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On comparative Proto-Mǐn *D^h- and putting conjectural morphology in its place

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Abstract

Recent conjectural morphological ('word family') approaches to early Chinese assign the aspirated causative verbs of the Mǐn group to Jerry Norman's comparatively reconstructed Proto-Mǐn voiced aspirated *D^h-, proposing on this basis that *D^h- reflects prefixation of Old Chinese provenance. In this article, I argue that comparative phonological work on Mǐn has never suggested *D^h- for these items. In this case as elsewhere, morphological models can be of use but require grounding in comparative results.

1 Introduction

Norman's (1973, 1974, 1981) comparative reconstructions of the Mǐn proto-language, so difficult to reconcile with the Chinese philological tradition, have long been left aside in studies of early Sinitic. Recent work, notably Baxter & Sagart (2014), moves to prioritize Norman's conclusions. However, a new tension slips in: comparative results are likewise not always a fit for the conjectural morphological (or 'word family') models which inform modern approaches to Old Chinese (OC). Below, I consider this tension by reference to Norman's (1973) Proto-Mǐn (PM) voiced aspirated obstruent onsets b^h-/d^h-/dz^h-/g^h- (below = *D^h-), a key oddity of Norman's PM from the standpoint of mainstream Chinese as well as a key jumping-off point for Baxter & Sagart's (2014) new ideas about the shape and structure of OC words.

In section 2, I present first the generally agreed set of items exhibiting the onset and tonal correspondences indexed by Norman's PM *D^h- (section 2.1), followed by a collection of previously recognized and newly identified cases of lower tonal register 'causativizing' aspiration in Mǐn (section 2.2). These two are seen to be disjoint sets, the latter having emerged only relatively recently in particular Mǐn daughter branches. In section 3, I touch on some state-of-the-field implications. Baxter &

Sagart’s (2014) conflation of these groups represents prioritization of a conjectural morphological or ‘word family’ model (on which see Baxter & Sagart 1997, Sagart 1999, section 1.1) — but this disposition escapes notice in Fellner & Hill’s (2019) otherwise pointed critique of the word family as a theoretical construct, while new OC forms which run counter to comparative evidence bounce on through the literature. Actually, Sagart’s program of the 1990’s remains of much value and can be usefully applied to PM *D^h-, but requires that morphological hypotheses be both explicitly presented as such and everywhere subordinated to comparative conclusions.

2 What is and isn’t Proto-Mǐn *D^h-

2.1 Norman’s comparative *D^h-

In the Mǐn languages, uniquely within Sinitic, tonal categories associated with the historical lower tonal register are cross-cut by two onset correspondence sets mostly involving voiceless unaspirated obstruents T- and voiceless aspirates T^h- respectively. The former set is larger and often regarded as typical of Mǐn; the latter comprises only some three dozen items but finds equally regular reflection across the group. In his early comparative work on Proto-Mǐn, Norman addressed this “most important defining feature [of] the Min group” (Norman 1982: 580) using voiced unaspirated obstruents *D- versus voiced aspirates *D^h-.

In part due to the peculiarity of such a contrast from the standpoint of mainstream Sinitic, many authors have felt that this Mǐn situation must be due not to a proto-language feature but to later dialect stratification of some kind (e.g., Lǐ & Dèng 2006). While this appears unlikely, my focus here is on the lexical incidence of the split. Table 1 presents Mǐn items consistently exhibiting historical lower tonal register aspiration, i.e., items implicated by Norman’s PM *D^h-, as completely as possible by reference to work noted to follow. Columns contain forms for 37 etyma from four representative lects belonging to four Mǐn branches, from left to right: Northern Mǐn Díkǒu/DK 迪口 (Akitani 2008), Far Western Mǐn Shàowǔ/SW 邵武 (Norman 1982, Cheng 2001), Eastern Mǐn Hǔbèi/HB 虎垵 (Akitani 2018), and Southern Mǐn Xiàmén/XM 廈門 (Douglas 1873).¹

¹ Mǐn is now often regarded as having undergone a primary split into Inland vs. Coastal branches, with both of these consisting in turn of two subbranches: Central vs. bifurcated Northern + Far Western (a.k.a. Shào-Jiāng 邵將) for the former, and Eastern vs. bifurcated Southern + Púxiān 莆仙 for the latter (see, e.g., Kwok 2018a).

PM	DK	SW	HB	XM	gloss	字
*b ^h -	p ^h oi2	p ^h ei7	p ^h uoi2	p ^h e2	skin	皮
	p ^h ɔŋ2	p ^h uŋ7	p ^h oŋ2	p ^h aŋ2	canopy; sail (n.)	篷
	p ^h iɔ2	p ^h iau7	p ^h iəu2	p ^h io2	duckweed	藻
	p ^h oi4	p ^h ei3	p ^h uoi6	p ^h e6	blanket	被
	p ^h i7	p ^h i5	p ^h i5	p ^h i6	nose	鼻
	p ^h ɛ7	HP p ^h æ5	p ^h ɛ5	p ^h ue6	cockspur grass	稗
	p ^h ɔŋ7	p ^h iuŋ5	p ^h uŋ5	p ^h aŋ6	seam	縫
	p ^h u4	p ^h au7	p ^h øk8	p ^h auʔ8	hail (n.)	雹
	p ^h ua4	p ^h u7	p ^h uoʔ8	p ^h ak8	dry sth. in the sun	曝
*d ^h -	t ^h ɔ2	t ^h au7	t ^h ɔ2	t ^h o2	peach	桃
	t ^h eu2	t ^h əu7	t ^h au2	t ^h au2	head	頭
	t ^h aŋ2	t ^h oŋ7	t ^h ɔŋ2	t ^h ŋ2	sugar	糖
	t ^h y2	t ^h ei7	t ^h oi2	t ^h ui2	hammer (n.)	槌
	t ^h ɔŋ2	t ^h uŋ7	t ^h œuŋ2	t ^h aŋ2	bug	蟲
	t ^h ɔŋ2	t ^h uŋ7	t ^h œuŋ2	t ^h aŋ2	tung tree ~ fruit	桐
	t ^h iɛ2	t ^h i7	t ^h ie2	t ^h i2	to weep	啼
	t ^h œyŋ2	GT t ^h uŋ7	t ^h am2	t ^h am2	pool	潭
	t ^h ɛ2	(t ^h ai1)	t ^h ei2	t ^h i2	moss	苔
	t ^h y2	—	t ^h oi2	t ^h ui2	steelyard weight	鍾
	t ^h i2	—	t ^h ai2	t ^h ai2	to kill	□
	t ^h iu4	t ^h ou3	t ^h eu6	t ^h iau6	post (n.)	柱
	t ^h iɔ4	t ^h ioŋ6!	t ^h yoŋ6	t ^h ŋ6	staff	杖
	t ^h eu7	t ^h əu5	t ^h au5	t ^h au6	to poison	□
	t ^h ia4	—	t ^h aʔ8	t ^h eʔ8	homestead	宅
	t ^h a4	t ^h ien6!	t ^h ap8	t ^h aʔ8	to fold	疊
*dz ^h -	ts ^h aŋ2	ts ^h oŋ7	ts ^h ɔŋ2	ts ^h ŋ2	bed	牀
	ts ^h aŋ2	t ^h on7	t ^h ɛm2	ts ^h am2	silkworm	蠶
	ts ^h au2	ts ^h au7	ts ^h a2	ts ^h a2	firewood	□
	ts ^h ai2	ts ^h en7	t ^h en2	ts ^h an2	rice field	□
	ts ^h iɛ4	—	t ^h et8	ts ^h iʔ8	portunid crab	蟹
	ts ^h ai4	ts ^h ə7	t ^h et8	ts ^h at8	bandit	賊
	ts ^h u4	ts ^h o6!	t ^h øk8	ts ^h ak8	chisel (n.)	鑿
*dʒ ^h -	ts ^h iu7	t ^h y5	t ^h iu5	ts ^h iu6	tree	樹
*g ^h -	k ^h i2k ^h u3	GZ k ^h ie7	k ^h ei2	gɔ2k ^h i2	leech	蟻
	k ^h iɛ2	k ^h ien2!	k ^h em2	k ^h i2	pincers	鉗
	k ^h i4	HP k ^h i7	k ^h ei3	k ^h i6	persimmon	柿
	k ^h iu4	k ^h y3	k ^h ou3	k ^h u6	mortar	臼

Table 1: Historical lower register aspiration in Mĭn, basis for Norman's *D^h-

Table 1 is meant simply to reflect and collate previous collections including Lǐ Rúlóng (1985, 139–140; 40 items), also an attempt at an exhaustive list of words exhibiting historical lower register T^h - across Mǐn; Norman’s various shorter $*D^h$ - lists (e.g., 1982, 555–557; 21 items); Akitani’s lists of all cases in his Northern and Níngdé 寧德 (Eastern) Mǐn data where modern voiceless aspirated onsets correspond to Middle Chinese voiced D - (2008, 79, 125, 172–173; 2018, 38–39, 129–130, 221); and Norman’s (1969) less extensive Northern Mǐn Jiànyáng 建陽 data.² Numerous details concerning Table 1 and related material are not immediately relevant to my discussion and are left to an Appendix. These include borderline cases, the problem of Mǐn-specific lexemes, and issues particular to one or another Mǐn branch or lect. For instance, Far Western Mǐn material is relatively uneven: in Table 1 Column 2 where indicated, I have supplemented available Shàowǔ data with forms from Norman (ms.) on Gāotáng/GT 高唐 as well as from Cheng (2001) on Hépíng/HP 和平 and Guāngzé/GZ 光澤.³

Significantly, Norman’s $*D^h$ - sets involve intricate tonal correspondences, again considered more carefully in the Appendix.⁴ These correspondences, first elucidated by Norman (1982), naturally complicate efforts to avoid reference to a proto-language. My concern in this section, however, is above all the fact of membership or not in the Table 1-type $*D^h$ - sets. As far as I can tell, no past study of Mǐn has suggested that the items shown in Table 1, including marginal cases presented in the Appendix, overlap with the modern aspirate-onset words to be considered in section 2.2 below.⁵

² Some meso-level reconstructions have become available — Sūn (2016) on Proto-Northern Mǐn, Akitani (2018) on Proto-Níngdé, Kwok (2018a) on Proto-Southern Mǐn — but here I follow my sources above in citing modern forms. For Proto-Mǐn, very much a work in progress, see Norman (1981); changes affecting that author’s later ‘Common Mǐn’ system are briefly considered to conclude section 2.2.

³ Also, ‘!’ marks anomalous (= mainstream-Chinese-like) tones; see the Appendix. The two studies named were generously shared with me by Shěn Ruiqīng in personal communications of June 2020. From here on I use newly unambiguous ‘Western Mǐn’ for Norman’s (1982) ‘Far Western Mǐn’ (in some studies ‘Shào-Jiāng Mǐn’). Boxes in the table’s final column indicate missing or etymologically problematic written forms; see the Appendix.

⁴ The $*D^h$ - sets implicate certain historical upper register tonal categories in Western Mǐn and also, given historical Tone C, in some Eastern and Southern Mǐn varieties: see the Appendix and Table 1 SW as well as HB, where Tone C ‘nose’, ‘seam’, ‘to poison’, and ‘tree’ are involved. Also striking is that PM $*D$ - \neq $*D^h$ - is reflected only tonally in Western Mǐn, with modern voiceless aspirated onsets T^h - in both sets. This onset situation initially led Norman (1969, 1 Note 2) to regard Western Mǐn-type lects as ‘Gàn-Hakka’; for the definitive demonstration of their Mǐn affiliation, see Norman (1982) and Shěn’s (2018) recent review.

⁵ On Table 1 ‘to poison’, see the Appendix: this characteristically Mǐn etymon is not phonologically reconcilable with mainstream Chinese /d-/ onset ‘poison (n.)’.

2.2 Mǐn's lower register pseudo-causative aspirates

At issue in this subsection are certain Mǐn historical lower tonal register plain vs. aspirated doublet pairs. Doubleting of this basic kind is common across the group and has various causes, interdialectal borrowing primary among them. However, some colloquial pairs involve distinct but systematically related meanings, with aspirated members seeming to be historical derivatives of plain counterparts via a “generally transitivizing or causative morphological mechanism” (Norman 1991, 340); the possible nature of such a mechanism has been explored more specifically by Kwok (2018b). Examples listed below are among those raised by Lǐ (1985, 142), from Southern Mǐn (SM) Quánzhōu 泉州 (where glosses are my translations), and by Norman (1991, 341), from Eastern Mǐn (EM) Fúzhōu 福州 (where glosses are Norman's). To these I have added a few pairs gleaned from Douglas's (1873) dictionary of colloquial Xiàmén (= Amoy), an SM variety closely related to Quánzhōu.⁶

Again, it is a simple matter to consult past presentations of the Table 1-type lower register aspirates and confirm that the aspirate-onset alternants addressed just below — here termed pseudo-causatives — are nowhere to be found. Instead, these words belong always to Coastal Mǐn or particular of its subbranches, reconstructable neither to PM (whether as *D^h- or some other segment) nor to OC. I examine the data more closely for two reasons. First, while projecting the pseudo-causatives to PM based only on Coastal Mǐn attestation is a clear methodological misstep, these items do constitute a vexing open question in morphologically bereft Sinitic: after all, as Norman (1991, 341) states, “to claim that such [...] pairs are due to dialect mixture is of course untenable.” Second, Norman's (1991) general survey of the Mǐn group, while apparently not utilized by Baxter & Sagart (2014), does anticipate those authors in assigning the pseudo-causatives to a very early era, in particular to *pre*-PM.⁷ Why Norman felt this to be necessary in 1991, despite what he would have known to be lack of Inland Mǐn support for such a status, is a field historical question with some important implications for the future of Mǐn studies.

⁶ Douglas's (1873) Amoy dictionary, which also includes forms from nearby locales including Quánzhōu, should be scoured systematically, as additional pairs lost in modern lexicons probably remain to be discovered. Below, I often paraphrase Douglas's detailed descriptions and also normalize his Romanization.

⁷ Norman (1991, 341) writes that “it seems probable that the aspirated/non-aspirated distinction of the voiced stops was once utilized as an important morphological device in the dialect that later became Proto-Mǐn.” Baxter & Sagart's (2014) consideration of the problem appears to be independent of Lǐ (1985) and Norman (1991).

Examples (1)–(4) are SM pairs consisting of unaspirated noun ~ aspirated transitive verb:

- (1a) /puã2/ 盤 ‘tray, plate’
 (1b) /p^huã2/ ‘to climb over a wall or fence, etc.’
 (Quánzhōu and Zhāngzhōu; Douglas 1873, 380, 401)

If this pair is valid, (1b) could be characterized as causative/similative.⁸ Inland Mǐn (here and below = Northern Mǐn/NM + Western Mǐn/WM) supports only unaspirated (1a); see, e.g. Norman (1969, 288 #242).⁹ A semantically parallel pair is given in (2).

- (2a) /kiu2/ 球 ‘ball; bunch (n.)’
 (2b) /k^hiu2/ ‘to sleep with limbs drawn together for warmth; pout the lips, etc. [i.e., to ball or bunch up]’¹⁰
 (Xiàmén; Douglas 1873, 224–225, 276)

Again, Inland Mǐn supports only unaspirated (2a); see, e.g., Norman (1969, 303 #333). Aspirated items like (1b) and (2b), while seemingly not regarded as likely candidates for reconstruction to the lexicons of Proto-Mǐn or Old Chinese, are typical of this distinctive SM class.

The following pair involves a semantically instrumental transitive verb:

- (3a) /tu2/ 鋤? ‘hoe (n.)’
 (3b) /t^hu2/ ‘to hoe’
 (Quánzhōu; Lǐ 1985, 142)

‘Hoe (n.)’ is not readily reconstructable to PM. This item is aspirated in many Mǐn varieties — Norman (1996, 34) NM Jiànyáng /hy2/ (< /t^h-/); EM Fúzhōu /t^hy2/ — while certain NM lects reflect onset voicing, e.g.,

⁸ Zēng Nányì 曾南逸 (personal communication, February 2021) has brought item (1b) to my attention; ‘plate (n.)’ is frequently homophonous with verbs ‘turn, wind, flip’ in Sinitic. Note also the literary-register pair (Xiàmén) /puan2/ ‘plate’ vs. /p^huan2/ ‘to cross together [the legs in sitting]; to linger around sb.’ at Douglas (1873, 380, 401); for another SM aspirated derivative of a late literary loan, see (8).

⁹ Norman (1969) includes both NM and WM data and is cited on this point throughout; one may also consult newer work on colloquial NM like Akitani (2008) or Sūn (2016). I have tried to address any and all apparent Inland support for historical aspiration, although Central Mǐn data unfortunately remains scarce and is left aside here.

¹⁰ Douglas (1873) does not feature Chinese characters. I have attached characters to the first, unaspirated members of pairs, with ‘?’ marking uncertain cases. The associated aspirated verbs are at times written with the same characters, at times with ad hoc regional forms.

Norman (1996, 34–35) Wǔfū 五夫 /ly9/ and Zhènqián 鎮前 /ty9/, both from Proto-NM *d- and thus Norman’s (1973) ‘softened’ PM *-d-. SM aspirated (3b) is associated with the specifically SM noun, and is not indicative of Baxter & Sagart’s (2014, 146) PM *d^h- onset ‘to hoe’.¹¹

An additional SM denominal case is given in (4).

- (4a) /kɔ2/ 糊 ‘paste (n.)’
 (4b) /k^hɔ2/ ‘to smear on’

(Quánzhōu; Lǐ 1985, 142)

See Norman (1969, 255 #48) for lack of Inland Mǐn support for the aspirated verb. Of special interest in this case is that syllables like SM /k^hɔ2/ have no regular internal or Sinitic donor source, meaning that (4b) — also (5b) below — can only be relatively recent products.¹²

Examples (5) and (6) are SM pairs consisting of unaspirated transitive verb ~ aspirated intransitive:

- (5a) /kã2/ 含? ‘to fasten, join, solder, sew together, prop up, etc.’
 (5b) /k^hã2/ ‘mended, glued, stuck, loosely attached, etc.’

(Xiàmén; Douglas 1873, 189, 257)

See Norman (1969, 293 #271) for lack of Inland Mǐn support for aspirated ‘mended’. Aspiration here is not captured by the generalization ‘transitivizing/causativizing’. A semantically parallel pair is given in (6).

- (6a) /koeʔ8/ (Quánzhōu) ~ /ŋoeʔ8/ (Xiàmén) 挾 ‘to catch or squeeze as between claws of a crab; to hold tight as with pincers; to carry between arm and body, etc.’
 (6b) /k^hoeʔ8/ ‘to be pinched or crushed between [two things], or by each other’

(Quánzhōu and Xiàmén; Douglas 1873, 243, 283, 343)

¹¹ Baxter & Sagart (2014, 145) point to Inland Mǐn support for the PM reconstruction in this case — an NM Jiànyáng /hy2/ (< /t^h-/) ‘to hoe’ — but Jiànyáng /hy2/ is ‘hoe (n.)’, not ‘to hoe’, according to Norman (1969, 83; 1996, 34). Pair (3) is also reported by Douglas (1873, 490, 530, 549, 568) (and by Norman 1996) for Xiàmén and environs: /ti2/ ~ /tu2/ ‘hoe (n.)’ vs. /t^hi2/ ~ /t^hu2/ ‘to hoe’. The question of the etymologically valid written representation of ‘hoe (n.)’ is unsettled; see the Appendix.

¹² In Mǐn proper, early Chinese *g- + non-high vowels > modern lower tonal register /k-/ ~ some NM /g-/, but not /k^h-, while in mainline Chinese, *g- under the same conditions > ≈ /h-/, thus modern lower tonal register /x-/ ~ some NM /h-/ in medieval and later loans into Mǐn, but not /k^h-/.

How intransitives of this general kind tend to be employed across Sinitic may be relevant to (5b) and (6b); see section 3.

Examples (7)–(11) are pairs found in both EM and SM consisting of unaspirated adjective ~ aspirated causative verb. It seems that EM pseudo-causatives often (always?) have SM parallels.

(7a) /paŋ2/ 平 ‘level, flat’

(7b) /p^haŋ2/ ‘to roll [cloth] smooth’

(Fúzhōu; Norman 1991, 341)

Compare SM:

(8a) /piã2/ ‘Level [Tone]’

(8b) /p^hiã2/ ‘to recoup [an investment, i.e., to break even]’

(Quánzhōu; Lǐ 1985, 142)

See Douglas (1873, 370, 396) for identical Xiàmén /piã2/ ‘Level (Tone)’ ~ /p^hiã2/ ‘to recoup’. Actually, /piã2/ ‘Level [Tone]’ appears to be a literary loan, not a native SM word for ‘level (adj.)’. This requires that (8b), if derivative, is a late SM-specific product; cf. (1b) and footnote 8 above. The more colloquial SM pair is given in (9).

(9a) /pĩ2/ ‘level, even’

(9b) /p^hĩ2/ ‘make level, as a piece of ground, etc.’

(Xiàmén; Douglas 1873, 369, 395)

It is hard to see how an OC-era derivational process could account for the existence of both (8) and (9) in, e.g., Xiàmén. Given the aspirated verbs EM (7b) and SM (9b), (and compare below), we could either consider the EM and SM forms to represent independent developments licensed by a general Coastal Mǐn process, or reconstruct the aspirated verb to a Coastal Mǐn proto-language. At any rate, Inland Mǐn supports only unaspirated (9a) (Norman 1969, 324 #457), meaning that pre-PM *b^h- onset ‘make smooth’ of Norman (1991), adopted by Baxter & Sagart (2014, 131), is unwarranted. A parallel case is:

(10a) /tik8/ 直 ‘straight’

(10b) /t^hik8/ ‘to comb out straight’

(Fúzhōu; Norman 1991, 341)

(11a) /tit8/ 直 ‘straight’

(11b) /t^hit8/ ‘to make straight; to straighten’

(Xiàmén; Douglas 1873, 506, 558)

Inland Mǐn again fails to support Norman's (1991) pre-PM *d^h- onset 'make straight' (Norman 1969, 321 #439); see also discussion below.

Examples (12)–(15) are EM + SM pairs consisting of unaspirated intransitive verb ~ aspirated transitive:

(12a) /sion̩6/ (< /ts-/) 上 'to ascend, to go up'

(12b) /ts^hion̩6/ 'to raise [water from a well]'

(Fúzhōu; Norman 1991, 341)

(13a) /tsiũ6/ 上 'above; ascend, go up, etc.'

(13b) /ts^hiũ6/ 'cause to ascend; set up, etc.'

(Xià mén; Douglas 1873, 58, 88)

Where Inland Mǐn is concerned, we again find no support for the aspirated pre-PM *dž^h- of Norman (1991), ruling out the related OC suggestions of Baxter & Sagart (2014, 132). However, interestingly, NM has pairs which are reminiscent of (12)/(13) but phonologically irreconcilable with Coastal Mǐn, their members involving Proto-NM voiceless and voiced onsets respectively: Shíbēi /tɕion̩6/ 'top, on' ~ /hion̩5/ 'go up; ascend' (Akitani 2008, 114), Jiànyáng /tsion̩6/ 'top, on' ~ /ion̩5/ 'go up; ascend' (Norman 1969, 86, 130–131), etc.¹³ The relationship between Coastal Mǐn plain ~ aspirated pairs and such non-cognate NM voiceless ~ voiced pairs may turn out to be of some significance.¹⁴

A further EM + SM valency increasing example:

(14a) /sian̩2/ (< /ts-/) 成 'to be completed'

(14b) /ts^hian̩2/ 'to finish, as a job partly done'

(Fúzhōu; Norman 1991, 341)

(15a) /tsiã̩2/ 成 'to become, be complete, etc.'

(15b) /ts^hiã̩2/ 'to make complete, to repair, to help sb. complete, etc.'

(Xià mén; Douglas 1873, 41, 76)

As above, a Proto-Coastal Mǐn pair could be entertained for this. Inland Mǐn has no such pair and largely reflects the plain onset (Norman 1969, 325 #466).¹⁵

¹³ Note also the semantic difference with EM/SM.

¹⁴ See discussion to follow as well as Huang (2001) and Smith (2021).

¹⁵ We do find aspirated relatives in some NM, including Díkǒu /ts^heiŋ9/ 'complete' (Akitani 2008, 172), but these carry so-called yǐ 乙-type lower register tones and are thus unambiguously late entrants. PM *D^h- correspondences implicate exclusively jiǎ 甲-type lower register tones in NM (e.g., Díkǒu 2, not 9, in Table 1); see the Appendix.

Finally, consider the additional SM pair in (16), identified by Baxter & Sagart (2014, 125–126) and semantically parallel to (7)–(11).

(16a) /tiã6/ 定 ‘still, quiet, steady (adj.)’

(16b) /t^hiã6/ ‘to take a small amount of food, medicine, etc., for strength or comfort [i.e., to still, to settle]’

(Xià mén; Douglas 1873, 494–495, 552)

As for Inland Mǐn, Baxter & Sagart (2014, 126) here cite an NM Jiàn’ōu 建甌 /t^hian6/ ‘fix (a date or time) in advance’ from Lǐ & Pān’s (1998, 192) Jiàn’ōu dictionary, but this is not to be compared with (16b), meaning we lack grounds for a PM *d^h- onset ‘to settle’.¹⁶

This final pair points up difficulties faced by Baxter & Sagart (2014) in trying to fold together certain lower register plain ~ aspirated Coastal Mǐn pairs with the well-known voiceless ~ voiced (i.e., historical upper vs. lower tonal register) transitive vs. intransitive pairs of general Sinitic. Since the latter are accounted for by the authors via an intransitivizing Old Chinese prefix *N- (e.g., OC intransitive *N.t- > Middle Chinese *d*- and PM *d-), some closely parallel but contrasting source is needed for any associated Mǐn pseudo-causative. Thus Baxter & Sagart’s (2014) OC *m-: given the pair just above, for instance, the idea is *N-t²en-s (> PM *d-) for the (16a) adjective vs. *m-t²en-s (> PM *d^h-) for the (16b) causative.¹⁷ The same applies to their treatment of, e.g., (10)/(11) ‘straight’ ~ ‘make straight’. Aside from the larger methodological problem which has been my primary concern to this point, such a device is odd in requiring that some of the above pairs are ancient independent derivatives of a third root rather than immediate relatives.¹⁸ Suffice to say that I think this unnecessarily complicates a problem which is on the evidence restricted to Coastal Mǐn.

While the matter of how best to explain the pseudo-causative aspirates deserves separate focused study, I nonetheless conclude this section with a brief sketch of a possible solution, followed by reflections on Norman’s motivations in 1991.

¹⁶ Lǐ & Pān (1998) report /t^hian6/ in items like ‘reserve (a table, goods, etc.)’, ‘fix a date’, and ‘good-faith deposit’ where SM has /tiã6/ and not /t^hiã6/, meaning we are not dealing with proto-language aspiration in this case. A /t-/ onset ‘calm (adj.)’ does appear to go to PM: see, e.g., Lǐ & Pān (1998, 192) for Jiàn’ōu /tian6/.

¹⁷ See the online database at <http://ocbaxtersagart.lsa.umich.edu/> (Version 1.1; Sept. 2014), consulted June 2020, for this pair and ‘straight’ ~ ‘set upright’.

¹⁸ Thus an awkward implicational hierarchy: Coastal Mǐn survival of the suggested OC *m- prefixed forms (> PM *D^h- > modern /t^h-/) predicts survival of the suggested *N- prefixed forms (> PM *D- > modern /t-/), while the roots themselves have either disappeared or taken leave of any transparent relationship with their derivatives.

First: it is surely significant that these Coastal Mǐn pairs appear exclusively in the historical lower tonal register, a fact which presents certain challenges for morphological accounts (with semantic range also a concern). I suspect that a satisfactory treatment will need to revisit Sagart's (1984) consideration of stress-conditioned differential devoicing. The historically anomalous (b) items seen above are, after all, verbal reapplications of historically regular (a) items (various parts of speech) in first position of particular syntactic frames:

- (i) [(a) noun >] (b) verb + object: (1)–(4)
- (ii) [(a) transitive verb >] (b) verb + resultative complement: (5)–(6)
- (iii) [(a) adjective >] (b) verb + object: (7)–(11), (16)
- (iv) [(a) intransitive verb >] (b) verb + object: (12)–(15)

So it seems possible that voicing neutralization in Coastal Mǐn, complete in all varieties, at times yielded voiceless aspirates as opposed to typical non-aspirates given the recognized special prosodic properties — low pitch under stress loss — of Mǐn sandhi-domain-nonfinal syllables.¹⁹ This view is strengthened by (a) the contrasting NM pairs: conservative Northern Mǐn varieties retain voiced onsets in a variety of conditions including in first position of syntactic frames resembling those listed above (Huang 2001, Smith 2021); (b) Sinitic-wide tendencies: tonal category, and more directly its phonetic correlates including pitch, is the one feature we know to have conditioned just such a post-devoicing aspirated vs. unaspirated contrast in other Chinese varieties; and (c) the late operation of voicing neutralization, for which see directly to follow.

As for Norman, he preferred in later work to hew as closely as possible to modern reflexes in reconstructed forms, and within his largely unpublished Common Mǐn scheme adjusted his earlier PM voiced *D-/ *D^h- to lower tonal register *T-/ *T^h- after the modern situation.²⁰ This meant that the pairs considered above — which must relate in some way to pan-Sinitic historical voiced onsets — could only be assigned to a still earlier 'pre-PM' stage at which contrastive voicing

¹⁹ Sagart (1984) proposed rather the opposite — a historical rule prohibiting breathy phonation in final (i.e., stressed) position — in seeking to account for Mǐn lower register aspiration in general as opposed to the pseudo-causatives in particular, but his basic insight can be preserved. Also, devoicing to aspirates given frames (i) and (ii) may be SM-specific, whereas given (iii) and (iv) may be common to EM and SM.

²⁰ This move gave Norman space for reconstruction of the voiced onsets of NM, a long intractable problem, to earlier plain voiced onsets (i.e., no notional 'softening').

was retained.²¹ There are some problems here. First, loss of contrastive voicing in Mǐn cannot be particularly ancient. The pseudo-causatives themselves point to at least partially separate EM vs. SM neutralization processes, for instance, to say nothing of the NM situation. We also have the mid-19th century testimony of Douglas (1873, 572) regarding the SM dental affricates: “[i]n the lower series of tones, ts- sometimes changes to dz-, especially in [Tóng’ān 同安] and [Quánzhōu].” Finally, there are the WM voiceless aspirated reflexes of both PM *D- and *D^h-: here Norman’s revised Common Mǐn lower register *T- and *T^h-, seen as already merged with upper register counterparts, appear to block the way to a comparatively principled account.²² There are certainly aspects of Norman’s earlier Proto-Mǐn framework which also prove problematic. Nonetheless, at present, I anticipate that his work of the 1970’s will be the foundation for future progress, and that elements including *D^h- for the Table 1 correspondences will stand.

3 The role of conjectural morphology

At the level of the syllable, modern Sinitic lexicons are largely devoid of analogical relationships /form_A/ : ‘meaning_A’ :: /form_B/ : ‘meaning_B’ of the kind that constitute morphology, meaning that resemblances between members of an analyst’s putatively related pairs are, from the standpoint of native intuition, purely fortuitous. At their core, conjectural morphological approaches to earlier stages of Chinese are classically historical linguistic efforts to recover past tune from this attested noise. We can address Fellner & Hill’s (2019) objections to word family approaches in part via paraphrastic treatment of the offending Sino-Tibetanist terminology: *allofam* > ‘candidate cognate’; *word family* > ‘candidate root and derivatives,’ etc. There is nothing methodologically untoward about these concepts.

But Fellner & Hill’s (2019, 109–110) more important point, one I heartily endorse, concerns the danger of “accepting word families as given before turning to cross linguistic comparison”. Given the peculiarity of the pairs in section 2.2 within Sinitic, Baxter & Sagart’s (2014) attempted treatment in terms of a historical derivational process is understandable. However, this presumption winds up

²¹ W. South Coblin (personal communication, August 2020) has kindly consulted Norman’s posthumous papers, including his Common Mǐn comparative tables, and not taken note therein of reference to what I have termed the pseudo-causatives. I am not sure if Norman considered these forms outside of his 1991 survey.

²² This problem, considered in some detail in Coblin (2018), may eventually have led Norman to regard Mǐn daughter branches as irreconcilable in some respects. I think Mǐn unity is established beyond doubt in Norman (1973, 1982, etc.), not least by *D^h-.

motivating the reconstruction of PM *D^h- and OC *m-D-/*m-T- in direct contravention of comparative indications. The ramifications here are worrisome: OC configurations of the same kind are extended to other PM *D^h- items, a proto-onset category which is further a key piece of the authors' reconfigured Proto-Mĭn; this Proto-Mĭn serves, in turn, as linchpin of the entire new Old Chinese enterprise.

The onus also falls on readers to query these conjectural morphological premises.²³ We might object, for instance, to Sagart's cameo within Fellner & Hill (2019) only as comparativist foil to Matisoff — and some have taken up Baxter & Sagart's (2014) forms far less critically than does Hill (e.g., 2019). In my view, a factor here is the perception of vanguard vs. reactionary 'camps'. It is telling that Baxter & Sagart (2017, 260) regard the central theme of Schuessler's (2015) critical review to be "regretting that [the authors] do not retreat from reconstructing complex onsets". Really, the terms of the debate regarding OC are not that it 'had' vs. 'lacked' consonant clusters, uvular onsets, etc. (and note that the few practitioners who do remain constitutionally opposed to these elements per se stand all too ready to join such a category-erroneous battle.) Meaningful stances, rather, involve this or that view of the most descriptively economical and typologically plausible means of accounting for observed facts. If these means involve clusters and/or uvulars, etc., then so be it.

I am unsure to what extent the study of early Chinese phonology could be purely comparative, even if prospects on this front may be brighter than generally imagined.²⁴ Certainly, though, comparison must take priority. If we adhere to this principle in the case of PM *D^h-, the aspirates of section 2.2 are instantly set to one side. In so doing, the possibility of partially morphological origins for *D^h-, far from being lost, becomes much easier to scrutinize.

An example: among Lǐ's (1985) Quánzhōu doublets we find the pair /tui2/ 'to beat' vs. /t^hui2/ 'hammer (n.)' (cf. Xiàmén at Douglas 1873, 532, 569), semantically unlike the section 2.2 pairs and with aspirated member actually reconstructable to PM (see Table 1). On closer inspection, there seem to be a not insubstantial number of PM *D^h-nouns which, in parallel manner, are directly relatable to D- onset

²³ On this point see, e.g., Schuessler (2017: 584), who notes that Baxter & Sagart (2014) "assume prefixes based only on morphological ideas" and depend more "on [...] speculative etymology than phonology", or Starostin (2015: 386), who remarks that certain of the authors' etymologies are "not to be trusted [as they are] based on no stricter methodological basis than an intuitive feel for 'word-family' connections."

²⁴ As for true Proto-Chinese, the data is incomplete and the work is far from done: look no further than this paper for the state of PM. Coblin's recent projects (2019, etc.) concern Gàn/Hakka, where again to my mind there is "all to play for."

noun/verb pairs of mainline Chinese (where noun and verb are homophones with the sometime exception of tone). Table 2 below gives a cursory account of this situation in terms of PM and Middle Chinese/MC onsets.

PM	MC	noun	MC	verb
*b ^h	b-	‘skin’ 皮 ‘blanket’ 被 ‘seam’ 縫	b-	‘to cover’ 被 ‘to cover’ 被 ‘sew’ 縫
*d ^h -	ɖ-	‘hammer (n.)’ 槌 ‘post (n.)’ 柱 ‘staff (n.)’ 杖 ‘homestead’ 宅	ɖ-	(‘to hammer’ 搥) ‘to block, to brace’ 住 ‘lean on’ 杖 ‘reside’ 宅
*dz ^h -	dz-	‘firewood’ 樵 ‘bandit’ 賊 ‘chisel (n.)’ 鑿	dz-	‘burn (v.i.)’ 樵 ‘to harm’ 賊 ‘carve’ 鑿
*dʒ ^h -	dʒ-	‘tree’ 樹	dʒ-	‘to plant’ 樹
*g ^h -	g-	‘pincers’ 鉗	g-	‘to pinch’ 鉗

Table 2: Proto-Mĭn *D^h- nouns and corresponding MC *D*- noun-verb pairs

Whereas the verbs on the right on balance have quite early origins in Sinitic and are in many cases not represented in PM, the seemingly younger nouns on the left have become part of latter-day basic vocabularies: note especially ‘(planted) tree’, a late innovation but now ‘tree (n.)’ across the family.²⁵ Also of interest is that we find PM *d^h : MC ɖ-, not *d*-, in these items.

Given these indications, we could perhaps entertain the idea that a group of OC *D- onset verbs had prefixed nominal derivatives which proceeded to mainstream Chinese *D*- but to PM *D^h-. Might OC *s-D- or the like be a possibility for this configuration given the sigmatic nominalization attested in a number of Tibeto-Burman languages (Jacques 2019, 2020) as well as past proposals for a similar mechanism in early Chinese (Schuessler 2007, 54–55)?²⁶ This question and implications for

²⁵ Early /ɖ-/ onset ‘to hammer’ finds support not from the philological tradition but from comparative material: Běijīng /tʃ^huɛiA2/ : Guǎngzhōu /ts^həuA2/ : Xiàmén /tuiA2/.

²⁶ The earliest such proposal may be Pulleyblank’s (1973) morphologically complex OC *hT^h- to account for Norman’s PM *D^h-, just the sort of word family thinking later to be revitalized by Sagart. An obvious question regarding an adjusted ‘*s-D-’ for the Table 2 nouns would concern its upper tonal register counterparts.

the rest of the genuine PM *D^h- words — apparently not in general morphological in origin but suddenly a smaller and decidedly more coherent collection — will merit careful consideration in future.

Comments invited

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Appendix: Table 1 notes

Column 1. Here Díkǒu 迪口 town (Jiàn'ōu) represents NM as supported by Akitani's (2008) Díkǒu, Shíbēi 石陂 town (Pǔchéng), and Zhènqián 鎮前 town (Zhèngghé) as well as Norman's (1969) Hòushān 後山 (Jiànyáng). (Here and below, names of locales are followed in parentheses by county-level administrative divisions.) Compare also Sūn (2016), featuring a broader base of NM lects.

Díkǒu tonal reflexes associated with PM *D^h- given historical tones A B C D are 2 4 7 4 respectively. As is the case across NM, these reflect lower register *jiǎ* 甲-type tonal categories, where cognates of historical voiced-onset words have modern voiceless onsets, not lower register *yǐ* 乙-type tonal categories, where such words have modern voiced onsets in some varieties. Given historical Tone A, for instance, PM *D^h- is represented by modern T^h- in Díkǒu and Hòushān Tone 2 (not Tone 9), Shíbēi Tone 5 (not Tone 2), etc. On Norman's approach, PM *D- tonal results are seen as identical to those of *D^h- in NM, but I think that in Tone A, PM *D- > NM A2 *yǐ* 乙-type tones (e.g., Díkǒu 9 and not 2). This argument concerns the status of Norman's (1973) PM 'softened' onsets *-D- and is not essential here; see Smith (2021).

Column 2. Here Norman's (1982) Shàowǔ 邵武 'Dialect A' (county seat) represents WM, supplemented by Norman's (ms.) Gāotáng 高唐 town (Jiānglè) and Cheng's (2001, Appendix 1) collection of data from Shàowǔ (county seat but different from Shàowǔ A in some respects), Héping 和平 town (Shàowǔ; here cf. Norman 1995), Guāngzé 光澤 (county seat), and Dǎoshí 島石 village (Guāngzé).

Shàowǔ tonal reflexes associated with PM *D^h- given historical tones A B C D are 7 3 5 7, to which contrast PM *D- 2 3 6 6 (Norman 1982, 553–555). This is typical of WM and will likely be important for considering the phonetic substance of Norman's PM *D^h- and tonally parallel PM *N^h-/*l^h-/*ɣ-, proto-categories I have not considered in this study; see Shěn (2018, 143–144).

Some Inland Mǐn varieties have been affected by chain shifts /t^h-/ > /h-/ (> /x-/); /ts^h-/ > /t^h-. Shàowǔ A is largely unaffected, but Norman's (1982) rural 'Dialect B' and Cheng's (2001) Shàowǔ, as well as some NM varieties including Norman's (1969) Hòushān, show changes of this kind. Finally, both PM *D- and *D^h- are reflected as voiceless aspirates in modern WM, giving a resemblance to neighboring Hakka, in which modern lower register T^h- : MC D-. This contact situation may have led to a degree of unevenness in the tonal reflections of PM *D^h- in WM: see the general-Sinitic-type tones marked '!' in Column 2.

Column 3. Here Hǔbèi 虎垭 township (Jiāochéng) represents EM as supported by Akitani's (2018) Hǔbèi, Xiāncūn 咸村 town (Zhōuníng), and Jiǔdū 九都 town (Jiāochéng), all Níngdé 寧德 prefecture, as well as the regional standard Fúzhōu 福州 (MacClay & Baldwin 1870).

Hǔbèi /tʃ-/ , /tʃʰ-/ and /ts-/ , /tsʰ-/ appear before front and nonfront vowels respectively. Hǔbèi tonal reflexes associated with PM *Dʰ- are 2 6 5 8, to which contrast PM *D- 2 6 6 8. The difference is the Tone C1 result in EM given Norman's PM *Dʰ- (and *Nʰ-/ʰ-/ʰ-), echoing WM and seen also in Púxiān Mǐn and certain western SM varieties (Chen 2013, 187–190; Akitani 2018, 70, 162, 253; Shěn 2018, 154–155).

Column 4. Here Xiàmén 廈門 represents SM as attested in Douglas (1873). This source, which also records forms from neighboring Quánzhōu 泉州 and Zhāngzhōu 漳州, among occasional others, avoids the problem that reference works based on modern metropolitan standards may not reflect key forms or, especially given Table 1 Tone A, may erroneously perceive literary intrusions given superficial resemblance to Mandarin, where early D- Tone A > modern aspirates Tʰ- Tone 2.

In SM, the tonal behavior of Norman's PM *Dʰ- matches his *D-, i.e., > 2 6 6 8, except in certain western lects as noted just above.

Column 5.

The following are remarks on individual Table 1 etyma. Numerous items, included some unlisted below ('pool', 'tung tree ~ fruit'), are characteristic of Mǐn or of southern Sinitic more generally; a few specifics on this front are noted. Often in Table 1, even where I have not used '□', the issue of Chinese character representation is fraught.

'canopy; sail (n.)': apparently a regional item; for instance, the mid-Hàn dynasty *Fāngyán* 方言 reports the character <篷> to write a word 'carriage canopy' in the region "beyond southern Chǔ" 南楚之外.

'duckweed': medieval commentaries and dictionaries including the *Guǎngyùn* 廣韻, citing earlier sources, regard 'duckweed' as a Jiāngdōng 江東 (~ lower Yangtze) regionalism.

'nose': historical Tone C 'nose' has a southern distribution; see Schuessler (2007, 161–162).

'cockspur grass': SM Xiàmén is /pʰue6/ ~ /pʰe6/; compare also EM Fúzhōu /pʰa5/. However, in WM, we have according to Cheng (2001, Appendix 1 p. 19 incl. Note 48) Shàowǔ /xie5/ (< /tʰ-/), Hépíng /pʰæ5/ (see Table 1), Guāngzé /pʰie5/ ~ /tʰie5/, Dǎoshí /pʰa6/, Xiàdào 夏道 town (Yánpíng) /tʰe5/, and Zhōngbǎo 中堡 village (Liánchéng) /tʰie5/. These peculiar WM reflexes could render 'cockspur grass' of particular importance for PM *Dʰ-.

'dry sth. in the sun': this word is distinctively Mǐn; see Akitani (2008, 252).

‘hammer (n.)’: orthographical mixture makes this item hard to distinguish from the homophone ‘steelyard weight’ in some sources. Table 1 <槌> is only one of a number of possible written representations.

‘pool’: /t^h-/ Tone 2 across Akitani’s (2008) NM data but /laŋ2/ in NM Hòushān (Norman 1969, 95).

‘moss’: /t^h-/ Tone 2 in NM Díkǒu and Shíbēi but /li2/ in NM Zhènqián. In WM Shàowǔ A we find a related Tone A1 etymon /t^hai1/ which in other Mǐn and mainline Chinese is specific to ‘white tongue coating, *Zungenbelag*’; cf. Mand. *shétāi* 舌苔.

‘steelyard weight’: orthographical mixture makes this item hard to distinguish from ‘hammer (n.)’ in some sources; see at ‘hammer’.

‘to kill’: this characteristically Mǐn item is by some authors represented <治>; this and similar choices are in effect etymological hypotheses.

‘staff’: contrasting with Table 1 forms is NM Shíbēi /diəŋ6/, where voiced onset and tone suggest late loaning. NM Díkǒu /-iə/ from earlier /-iəŋ/ appears to be regular in Akitani’s (2008) data. WM Shàowǔ A shows Tone 6 rather than expected 3, thus ‘!’.

‘to poison’: the Tone C verb is according to Norman (1988, 213) found in Mǐn, Cantonese, and Hakka; Akitani (2008, 258) gives a more extensive list of southern cognates that includes Ōujiāng 甌江 Wú. The idea of a straightforward relationship to MC Tone D *dowk* 毒, pursued by Schuessler (2007, 216) and Baxter & Sagart (2014, 132), is problematic, thus ‘□’ in Akitani (2008) and Table 1. There is no MC Tone C analogue, and Akitani points out that anyway hypothetical *duwC*, not *dawC*, would be expected given the southern data (cf. typical MC *kowk* ~ *kawC* 告 ‘to inform’, etc.; this issue is acknowledged at Baxter & Sagart 2014, 389 Note 55.)

Further, while *d- is provided for a PM Tone D ‘poison (n.)’ at Baxter & Sagart (2014, 132), this word is not straightforwardly reconstructable to PM. Instead, we find Inland aspirates vs. Coastal unaspirates as is the case for certain other items to be presented below: NM Díkǒu /t^hu4/, Shíbēi /t^hu1/, Zhènqián /t^hu6/ but EM Hǔbèi /tuk8/, SM Xiàmén /tak8/. We might try to compare the latter two Coastal forms to Akitani’s (2008) NM Díkǒu /tu8/, Shíbēi /du2/, Zhènqián /tu5/, also ‘poison (n.)’; however, this would imply rather Norman’s (1973) ‘softened’ PM *-d- (and the latter NM forms are probably best interpreted as late, loaned reflections of the mainstream Chinese /d-/ onset noun.)

‘homestead’: contrasting with Table 1 forms is NM Shíbēi /dze2/, where voiced onset and tone suggest late loaning.

‘to fold’: note WM Shàowǔ Tone 6 rather than expected 7, thus ‘!’, but also the distinctively colloquial coda result /-n/.

- ‘silkworm’: contrast NM Zhènqián /tsaiŋ9/ as regards tone. WM Shàowǔ A of Table 1 irregularly has /tʰ-/ (< tsʰ-), but this item is consistently part of PM *dzʰ- correspondence sets in other Shàowǔ data such as Cheng (2001).
- ‘firewood’: this regional item is at times represented <樵> (see Schuessler 2007, 308), but is traditionally written <柴>.
- ‘rice field’: this regional item is variously represented <塍> or <層> in past studies, both in effect etymological hypotheses.
- ‘portunid crab’: this regional item is in some sources written <蠊>.
- ‘chisel (n.)’: note WM Shàowǔ A Tone 6 rather than expected 7, thus ‘!’. In general, it is hard to decide whether items of this kind ought to be included in the PM *Dʰ- sets; cf. ‘accompany’ and ‘lift’ below.
- ‘tree’: WM alveopalatals, also found in Central Mǐn (see, e.g., Norman’s 1982 Yǒng’ān 永安 /tʰy5/), support Norman’s PM *dʒʰ-, but examples are scarce. Norman (1982, 557) includes ‘tree’ and ‘straw mat’ in this category, but the latter has sibilants in Inland Mǐn: WM Shàowǔ /ʃo7/ vs. SM Xiámén /tsʰioʔ8/ 席 ~ 蓆, with no clear NM representation.
- ‘leech’: compare NM Shíbēi /kʰi5lɔ5/ and Zhènqián /kʰi2/ as well as SM Xiámén /ŋɔ2kʰi2/. This is a regional word: Guō Pǔ’s 郭璞 (276–324) commentary to the *Ēryǎ* 爾雅 states that “nowadays [in] Jiāngdōng (≈ the lower Yangtze), aquatic leeches which penetrate human flesh are called (MC) *gijj*” 今江東呼水中蛭蟲入人肉者爲蟻. In early texts, the character <蟻>, often fuller <蟻蝨>, more often writes a word ‘louse’, MC *kijjB*, of no necessary relation to ‘leech’.
- ‘persimmon’: this item generally has expected Tone 6, not 3, in EM: Fúzhōu /kʰe6/, Xiáncūn /kʰei6/. For often non-contrastive Tones 3 and 6 in Níngdé EM Hǔbèi and Jiǔdū, see Akitani (2018, 37, 220). Mainline Chinese forms of this word, for which cf. MC *dzijB*, are not naturally reconciled with Mǐn; see Schuessler (2007, 466).
- ‘mortar’: this item generally has expected Tone 6, not 3, in much of EM: Fúzhōu /kʰo6/, Xiáncūn /kʰo6/; see at ‘persimmon’.

Comparison of Table 1 with Lǐ Rúlóng (1985: 139–140).

Lǐ (1985, 139) characterizes his 40-item list of Mǐn-wide historical lower tonal register aspirate-onset words as consisting of free morphemes in regular colloquial use and with Middle Chinese cognates belonging to the onset categories *b-* 並, *d-* 定, *d-* 澄, *dz-* 從, *dz-* 崇, and *g-* 群.

Six items included in Table 1 — ‘to poison’, ‘homestead’, ‘rice field’, ‘chisel’, ‘tree’, and ‘leech’ — are not included by Lǐ. In the cases of ‘to poison’, ‘rice field’, and ‘leech’, this is apparently because the items lack clear mainstream Chinese cognates. In the case of ‘tree’, the MC onset is *dʒ-* 常, not among those considered by Lǐ.

In addition to two surnames included by Lǐ (1985), EM Fúzhōu /p^haŋ2/ 彭 and /t^haŋ2/ 譚, I have excluded from Table 1 the following seven items in light of the Inland Mǐn situation:

- ‘ladle (n.)’ 瓢: Lǐ’s (1985) EM Fúzhōu /p^hiu2/, etc., but Akitani’s work (see, e.g., 2008, 251–252) suggests that NM lects use separate etyma like Díkǒu /k^hyɛ1/ 稀 for ‘ladle’.
- ‘to float’ 浮: Lǐ’s Fúzhōu /p^hu2/, etc., but his NM Jiànyáng /iu2/ as well as NM Díkǒu /iu9/, Shíbēi /hiu2/, etc.
- ‘jellyfish’ 蛇: Lǐ’s Fúzhōu /t^ha5/, to which compare EM Hǔbèi /t^ha5/, SM Xiàmén /t^he6/. Inland Mǐn has affricates, however: NM Díkǒu /ts^hia5/, Zhènqián /ts^ha5/, etc. I exclude ‘jellyfish’ from Table 1 on these grounds. Do note characteristic EM Tone 5, suggesting that this item remains of interest for PM *D^h-.
- ‘hoe (n.)’: Lǐ’s Fúzhōu /t^hy2/, etc., but with aspiration reflected inconsistently in NM; see section 2.2 (3) and notes in the main text. Coblin (personal communication, November 2020) points out that <鋤> may be inapt as a written representation of this word: the graph suggests an MC *dz*- cognate, whereas alternative <除> would suggest a *d*- cognate; see also Norman (1996, 34–35) and Baxter & Sagart (2014, 145–146). Akitani (2008, 29) maintains that native Mǐn strata have dental stop onset cognates of certain MC *dz*- words.
- ‘rainbow’ 虹: Lǐ’s Fúzhōu /k^høyn6/, etc., but NM Shíbēi unaspirated /kɔŋ5/ as well as other, separate NM etyma at Akitani (2008, 332 #456).
- ‘lame’ 瘸: Lǐ’s Fúzhōu /k^huo6/, etc., but non-corresponding NM cognates where present including NM Zhènqián /k^hio9/ (note Tone 9).
- ‘to stand’ 倚: Lǐ’s Fúzhōu /k^hiɛ6/, etc., but NM Díkǒu /kyɛ8/, Shíbēi /gye5/, etc., suggesting an earlier plain voiced onset.

The below lack the expected WM reflexes and are absent from Lǐ’s (1985) list. It is hard to determine whether they belong to colloquial strata and should be included in Table 1:

- ‘accompany’ 伴: NM Shíbēi /p^huain6/ and Zhènqián /p^huain6/, EM Hǔbèi /p^huon6/, SM Xiàmén /p^huã6/
- ‘lift’ 扶: NM Díkǒu /p^hu2/, WM Shàowǔ /p^hy2!/, EM Hǔbèi /p^huo2/, SM Xiàmén /p^hɔ2/

Further marginal cases

The following from Norman (1982, 556) might also have been included; I have restricted Table 1 to items represented in NM given the new wealth of data from the that subgroup and its more general significance to Mǐn phonological history.

- ‘to sew’: WM Shàowǔ /t^hien5/, EM Fúzhōu /t^hien5/, SM Xiàmén /t^hĩ6/ (Norman 1982, 556)

A few sets feature consistent manner of articulation but Inland aspirates vs. Coastal unaspirates, i.e., they resemble ‘poison (n.)’, discussed in connection with Table 1 ‘to poison’ above. I leave aside the question of how these might relate to PM *D^h- or constitute correspondence sets relevant for PM in their own right. The presence of rice vocabulary in this group is of interest.

‘rice plant’ 稻: NM Díkǒu /t^hau4/, Zhènqián /t^hau6/ (note also NM Hòushān /lau6/) but EM Hǔbèi /tɔ6/, SM Xiàmén /tiu6/. The Coastal Mǐn forms are traditionally written <粬>. The more widespread Inland Mǐn word ‘rice plant’, shared with Hakka and Gàn, is represented by NM Díkǒu /oi2/, WM Shàowǔ /uai2/ 禾 (Norman 1982, 579; Cheng 2001, 144 and Map 26.)

‘glutinous rice’ 秈: NM Díkǒu /ts^hy4/, Zhènqián /ts^hui6/ but EM Hǔbèi /θut8/ (< /ts-/), SM Xiàmén /tsut8/. Semantics here are characteristic of Mǐn; see Akitani (2008, 252).

‘navel’ 臍: NM Díkǒu /ts^hε2/, Shíbēi /ts^he6/ and WM Shàowǔ B /t^hi2/ (< /ts^h-/) but EM Hǔbèi /tsai2/, SM Xiàmén /tsai2/.

‘front’ 前: NM Díkǒu /ts^hie2/, Shíbēi /tɕ^hiŋ5/ but EM Hǔbèi /θɛn2/ (< /ts-/), SM /tseŋ2/.

Also cf.:

‘swim bladder of fish, isinglass’ 鰾: NM Díkǒu /p^heu4/, Zhènqián /p^heu6/ and WM Guāngzé /p^hau7/, also EM aspirated Xiáncūn /p^hau6/, but SM Xiàmén /pio6/.