

CONTRASTIVE VOWEL LENGTH IN MIENIC: INHERITANCE OR DIFFUSION?

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1 Majority opinion

The Hmong-Mien (=Miao-Yao) family has two branches: a larger and more complex Hmongic branch, comprising the languages Hmong, Pu-Nu, A-Hmao, Hmu, Qo Xiong, Pa-Hng, and Ho Ne, among others, and a less-diversified Mienic branch, which includes the languages Mien, Mun, Biao Min and Zao Min (Niederer 1998). No language in the Hmongic branch has contrastive vowel length, nor do the Biao Min and Zao Min languages of the Mienic branch. On the basis of vowel length contrasts in dialects of the Mien and Mun languages alone, however, the majority view is that vowel length should be reconstructed for the ancestor language of the entire family, proto-Hmong-Mien (pHM). For example,

1. Purnell (1970) reconstructed both /a/ and /a:/ before /p, t, m, ŋ, i, and u/ at the proto-Mienic (pM) level, and carried the contrast up to the pHM level.
2. Downer (1982) also reconstructed the /a/-/a:/ contrast, and held out the hope that reconstructing more length contrasts could help clear up some of the difficulties in linking Mienic rimes with the severely reduced number of Hmongic rimes: “Since it is necessary to project the Yao length distinction back into [pHM] (but not [pH]) for the low vowels, a further assumption might be made: that [pHM] possessed similar length distinctions with other vowels. Such an assumption could then explain some other cases where a single Miao rime corresponds to two different Yao rimes ...” (p. 5). But careful study reveals no evidence that pHM vowel length played a role in the patterns of merger into pH: the quality of nuclear and peripheral vocalic elements alone seem to have determined the outcome of these mergers (Ratliff 2002). This does not constitute proof against pHM vowel length, but neither is there support for it here, as Downer had hoped there might be.
3. To account for their 210 rime correspondence sets (several with only one member), Wang and Mao (1995) rather artificially reconstructed vowel length in pHM whenever a word was recorded with a long vowel in any dialect. Length is reconstructed before stop and nasal codas, *i and *u (with many gaps) for all fifteen of the basic vowels in their proto-inventory (*i, *ɪ, *e, *ɛ, *æ, *a, *A, *ɐ, *ɒ, *ɑ, *ɔ, *o, *ʊ, *u, *ə). But as they point out in the introduction (p. 15), only dialects of Mun exhibit length contrasts in vowels other than /a/.

Reconstructing vowel length is a reasonable idea, especially since Mienic typically conserves rime contrasts which have merged in Hmongic. But for Purnell, the conven-

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ience of setting up pHM rimes as equivalent to pM rimes (including the length contrasts) “... is merely an attempt to organize the large number of [pHM] final correspondences in a way that would facilitate further investigation ... [i]t is “not meant to imply that [pM] has preserved the [pHM] final system ... intact” (1970:183). Nonetheless, most have proceeded under the assumption that it has.

2 Minority report

However, Theraphan L-Thongkum (1993:193) reconstructs the length contrast in [a] in Mienic as a vowel quality difference at the pM level: *ə > a, *a > a:. Taking the view that the contrast was one of quality, not length, at the pM level would clearly remove motivation for the reconstruction of length at the even earlier stage of pHM.

Although this is a different solution to the vowel length problem in HM, it is of importance that scholars working on neighboring languages in the diffusion area of Southeast Asia have come to similar conclusions about the origin of vowel length in other families. Graham Thurgood (1999) reconstructs *ə and *a as the source for /a/ and /a:/ in proto-Chamic (a mainland Austronesian group). Li Fang Kuei (1977) reconstructed quality contrasts as the source for length contrasts in proto-Tai, a branch of Tai-Kadai (his discussion of the fleeting nature of vowel length contrasts in Tai could be transplanted wholesale into an account of vowel length in Mien-Mun), and Weera Ostapirat (2000) reconstructs quality contrasts as a source for length contrasts in proto-Kra, another branch of Tai-Kadai (Gelao, Lachi, Laha, Paha, Buyang, Pubiao). Matisoff (2003) reconstructs vowel length contrasts in closed syllables for proto-Tibeto-Burman, while noting that “contrastive vowel length must have been an inherently unstable feature in TB” (p. 244).

For Chinese, on the other hand, Norman (1988:217) points out that length contrasts must have been present in proto-Yue (the subfamily to which Cantonese belongs), since length in closed syllables (giving rise to the *rù* tone) conditioned a tone split in the voiceless series. There is no clear consensus on whether or not vowel length should be reconstructed for either Middle Chinese or Old Chinese.

3 Building the case for length as a relatively recent development

3.1. Phonemic length and lexical borrowings

In the Southeast Asian linguistic area, vowel length is contrastive in closed syllables in (at a minimum) Mienic, Tai-Kadai, and languages of the Yue branch of Chinese. Today, Mien speakers in Thailand are in contact with vowel-length languages Standard and Northern Thai (Purnell 1965:3 and L-Thongkum 1993:193). In the provinces of Hunan, Yunnan, Guangdong, Guizhou, Jiangxi, and the Guangxi Zhuang Autonomous Region, Mien and Mun speakers live among Tai vowel-length language speakers (most notably Zhuang) and Chinese. On Hainan Island, Mun speakers are in a contact situation with (among others) speakers of two languages with contrastive vowel length, Hlai (Li) and Cantonese.

At all levels, as pointed out by Kosaka (2002), loanwords with long vowels seem to outnumber native words with long vowels in Mienic, whether or not they have long vowels in the source languages. This suggests that the development of vowel length in Mienic may have been facilitated by the borrowing of (1) words from languages with contrastive vowel length (where length was borrowed along with the word), (2) words from languages with “heavy syllables”, interpreted by speakers of Mienic languages as containing long

vowels, and (3) words likely to serve as syntactic heads, thus susceptible to stress and lengthening (see below).

In these loanwords, length appears sporadically across Mienic dialects. The variation is likely to be due both to different immediate loan sources, and to different prosodic systems in the borrowing dialects. For example, if a loan from Chinese has an [a:] in Mien, it does not consistently have a long vowel in Mun, even though length carries a higher functional load in Mun than in Mien. See the two tables below for contrasting patterns of length correspondence (Mien data from Downer 1973 and Mun data from Shintani and Yang 1990):

Mien long: Mun long

Chinese	gloss	Mien	Hainan Mun
<i>yāng</i>	seedling	ʔja:ŋ 1	zja:ŋ 1
<i>bēng</i>	thief, burglar	tʂa:ʔ 8	ta: 6
<i>mǎi</i>	buy	ma:i 4	ma:i 4
<i>bài</i>	be defeated	pa:i 6	ʔba:i 4
<i>kě</i>	thirsty	ga:t 7	ga:t 7
<i>gē</i>	cut, mow	ka:t 7	ka:t 7 (Liangzi)
<i>gān</i>	sweet	ka:m 1	ka:m 1
<i>sān</i>	three	fa:m 1	ta:m 1, 5
<i>yā</i>	duck	ʔa:p 7	ʔa:p 7

Mien long: Mun short

Chinese	gloss	Mien	Hainan Mun
<i>làng (fèi)</i>	waste time	la:ŋ 6	laŋ 3
<i>zhēng</i>	evaporate	tʂa:ŋ 1	saŋ 1 (Liangzi)
<i>běi</i>	north	pa:ʔ 7	ʔbak 7
<i>tài</i>	too much	tha:i 5	thai 1
<i>huài</i>	go bad, spoil	wa:i 6	huai 2
<i>fá</i>	punish	pa:t 8	hɔat 8
<i>fā</i>	send out	fa:t 7	hɔat 7
<i>fǎ</i>	law, method	fa:t 7	phat [44]
<i>fàn</i>	violate	pa:m 2	phan 5
<i>nán</i>	south	na:m 2	na:m 2, nam 1
<i>là</i>	wax, candle	la:p 8	lap 8

3.2. Syllable weight and prosody

On a higher level of linguistic organization, two independent descriptions of Mien (and a note on Mun) show these two vowel length languages are characterized by a prosody that alternates short and long (or light and heavy) syllables.

For Mien, Downer (1961) writes, “The word in Highland Yao [= Mien] consists of a full syllable, which may be preceded by one or two reduced syllables. Full syllables are characterized by a system of tones, and, when preceded by reduced syllables, by relative prominence and duration. Reduced syllables have no tones, and have markedly different realizations depending on speed of utterance” (p. 532). “Reduced syllables do not occur

finally, but always precede a full syllable or another reduced syllable. They are of two kinds—regular reduced syllables, and reduced syllables in -a. The two kinds agree in having weaker stress and shorter duration than the following full syllables so that a strong iambic rhythm is imparted to disyllabic words ...”(p. 539). Purnell (1965) also classifies Mien syllable types into a major type (pre-pausal, stressed) and a minor type (those syllables which precede the major syllable). Together, strings of minor syllables and one major syllable make up the “phonemic phrase” (pp. 7 ff.) In this synchronic study, in a manner reminiscent of L-Thongkum’s later historical study, Purnell analyzes short [a] as phonologically /ə/, and long [a:] as phonologically /a/ (pp. 78 ff.).

For Mun, Shintani and Yang (1990) observe that “... in plurisyllabic words or contexts, a tonal and vowel neutralization is often observed” (p. viii). My analysis of 135 sentences in this dictionary illustrating basic syntactic types showed a strong correlation between vowel length and phrase-final position (location of the syntactic head of the phrase).

But with regard to the question of this paper—is contrastive length due to inheritance or diffusion?—the fact that Mien and Mun today are characterized by an iambic rhythm cannot constitute proof that length is a secondary development. This is a “chicken and egg” problem: the role of stress and the alternation between full and reduced syllables could as easily be seen as a consequence of the inherited feature of length as a factor in its development and a supportive environment for it.

However, some long vowels clearly seem to have developed secondarily. Given the iambic rhythm of these languages, not only must non-phrase-final syllables be light, but phrase-final syllables (syntactic heads) must maintain a certain gravity. Comparative data in Wang and Mao (1995) make it appear that compensatory lengthening—either upon loss of a medial, or upon reanalysis of a medial as syllable onset—may have developed sporadically to preserve necessary “weightiness”. Compare forms in each column below to see that vowel length and the presence of a medial glide are in complementary distribution across the Mienic languages in their sample. The absence of both length and a medial glide is another possible outcome, but crucially none of the forms below contains both a long vowel and a medial glide:

	<i>ash</i>	<i>narrow</i>	<i>armspan</i>	<i>twist</i>
Jiangdi (Mien)	<u>sai</u> 3	hep 8	<u>tsa:m</u> 2	sjet 7
Xiangnan (Mien)	swa 3	ei 8	tsaŋ 2	sje 7
Luoxiang (Mien)	ɕwai 3	hep 8	wjam 2	ɕat 7
Changping (Mien)	θwai 3	hjep 8	<u>jo:m</u> 2	θjet 7
Liangzi (Mun)	sai 3	hep 8b	jom 2	<u>sa:t</u> 7
Lanjin (Mun)	<u>sai</u> 3	<u>he:p</u> 8	jom 2	<u>sa:t</u> 7
Dongshan (Biao Min)	swai 3	hjen 8	jaŋ 2	--
Sunjiang (Biao Min)	ci 3	he 8	jøn 2	--
Daping (Zao Min)	soi 3	hep 8	dzjam 2	sjet 7

3.3. Inherent length variability in [a] favors a diffusion hypothesis

Recall that while in Mun a vowel length contrast holds between several vowel pairs, in Mien the contrast only exists between /a/ and /a:/. Mien is not alone in showing a length contrast only in [a]. This is also true of Shan, Tai Luu, Wuming Zhuang (Tai-Kadai), Cantonese (Sinitic), Chamic (Austronesian), and undoubtedly other languages of the area.

(Vowel length contrasts also exist in many Himalayish and Kamarupan Tibeto-Burman languages to the west of this area. One of these languages, Gurung, also shows a length contrast in [a] alone, as does Khasi, an Austroasiatic language spoken in India and Bangladesh.) It seems reasonable to assume that there is a phonetic basis for this consistent asymmetry.

An explanation for the special status of [a] can be deduced from data in a cross-linguistic phonetic study by Matthew Gordon (2002), which pulls together much of the relevant research on the phonetics of vowel length as a manifestation of syllable weight. He observes “There is a well-documented tendency for low vowels to be crosslinguistically longer than high vowels ..., a fact typically attributed to the additional time needed for the jaw lowering involved in the production of low vowels.” (p. 73). But even more interesting for historical purposes than this observation about low vowels is the connection Gordon has discovered between the freedom of low vowels to show variation in duration and the existence of a phonemic contrast in vowel length:

In virtually all cases, languages without phonemic vowel length display greater durational differences between vowels of different qualities ... In languages with phonemic length contrasts there is less room for the intrinsically longer low vowels to enhance their inherent length by undergoing additional lengthening, because additional subphonemic lengthening would potentially lead to neutralization of phonemic length distinctions. In other words, contrasts based on vowel quality are limited in terms of the durational differences that may accompany them. (pp. 72-73)

The fact that the rise of a phonemic contrast inhibits the range of variability of an individual phoneme with respect to some distinctive feature of that phoneme is more generally true: it is reminiscent of the fact that English /k/ allophones cover a large territory—from the palatal region to the uvular region—due to lack of competition in the back of the mouth, whereas languages with both a velar series and a uvular series show correspondingly limited allophonic variation in terms of place of articulation of /k/, lest /k/ infringe on the territory of /q/. Here the issue is a trade-off between inherent vowel length as a function of vowel quality and phonemic vowel length: an [a] widely variable in length for phonetic reasons is constrained with regard to length once a phonemic length contrast arises, because, for communicative reasons, a clear and consistent distinction must be maintained between /a/ and /a:/.

We have learned from years of studying tonogenesis that a language needs both an external stimulus and internal resources to develop into a new prosodic type. In this case, external models have been established—Chinese must have had length contrasts at least back to proto-Yue, and length in Tai-Kadai languages, even if secondary, appears to be quite old. The internal subphonemic variability lying ready for exploitation must have been the natural tendency of low vowels to manifest a wider range of length differences than other vowels—but, as Gordon has demonstrated, such significant durational difference in [a] is robust *only in languages which do not already have contrastive vowel length*. I suggest that Mien and Mun were embryonic vowel-length languages in which the natural variability in the duration of [a] was enhanced as a result of the interplay of weak and strong syllables, leading to a phonologization of the length feature. Two possible developments from this point are illustrated by Mien and Mun respectively: the inventory could

have been stabilized with only the one contrasting pair, in which case the one lone long vowel would act phonologically like a simple vowel (as in Mien, see Purnell 1965), or length contrasts in non-low vowels could have developed on the model of the contrast in the low vowel (as in Mun).

Wang and Mao 1995 (and Downer 1982 as well, although less confidently) suppose that Biao Min and Zao Min have lost vowel length, and that Mien has lost length in all vowels except [a]. Under this scenario, Mun, showing at least some contrasts with all vowels, is the conservative language. I think it more likely that Biao Min and Zao Min are the conservative languages, Mien is developing vowel length, and Mun is the most “advanced” in this respect. One indication that this is right historical script is L-Thongkum’s account of the generational differences between older Mien speakers and the younger Mien speakers who have been exposed to Thai in schools and in the media. These younger speakers are using vowel length more consistently than their elders. “Regarding other pairs [other than a-a:], such as i-i:, u-u:, etc., there is no consistency; they vary a great deal among speakers, especially in the Mjuenic dialects spoken in Guangxi. During my field trips in the North of Thailand in 1987-1988, I noticed that younger speakers of the Mien dialect were quite consistent so far as vowel length was concerned. There was a tendency that vowels in some words were always long or always short. A cause of this might be language contact ...” (1993:193).

4 Conclusion

It is therefore plausible that Mien and Mun became vowel-length languages in contact with other languages of this type, in the first instance by exploiting the significant inherent length peculiar to the vowel [a] which only occurs in languages with no length contrasts.

At the very least, the identical manifestations of length in the vowel [a] in some Tai-Kadai languages, Mien, Mun, and Cantonese, among others, suggest that vowel length is another prosodic system, like tone, which is shared by languages of unrelated families in the Sinosphere. Matisoff (2001) writes “To what can we ascribe the surprising diffusibility of prosodic features? It seems to me that part of the answer lies in the perceptual salience of the rise and fall of the human voice ...” (2001:322). He is here writing about the spread of tone and register systems in Southeast Asia, but his comment could apply to vowel length as well, although it is the perceptual salience of the expansion and contraction of speech, the rhythm of speech, rather than the rise and fall of speech, that would account for the diffusibility of length. It seems reasonable to think that multilingual speakers recalibrate the rhythm of the languages known to them so that they sound more alike. Undoubtedly the details that tell the true story about vowel length will be revealed in micro-level studies of multilingual communities.

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