Pwo Karen writing systems

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Abstract

There are several writing systems in Pwo Karen. This paper focuses on Buddhist Pwo Karen and Christian Pwo Karen Scripts and shows how these writing systems correspond to the contemporary and 19th-century Eastern Pwo Karen phonology. The importance of these writing systems for the historical study of Karenic languages is also noted.

1. Introduction

The purpose of this paper is to show the correspondence between the writing systems and phonology of Eastern Pwo Karen. Pwo Karen writing systems include the Buddhist Pwo Karen Script, Christian Pwo Karen Script, Leke Script, and Myainggyingu Script. This paper deals with the Buddhist Pwo Karen Script and the Christian Pwo Karen Script, which are the most widespread among these. For samples of these writing systems, see the texts in Section 7. The relationship between these two writing systems and the sounds is treated in Kato (2001a) and Kato (2001b). However, I take up this issue again here because these articles have the following problems: (a) they are difficult to understand because they explain the writing systems using Roman transliterations; (b) they do not exhaustively cover the notation of rhymes; (c) they are difficult to understand because they do not show the phonological system of Eastern Pwo Karen in the 19th century, which seems to be largely reflected in the two writing systems; and (d) they are written in Japanese and therefore only a limited number of students can read them. Although the paper by anthropologist Stern (1968) deals with these writing systems and how to read them, it contains considerable

inaccuracies. Therefore, it would be meaningful to address the correspondence between these writing systems and the phonological system again here. Understanding these writing systems leads to an understanding of the phonological system of Eastern Pwo Karen of two hundred years ago, and this will be useful for historical studies of Karenic languages.

In the following, Section 2 presents the phonological system of Eastern Pwo Karen. Section 3 presents the phonological system of Eastern Pwo Karen in the 19th century. Section 4 shows the sound correspondences between 19th-century and contemporary Eastern Pwo Karen. Section 5 shows how the Buddhist Pwo Karen Script corresponds to the phonology. Section 6 shows how the Christian Pwo Karen Script corresponds to the phonology. Section 7 presents sample texts. Section 8 is concluding remarks.

2. Phonology of the contemporary Eastern Pwo Karen

Pwo Karen is one of the languages of the Karenic branch of Tibeto-Burman. It has several dialectal groups. Kato (2017, 2019) lists four Pwo Karen dialectal groups that are not intelligible to each other: Western Pwo Karen, Htoklibang Pwo Karen, Eastern Pwo Karen, and Northern Pwo Karen. For the classification of the Pwo Karen dialects and a detailed discussion of their characteristics, see Kato (1995, 2009), Dawkins and Phillips (2009a, b), and Phillips (2017, 2018). As will be mentioned in Sections 5 and 6, both the Buddhist Pwo Karen Script and Christian Pwo Karen Script emerged during the period between the late 18th and mid-19th centuries in the areas where present-day Eastern Pwo Karen is spoken, i.e., Karen State and Mon State. In addition, both writing systems correspond best to the phonological system of the Hpa-an dialect, a dialect of Eastern Pwo Karen. Therefore, they can be considered to have been established based on the phonological system of the Hpa-an dialect of those times. The Hpa-an dialect is a dialect spoken around Hpa-an, the capital of Karen State, and its distribution area includes surrounding towns such as Hlaingbwe and Kawkareik. In the following discussion, the language name Eastern Pwo Karen refers to the Hpa-an dialect.

Neither Buddhist Pwo Karen nor Christian Pwo Karen Scripts can be properly

understood without knowing the phonological system of Eastern Pwo Karen (henceforth abbreviated as "EPK"). Therefore, an overview of the phonological system of the Hpa-an dialect will be presented below (cf. Kato 1995).

The syllable structure of EPK can be represented as C1(C2)V1(V2)(C3)/(T). 'C' stands for a consonant, 'V' for a vowel, and 'T' for a tone. C1 is an initial consonant, C2 is a medial consonant, and C3 is a final consonant. One or two vowels may occur, and are represented with V1 and V2. Bracketed elements may or may not occur. The part of C1(C2)- is called an onset, and that of -V1(V2)(C3) is called a rhyme.

As shown in Table 1, there are four tones; that is, the low-level, mid-level, high-level, and falling tones. In the table, they are shown with /a/ with tone marks. Among these, the mid-level tone is pronounced with a breathy voice. There are also atonic syllables, which are represented by not adding any tone mark. The only rhyme that can appear in atonic syllables is /-ə/. They are pronounced short and weak.

Table 1: Tones in EPK

à	[a11]	low-level tone
ā	[a33~334]	mid-level tone
á	[a55]	high-level tone
â	[a51]	falling tone
э		atonic

Simple onsets consisting of only C1 are shown in Table 2. There are a total of 25 simple onsets.

Table 2: Simple onsets in EPK

The phonetic values of simple onsets are as follows: /p-/[p], $/\theta-/[t_{c}\theta-\theta]$, /t-/[t], $/c-/[t_{e}]$, /k-/[k], /k-/[2], $/ph-/[p^{h}]$, $/th-/[t^{h}]$, $/ch-/[t_{e}]$, $/kh-/[k^{h}]$, $/b-/[6\sim2b]$, $/d-/[t_{e}]$

 $[d\sim7d\sim d]$, $/e-/[e\sim s^h]$, /x-/[x], /h-/[h], /y-/[y], $/s-/[s\sim h]$, /m-/[m], /n-/[n], /n-/[n],

The phonemes that can appear as C2 are /-w-/ [w], /-l-/ [l], /-r-/ [r \sim 1], and /-j-/ [j \sim i]. Possible combinations of C1 and C2 are shown in Table 3.

Table 3: Possible combinations of C1 and C2 in EPK

									Cl												
		p	θ	t	c	k	3	ph	th	ch	kh	b	d	X	h	m	n	ŋ	j	1	
	W	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	
C2	1	+				+		+			+	+				+					
	r	+				+					+										
	j	+						+				+				+				+	

As has been mentioned, the structure of a rhyme can be represented as -V1(V2) (C3). Among the components of a rhyme, the position of C3 can only be occupied by /-N/. The final consonant /-N/ is realized as [N] or nasalization of the preceding vowel. Rhymes can be divided into two types: open rhymes without C3, i.e., /-N/, and nasalized rhymes with /-N/.

There are 13 open rhymes, as shown in Table 4.

Table 4: Open rhymes in EPK

Mono	ophtl	nongs	Diphtho	ongs
i	i	ш	ai	aσ
<u>i</u>		υ		
e	Э	0		
ε	a	э		

These rhymes are realized as follows: $/-i/[\check{s}i]$, /-i/[i], $/-u/[uv-\check{s}u]$, /-i/[i], /-v/[v], /-e/[e], /-o/[o], /-e/[e], /-o/[o], /-a/[e], /-o/[o], /-a/[e], /-a/[e], /-a/[e], /-a/[e], /-a/[e]. In the younger generation, the distinction between the rhymes /-i/[e] and /-e/[e] is becoming unclear for many speakers. Similarly, the distinction between the rhymes /-v/[e] and /-v/[e] and /-v/[e] also becoming unclear. Among all the rhymes, /-e/[e], /-o/[e], and /-av/[e], generally co-occur only with low- and high-level tones. This is because they originate from rhymes with

a final glottal stop in the 19th century, and the tones that used to co-occur with a final glottal stop in the 19th century, i.e., the low- and high- checked tones, have merged into the contemporary low- and high-level tones, respectively.

Note that I used to transcribe the vowel phoneme /i/ as /v/. I currently use /i/ instead of /v/ because the symbol /v/ is difficult to distinguish from /i/ when they are written with a tone mark. Compare, for example, /i/ and /i/. Moreover, /i/ and /i/ are difficult to distinguish from each other in some IPA fonts in italics.

There are 8 nasalized rhymes, as shown in Table 5. I put /-inv/ in parentheses because it appears only in loanwords from Burmese and those from other languages that have entered via Burmese.

Table 5: Nasalized rhymes in EPK

Monophthongs	Diphthongs					
$(\underline{i}N)$						
N ON	ein əwn oun					
an	ain					

These rhymes are realized as follows: $/-iN/[iN-\tilde{\imath}]$, $/-sN/[sN-\tilde{\imath}]$, $/-sN/[\tilde{\imath}N-\tilde{\imath}]$, $/-sN/[\tilde{\imath}N-\tilde{\imath}]$, $/-sN/[\tilde{\imath}N-\tilde{\imath}]$, $/-sN/[\tilde{\imath}N-\tilde{\imath}]$, $/-sN/[\tilde{\imath}N-\tilde{\imath}]$. In the rhymes /-siN/[suN/[suN/[suN-su]], /-suN/[suN-su]], /-suN/[suN-su]]. In the rhymes /-siN/[suN-su], and /-suN/[suN-su] is often dropped. In speech with a rapid speed, it tends not to be pronounced. Furthermore, in the younger generation, the distinction between /-suN/[suN-su]] and /-suN/[suN-su]] is becoming unclear.

3. Phonology of Eastern Pwo Karen in the 19th century

For a better understanding of Buddhist Pwo Karen Script and Christian Pwo Karen Script, it is necessary to consider the phonological system of EPK during the period from the late 18th century to the mid-19th century, when these writing systems emerged. Henceforth, EPK during this period is called "19c EPK". The phonological system of 19c EPK can be assumed from two processes: one of the processes is to compare the phonological systems of the Pwo Karen dialects; and the other is to compare the phonological system of contemporary EPK (henceforth abbreviated as "CEPK") with the system of Christian Pwo Karen Script. The Christian Pwo Karen Script is very systematic and therefore very useful for the restructuring of the 19c

EPK phonological system. The highly systematic nature of the Christian Pwo Karen Script will be understood if one reads Section 6. Below is my view of the 19c EPK phonological system.

The syllable structure of 19c EPK can be represented as C1(C2)V1(V2)(C3)/(T), which is the same as that of CEPK. However, 19c EPK differs significantly from CEPK in that a glottal stop can appear as C3.

There were six tones: low-level, mid-level, high-level, falling, low-checked, and high-checked, as shown in Table 6. The exact pitches of these are unknown. The major difference with CEPK is that there were tones ending with a glottal stop, i.e., low-checked and high-checked tones. It is very difficult to determine whether the glottal stop in the low-checked and high-checked tones should be interpreted as an intrinsic feature of the tones or as a syllable-final consonant that is unrelated to the tones. Therefore, we will avoid drawing a conclusion in this paper and consider this glottal stop to be both an intrinsic feature of the tones and a syllable-final consonant. It is also very difficult to determine how to relate phonologically the low-checked and low-level tones, and the high-checked and high-level tones, respectively. In terms of notation, /â/ and /â?/ are given the same tone mark. However, they may be rhymes with the same toneme, or with different tonemes. The same is true for /á/ and /á?/. We would like to refrain from drawing a conclusion on this issue as well.

Table 6: Tones in 19c EPK

- à low-level tone
- ā mid-level tone
- á high-level tone
- â falling tone
- à? low-checked tone
- á? high-checked tone
- atonic

Simple onsets consisting of only C1 are shown in Table 7. The inventory of phonemes is the same as CEPK. It is unknown whether there were any differences with CEPK in terms of phonetic realization. The possible combinations of C1 and C2 are also the same as those shown in Table 3.

Table 7: Onsets in 19c EPK

The structure of a rhyme in 19c EPK can be represented as -V1(V2)(C3), the same as CEPK. The major difference from CEPK is that a glottal stop can appear as C3 in 19c EPK.

There are 10 open rhymes, as shown in Table 8. 19c EPK does not have /i/, /o/, /ai/, or /au/, which CEPK has, but it does have /u/, which CEPK does not have.

Table 8: Open rhymes in 19c EPK

There are 7 open rhymes, as shown in Table 9. CEPK has /-in/, which appears only in loanwords from Burmese, but we assume that 19c EPK did not have this rhyme.

Table 9: Nasalized rhymes in 19c EPK

Monophthongs	Diphthongs
9N ON	ein əwn oun
an	ain

19c EPK had rhymes that ended with a glottal stop. We call these the stopped rhymes. There are 8 stopped rhymes, as shown in Table 10.

Table 10: Stopped rhymes in 19c EPK

Mor	nophtho	ongs	Diphthongs					
	ξį							
e?		03						
	a?	ςς	ai?	aw?	au?			

4. Correspondences of sounds between 19c EPK and CEPK

This section shows how the sounds of 19c EPK correspond to those of CEPK. Since there is no difference in C1 and C2, and in their combinations, we will only consider the correspondences observed in the tones and rhymes. Forms of 19c EPK are marked with an asterisk.

First, the correspondences of the tones are shown in Table 11. In CEPK, /å/ and /à?/ in 19c EPK have merged to become /à/. Similarly, /á/ and /á?/ in 19c EPK have merged to become /á/ in CEPK.

Table 11: Tones

19c EPK	CEPK
*à, *à?	à [a11]
*ā	ā [a33 ~ 334]
*á, *á?	á [a55]
*â	â [a51]
*ə (atonic)	ə (atonic)

The plain rhymes in 19c EPK correspond to CEPK rhymes, as shown in Table 12. In the 19th century, there was a distinction between /-uu/ and /-u/, but these two rhymes have merged into /-uu/ in CEPK. The close-mid vowels /-e/ and /-o/ in 19c EPK have both been narrowed in CEPK, becoming /-i/ and /-o/ respectively.

Table 12: Plain rhymes

19c EPK	*i	*i	*w	*u	*e	e*	*o	*ε	*a	*၁
CEPK	i	i	ш	ш	<u>i</u>	ə	υ	3	a	0

There are exceptions to the correspondences shown in Table 12. The 19c EPK rhyme */-e/ preceded by the initial */w-/ or medial */-w-/ has been succeeded as /-e/ in CEPK, not as /i/. For example, /-e/ of the word /?əwê/ '3SG' comes from */-e/, but

this word is not pronounced /?əw½/. Similarly, /-e/ of the word /xwè/ 'to buy' comes from */-e/, but this word is not pronounced /xwì/.

The nasalized rhymes in 19c EPK correspond to the nasalized rhymes in CEPK in a one-to-one relationship, as shown in Table 13.

Table 13: Nasalized rhymes

19c EPK	*ən	*on	*an	*ein	*awn	*oun	*ain
CEPK	ЭN	ON	an	ein	эши	OUN	ain

As shown in Table 14, the stopped rhymes in 19c EPK have all changed to plain rhymes in CEPK. Moreover, the stopped rhymes /-aur?/ and /-aur?/ in 19c EPK have merged to become /-au/ in CEPK.

Table 14: Stopped rhymes

19c EPK	*;?	*e?	*o?	*a?	°c*	*ai?	*aw?	*au?
CEPK	i	e	0	a	э	ai	au	au

In the following, when a CEPK word example is shown, if the phonemically transcribed form of 19c EPK differs from that of CEPK, the 19c EPK form is presented in parentheses, as in \(\infty\) (*/thà?/) 'iron'. However, in the case of \(\omega\) /mà/ 'to do', the 19c EPK form */mà/ is not presented because its phonemic representation is the same as that of the CEPK form /mà/.

5. Buddhist Pwo Karen Script (လိက်ထူလီ)

In the process of receiving Buddhism from the Mon, Pwo Karen people who lived around Hpa-an tried to use the Mon Script to write their language. I assume that such attempts started at the earliest in the late 18th century. This writing method was probably unsystematic at first, but it had acquired a certain degree of systematicity by the mid-19th century, when many palm-leaf inscriptions started to be written in several Buddhist monasteries. I call this the Buddhist Pwo Karen Script (henceforth abbreviated as "BS") because its origin is related to Buddhism. Stern (1968) calls it the Monastic script. Thus, the BS reflects to some extent the phonological system of EPK during the period between the late 18th century and mid-19th century. After

various revisions, it was in the 1960s that the BS was fixed to the system used today. Around Hpa-an, many palm-leaf inscriptions written with this script have been produced. Many of them are related to Buddhism. According to U Phon Myint (1975), the earliest of the BS palm-leaf inscriptions that he found was made in 1851. According to lore, the origin of this character is said to date back to the Pagan period. It is noteworthy that this writing system was created by the Karen speakers themselves, unlike the other famous letters of Karenic languages, which were often created by Christian missionaries.

In EPK, this writing system is called & had his li/ (*/lái? thû lì/), which literally means 'old palm-leaf inscription' (/lái/ 'script', /thûı/ 'rolled, bundled', /lì/ 'old'). Because the BS is the most standard writing system in the area where EPK is spoken, it is often referred to simply as & had ploon/ (script - Pwo Karen), which means 'Pwo Karen Script'. Although I call this writing system the Buddhist Pwo Karen Script to contrast with the Christian Pwo Karen Script, local Karen people are hardly conscious of the connection between this writing system and religion.

In the BS, Pali words may often appear in their original spelling based on the Mon-Burmese system that is used in Buddhist literature. In that case, the reading of words derived from Pali is very complex and difficult to generalize, as it is influenced by both the reading of Pali words in Mon and Burmese. Therefore, in this paper, we will not deal with the principles in reading words of Pali origin.

5.1. Initial consonants

Initial consonants, i.e., consonants appearing in the C1 position, are generally written with the basic letters. There are 36 basic letters, which are shown in Table 15. This table is always presented in the primary education of the BS. Brackets are added by the author. Under each basic letter, its pronunciation is shown.

The following are notes on the basic letters.

- A character that is not usually added to the list of basic letters, but that has the same function as the basic letters is ω /e-/, e.g., ω /eà/ 'be few'.
- The parenthesized basic letters are used only for words borrowed from languages

Table 15: Basic letters

9	(0)	(ဃ)	С
kh-	k-∼kh-	kh-	ŋ-
x	(@)	(ဈ)	ည
ch-	c-	c-	ည ၈-
(g)	5	(0)	ന്ത
th-	d-	d-	n-
∞	(3)	(0)	န
th-		t-∼th-∼d-	n-
Ø	(ᠪ)	(ဘ)	ы
ph-	p-~b-	p-∼ph-∼b-	m-
ବ	လ	0	သ
r-	1-	W-	θ-
ဟ	(g)	39	
h-	ĭ-	3-	
0	ဟု	ဃု	
b-	λ-' R-	X-	
	kh-	kh- k-~kh- ∞ (e) ch- c- (g) 2 th- d- ∞ (3) th- t-~d- ゅ (e) ph- p-~b- ¬ 1- ¬ (g) h- l- ∞ (g)	kh- k-~kh- kh- ∞ (e) (o) ch- c- c- (c) 2 (v) th- d- d- ∞ (3) (e) th- t-~th-~d- (v) ph- p-~b- p-~ph-~b- q c o r- l- w- o c c h- l- c o c c

such as Pali, Mon, and Burmese. Some of these are given two or more pronunciations, such as "k-~kh-", because they are read differently in different words. Pronunciation can also vary from speaker to speaker. These may, in some cases, be read with the pronunciation of basic letters in Burmese. The basic letters that may be read with Burmese pronunciation and their readings in that case are as follows: O(g], O(g), O(g),

- Both co and a represent /n-/. Which of these to use is fixed by the word, but the principle of which letter to use is unknown.
- The basic letter ϕ , when marked with a diacritic underneath, may take on a variant character, e.g., ϕ /nūl/ 'breast'.
- ω_{γ} represents both / γ -/ and / κ -/. Since the sound / κ -/ only appears in particles including ω_{γ} * / κ a/ 'interrogative particle', the grammatical context can determine with which pronunciation one should read the letter.

Examples of words written with each basic letter follow, except for the basic letters parenthesized in Table 15: m² /ká/ 'be difficult', a² /khá/ 'be bitter', cωcδ /ŋèŋò/ 'to quarrel', φ² /cú/ (*/cú/) 'hand', ∞ /châ/ 'to ache', μημησιώθαὶ/

(*/ɲàɲāθàiʔ/) 'all directions', ລະ /dá/ 'to see', ເຫງ- /nā/ 'ear', ເກງ /tà/ 'toddy palm', ເກງ /thà/ (*/thàʔ/) 'iron', နိုဝ် /nò/ (*/nòʔ/) 'mouth', ເປິ /pà/ (*/pàʔ/) 'to regard', ເພື- /phā/ 'father', ເກງ /mà/ 'to do', ເທະ /já/ 'fish', ຄຸ້- /rōບN/ 'office', ເທງ /là/ 'moon', ເປິ /wà/ 'husband', ເທະ /θá/ 'to bear fruits', ເທື່ \mathcal{P} /hàidài/ (*/hàiʔdàiʔ/) 'toilet', ເທະ /ʔá/ 'be many', \mathcal{P} /bá/ 'be right', ເທະ /γá/ 'evening', ເທງະ /κá/ 'interrogative particle', and \mathcal{P} / \mathcal{N} 'be beautiful'.

5.2. Medial consonants and subscripts

The BS has a method of writing that puts a basic letter in a smaller size underneath another basic letter, such as \bigcirc , \bigcirc , and \bigcirc . These smaller basic letters are called subscripts in this paper. Medial consonants, i.e., consonants appearing in the position of C2, are written with subscripts. Subscripts may also be utilized in the notation of atonic syllables. Some subscripts take a different shape from the basic letter. They are the six subscripts shown in Table 16.

Table 16: Subscripts with a shape different from the basic letter

Basic letters	С	န	မ	ယ	ရ	O
Subscripts	ূ	ુ,	ૃ	ျ	(,	ွ

The medial consonants /-w-/, /-l-/, /-r-/, and /-j-/ are written using subscripts, as shown in Table 17.

Table 17: Medial consonants

ം	ွ	ြ	્ય
-W-	-1-	-r-	-j-

The following are some notes on medial consonants and subscripts.

• There is a special way to write the medial /-w-/. The pronunciation /-wi/, in which the rhyme /-i/ appears after /-w-/ is written as $\$, and /-we/, in which the rhyme /-e/

appears after /-w-/ is written as \degree . This will be explained in detail in 5.3.

- The initial consonant /c-/ is sometimes written as M using the basic letter M and the subscript η, instead of using the basic letter Φ. Words that are written with M are often borrowings of Mon or Burmese words that are written with M in the original languages, e.g., Mb /cài/ (*/cài?/) 'pagoda' (cf. Mon Mb [cyac]) and Mb 'school' (cf. Burmese Mb 'cáun/). In this paper, the transcription of Mon pronunciation follows that of Sakamoto (1994).
- Words with the form CaCV(V)(C) that begin with an atonic syllable may be written utilizing subscripts. Typically, atonic syllables are written as $\[[(see 5.3)] \} \]$; however, of $\[[(see 5.3)] \} \]$; however, of $\[[(see 5.3)] \} \]$; however, of $\[[(see 5.3)] \} \]$; however, of $\[[(see 5.3)] \} \]$; the basic letter represents the atonic Ca part and the subscript represents the consonant that follows the atonic syllable. Other examples are: of $\[[(see 5.3)] \} \]$; where $\[[(see 5.3)] \} \]$; wh

5.3. Rhymes and tones

Table 18: Rhymes and tones

	Low-level	Mid-level	High-level	Falling
-i	ి	ိ ့	ိ း	ి
	-ì (*-ì)	-ī (*-ī)	-í (*-í)	-î (*-î)
- <u>i</u>	ေဝ်	ေဝ်•	ေ့်, ေဟ်	ေဝ့်
	- <u>ì</u> (*-è)	- <u>ī</u> (*-ē)	- <u>í</u> (*-é)	- <u>î</u> (*-ê)
-е	ေ, ေဝ်		ေံ, ေတ်	ေ့
	-è (*-è?)		-é (*-é?)	-ê°

	_		T	_	7
-ε	ယ်	ဘဲ	े	ွယ့်	
	-è (*-è)	-ē (*-ē)	-έ (*-έ)	-ê (*-ê)	
-i	ိုဒ်	ှ	ိုဟ်	ို	
	ိုဒိ - i (*-i, *-i?)	0 1 - 1 (*- 1)	ိုဟ် -i (*-i, ?*-i?)	0 10 10 10 10 10 10 10 10 10 10 10 10 10	
-ə	်ု -ခဲ (*-ခဲ)	5			Atonic
	-à (*-à)	-ā (*-ā)	-ģ (*-ģ)		်
	, , ,	, ,	, ,		-ə (*-ə)
-a	ာ	ာႋ	ः, ः	တ	
	-à (*-à, *-à?)	-ā (*-ā)	-á (*-á, *-á?)	ာ -å (*-â)	
-w	0	0.		0	1
	ı̃ı -ẁ (*-ẁ, *-ù)	ı̃ı -ѿ (*-ѿ, *-ѿ)	ူး -ယဴ (*-ယဴ, *-ပဴ)	-ŵ (*-ŵ, *-û)	
-υ	ောဝ်	ောဝ်•	ောဟ်	ောဝ့်	1
	-ờ (*-ò)	-σ (*-ō)	-ύ (*-ό)	-ŷ (*-ô)	
-0		J (J)	ောတ်,ိုတ်,ိုဝ်း		1
	ိုဝ်, ောဝ် -ò (*-òʔ)		-ó (*-ó?)		
-5	်	််	ှ် , တ်	်	1
-3	-ò (*-ò, *-ò?)	-ō (*-ō)	-5 (*-5, ?*-5?)	-ô (*-ô)	
-ai	ာ်	-3 (-3)	ိက်	-3 (-3)	1
-41	-ài (*-ài?)		-ái (*-ái?)		
	-21 (-211)				+
-ao	ုဂ် -aဲပ		ုက် -áပ		
	(*-àw?, *-àu?)		(*-áw?, *-áu?)		
237	oc C	ိင်•	ိုင်း	28	-
-9N) (* ày)	ุ -อิท (*-อิท)	ี ?-อ์ท (?*-อ์ท)	0 C C 	
	-ခဲn (*-ခဲn) င်	်င်∘ -ခn (-ခn)	င်း	်င္ငံ -9N (-9N)	-
-an		-		(* ôx1)	
	-àn (*-àn) ံင်	-ān (*-ān) ໍင•	-án (*-án) ံင်း	-ân (*-ân)	-
-on				○C âx (* âx)	
_:.	-òn (*-òn)	-ōn (*-ōn)	-ón (*-ón)	-ân (*-ân) -ôc -ôn (*-ôn) -ôc -êin (*-êin) -c -êun (*-êun)	+
-ein		-		(* ai)	
	-èin (*-èin)	-ēin (*-ēin) င်•	-éin (*-éin)	-ein (*-ein)	+
-amn	ုင်	ုင∘ (* - \	ုင်း -ခံဃn (*-ခဴဃာ)	ုင္	
	-àwn (*-àwn)	-āwn (*-āwn)	-əwn (*-əwn)	-əwn (*-əwn)	-
-ain	ာင်	ာင်•	ာင်း	သင့်	
	-àin (*-àin)	-āin (*-āin)	-áin (*-áin)	-âin (*-âin)	-
-0UN	્રં	ុំ -ōʊn (*-ōun)	ုံး -óʊn (*-óun)	ໍ່. -ôບກ (*-ôun)	
	-òun (*-òun)	-oun (*-ōun)	-oun (*-óun)	-ôʊn (*-ôun)	-
- <u>i</u> N	(ေန်)	(ေန်ႋ)	(ေန်း)	(ေန့်)	
	- <u>ì</u> N	- <u>Ī</u> N	- <u>í</u> N	- <u>î</u> N]

Among the rhymes that follow the medial consonant /-w-/, the rhymes /-i/ and /-e/ are written as shown in Table 19.

Table 19: Rhymes preceded by /-w-/

	Low-level	Mid-level	High-level	Falling
-wi	·	<u></u> }•	ဲုး	ွဲ့
	-wì (*-wì)	-wī (*-wī)	-wí (*-wí)	-wî (*-wî)
-we	%	ှ ့	ိုး	%
	-wè (*-wè)	-wē (*-wē)	-wé (*-wé)	-wê (*-wê)

The following are notes on writing rhymes and tones.

- $6\frac{\varsigma}{1}$ and $6\circ \mathcal{O}$, which represent $\frac{1}{2}$, are used differently as follows: normally the former is used, but the latter is used when there is no space below the basic letter and it is difficult to use the former. The same is true for $\frac{\varsigma}{1}$ and $\frac{\varsigma}{2}$, which represent $\frac{1}{2}$. See, for example, $\frac{\varsigma}{2}$ $\frac{1}{2}$ to swing' and $\frac{\varsigma}{2}$ $\frac{1}{2}$ be eminent'.
- /-è/ can be written with either 60 or 60 δ . When the latter is used, there is a risk that it will be read as /- $\frac{1}{2}$ /. However, the latter is frequently used. Similarly, /- δ / can be written with either $\frac{\delta}{2}\delta$ or 60 δ . When the latter is used, there is a risk that it will be read as /- δ /. However, here again, the latter is frequently used.
- There is no rule to distinguish the uses of ေ and ေတ် for /-é/. Of the two, ေ is used more often. Similarly, there is no rule to distinguish the uses of ောတ်, ိုတ်, and ိုဝ်း for /-ó/. ောတ် and ိုတ် are used more often.
- /-é/ is represented by ေိ or ေတ်. However, ေး is used for some particles and interjections, e.g., အေး /ʔé/ (*/ʔéʔ/)'negative particle' (cf. CS အဲ့ပ) and ဟေး /hé/ 'hey'.
- 6° at the right end of the third row represents/-ê/. However, this rhyme should not have existed if it had followed the general sound change because /-e/ in CEPK is derived from */-e?/, and the original stopped syllables only co-occur with low-level or high-level tones in CEPK. Thus, /-ê/ does not follow the general change, and therefore a corresponding 19c EPK rhyme is not shown in the column. There are three words that have the rhyme /-ê/, that is, /?əwê/ '3SG', /wê/ 'verb particle for emphasis', and /bê/ 'as, like'. These words have the rhyme /-ê/ for the following reasons. As we have seen in Section 4, the 19c EPK rhyme */-e/ preceded by the initial */w-/ or the medial */-w-/ has been succeeded as /-e/ in CEPK, not as /i/. Therefore, /-e/ in /?əwê/ and /wê/

- come from */-e/, but is not pronounced /- $\hat{\underline{\imath}}$ /. As for /bê/, it is thought to have been */bê/, but for some unknown reason, the rhyme seems to have changed from /-ê/ to /-ê/.
- ${}^{\circ}_{l}$ and ${}^{\circ}_{l}$ represent /- \bar{l} / and /- \hat{l} /, respectively. However, these rhymes occur only infrequently because they appear only in a few bound forms.
- The rhyme /-i/ represented by ${}^{\circ}_{l}$ could have been derived from */-i?/ in addition to */-i/. However, since no examples have been found that originate from */-i?/, */-i?/ is marked with a question mark, as in "?*-i?".
- $\frac{6}{1}$ represents four rhymes: /-ə/, /-ə/, and /-á/. However, there are very few words that have the rhymes / $\frac{5}{7}$ or /- $\frac{6}{7}$. Note that no words with the rhyme /- $\frac{6}{7}$ have been found.
- The symbol ∞ has to be written as $\widehat{\ }$ when it co-occurs with the basic letters $\widehat{\ }$, $\widehat{\ }$, $\widehat{\ }$, $\widehat{\ }$, $\widehat{\ }$, and $\widehat{\ }$, and $\widehat{\ }$, and $\widehat{\ }$ also sporadically used with other basic letters.
- Both or and or are read as /-á/. The latter, without any diacritics, is used to write syllables derived from */-á?/. However, even then, it may be written as or.
- The symbols $\[\]$ and $\[\]$ are placed on the right side of the basic letters when there is not enough space under them, e.g., $\[\omega \]$ / $x\hat{u}$ / (*/ $x\hat{u}$ /) 'be flat'.
- The rhyme /-5/ represented by $\frac{5}{3}$ and $\frac{5}{3}$ could also have been derived from */-5?/ in addition to */-5/. However, since no examples have been found that originate from */-5?/, */-5?/ is marked with a question mark, as in "?*-5?".
- The Mon vowel symbol $\acute{\circ}$ is sometimes used to represent /-5/ or /-j5/. See, for example, $Q\acute{\circ}$ /pùc5/ 'to worship', $\acute{\circ}$ ($\acute{\circ}$ $\acute{\circ}$) /khl5/ 'cow', and $\acute{\circ}$ $\acute{\circ}$ 0 /chəkəlj5/ 'gift'.
- $^{\circ}_{1}$ C: exists in theory as a spelling for /- $^{\circ}_{1}$ N/. However, no words with this rhyme have been found so far. Therefore, a question mark is attached, as in "?- $^{\circ}_{1}$ N(?*- $^{\circ}_{1}$ N)".
- The rhyme /-an/ is sometimes written as ာန် in some words. For example, see တာန့် (တိုဝါန်) /təwân/ 'village'. Since this word is a Mon loanword, it is spelled after the Mon spelling (cf. Mon တာန် [kwan]). Other words written with this spelling include ဖါန် /phàn/ 'be bright, luminous' and ခါန် · /khān/ 'country'. However, it is unclear why they are written this way.
- As mentioned in Section 2, the rhyme $/-\underline{i}N/$ appears only in loanwords from Burmese. Thus, the spelling representing the rhyme $/-\underline{i}N/$ at the bottom of Table 18 is only used

to represent Burmese loanwords or those from other languages that have entered via Burmese.

• Some of the loanwords from Mon cannot be read correctly even if based on the generalizations we have seen above. For example, see ဘာ · /phjā/ 'temple; school' (cf. Mon ဘာ [phèə]), ကိုလေင့် /kəljân/ 'to turn back' (cf. Mon ကလေင်, ကောင် [kaʔlìaŋ]), and တွေင့် /təmjân/ 'be strange' (cf. Mon တွေင် [taʔmiaŋ]).

Below are examples of how to write rhymes:

- -i 💍 /lì/ 'air', 📆 ·/nī/ 'to smile', 👸 /phi/ 'pus', 💆 /thî/ 'water'
- -i $\cos\delta/li/(*/le/)$ 'to go', $\cos\delta$, ni/(*/ne/) 'to get', ϵi phi/(*/phe/)'to give', ϵi pi/(*/pe/) 'be small'
- -ε $\mbox{cm} \mbox{s} /\mbox{n} \mbox{k}'$ 'to believe', $\mbox{cm} \mbox{/j} \mbox{\bar{\epsilon}} /\mbox{five}'$, $\mbox{b} \mbox{/m} \mbox{k} /\mbox{m} \mbox{k} /\mbox{ph} \mbox{k} /\mbox{ph} \mbox{k} /\mbox{ph} \mbox{k} /\mbox{m} /\mbox$
- -i ဆိုဒ် /chɨ/ 'race, ethnic group', ကော့စိုဒ် /klècɨ/ (*/klèʔcɨʔ/) 'to endeavor', စွးစိုကိုေ /cwácəkɨ/ 'quite, considerably', ဖိုဟ် /phɨ/ 'short, low', မို့ /mɨ/ 'a sentence final particle'
- -ə ϕ | /klè/ 'always', ϕ /chē/ 'thing', ϕ /lé/ 'LOC', ϕ /jə/ (preposed form) 'I, me'
- -a Θ /mà/ 'to do', Θ /chà/ (*/chà?/) 'to sew', Θ ·/khā/ 'be broken (as a stick)', Θ ·/khá/ 'be bitter', Θ /má/ (*/má?/) 'son-in-law', Θ /mâ/ 'wife'
- -u (*-u) 2|| /d $\hat{\text{u}}$ / 'pear', $\hat{\text{u}}$ 0 /j $\hat{\text{u}}$ 1 'to swallow', 9: /b $\hat{\text{u}}$ 1 'paddy', 9 /ph $\hat{\text{u}}$ 1 'to jump'
- -uı (*-u) ω_{ll} /jùi/ (*/jù/) 'to fly', ω_{ll} °/jūi/ (*/jū/) 'rat', \approx /khúi/ (*/khú/) 'to smoke', ω_{ll} /phû/ (*/phû/) 'grandfather'
- -ပ ဆောဝ် /chò/ (*/chò/) 'moment', မောဝ် /mō/ (*/mō/) 'mother', ခေါဟ် /khó/ (*/khó/) 'head', ဖေါဝ့် /phô/ (*/phô/) 'to swell'
- -၀ ကောင် (ကိုဝ်) /kò/ (*/kòʔ/) 'to call', ယောတ် /jó/ (*/jóʔ/) 'be deep'
- -ə $\infty\delta$ /là/ 'to tell', 2δ /dà/ (*/dà?/) 'again', $\infty\delta$ /thā/ 'can contain', 3β /?á/ 'to be, exist', $\infty\delta$ /thâ/ 'be long, high'
- -ai သ5 /θài/ (*/θài?/) 'liquor', လိက် /lái/ (*/lái?/) 'letter, alphabet'
- -au (*-auı?) $2 |\delta /dau / (*/dauı?)$ 'to fight', $8 \delta /nau / (*/nauı?)$ 'to enter'
- -au (*-au?) ချင်္ဂ /dàu/ (*/dàu?/) 'room', လက် /láu/ (*/láu?/) 'be used up'

- -อก ซึ่ง /phòn/ 'inside', သိုင် ·/ θ อิก/ 'three' (a variant of သိုင် / θ อิก/ used when it is conjoined with a NC), သိုင် / θ อิก/ 'three' (independent form)
- -an 0 /phàn/ 'spear', 0 · 0 /l̄an/ 'place', 3 · 0 · 0 /phàn/ 'to eat', 0 · 0 /chân/ 'hen'
- -on $\mathring{\omega}\mathring{c}$ /thòn/ 'bridge', $\mathring{\omega}\mathring{c}$ · /chōn/ 'to pick up (a person)', $\mathring{\omega}\mathring{c}$ * /phón/ 'to catch', $\mathring{o}\mathring{c}$ ($\mathring{\omega}\mathring{c}$) /thôn/ 'gold'
- -ein $\frac{2}{6}$ /dèin/ 'to play (an instrument)', $\frac{2}{6}$ /thēin/ 'be related', $\frac{2}{6}$ / $\frac{2}{$
- -əwn ψέ /jèwn/ 'to roar', φέ /thēwn/ 'ant', အုင်း /ʔéwn/ 'be cloudy', အင်းφέ /ʔánthêwn/ 'to pick up'
- -ain ယာင် /jàin/ 'be far', ခါင်ႋ /khāin/ 'to tie around', အာင်း /ʔáin/ 'to bite', လာင့် /lâin/ 'rocky mountain'
- -ουν & /nòυν/ (*/nòυν/) 'horn', ψ̊° /phōυν/ (*/phōυν/) 'to get a hole', ϣμι /bóυν/ (*/bóυν/) 'festival', ψ̞ /phôυν/ (*/phôυν/) 'to hold in the arms'
- -iN အယ်ဦဆေန် /ʔɛ̀dìch[sʰ]īN/ 'Thomas Edison', စေန့် /bîN/ 'drum'
- -wi $\stackrel{\sim}{\gamma}$ /kwì/ 'deep swamp', $\stackrel{\sim}{\gamma}$ ($\stackrel{\sim}{\eta}$) /lwī/ 'to choose', $\stackrel{\sim}{\varphi}$; /thwí/ 'dog', $\stackrel{\sim}{\eta}$ /khwî/ 'to comb'

6. Christian Pwo Karen Script (လုံးဆုံးပုံ)

This writing system was created by American Baptist missionaries including Wade, Mason, and Brayton in the 1840s. I call this the Christian Pwo Karen Script (henceforth abbreviated as "CS") because this script was created by Christian missionaries. Stern (1968) calls this writing system the Mission script. In EPK, the Bible is called ວໍາວຸ້າບໍ່ /lái chêinxí/ (book - clean), meaning 'the holy book'. Since /lái/ also means 'letter', the word /lái chêinxí/ is also used as a name for this letter.

The CS is based on the Christian Sgaw Karen Script, which Wade made by modifying the Burmese script in the 1830s. In the early days of the CS, novelties can be observed in that Roman letters were used for some basic letters and basic letters and vowel symbols were juxtaposed, which is not found in the Christian Sgaw Karen Script. In Mason (1846), Pwo Karen words and sentences are written in this method (see Figure 1). However, these aspects had been modified at the beginning of the

Figure 1: Christian Pwo Karen Script in Mason (1846)

1850s, and the system of the CS became similar to that of the Christian Sgaw Karen Script.

This writing system was first created for EPK. However, as pointed out by Kato (1995), the CS did not have widespread use in the eastern areas, i.e., Karen State and Mon State, where there was an overwhelming majority of Buddhists, but later became popular in the Western Pwo Karen-speaking areas around the Ayeyarwady delta, where there was a relatively large Christian population. Nowadays, in Myanmar, this writing system is often considered to be the Western Pwo Karen script, and furthermore, some Buddhist speakers of Western Pwo Karen have also begun to use it. In the areas where EPK is spoken, the BS is predominantly used; however, there are also a few Christians in the eastern areas, and they use the CS.

Since the CS was originally made for EPK, it fits the EPK phonology very well and does not fit Western Pwo Karen's phonology in some parts. Nevertheless, it was still possible to use the CS as a writing system of Western Pwo Karen because, as mentioned in Kato (2006), this writing system was highly systematic. The CS is basically made so that the symbols and sounds correspond in a nearly one-to-one relationship. Therefore, this writing system was able to function as a writing system of Western Pwo Karen by changing the reading of EPK to the reading of Western Pwo Karen according to the rules of sound correspondence. I plan to discuss again in another paper the relationship between the CS and the pronunciation of Western Pwo Karen. This paper only deals with the relationship between the CS and EPK sounds. Thus, the various examples listed below are forms of EPK, not those of Western Pwo Karen.

6.1. Initial consonants

Initial consonants, i.e., consonants appearing in the C1 position, are generally written with the basic letters. There are 27 basic letters, which are shown in Table 20. This table is always presented in the primary education of the CS. Brackets are added by the author. Under each basic letter, its pronunciation is shown.

Table 20: Basic letters

က	6		()	7)	С	
k-	kł	1-	γ	-	X	: -	ŋ-	
0	30)	(0	·-	P	<u>ي</u> ا-	9	
c-	cł	1-	c	-	Ţ	<u>-</u>	e-	
တ	α		(3	d	<u> </u>	U	
t-	th	l-	d	-		i-	p-	
Ø	ဘ		()	C	υ	ရ	
ph-	b	-	n	1-	j	-	r-	
N	C))	C	n	39	
1-	w	-	θ	-	h	1-	3-	
		6	3	(γ			
		R	-	p	∼ h-			

The following are notes on the basic letters.

- @ is never used except to write a loanword from Burmese or English. It may be pronounced [z], following the reading of the same Burmese script.
- φ is used to write the prefix /pə- ~ hə-/ denoting a human being. /pə-/ and /hə-/ are free variants. In terms of pronunciation, it should be sufficient to write this prefix as φ or φ . The reasons for making a separate character could be the following: (a) φ can be read as either /pə-/ or /hə-/ according to a reader's preference; (b) /pə/ has a usage of the first-person plural pronoun (written as φ), and one can distinguish it from the prefix if they are written in different ways; and (c) the Sgaw Karen form for a human being is /p φ a/ cognate with EPK /pə-/, which is written in the Christian Sgaw Karen Script as φ 1, and if /pə-/ is written as φ , the etymological commonality of these forms can be shown. It is unclear which of (a) through (c) is the real reason.
- $/\gamma$ -/ and $/\nu$ -/ are indistinguishable in the BS, but they are written with distinct letters in the CS.

Examples of words written with each basic letter follow, except for the basic letter parenthesized in Table 20: mJ/ká/ 'be difficult', θJ/khá/ 'be bitter', OJ/γά/ 'evening', ὅτ /xῖ/ 'be beautiful', ἀτδες /ŋὲηθ/ 'to quarrel', ϼJ/cú/ (*/cú/) 'hand', ωτ /châ/ 'to ache', ωτωθως /μὰριδιά /(*/μὰριδθὰί/) 'all directions', ης /eὰ/ 'be few', ωτ /tὰ/ 'toddy palm', ως /thà/ (*/thà?/) 'iron', θJ/dá/ 'to see', βl/nā/ 'ear', υς /pὰ/ (*/pà?/) 'to regard', ωl/phā/ 'father', ωJ/bá/ 'be right', ωτ /mà/ 'to do', ωJ/já/ 'fish', βι/ /rουν/ 'office', ωτ /là/ 'moon', οτ /wà/ 'husband', ωJ/θά/ 'to bear fruits', ως sås /hàidài/ (*/hài?dài?/) 'toilet', ωτ /γά/ 'be many', εJ/κά/ 'interrogative particle', and μωJ/ροπιώ ~ həπιώ/ 'woman' (cf. ὑως /ροπιώ/ and υξως /həπιώ/ in the BS).

6.2. Medial consonants

In the CS, the medial consonants /-w-/, /-l-/, /-r-/, and /-j-/ are written as shown in Table 21, using subscripts.

Table 21: Medial consonants

ಂ	୍ୱା	ြ	ွ
-w-	-1-	-r-	-j-

The following are notes on the subscripts.

- CS \bigcirc /-l-/ and \bigcirc /-j-/ are identical in shape to BS \bigcirc /-j-/ and \bigcirc /-l-/, but the relationship between the letters and sounds is inverse.
- The initial consonant /c-/ is sometimes written as γ_2 instead of using the basic letter σ . Words that are written with γ_2 are often borrowings of Mon or Burmese words that are written with γ_1 in the original languages, e.g., γ_2^* s /cài/ (*/cài?/) 'pagoda' (cf. Mon γ_2^* [cyac]) and γ_2^* /cōn/ 'school' (cf. Burmese γ_2^* /cáun/).

Example words with medial consonants follow: $\parbox{0.75pt}{$\langle */pwài?\rangle$}$ (*/pwài?/) 'be tired', $\parbox{0.75pt}{$\langle */klà?/\rangle$}$ 'crow', $\parbox{0.75pt}{$\langle */pràn/\rangle$}$ 'be clean', $\parbox{0.75pt}{$\langle */pràn/\rangle$}$ 'market', and $\parbox{0.75pt}{$\langle */pràn/\rangle$}$ 'to drag'.

6.3. Rhymes and tones

Rhymes and tones are written as shown in Table 22. Table 18 in 5.3 uses a phonology-based arrangement, but Table 22 uses a grapheme-based arrangement. The horizontal columns are arranged according to the tone symbols, and the vertical columns are arranged according to the vowel symbols (plus the nasalization symbol). As in Table 18, forms attached with an asterisk in parentheses, such as "(*-i)", are the corresponding 19c EPK rhymes.

Table 22: Rhymes and tones

	ટ	no tone mark	J	ា	s	ા	
ំ	ំខ	ំ	ំរ	ាំ	ံs	ાં	
	-ì (*-ì)	-ī (*-ī)	-í (*-í)	-î (*-î)	-ài (*-ài?)	-ái (*-ái?)	
্	ૈડ	ূ	ំរ	ูา	ુડ	્રા	
	ુટ - <u>ì</u> (*-è)	$-\frac{\circ}{1}(*-\bar{e})$	ુ - <u>1</u> (*-é)	ា - <u>î</u> (*-ê)	ুs -è (*-è?)	્રા -ė́ (*-ė́?)	
े	ેટ	े	ဲJ	ો			
	-è (*-è)	-ē (*-ē)	-έ (*-έ)	-ê (*-ê)			
ំ	ાં	ំរំ	ាំរ	ำ	ំន	ារំេ	
	-ì (*-ì)	- 1	-í (*-í)	-î	-ì (*-ì?)	-í (?*-í?)	
୍ଷ		ി					no mark
	ુ (*-૭) -૭ (*-૭)	-อิ (*-อิ),					0
	-ə (-ə)	-á (*-á)					(e-*) e-
ી	ટ	ી	J	ា	s	ા	
	-à (*-à)	-ā (*-ā)	-á (*-á)	-â (*-â)	-à (*-à?)	-á (*-á?)	
ု	ုၩ	្	ု႕	្រា	ុទ	ૃા	
	-ùi (*-ùi)	-ū (*-ū)	-ú (*-úi)	-ŵ (*-ŵ)	-àʊ (*-àɯʔ)	ု၊ -áʊ (*-áɯʔ)	
ူ	ួខ	្ព	្ឌរ	្ឋា			
	ူ - ဃ (*-ù)	ਜ਼ -ѿ (*-ѿ)	ူ၂ -шဴ (*-ú)	្ខា -ш̂ (*-û)		ູເ -áʊ (*-áu?)	
8	ેટ	8	ိႆ	ိၫ	ိၭ		
	-ờ (*-ò)	-ō (*-ō)	-ύ (*-ó)	-ΰ (*-ô)	-ò (*-ò?)	-ó (*-ó?)	
ి	్దిక	ి	ီ၂	ា	ిక	ૈ ા	
	-à (*-à)	-5 (*-5)	-á (*-á)	-ŝ (*-ŝ)	-à (*-à?)	-ό (?*-ó?)	
ଃ	ာ s	ଃ	ำำ	ำำ			
	-èn (*-èn)	-ān (*-ān)	?-śn (?*-śn)	-ôn (*-ôn)			
း	ૂ	ः	ាំ	્ર			
	-àn (*-àn)	-ān (*-ān)	-án (*-án)	์ -ân (*-ân)			
ిః	ુડ	ိုး	္စ္ခ်	្វិ			
	-òn (*-òn)	-ōn (*-ōn)	-ón (*-ón)	-ôn (*-ôn)			

ំ៖	ံး -èin (*-èin)	ំ៖ -ēin (*-ēin)	ံ့၊ -éin (*-éin)	ំា -êin (*-êin)	
ုး				า -อ̂шท (*-อ̂шท)	
	ેઢ -àin (*-àin)	`	`	`	
ိႏ		-ain (*-ain)	-ain (*-ain)	-ain (*-ain) อา	
	-òυn (*-òun)				
း	<u>-</u> j _N (ំទំ)	(ុះ) - <u>ī</u> n	(្លំរូ) - <u>í</u> n	(ູາ) - <u>î</u> n	

The following are notes on writing rhymes and tones.

- oil exists in theory as a spelling for */-i?/. However, no words or morphemes that used to have */-i?/ have been found so far. Therefore, a question mark is attached, as in "(?*-i?)".
- 3 can represent two rhymes -5 and -5. Note that no words with the rhyme /-9/ have been found.
- The CS has a way of representing an atonic syllable Cə. A basic letter with no marking, i.e., o, represents it. Examples are: กรวง /kəbàn/ 'ship', กงา /təlâ/ 'box', บฤษา /pərə̂n/ 'news', and รอย์ /วอกลี/ 'debt'.
- \bullet The symbol for /-a/ is $\,$ $\hat{}$. This symbol is written only when tones are unmarked.
- $^{\circ}$ t exists in theory as a spelling for 19c EPK */-5?/. However, no words or morphemes that used to have */-5?/ have been so far found. Therefore, a question mark is attached, as in "(?*-5?)".
- The symbol representing nasalization of rhymes is \circ :. When a tone mark is attached to a basic letter, it is written as \circ underneath the tone mark.
- od exists in theory as a spelling for /-ón/. However, no words with this rhyme have been so far found. Therefore, a question mark is attached, as in "?-ón (?*-ón)".
- The spelling representing the rhyme /-in/ at the bottom of Table 22 is only used to represent Burmese loanwords or those from other languages that have entered via Burmese.

Below are examples of how to write rhymes. The words listed as examples are the same as those listed at the end of 5.3. The order of the words is changed according to Table 22.

- ံ လံၩ/lì/ 'air', နုံ /nī/ 'to smile', ဖံ႕ /phí/ 'pus', ထံၫ /thî/ 'water', ဝံၭ /θài/ (*/θàiʔ/) 'liquor', လံၬ /lái/ (*/láiʔ/) 'letter, alphabet'
- è γ /nè/ 'to believe', ω /jē/ 'five', ω /mé/ 'tooth', ω /phê/ 'necklace'
- ຶ່ນ ວິເຂົ້າ (*/klè?ci?/) 'race, ethnic group', ອູງອດວໍເຂົ້າ 'quite, considerably', ຜ່າ /phi/ 'short, low', ຜ່າ /mi/ 'a sentence final particle', ຕຸເຣູຍເຮົ /klèci/ (*/klè?ci?/) 'to endeavor'
- വുദ /klə/ 'always', യം /chā/ 'thing', സം /lə́/ 'LOC', ധ /jə/ (preposed form) 'I, me'
- ੀ ωz /mà/ 'to do', əl /khā/ 'be broken (as a stick)', əμ /khá/ 'be bitter', ωn /mâ/ 'wife', ∞s /chà/ (*/chà?/) 'to sew', ωι /má/ (*/má?/) 'son-in-law'
- ု ဒုၩ /dẁ/ 'pear', ယု /jѿ/ 'to swallow', ဘု J /bẃ/ 'paddy', ဖုၢ /phŵ/ 'to jump', ဒုၵ /dàʊ/ (*/dàɯʔ/) 'to fight', နု၊ /náʊ/ (*/náɯʔ/) 'to enter'
- ူ ယူ /jū/ (*/jū/) 'to fly', ယူ /jū/ (*/jū/) 'rat', ခူ J /khū/ (*/khū/) 'to smoke', ဖုၢ /phū/ (*/phū/) 'grandfather', ခူ s /da்v/ (*/dauʔ/) 'room', လူ l/láv/ (*/láuʔ/) 'be used up'
- ి టి /సీ/ 'to tell', ∞ /thā/ 'can contain', 3J /?5/ 'to be, exist', ∞ 1 /th3/ 'be long, high', 3S /d3/ (*/d3?/) 'again'
- ่ง เกราย์ (a variant of วงๆ /θον/ used when it is conjoined with a NC), วงๆ /θον/ three' (independent form)
- း ଓଡ଼ /phàn/ 'spear', လး /l̄an/ 'place', အာ ୁ /ʔán/ 'to eat', ଇ ୁ /chân/ 'hen'
- ື່ະ & or /thòn/ 'bridge', ວໍະ /chōn/ 'to pick up (a person)', ຜູ້ /phón/ 'to catch', & /thôn/ 'gold'

- ిః కి౭్గీdèin/ 'to play (an instrument)', యఄః /thēin/ 'be related', ဂఄఄ౹ౢ /ɣéin/ 'house', అఄఄ౹ౢ /mêin/ 'be ripe'
- ုး ယုဒ္ /jə̀шм/ 'to roar', ထုး /th̄э̄шм/ 'ant', အု ၨာ /ʔə́шм/ 'be cloudy', အာပ္ခံထု ၢ /ʔaဴnthǝ̀шм/ 'to pick up'
- ີ: ພັຊ /jàin/ 'be far', ລະ /khāin/ 'to tie around', ສັນູ /ʔáin/ 'to bite', ເວົາ /lâin/ 'rocky mountain'
- ິຣະ ຊີຂູ /nòun/ (*/nòun/) 'horn', ຜິຣ /phōun/ (*/phōun/) 'to get a hole', ວັນ /bóun/ (*/bóun/) 'festival', ຜິງ /phôun/ (*/phôun/) 'to hold in the arms'
- ွး အဲးဒီးဆွာနဲ့ /ʔɛၴdìch[sʰ]jìn/ 'Thomas Edison', ဘ္၁ု /bîn/ 'drum'

Words with /-wi/ and /-we/ that we have seen in Table 19 of 5.3 are listed below for comparison with the BS.

က္စံၩ /kwì/ 'deep swamp', လွံ (ရွံ) /lwī/ 'to choose', ထွံJ /thwí/ 'dog', ခွံ1 /khw \hat{I} / 'to comb'

ກຸວ /kwè/ 'bee', ບູ /xwē/ 'how many', ထູ J/thwé/ 'right side', နູງ /nwê/ 'seven'

7. Sample texts

This section shows two EPK texts. From a textbook for the BS edited by the Pwo Karen Literature and Culture Development Committee (2010), the first paragraphs of two lessons are quoted. The text shown in 7.1 is a folktale (pp. 21–23 in the textbook), and the text shown in 7.2 is an essay (pp. 30–32 in the textbook). Sections 7.1.1 and 7.2.1 show the original texts written in BS. Sections 7.1.2 and 7.2.2 show their rewritten version in CS. Sections 7.1.3 and 7.2.3 show the phonemic transcriptions of the texts and sentence-to-sentence English translations.

7.1. Kyaw Kloo Hton

7.1.1. Buddhist Pwo Karen Script

စဝ်ကှောဟ်ခံင်

လ်ုအုံဝီ·ဍးအိုဝ် တုံဝါန့်အှဲလုံဖုုံး အှဲဝေ့ဍး လုံခေါဟ်လံင်ခင်းထာ် လုံစုဂ်လုံယာင်ဏှ်လှ်။ လုံတုံဝါန့်ဖိုင်ဏှ် တုံဝါန့်ဖေါဟ်အုံလုံဟာ အုံမိင်မွှာဲဝေ့ စဝ်ကှောဟ်ခံင့်ဏုံလုံ။ စဝ်ကှောဟ်ခံင့်ဏှ်အ်ုသုင်းဟောဝ် အ်သာအွာ သာမဲသာဖွါင်ဆိုအ်အေး ဍူဝေ့စွးမာ·လှ်။ တုံဝါန့်ဖေါဟ်သီးလုံဖးဏှ် ဖေးအင်းယှီးဃျင်္ဂကိုဝ်ဏိင်းဍေလှ်။ စဝ်ကှောဟ်ခံင့်ဏှ်သီး အှံဝေ့ဍေအ်မောဝ်·မူးမယ့်ဏှ်ဖေံအင်းယှီးဃျင်္ဂဏှ်ဆေဝ်·လှ်။ တုံဝါန့်ဖေါဟ်လုံဖး လုံဟှာဍေလုံဟှာ ဖေံစိုဝ်မာဆိုင်လောတ်သာယှီးဖိုင်ဃျင်္ဂဖိုင် ထင်းစိုဝ်စူး ခုင်းဆိုင်ဏင်း ကိုဝ်ဟှာဍေလှ်။

7.1.2. Christian Pwo Karen Script

စ္မွဴးကျိုာထွာံ

လၧအဝံဒၪအိၩ တဝၢ့အီၪလဖိုု၊ အီၪဝ္ၢဒၪ လၧၶိၢလီးခဲ့ပထံး လဘူးလယဲႏွနီ၊လီၢ. လၧတဝၢ့ဖၧႏၟနီ၊ တဝၢ့ဖိၪအီၪလဂၩ အမံးမွဲဝဲ့ ာ စီးကြိုပထီးနီ၊လီၫ. စီးကြိုပထီးနီ၊အ၃ု၊့ဂုၩ အ၁ၭအွၩ ၁ၭမဲ၁ၭဖြဲုးဆၧအီ၊အ့၊ ဒူးဝှာစွာမါလီၫ. စီးကြိုပထီးနီ၊သံ၊ အီ၊ဝ့ၢဒဲအမိမု၊မဲၫနီ၊ဖု၊အာ့၊ပံ၊ဎုၭနီ၊ဆ့လီၫ. တဝၢ့ဖိ၊လဖ၊ လဂၩဒဲလဂၩ ဖု၊ဘိၭမၩဆၧး့လိ၊၁ၭပံ၊ဖၧး့ဎုၭဖၧး ထီးဘိၭဘု၊ ခု၊့ဆၧႏွန္၊ ကိၭဟုၩဒ္ဒလီၫ.

7.1.3. Transcription and translation

càklúthôn

'Kyaw Kloo Hton'

- phlóun, (1) lá ?əwī dá?ò¹ təwân ?5 lə ζź wêdá LOC village be one NC[round] **EMP** past be $15.^{2}$ 1á khúlòn khánthài ləbàuləjàin nó not.so.far AST LOC mountain foot that
 - 'Once upon a time, there was a village. The village was located not far from the foot of the mountain.'
- təwân phèn nó təwânphớ (2) lá 25 15 yà, LOC village inside TOP villager be NC[human] one 39 mèin mwē wê càklóthôn nό 1á. 3SG name COP EMP Kyaw.Kloo.Hton that AST

'There was a villager living in the village. His name was Kyaw Kloo Hton.'

- (3) còklúthôn nό <u></u>Зэ θέων γì 39 θà ?wà. Kyaw.Kloo.Hton TOP 3SG liver 3SG white good heart θàphlàin chā 25 ?é, dù wê cwámā ló. be scared be afraid thing be NEG brave EMP verv 'Kyaw Kloo Hton was kind-hearted. He was fearless and very brave.'
- (4) təwânphΰ θíləphá nhé 7án xíxàσ nό PLTOP swidden villager cut eat 15 kò néin dè year every every AST 'The villagers would farm swiddens every year.'
- wê (5) còklóthôn θí 25 dè3 ná 35 mō Kyaw.Kloo.Hton TOP be **EMP** with 3SG mother also múmê 7án xíxàυ nό nó, phé chī 1á. widow swidden AST and cut eat that too 'Kyaw Kloo Hton also lived with his widowed mother and farmed swiddens.'
- (6) təwânphΰ ləphá 15 γà dè lə γà PLvillager one NC[human] and one NC[human] xàυ phé mà chèn lóθà Χí phèn phèn, cut APPL do together RECP jungle inside swidden inside thón bò búi. khámn chán nán kò γà dè 1á. together weed every NC[human] every AST APPL paddy dig 'The villagers all helped each other with the work of farming swiddens, planting upland rice, and cutting weeds.'

Note 1: /dá?ò/ 'ago' is a particle indicating that the preceding noun denotes a past time. The second syllable of this particle comes from 19c EPK */?ò/, which is expected to be /?ò/ in CEPK, but no such change occurred. In the CS, it is written as \$\frac{9}{2}\$? as it was pronounced in 19c EPK. The same is true for the demonstrative \$\frac{9}{2}\$? /?ò/ 'over there'.

Note 2: The sentence-final particle /ló/, which denotes assertion, is also pronounced /ló/. In the BS, it is written as \sqrt{S} /ló/, and in the CS, it is written as \sqrt{S} /ló/. In this paper, it is transcribed as /ló/, according to the spelling of the BS.

Note 3: The particle /dè/ meaning 'with' or 'and' is thought to have been pronounced */dē/ in 19c EPK. Therefore, in the CS, it is written 3 as it is pronounced in the 19th century.

7.2. Karen instrument 'khwe' (blowing horn)

7.2.1. Buddhist Pwo Karen Script

ဖွံုဆိုဒ်ဖေါဟ်ဆိုအူးခို ခိုယိုဝ် ဖွံုဆိုဒ်ဖောဟ်ဆိုဖေါတ်ဆိုအူးဖိုင်လုံဖးဏှ် မွာဲဆိုဖေါတ်ဆိုအူး လုံဆိုစးအူးယှောဝ့် သုံဝါ်ဍေနိုဝ် ဆိုအူးလုံမိင်လှ်။ ခိုယိုဝ် ဖွံုဆိုဒ်ဖေါဟ်ဆိုဖေါတ်ဆိုအူးဖိုင်လုံဖး ကှောဟ်ဏှ်ဟုံင် မွာဲဝေ့ဍး ထိုယဝ်-ပြာထာ့ ဆိုသှေယာ့အးထုက် လုံမိင်ဆေဝ်-လှ်။ အေဍးလင်ခိုဟုင်ဏှ် မွာဲဖွံုဆိုဒ်ဖေါဟ်သီး အိုဆိုဒ်ဏာင်း ဆိုသေ့်ယာ့ကိုဝ်ဟာဍေလ့်။

7.2.2. Christian Pwo Karen Script

ဖြိုးဆင်းဖိုးဆနာျခွဲ့ ခွဲ့လီး ဖြိုးဆင်းဖိုးဆနာဖိုးဆနာျဖန်းလဖြန်း မွဲဆန္ဖြီးဆနာရှာ လန်ဆနာသည် အျနာ ၁ဝင်ဒဲနို့ ဆနာရာလမ်းလီး. ခွဲ့လီး ဖြိုးဆင်းဖြာဆန္ဖြီးဆနာရှာဖန်းလဖြာ ကျိုးနီးဂီး မွဲဝဲ့အ ထယ်ပြုထာ ဆနာ့ပောအာထု၊ လမ်းဆုံလီး. အာ့အလုံခွဲနဲ့ဂ်ားနီး မွဲဖြိုးဆင်းဖြိုဘုံး အဆင်းနနဲ့၊ ဆနာ့ပောက်က်တော့အလီး.

7.2.3. Transcription and translation

phlòun chiphó chə?úi khwè Karen race wind.instrument khwe 'Karen instrument khwe (blowing horn)'

(1) khwè jò1 phlòun chìphớ chəphóchə?úi² phòn ləphá ná khwe TOP inside PL TOP Karen race instrument chəphóchə?úi lá chə bá γώς ΰ θəwài mwē COP IMPS must instrument REL blow breathe.in dè chə?iúi 1á. nò 15 mèin with mouth wind.instrument one kind AST

'The khwe is a type of Karen wind instrument played by blowing and inhaling with the mouth.'

- (2) khwè jò phlòun chiphó chəphóchə?úi phèn ləphá khwe TOP Karen inside PL race instrument klά ná yòn wêdá thəjəprāthâ mwē bronze.drum TOP after COP **EMP** famous tháo chə θíjâ 7á lə. mèin chī 1á. IMPS know many the.most one kind too AST
 - 'The *khwe* is the second most famous instrument of the Karen people, after the bronze drum.'
- (3) ?è³ dá làn khwè yàn nó, if down khwe shape TOP see θí 35 $mw\bar{\epsilon}$ phlòun chiphớ chináin COP Karen PL 3PL race symbol chə θíiâ kò dè lá. γà IMPS know every NC[human] every AST

'When we see the *khwe*, we all remember that this is the symbol of the Karen people.'

Note 1: The particle /jò/ meaning 'this' or indicating a topic is thought to have been pronounced */jò/ in 19c EPK. Therefore, in the CS, it is written to as it is pronounced in the 19th century

Note 2: The noun /chō/, meaning 'thing', also has the usages of nominalizing prefix and impersonal subject. In these grammaticalized usages, it is pronounced as /chə/. Thus, in the CS, it should be written as ∞ if the spelling follows the pronunciation; however, it is actually written with the spelling ∞J, which represents the pronunciation of the original noun.

Note 3: The subordinate clause marker /ʔe/, which means 'if', is written in the CS with the spelling 3pJ representing /ʔi/. The reason for this is unknown. This form might have been pronounced */ʔe/ in the 19th century.

8. Concluding remarks

In this paper, we have seen how the BS and CS correspond to the phonological systems of CEPK and 19c EPK. 19c EPK is very important for comparative studies of Karenic languages, in that it preserves nasalized rhymes and stopped rhymes. The 19c EPK final nasals are always explicitly reflected in both BS and CS. However, the

presence of 19c EPK final glottal stops is always reflected in the CS, but only partially in the BS. Furthermore, the CS is very systematic in that the symbols and sounds correspond in a nearly one-to-one relationship. In this regard, in comparative studies of Karenic languages, the CS should be referenced. If a student can read this writing system, s/he can use Purser and Saya Tun Aung's (1922) Pwo Karen dictionary written in CS, and it would increase the accuracy of her/his research. I hope this paper will prove useful in comparative studies of Karenic languages. I also believe that this paper will be beneficial to students who wish to study the Pwo Karen language itself.

This paper dealt with two writing systems, i.e., the BS and CS, because these two are the most commonly used among speakers of Pwo Karen. However, there are at least two more writing systems in Pwo Karen. That is, the Leke Script and Myainggyingu Script. These are both writing systems for EPK. Let me introduce them at the end of this paper. However, I would like to confess that I still cannot read them and do not understand their systems.

In Karen State, there is a religion called Leke that worships Maitreya (Leke is a religion, not a language name as such sometimes quoted). Followers of this religion use the characters shown in Figure 2.

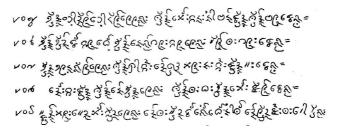


Figure 2: Leke Script

Legend has it that in ancient times the Karen people had a writing system called /lái(*lái?) chân wé(*wé?)/ (script - fowl - scratch), which means the 'script of scratching of fowls'. The Leke Script was probably created in the mid-19th century, based on that legend. I call this the Leke Script, but Leke followers themselves call it /lái chân wé/. An overview of this writing system is discussed by Stern (1968). It looks

complex, but basically uses a system common to Indic scripts.

The Myainggyingu Script is a writing system that appeared on or after the 1990s. This script was created through the efforts of the Buddhist monk U Thuzana (ဦးသူနေ, 1947–2018), also known as the Myainggyingu Sayadaw (မြိုင်ကြီးငူဆရာတော်), and its shapes are as shown in Figure 3. Presumably, this character was also created based on the legend of /lái chân wé/.



Figure 3: Myainggyingu Script

U Thuzana is a Sgaw Karen monk, and the sample in Figure 3 is presumed to represent Sgaw Karen words or sentences. Recently, I heard that this system was developed so that it can also write EPK as well as Sgaw Karen. This script also appears to basically use the system common to Indic scripts. In Sgaw Karen, this script is called /li? kwèkò/ (probably meaning 'wavy script').

Abbreviations

APPL = applicative marker denoting assistance; AST = particle indicating assertion; BS = Buddhist Pwo Karen Script; CEPK = contemporary Eastern Pwo Karen; COP = copular verb; CS = Christian Pwo Karen Script; EMP = emphasis; EPK = Eastern Pwo Karen; IMPS = impersonal subject; LOC = particle indicating location, goal, and source; NC[human] = numeral classifier for a human; NC[round] = numeral classifier for a round thing; NEG = negativity; PL = plural; RECP = reciprocal; REL = relative marker; SG = singular; TOP = topic; 1 = first person; 2 = second person; 3 = third person.

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References

- Dawkins, Erin & Audra Phillips. 2009a. A Sociolinguistic Survey of Pwo Karen in Northern Thailand. Chiang Mai: Linguistic Department, Payap University.
- Dawkins, Erin & Audra Phillips. 2009b. An Investigation of Intelligibility Between West-Central Thailand Pwo Karen and Northern Pwo Karen. Chiang Mai: Linguistic Department, Payap University.
- Kato, Atsuhiko. 1995. The phonological systems of three Pwo Karen dialects. Linguistics of the Tibeto-Burman Area 18.1: 63–103
- 加藤昌彦 (Kato, Atsuhiko). 2001a.「仏教ポー・カレン文字 (Bukkyō Pōkaren Moji)」河野六郎・千野栄一・西田龍雄(編)『世界文字辞典』(言語学大辞典別巻). 847-851, 東京: 三省堂. (In Japanese)
- 加藤昌彦 (Kato, Atsuhiko). 2001b. 「キリスト教ポー・カレン文字 (Kirisutokyō Pōkaren Moji)」河野六郎・千野栄一・西田龍雄(編)『世界文字辞典』(言語学大辞典別巻). 333–337, 東京: 三省堂. (In Japanese)
- 加藤昌彦(Kato, Atsuhiko). 2006. 「同一言語内における文字普及状況の差異についてーポー・カレン語の事例(Dōitsu gengonai ni okeru moji fukyū jōkyō no chigai ni tsuite: Pōkarengo no jirei)」塩原朝子・児玉茂昭(編) 『表記の習慣のない言語の表記』. 89–110. 東京: 東京外国語大学アジア・アフリカ言語文化研究所.(In Japanese)
- Kato, Atsuhiko. 2009. A basic vocabulary of Htoklibang Pwo Karen with Hpa-an, Kyonbyaw, and Proto-Pwo Karen forms. *Asian and African Languages and Linguistics* 4: 169–218. Tokyo: Research Institute for Languages and Cultures of Asia and Africa.
- Kato, Atsuhiko. 2017. Pwo Karen. (In) Graham Thurgood & Randy LaPolla (eds.) The Sino-Tibetan Languages (2nd Edition). 942–958. London/New York: Routledge.
- Kato, Atsuhiko. 2019. Pwo Karen. (In) Alice Vittrant & Justin Watkins (eds.) The Mainland Southeast Asia Linguistic Area. 131–175. Berlin/Boston: De Gruyter Mouton.
- Mason, Francis. 1846. A Synopsis of a Grammar of the Karen Language: Embracing Both Dialects, Sgau and Pgho, or Sho. Tavoy: Karen Mission Press.
- Phillips, Audra. 2017. Entities and the Expression of Grounding and Referential Coherence in Northern Pwo Karen Narrative Discourse. Ph.D. dissertation at the University of Alberta.
- Phillips, Audra. 2018. West-Central Thailand Pwo Karen phonology. Journal of the Southeast Asian Linguistics Society 11.1: 47–62.
- Purser, W. C. B. & Saya Tun Aung. 1922. A Comparative Dictionary of the Pwo-Karen Dialect. Rangoon: American Baptist Mission Press.
- Pwo Karen Literature and Culture Development Committee. 2010. ဖျုံလိက်ပစ်-ယာဆင့် *phlòun lái pɔ̄ jē chân* (Pwo Karen Reader, Level 5). Karen State.
- 坂本恭章 (Sakamoto, Yasuyuki). 1994. 『モン語辞典』(Mon-Japanese Dictionary). Tokyo:

- Institute for the Study of Languages and Cultures of Asia and Africa, Tokyo University of Foreign Studies.
- Stern, Theodore. 1968. Three Pwo Karen scripts: A study of alphabet formation. *Anthropological Linguistics* 10.1: 1–39.
- ဦးဘုန်းမြင့် (U Phon Myint). 1975. ဗုဒ္ဓဘာသာ ပိုးကရင်ပေစာသမိုင်း (A History of Palm-leaf Inscriptions of Bhuddhist Pwo Karen). Rangoon: သပြေဦးစာပေတိုက် (Thabyay Oo Sape Taik). (In Burmese)