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An Introductory Study on the Pronunciation and the Tone Pattern of Chinese Characters in the Recitation of *Panwang dage* in the Mien Language

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In this study we introduce the pronunciation and tone patterns of the Chinese character pronunciations borrowed from Sinitic languages into the Mien language used for reciting *Panwang dage* in a Mien dialect. *Panwang dage* consists of written sutras recited for religious reasons by Mien priests. Most Chinese characters appearing in it are recited using Chinese character pronunciations borrowed from Sinitic languages into the Mien language.

0. Introduction

It is widely known that Chinese loanwords are found in the oral vocabularies of many East Asian and Southeast Asian languages. In some ethnic groups heavily influenced by Chinese culture, such as the Zhuang people 壯族, priests recite Chinese-language Buddhist sutras using the pronunciation of their own language. Most Chinese characters in the sutras are recited using pronunciations borrowed from the Sinitic languages, but some are recited using the pronunciation of native Zhuang words. The Iu-Mien 優勉 people, who currently live scattered throughout the mountainous areas between southern China and northern parts of Southeast Asia, also practice this kind of Chinese character pronunciation. This ethnic group is referred to as the "Yao" (瑤) people in China. Traditionally, they have used only Chinese characters for their written language, and their priests use Chinese character pronunciation to recite a sutra generally known as *Panwang dage* 盤王大歌 in religious ceremonies. The meaning of *Panwang dage* is approximately "great song of/for King Pan," as the Iu-Mien people classify the sutra as a song, which indicates that they have a distinctive concept of songs.

Shi (1928) was a pioneer of the research of the folksongs transmitted among the Mien peoples. Later, Chao (1930) provided the first record of 197 Mien folksongs using the International Phonetic Alphabet (IPA), referring to them as "Han-Chinese songs" (漢歌), because most syllables were recited using borrowed Chinese character pronunciations. He did not specify which dialects were used in reciting the folksongs or his informant's hometown. However, from Pang's (1932:46) statement of "the great Yao village located in the region which is surrounded by the seven counties, Pingnan 平南,

Xiuren 修仁, Xiangxian 象縣, Guiping 桂平, Mengshan 蒙山, Zhaoping 昭平, and Wuxuan 武宣," we can deduce that the village in question was located in the Luoxiang 羅香 township in the Jinxiu Yao Autonomous County 金秀瑤族自治縣 of Guangxi in the current administrative subdivision of Zhuang Autonomous Region. Zhao (2010b:389) also mentioned that this village was in Luoxiang. According to Mao (2004:12-13), the dialects spoken in Jinxiu County can be classified into the Guangtian 廣滇, Changping 長坪, and Luoxiang 羅香 sub-dialect groups (土語) of the Mien language 勉語; the latter is spoken in Luoxiang township. Li (2001) ordered the Chinese character pronunciations recorded in Chao (1930) according to initial, rhyme, and tone to identify their features and make a list of syllables. Unfortunately, Li (2001:253) misidentified the Chinese character pronunciations in Chao (1930) as belonging to the Guangxi dialect of Cantonese. In Chao's IPA transcription, there are several features that are inconsistent with the basic features of Cantonese[1]. Furthermore, some consonant clusters, such as [pl] and [kl], are also found in his transcription, suggesting that the syllables are native sounds of the Mien language (hereinafter referred to as NM), rather than from Chinese characters borrowed by the Mien language. This means that not all characters in the recorded folksongs were recited using Mien pronunciation of Chinese characters. Similarly, most Chinese characters appearing in *Panwang dage*, which is the focus of this study, are recited using Chinese character pronunciations borrowed from Sinitic languages into the Mien language (hereinafter referred to as CPM), but some Chinese characters are recited using NM pronunciation.

Panwang dage is often thought of as a type of song, but it is recited for religious reasons in the Mien community. It is a different kind of song from the folksongs recorded by Chao (1930). Zhao (2010b:389 etc.) called *Panwang dage* the "song of the Yao people" (瑤歌). However, *Panwang dage* consists of written sutras recited for religious reasons by Mien priests, serving a different function than normal folksongs. Although a two-volume book of *Panwang dage* recorded with both Chinese characters and IPA was published by Yuelu Publishing House in 1987 and 1988, it offers no explanation of the dialect the IPA is based upon. We can hypothesize that the dialect belongs to the Guangtian sub-dialect group because of the appearance of three kinds of stops, [-p, -t, -k], and the similarity in tone contour, but there is no conclusive evidence one way or the other.

In this study, we introduce the pronunciation and tone pattern of the CPM used for reciting *Panwang dage* in the Mien dialect of the Xianglan settlement 湘藍村 in Huiyuan village 匯源鄉 in Lanshan County 藍山縣 of the Chinese province of Hunan,

[1] Features inconsistent with the basic features of Cantonese are also found in the Chinese character pronunciations of *Panwang dage*.

according to the record in Yoshikawa (2016)[2]. In section 3.2, we invoke data on the pronunciation of Sino-Mien vocabulary (hereinafter referred to as PSM) belonging to the same dialect that the author recorded in the settlement in 2014 for comparison. Part of this data was published in Yoshikawa (2015)[3]. In this study, we only use data relevant to CPM, PSM, and NM, unless otherwise noted. The dialect in question belongs to the Xiangnan 湘南 sub-dialect group of the Mien language[4].

1. The CPM sound system of *Dageshu shangce*

In this section, we provide information on the initial, rhyme, and tone of the CPM found in *Dageshu shangce* from Yoshikawa (2016:74-80).

1.1 Initial

The CPM initial system of *Dageshu shangce* is as follows. The initial j and w often follow a glottal stop [ʔ] and appear as [ʔj] and [ʔw], respectively.

p	pʰ	b	f	m			
pj	pʰj	bj	fj	mj			
pw	pʰw	bw	fw	mw			
t	tʰ	d		n	n̥	l	l̥
tj						lj	
tw	tʰw			nw		lw	
ts	tsʰ	dz	s				
tsj	tsʰj	dzj	sj				
tsw	tsʰw	dzw	sw				
tɕ	tɕʰ	dʑ	ɕ	ɳ			
tɕw	tɕʰw	dʑw		ɳw			
k	kʰ	g		ŋ			
kw	kʰw	gw		ŋw			
ʔ			h				
j			hj				
w			hw				
jw			hjw				

[2] The book title of the *Panwang dage* whose pronunciation Yoshikawa (2016) recorded is *Dageshu shangce* 大歌書上册, meaning "Great song book, volume I."

[3] Although the informant for Yoshikawa (2015) and the one for Yoshikawa (2016) were not the same person, they were neighbors in the same settlement.

[4] We conducted field research in Xianglan settlement to record basic oral vocabulary in 2014, and recorded the phonetic value of reading *Panwang dage* at Kanagawa University in 2015 in the collaborative study "A linguistic study on the knowledge on ceremony of Iu-Mien people in Lanshan county, Hunan province, China" by the Center for Asian Studies at Kanagawa University.

In comparison with the NM/PSM initial system (Yoshikawa 2015:101), we find that many unvoiced nasals, such as [m̥], do not appear in this volume's CPM system.

1.2 Rhyme

The CPM rhyme system of *Dageshu shangce* is as follows. The parenthesized forms are probably allophones of other rhymes. Because the rhymes aŋ, əu, and əŋ are preceded by [ĭ] with a short duration when combined with pre-palatal initials, in this study we describe them as [(ĭ)aŋ], [(ĭ)əu], and [(ĭ)əŋ], respectively.

Rhymes accompanied with a glottal stop [ʔ], that is to say aʔ, ɛʔ, iʔ, əʔ, ʌʔ, oʔ, and uʔ, are the checked tone rhyme, appearing only with tones 7a and 7b. The other rhymes appear only with the other tones.

a	ai	au	(ĭ)aŋ	aʔ
ɛ			ɛŋ	ɛʔ
	ei		eŋ	
	(ʐi)		(ʐ̩ʐ̩ŋ)	
i			iŋ	iʔ
			(ẹŋ)	
ə		(ĭ)əu	(ĭ)əŋ	əʔ
			ʌŋ	ʌʔ
ɔ			ɔŋ	oʔ
u			ʊŋ	uʔ
			ṵŋ	

This rhyme system is basically same as the NM/PSM system (Yoshikawa 2015:102). Rhymes iu and ui in Yoshikawa (2015:102) are described as jəu and wi in Yoshikawa (2016) and are interpreted as əu and i, respectively.

1.3 Tone

The CPM tone system of *Dageshu shangce* is presented in Table 1 below. Tone 4 is unused in this dialect. Because no evidence for tone 4 as an independent tone was found, and the Chinese characters belonging to the rising tone with a voiced initial (*zhuóshàng* 濁上) in Middle Chinese (hereinafter referred to as MC) have the contour of tone 1, we assume that the tone 4 syllables have merged into tone 1. Tone 8 is also unused in this dialect. Because no evidence for Tone 8 as an independent tone was found, and the Chinese characters belonging to the entering tone with a voiced initial (*zhuórù* 濁入) in MC are read with the contour of tone 6, we assume that the tone 8 syllables have merged into tone 6.

The distinctive feature of tones 3a and 3b is the short duration of the syllable. It is worthy of special mention that these syllables are accompanied by laryngealization, that

is to say, laryngeal tension, in their latter half. In this study, we do not describe this feature using IPA or other marks. Tones 7a and 7b are so-called checked tones, peculiar to rhymes accompanied by a glottal stop [ʔ]. No other tones appear with rhymes of this kind.

Table 1. CPM tone system of *Dageshu shangce*

Tone Number	Tone Name	Tone Contour	Feature of Syllable
1	*yīnpíng* 陰平 level tone of upper register	[33]	
2	*yángpíng* 陽平 level tone of lower register	[31]	
3a	*yīnshàng A* 陰上 A rising tone of upper register	[45]	laryngealization in latter half of syllable
3b	*yīnshàng B* 陰上 B rising tone of upper register	[24]	laryngealization in latter half of syllable
5	*yīnqù* 陰去 departing tone of upper register	[13]	
6	*yángqù* 陽去 departing tone of lower register	[21]	
7a	*yīnrù A* 陰入 A entering tone of upper register	[44]	glottal stop at the end of syllable
7b	*yīnrù B* 陰入 B entering tone of upper register	[34]	glottal stop at the end of syllable

This tone system is basically same as the NM/PSM system (Yoshikawa 2015:102).

In the recitation of *Dageshu shangce*, Chinese characters using tones other than 2 are frequently read with tone contour [31], the same contour as tone 2. For example, the Chinese character 第, which belongs to the departing tone in MC, is read with contour [21] in many lines. However, in the word 第一, it is read with contour [31]. Hence, we assume that there is a tone sandhi rule whereby any tone changes into the same contour as that of tone 2 in this dialect.

2. The tone pattern of *Dageshu shangce*

A previous study pointed out that sutras and songs conform to certain metrical patterns. Purnell (1998) not only elucidated that the pattern differs depending on the type of song or poem, but also showed that most of the patterns are conducted in two lines, or four half-lines. The recitation of *Dageshu shangce* is also conducted according to a certain pattern. A clear relationship is observed between position in the couplet and the tone for each Chinese character.

Here we cite the recorded Chinese characters and their pronunciations in the passage of *Shenshan-zhumu* 深山竹木 in *Dageshu shangce* from Yoshikawa (2016:139-141). Information on the folio number, front/back of the folio, and line number is found on the left side of the record. *x* indicates the front side of the folio, and *y* the back side; *a* indicates the first half-line, *b* the second half-line. The two Chinese characters whose pronunciations are separated by a slash indicate two characters written in the same position of the folio. These characters are recited once each, that is to say, the line is recited twice. The black circle indicates a position with no Chinese character written in the folio.

All parts of this passage are couplets, consisting of a pair of lines. Each line consists of two half-lines, *a* and *b*. All half-lines consist of seven Chinese characters. Therefore, the tone pattern is conducted in four half-lines, with twenty-eight Chinese characters in total.

25y1	a	深	山	竹	木	劉	王	種
		sjəŋ^{31}	sjəŋ^{33}	tuʔ$^{\underline{44}}$	mu^{21}	ljəu^{31}	hʊŋ^{31}	tswʌŋ^{13}
	b	深	潭	曲	凹	是	龍	開
		sjəŋ^{31}	tɔŋ^{31}	tɕʰuʔ$^{\underline{44}}$	ŋ̊i^{13}	tsei^{33}	lwʌŋ^{31}	gwai^{33}
25y2	a	南	安	水	族	是	龍	較
		naŋ^{31}	waŋ^{33}	swi$^{\underline{45}}$	tsu^{21}	tsei^{33}	lwʌŋ^{31}	tɕʰ(ĭ)au^{13}
	b	水	底	龍	門	入/日	后/夜	開
		swi$^{\underline{45}}$	di$^{\underline{24}}$	lwʌŋ^{31}	mwʌŋ^{31}	pi^{21}/jəʔ$^{\underline{44}}$	hu^{33}/ji^{13}	gwai^{33}
25y3	a	深	山	竹	木	劉	王	種
		sjəŋ^{31}	sjəŋ^{33}	tuʔ$^{\underline{44}}$	mu^{21}	ljəu^{31}	hʊŋ^{31}	tswʌŋ^{13}
	b	巷	邊	楊	柳	聖	人	栽
		hʌŋ^{21}	piŋ^{33}	ljaŋ^{31}	ljəu^{33}	siŋ^{13}	ŋ̊(ĭ)əŋ^{31}	tswai^{31}
25y4	a	珍	珠	糯	米	凡	人	宝
		tsjəŋ^{31}	tsəu^{33}	nɔ^{21}	mai^{33}	paŋ^{31}	ŋ̊(ĭ)əŋ^{31}	pu$^{\underline{45}}$
	b	伏	前	書	卷[sic]	僧	家	開/篇
		pu^{21}	tsiŋ^{31}	səu^{33}	hɔŋ^{21}	dzaŋ^{21}	tɕa^{33}	gwai^{33}/ pʰiŋ^{33}
25y5	a	深	山	竹	木	劉	王	種
		sjəŋ^{31}	sjəŋ^{31}	tuʔ$^{\underline{44}}$	mu^{21}	ljəu^{31}	hʊŋ^{31}	tswʌŋ^{13}
	b	巷	邊	楊	柳	聖	人	爭/栽
		hʌŋ^{21}	piŋ^{33}	ljaŋ^{31}	ljəu^{33}	siŋ^{13}	ŋ̊(ĭ)əŋ^{31}	dzɛŋ^{33}/ tswai^{31}
25y6	a	珍	珠	糯	米	凡	人	宝
		tsjəŋ^{31}	tsəu^{33}	nɔ^{21}	mai^{33}	paŋ^{31}	ŋ̊(ĭ)əŋ^{31}	pu$^{\underline{45}}$
	b	香	爐	水	碗	僧	家	行/添
		hjaŋ^{31}	ləu^{31}	swi$^{\underline{45}}$	jwəŋ$^{\underline{45}}$	dzaŋ^{33}	tɕa^{33}	heŋ^{31}/

								$t^hiŋ^{33}$
25y7	a	深	山	竹	木	劉	王	種
		$sjəŋ^{31}$	$sjəŋ^{33}$	$tuʔ^{44}$	mu^{21}	$ljəu^{31}$	$hʊŋ^{31}$	$tswʌŋ^{13}$
	b	巷	邊	楊	柳	聖	人	栽/爭
		$hʌŋ^{21}$	$piŋ^{33}$	$ljwaŋ^{31}$	$ljəu^{33}$	$siŋ^{13}$	$ŋ̍(ĭ)əŋ^{31}$	$tswai^{31}$/ $dzɛŋ^{33}$
25y8	a	州	庭	花	發	聖	人	摘
		$tsjəu^{33}$	$tiŋ^{31}$	k^hwa^{33}	$faʔ^{44}$	$siŋ^{13}$	$ŋ̍(ĭ)əŋ^{31}$	$dzɐʔ^{34}$
	b	四	門	八	面	聖	人	開/行
		fei^{13}	$mwʌŋ^{31}$	$pəʔ^{44}$	$miŋ^{21}$	$siŋ^{13}$	$ŋ̍(ĭ)əŋ^{31}$	$gwai^{33}$/ $heŋ^{31}$
25y9	a	深	山	竹	木	劉	王	種
		$sjəŋ^{31}$	$sjəŋ^{33}$	$tuʔ^{44}$	mu^{21}	$ljəu^{31}$	$hʊŋ^{31}$	$tswʌŋ^{13}$
	b	井	邊	容	杵	聖	人	栽/連
		$tsiŋ^{45}$	$piŋ^{33}$	$jwəŋ^{31}$	$tsəu^{21}$	$siŋ^{13}$	$ŋ̍(ĭ)əŋ^{31}$	$tswai^{31}$/ $liŋ^{31}$
26x1	a	那	岸	平	田	凡	人	作
		hai^{13}	$ŋaŋ^{21}$	$peŋ^{31}$	$tiŋ^{31}$	$paŋ^{31}$	$ŋ̍(ĭ)əŋ^{31}$	$tsoʔ^{44}$
	b	牯	牛	鹿	馬	聖	人	財/妻[sic]
		$kəu^{45}$	$ŋau^{31}$	lu^{21}	ma^{33}	$siŋ^{13}$	$ŋ̍(ĭ)əŋ^{31}$	$tswai^{31}$/ $tsiŋ^{31}$
26x2	a	深	山	竹	木	劉	王	種
		$sjəŋ^{31}$	$sjəŋ^{33}$	$tuʔ^{44}$	mu^{21}	$ljəu^{31}$	$hʊŋ^{31}$	$tswʌŋ^{13}$
	b	井	邊	容	杵	聖	人	連/爭
		$tsiŋ^{45}$	$piŋ^{33}$	$jwəŋ^{31}$	$tsəu^{21}$	$siŋ^{13}$	$ŋ̍(ĭ)əŋ^{31}$	$liŋ^{31}$/ $dzɛŋ^{33}$
26x3	a	聖	人	種	得	太	陰	木
		$siŋ^{13}$	$ŋ̍(ĭ)əŋ^{31}$	$tswʌŋ^{13}$	$tuʔ^{44}$	t^hai^{31}	$jəŋ^{33}$	mu^{21}
	b	正	是	●	羅	下	地	財/錢
		$tsiŋ^{13}$	$tsei^{33}$	•	$lɔ^{31}$	$dʑi^{21}$	tei^{21}	$tswai^{31}$/ $tsiŋ^{31}$
26x4	a	深	山	竹	木	劉	王	種
		$sjəŋ^{31}$	$sjəŋ^{33}$	$tuʔ^{44}$	mu^{21}	$ljəu^{31}$	$hʊŋ^{31}$	$tswʌŋ^{13}$
	b	井	邊	容	杵	聖	人	爭/連
		$tsiŋ^{45}$	$piŋ^{33}$	$jwəŋ^{31}$	$tsəu^{21}$	$siŋ^{13}$	$ŋ̍(ĭ)əŋ^{31}$	$dzɛŋ^{33}$/ $liŋ^{31}$
26x5	a	聖	人	栽	得	太	陰	木
		$siŋ^{13}$	$ŋ̍(ĭ)əŋ^{31}$	$tswai^{31}$	$tuʔ^{44}$	t^hai^{13}	$jəŋ^{33}$	mu^{21}
	b	拋	上	太	陽	隨/千	月/萬	行/年

bei^{33}	tswaŋ^{21}	t^{h}ai^{13}	jwaŋ^{31}	dzwei^{31}/ ts^{h}iŋ^{33}	ŋ̊u^{21}/ maŋ^{21}	heŋ^{31}/ niŋ^{33}

The tone pattern is composed of two metrical groups, one referred to as "level tone" (平聲) and the other as "oblique tone" (仄聲). In the Mien dialect of the Xianglan settlement, the former includes tone 1 and 2, and the latter includes the other tones. In Table 2 below, L indicates level tone and O oblique tone. In this dialect, however, tone 4 has merged into tone 1, which is independent in other conservative dialects. The Chinese characters belonging to it are 馬, 米, 柳, 是, and 后. Although they derive from the rising tone with a voiced initial (*zhuóshàng* 濁上) in MC, they are recited using tone 1 [33] here. In the following table, we use O to indicate these characters. The information on the left side of the table indicates the upper and lower half-line of the first line (Ia and Ib) and the upper and lower half-line of the second line (IIa and IIb).

Table 2. Level/oblique features in the tones of *Shenshan-zhumu* in *Dageshu shangce*

		1	2	3	4	5	6	7
The first couplet	Ia	L	L	O	O	L	L	O
	Ib	L	L	O	O	O	L	L
	IIa	L	L	O	O	O	L	O
	IIb	O	O	L	L	O / O	O / O	L
The second couplet	Ia	L	L	O	O	L	L	O
	Ib	O	L	L	O	O	L	L
	IIa	L	L	O	O	L	L	O
	IIb	O	L	L	O	O	L	L / L
The third couplet	Ia	L	L	O	O	L	L	O
	Ib	O	L	L	O	O	L	L / L
	IIa	L	L	O	O	L	L	O
	IIb	L	L	O	O	L	L	L / L
The fourth couplet	Ia	L	L	O	O	L	L	O
	Ib	O	L	L	O	O	L	L / L
	IIa	L	L	L	O	O	L	O
	IIb	O	L	O	O	O	L	L / L
The fifth couplet	Ia	L	L	O	O	L	L	O
	Ib	O	L	L	O	O	L	L / L
	IIa	O	O	L	L	L	L	O
	IIb	O	L	O	O	O	L	L / L
The sixth couplet	Ia	L	L	O	O	L	L	O
	Ib	O	L	L	O	O	L	L / L
	IIa	O	L	O	O	L	L	O
	IIb	O	O	?	L	O	O	L / L
The seventh	Ia	L	L	O	O	L	L	O

couplet	Ib	O	L	L	O	O	L	L / L
	IIa	O	L	L	O	O	L	O
	IIb	L	O	O	L	L / L	O / O	L / L

The following features are found in this table:
(1) The first Chinese character on the half-line: In the upper half-line of the first line (Ia), characters are recited with level tone.
(2) The second Chinese character on the half-line: In the first line (Ia and Ib), characters are recited with level tone.
(3) The third Chinese character on the half-line: In the upper half-line of the first line (Ia), characters are recited with oblique tone.
(4) The fourth Chinese character on the half-line: In the first line (Ia and Ib), characters are recited with oblique tone.
(5) The fifth Chinese character on the half-line: In the upper half-line of the first line (Ia), characters are recited with level tone, and in the lower half-line of the first line (Ib), they are recited with oblique tone.
(6) The sixth Chinese character on the half-line: In all half-lines except the lower half-line of the second line (IIb), characters are recited with level tone.
(7) The seventh Chinese character on the half-line: In the upper half-line (Ia and IIa), characters are recited with oblique tone. In the lower half-line (Ib and IIb), characters are recited with level tone.
The rule formulated from these features is presented in Table 3. L/O indicates that either level tone or oblique tone might appear in the position. X and ¬X are paired opposites; for example, in every couplet, if the first Chinese character on the lower half-line of the first line (Ib) is read with level tone, the third Chinese character on the same half-line should be recited with oblique tone. Likewise, if the second Chinese character on the upper half-line of the second line (IIa) is read with oblique tone, the fourth Chinese character on the same half-line should be read with level tone.

Table 3. Tone pattern in *Shenshan-zhumu* in *Dageshu shangce*

	1	2	3	4	5	6	7
Ia	L	L	O	O	L	L	O
Ib	X_1	L	$\neg X_1$	O	O	L	L
IIa	L/O	X_2	L/O	$\neg X_2$	L/O	L	O
IIb	X_3	X_4	L/O	$\neg X_4$	$\neg X_3$	X_4	L

Purnell (1991, 1998) explained the tone patterns of songs and poems by analyzing the second, fourth, and sixth syllables of each half-line according to his research carried out in Thailand and Laos. Unfortunately, precisely the same tone pattern as in *Shenshan-zhumu* was not observed there. Furthermore, in this passage, the number of half-lines that

use the same tone pattern as Han-Chinese seven-syllable quatrains (七言絶句) is only almost half. However, one of the essential rules, *ersi butong erliu dui* 二四不同二六對, was generally observed there; the rule states that a level/oblique opposition is required in the second and fourth Chinese characters on each line, and a correspondence is required for the second and sixth.

In addition, the following tendencies were found through our survey throughout the entirety of *Dageshu shangce*.

(1) Tone 1 appears frequently on the second, fourth, sixth, and seventh syllables of the half-line.
(2) Tone 2 can appear in the all positions, but it tends to appear on the first syllable of the half-line.
(3) Tone 5 most frequently appears on the fifth syllable of the half-line.
(4) Tone 6 frequently appears on the first, third, fifth, and sixth syllables of the half-line.
(5) Short duration tones such as 3a, 3b, 7a, and 7b appear less frequently than the other tones.

3. The CPM features of *Dageshu shangce*

3.1 Multi-layered structure

When it comes to CPM, we discovered the interesting phenomenon of different pronunciations being used for the same Chinese characters written on different lines of *Dageshu shangce*. This difference might be explained by the pronunciations having been borrowed from different historical periods or sources. In other words, the different pronunciations should be expected to belong to different historical strata. The most notable sets of different pronunciations are as follows.

(1) *Fēi*-series 非組 initials and their change into labiodental consonants

Some characters with *Fēi*-series initials appear with both bilabial consonants and labiodental consonants in CPM. The former do not reflect the historical change from bilabials into labiodentals in MC, while the latter do. For example, the CPM of 非 appears with both initial [pʰw] and initial [f].

	bilabial initial	labiodental initial
非	pʰwi 2* [5]	fei 2*

The same feature can be observed in different Chinese characters with the same rhyme in MC. For example, while both 峯 and 奉 have a *Zhōng* rhyme 鍾韻 in MC, the former does not reflect the historical change from bilabials into labiodentals in MC, while the latter does.

	bilabial initial	labiodental initial

[5] In this study, IPA followed by an asterisk means the tone takes this form after tone sandhi.

峯	pwʌŋ 2*	──
奉	──	fʊŋ 6

(2) *Zhī*-series 知組 initials and their change into affricates

Some characters with *Zhī*-series initials and the same rhyme in MC appear with both alveolar stop consonants and alveolar affricate consonants in CPM. The former do not reflect the historical change from the alveolar stop to the alveolar affricate in MC, while the latter do. For example, the CPM of 中 appears with both initial [tw] and initial [ts].

	alveolar stop	alveolar affricate
中	twʌŋ 1	tsʌŋ 1

(3) Merging division-I and division-II rhyme in MC

Some characters with division-I rhyme in MC appear with the same rhyme as characters with division-II rhyme of the same rhyme group (*shè* 攝), while others do not in CPM. The former indicates that the historical change in the merging of the rhymes of these two divisions occurred after the MC period. For example, the CPM of 在, which had division-I rhyme in MC, occurs with both pronunciation [tswai^{13}], a different rhyme from the CPM of division-II rhyme in MC, and [tsai^{13}], which is the same rhyme as the CPM of division-II rhyme in MC.

	differs from division-II rhyme	same as division-II rhyme
在	tswai 5	tsai 5

(4) Departing tone with a voiced initial and its change into departing tone in the upper register

Some characters with departing tones with a voiced initial in MC occur with both the departing tone of upper register (*yīnqù*, tone 5) and the departing tone of lower register (*yángqù*, tone 6) in CPM. In general, tone 5 derives from the departing tone with an unvoiced initial in MC, and tone 6 from the departing tone with a voiced initial. Therefore, the former reflects the feature of non-divergence, or the merger of the upper and lower register versions of the departing tone, while the latter does not. For example, the CPM of 浪, which had a departing tone with a voiced initial in MC, appears with both tones 5 and 6.

	departing tone of upper register	departing tone of lower register
浪	laŋ 5	lwaŋ 6

(5) Rising tone with a voiced initial and its change into a level or departing tone of upper register

Some characters with rising tones with voiced initials in MC appear with level tone of upper register (*yīnpíng*, tone 1) or departing tone (tone 5 or 6) in CPM. In the conservative dialects of Mien, these characters have an independent tone, that is, a rising tone of lower register (*yángshàng*, tone 4). Because in the dialect of Xianglan settlement this tone has been merged into the level tone of upper register, the CPM appearing with this tone represents the value of the original tone (*yángshàng*). Likewise, the CPM appearing with the departing tone of lower register reflects the merger of lower register rising tone and lower register departing tone. The CPM appearing with departing tone of upper register reflects the feature of non-divergence, or the merger of upper and lower register departing tone. For example, the CPM of 了, 兩, and 盡, which had a rising tone with voiced initial in MC, appear with tones 1, 5, and 6.

	level tone of upper register	departing tone of upper register	departing tone of lower register
了	li 1	li 5	—
兩	lɔŋ 1	—	ljaŋ 6
盡	—	tsjəŋ 5	tsiŋ 6

The difference in pronunciation of the same Chinese character may be due to a difference in the relevant passage in *Dageshu*, and not due to any semantic reason, with the exception of homophonous NM usage for Chinese characters with no meaning relationship or synonymous usage with no relationship in sound. For example, 座, which has a *Gē* rhyme 戈韻 in MC, appears with both [tswei^{33}] and [tsɔ^{13}]. The former appears only before the passage of *Yeshenge* 夜深歌 in the beginning of the sutra, while the latter appears only in the passage of *Erduan-sanfengqu* 二段三峰曲 in the middle stage of the sutra and afterwards. Another Chinese character, 綫, appears with both [sjəŋ^{13}] and [fiŋ^{13}]. The former appears only before the passage of *Yeshenge*, while the latter appears only in this passage and afterwards. If our estimate is correct, the difference in the CPM pronunciation shall express the difference of the historical period or source in which these passages of *Dageshu* were established.

3.2 The relationship between CPM and PSM

For reciting *Dageshu shangce*, priests use CPM to read most of the Chinese characters in the sutra, and use NM to read the rest, such as [bjʊŋ^{21}] for 雨, [mai^{31}] for 有, [pi^{21}] for 入 and 進, and [jaŋ^{21}] for 不. Moreover, the expression of synonymous Chinese characters with no relationship in sound is used in the sutra, such as [di^{24}] for 下, [mwi^{21}] for 姐, and [hu^{21}] for 習. In fact, the correct Chinese characters for them are 底,

妹, and 學, respectively. The expression of homophones between NM and CPM with no relationship in meaning is also used in the sutra, such as the Chinese character 姑 [ku^{33}], which is used to express the cry of a pigeon in NM.

From this, we can see the diverse relationship between CPM and PSM, as each can have different pronunciations for each character. We identified the following five types of the inclusive relationship between them.

(i) The phonetic values found in CPM are identical to those of PSM, such as in the Chinese character 筆.

	CPM	PSM
筆	paʔ 3a	paʔ 3a

(ii) Not all of the phonetic values found in CPM are the same as those in PSM. That is to say, one or some of the phonetic values found in CPM are the same as one or some of those in PSM, such as the values of the Chinese character 心. One of its values, [fiŋ^{33}], has been found in both the CPM used to recite *Dageshu shangce*, and in PSM through our field research carried out in Xianglan settlement.

	CPM	PSM
心	fiŋ 1, fjəŋ 1	siŋ 1, fiŋ 1

(iii) The phonetic values found in CPM are included in PSM. That is to say, CPM is a subset of PSM, such as with the values of the Chinese character 東. Two values for it have been found in PSM through our field research, but only one, [tʌŋ^{33}], is found in the CPM used to recite *Dageshu shangce*.

	CPM	PSM
東	tʌŋ 1	tuŋ 1, tʌŋ 1

(iv) The phonetic values found in PSM are included in CPM. That is to say, PSM is a subset of CPM, such as with the values of the Chinese character 晏. Two values for it are found in the CPM of *Dageshu shangce*, but only one, [ʔaŋ^{13}], has been found in PSM through our field research.

	CPM	PSM
晏	ʔaŋ 5, waŋ 5	ʔaŋ 5

(v) None of the phonetic values found in CPM are the same as those in PSM, such as the values of the Chinese character 冷. No value for this character is shared between the CPM of *Dageshu shangce* and the PSM in our field research.

	CPM	PSM
冷	l̥eŋ 1	naŋ 5

In light of the differences between CPM and PSM, we think that PSM information should be used carefully and appropriately for investigating the strata of CPM because, in some cases, there is the possibility of mismatching the number of strata in CPM and PSM. In fact, (v) shows that there is sometimes no common stratum between CPM and PSM.

4. On the history of CPM

Arguably, the pioneer study on the CPM of *Panwang dage* was Zhao (2010b), a comparative study using the CPM of the Tuoshan 柘山 dialect (belonging to the Guangtian sub-group) in Jinxiu County, the CPM found in Zhao (1930) (belonging to the Luoxiang sub-group), and *Panwang dage* texts with IPA based on the Hexian 賀縣 dialect of Guangxi Zhuang Autonomous Region. Zhao (2010b) identified some common features of the CPM in these three materials. On a related note, Zhao (2010a) tried dividing the PSM into the three strata of Modern Chinese, Early Mandarin, and MC by identifying the features of initial, rhyme, and tone for each stratum. However, the reasons for why the pronunciations represent entire eras of loan strata are not satisfactorily explained. For example, Zhao (2010a:252) recognized that, if a Chinese character had division-II rhyme in MC and the PSM had [e] as a nucleus in the modern Mien language, this value is a reflection of MC. This was based on the work of Lan (1999), who insisted that the phenomenon of some characters with division-II rhymes in MC having the vowel [e] in the loan Chinese word within Zhuang, Vietnamese, and Japanese reflects the fact that these characters had the vowel *e in the spoken Chinese of old southern China. However, because pronunciation evolves with time, we cannot be confident in confirming the era of a stratum based solely on the fact that the PSM or CPM has the same phonetic value as the reconstructed form of a historical era. Rather, it is the primary task of linguists to determine the sequence between the various historical strata.

We believe that it is acceptable to some degree in estimating historical strata to refer to knowledge on historical Chinese phonology that has become the prevailing view. However, it goes without saying that both the Sinitic languages and the Mien languages have experienced changes over time. Therefore, it is not advisable to determine the loan period based solely on the prevailing view of the Sinitic languages.

In addition, the correspondences between the ancient Chinese and the CPM are rather unclear on many rhymes. In Table 4, we present the locations of Chinese characters with the CPM rhymes of [(w)ai] in the phonological system of MC.

Table 4. Correspondence of the CPM rhymes [(w)ai] with positions in the rhyme system of MC

shè / division	*Guǒ-shè* 果攝		*Jiǎ-shè* 假攝	*Yù-shè* 遇攝	*Xiè-shè* 蟹攝		*Zhǐ-shè* 止攝
open/closed	open 開	closed 合	open 開	closed 合	open 開	closed 合	open 開
division-I	ai	ai			ai/wai	wai	
division-II			ai/wai		ai	wai	
division-III				wai			ai/wai
division-IV					ai/wai		

In the MC system, the rhymes [ai], [wai], [ei], and [i] are the main values of the CPM rhymes for *Xiè-shè* 蟹攝 (open-mouthed 開口): [ai] for division-I, II, and IV; [wai] for division-I (*Hāi* rhyme 哈韻 only) and IV; [ei] for division-III and IV; and [i] for division-IV rhyme. Most of the characters with [wai] belong to the division-I rhyme of *Xiè-shè* (open-mouthed). However, some belong to other MC rhymes; for example, 差 [ts^{h}wai^{33}] belongs to the *Má* rhyme 麻韻, division-II of *Jiǎ-shè* 假攝. The relationship seems somewhat complex. It seems difficult to understand the exact historical changes in the phonology of the CPM only from the relationship between them and their phonological positions in MC.

Nonetheless, when the rhyme of a character has the same value in both CPM and PSM, that is to say, when the CPM stratum is identical to the PSM stratum, it may be possible to use information from the latter to estimate the sequence of the former. If we rest on the premise that the establishment of the borrowing relationship from the Sinitic language into the oral Mien language historically preceded the establishment of the custom of reading Chinese characters in Mien communities, the appearance of PSM shows an inclination toward an older stratum, while the appearance of CPM shows an inclination toward a newer stratum. That is, older stratum values will be found more often in PSM. For example, we classified the rhymes of CPM and PSM as to the Chinese characters that have *Gē* rhyme 歌韻, the division-I rhyme of *Guǒ-shè* 果攝 (open-mouthed) in MC, presented in Table 5. The rhyme [ɔ] appears more in CPM than in PSM, but the rhyme [ai] appears more in PSM than in CPM. Therefore, it may be possible to make an assumption that the stratum of rhyme [ɔ] is a newer one, and that of [ai] is an older one. Supposing the rhyme of the Chinese character 大 derives from *Tài* rhyme 泰韻, the division-I rhyme of *Xiè-shè* 蟹攝 (open-mouthed), which is an alternative to *Gē* rhyme, there would be no Chinese character with *Gē* rhyme appearing with rhyme [ai] in *Dageshu shangce*.

Table 5. The rhyme values of the CPM in *Dageshu shangce* and PSM as to *Gē* rhyme, the division-I rhyme of *Guǒ-shè* (open-mouthed) in MC

Stratum	Rhyme	CPM	PSM
newer	-ɔ	多拖羅歌哥個可鵝我河何荷	鑼哥可

	-a	羅歌	
	-i	鵝	鵝
older	-ai	(大)	籮左

5. Conclusion

In this study we introduced the pronunciation and tone patterns of the CPM used for reciting *Panwang dage* in a Mien dialect. We aim to further explore these in the future. There are still very few dialects from which we can obtain useful data on CPM, PSM, and NM; hence, we were limited in the data we can use to those recorded in Zhao (1930) and Zhao (2010b). This leaves us unable to analyze many MC initials or rhymes at the present moment. We hope that we will be able to further trace the historical changes in more dialects in future studies, once more data on CPM, PSM, and NM have been published.

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