Below we demonstrate these with just Proto-CsM *-an *-at. Samheung SM aligns with SM + PXM.

山 ‘mountain’ Proto-CsM *-an:

Proto-SM + PXM *-uā > Samheung SM *sua*¹ GR, Zhāngzhōu SM *suā*¹, Xiàmén SM *sūā*¹, Teochew SM *sūā*¹, Diànbái SM *tua*^{1a}, PXM *tuā*¹

Proto-EM *-an > Longdu EM *san*¹ LC/ZL, Namlong EM *san*¹ GR, Fúzhōu EM *san*¹

割 ‘cut, sever’ Proto-Coastal Mǐn *-at:

Proto-SM + PXM *-ua? > Samheung SM *kua*⁷ GR, Zhāngzhōu SM *kua*⁷, Xiàmén SM *kua*⁷, Teochew SM *kua*⁷, Diànbái SM *kua*^{1b}, Pútían PXM *kua*⁶

Proto-EM *-at > Longdu EM *kat*⁷ AE/ZL/LC, Namlong EM *kat*⁷ ~ *ket*⁷ GR, Fúzhōu EM /ka⁷/ [ka⁷]

4.1.3 Proto-CsM *-uŋ *-uk > Proto-SM + PXM *-aŋ *-ak

Proto-CsM *-uŋ *-uk > *-aŋ *-ak is another innovation shared by SM and PXM. On the other hand, Proto-CsM *-uŋ *-uk remains *-uŋ *-uk in Proto-EM. (See §2.3.3 and §3.3.3 for the development of these in Longdu EM and Namlong EM respectively.) Samheung SM aligns with SM + PXM.

蟲 ‘insect’ Proto-CsM *-uŋ:

Proto-SM + PXM *-aŋ > Samheung SM *t^haŋ*² GR/LC, Zhāngzhōu SM *t^haŋ*², Xiàmén SM *t^haŋ*², Teochew SM *t^haŋ*², Diànbái SM *t^haŋ*², PXM *t^haŋ*²

Proto-EM *-uŋ > Longdu EM $t^hæŋ^2$ AE, $t^hɛŋ^2$ ZL, $t^heŋ^2$ LC, Namlong EM $t^hɔŋ^2$ GR, $t^hoŋ^2$ BMN, Zhōuníng Xiáncūn EM $t^hæŋ^2$, Fúzhōu SEM $t^høyŋ^2$, Gǔtián SEM $t^høyŋ^2$

毒 ‘poison’ Proto-CsM *-uk:

Proto-SM+PXM *-ak > Samheung SM tak^8 LC, Zhāngzhōu SM tak^8 , Xiàmén SM tak^8 , Teochew SM tak^8 , Diànbái SM tak^8 , PXM $toʔ^8$

Proto-EM *-uk > Longdu EM tek^8 LC, $teʔ^8$ ZL, Namlong EM tok^8 GR, Zhōuníng Xiáncūn EM tok^8 , Fúzhōu SEM $tøyk^8$, Gǔtián SEM $tøyk^8$

4.1.4 Proto-CsM *-aŋ > Proto-SM+PXM *-ã > Proto-SM *-ẽ

The Proto-CsM coda *-aŋ is lenited in Proto-SM+PXM as *-ã. In Proto-SM, but not in Proto-PXM, this *-ã (including *-uã, but not *-iã) is raised to *-ẽ. This is one trait that separates Proto-SM and Proto-PXM (Kwok 郭 2024). Samheung SM aligns with SM and not with PXM.

生 ‘give birth’ Proto-CsM *-aŋ:⁵⁷

Proto-SM+PXM *-ã > Proto SM *-ẽ > Samheung SM sai^1 LC, $sɛi^1$ GR, Zhāngzhōu SM $sẽ^1$, Xiàmén SM $sĩ^1$, Teochew SM $sẽ^1$, Diànbái SM $ʃe^{1a}$

Proto-SM+PXM *-ã > Proto PXM *-ã > Xiānyóu PXM $ʃã^1$, Pútían PXM $ʃa^1$

Proto-EM *-aŋ > Longdu EM $saŋ^1$ GR/ZL, Namlong EM $sɛŋ^1$ GR, Fúzhōu EM $saŋ^1$

The vocalism in Samheung SM 生 sai^1 LC / $sɛi^1$ GR ‘give birth’ presents some challenges. (Other reflexes of Proto-CsM *-aŋ are similar, e.g. 平 ‘flat’ Samheung SM pai^2 LC/BMS.) To avoid circular argumentation, for now pretend that we do not know that 生 ‘give birth’ is reconstructed as $*sẽ^1$ in Proto-SM. There are hints elsewhere which suggest that this case of -ai / -ɛi in Samheung SM is indeed a reflex of Proto-SM *-ẽ. Zhāng Zhènxīng 張振興 (1987) makes the observation that the Middle Chinese finals of 果 -ɑ and 假 -æ often correspond with Samheung SM -au and -ai respectively (1987: 43). Looking at the -au set, the correspondences in other Mǐn varieties are usually -o, e.g.:

左 ‘left (not right)’: Samheung SM $tsau^3$ LC, Teochew SM tso^3 , Xiàmén SM tso^3 , (Proto-SM $*tsuo^3$), Xiānyóu PXM tso^3 , Longdu EM tso^3 LC, Fúzhōu EM tso^3

婆 ‘old woman’: Samheung SM pau^2 LC, $pɛu^2$ GR, Teochew SM po^2 (/ p^hua^2), Xiàmén SM po^2 , Xiānyóu PXM po^2 , Longdu EM po^2 , Fúzhōu EM po^2

Looking through various Mǐn varieties, there is no indication that Samheung SM -au demonstrates an ancestral state; in highest likelihood the direction of change was *-o > Samheung SM -au. While not too common, the sound change of *-o > -au is also seen in another Mǐn variety: Cāngnán NEM, which has experienced a sound change of Proto-NEM *-ɔ > *-o > *-ou > *-əu > Cāngnán NEM -au (Akitani 秋谷

⁵⁷ Mǐn languages often have a distinction between 生 s- ‘give birth’ and 生 ts^h - ‘uncooked’ (e.g. Proto-SM $*sẽ^1$ vs. $*ts^hẽ^1$). In Samheung SM these are sai^1 LC / $sɛi^1$ GR ‘give birth’ and ts^hai^1 LC / $ts^hɛi^1$ GR ‘uncooked’ respectively. It is unclear whether Longdu EM and Namlong EM also have separate s- and ts^h - versions of 生.

2023b: 111–112). Perhaps something similar has happened in Samheung SM (more investigations are needed).

Now turning to the *-ai* set in Samhueng SM, the following are some correspondences:

茶 ‘tea’ Samheung SM *tai*² ZZ, *tvi*² LC/GR,⁵⁸ Teochew SM *te*², Xiàmén SM *te*²,
(vs. Xiānyóu PXM *tɔ*², Longdu EM *ta*² LC/ZL, Fúzhōu EM *ta*³)

家 ‘household’ Samheung SM *kai*¹ ZZ, *kvi*¹ LC/GR, Teochew SM *ke*¹, Xiàmén SM *ke*¹, (vs. Xiānyóu PXM *kɔ*¹, Longdu EM *ka*¹ LC/ZL, Fúzhōu EM *ka*¹)

蝦 ‘shrimp’ Samheung SM *hai*² ZZ/LC, *hvi*² GR, Teochew SM *he*², Xiàmén SM *he*², (vs. Xiānyóu PXM *hɔ*², Longdu EM *ha*² LC, Fúzhōu EM *ha*³)

(For the development of this set in Longdu EM and Namlong EM, see §2.2.1 and §3.2.1 respectively.) If **-o* became Samheung SM *-au*, then most likely it was **-e* that became Samheung SM *-ai* (Proto-SM 茶 **te*², 家 **ke*¹, 蝦 **he*²). Similarly, **-ẽ* > Samheung SM *-ai*, e.g. 生 Proto-SM **sẽ*¹ > Samheung SM *sai*¹ LC, *svi*¹ GR.

4.1.5 Proto-SM + PXM **(u)ẽ* > Proto-SM **(u)õi*

(Proto CsM **-en* >) Proto-SM + PXM **-ẽ* became Proto-SM **-õi*. Samheung SM reflects this sound change. Proto-PXM did not participate in this sound change to **-õi*. Here we show one example of Proto-SM + PXM **-ẽ*, and also one example of Proto-SM + PXM **-uẽ*, which behaves somewhat similarly.

千 ‘thousand’ Proto-CsM **-en*:

Proto-SM + PXM **-ẽ* > Proto-SM **-õi* > Samheung SM *ts^hai*¹ LC (see §4.2.4 on **-õi* > **-ãi*), Zhāngzhōu SM *ts^hij*¹, Xiàmén SM *ts^hij*¹,
Teochew SM *ts^hõi*¹, Cháoyáng SM *ts^hãi*¹

Proto-SM + PXM **-ẽ* > Proto-PXM **-ẽ* > Xiānyóu PXM *ts^hɿ*¹, Pútián PXM *ts^he*¹

Proto-EM **-en* > Longdu EM *ts^hiɛn*¹ ZL, *ts^hien*¹ LC, Fúzhōu EM *ts^hien*¹

懸 ‘tall’ Proto-CsM **-uen*:

Proto-SM + PXM **-uẽ* > Proto-SM **-uõi* > Samheung SM *kɔi*² GR,
Zhāngzhōu SM *kuãi*², Xiàmén SM *kũãi*², Teochew SM *kũi*²,
Cháoyáng SM *kuãi*²

Proto-SM + PXM **-uẽ* > Proto-PXM **-ẽ* > Xiānyóu PXM *kĩ*², Pútián PXM *ke*²

Proto-EM **-en* > Longdu EM *ken*² GR, Fúzhōu EM *keiŋ*²

4.1.6 Proto-PXM innovations

Samheung SM (and the other ZSM varieties) do not share the PXM-specific innovations. The first PXM innovation is (Proto-CsM **-iem* / **-ien* / **-ian* >) Proto-SM + PXM **ĩ* > Proto-PXM **-iŋ*.

⁵⁸ The following are vocalisms of 茶 Proto-SM **te*² ‘tea’ in a few Samheung SM varieties: Samheung-proper *tvi*², Shénwān Guìchōng 神灣桂涌 *tvi*², Dàbù 大布 (Tio-Pou) *tia*², Yōngmò 雍陌 / Qiánlǒng 前隴 *ta*² (Gāo 高 2018: 343). The *ta*² pronunciation could be a Yuè or Hakka influence, cf. ZSY / Cantonese / ZSH 茶 *ts^ha*². Another possible link is that most Qiánlǒng 前隴 people claim that their ancestors came from Zhāngjiābiān, cf. Namlong EM 茶 *ta*² GR. In Samheung SM there is a morpheme meaning ‘language / speech’ from an earlier form **he*⁶, and this has the same vocalisms as 茶 **te*² ‘tea’ in the various Samheung SM varieties (see footnote 62).

天 ‘sky’ Proto-CsM *-ien:

Proto-SM + PXM *-ĩ > Proto-PXM *-iŋ > PXM *t^{hi}iŋ¹*

Proto-SM + PXM *-ĩ > Proxo-SM *ĩ > Samheung SM *t^{hi}i¹* LC, Zhāngzhōu SM *t^{hi}i¹*, Xiàmén SM *t^{hi}i¹*, Teochew SM *t^{hi}i¹*, Diànbái SM *t^{hi}i^{1a}*

Proto-EM *-ien > Longdu EM *t^{hi}ien¹* ZL, Namlong EM *t^{hi}ien¹* GR, Fúzhōu EM *t^{hi}ieŋ¹*

The second PXM innovation is *-ʔ > -0. Samheung SM does not participate in this. The dropping of *-ʔ also occurs in Namlong EM (§3.3.1), and to a smaller degree also in Longdu EM (§2.3.1), but *-ʔ > -0 is a very common sound change that has occurred in parallel in many different places, e.g. Western Guǎngdōng SM (e.g. Diànbái SM), Hǎinán SM.

石 ‘stone’ Proto-CsM *-ioʔ:

Proto-SM + PXM *-ioʔ > Proto-PXM *-io > Pútián PXM *ɦiau²*, Xiānyóu PXM *ɦieu²*

Proto-SM + PXM *-ioʔ > Proto-SM *-ioʔ > Samheung SM *tsiu^{ʔ8}* LC, Zhāngzhōu SM *tsio^{ʔ8}*, Xiàmén SM *tsio^{ʔ8}*, Teochew SM *tsie^{ʔ8}*, Diànbái SM *tsio^{1a}*

Proto-EM *-ioʔ > Longdu EM *siø⁷* GR, *sø⁷* ZL, *sø⁷* LC, Namlong EM *siø⁸* GR, *sio³* LC, Fúzhōu EM *suo^{ʔ8}*

The third PXM innovation is *-p *-t *-k > *-ʔ. This is related to neighbouring Southern EM; most varieties of Southern EM only have -k and/or -ʔ left. On the other hand, Samheung SM (and the other ZSM varieties) usually have *-p *-t *-k intact.

毒 ‘poison’ Proto-CsM *-uk:

Proto SM + PXM *-ak > Proto-PXM *-aʔ > PXM *tw^{ʔ8}*

Proto SM + PXM *-ak > Proto-SM *-ak > Samheung SM *tak⁸* LC, Zhāngzhōu SM *tak⁸*, Xiàmén SM *tak⁸*, Teochew SM *tak⁸*, Diànbái SM *tak⁸*

Proto-EM *-uk > Longdu EM *tek⁸* LC, *tɛ^{ʔ8}* ZL, Namlong EM *tək⁸* GR, Fúzhōu EM *tøy^{ʔ8}*

(See also §2.3.3 and §3.3.3 for the development of these finals in Longdu EM and Namlong EM respectively.)

Notice that Samheung SM not having these PXM-specific innovations does not infer that none of their ancestors were from the Pútián area. It is likely that at least some of them have ancestors from the Pútián area as claimed. These ancestors would have left the Pútián area before these innovations occurred in Proto-PXM; all of these innovations are cross-linguistically rather common. Also, Proto-PXM is rather recent, given how close Pútián PXM and Xiānyóu PXM are. See also the end of §5.3 on a possible linguistic link between PXM and ZSM.

4.2 Samheung SM as Zhāngzhōu-type SM

In this article, we take a conservative approach and divide SM into three branches: Quánzhōu-type SM [QzSM], Zhāngzhōu-type SM [ZzSM], and Guǎngdōng–Hǎinán

SM [GHSM].⁵⁹ (When QzSM and ZzSM are discussed together, they are referred as “Fújiàn SM” [FSM].) QzSM includes their migrant communities in, e.g., northeastern Jiāngxī, southeastern Zhèjiāng, northeastern Fújiàn, and Táiwān. ZzSM includes their migrant communities in, e.g., Táiwān, and many enclaves in Guǎngdōng and Guǎngxī. Also included in the ZzSM group are the inland SM varieties of Lóngyán and Dàtián, which show influences from neighbouring Sinitic dialect groups, e.g. Hakka, CnM, and EM. The SM variety of Xiàmén (Amoy), nowadays the largest city in southern Fújiàn, shows a mixture of QzSM and ZzSM features. (Xiàmén is located between the historically more-significant Quánzhōu and Zhāngzhōu cities.) The various Taiwanese SM varieties sit on a continuum between QzSM and ZzSM, i.e. many of them have a mixture of QzSM and ZzSM features (see, e.g., Ang Uijin 洪惟仁 2019). GHSM includes Eastern Guǎngdōng Mǐn, Western Guǎngdōng Mǐn, and Hǎinán Mǐn.

In this §4.2, we compare the segmental phonological traits of Samheung SM with some of the innovations which define the SM subgroups as discussed in Kwok (2018: 129–156). Based on these group-defining innovations, Samheung SM is ZzSM. Section 4.2.1 discusses how Samheung SM is not a member of QzSM. Section 4.2.2 discusses how Samheung SM is not a member of GHSM. Section 4.2.3 discusses how Samheung SM is a member of ZzSM. Despite the conclusions made in the preceding three subsections, Samheung SM does have some traits which resemble other branches of SM, especially GHSM. These traits are discussed in §4.2.4. For discussions on Samheung SM tonal categories and values, see §4.3.

4.2.1 Samheung SM is not QzSM

Samheung SM is not a member of QzSM. QzSM varieties most usually have [ə] as the reflex of Proto-SM *-ø and *-uø. On the other hand, ZzSM and GHSM varieties have [e], [ɛ], or [o] as the reflex of Proto-SM *-ø, and many have retained the distinction between *-ø and *-uø. (See §4.2.3 for the Samheung SM sound changes of *-e > -ai ~ -vi and *-ue > -(u)oi.)

短 ‘short’ Proto-SM *-ø: Samheung ZzSM *tɛi*³ LC, Zhāngzhōu ZzSM *te*³, vs. Quánzhōu QzSM *tə*³

坐 ‘sit’ Proto-SM *-ø: Samheung ZzSM *tsai*⁶ LC, Zhāngzhōu ZzSM *tse*⁶, vs. Quánzhōu QzSM *tsə*⁴

火 ‘fire’ Proto-SM *-uø: Samheung ZzSM *huoi*³ LC, Zhāngzhōu ZzSM *hue*³, vs. Quánzhōu QzSM *hə*³

尾 ‘tail’ Proto-SM *-uø: Samheung ZzSM *moi*³ LC, Zhāngzhōu ZzSM *bue*³, vs. Quánzhōu QzSM *bə*³

QzSM has merged Proto-SM *-ioi and *-ue. Samheung ZzSM does not have this trait.

梳 ‘comb’ Proto-SM *-ioi: Samheung ZzSM *se*¹ LC, Zhāngzhōu ZzSM *se*¹, vs. Quánzhōu QzSM *sue*¹

⁵⁹ Zhāng Jìngfēn 張靜芬 (2013: 53) divides SM into two branches: Fújiàn (i.e. QzSM plus ZzSM), and Guǎngdōng. On the other hand, Kwok (2018) favours a partition between a Northern branch which includes QzSM, and a Southern branch which includes ZzSM and GHSM. Nevertheless, Kwok (2018: 156) also mentions that “[w]e cannot rule out the possibility of tripartite split for the SM”. In this article we have adopted this latter more-conservative / agnostic approach. All of the aforementioned phylogenies have their merits and pitfalls; we shall leave it to another opportunity to debate what the most appropriate phylogeny of SM should be.

杯 ‘cup’ Proto-SM *-ue: Samheung ZzSM *puoi*¹ LC, Zhāngzhōu ZzSM *pue*¹,
vs. Quánzhōu QzSM *pue*¹

QzSM has merged Proto-SM *-ō and *-uĩ. Samheung ZzSM does not have this trait.

兩 ‘two’ Proto-SM *-ō: Samheung ZzSM *neu*⁶ GR, Zhāngzhōu ZzSM *lõ*⁶, vs.
Quánzhōu QzSM *ny*⁴

遠 ‘far’ Proto-SM *-uĩ: Samheung ZzSM *hui*¹ LC, Zhāngzhōu ZzSM *huĩ*⁶, vs.
Quánzhōu QzSM *hy*³

QzSM has raised *e in {*-ẽ *-uẽ *-ue?} to *i. Samheung SM aligns with ZzSM, which has other innovations. Samheung ZzSM also has further innovations of its own (see §4.2.3).

生 ‘give birth’ Proto-SM *-ẽ: Samheung ZzSM *sai*¹ LC, *sẽi*¹ GR, Zhāngzhōu ZzSM *sẽ*¹, vs. Quánzhōu QzSM *sĩ*¹

橫 ‘across’ Proto-SM *-uẽ: Samheung ZzSM *hua*² LC, Zhāngzhōu ZzSM *huã*², vs. Quánzhōu QzSM *huĩ*²

血 ‘blood’ Proto-SM *-ue?: Samheung ZzSM *huoi*?⁷ LC, Zhāngzhōu ZzSM *hue*?⁷, vs. Quánzhōu QzSM *hui*?⁷

4.2.2 Samheung SSM is not GHSM

Despite Samheung’s location in the middle of Guǎngdōng in between Eastern Guǎngdōng Mǐn and Western Guǎngdōng Mǐn, Samheung SM is not a member of GHSM, but a member of ZzSM. In this §4.2.2, we demonstrate how Samheung SM does not align with the GHSM innovations. (In §4.2.3, we demonstrate how Samheung SM has participated in the ZzSM innovations.)

GHSM has merged all cases of Proto-SM *-ue and *-uø. On the other hand, in ZzSM, the distinction is still kept when the Proto-SM initial is velar, glottal, or zero (see Sound Changes B and D in §4.2.3).

Zero / glottal initial:

畫 ‘picture’ Proto-SM *ue⁶: Samheung ZzSM *ua*⁶ LC, Zhāngzhōu ZzSM *ua*⁶,
vs. Teochew GHSM *ue*⁶, Luichew GHSM *ue*⁶ LC, (Quánzhōu QzSM *ue*⁵)

火 ‘fire’ Proto-SM *huø³: Samheung ZzSM *huoi*³ LC, Zhāngzhōu ZzSM *hue*³,
Teochew GHSM *hue*³, Luichew GHSM *hue*³ LC, (vs. Quánzhōu QzSM *hø*³)

(Contrast this with) Labial initial:

杯 ‘cup’ Proto-SM *pue¹: Samheung ZzSM *puoi*¹ LC, Zhāngzhōu ZzSM *pue*¹,
Teochew GHSM *pue*¹, Luichew GHSM *pui*¹ LC, (Quánzhōu QzSM *pue*¹)

尾 ‘tail’ Proto-SM *buø³: Samheung ZzSM *moi*³ LC, Zhāngzhōu ZzSM *bue*³,
Teochew GHSM *bue*³, Luichew GHSM *bue*³ LC, (vs. Quánzhōu QzSM *bø*³)

GHSM varieties tend to have the sound change of Proto-SM *-uoŋ > *-uak. This is not known to occur in Samheung ZzSM.

爽 ‘comfortable’ Proto-SM *-uoŋ: Samheung ZzSM *sɔŋ*³ LC, Zhāngzhōu ZzSM *sɔŋ*³, (Quánzhōu QzSM *sɔŋ*³) vs. Teochew GHSM *suaj*³,
Luichew GHSM *suaj*³ LC

濁 ‘turbid’ Proto-SM *-uok: Samheung ZzSM *tsok*⁸ LC, Zhāngzhōu ZzSM *tsɔk*⁸, (Quánzhōu QzSM *tsɔk*⁸) vs. Teochew GHSM *tsuak*⁸, Luichew GHSM *tsuak*⁸ LC

Some lexical items in FSM and GHSM trace to different proto-forms in Proto-SM (Kwok 2018: 146–151; if a lexical item is not discussed here, it is because a colloquial stratum pronunciation of that item could not be found in the Samheung SM data). The Samheung SM numeral 蜀 *tit*⁷ ‘one’ is probably a reflex of the FSM form *tsit⁸ ‘one’ with an irregular initial. GHSM has a different proto-form *tsuk⁸.⁶⁰

蜀 ‘one’:

Proto-SM *tsit⁸: Samheung ZzSM *tit*⁷ BMS/GR, Zhāngzhōu ZzSM *tsit*⁸,
Quánzhōu QzSM *tsit*⁸
Proto-SM *tsuk⁸: Teochew GHSM *tsek*⁸

The morpheme 嚨 ‘throat’ presents some challenges. In Samheung SM there is the word 嚨喉 *laŋ*² *vu*² ZZ, *leŋ*²⁻⁷ *au*² GR ‘throat’. The form 嚨 *laŋ*² / *leŋ*² is neither a regular reflex of the FSM form *nã² nor the GHSM form *luŋ².

嚨 ‘throat’:

Samheung SM: *laŋ*²
Proto-SM *nã²: Zhāngzhōu ZzSM *lã*², Quánzhōu QzSM *nã*²
Proto-SM *luŋ²: Teochew GHSM *leŋ*², Diànbái GHSM *liang*² DD

The regular reflex of Proto-SM *nã² in Samheung SM is *na*² (cf. 林 ‘forest’ Proto-SM *nã² > Samheung SM *na*² LC), and the regular reflex of Proto-SM *luŋ² is *liŋ*² (cf. 龍 ‘dragon’ Proto-SM *luŋ² > Samheung SM *liŋ*² LC; 綠 ‘green’ Proto-SM *luok⁸ > Samheung SM *liok*⁸ LC). We deem that Samheung SM 嚨 *laŋ*² / *leŋ*² is not related to the GHSM form *luŋ², as the vowels do not match. Instead, 嚨 *laŋ*² / *leŋ*² is perhaps descended from the FSM form *nã². The vowel in 嚨 *laŋ*² / *leŋ*² is the expected reflex of the vowel in *nã² (the vowel then denasalises in Samheung SM). The consonants in 嚨 *laŋ*² / *leŋ*² are influences from the Yuè form 嚨 *loŋ*² ‘throat’ (in Hafong, ZSY, and Cantonese).

When 翁 ‘elderly man’ is used as a surname (Mandarin *Wēng*, Cantonese *jŋ*¹), in Teochew–Swatow there is a special pronunciation that is different from the usual pronunciations of colloquial *aŋ*¹ and literary *oŋ*¹. Samheung SM lacks this special pronunciation, based on available data. (See also the normal lexical use of Samheung SM 翁 *aŋ*¹ ‘grandfather’ in §5.3.)

翁 surname *Wēng*:

Proto-SM *aŋ¹: Samheung ZzSM *aŋ*¹ LC, Zhāngzhōu ZzSM *aŋ*¹, Quánzhōu QzSM *aŋ*¹
Proto-SM *uŋ¹: Teochew GHSM *eŋ*¹

Next is the pronunciation of another surname 王 ‘king’. FSM and GHSM again have different pronunciations of this. However, the Samheung form matches neither. The

⁶⁰ See also Akitani 秋谷 (2023a)’s criticisms of what Kwok (2018: 102–104) reconstructs as *-uok and what Zhāng Jìngfēn 張靜芬 (2022: 89) reconstructs as *-iək in Proto-SM. See also the discussions related to this towards the end of §4.2.4.

Samheung SM pronunciation of the surname 王 ‘king’ may surprise many Mǐn speakers.

王 surname *Wáng*:

Samheung ZzSM *ui*² LC (also Diànbái GHSM *ui*³)

Proto-SM *uoŋ²: Zhāngzhōu ZzSM ɔŋ², Quánzhōu QzSM ɔŋ²

Proto-SM *huŋ²: Teochew GHSM heŋ², Luichew GHSM hiaŋ² LL

The cause of this is obvious to Yuè and Hakka speakers: the surname 王 ‘king’ is homophonous with another common surname 黃 ‘yellow’ in Yuè and Hakka, e.g. ZSY wɔŋ², ZSH vɔŋ². Samheung SM speakers have applied the pronunciation of 黃 ‘yellow’ to 王 ‘king’. (Diànbái Mǐn *ui*² is similarly also under the influence of Diànbái Cantonese and Diànbái Hakka, both wɔŋ² DD.) The Samheung SM pronunciation of *ui*² (except the denasalisation) is a retention, and hence cannot be used as an argument for genealogical relationship. Nonetheless, it is worth pointing out that this pronunciation of *ui* is strongly emblematic of ZzSM.

黃 ‘yellow’ / surname *Huáng* Proto-SM *uĩ²: Samheung ZzSM *ui*² LC/GR, Zhāngzhōu ZzSM *uĩ*², Quánzhōu QzSM *ŋ*², Teochew GHSM *ŋ*², Diànbái GHSM *ui*²

Lastly, Samheung SM has the more-Fújiàn trait of using a disyllabic word for “eye”: 目珠 *mak*⁸ *tsiu*¹ ZZ, 目矚 *bək*⁷ *tsiu*¹ GR. (Also cf. Longdu EM 目矚 *bi*⁸⁻² *tsiu*¹ GR and Namlong EM 目矚 *bi*⁸ *tsiu*¹ GR.) This contrasts with the more-Guǎngdōng trait of having a monosyllabic word for “eye” (Kwok 2018: 151), e.g. Teochew SM 目 *mak*^{8,61}, Luichew SM 目 *mak*⁸. Hainanese SM also has a monosyllabic 目 *mak*⁸ ‘eye’. Yuè and Hakka usually use a monosyllabic word for “eye”, e.g. Hafong / ZSY 眼 *ŋan*³, Cantonese 眼 *ŋan*⁴, ZSH 眼 *ŋan*³.

4.2.3 Samheung SM is ZzSM

Samheung SM is a member of Zhāngzhōu-type SM [ZzSM]. Four ZzSM sound changes are discussed in this §4.2.3, here labelled Sound Changes A to D. Before we introduce Sound Changes A to D, we have to introduce two late-stage Samheung-specific sound changes, here labelled Sound Changes Sa and Sb.

Sound Change Sa: ZzSM *-ɛ > -ai or -ɐi (see discussions in §4.1.4)

Sound Change Sb: ZzSM *-ue > -(u)oi LC / -oi ZZ / -ɔi GR

Examples of Sound Changes Sa and Sb can be seen throughout this §4.2.3, and in many examples in the rest of this §4. Sound Changes Sa and Sb occurred after Sound Changes A to D.

Sound Change A: the first ZzSM innovation is the lowering of Proto-SM *-e to *-ɛ or something even lower. In Zhāngzhōu SM, /e/ and /ɛ/ are separate phonemes. In Samheung SM, Sound Change Sa occurred subsequently: *-ɛ > -ai or -ɐi.

茶 ‘tea’ Proto-SM *-e: Samheung ZzSM *tai*² ZZ, *tɐi*² LC/GR, Zhāngzhōu ZzSM *tɛ*², vs. Teochew GHSM *tɛ*², Quánzhōu QzSM *tɛ*²

家 ‘household’ Proto-SM *-e: Samheung ZzSM *kai*¹ ZZ, *kɐi*¹ LC/GR, Zhāngzhōu ZzSM *kɛ*¹, vs. Teochew GHSM *kɛ*¹, Quánzhōu QzSM *kɛ*¹

⁶¹ Teochew SM also has a disyllabic 目矚 *mak*⁸ *tsiu*¹, but this means “eyeball”.

蝦 ‘shrimp’ Proto-SM *-e: Samheung ZzSM *hai*² ZZ/LC, *hei*² GR, Zhāngzhōu ZzSM *he*², vs. Teochew GHSM *he*², Quánzhōu QzSM *he*²

Sound Change B: *e in the Proto-SM final *-ue also lowers, but only after a velar, glottal, or zero initial.⁶²

瓜 ‘melon’ Proto-SM *kue¹: Samheung ZzSM *kua*¹ GR/LC, Zhāngzhōu ZzSM *kua*¹, vs. Teochew GHSM *kue*¹, Quánzhōu QzSM *kue*¹

花 ‘flower’ Proto-SM *hue¹: Samheung ZzSM *hua*¹ GR/LC, Zhāngzhōu ZzSM *hua*¹, vs. Teochew GHSM *hue*¹, Quánzhōu QzSM *hue*¹

畫 ‘picture’ Proto-SM *ue⁶: Samheung ZzSM *ua*⁶ LC, Zhāngzhōu ZzSM *ua*⁶, vs. Teochew GHSM *ue*⁶, Quánzhōu QzSM *ue*⁵

(One slight weakness of applying this argument to Samheung SM is that the cognates of these in Yuè also have labial + a, cf. 瓜 ‘melon’ ZSY / Cantonese *k^wa*¹, 花 ‘flower’ ZSY / Cantonese *fā*¹, 畫 ‘picture’ ZSY *wā*⁵, Cantonese 畫 *wā*⁶⁻².)

With other initials, Proto-SM *-ue does not lower, and Proto-SM *-uø merges with *-ue (see Sound Change D below). Here is an example of *-ue which has not lowered (the initial is labial).

杯 ‘cup’ Proto-SM *pue¹: Samheung ZzSM *puoi*¹ LC, Zhāngzhōu ZzSM *pue*¹, Teochew GHSM *pue*¹, Quánzhōu QzSM *pue*¹

Sound Change C: Proto-SM *-oi > *-e. Sound Change A (*-e > *-ε) must have occurred before Sound Change C.

洗 ‘wash’ Proto-SM *-oi: Samheung ZzSM *se*³ GR/LC, Zhāngzhōu ZzSM *se*³, vs. Teochew GHSM *soi*³, (vs. Quánzhōu QzSM *sue*³)

鞋 ‘shoe’ Proto-SM *-oi: Samheung ZzSM *e*² GR/LC, Zhāngzhōu ZzSM *e*², vs. Teochew GHSM *oi*², (vs. Quánzhōu QzSM *ue*²)

Sound Change D: Proto-SM *-uø > *-ue. Notice that this sound change is not specific to ZzSM; this sound change has also occurred in GHSM. However, Kwok concludes that this is the result of parallel development or areal diffusion between ZzSM and GHSM (2018: 141, 145). (On the other hand, QzSM usually has *-uø > -ə; §4.2.1.) The sequence of sound changes must have been Sound Change B (*-ue > *-ua) followed by Sound Change D (*-uø > *-ue), and then Sound Change Sb (*-ue > *-(u)oi) in Samheung SM.⁶³

火 ‘fire’ Proto-SM *-uø: Samheung ZzSM *huoi*³ LC, *hɔi*³ GR, Zhāngzhōu ZzSM *hue*³, Teochew GHSM *hue*³ vs. Quánzhōu QzSM *hə*³

⁶² In Samheung SM, there is a morpheme *hai*⁶ BMS, *hei*⁶ GR ‘language, speech’, e.g. 講村話 *kəu*³⁻⁶ *ts^hui*¹ *hei*⁶ GR (speak village language) ‘speak Samheung Mǐn’, 拍電話 *p^ha*² *tin*¹ *hei*⁶ GR (hit electric language) ‘dial telephone’. The etymon of *hai*⁶ / *hei*⁶ may or may not be 話 ‘language, speech’ (Proto-SM *ue⁶ > Zhāngzhōu SM *ua*⁶, Teochew SM *ue*⁶, Quánzhōu SM *ue*⁵). If *hai*⁶ / *hei*⁶ is indeed a reflex of Proto-SM 話 *ue⁶, then Samheung SM *hai*⁶ / *hei*⁶ has not participated in Sound Change B. Alternatively, this *hai*⁶ / *hei*⁶ came from an earlier *he⁶ (Sound Change Sa), and an even earlier *he⁶ (Sound Change A). The vocalisms of this *he⁶ in the various Samheung SM varieties are the same as that of 茶 Proto-SM *te² ‘tea’ (see footnote 58). This *he⁶ ‘language’ is perhaps a combination of the colloquial stratum *ue⁶ and an *h- initial from the literary stratum, cf. Zhāngzhōu SM 話 colloquial *ua*⁶, literary *hua*⁶. (Yuè and Hakka do not have a glottal or velar fricative initial for this morpheme, cf. Hafong 話 *va*⁵ ~ *wa*⁵ GR, ZSH *va*⁵.)

⁶³ A reviewer suggested that Samheung -uoi in the morphemes 火 ‘fire’, 稅 ‘tax’, and 尾 ‘tail’ may represent a retention of an earlier Proto-CsM *-uoi. If adopted, this proposal could prevent a retrograde change, such as *-uoi > *-uø > -uoi. However, Kwok (2018: 72–73) notes that Proto-SM *-uø descended from not only Proto-Mǐn *-oi, but also *-ye. The morpheme 稅 ‘tax’ exemplifies the latter.

稅 ‘tax’ Proto-SM *-uø: Samheung ZzSM *suoi*⁵ LC, *sɔi*⁵ GR, Zhāngzhōu ZzSM *sue*⁵, Teochew GHSM *sue*⁵, vs. Quánzhōu QzSM *sə*⁵

尾 ‘tail’ Proto-SM *-uø: Samheung ZzSM *moi*³ LC, *bɔi*³ GR, Zhāngzhōu ZzSM *bue*³, Teochew GHSM *bue*³ vs. Quánzhōu QzSM *bə*³

Parallel to *-uø > *-ue, *-uøʔ > *-ueʔ has also occurred.

月 ‘moon’ Proto-SM *-uøʔ: Samheung ZzSM *ɲuoi*^{ʔ8} LC, *gɔi*^{ʔ7} GR, Zhāngzhōu ZzSM *gue*^{ʔ8}, Teochew GHSM *gue*^{ʔ8} vs. Quánzhōu QzSM *gə*^{ʔ8}

4.2.4 Samheung SM traits that are possibly from other branches of SM

In §4.2.3, we discussed how Samheung SM is a member of ZzSM. Nonetheless, Samheung SM does have a few traits which resemble other branches of SM.

Samheung(-proper) has one trait which resembles QzSM: the raising of Proto-SM *-iō to *-iũ (and then *-iũ > -iu).

薑 ‘ginger’ Proto-SM *-iō: Samheung ZzSM *kiu*¹ LC, Quánzhōu QzSM *kiũ*¹ vs. Zhāngzhōu ZzSM *kiō*¹

娘 ‘lady’ Proto-SM *-iō: Samheung ZzSM *niu*² LC, Quánzhōu QzSM *niũ*² vs. Zhāngzhōu ZzSM *liō*²

(This is not an influence from Yuè or Hakka; for this final, ZSH and Hafong have -iəŋ, ZSY has -iəŋ GR or -æŋ ZH, and Cantonese has -æŋ.)

This is perhaps an independent development in Samheung ZzSM, given Samheung’s divergent vocalisms. (However, currently there is no evidence to disprove the alternative theory that this is a QzSM influence.) Looking at Gāo Rán (2018: 342–344)’s comparison of Samheung-proper with three other Samheung SM varieties, one sees both -iu and -io.

響 ‘loud’ Proto-SM *-iō: Samheung-proper *hiu*³, Shénwān Guìchōng 神灣桂涌 *hiu*³, Samheung Dàbù 大布 (Tio-Pou) *hio*³, Samheung Yōngmò 雍陌 / Qiánlǒng 前隴 *hæ*³, (Xiàmén SM *hĩũ*³, Zhāngzhōu SM *hiō*³)

One also sees 簪 ‘leaf’ recorded as *hiu*^{ʔ7} by GR/BMS, and *hio*^{ʔ8} by ZZ.

Samheung SM has a small number of traits which resemble GHSM. This is not contradictory to our claim that Samheung SM is ZzSM. Most Samheung Mǐn villages were established during the Southern Sòng Dynasty (1127–1279) (Gāo Rán 高然 2018: 5). Further afield, most Mǐn migrants also reached Hǎinán during the Sòng Dynasty (960–1279) (Liú Xīnzhōng 劉新中 2006: 35). Given that Hǎinán Mǐn is linguistically much closer to Eastern Guǎngdōng Mǐn than to Fújiàn Mǐn, and Zhōngshān is in between Eastern Guǎngdōng and Hǎinán, it is entirely plausible that amongst the SM migrants to Zhōngshān, a significant portion of them were from the Eastern Guǎngdōng Mǐn region, hence making some contributions to the linguistic make-up of Samheung SM. There are several possible scenarios concerning the relationship between the ZzSM and GHSM traits in Samheung SM. One possibility is that Samheung SM started off as ZzSM, and then received some GHSM influences later on. Another possibility is that Samheung SM started off as GHSM, but was later largely overlaid by ZzSM features. A mixture of both is also possible, i.e. Samheung SM started off as GHSM, then largely overlaid by ZzSM features, and then receiving some later GHSM influences. Yet another possibility is that the ZzSM and GHSM migrants arrived in the Samheung area at around the same time, and the resulting Samheung SM took on mostly ZzSM features and only a few GHSM features. It is beyond the scope of this article to determine which of these scenarios (or some other scenario) is correct.

Samheung SM often has an *-ai* reflex for Proto-SM **-ōi*. Kwok (2018: 146) mentions that Proto-SM **-ōi* becoming **-āi* (or **-ai*) is a feature that is common in GHSM. However, this is not a defining feature of GHSM, as this trait is not universal in GHSM, and it is also found in some FSM varieties, e.g. Tóng’ān SM. Samheung SM might have been influenced by these GHSM varieties (if this is not a parallel development in Samheung SM).

千 ‘thousand’ Proto-SM **-ōi*: Samheung ZzSM *ts^hai¹* LC, Cháoyáng GHSM *ts^hāi¹*, Jiěyáng GHSM *ts^hāi¹*, Haihong GHSM *ts^hāi¹*, Luichew GHSM *ts^hai¹*, vs. Teochew GHSM *ts^hōi¹*, (Zhāngzhōu ZzSM *ts^hīŋ¹*, Quánzhōu QzSM *ts^huī¹*)

前 ‘front’ Proto-SM **-ōi*: Samheung ZzSM *tsai²* LC, Cháoyáng GHSM *tsāi²*, Jiěyáng GHSM *tsāi²*, Haihong GHSM *tsāi²*, Luichew GHSM *tsai²*, vs. Teochew GHSM *tsōi²*, (Zhāngzhōu ZzSM *tsiŋ²*, Quánzhōu QzSM *tsuī²*)

閑 ‘leisure’ Proto-SM **-ōi*: Samheung ZzSM *ai²* LC, *ai² ~ vi²* GR, Jiěyáng GHSM *āi²*, Haihong GHSM *āi²*, Luichew GHSM *ai²*, vs. Cháoyáng GHSM *ōi²*, Teochew GHSM *ōi²*, (Zhāngzhōu ZzSM *iŋ²*, Quánzhōu QzSM *uī²*)

Samheung SM uses the morpheme 床/牀 *ts^heu²* GR to mean “table”, e.g. 抹床布 *bua[?] ts^heu²⁻⁶ pɔ⁵* GR (wipe table cloth) ‘rag for cleaning table’. The morpheme 床 usually means “bed” in Sinitic languages (e.g. Hafong / ZSY / Cantonese 床 *ts^hɔŋ²* ‘bed’). Using 床 to mean “table” is a trait of Hǎinán SM (e.g. Hǎikǒu *so³*), Guǎngdōng SM (e.g. Luichew *ts^hɔ²*, Jiěyáng *ts^huŋ²*), and PXM (e.g. Pútián *ts^huŋ²*), but not Fújiàn SM (e.g. Kwok 2018: 128, 151). (Longdu and Namlong EM use a Yuè morpheme: 枱 *t^hɔi²* GR ‘table’. The usual morpheme for “table” in Mǐn is 桌, e.g. Fúzhōu EM /to[?]/ [tɔ[?]], Proto-SM **to[?]* > Taiwanese SM *to[?]*.)

In §4.2.2 we discussed a few lexical items in FSM and GHSM which trace to different proto-forms in Proto-SM. Samheung SM usually aligns with the forms found in FSM. However, for the morpheme 鹿 ‘deer’, the Samheung SM form aligns with the GHSM form **tuk⁸ ~ *luk⁸*,⁶⁴ and not with the ZzSM form **lok⁸*.

鹿 ‘deer’:⁶⁵

Proto-SM **tuk⁸ ~ *luk⁸*: Samheung ZzSM *liok⁸* LC, Jiěyáng GHSM *lek⁸*, Teochew GHSM *tek⁸*, Diànbái GHSM *tiak⁸*

Proto-SM **lok⁸*: Zhāngzhōu ZzSM *lok⁷* [sic], Quánzhōu QzSM *lok⁸*

Compare:

⁶⁴ See also discussions on Proto-Mǐn ***yk* below in the main text. Kwok agrees that the reconstruction of Proto-SM **uk* is problematic, and now thinks that this is better reconstructed as **yk*.

⁶⁵ See also Akitani 秋谷 & Nohara 野原 (2022: 12–14)’s discussions on 鹿 ‘deer’. The following is a brief summary. The morpheme for ‘deer’ usually traces to ***luk* amongst Mǐn varieties, except that there are often irregularities with this morpheme in PXM and SM. As pointed out by Norman (2014: 11), in GHSM one finds 鹿 ‘deer’ with a *t*-initial, and a final from Proto-Mǐn ***yk*. It is often the same or very similar to the pronunciation of 竹 ‘bamboo’ (see below in the main text), except that 竹 ‘bamboo’ is in tone 7 and 鹿 ‘deer’ is in tone 8. Perhaps Samheung SM pronounced 鹿 ‘deer’ as *tiok⁸*, and then the initial changed to *l*- under the influence of nearby languages. For the coronal series of initials in Proto-Mǐn, in contrast to Norman (1974)’s ***t*-, ***ts*-, and ***tʃ*- series, Akitani 秋谷 & Nohara 野原 (2022) argue for ***t*-, ***ts*-, ***tʃ*-, and ***tʃ*- series, with ***tʃ*- being laminal. The proto-form of 鹿 ‘deer’ in Proto-Mǐn is either ***dʷuk* or ***dʷuk* (2022: 13).

龍 ‘dragon’ Proto-SM *luŋ²: Samheung ZzSM *liŋ*² LC, Jiěyáng GHSM *leŋ*², Teochew GHSM *leŋ*², Diànbái GHSM *liəŋ*², (Zhāngzhōu ZzSM *liŋ*², Quánzhōu QzSM *lín*²)
 獨 ‘only’ Proto-SM *tok⁸: Zhāngzhōu ZzSM *tək*⁸, Quánzhōu QzSM *tək*⁸, (Samheung ZzSM *tok*⁸ LC, Jiěyáng GHSM *tək*⁸, Teochew GHSM *tok*⁸, Diànbái GHSM *tək*⁸)

The tone values in Samheung SM are very similar to those in Eastern Guǎngdōng Mǐn. See §4.3.

There are some traits in Samheung SM which resemble specifically Western Guǎngdōng and Hǎinán Mǐn. Samheung SM has lost its nasal vowels, similar to Western Guǎngdōng and Hǎinán Mǐn. Nonetheless, given the relative rarity of nasal vowels cross-linguistically, the denasalisation of nasal vowels could easily be a parallel development in Samheung SM and Western Guǎngdōng + Hǎinán SM. (There is also the example of Pútíán PXM, but not the otherwise very closely related Xiānyóu PXM, having lost its nasal vowels.)

There is one other trait shared by Samheung SM and Western Guǎngdōng + Hǎinán SM which shows a probably non-coincidental direct link between them. Bodman (1982: 407, 1985: 18) observes that there are three morphemes which have a *-p* instead of an expected *-k* coda in Samheung SM (central Guǎngdōng) and Luichew SM (western Guǎngdōng): 叔 ‘father’s younger brother’, 肉 ‘meat’, and 竹 ‘bamboo’. These are shown in the data set below. These are reflexes of Proto-Mǐn ***-yk*; Bodman proposes that these have gone through intermediate stages like **-iuk* and/or **-ikw*, i.e. ***y* breaks into **iu*, and then the labiality of **u* combined with the plosive **-k* to become **-p*.

Still on the topic of Proto-Mǐn ***-yk*, Akitani 秋谷 (2023a) criticises Kwok (2018: 102–104)’s reconstruction of a single **-uk*, and Zhāng 張 (2020: 89)’s reconstruction of a single **-iək* in Proto-SM as the reflex of both Proto-Mǐn ***-yk* and ***-yok*. Akitani argues that this Proto-Mǐn distinction should be reconstructed in Proto-SM as **-iuk* and **-iok* respectively. Akitani 秋谷 (2023a: 327) mentions that “竹類字僅有三例” [there are only three instances of 竹-type characters (i.e. ***-yk* morphemes)];⁶⁶ these are the three morphemes mentioned by Bodman. The following are examples of the three ***-yk* morphemes, and two examples of ***-yok* morphemes. The SM varieties in Samheung, Western Guǎngdōng (e.g. Diànbái, Luichew), and Hǎinán (e.g. Wénchāng) make a distinction between ***-yk* and ***-yok*. The same is true for EM varieties (and often also for PXM varieties). However,

⁶⁶ The situation is more complex than what Akitani has mentioned. There are some morphemes of which the EM (and PXM) forms indicate that the Proto-Mǐn form should be ***-yk*, while the Samheung, Western Guǎngdōng and/or Hǎinán SM forms indicate that it should be ***-yok*. For instance:

熟 ‘cooked’ Fúzhōu EM *syʔ*⁸, Níngdé EM *syʔ*⁸, Xiānyóu PXM *ʔyøʔ*⁸, vs. Samheung SM *siok*⁸ LC, Diànbái SM *ʔiak*⁸ DD/LC, Luichew SM *siak*⁸ LL, Wénchāng SM *tiak*⁸
 縮 ‘shrink’ Fúzhōu EM /tʰyʔ⁷/ [tʰøyʔ⁷], Xiānyóu PXM *ʔyøʔ*⁷, vs. Samheung SM *siok*⁷ LC, Wénchāng SM *tiak*⁷
 菊 ‘chrysanthemum’ Fúzhōu EM /kyʔ⁷/ [køyʔ⁷], Níngdé EM *køk*⁷, Xiānyóu PXM *kyøʔ*⁷, vs. Wénchāng SM *kiak*⁷
 贖 ‘redeem’ Fúzhōu EM *syʔ*⁸, Níngdé EM *syk*⁸, Xiānyóu PXM *ʔyøʔ*⁸, vs. Samheung SM *siok*⁸ LL
 粥 ‘rice gruel’ Fúzhōu EM /tsyʔ⁷/ [tsøyʔ⁷], Níngdé EM *tsøk*⁷, Xiānyóu PXM *tsyøʔ*⁷, vs. Samheung SM *tsiok*⁷ GR.

the better-known SM varieties in Eastern Guǎngdōng (e.g. Teochew) and Fújiàn (e.g. Xiàmén) do not distinguish between **-yk and **-yok.

Proto-Mǐn **-yk:⁶⁷

叔 ‘father’s younger brother’

Samheung SM *tsip*⁷ BMS/GR, Diànbái SM *tsip*⁷ DD, Luichew SM *tsip*⁷ LL, Wénchāng SM *tciop*^{7,68}
(Teochew SM *tsek*⁷, Xiàmén SM *tsik*⁷)
Fúzhōu EM /tsyʔ⁷/ [tsøyʔ⁷], Níngdé EM *tsək*⁷, Xiānyóu PXM *tsyø*⁷

肉 ‘meat’

Samheung SM *hip*⁷ BMS/GR, Diànbái SM *hip*⁸ DD, Luichew SM *hip*⁸ LL, Wénchāng SM *fiok*⁸
(Teochew SM *nek*⁸, Xiàmén SM *hik*⁸)
Fúzhōu / Fúqīng EM *ny*^{7,8}, Níngdé EM *nyk*⁸, Xiānyóu PXM *ny*^{7,8} (< Fúzhōu / Fúqīng influence)

竹 ‘bamboo’

Samheung SM *tip*⁷ BMS/GR, Diànbái SM *tip*⁷ DD, Luichew SM *tip*⁷ LL, Wénchāng SM *dio*⁷
(Teochew SM *tek*⁷, Xiàmén SM *tik*⁷)
Fúzhōu EM /tyʔ⁷/ [tøyʔ⁷], Níngdé EM *tək*⁷, Xiānyóu PXM *tyø*⁷

Proto-Mǐn **-yok:

綠 ‘green’

Samheung SM *liok*⁸ LC, Diànbái SM *liak*⁸ DD, Luichew SM *liak*⁸ LL, Wénchāng SM *liak*⁸
(Teochew SM *lek*⁸, Xiàmén SM *lik*⁸)
Fúzhōu EM *luo*^{7,8}, Níngdé EM *luo*^{7,8}, Xiānyóu PXM *lɔ*^{7,8}

粟 ‘grain’

Samheung SM *ts^hiok*⁷ LC, Diànbái SM *tiak*⁷ DD, Luichew SM *ts^hiak*⁷ LL, Wénchāng SM *tiak*⁷
(Teochew SM *ts^hek*⁷, Xiàmén SM *ts^hik*⁷)
Fúzhōu EM /ts^huoʔ⁷/ [ts^huøʔ⁷], Níngdé EM *ts^huk*⁷, Xiānyóu PXM *ts^hɔ*⁷

Although Samheung, Western Guǎngdōng and Hǎinán SM having a **-yk versus **-yok distinction is a retention, the sound change of **-k > *-p is a very unusual innovation for Sinitic languages (and also for the Kra-Dai languages in the region). Especially given that only **-yk, and not the other **-k finals, is affected in all these western SM varieties, it is unlikely that this sound change occurred in Samheung and Western Guǎngdōng + Hǎinán separately. Given the history of migration of Mǐn speakers from east to west, one possible scenario is that **-yk >

⁶⁷ Luichew SM has one more case of an unexpected *-ip* final: 寂 *tsip*⁷ LL ‘lonely’. The expected coda is *-k*, cf. Teochew SM *sok*⁷, Xiàmén SM *tsik*⁸. (Cantonese also has *-k*: *tsek*⁸.) Perhaps the pronunciation of 寂 *tsip*⁷ ‘lonely’ was influenced by that of 叔 *tsip*⁷ ‘father’s younger brother’. See also Lín Lúnlún 林倫倫 (2006: 150–151) for his comments on the relationship between these four Luichew SM *-ip* morphemes and Old Chinese rime categories. (We have no data for 寂 in Samheung SM. Diànbái Mǐn has 寂 *tset*⁸ DD ‘lonely’ < Diànbái Hakka 寂 *ts^het*⁸.)

⁶⁸ Several other Hainanese Mǐn varieties also have an *-ip* final for 叔 ‘father’s little brother’ (Liú Xīnzhōng 劉新中 2006: 166), e.g. Hǎikǒu Fúchéng 海口府城, Chéngmài 澄邁, Tōngzá 通什 (Wǔzhǐshān 五指山). Other Hainanese Mǐn varieties have a different coda or no coda; with these it is difficult to determine whether they once had a *-p* in this morpheme or not.

*-ip developed in Zhōngshān, and this sound change was spread to Western Guǎngdōng and Hǎinán along with the waves of westward migration of Mǐn speakers. This development indicates that Samheung and Western Guǎngdōng + Hǎinán SM splintered off mainstream SM before the merger of *-yk and *-yok affected the entire mainstream SM area in Fújiàn and Eastern Guǎngdōng.

4.3 Some notes on the tonal categories and values in Samheung SM

The development of the tones in Samheung SM is not very complex (e.g. not as complex as Western Guǎngdōng and Hǎinán Mǐn). Nonetheless, some aspects of this raise some questions.

We now discuss the splits and mergers with the reflexes of Proto-Mǐn tones **B and **C. The first point to note is that Proto-Mǐn tone **B syllables with voiced sonorant initials have tone *3 in Proto-SM, and those with voiceless sonorant initials have tone *4 in Proto-SM, opposite of what the voicing suggests (e.g. Shěn 沈 2023: 520–522; see also footnote 18). Beyond this, ZzSM, QzSM, and Eastern Guǎngdōng SM have different behaviours with the mergers of tonal categories. Samheung ZzSM is not QzSM: QzSM has merged tones 6 (Lower Tone C) and 5 (Upper Tone C), while Samheung ZzSM has separate tones 5 and 6. Samheung ZzSM has instead merged tone 4 (Lower Tone B) and tone 6, similar to Zhāngzhōu SM and other ZzSM varieties. Nonetheless, the merger of tones 4 and 6 is a very common sound change amongst Sinitic languages. Examples of this include Mandarin, EM (Akitani 秋谷 2018: 668–669, 711–712), Diànbái GHSM (Dài Yóuwǔ 戴由武 et al. 1994: 10), and Hǎinán GHSM (e.g. Liú Xīnzhōng 劉新中 2006: 169–171, Xīn Shìbiāo 辛世彪 2013: §4). For this reason, we remain conservative and agnostic towards whether this trait in Samheung ZzSM is related to the other ZzSM varieties, Diànbái / Hǎinán GHSM, and/or Zhōngshān EM.⁶⁹ Another possibility is that this is an independent development in Samheung SM. The aforementioned splits and mergers in SM varieties are summarised in Table 1 below. Samheung SM has the additional development of having some tone 6 morphemes shifted to tone 1 (see below). For Lower Tone C, Teochew SM has tone 6 in the colloquial stratum, but tone 4 in the literary stratum (e.g. Kwok 2018: 116–118).⁷⁰

⁶⁹ What is clear is that this was not caused by the contact with Yuè. Yuè dialects have many cases of Middle Chinese “Tone 4” syllables shifting to tone 6, but they also have some syllables that have remained in tone B (tone 3 or 4). Samheung SM has examples like 厚 *kau*⁶ LC ‘thick’ (Proto-SM **kau*⁴) and 旱 *ua*¹ LC ‘drought’ (cf. Teochew SM *ũā*⁴), which have experienced the change of tone *4 to 6 (and then to 1 for 旱 *ua*¹), but the cognates in Yuè have not shifted to tone 6 (Cantonese 厚 *heu*⁴, 旱 *hən*⁴, ZSY 厚 *heu*³, 旱 *hən*³), testifying that Yuè was not the cause (or not the primary cause) of tone *4 > 6 in Samheung SM. Hakka, on the other hand, does show some similarities, with ZSH 厚 *heu*⁵ also in tone C, and 旱 *hən*¹ also in tone 1.

⁷⁰ Not demonstrated in Table 1 are Western Guǎngdōng Mǐn and Hǎinán Mǐn, where the situation is rather complex. See, e.g., Lín 林 & Chén 陳 (1996), Lín Lúnlún 林倫倫 (2006), Dài 戴 et al. (1994), Liú Xīnzhōng 劉新中 (2006), Xīn Shìbiāo 辛世彪 (2013).

Table 1. Tone categories in Samheung SM and some other SM varieties

	Proto-SM		Zhāngzhōu ZzSM		Samheung ZzSM	
	**B	**C	**B	**C	**B	**C
**−VCE, SONR	*4	*5	6	5	6 (or 1)	5
**−VCE, OBST	*3		3		3	
** + VCE, SONR		*6	6	6		6 (or 1)
** + VCE, OBST	*4					
	Quánzhōu QzSM		Teochew GHSM			
	**B	**C	**B	**C		
**−VCE, SONR	4	5	4	5		
**−VCE, OBST	3		3		COL:6 LIT:4	
** + VCE, SONR						
** + VCE, OBST				4		

The following are some examples. Quánzhōu QzSM has merged tones 5 and 6, whereas Samheung ZzSM and the others have kept tones 5 and 6 apart.

- 路 ‘road’ Proto-SM tone *6: Samheung ZzSM *lɔ*⁶ LC, (*lɔ*¹ ~ *lɔ*⁶ GR,) Zhāngzhōu ZzSM *lɔ*⁶, Teochew GHSM *lou*⁶ vs. Quánzhōu QzSM *lɔ*⁵
- 舊 ‘old (inanimate)’ Proto-SM tone *6: Samheung ZzSM *ku*⁶ LC, Zhāngzhōu ZzSM *ku*⁶, Teochew GHSM *ku*⁶ vs. Quánzhōu QzSM *ku*⁵
- 吐 ‘vomit’ Proto-SM tone *5: Samheung ZzSM *tʰɔ*⁵ LC, Zhāngzhōu ZzSM *tʰɔ*⁵, Teochew GHSM *tʰou*⁵, Quánzhōu QzSM *tʰɔ*⁵
- 鋸 ‘saw (n.)’ Proto-SM tone *5: Samheung ZzSM *ku*⁵ LC, *ki*⁵ GR, Zhāngzhōu ZzSM *ki*⁵, Teochew GHSM *ku*⁵, Quánzhōu QzSM *ku*⁵

Samheung ZzSM has merged tone 4 into tone 6, similar to Zhāngzhōu ZzSM. Samheung has the additional change of shifting some tone 6 syllables to tone 1 (see below).

- 兩 ‘two’ Proto-SM tone *4: Samheung ZzSM *neu*⁶ GR, Zhāngzhōu ZzSM *lɔ*⁶, vs. Teochew GHSM *no*⁴, Quánzhōu QzSM *nŋ*⁴
- 遠 ‘far’ Proto-SM tone *4: Samheung ZzSM *hui*¹ LC, Zhāngzhōu ZzSM *hui*⁶, vs. Teochew GHSM *hŋ*⁴, Quánzhōu QzSM *hŋ*³ [sic]
- 坐 ‘sit’ Proto-SM tone *4: Samheung ZzSM *tsai*⁶ LC, Zhāngzhōu ZzSM *tse*⁶, vs. Teochew GHSM *tso*⁴, Quánzhōu QzSM *tsə*⁴

The next phenomenon to be discussed is the shifting of some tone 6 morphemes to tone 1. Gāo Rán 高然 (2002: 116; 2018: 320) notices that some tone 1 morphemes in Samheung SM correspond with Middle Chinese “Tone 4” (and tone 4 in Samheung SM has merged into tone 6). Zhāng Zhènxīng 張振興 (1987: 43) compares this with Samheung Hakka; Hakka in general is well known for having many cases of tone 1 morphemes corresponding with Middle Chinese “Tone 4” morphemes (see, e.g., Xiè Liúwén 謝留文 2003: 78–90, and references therein). The question is whether this phenomenon in Samheung SM is an influence from Hakka or not. The following are some examples in tone 1 in both Hakka and Samheung SM, but in other tones in other nearby Mǐn and Yuè varieties. These trace to Proto-SM tone *4, Proto-EM tone *6 (< Proto-Mǐn tone **B), or Middle Chinese “tone 4” (i.e. Middle Chinese tone B with voiced initial). Most of these Mǐn cases have an obstruent initial, but some do not, e.g. 有 ‘have / exist’ (the tone *4/*6 indicates that the initial was voiced, so the initial of 有 was not a glottal stop).

Proto-SM tone *4, [Proto-EM tone *6,] {Middle Chinese “tone 4”}:⁷¹

- 被 ‘quilt’: {ZSH *p^{hi}l*, Moiye Hakka *p^{hi}l*,} Samheung ZzSM *p^{hi}l* ~ *p^{hi}l*⁶ GR, (*p^{hi}l*³ LC < Yuè tone category,) Zhāngzhōu ZzSM *p^hue*⁶, Teochew GHSM *p^hue*⁴, [Longdu EM *puoi*⁶ LC, *p^huoi*⁶ ZL, *p^hoi*⁶ GR, Namlong EM *p^hoi*⁶ GR,] {Cantonese *p^hei*⁴, ZSY *p^hi*³}
- 動 ‘move’: {(ZSH *tun*⁵ < Yuè tone category,) Moiye *t^hun*¹,} Samheung ZzSM *ton*¹ LC, Zhāngzhōu ZzSM *tan*⁶, Teochew GHSM *tan*⁴, [Longdu EM *ten*⁶ LC] {Cantonese *ton*⁶, ZSY *ton*⁵}
- 坐 ‘sit’: {ZSH *ts^hɔ*¹, Moiye *ts^hɔ*¹,} Samheung ZzSM *tsei*¹ GR, *tsai*¹ ZZ, (*tsai*⁶ LC,) Zhāngzhōu ZzSM *tse*⁶, Teochew GHSM *tso*⁴, [Longdu EM *soi*⁶ LC, Namlong EM *sai*⁶ GR,] {Cantonese *ts^hɔ*⁴, ZSY *ts^hɔ*³}
- 咬 ‘bite’: {ZSH *ŋau*¹, Moiye *ŋau*¹,} Samheung ZzSM *ka*¹ GR/ZZ, Zhāngzhōu ZzSM *ka*⁶, Teochew GHSM *ka*⁴, [Longdu EM *ka*⁶ GR, Namlong EM *ka*⁶ GR,] {Cantonese *ŋau*⁴, ZSY *ŋau*³}
- 蟻 ‘ant’: {ZSH *ni*¹, Moiye *ni*¹,} Samheung ZzSM *hia*¹ GR/ZZ, Zhāngzhōu ZzSM *hia*⁶, Teochew GHSM *hia*⁴, [Longdu EM *ŋie*⁶ LC, *ŋie*⁶ ZL, *gie*⁶ GR, Namlong EM *gia*⁶ GR,] {Cantonese *ŋei*⁴, ZSY *ŋei*³}
- 有 ‘have / exist’: {ZSH *iu*¹, Moiye *iu*¹,} Samheung ZzSM *u*¹ GR, (*u*⁶ LC,) Zhāngzhōu ZzSM *u*⁶, Teochew GHSM *u*⁴, [Longdu EM *u*⁶ GR/ZL/LC, Namlong EM *u*⁶ GR,] {Cantonese *jəu*⁴, ZSY *ivu*³}

However, on closer inspection, there are differences. Xiè Liúwén 謝留文 (2003: 83–85) lists 48 Middle Chinese tone B morphemes which commonly have tone 1 in Hakka varieties. Amongst these, other than cognates of Proto-SM tone *4 discussed above, many are cognates of Proto-SM tone *3 (primarily ones with sonorant initials). In Samheung SM, other than one single case of 買 *be*¹ ‘buy’, there are no cases of Proto-SM tone *3 morphemes becoming tone 1. The following are some examples.

Proto-SM tone *3, [Proto-EM tone *3,] {Middle Chinese “tone 4”}:

- 買 ‘buy’: {ZSH *mai*¹, Moiye Hakka *mai*¹,} Samheung ZzSM *be*¹ ZZ, (*be*³ GR, *me*⁶ LC,) Zhāngzhōu ZzSM *be*³, Teochew GHSM *boi*³, [Longdu EM *me*³ LC, *be*³ GR, Namlong EM *be*³ GR,] {Cantonese *mai*⁴, ZSY *mai*³}
- 馬 ‘horse’: {ZSH *ma*¹, Moiye *ma*¹,} Samheung ZzSM *mɛi*³ LC, *mɛi*³ ~ *bei*³ GR, Zhāngzhōu ZzSM *be*³, Teochew GHSM *be*³, [Longdu EM *ma*³ LC/ZL, *ba*³ GR, Namlong EM *ba*³ GR,] {Cantonese *ma*⁴, ZSY *ma*³}
- 軟 ‘soft’: {ZSH *ŋiɔn*¹, Moiye *ŋiɔn*¹,} Samheung ZzSM *nui*³ LC/GR, Zhāngzhōu ZzSM *luĩ*³, Teochew GHSM *nun*³, [Longdu EM *nien*³ LC/GR, Namlong EM *niən*³ GR,] {Cantonese *jyn*⁴, ZSY *ŋyn*³}

⁷¹ Other known examples of Hakka tone 1 matching with Samheung SM tone 1 (< Proto-SM tone *4): 弟 ‘younger brother’ ZSH *t^hai*¹, Samheung SM *ti*¹ ~ *ti*⁶ GR; 斷 ‘sever’ ZSH *t^hɔn*¹, Samheung SM *tui*¹ GR; 丈 ‘parent’s sister’s husband’ ZSH *ts^hɔŋ*¹, Samheung SM *tiu*¹ GR; 上 ‘ascend’ ZSH *sɔŋ*¹, Samheung SM *tsiu*¹ ~ *tsiu*⁶ GR; 旱 ‘drought’ ZSH *hɔn*¹, Samheung SM *ua*¹ LC. There are also many cases where Hakka has tone 1, but Proto-SM tone *4 has not shifted to tone 1 in Samheung SM, e.g. 兩 ‘two’ Moiye Hakka *liɔŋ*¹, (ZSH *liɔŋ*³) Samheung SM *neu*⁶ GR; 近 ‘near’ ZSH *k^hiun*¹, Samheung SM *kin*⁶ LC; 倚/企 ‘stand’ ZSH *k^hi*¹, Samheung SM *k^hia*³ LC (< ZSY tone).

語 ‘language’: {(ZSH ηi^3), Moiyen $j i^1$ }, Samheung ZzSM ηi^3 LC, Teochew GHSM gu^3 , [Longdu EM ηi^3 LC/ZL, Namlong EM $nien^3$ GR,] {Cantonese jy^4 , ZSY ηy^3 }

禮 ‘ritual’: {ZSH li^1 , Moiyen li^1 }, Samheung ZzSM le^3 LC/GR, Teochew GHSM loi^3 , [Longdu EM le^3 ZL/GR, le^3 LC] {Cantonese lei^4 , ZSY lei^3 }

Hakka was not the primary driver of this change in Samheung SM. If this change in Samheung SM was driven by bilinguals of Samheung SM and Hakka, the Hakka tone 1 morphemes would affect both Samheung SM tone 3 (< tone *3) and tone 6 (< tone *4) morphemes to a similar degree. Also note that there are many tone 1 morphemes in Samheung SM which are not in tone 1 in Hakka. (See also, e.g., Sagart (2001)’s list of such morphemes in Hakka which have tone 3 when the initial is sonorant, and tone 5 when the initial is obstruent.) These cases of Samheung SM tone 1 are obviously not influenced by Hakka. The following are some examples. The first three of the following examples show that morphemes with a nasal or liquid initial can also shift to tone 1 in Samheung SM.

Proto-SM tone *4, [Proto-EM tone *6,] {Middle Chinese “tone 4”}:

- 五 ‘five’: {ZSH η^3 , Moiyen Hakka n^3 }, Samheung ZzSM η^1 ZZ, $\eta\omega^1$ LC, $g\omega^1$ GR, Zhāngzhōu ZzSM $g\omega^6$, Teochew GHSM $\eta\tilde{u}^4$, [Longdu EM η^6 LC/ZL, (Namlong EM η^3 GR < Yuè tone category,)] {Cantonese η^4 , ZSY η^3 }
- 老 ‘old (animate)’: {ZSH lau^3 , Moiyen lau^3 }, Samheung ZzSM $lau^1 \sim l\bar{e}u^1$ GR, ($l\bar{e}u^6$ LC, lau^6 ZZ,) Zhāngzhōu ZzSM lau^6 , Teochew GHSM lau^4 , [Longdu EM lau^6 GR, ($l\bar{e}u^5$ LC, $l\bar{e}u^3$ ZL,) (Namlong EM $l\bar{e}u^2$ GR,)] {Cantonese lou^4 , ZSY lou^3 }
- 卵 ‘egg’: {ZSH $l\bar{a}n^3$, Moiyen $l\bar{a}n^3$ }, Samheung ZzSM nui^1 GR/LC, Zhāngzhōu ZzSM $lu\bar{i}^6$, Teochew GHSM $nu\eta^4$, [(Longdu EM lan^3 LC, $l\bar{e}n^3$ ZL,)] {Cantonese $l\bar{a}n^{4-3}$, ZSY $l\bar{a}n^3$ }
- 遠 ‘far’: {ZSH ien^3 , Moiyen ian^3 }, Samheung ZzSM hui^1 LC/GR, Zhāngzhōu ZzSM $hu\bar{i}^6$, Teochew GHSM $h\eta^4$, [Longdu EM $\phi\bar{e}n^6$ GR, ωn^6 ZL, ($fu\bar{e}n^2$ LC,) Namlong EM $\phi\bar{e}n^6$ GR,] {Cantonese jyn^4 , ZSY yn^3 }
- 是 ‘be’: {ZSH sz^5 , Moiyen sz^5 }, Samheung ZzSM si^1 GR, (si^6 LC,) Zhāngzhōu ZzSM si^6 , Teochew GHSM si^4 , [Longdu EM si^6 LC/ZL/GR, Namlong EM si^6 GR,] {Cantonese si^6 , ZSY si^3 }
- 後 ‘behind’: {ZSH heu^5 , Moiyen heu^5 }, Samheung ZzSM au^1 GR/LC, Zhāngzhōu ZzSM au^6 , Teochew GHSM au^4 , [Longdu EM $\bar{e}u^6$ LC, au^6 ZL/GR, Namlong EM au^6] {Cantonese heu^6 , ZSY heu^5 }

This tone 6 > 1 change is primarily an internal change within Samheung SM. The tone [ɿ] is the sandhi tone of tone 6 [ɿ], and [ɿ] has the same value as tone 1 [ɿ]. Tone 1 [ɿ] remains [ɿ] in tone sandhi contexts. These cases of tone 6 > 1 are probably simply cases where the sandhi tone [ɿ] of tone 6 has been reinterpreted as tone 1 [ɿ] underlyingly. In some cases Hakka might have helped with the process, especially with 買 ‘buy’ Samheung SM be^1 ZZ, which is not from Proto-SM tone *4. Nonetheless, Hakka was not the primary driver of the tone 6 > 1 change in Samheung SM. There are also some cases of tone 6 from Proto-SM tone *6 becoming tone 1. These cases in Samheung SM are definitely not influenced by Hakka, as ZSH has tone 5 [ɿ] in the cognates. These cases in Samheung SM are inspired by other cases of tone 6 > 1 [ɿ] within Samheung SM, and perhaps also

helped by the cognates in ZSY and Hafong having the same tone value (tone 5 [ɿ]). This is the case with the following examples, and also the last two examples above.⁷²

Proto-SM tone *6, [Proto-EM tone *6,] {Middle Chinese “tone 6”}:

- 病 ‘sick’: {ZSH *p^hiaŋ⁵*, Moiyeŋ Hakka *p^hiaŋ⁵*,} Samheung ZzSM *pɛi¹* GR, (*pai⁶* LC,) Zhāngzhōu ZzSM *pē⁶*, Swatow GHSM *pē⁶*, Jiēyáng GHSM *pē⁶*, [Longdu EM *paŋ⁶* LC/ZL/GR] {Cantonese *pɛŋ⁶*, ZSY *piəŋ⁵*}
- 事 ‘affair’: {ZSH *sz⁵*, Moiyeŋ *sz⁵*,} Samheung ZzSM *si¹* ZZ, *su¹* ~ *su⁶* GR, (*su⁶* LC,) Swatow GHSM *se⁶*, Jiēyáng GHSM *su⁶*, [Longdu EM *su⁶* LC/ZL, Namlong EM *su⁶*,] {Cantonese *si⁶*, ZSY *si⁵*}
- 汗 ‘sweat’: {ZSH *hən⁵*, Moiyeŋ *hən⁵*,} Samheung ZzSM *kua¹* ~ *kua⁶* GR, (*kua⁶* LC,) Teochew GHSM *kũā⁶*, [Longdu EM *han⁶* LC/ZL, *kan⁶* GR, Namlong EM *kan⁶*,] {Cantonese *hən⁶*, ZSY *hən⁵*}
- 外 ‘outside’: {ZSH *ŋɔi⁵*, Moiyeŋ *ŋɔi⁵*,} Samheung ZzSM *ŋua¹* ZZ, (*ŋua⁶* LC, *gua⁶* GR,) Swatow GHSM *gua⁶*, Jiēyáng GHSM *gua⁶*, [Longdu EM *ŋɛ⁶* ZL, *ŋe⁶* LC, *gie⁶* GR, Namlong EM *gia⁶*,] {Cantonese *ŋɔi⁶*, ZSY *ŋɔi⁵*}

We now turn to the phonetic tone values in Samheung SM. In contrast to its tone categories, which resemble ZzSM (see above), the tone values of Samheung SM resemble Eastern Guǎngdōng Mǐn. (See §4.2.4 on how having some GHSM traits is not contradictory to the claim that Samheung SM is ZzSM.) Both Bodman (1988: 411–412) and Lín 林 & Chén 陳 (1996: 187) [LC] note the striking similarities between the tone values in Samheung SM and Teochew–Swatow SM. This is especially the case with the isolate tones (non-sandhi tones). The level of similarity is lower with the sandhi tones, but the resemblance is still remarkable. The tone values of Samheung SM and Swatow (Shàntóu) SM are presented in Table 2 (data from LC: 19, 187). The tones in Haihong (Hǎifēng) SM are in some ways even more similar. For comparison, the tone values in some other SM varieties are also given. (Diànbái: Dài Yóuwǔ 戴由武 et al. 1994: 11; Haihong, Zhāngzhōu, and Quánzhōu: Chén Bǎoxián 陳寶賢 2010; Luichew: Lín Lúnlún 林倫倫 2006: 10–11; Wénchāng: Woon Wee Lee 雲惟利 1987: 14–31.)

⁷² The tone 6 > 1 development in Samheung SM is different from that in Western Guǎngdōng Mǐn and Hǎinán Mǐn. In Samheung SM, the tone 6 morphemes that have shifted to tone 1 are mostly Proto-Mǐn tone *4 morphemes, and a few are tone *6 morphemes. The situation in Western Guǎngdōng and Hǎinán Mǐn is the opposite. Looking at the situation in Diànbái SM (Dài Yóuwǔ 戴由武 et al. 1994), Luichew SM (Lín Lúnlún 林倫倫 2006), and Wénchāng SM (Woon Wee Lee 雲惟利 1987), there are many cases of tone 1 corresponding with Middle Chinese “tone 6”, but very few cases corresponding with Middle Chinese “tone 4”.

Table 2. Tone values in Samheung SM and some other SM varieties

	**A		**B		**C		**D	
	1	2	3	4	5	6	_{ptk}	_?
Isolate:								
Samheung	↑	↓	↓	(>6)	↓	↓	↓	↓
Swatow	↑	↓	↓	↓	↓	↓	↓	↓
Haihong	↑	↓	↓	↓	↓	↓	↓	↓
Zhāngzhōu	↑	↓	↓	(>6)	↓	↓	↓	↓
Quánzhōu	↑	↓	↓	↓		↓	↓	↓
Diànbái(L)	↑ / ↓	↓	↓	(>6)	↓	↓	↓	↓
Diànbái(H)	↑ / ↓	↓	↓	(>6)	↓	↓	↓	↓
Luichew	↓	↓	↓	↓	↓	↓	↓	↓
Wénchāng	↑	↓	↓ ²	(>8)	↓	(>8)	↓ ^(?)	↓ ²
Sandhi:								
Samheung		LL	L	(>6)	↓	↓	↓	↓
Swatow	LL	LL	LL	LL	↓	↓	↓	↓
Haihong	↓	LL	LL ~ LL	↓	↓	↓	↓	↓
Zhāngzhōu	↓	↓	LL	(>6)	↓	↓	↓	↓
Quánzhōu		↓	LL		↓	↓	↓	↓
Diànbái								
Luichew	↓		LL /		↓ /			
Wénchāng			LL		↓			LL

Notes: Blank means no sandhi tone, e.g. Diànbái SM has no tone sandhi. Diànbái SM tone 1b [ɿ]/[ɿ] came from: a) tone *7 syllables that have lost their plosive codas, b) some tone *5 syllables, and c) some tone *1 syllables (Dài 戴 et al. 1994: 10–11). Diànbái(L) is Diànbái Líhuà 黎話 (the default Diànbái Mǐn variety in this article), and Diànbái(H) is Diànbái Hǎihuà 海話. Luichew SM tones 3 and 5 undergo tone sandhi in some environments, and retain their non-sandhi tones in other environments.

5. Interactions amongst ZSM varieties, and lexical ties with NEM

There are the questions of how much and what types of interactions existed amongst the three ZSM varieties. The following are some observations.

5.1 Common calques vs. direct borrowings

Some lexical traits that are shared amongst the ZSM varieties can be attributed to them having applied similar strategies when calquing Yuè terms. For instance, there are Longdu EM 男囡 *nam² kien³* GR, *nam²⁻⁶ kien³* CSH, Namlong EM 男囡 *nam² kien³* GR, and Samheung SM 男囡 *nam² kia³* GR ‘boy’. The ZSM varieties have calqued ZSY or Cantonese 男仔 *nam² tsei³* (male DIM) ‘boy’, substituting the Yuè morpheme 仔 *tsei³* (e.g. Kao 高 2007, Kwok 郭 2016) with their native Mǐn morpheme 囡 *kien³ / kien³ / kia³*, which is similarly a word for “son” and a diminutive suffix (see, e.g., Chén Zhōngmǐn 陳忠敏 1999; Shào 邵 & Gān 甘 2002; Tsao 曹 & Liu 劉 2008 on Mǐn diminutives). (Typical Mǐn words for “boy” are, e.g., Teochew SM 丈夫囡 *ta¹ pou¹ kiā³*, Taiwanese SM 查埔囡仔 *{ts~t}a¹⁻⁶ pɔ¹⁻⁶ gin³⁻¹ a³*, Fúzhōu EM 丈夫囡 (唐哺仔) [toun¹ LL muo¹ ɿa¹], and Jiàn’ōu NM 丈夫囡仔 *tiɔŋ⁶ mu⁸ kyin³ tsie³*, with 丈夫 ‘male’ followed by DIM or DIM DIM.) In another example, there are Longdu EM 熊儂 *hoŋ² neŋ²* GR, Namlong EM 熊儂 *hoŋ³ neŋ²* GR, and Samheung SM 熊儂 *hoŋ²⁻⁷ naŋ²* GR ‘bear’. In each case they have calqued a Yuè word: ZSY 熊人(婆) *hoŋ² jen² (p^hɔ²)* GR (bear person (grandma)) ‘bear’, or Cantonese 熊人 *hoŋ² jen²⁻³* (bear person) ‘bear’ (left-headed compound), substituting the Yuè morpheme 人 *jen²* ‘person’ with the Mǐn morpheme 儂 *neŋ² / neŋ² / naŋ²* ‘person’. (熊 ‘bear’ Proto-EM / Proto-SM *him²; ZSM 熊 *hoŋ² / hoŋ³ [ɿ] / hoŋ²* is a

literary pronunciation, cf. Middle Chinese *fiuŋ*⁴, ZSY 熊 *hoŋ*² [ŋ].) As far as we know, “bear” expressed as 熊人 (bear person) is not found in other Mǐn varieties.⁷³

The three ZSM varieties also likely had some direct contacts with each other without going through the intermediary of ZSY. Perhaps some of these interactions occurred rather early, when Mǐn was still the majority in the Heungshan Islands, i.e. when Yuè did not have as much influence. In §2.5.2 and §3.5.2 we have seen how Longdu and Namlong EM have some SM-looking lexical items. (These would have come from Samheung SM, or from another SM variety, a variety spoken by SM fisherfolk visiting Zhōngshān.) In the other direction, does Samheung SM have some EM traits? The 翁 *aŋ*¹ ‘grandfather’ morpheme (see §5.2) is one EM trait in Samheung SM. Another EM influence in Samheung SM can be seen in the morphemes 鼻 ‘nose’ and 艾 ‘artemisia’ (Proto-SM 鼻 **p^{hi}i⁶ ~ *p^{hi}i⁶*, 艾 **ŋhiã⁶*). For these morpheme, LC give the forms 鼻 *p^{hi}i⁵* and 艾 *hia⁵*.⁷⁴ This tone 5 [ɿ] is only possible in native Mǐn morphemes, not in Yuè loans. The tone [ɿ] is also not a sandhi tone of the other tones. So far we have not encountered other cases of expected tone 6 morphemes pronounced in tone 5 in Samheung SM. These two cases in Samheung SM are probably direct influences from Longdu and/or Namlong EM, cf. Longdu EM 鼻 *p^{hi}i⁵* ZL, 艾 *ŋie⁵* LC, Namlong EM 鼻 *p^{hi}i⁵* GR (Proto-EM 鼻 **p^{hi}i⁵*, 艾 **ŋyai⁵*). It is a common trait in EM for Proto-Mǐn tone ***C* morphemes with a voiced aspirated initial to be in tone 5 instead of tone 6 (Proto-Mǐn 鼻 ***bh-^c*, 艾 ***ŋh-^c*; see discussions in §2.1.4 and §3.1.4). This does not occur in the coastal SM varieties, which Samheung SM is a member of.

Another possibility is that this confusion of tones 5 and 6 is caused by the influence of Heungshan Yuè and ZSH, which do not have a distinction between tones 5 and 6. However, we do not see other cases of confusion between tones 5 and 6 in Samheung SM. Given how Yuè-ised Samheung SM is in general, one would expect many more cases of confusion between tones 5 and 6 if this is one aspect that Samheung SM is open to Yuè-influence. The tone 5 in Samheung SM 鼻 *p^{hi}i⁵* and 艾 *hia⁵* is more likely an influence from Longdu and/or Namlong EM.

5.2 “Yesterday”

We shall now discuss two lexical items, “yesterday” (§5.2) and “grandfather” (§5.3). Together they link Longdu and Namlong EM with one specific part of the NEM area in northeastern Fújiàn. Samheung SM shares with Longdu and Namlong EM the use of 翁 *aŋ*¹ ‘grandfather’, but not “yesterday”. (Samheung SM has a relatively normal-looking SM word 昨暝昏 *tsa¹ b^{ei}i²⁻⁶ hui¹* GR ‘yesterday’, similar to, e.g., Taiwanese SM 昨昏 *tsa¹⁻⁶ hŋ¹* ‘yesterday’. Samheung SM 昨暝昏 *tsa¹ b^{ei}i²⁻⁶ hui¹* ‘yesterday’ is discussed again at the end of this §5.2.)

The Longdu word for “yesterday” is briefly mentioned, as a side comment, at the end of Akitani 秋谷 (2022a)’s §3 (: 21). The word for “yesterday” in Longdu EM is *foŋ⁶ muø⁶* AE, [sɔŋ⁶ mɔŋ] JS ([ɿ] is tone 6), *sɔŋ⁶ buo⁵* CSH, *soŋ⁵ bə⁵* GR. Namlong EM has a very similar *soŋ³ bɔ⁶* GR ‘yesterday’. Similar forms can be found

⁷³ The variety of ZSH documented by GR also has a Yuè-like word: 熊人 *fuŋ² gin²* (bear person) ‘bear’. On the other hand, the variety of ZSH documented by GJ has a more-typical Hakka word: 熊家嫲 *iuŋ² ka¹ ma²* (bear household female) ‘bear’.

⁷⁴ On the other hand, ZZ gives the form 鼻 *pi⁶* ‘nose’ with an expected tone 6, and GR gives 鼻 *pi¹* with the common change of tone 6 > tone 1 in Samheung SM (§4.3). As for the initial, 鼻 ‘nose’ is usually *p^h-* in SM varieties, but *p-* is also found in some SM varieties, e.g. Xiàmén literary *pi⁶*. Alternatively, the unaspirated initial in Samheung SM *pi⁶* ZZ / *pi¹* GR is a Yuè influence, cf. ZSY 鼻 *pi⁵*, Cantonese *pei⁶*. (ZSH has 鼻 *p^{hi}i⁵*.) Data for 艾 ‘artemisia’ are not found in the other Samheung data sources.

in Níngdé, Zhōuníng, and Fú'ān in northeastern Fújiàn. Akitani gives the following examples: Early Fú'ān EM < sou² mu⁶ > $\theta o^2 mu^6$ (Ibáñez 1941), Fú'ān Mùyáng 福安穆陽 EM $\theta a\eta^2 mu^6$, Zhōuníng Xiáncūn 周寧咸村 EM $\theta a\eta^2 mu^6$.⁷⁵ There is also $sen^2 mu^6$ in Níngdé Jiūdū 寧德九都 EM, with the same second morpheme (while the first morpheme sen^2 is said to be 前 ‘preceding’). According to Akitani, amongst Sinitic languages, this form for “yesterday” is only found in Longdu and the NEM varieties around Fú'ān / Zhōuníng.

(Not including the morpheme 前 ‘preceding’ in Níngdé Jiūdū,) here we refer to all these forms informally as $*s\acute{o}k^8 pu^6$.⁷⁶ (The tone 6 of $*pu^6$ here is important; below we will talk about another form $*s\acute{o}k^8 pu^1$ with pu^1 in tone 1.) So far we have found $*s\acute{o}k^8 pu^6$ ‘yesterday’ in one other location: Pútíán PXM [ɬəŋ⁸ mɔu⁶] (tones 8 and 6; $p-$ > $m-$ through normal lenition rules) (Chang Song-Hing 張雙慶 2005: 190).⁷⁷ The $*s\acute{o}k^8 pu^6$ forms link Longdu and Namlong with Fú'ān and Pútíán areas (ignoring the Longdu forms $s\acute{o}\eta^6 buo^5$ CSH and $s\acute{o}\eta^5 b\acute{o}^5$ GR for the moment). Logically speaking, this does not infer that the Mǐn ancestors of Longdu and Namlong must have come from around Fú'ān or Pútíán; one possibility is that the area where $*s\acute{o}k^8 pu^6$ was used was significantly larger in the past, and the Mǐn ancestors of Longdu and Namlong that brought along the word $*s\acute{o}k^8 pu^6$ came from somewhere not that close to Fú'ān or Pútíán. Nonetheless, the chances are very high that the Mǐn ancestors of Longdu and Namlong did in fact come from somewhere in northeastern Fújiàn; it is probably too much of a coincidence that $*s\acute{o}k^8 pu^6$ ‘yesterday’ is found in Zhōngshān, Pútíán area, and Fú'ān area.

Akitani 秋谷 (2022a: 21) renders $*s\acute{o}k^8 pu^6$ (for his Longdu, Early Fú'ān, Fú'ān Mùyáng, and Zhōuníng Xiáncūn examples) with an “etymology-unclear square” for the first syllable, and 暮 ‘twilight / dusk’ for the second syllable. Akitani has a footnote specifically saying that the second syllable is not 晡 ‘evening’.⁷⁸ The tones do not match: Zhōuníng Xiáncūn NEM [θəŋ⁶ mu⁶] ‘yesterday’ with /-Cu⁶/ in tone 6 vs. 半晡 [puəŋ⁶ nu¹] ‘dusk’, 冥晡 [maŋ⁶ ŋu¹] or 冥晡頭 [maŋ⁶ ŋu¹ lau¹] ‘evening’ with 晡 /pu¹/ in tone 1. Akitani’s footnote was perhaps a reaction to how Zhōuníng 周寧 (1993) and Fú'ān 福安 (1999) render (the urban varieties of) Zhōuníng 周寧 EM ($s\acute{o}k^7 pu^1$ >) $sum^2 mu^1$ and Fú'ān 福安 EM $sak^7 mu^1$ ‘yesterday’ respectively as 昨晡 (yester evening). Notice how the second syllable is in tone 1. This tone 1 is what we would expect from 晡 (Proto-EM tone 1). Here we refer to

⁷⁵ Akitani 秋谷 (2022a: 21) renders this as < [θəŋ³³ mu⁶] >. Akitani 秋谷 (2018: 391) gives both [θəŋ³³ mu⁶] and [θəŋ³³ mu³³], with ³³ being the phonetic value [ɬ] and ⁶ being the tone category. Akitani is being very cautious in not giving the tone category of [θəŋ], perhaps because the etymon of this is unclear. The rendition of $\theta a\eta^2 mu^6$ here is our interpretation of what the underlying tones would be, if normal tone sandhi rules were applied (which this word need not have). Looking at the regular disyllabic tone sandhi chart of Xiáncūn EM in Akitani 秋谷 (2018: 163), the only possibility for [³³ ³³] is tone 2 followed by tone 6 [ɬ + ɬ] > [ɬ ɬ].

⁷⁶ This informal reconstruction $*s\acute{o}k^8 pu^6$ also takes into account the segments in the forms Zhōuníng EM ($s\acute{o}k^7 pu^1$ >) $sum^2 mu^1$ ‘yesterday’ and Fú'ān EM $sak^7 mu^1$. The morpheme 昨 ‘yester’ does not exist in Akitani 秋谷 (2018)’s reconstructions of Proto-Níngdé and Proto-EM. The $*s-$ initial comes from the fact that Zhōuníng EM has a /s-/ /θ-/ contrast, and this is a retentive trait (: 709–710). The $*ɔ$ comes from the ease of $*ɔ$ becoming a or $\acute{a}$ in contrast to a reconstruction with $*a$ or $*\acute{a}$ in the first syllable. (There is also the case of 各 $*k\acute{o}ʔ$ (as in 各農 ‘other people’) becoming $k\acute{a}ʔ$ irregularly in Xiáncūn EM; Akitani 秋谷 2018: 637.) The final in the second syllable is reconstructed as $*-uo$ by Akitani 秋谷 (2018: 511–512, 710–712).

⁷⁷ <https://hinghwa.cn> 興化語記 gives another Pútíán PXM form: [ɬəp¹ mɔu¹] (tones 8 and 5).

⁷⁸ The morpheme 晡 (Middle Chinese pu^4) means “late afternoon” in Classical Chinese, more specifically the 申 *Shēn* division of the day (3 to 5 p.m.).

these tone 1 “yesterday” forms informally as *sək⁸pu¹.⁷⁹ Other than the *sək⁸pu¹ forms in the aforementioned NEM varieties of Fú’ān and Zhōuníng, in the wider region there are a few Shē varieties with forms that are very close to *sək⁸pu¹: Fú’ān 福安 Shē t^hɔm⁶ mu¹, Jǐngníng 景寧 Shē t^hɔm⁶ pu¹ (in Zhèjiāng to the north), Luóyuán 羅源 Shē t^ha⁶ pu¹ (south of Níngdé). The direction of borrowing was perhaps from NEM to Shē, given that the Shē varieties are strongly influenced by the dominant local Sinitic varieties wherever Shē people move to. However, the reverse is not impossible, given that the morpheme 晡 pu¹ is also widely used in Shē and Hakka varieties in words for “yesterday” and “today”.⁸⁰ For instance, ZSH has 參晡日 ts^ham¹ pu¹ ɲit⁷ ~ 秋晡日 ts^hiu¹ pu¹ ɲit⁷ ‘yesterday’, 今晡日 kim¹ pu¹ ɲit⁷ ‘today’.

What is the relationship between *sək⁸pu¹ and *sək⁸pu⁶? Words for “yesterday”, “today”, and “tomorrow” are often irregular cross-linguistically. English is an example, with each of these three words containing a morpheme which is nowadays not productive. These terms are highly irregular in Japonic, e.g. Okinawan tfinū ‘yesterday’, tfū ‘today’, atfa ‘tomorrow’ (and asati ‘day after tomorrow’). In Cantonese, both k^hem²-jet⁸ ~ ts^hem²-jet⁸ ‘yesterday’ and t^hɪŋ¹-jet⁸ ‘tomorrow’ begin with a prefix with highly-restricted usage (i.e. near-cranberry morph; see further discussions in footnote 81). In the NEM region, Níngdé Hǔpèi 寧德虎淚 EM has irregular tone sandhi in the words 今早 kin¹ na³ ‘today’ ([ɿ ɿ] > [ɿɿ ɿɿ]) and 明早 maŋ² na³ ‘tomorrow’ ([ɿ ɿ] > [ɿɿ ɿɿ]) (Akitani 秋谷 2018: 75). Words like “yesterday”, “today”, and “tomorrow” are highly susceptible to irregularities. We think *sək⁸pu⁶ is a word for “yesterday” with irregular tones, of which the origin is the etymologically transparent *sək⁸pu¹ 昨晡 (yester evening). This irregular sound change from *pu¹ to *pu⁶ would be rather old, as this is shared by some of the aforementioned Mǐn varieties in the Fú’ān area, Pútián area, and Longdu and Namlong in Zhōngshān. The Longdu forms sɔŋ⁶ buo⁵ CSH and sɔŋ⁵ bə⁵ GR would then be forms which have experienced further irregular changes in their tones.

Another facet of this irregularity is the added nasality in the medial consonants in many reflexes of *səkpu, especially with the initial *p-. We can think of two hypotheses. One hypothesis is that the nasality was simply “lenition” that happened with these frequently used words: the coda *-k was lenited first (became a sonorant), and then the nasality was spread rightward to the following initial. (Rightward assimilation is very common in northeastern Fújiàn. As for Longdu and Namlong, their *m* and *b* are not contrastive.) Another hypothesis is that there was previously another morpheme with nasal consonant(s) between *sək⁸ 昨 ‘yester’ and *pu¹ 晡 ‘evening’. Perhaps this was *maŋ² 冥/暝 ‘evening’, i.e. *sək⁸ maŋ² pu¹ 昨冥晡 (yester evening evening),⁸¹ similar to how Samheung SM has tsa¹ bei²⁻⁶ hui¹ 昨

⁷⁹ Chang Song-Hing 張雙慶 (2005: 190) records the following forms for “yesterday” in Fú’ān EM: [sɔʔɿ muɿ ja⁰] ~ [saŋɿ muɿ] ([ɿ] is tone 1). Another Mǐn data point with *sək⁸pu¹ is Dàtián SM tsɔʔ⁸ bu¹ (see §2.1.2 on the *ts-* ~ *s-* correspondence amongst Mǐn varieties).

⁸⁰ In a great number of Shē and Hakka varieties, the morpheme 晡 pu¹ is used in words for “yesterday” and “today”, and often also “day before yesterday” and “day after tomorrow”, but not “tomorrow”. Here are examples of “yesterday” with this morpheme in a few Hakka varieties: Wǔpíng 武平 Hakka ts^hia² pu¹, Chángtǐng 長汀 Hakka ts^hio² pu¹, Moiyen 梅縣 (Méixiàn) Hakka ts^hiu¹ pu¹ ɲit⁷ (< 日 ɲit⁷ ‘day’), Huidōng 惠東 Hakka ts^ham¹ pu¹ ɲit⁷.

⁸¹ Also cf. the case with Cantonese k^hem²jet⁸ 琴日 or ts^hem²jet⁸ 尋日 ‘yesterday’. Of these, ts^hem²jet⁸ 尋日 is older; Ball (1888: 9) records ‘yesterday’ as tsɔk⁸jet⁸ 昨日, which freely varies with ts^hem²met⁸. Nowadays, tsɔk⁸jet⁸ ~ tsɔk^{7b}jet⁸ 昨日 is only used in Standard Cantonese as a literary word, but 昨日 is still found in many Yuè dialects as the ordinary word for “yesterday”, e.g. ZSY

暝昏 (yester evening evening) ‘yesterday’. (Zhāngzhōu SM has [tsaŋ¹ hun¹] ‘yesterday’ (Chang 張 2005: 190), which looks like 昨暝昏 with the first two syllables coalesced into one syllable.) The morpheme *maŋ² 冥/暝 ‘evening’ would be a prime candidate for this hypothesised morpheme between *sək⁸ 昨 ‘yester’ and *pu¹ 晡, as this morpheme is quite commonly found in words for “yesterday” in EM varieties, e.g. Fúding NEM 昨暝月 [0a¹ maŋ¹ l ni² ɿ] (yesterday evening moon), Shòuníng NEM 昨暝 [syø² maŋ¹] (yester evening), Fúzhōu SEM [so¹ maŋ¹] (yester evening) (Chang 張 2005: 190), 昨暝 so² maŋ² (Féng 馮 1998: 415).

5.3 “Grandfather”

The next lexical item to be discussed is the morpheme 翁: Longdu *ɛŋ¹*, Namlong *ɔŋ¹*, Samheung *aŋ¹*. (All forms concerning ZSM 翁 and Heungshan Yuè 公 here are from GR unless otherwise indicated.) The morpheme 翁 means “elderly man” in Classical Chinese, and it has a wide range of usage in ZSM. The unmarked meaning of 翁 is “grandfather” in all three ZSM varieties. In Samheung SM, 翁 *aŋ¹* in isolation, or when prefixed by the “name” prefix 阿 *a¹-* (address term prefix), means “paternal grandfather”. In Longdu EM, 阿翁 *a²- ɛŋ¹* (NAME- grandpa) is “paternal grandfather”. In Namlong EM, although the word for “paternal grandfather” has been replaced by a Yuè term (阿公 *a⁵ koŋ⁷* [ɿ], cf. ZSY 阿公 *a⁵ koŋ¹* [ɿ] ‘paternal / maternal grandfather’), the morpheme 翁 *ɔŋ¹* is found in many related kinterms, e.g. 太翁 *t^hai⁵⁻⁷ ɔŋ¹* (great grandpa) ‘great^{≥1} grandfather’.

Words for “maternal grandfather”, and many other adult male kinterms, are also built from the root 翁. The morpheme 翁 is used in words depicting respectable men in general. The following are examples of 翁 used in kinterms and other human nouns.

Longdu EM: 阿翁 *a²-ɛŋ¹* (NAME-grandpa) ‘paternal grandfather’, 外翁 *gie⁶⁻² ɛŋ¹* (external grandpa) ‘maternal grandfather’, 翁老 *ɛŋ¹ lau²* (grandpa old) ‘great grandfather’, 家翁 *ka¹⁻² ɛŋ¹* (household grandpa) ‘husband’s father’, 太翁 *t^hai⁵⁻⁸ ɛŋ¹* (great grandpa) ‘ancestor’ (e.g. 拜太翁山 *pai⁵⁻² t^hai⁵⁻² ɛŋ¹ san¹* (worship great grandpa mountain) ‘sweeping ancestors’ graves), 老翁 *lau⁶⁻² ɛŋ¹* GR, [laːw¹ ʔæŋ] EG (old grandpa) ‘husband’

Namlong EM: 太翁 *t^hai⁵⁻⁷ ɔŋ¹* (great grandpa) ‘great^{≥1} grandfather’, 祖翁 *tsu³ ɔŋ¹* (ancestor grandpa) ‘ancestor’, 大官翁 *tia⁶⁻² kən¹⁻³ ɔŋ¹* (big mandarin grandpa) ‘husband’s father’, 舅翁 *ku⁶⁻³ ɔŋ¹* (mum.bro grandpa) ‘maternal uncle’, 舅翁 𠵿 *ku⁶⁻⁷ ɔŋ¹⁻² kien³* (mum.bro grandpa DIM) ‘wife’s younger brother’, 老翁 *lau² ɔŋ¹* (old grandpa) ‘husband’ or ‘old man’, 聾翁 *lɔŋ²⁻³ ɔŋ¹* (deaf grandpa)

tsək⁸ iet⁸ 昨日, Tungkun / Dōngguǎn *ts^hək⁸ zək⁸* 昨日 (Zhān 詹 et al. 2002: 396). In the nearby Szeyup (Sìyì) Yuè dialects, the word for ‘yesterday’ often includes the morpheme *^mban* 晚 ‘evening / night’, e.g. Toishan / Táishān [tam¹ ^mban¹], Kāipíng Chikǎn 開平赤坎 [tək¹ ^mban¹ (ʔgetɿ)] 昨晚(日) (yester evening (day)) (Zhān 詹 et al. 2002: 396). Cantonese *ts^hem² jət⁸* 尋日 ‘yesterday’ is likely originally *tsək⁸ man⁴ jət⁸* 昨晚日 (yesterday evening day). (Based on Cantonese phonotactic rules, either tone 2 or tone 4 would cause the initial in *ts^hem²* to be aspirated from the original *ts-*.) See also Lǐ Rúlóng 李如龍 (2007) for basically the same theory on Cantonese “yesterday”. Lǐ 李 (2007) also raises many examples of Wú and Mǐn varieties where ‘yesterday’ is expressed as “yester evening” or “yester evening day”; nearly all of these “evening” morphemes have a nasal coda, e.g. 暗 (*-m), 晚 (*-n), 冥 (*-ŋ). (That yesterday is expressed as “yester-evening” is paired with many examples of tomorrow being expressed as “to-morning”.) These facts help with the hypothesis that *sək-pu with a medial nasal consonant in the reflex was originally something like *sək-maŋ-pu (yester-evening-evening).

‘old deaf man’, 事頭翁 *su*⁶⁻² *t^hau*² *ɔŋ*¹ (matter head grandpa) ‘boss’, 包租翁 *pau*¹⁻⁷ *tsu*¹⁻⁷ *ɔŋ*¹ (bundle rent grandpa) ‘landlord’
 Samheung SM: (阿)翁 (*a*¹⁻)*an*¹ ((NAME-)grandpa) ‘paternal grandfather’, 外翁 *gua*¹ *an*¹ (external grandpa) ‘maternal grandfather’, 祖翁 *tsɔ*³⁻⁶ *an*¹ (ancestor grandpa) ‘ancestor’, 家翁 *kei*¹ *an*¹ (household grandpa) ‘husband’s father’, 老翁 *leu*¹ *an*¹ (old grandpa) ‘husband’, 新娘翁 *sin*¹ *niu*²⁻⁶ *an*¹ (new lady grandpa) ‘bridegroom’, 老蚊翁 [*lau*¹ *bən*¹ *an*¹] (old mosquito? grandpa) ‘elderly person’, 兩翁婆 *neu*⁶⁻¹ *ɐŋ*¹ *pɐu*² (two grandpa grandma) ‘husband and wife’, 無鬚翁 *bɐu*² *ts^hiu*¹ *an*¹ (no.have beard grandpa) ‘beardless (old) man’

The morpheme 翁 is also used in the names of many anthropomorphic entities related to traditional beliefs. Egerod (1956: 106) glosses Longdu /ʔéq/ [ʔæ:ŋ] as ‘worshipped ancestors’, and /khǔaj ʔéq/ [k^{wh}aj ʔæ:ŋ] as ‘worship spirits’ (1956: 128–133). The following are some other examples.

Longdu EM: 雷翁 *lai*² *ɐŋ*¹ ‘thunder deity’, 灶翁 *tsau*⁵⁻⁸ *ɐŋ*¹ ‘kitchen deity’, 土地翁 *t^hu*³ *ti*⁶ *ɐŋ*¹ ‘earth deity’
 Namlong EM: 雷翁 *lei*²⁻³ *ɔŋ*¹ ~ *lui*²⁻³ *ɔŋ*¹ ‘thunder deity’, 灶翁 *tsau*⁵⁻³ *ɔŋ*¹ ‘kitchen deity’, 涂地翁 *t^hu*² *ti*⁶⁻³ *ɔŋ*¹ ‘earth deity’, 天翁 *t^hiɛn*¹⁻⁷ *ɔŋ*¹ (sky grandpa) ‘god / heavens’, 月翁 *βət*⁷ *ɔŋ*¹ (moon grandpa) ‘moon’
 Samheung SM: 雷翁 *lui*²⁻⁶ *an*¹ ‘thunder deity’, 灶翁 *tsɐu*⁵⁻¹ *an*¹ ‘kitchen deity’, 月(光)翁 *gɔi*⁷ (*kui*¹) *an*¹ (moon (light) grandpa) ‘moon’, 關帝翁 *kən*¹ *te*⁵⁻¹ *an*¹ (Guān Lord grandpa) ‘Lord Guān (deity)’

The morpheme 翁 is also used as a suffix to indicate male sex on animal nouns.

Longdu EM: 豬翁 *ti*¹⁻²-*ɐŋ*¹ (swine-male) ‘boar’, 雞翁 *kic*¹⁻²-*ɐŋ*¹ (fowl-male) ‘rooster’
 Namlong EM: 豬翁 *ti*¹⁻³-*ɔŋ*¹ (swine-male) ‘boar’ (also 豬牯 *ti*¹⁻³-*ku*³ ‘boar’), 雞翁 *kia*¹⁻³-*ɔŋ*¹ (fowl-male) ‘rooster’ (but 牛牯 *ŋ*²⁻³-*ku*³ ‘ox’)
 Samheung SM: 豬翁 *tu*¹-*an*¹ (swine-male) ‘boar’, 雞翁 *ke*¹-*an*¹ (fowl-male) ‘rooster’, 馬兒翁 *bɛi*³⁻⁶-*zi*²-*an*¹ (horse-DIM-male) ‘tomcat’ [sic]

The morpheme 翁 is also used with many other nouns.

Longdu EM: 手指(頭)翁 *ts^hiu*³ *tsi*³ (*t^hau*²) *ɐŋ*¹ (hand digit (head) grandpa) ‘thumb’, 骹趾頭翁 *k^ha*¹⁻² *tsi*³ *t^hau*² *ɐŋ*¹ (leg digit head grandpa) ‘big toe’, 草花翁 *ts^hau*³ *φə*¹⁻² *ɐŋ*¹ (grass flower grandpa) a species of snake (perhaps *Xenochrophis* / *Fowlea piscator*)
 Namlong EM: 手指頭翁 *ts^hiu*³ *tsi*³⁻² *t^hau*² *ɔŋ*¹ (hand digit head grandpa) ‘thumb’, 骹趾頭翁 *k^ha*¹⁻³ *tsi*³⁻² *t^hau*² *ɔŋ*¹ (leg digit head grandpa) ‘big toe’, 沙翁 *sia*¹⁻³ *ɔŋ*¹ (sand grandpa) ‘sand’, 翁囡 *ɔŋ*¹⁻⁷ *kien*³ (grandpa DIM) ‘doll’
 Samheung SM: 稱頭翁 *ts^hin*⁵⁻¹ *t^hɐu*²⁻⁶ *an*¹ ‘thumb’, 骹稱頭翁 *k^ha*¹ *ts^hin*⁵⁻¹ *t^hɐu*²⁻⁶ *an*¹ ‘big toe’

One observation is that the use of the morpheme 翁 *ɐŋ*¹ / *ɔŋ*¹ / *an*¹ in the ZSM varieties overlap to a large degree with the morpheme 公 *koŋ*¹ in ZSY. Similar to how the ZSM varieties use Mǐn 儂 *nɛŋ*² / *nɔŋ*² / *naŋ*² ‘person’ and 囡 *kien*³ / *kien*³ / *kia*³ to calque Yuè 人 *jɛn*² ‘person’ and 仔 *tsɛi*³ ‘son’ respectively (§5.1), the ZSM varieties have come up with the idea of using Mǐn 翁 *ɐŋ*¹ / *ɔŋ*¹ / *an*¹ to calque Yuè

公 *koŋ*¹. (Perhaps the calquing was sometimes the other way round; it is hard to tell.) The following are some examples of 公 *koŋ*¹ in Heungshan Yuè. (Only some of these are found in Cantonese.)

ZSY: 伯爺公 *pak*⁸ *ja*²⁻¹ *koŋ*¹ (senior lord grandpa) ‘old man’, 雷公 *lui*² *koŋ*¹ (thunder grandpa) ‘thunder deity’, 豬公 *tsy*¹-*koŋ*¹ (swine-male) ‘boar’, 腳趾公 *kiɔk*⁸ *tsi*³ *koŋ*¹ (leg digit grandpa) ‘big toe’, 飯公 *fən*⁵ *koŋ*¹ (rice grandpa) ‘rice ball’, 大沙公 *tai*⁵ *sa*¹ *koŋ*¹ (big sand grandpa) ‘coarse sand’, 草花公 *ts^hou*³ *fə*¹ *koŋ*¹ (grass flower grandpa) a species of snake
Hafong: 雞公 *kɛi*¹⁻²-*koŋ*¹ (fowl-male) ‘rooster’, 腳趾公 *kiɔk*⁷⁻² *tsi*³⁻¹ *koŋ*¹ (leg digit grandpa) ‘big toe’, 草花公 *ts^heu*³⁻¹ *fə*¹⁻² *koŋ*¹ (grass flower grandpa) species of snake

We have already seen above how the ZSM varieties use 翁 *ɛŋ*¹ / *ɔŋ*¹ / *aŋ*¹ as the equivalent of Yuè 公 *koŋ*¹ in many of these cases. In ZSY, the basic meaning of 公 *koŋ*¹ is “grandfather”, e.g. 阿公 *a*⁵-*koŋ*¹ [ʔ] (NAME-grandpa) ‘grandfather’.⁸² It is natural for at least Longdu EM to use 翁 *ɛŋ*¹ as the equivalent of Yuè 公 *koŋ*¹, as the basic meaning of the morpheme 翁 *ɛŋ*¹ is also “grandfather”. Although Namlong EM uses borrowed Yuè terms for “grandfather” – 阿公 *a*⁵-*koŋ*⁷ [ʔ] (NAME-grandpa) ‘paternal grandfather’, 外公 *gia*⁶⁻² *koŋ*⁷ (external grandpa) ‘maternal grandfather’ – we have seen above that in Namlong EM, the morpheme 翁 *ɔŋ*¹ also has “grandfather” as its basic meaning.

The morpheme 翁 is nowhere as productive in the nearby Yuè and Hakka varieties. ZSY 翁 *ioŋ*¹ and ZSH 翁 *iun*¹ are usually only used in literary words. In most other Mǐn varieties, especially SM varieties, 翁 is not very productive (see below).

The question is where this use of 翁 *ɛŋ*¹ / *ɔŋ*¹ / *aŋ*¹ ‘grandfather’ in the ZSM varieties came from. This is actually a combination of two related questions: 1. where else is 翁 also used as the basic word for “grandfather”, and 2. amongst these speech varieties, is the use of the 翁 morpheme also as widespread as it is in the ZSM varieties. The “best” scenario would be having speech varieties which fit both criteria, and they are known to have links with the ZSM varieties. Again, the same parts of northeastern Fújiàn fit these two criteria, albeit not perfectly. Looking at the Linguistic Atlas of Chinese Dialects [LACD] (Cáo 曹 2008), there is Lexicon map 042 “爺爺呼稱 “Paternal Grandfather” (direct address)”. The Sinitic varieties where the morpheme 翁 is used in the word for “paternal grandfather” are nearly all found in northern Fújiàn, amongst EM, NM, and Shē varieties. The following is the range of Sinitic varieties, and the word in Chinese characters in parentheses:

NE and N Fújiàn: Fú’ān 福安 EM (祖翁), Níngdé 寧德 EM (翁), Níngdé 寧德 Shē (翁), Zhōuníng 周寧 EM (阿翁), Zhèng hé 政和 NM (翁), Sōngxī 松溪 NM ([kaʌ] 翁), Jiàn’ōu 建甌 NM (阿翁), Nánpíng 南平 NM⁸³ (阿翁)

Neighbouring S Zhèjiāng: Cāngnán 蒼南 EM (翁), Jǐngníng 景寧 Shē (翁)

⁸² Looking at Zhān 詹 et al. (2002: 422)’s lexical list of eleven Guǎngdōng Yuè varieties, in Zhōngshān and three other Yuè varieties (Sháoguǎn Cantonese, Dōngguǎn, Liánjiāng), 阿公 *a*⁵ *koŋ*¹ means both “paternal grandfather” and “maternal grandfather”. In two Yuè varieties (Dǒumén, Xīnyí), 阿公 *a*⁵ *koŋ*¹ means “paternal grandfather”, and the word for “maternal grandfather” also contains the morpheme 公 *koŋ*¹. This is different from Standard Cantonese where 阿公 *a*⁵ *koŋ*¹ is specifically “maternal grandfather”, and “paternal grandfather” is 阿爺 *a*⁵ *je*².

⁸³ The Nánpíng data point in the LACD is not Nánpíng Mandarin.

(Unrelated?) W Guǎngdōng: Déqìng 德慶 Yuè (阿翁)
Data from 古音小鏡 (http://www.kaom.net/si_ci.php) show a similar distribution (Chinese characters followed by IPA):

NE & N Fújiàn: Níngdé Jiāoběi 寧德蕉北 EM (翁 [œŋ¹]), Zhōuníng 周寧 EM (翁 [œŋ¹]), Zhènghé 政和 NM (阿翁 [aŋ¹ œŋ¹]), Sōngxī 松溪 NM (家翁 [kə¹ œŋ¹]), Pǔchéng Shíbēi 浦城石陂 NM (翁爹 [œŋ¹ ta¹])

Neighbouring S Zhèjiāng: Jǐngníng Zhèngkēng 景寧鄭坑 Shē (翁 [œŋ¹]), Jǐngníng Hèxī 景寧鶴溪 Shē (翁 [œŋ¹])

(Related) Jiāngxī: Wǔníng Xīnníng 武寧新寧 Shē (翁 [aŋ])

(Unrelated?) W Guǎngdōng: Déqìng Déchéng 德慶德城 Yuè (阿翁 [a¹ œŋ¹])

NE Guǎngxī: Zhāopíng 昭平 Yuè (阿翁 [a¹ œŋ¹])

S Húnán: Jiānghuá Tǎoxū 江華濤墟 Tǔhuà (屋翁 [ŋ¹ moŋ¹])

(Unrelated?) Hǎinán: Sānyà Yázhou 三亞崖州 Yuè (翁 [uŋ])

From other publications we also find forms like Níngdé EM 翁 œŋ¹ ‘paternal grandfather’, Zhōuníng EM 阿翁 a²-œŋ¹ (NAME-grandpa) ‘paternal grandfather’. (See also below for Akitani 秋谷 (2018)’s data from three less-urban varieties of NEM in Níngdé and Zhōuníng.) In Fú’ān EM we find 公 kouŋ¹ ‘paternal grandfather’. However, the “grandfather” morpheme in [ŋuoi¹ ouŋ¹] (external grandpa) ‘maternal grandfather’ and [lau¹ ouŋ¹] (old grandpa) ‘husband’ can be either 公 kouŋ¹ or 翁 ouŋ¹ underlyingly, given Fú’ān EM’s onset lenition rules. As for Shē, some Shē varieties use 翁 œŋ¹ for “paternal grandfather” (Yóu 游 2002: 311): Fú’ān 福安, Jǐngníng 景寧, and Lǐshuǐ 麗水 Shē 翁 œŋ¹ ‘paternal grandfather’, Shùchāng 順昌 Shē 阿翁 a¹-œŋ¹ (NAME-grandpa) ‘paternal grandfather’.⁸⁴ The direction of borrowing of 翁 ‘grandfather’ is perhaps from NEM to Shē, given Shē’s lower socio-economic status in relation to NEM. However, the opposite scenario, i.e. this is a borrowing from Shē to NEM, is not impossible. For instance, amongst Hmong–Mien languages, we find Iu Mien with œŋ¹ ‘grandfather’, which is found in seemingly all varieties of the majority Guǎngdiān and Xiāngnán branches of Iu Mien (e.g. Máo 毛 2004: 473; GSYGV 2008: 194; Ōuyáng 歐陽 2015; Arisawa 2016).⁸⁵ In either scenario, we have 翁 with “grandfather” as its basic meaning in some of the NEM and Shē varieties in northeastern Fújiàn, e.g. Níngdé, Zhōuníng, Fú’ān. This area is likely the origin of the word 翁 ‘grandfather’ in ZSM.

In the LACD, there is also Lexicon map 044 “外祖父 敘稱 “Maternal Grandfather” (indirect address)”. We see 翁 used for “maternal grandfather” primarily in some NM varieties. The following is the range of Sinitic varieties which use the morpheme 翁 in their word for “maternal grandfather”.

N Fújiàn: Píngnán 屏南 EM (阿翁), Sōngxī 松溪 NM (翁伯), Pǔchéng 浦城 NM⁸⁶ (翁子), Wǔyíshān 武夷山 NM (翁翁), Jiàn’ōu 建甌 NM (姐翁)

(Unrelated?) W Guǎngdōng: Déqìng 德慶 Yuè (翁姥), Fēngkāi 封開 Yuè (翁姥)⁸⁷

⁸⁴ All Shē varieties documented by Yóu 游 (2002) use 公 kouŋ¹ for “maternal grandfather”, and some also use 公 kouŋ¹ for “paternal grandfather”.

⁸⁵ In both Hmong–Mien and Sinitic, forms like œŋ¹ ‘grandfather’ are not widespread, so it is difficult to say whether Iu Mien œŋ¹ is of native or Sinitic origin. This is one line of inquiry worth investigating.

⁸⁶ This LACD data point is specifically Pǔchéng Mǐn, not Pǔchéng Wú.

⁸⁷ From another publication, the following are the 翁 forms in Sinitic western Guǎngdōng: Déqìng Yuè 阿翁 a^{1-7b} œŋ¹ ‘paternal grandfather’, 翁爹 œŋ¹ ta¹ ‘maternal grandfather’; Fēngkāi Nánfēng Yuè 翁 œŋ¹ ‘paternal grandfather’, 大翁 tai⁶ œŋ¹ ‘maternal grandfather’ (Zhān 詹 & Cheung 張 1998: 558).

Data from 古音小鏡 (http://www.kaom.net/si_ci.php) show a similar distribution:

- NE & N Fújiàn: Níngdé Jiāoběi 寧德蕉北 EM (外翁 [ɲie¹ æŋ¹]), Zhōuníng 周寧 EM (娘翁 [nœŋ¹ æŋ¹]), Shòuníng Áoyáng 壽寧龍陽 EM (外翁 [ɲia¹ æŋ¹]), Zhèng hé 政和 NM (婆翁 [po¹ æŋ¹]), Sōngxī 松溪 NM (翁伯 [œŋ¹ po¹]), Pǔchéng Shíbēi 浦城石陂 NM (翁仔 [œŋ¹ te]), Wǔyíshān Wǔyí 武夷山武夷 NM (外翁 [ɲyai¹ eiŋ¹])
- Neighbouring S Zhèjiāng: Tàishùn Shìyáng 泰順仕陽 Shē (外翁 [nia¹ uœŋ¹]) (Unrelated?) W Guǎngdōng: Déqìng Déchéng 德慶德城 Yuè (翁? [œŋ¹ ta¹]), Fēngkāi Jiāngkǒu 封開江口 Yuè (翁姥 [œŋ¹ ta¹]), Liánshān Jítíán 連山吉田 Yuè (姥翁蒙 [dœ¹ œŋ¹ moŋ¹])
- NE Guǎngxī: Hèzhōu Guìlǐng 賀州桂嶺 Yuè (姥翁 [lœ¹ uŋ¹]), Hèzhōu Pùmén 賀州鋪門 Yuè (姥翁 [ta¹ œŋ¹]), Zhāopíng 昭平 Yuè (妹翁 [mui¹ œŋ¹])
- S Húnán: Jiānghuá Tāoxū 江華濤墟 Tǔhuà (屋翁 [ŋ¹ moŋ¹]) (Unrelated?) Hǎinán: Sānyà Yázhōu 三亞崖州 Yuè (?翁 [mi¹ uŋ¹])

From other publications we also find forms like Níngdé EM 外翁 *ɲie¹ æŋ¹* (external grandpa) ‘maternal grandfather’, Zhōuníng EM 娘翁 *nyœŋ² æŋ¹* (lady grandpa) ‘maternal grandfather’, Jiàn’ōu NM *œŋ¹ œŋ¹* affectionate term for “maternal grandfather”, *tsia⁵ œŋ¹* (Shē grandpa) ‘maternal grandfather’.⁸⁸ We have already established in §1.3 that the ZSM varieties are not Inland Mǐn, so the use of 翁 in Zhōngshān would not be directly related to this use of 翁 in NM. However, the commonality between NM and ZSM is the EM influence.⁸⁹

In the vicinity there is the Biāo language (Kra-Dai) of Fēngkāi and Huáijí, with words like *a¹ uŋ³* ‘paternal grandfather’ and *uŋ¹ to¹ ~ koŋ¹ to¹* ‘maternal grandfather’ (Liáng & Zhāng 張: 187, 189). While the form *koŋ¹* (公) is obviously Sinitic, it is unclear whether the morphemes *uŋ¹ / uŋ³* are native or Sinitic (possibly 翁). In other Kra-Dai languages, one also find forms like Kam *ʔoŋ³* ‘paternal grandfather’ (Lóng 龍 2003: 219). Déqìng, Fēngkāi, and Huáijí in western Guǎngdōng are upriver from Zhōngshān, but we are currently not aware of strong ties between Zhōngshān and western Guǎngdōng, so perhaps the use of 翁 in ZSM is unrelated to that in western Guǎngdōng. (Nonetheless, this is an unanswered question.) As for the *t-* morphemes in the words for “maternal grandfather” in Déqìng Yuè *œŋ¹ ta¹*, Fēngkāi Nánfēng Yuè *tai⁶ œŋ¹*, Huáijí Yuè *koŋ¹ tai³* (Zhān 詹 & Cheung 張 1998: 558), these are most probably the Kra-Dai morpheme for “maternal grandfather”, cf. Biāo *to¹*, Kam *ta¹* (Lóng 龍 2003: 219), Proto-Tai **ta:ʰ* (Pittayaporn 2009: 336), Pre-Hlai **[a:ʔ]* (Norquest 2007: 569). Similar *t-* morphemes for “maternal grandfather” are not uncommon in the Yuè dialects in western Guǎngdōng (Zhān 詹 & Cheung 張 1998: 558), northern Guǎngdōng (Zhān 詹 & Cheung 張 1994: 554), the Sinitic Patois / *Tǔhuà* of Northern Guǎngdōng (e.g. Chang 張 2000: 242, 2004: 253; Lǐ 李 & Zhuāng 庄 2009: 259), and some Yuè and Píngguà dialects in Guǎngxī (Xiè 謝 2007: 1398–1399).

⁸⁸ In Lǐ 李 & Pān 潘 (1998), the affectionate term *œŋ¹ œŋ¹* ‘maternal grandfather’ is rendered 公公 (: 243), but *œŋ¹* is obviously 翁, cf. the zero initial (公 is *kœŋ¹*, as in 公公 *kœŋ¹ kœŋ¹* ‘paternal grandfather’ (: 214).) The normal word *tsia⁵ œŋ¹* ‘maternal grandfather’ is rendered 畚公 (Shē grandpa) in Lǐ 李 & Pān 潘 (1998: 62). (The morpheme 畚 ‘Shē’ is in tone 2 in many Southern Sinitic varieties, e.g. Cantonese *se²*, and in Jiàn’ōu NM tone 2 has merged into tone 5.) In the LACD, the Jiàn’ōu NM form is rendered 姐翁 (big.sis grandpa). This etymon of 姐 ‘elder sister’ is less likely to be correct, as 姐 usually has tone 3, and Jiàn’ōu NM is very poor in tone sandhi.

⁸⁹ There is yet another case of 翁 ‘grandfather’ in the region that we must mention: Vietnamese *ông* 翁 ‘grandfather’ or ‘old man’, which is also used pronominally (Alves 2017: 295). Firstly, this word is not new in Vietnamese; it is recorded in the *Dictionarium Annamiticum* (Rhodes 1651: 586) as “*ou: auò : auus*” (modern spelling: Vietnamese *ông*, Portuguese *avô*, Latin *avus* ‘grandfather’). Secondly, many Mường varieties borrowed this with a monophthongal pronunciation [ɔŋ] (Nguyễn Văn Tài 2005), which is the original or close to the original pronunciation in Vietnamese (unlike the diphthongised pronunciation of something like [əwŋm], a later development which is now present in nearly all modern Vietnamese dialects). This testifies that the borrowing was not recent, and that the

The second question is whether there are speech varieties where the use of the 翁 morpheme is as wide as it is in the ZSM varieties. The three less-urban NEM varieties in Níngdé and Zhōuníng documented by Akitani 秋谷 (2018) have quite a wide range, albeit not as wide as it is in the ZSM varieties.

Níngdé Hǔpèi 寧德虎淚 EM: 翁 øŋ^1 ‘paternal grandfather’, 外翁 $[\text{ɲie}^1 \text{øŋ}^1]$ (external grandpa) ‘maternal grandfather’, 大翁 $[\text{tuot}^1 \text{øŋ}^1]$ (big grandpa) ‘great grandfather’, 舅翁 $\text{ko}^{6-1} \text{øŋ}^1$ (mum.bro grandpa) ‘father’s maternal uncle’, 老翁 $[\text{laut}^1 \text{øŋ}^1]$ (old grandpa) ‘husband’

Zhōuníng Xiáncūn 周寧咸村 EM: (阿)翁 $(a^0-) \text{øŋ}^1$ ((NAME-) grandpa) ‘paternal grandfather’, 外翁 $\text{ɲie}^{6-1} \text{øŋ}^1$ (external grandpa) ‘maternal grandfather’, 大翁 $\text{tuot}^{6-1} \text{øŋ}^1$ (big grandpa) ‘great grandfather’, 舅翁 $\text{ko}^{6-1} \text{øŋ}^1$ (mum.bro grandpa) ‘father’s maternal uncle’, 叔翁 $\text{tɕyuk}^7 \text{øŋ}^1$ (dad.bro grandpa) ‘husband’s paternal uncle’, 迎翁 $\text{ɲieŋ}^2 \text{øŋ}^1$ (welcome grandpa) ‘to welcome deities’, 灶神翁 $[\text{tʃaul} \text{lenl} \text{nøŋ}^1]$ (kitchen deity grandpa) ‘kitchen god’, 包貓餌翁 $[\text{pau}^1 \text{mal} \text{ni}^1 \text{øŋ}^1]$ (wrap cat bait grandpa) ‘tag (game) with the tagger blindfolded’

Níngdé Jiǔdū 寧德九都 EM: 翁 øŋ^1 ‘paternal grandfather’, 外翁 $\text{ɲie}^{6-1} \text{øŋ}^1$ (external grandpa) ‘maternal grandfather’, 大翁 $\text{tuot}^{6-1} \text{øŋ}^1$ (big grandpa) ‘great grandfather’, 老翁 $\text{lau}^{6-1} \text{øŋ}^1$ (old grandpa) ‘husband’, 舅翁 $\text{ko}^{6-1} \text{øŋ}^1$ (mum.bro grandpa) ‘father’s maternal uncle’, 請祖翁 $[\text{ts}^h \text{aŋ}^1 \text{ɲu}^1 \text{øŋ}^1]$ (invite ancestor grandpa) ‘inviting ancestors’ (end of year religious ceremony), 白老翁 $\text{pa}^?8 \text{lau}^{6-1} \text{øŋ}^1$ (white old grandpa) ‘tag (game) with the tagger blindfolded’

Of note here are: a) the basic meaning of 翁 øŋ^1 is “(paternal) grandfather”; and b) how 翁 øŋ^1 has a “deity” meaning, e.g. Zhōuníng Xiáncūn EM 迎翁 $\text{ɲieŋ}^2 \text{øŋ}^1$

word has existed in Vietnamese for quite some time. Also, *ông* forms only exist in Việt–Mường (plus some recent loans in other Vietic languages), and not in the other branches of Austroasiatic, further diminishing the possibility that this is not a Sinitic loanword in Vietnamese. The (perhaps unanswerable) question is whether 翁 already had the sense of “grandfather” in the source Sinitic language. In about the tenth to thirteenth centuries (roughly between the declaration of independence by the Ngô 吳 Dynasty (938–968), to the Mongol invasions in the second half of the thirteenth century), there were two communities of Sinitic speakers in the Red River Delta. One was the Annamese Middle Chinese community (Phan 2013, 2025; see also Phan & de Sousa 2022, and de Sousa 2020), which was the source of most Sinitic loanwords in Vietnamese. The other was the community of Fujianese / Min migrants (e.g. Whitmore 2020). (Notice that this was also the time period when the majority of Fujianese migrants entered Hainan (Liú Xīnzhōng 劉新中 2006: 35).) We currently do not know the composition of the Fujianese migrants to the Red River Delta during this time. Nonetheless, given that the Fujianese population in both Zhōngshān (Gāo 高 2018: 15–17, 246–248, 283–284, 318–319) and Hainan (Liú 劉 2006: 35–39) claim that their ancestors came from various locations in what we now understand as the SM, PXM, and EM areas in Fújiàn, in high likelihood a significant portion of the Fujianese population in the Red River Delta did come from the EM area. We know of one such person in Vietnamese history: Trần Kinh 陳京, the great-great grandfather of Trần Cảnh 陳煚, the founding emperor Thái Tông 太宗 of the Trần 陳 Dynasty (1226–1400) of Đại Việt 大越, arrived in the Red River Delta from Chánglè 長樂 of Fúzhōu (Qídōng Yěyǔ 齊東野語 *juǎn* 卷 19 by Zhōu Mì 周密 (1232–1298); *Sikùquánshū* 四庫全書本). Descendants of the Trần royal house managed to link up their genealogy with that of the Chén 陳 clan at Chánglè (https://www.nkbjx.com/cn_xc_news/news/getInfoToNews?clan_id=172&id=18644; accessed 9 Oct 2024). Chánglè is well within the EM area, not that far from Níngdé. Perhaps the use of 翁 *ông* ‘grandfather’ in Vietnamese has to do with the EM varieties in northeastern Fújiàn, and/or the EM enclave varieties in Zhōngshān midway between Fújiàn and the Red River Delta. This is one line of inquiry worth investigating.

(welcome grandpa) ‘to welcome deities’, Níngdé Jiǔdū EM 請祖翁 [ts^həŋ¹ ɲu¹ ɔŋ¹] (invite ancestor grandpa) ‘inviting ancestors’. Longdu EM also has /khǔaj ʔéq/ [k^{wh}a:j ʔæŋ¹] EG ‘worship spirits’ (with Longdu having unrounded their rounded front vowels).⁹⁰

The frequent use of the 翁 morpheme in Longdu EM (ɛŋ¹) and Namlong EM (ɔŋ¹) is most probably inherited from their northeastern Fújiàn ancestors. In Zhōngshān they have extended the use to even more semantic fields. Even if the extended use of the morpheme 翁 is a parallel development in Zhōngshān and northeastern Fújiàn, this usage of 翁 in ZSM is still a NEM trait, and not a SM trait. This has to do with the fact that the basic meaning of 翁 is “grandfather” in the aforementioned NEM varieties, whereas the basic meaning of 翁 is “husband” in all SM varieties that we know of except Samheung SM, e.g. Taiwanese SM 翁/厝 ɛŋ¹ ‘husband’, Teochew SM 翁 ɛŋ¹ ‘husband’. Teochew SM also uses 翁 -ɛŋ¹ as a suffix indicating male sex on animals nouns, e.g. 雞翁 *koi¹ ɛŋ¹* ‘rooster’.⁹¹ Diànbái SM has a word 𪗇² DD ‘husband’ of unknown etymology,⁹² but 翁 ɛŋ^{1a} is used in words like 翁婆 ɛŋ^{1a} pɔ² DD ‘husband and wife’, 翁袋 ɛŋ^{1a} tɛ^{1a} DD ‘wife’s father’, 大翁 tua^{1a} ɛŋ^{1a} DD ‘taoist priest’. Diànbái SM uses the suffix 翁 -ɛŋ^{1a} for male fowls and ducks: 雞翁 *koi^{1a}-ɛŋ^{1a}* DD ‘little rooster’, 鴨翁 a^{1b}-ɛŋ^{1a} DD ‘little drake’.⁹³

This makes Samheung SM the odd one out. Unlike other SM varieties, Samheung SM uses 翁 ɛŋ¹ to mean “grandfather”. This is not a SM trait. This is an EM trait that Samheung SM copied directly from Longdu 翁 ɛŋ¹ and/or Namlong EM 翁 ɔŋ¹. The wide range of usage of 翁 ɛŋ¹ in Samheung SM is also not related to the other SM varieties. The range of usage of 翁 ɛŋ¹ in Teochew SM and Diànbái SM is already the widest amongst the non-Samheung SM varieties that we know of.

We know of one marginal case of 翁 meaning “grandfather” in a non-Samheung SM variety: Diànbái (Hǎihuà) SM 太翁 [t^hai¹ ɛŋ¹] ‘great-grandfather’ (Chang Song-Hing 張雙慶 2005: 1009) (versus 公 [kɔŋ¹] ‘paternal grandfather’ and 外公 [hua¹ kɔŋ¹] ‘maternal grandfather’).⁹⁴ If this is not an independent development in Diànbái, having a (fossilised) morpheme 翁 ɛŋ^{1a} meaning “grandfather” may be

⁹⁰ A similar case of calling deities “grandfather” can be found in Guǎngdōng Hakka (and diaspora). In Guǎngdōng Hakka beliefs, the earth deity, which is the most-commonly worshipped deity, is called 伯公 *pak⁷ kuŋ¹* (dad.old.bro grandpa) ‘grandfather’s elder brother’.

⁹¹ There are various other male animal suffixes in Teochew–Swatow SM, e.g. Swatow SM 牛牯 *gu²-kou³* (bovine-male) ‘ox’, 鴨雄 *a⁷-heŋ²* (duck-male) ‘drake’ (Ōuyáng 歐陽 et al. 2005: 103).

⁹² This morpheme 𪗇² ‘husband’ is also an adult male suffix, e.g. *hui^{1a} t^hau² 𪗇²* DD (remove [_< Cantonese 飛] head bloke) ‘male hairdresser’. This is the equivalent of the Diànbái Hakka suffix 佬 *lo³*, e.g. 飛頭佬 *fai¹ t^hei² lo³* (remove head bloke) ‘male hairdresser’. Is Diànbái Mǐn 𪗇² etymologically 畬 𪗇² ‘Shē people’ / ‘slash and burn farmers’? (While perhaps not directly related, many InM varieties have a *sV²* morpheme meaning “person” (Lǐ Rúlóng 李如龍 1997: 112), e.g. Yǒng’ān CnM 剃頭畬 *t^he⁵ t^hø² sɔ²* (shave head person) ‘hairdresser’.) Or is this 爺 *ze²* ‘sir’ > 𪗇² ‘husband’? Or is this a substratum word related to the Jízào 吉兆 language (Kra-Dai) of Diànbái? (Interestingly, Jízào has [lou¹ ɔŋ¹] ‘husband’ (Lǐ Jīnfāng 李錦芳 & Wú Yàn 吳艷 2022: 13); this looks like Sinitic 老翁 (old husband) with Yuè segments, and Kra-Dai tones Lower BC and Upper A respectively (Jízào is the same as Ong Be in not having a tone BC distinction), matching the Sinitic tones 4 and 1 of 老 and 翁 respectively.)

⁹³ The large versions are 雞翁頭 *koi^{1a}-ɛŋ^{1a} t^hau²* (fowl-male head) ‘big rooster’, 鴨頭 *a^{1b} t^hau²* (duck head) ‘drake’. The other animals have different male suffixes: 狗公 *kau³-koŋ^{1b}* ‘dog / stud’, 豬哥 *tu^{1a}-ko^{1a}* (swine-big.bro) ‘boar for breeding’.

⁹⁴ Based on the tone values, Chang 張 (2005)’s Diànbái Mǐn data are from Diànbái Hǎihuà 電白海話. See Table 1 in §4.3 for the tone values. Diànbái Lǐhuà 電白黎話, the variety of Diànbái Mǐn shown in the rest of this article, are rather close to Diànbái Hǎihuà, and they are mutually intelligible (Dài 戴 et al 1994: 5).

another trait which links Diànbái Mǐn and ZSM. (The other is the unusual cases of $**\text{-k} > *\text{-p}$; see the end of §4.2.4.)

Lastly, the Namlong EM word 月翁 $\beta\text{et}^7 \text{ɔŋ}^1$ (moon grandpa) ‘moon’ and the Samheung SM word 月(光)翁 $\text{gɔi}^7 (\text{kui}^1) \text{aŋ}^1$ (moon (light) grandpa) ‘moon’ are worth mentioning. These are the ordinary words for “moon” in Namlong EM and Samheung SM respectively. LACD Lexicon map 003 (Cáo 曹 2008) maps the anthropomorphic words for “moon” amongst Sinitic varieties. Amongst the surveyed varieties with such words, most have a feminine moon word. The best-known examples in the region are, e.g., Taiwanese SM 月娘 $\text{gue}^7 \text{niu}^2$ (moon lady) ‘moon’, Teochew SM 月娘 $\text{gue}^7 \text{niē}^2$ (moon lady) ‘moon’. Having a masculine word for “moon” is much rarer. In LACD Lexicon map 003, “Zhōngshān Yuè” is recorded as having a masculine moon word 月公 (moon grandpa).⁹⁵ Amongst Mǐn varieties, 月公 (moon grandpa) exists in Pútían and southwestern Hǎinán (e.g. Sānyà). This is perhaps not purely a coincidence; the masculine moon words are seemingly hinting at a historical migration pathway linking Pútían, Zhōngshān, and Hǎinán. More investigations are needed.

6. Conclusion

The Pearl River Delta is predominantly Yuè-speaking. However, in the middle of the Pearl River Delta, there are the three enclave varieties of Mǐn in Zhōngshān 中山 [ZSM]: Longdu 隆都 (Lóngdū), Namlong 南朗 (Nánlǎng), and Samheung 三鄉 (Sānxiāng). The ZSM varieties are often said to be closely related varieties of Southern Mǐn [SM]. However, this is only partially true. Firstly, without prior exposure, the three ZSM varieties are not mutually intelligible. Secondly, while Samheung is indeed SM, Longdu and Namlong are Eastern Mǐn [EM] genealogically. In §1 we outlined some introductory issues, for instance the Mǐn, Yuè, and Hakka varieties spoken in Zhōngshān, the linguistic interactions amongst them, the Mǐn subgroups, and ZSM’s membership within the Coastal Mǐn subgroup.

Section 2 of this article is largely structured around Akitani 秋谷 (2022a)’s arguments that Longdu is EM (following Bodman (1982)’s conclusion that Namlong and Longdu are both EM). We summarised and reviewed these arguments. We also provided some extra data (§2.1.6) in support of this view. Akitani further argues that Longdu is a member of the Northern subgroup of EM [NEM]. We reviewed some of these arguments in §2.3.1–6. We presented and discussed more data in §2.3.7, this time in relation to the sound changes discussed in another publication, Akitani 秋谷 (2022b); the results further support the view that Longdu is a member of NEM. In §2.5.1 we discussed how Longdu is typologically unlike the better-known EM varieties like Fúzhōu (Hokchew) and Fúqīng (Hokchia). The typological profile of Longdu has caused some linguists to classify Longdu as SM. In §2.5.2, we discussed a few lexical items in Longdu that are probably borrowed from SM.

In §3 we discussed Namlong. In comparison with the amount of research on Longdu, the amount of research on Namlong is minuscule. Nonetheless, based on available data, it is already clear that the historical phonological developments in Namlong are mostly the same as those in Longdu. Except some surface-level differences, e.g. very different tone values, and different loanwords from Yuè,

⁹⁵ The Zhōngshān Yuè data point in the LACD is a Kun–Pou (Guǎn–Bǎo) Yuè variety, probably that of Sānjiǎo 三角 in northeastern Zhōngshān. Another instance we could find is 月公 $\text{jyt}^8 \text{koŋ}^1$ GR (moon grandpa) in the Yuet Hoi Yuè of Siulam / Xiǎolǎn 小欖 in northwestern Zhōngshān. This form is perhaps also used in other Yuè varieties in Zhōngshān.

Namlong and Longdu are very closely related to each other, and Namlong is hence also EM genealogically.

In §4 we discussed Samheung. While Samheung is obviously SM, we discussed how Samheung fits in with the various branches of SM. Samheung is primarily a SM variety of the Zhāngzhōu type. Samheung SM also has a few traits which resemble SM of the Guǎngdōng–Hǎinán type.

In §5 we discussed the linguistic interactions amongst the three ZSM varieties. Some lexical similarities are due to them having used the same or very similar strategies when calquing Yuè lexical items. In §2.5.2 and §3.5.2 we have already discussed some SM-like traits in Longdu and Namlong EM respectively. In §5.1 we discussed some traits that Samheung SM might have borrowed directly from Longdu and/or Namlong EM. In §5.2 and §5.3 we looked at how two lexical items, “yesterday” and “grandfather”, link Longdu and Namlong EM with the EM varieties in Níngdé 寧德, Zhōuníng 周寧, and Fú’ān 福安 in northeastern Fújiàn. That Samheung SM also shares the use of 翁 ‘grandfather’ strongly suggests that this is an EM trait that entered Samheung SM directly from Longdu and/or Namlong EM. (As far as we know, this use of 翁 ‘grandfather’ is not found in other SM varieties, with the exception of Diànbái SM in western Guǎngdōng having 翁 in the word for ‘great-grandfather’.)

There are many further research questions. For instance, many ZSM people claim that their ancestors came from Pútían in Fújiàn. However, linguistically we see nearly no traits in ZSM that are similar to traits that are unique to Pú–Xiān Mǐn [PXM]. (Similarities that the ZSM varieties have with PXM are basically all traits that PXM shares with either EM or SM.) From what we currently know, the only similarity between ZSM and PXM that is not shared by (most) other EM or SM varieties is having a masculine anthropomorphic word for “moon” (end of §5.3). Perhaps more-detailed comparative studies of ZSM and PXM would reveal some direct links between them.

Another topic of investigation is whether Zhōngshān has a role in the genesis of Western Guǎngdong and Hǎinán Mǐn [WGHM], given Zhōngshān’s location midway between Eastern and Western Guǎngdong Mǐn. In §4.2.4 we have already discussed some traits that are shared amongst Samheung SM and WGHM. Do these traits indicate that some ZSM speakers migrated to Western Guǎngdōng and Hǎinán? Were there “back migrants” from Western Guǎngdōng and Hǎinán to Zhōngshān? Are there other rare traits which are shared between WGHM and Samheung SM (or ZSM in general)?

The strange vocalisms in Samheung SM also deserve in-depth investigations. Answering one of the aforementioned questions would help answering some of the other questions asked in this article.

Appendix

Table A1. Tone values in some Zhōngshān [ZS] languages

	A		B		C		D		
	1	2	3	4	5	6	7S	7L	8
<u>Yuè:</u>									
Cantonese	1	↓	1	1	1	↓	1	1	↓
ZSY GR	1	↓		↓		↓	1		↓
Hafong GR	↓	1	1			↓		↓	
<u>Hakka:</u>									
ZSH GJ	1	↓		↓		1	1		1
ZSH GR	1	↓		↓		1	↓		1
<u>E Mǐn:</u>									
Longdu: (>6)									
AE/EG	1	1	1		1 ~ 1	↓	1		1
GR	1	1	1		1	↓	↓		1
JS/KS	1	1	1		1	↓	↓		1
LC/CX2/CSH	1	1	1		1	↓	↓		1
ZL	1	1	1		1	↓	1		1
Namlong:									
BMN	↓	1	↓ ~ ↓		1 ~ 1	↓	1 / 1		↓ / ↓
CX	↓	1	↓		↓	↓	1		↓
GR	↓	1	↓		1	↓	1		↓
LC/CX2	↓	1	↓		1	↓	1		↓
<u>S Mǐn:</u>									
Samheung: (>6)									
BMS	1	1	1		1	↓ / 1		1	
GR	1	1	1		↓	↓ / 1		↓	
LC/CX2/ZZ	1	1	1		↓	↓ / 1	↓		↓

Notes: i) only non-sandhi tones are shown; ii) only tones used in native morphemes are shown; all ZSM varieties have borrowed Yuè tones that are different from these (see Gāo Rán 高然 2002; the analyses here are slightly different from his); iii) tones 7 & 8 in BMN's Namlong EM: before slash are tones of syllables with their plosive coda intact, after slash are tones of syllables with *-ʔ dropped (see §3.4); iv) in Samheung SM: many of the tone *4 morphemes, and some original tone *6 morphemes, have shifted to tone 1 [1] (see §4.3); v) ZSY is Shekki-proper, Hafong is Samheung Hafong; vi) the abbreviations in small caps are author / publication codes; see the section on data sources below, and also the beginning of §2, §3, and §4.

Data sources that are not referenced in the main text

(Kwok (2018)'s data are from Chang 張 (2005).)

Coastal Mǐn [CsM] > Eastern Mǐn [EM]:

North [NEM]:

Zhōngshān Longdu 中山隆都 (Lóngdū): Akitani 秋谷 (2022a) [AE], Akitani 秋谷 (2022b) [AE2], Chén 陳 (1995) [CX2], Egerod (1956) [EG], Gāo 高 (2000) [GR2], Gāo 高 (2018) [GR], Kratochvíl & Sio (2018) [KS], Lín 林 & Chén 陳 (1996) [LC], Sio (2024) [JS], Zhān 詹 & Cheung 張 (1987) [ZL]

Zhōngshān Namlong 中山南朗 (Nánlǎng): Bodman (1982) [BMN], Chén 陳 (1995) [CX2], Lín 林 & Chén 陳 (1996) [LC], Chén 陳 & Xǔ 許 (2012) [CX], Gāo 高 (2000) [GR2], Gāo 高 (2018) [GR]

Cāngnán Yántíng 蒼南炎亭: Akitani 秋谷 (2022b) < Akitani 秋谷 (2005)

Fú'ān 福安: Fú'ān 福安 (1999)

Fúǎng 福鼎: Fúǎng 福鼎 (2003)

Fúǎng Báilín 福鼎白琳: Akitani 秋谷 (2022a) < Akitani 秋谷 (2010a)

Níngdé 寧德: Níngdé 寧德 (1995)

Níngdé Hǔpèi 寧德虎浞: Akitani 秋谷 (2018)

Níngdé Jiǔdū 寧德九都: Akitani 秋谷 (2018)

Shòuníng Nányáng 壽寧南陽: Akitani 秋谷 (2022a) < Akitani 秋谷 (2010a)

- Tàishùn Sānkuí 泰順三魁: Akitani 秋谷 (2022b) < Akitani 秋谷 (2005)
 Zhèróng 柘榮: Zhèróng 柘榮 (1995)
 Zhōuníng 周寧: Zhōuníng 周寧 (1993)
 Zhōuníng Xiāncūn 周寧咸村: Akitani 秋谷 (2018)
- South [SEM]:
 Fúqīng 福清 (Hokchia): Féng 馮 (1993), Ngai SS p.c
 Fúzhōu 福州 (Hokchew): Féng 馮 (1998); Akitani 秋谷 (2022a)'s Fúzhōu data are from BZYJ (2003)
 Gǔtián 古田: Gǔtián 古田 (1997)
 Gǔtián Dàqiáo 古田大橋: Akitani 秋谷 (2022a) < Akitani 秋谷 & Chén 陳 (2012)
 Matsu 馬祖 (Mǎzǔ): Tu 杜 (2006)
- Coastal Mǐn [CsM] > Pú–Xiān Mǐn [PXM] (Henghua 興化):
 Pútían 莆田: Lǐ 李 et al. (2019), <https://hinghwa.cn> 興化語記
 Xiānyóu 仙游: Lǐ 李 (2001a), Lǐ 李 et al. (2019); Akitani 秋谷 (2022a)'s Xiānyóu data are his fieldwork data
- Coastal Mǐn [CsM] > Southern Mǐn [SM]:
 Quánzhōu-type [QzSM]:
 Huì'ān 惠安: Chen WR (2020)
 Quánzhōu 泉州: Kwok (2018)
- Mixed Quánzhōu–Zhāngzhōu:
 Taiwanese SM: <https://sutian.moe.edu.tw> (Dictionary of Frequently-Used Taiwanese Taigi 教育部臺灣台語常用詞辭典)
 Xiàmén 廈門 (Amoy): BZYJ (2003)
- Zhāngzhōu-type [ZzSM]:
 Zhōngshān Samheung 中山三鄉 (Sānxiāng): Bodman (1988) [BMS], Chén 陳 (1995) [CX2], Gāo 高 (2000) [GR2], Gāo 高 (2018) [GR], Lín 林 & Chén 陳 (1996) [LC], Zhāng 張 (1987) [ZZ]
 Zhāngpíng Yǒngfú 漳平永福: Akitani 秋谷 (2022a) < Zhāng 張 (1992)
 Zhāngzhōu 漳州: Kwok (2018)
- Guǎngdōng–Hǎinán [GHSM]:
 Cháoyáng 潮陽: Kwok (2018)
 Chénghǎi 澄海: Lín LL 林 (1996)
 Diànbái 電白 (Tinpak; Líhuà 黎話 of Xiádòng 霞洞): by default Lín 林 & Chén 陳 (1996) [LC]; also Dài 戴 et al. (1994) [DD]
 Haihong 海豐 (Hǎifēng): Kwok (2018)
 Jiēyáng 揭陽 (Kityang): Kwok (2018)
 Luichew 雷州 (Léizhōu): by default Kwok (2018); also Lín LL (2006) [LL], Lín 林 & Chén 陳 (1996) [LC]
 Swatow 汕頭 (Shàntóu): Ōuyáng 歐陽 et al. (2005)
 Teochew 潮州 (Cháozhōu): BZYJ (2003), <https://www.mogher.com> 潮州母語
 Hǎikǒu 海口 (Hainanese): Kwok (2018)
 Wénchāng 文昌 (Hainanese): Woon 雲 (1987)
- Inland Mǐn [InM] > Northern Mǐn [NM]: Jiàn'ōu 建甌: Lǐ 李 & Pān 潘 (1998)
- Inland Mǐn [InM] > Western Mǐn [WM] (Shào–Jiāng 邵將 Mǐn): Shàowǔ 邵武: Ngai (2021)
- Inland Mǐn [InM] > Central Mǐn [CnM]: Yǒng'ān 永安: Zhōu 周 & Lín 林 (1992)
- Hakka / Shē:
 Zhōngshān 中山 Hakka [ZSH]: by default Gān 甘 (2003) [GJ], also Gāo 高 (2018) [GR]
 Diànbái 電白 (Tinpak): Dài 戴 et al. (1994)
 Moiyen 梅縣 (Méixiàn): BZYJ (2003)
 Other Hakka varieties: Luó 羅, Lín 林 & Ráo 饒 (2004)
 Shē varieties: Yóu 游 (2002)

Yuè / Píngguà:

Heungshan 香山 (Xiāngshān):

Zhōngshān 中山 Yuè [ZSY] / Shekki 石岐 (Shíqí): by default Zhān 詹 et al. (2002) [ZH],
also Gāo 高 (2018) [GR], de Sousa & Kwok heritage knowledge

Hafong 下方 (Xiàfāng): Gāo 高 (2018) [GR]

Kun–Pou 莞寶 (Guǎn–Bǎo):

Tungkun 東莞 (Dōngguǎn): Zhān 詹 et al. (2002)

Szeyup 四邑 (Sìyì) (a.k.a. Ngyap 五邑 (Wǔyì)):

Toishanese 台山 (Táishān): Zhān 詹 et al. (2002)

Zhōngshān Gǔzhèn 中山古鎮: Gāo 高 (2018) [GR]

Yuet Hoi 粵海 (Yuèhǎi):

Cantonese: de Sousa & Kwok native knowledge

Nánhǎi Shātóu 南海沙頭: Zhān 詹 & Cheung 張 (1987)

Shuntak 順德 (Shùndé): Zhān 詹 et al. (2002)

Siulam 小欖 (Xiǎolǎn): Gāo 高 (2018) [GR]

Southern Píngguà 桂南平話:

Náníng Wèizǐlù 南寧位子錄: de Sousa fieldwork

Data on Macau (Older Macau Cantonese, Macau creole Portuguese, Portuguese) are de Sousa's.

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