

THE DISTRIBUTION OF THE SOUNDS OF BRUU

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1. *Introduction.*

The analysis presented in this paper is based on the Bruu language spoken at Ban Wœn Buek, Tambon Khong Chiam, Amphœ Khong Chiam, in Ubon Rachathani province. It is a Mon-Khmer language of the Katuic branch.

From the phonological point of view, Ban Wœn Buek Bruu is not the same dialect as the one spoken in Vietnam which was studied by Miller.¹ The dialect in question here was discovered in November 1975 by Mr Jerry W. Gainey while he was working under the auspices of the Indigenous Languages of Thailand Research Project (ILTRP), Central Institute of English Language, Office of State Universities. Gainey carried out a preliminary study of Bruu phonetics. Later on Mr See Puengpa, a native-speaker of Bruu, was brought to Bangkok to work on the Bruu-Thai-English dictionary project. A new analysis of Bruu phonetics and phonology was made and an orthography was invented by the staff of ILTRP. The informant was trained to write his own language under the supervision of Mrs Woranoot Pantupong. However, the conclusions relating to Bruu phonetics and phonology appearing in this paper and in the forthcoming Bruu dictionary are my responsibility.

Concerning the history of the Bruu at Ban Wœn Buek, Mr Sim Puengdong, Mr See's grandfather, has stated that they left Laos between seventy and eighty years ago. Bruu once lived at Ban

¹Miller (1967); Phillips and Miller (1976).

Nong Mek, located in Laos on a mountain called *koh pumut* or 'Big Mountain' in Bruu and *phuu kaan huən* 'Mountain in the Middle of Houses' in the Northeastern Thai (or Lao) dialects. Later they came to settle in Ban Wæn Khan, only to move again to Huay Ben. This time they realized that they no longer had the kind of freedom they used to have when they lived on the mountain: they had to pay taxes or work hard for the French, who ruled Laos. They therefore decided to leave Laos and move to Ban Wæn Buek, located within the boundaries of Thailand. They did not live there happily for very long, however. Because of religious differences they split into two groups. One which had adopted Buddhism stayed on in Ban Wæn Buek while the other, which still believed in spirits, moved on to Ban Hin Khok. They were subsequently reunited by the Royal Thai Government's ordering the latter group to move back to Ban Wæn Buek.

2. *Syllables.*

Bruu syllables may be divided into two types, namely (a) the presyllable or minor syllable and (b) the main syllable or major syllable.

The structure of presyllables is either N or CV(C), of which N must be one of the syllabic nasals $\underset{|}{m}$ $\underset{|}{n}$ $\underset{|}{ɲ}$ $\underset{|}{ŋ}$.

Main syllables, of the structure C(C)V(C) or C(C)V̇(C), always receive stress.

The majority of words in Ban Wæn Buek Bruu are either monosyllabic (main syllable) or disyllabic (presyllable + main syllable). Examples:

Monosyllabic:

ro? '(of a roof) leaky'.

?uujh 'fire'

sil 'to thrust under or into'

kìap 'corpse'

nàw 'who'.

Disyllabic:

ra'pàŋ 'swamp'

ʔa'kaa 'fish'

sa'wiir 'dizzy'

kan'toojʔ 'kind of termite'

n'trèe 'pestle (for pounding rice)'.

3. *Register system.*

The register contrast in Bruu is between *normal* (sometimes slightly tense) voice quality and *breathy* voice quality.

Normal syllables can have any initial consonant. Breathy syllables can have only initial p-, pr-, pl-, t-, tr-, c-, k-, kr-, kl-, m-, n-, ŋ-, ŋ-, w-, r-, l- and j-. In other words, ph-, b-, th-, thr-, d-, s-, kh-, ʔ- and h- never occur in breathy syllables.²

It is interesting to note that Ban Wœn Buek Bruu has developed a contrast between *non-nasalized* (or slightly nasalized) and *nasalized* (or heavily nasalized) voice quality instead of nonbreathy vs. breathy voice quality in syllables beginning with glottal consonants, i.e. ʔ- and h-. The informant seems to equate nasalization with breathiness or non-normality.

On the basis of voice-quality contrast there are hence three types of syllables in Bruu: normal, breathy, and nasalized. Examples:

Normal:

naʔ 'clf. for people'

pok 'to perch'

cεεm 'bird'

²Except hii 'kind of bamboo container', pharhʔ-pharhii 'preserved fish (elaborate expression)', and hòoh 'exclamation of surprise'.

ʔuh 'very heavy'
 (ku)ʔεel 'to spit out (food)'
 hɔɔŋ 'high-frequency sound'
 huat 'steamer made of bamboo'

Breathy:

nàʔ 'like, alike'
 pòk 'kind of disease'
 cèem 'to be loaded almost to the point of sinking'.

Nasalized:

ũh 'Here it is!'
 ʔẽel 'to be interested in the opposite sex'
 hõɔŋ 'wasp'
 hũat 'to pour on top'.

Pairs of words differing only in register have the same pitch, whether uttered in isolation or in connected speech. In breathy syllables certain short vowels (e.g., ε, a, ʌ) as well as the long low vowels aa and ɔɔ have onglides, while the height of certain long vowels (e.g., ʏʏ, oo) is raised. Examples:

lèh [lʲɛh] 'chasm'
 làt [lʲat̚] 'to chase'
 nɪàʔ [nɪʔʌʔ] 'to be boiling'
 lʏʏk [lʏʏk̚] 'to pull down'
 lòon [lɔɔʔtn] 'to look'
 ŋòon [ŋɔɔʔtn] 'coconut grater'

4. *Consonant system.*

The Bruu consonant system consists of twenty consonants that can occur syllable-initially and twelve that can occur finally.

Every syllable must begin with a consonant — except the syllabic nasals, which function as syllables by themselves.

Not more than two consonants are permitted in the initial position. Only p-, b-, t-, th- and k- can be the first element in consonant clusters, while the second element must be r or l. In final position only four clusters are allowed: -w[?], -wh, -j[?], and -jh. To recapitulate,

initial consonants

p-	t-	c-	k-	?-
ph-	th-	-	kh-	
b-	d-	-	-	
m-	n-	ɲ-	ŋ-	
	s-			h-
w-	r-	j-		
	l-			

final consonants

-p	-t	-k	-?
-m	-n	-ŋ	
-w	-r	-j	
	-l		

consonant clusters

	initial			final	
pr-	tr-	kr-		-w [?]	-j [?]
pl-	thr-	kl-		-wh	-jh
br-					
bl-					

The following are the phonetic exponents of Bruu consonants. For the distribution of each consonant see the Appendix.

- p : [p-] e.g., pà[?] 'to wear over the shoulder'
 [-p[?]] e.g., pap 'to fine'
 [pr-] e.g., pra[?] 'money; silver'

- [pl-] e.g., plah 'to break'.
- ph: [p^h-] e.g., pha? 'to splash'.
- b: [b-] e.g., ba? 'to make a vow (to a spirit)'
 [br-] e.g., bra? 'sound of a tree breaking'
 [bl-] e.g., sumblan 'cast net'.
- m: [m-] e.g., ma? 'Water, please (children's expression)'
 [-pm] e.g., pràm 'to crack'.
- w: [v/v-] e.g., wà? 'to borrow (food)'
 [-w] e.g., kapaw 'sack'
 [-w[?]] e.g., pAw? 'kind of bird'
 [-wh] e.g., bAw^h 'to burn'.
- t: [t-] e.g., ta? 'to make, do'
 [-t^ʔ] e.g., pat 'to extinguish'
 [tr-] e.g., ntra? 'jungle'.
- th: [t^h-] e.g., tha? 'frying pan'
 [t^h_o-] e.g., thra?-thraaj 'to be friable'.
- d: [d-] e.g., da? 'to get stuck'.
- n: [n-] e.g., na? 'clf. for people'
 [-tn] e.g., pan 'to shoot'.
- s: [s̲-] e.g., sa? 'to tattoo'.
- r: [r/r-] e.g., ràh 'bitter melon'
 [-r] e.g., par 'to fly'.
- l: [l-] e.g., là? 'to neglect'
 [-l] e.g., pal 'splinter'.
- c: [tɕ-] e.g., ca? 'body'.

- n: [n-] e.g., naʔ 'to split (*only at top*)'.
- j: [j-] e.g., jaʔ 'to commit suicide'
 [-j] e.g., paj 'three'
 [-jʔ] e.g., pajʔ 'to make a hole'
 [-jh] e.g., rapajh 'to slash'.
- k: [k-] e.g., kaʔ 'to estimate'
 [-kʰ] e.g., pàk 'layer'
 [kr-] e.g., kràk '(of leaves) to be old'
 [kl-] e.g., klah 'to cut each bunch of bananas off'.
- kh: [kʰ-] e.g., khap 'to sing (*folk songs*)'.
- ŋ: [ŋ-] e.g., ŋaʔ '(of buffaloes) to call loudly'
 [-kŋ] e.g., paŋ 'sharp edge of split bamboo'.
- ʔ: [ʔ-] e.g., ʔàʔ 'to press together (*as of fat legs*)'
 [-ʔ] e.g., pàʔ 'to wear over the shoulder'.
- h: [h-] e.g., haʔ '(of rope, string) to rub against'
 [ɦ-] e.g., hìi 'kind of bamboo container'
 [h̃-] e.g., h̃ɛɛ 'Stop!'
 [-h] e.g., pah 'to split open (*e.g., coconuts*)'.

On the basis of the distribution of sounds given in the Appendix, the frequency of each Bruu consonant is as follows:

initial consonants

t-	7.71%
l-	7.71%
p-	7.64%
k-	6.69%
c-	5.91%
r-	4.96%
h-	4.79%
m-	4.45%
n-	4.35%
s-	4.25%

ʔ-	3.80%
j-	3.80%
b-	3.77%
d-	3.50%
ɲ-	3.33%
w-	3.23%
ŋ-	2.51%
ph-	2.48%
tr-	2.41%
kh-	2.24%
pr-	2.17%
th-	1.88%
kl-	1.70%
kr-	1.56%
pl-	1.40%
bl-	0.68%
br-	0.54%
thr-	0.54%

final consonants

-ŋ	11.93%
-ʔ	11.02%
-t	9.25%
-n	8.61%
-∅	8.54%
-h	6.78%
-j	6.47%
-p	6.37%
-m	6.14%
-l	4.75%
-k	4.68%
-jʔ	4.37%
-r	3.80%
-w	3.70%
-jh	2.64%
-wʔ	0.54%
-wh	0.41%

5. *Vowel system.*

Like a number of other Mon-Khmer languages, Ban Wœn Buek Bruu contains a high incidence of phonological vowel nuclei. Its vowel system consists of eleven basic vowels:

	<i>front</i>	<i>back</i>	
<i>close:</i>	i	ɯ	u
<i>half-close:</i>	e	ɤ	o
<i>half-open:</i>	ɛ	ʌ	ɔ
<i>open:</i>	a	ɒ	

There are three sets of vowels in Bruu: *normal*, *breathy*, and *nasalized*. Vowel length and nasalization are phonologically significant. The half-close vowels (e ɤ o) of both registers rarely occur. Nasalized vowels occur only after the glottal initial consonants.

Fifty-six monophthongs and twelve diphthongs have been postulated for Bruu. These may be arranged systematically as follows:

monophthongs

short

<i>normal</i>	<i>breathy</i>	<i>nasalized</i>
i ɯ u	ì ù ù	- ù̃ ù̃
e ɤ o	è ÿ ò	- - -
ɛ ʌ ɔ	è̃ ʌ̃ ɔ̃	- - ɔ̃
a ɒ	à ò	ã õ

long

<i>normal</i>	<i>breathy</i>	<i>nasalized</i>
ii ɯɯ uu	ìi ùɯ ùu	ĩi - ù̃u
ee ɤɤ oo	èe ÿɤ òo	- - -
ɛɛ ʌʌ ɔɔ	è̃ɛ - ɔ̃ɔ	- ʌ̃ʌ ɔ̃ɔ
aa ɒɒ	àa òɒ	ãa õɒ

diphthongs

<i>normal</i>	<i>breathy</i>	<i>nasalized</i>
iə	ìə	-
ia	ìa	-
ʷə	ùə	-
uə	ùə	ũə
ua	ùa	ũa

The following are the phonetic exponents of the vowels with examples of each. The details of the distribution of each vowel are given in the Appendix.

i	: [i]	e.g., tamin 'too close to the rim'
ì	: [ḭ]	e.g., kumìn 'moving with difficulty'
e	: [e ^ɾ]	e.g., pheŋ-phew 'to limp'
è	: [ḛ ^ɾ]	e.g., trèh 'fingernails'
ε	: [ε ^ɾ]	e.g., suləh 'to come off the hand'
ẹ̀	: [ʲε̰ ^ɾ]	e.g., lèh 'cliff'
ẽ	: [ẽ ^ɾ]	e.g., hẽʔ 'to come close (to shore or mountain)'
a	: [a]	e.g., talah 'clf. for bunches of bananas'
à	: [ʲa̰]	e.g., (?eet) làh 'to take back'
ã	: [ã]	e.g., hãt 'to pick up a bad habit'
ʷ	: [ʷ ^ɾ]	e.g., tʷp 'to be thick (e.g., of cloth)'
ù	: [ʷ̰ ^ɾ]	e.g., tùp 'to bury'
ũ	: [ũ ^ɾ]	e.g., ʔũh 'Here it is!'
ɣ	: [ɣ ^ɾ]	e.g., sɣʔ 'to be wasteful'
ỳ	: [ɣ̰ ^ɾ]	e.g., mỳʔ 'to carry (e.g., baby) on shoulder'
Λ	: [Λ ^ɾ]	e.g., palΛʔ 'to turn (something) over'
là	: [ʲΛ̰ ^ɾ]	e.g., nlàʔ 'to be boiling'
u	: [u]	e.g., luʔ 'to be torn (e.g., fish net)'
ù	: [ṵ]	e.g., lùʔ 'to mix'
ũ	: [ũ]	e.g., (maak) hũŋ 'papaya'
ɔ	: [ɔ]	e.g., nloʔ 'bamboo cylinder'

- ̀ : [ə̌] e.g., ʔal̀əʔ 'to make preserved meat'
 ̃ : [ẽ] e.g., h̃ɔn 'time (clf.)'
 ɒ : [ɒ̌] e.g., salɒh 'humps at both ends of the bamboo pole
 used for carrying loads on the shoulder'
 ̀ : [ə̌] e.g., l̀əh 'to go out'
 ̃ : [ẽ] e.g., h̃ɔŋ 'hole'
 ii : [i:] e.g., saliiŋ 'to be bruised'
 ìi : [i:] e.g., ʔal̀iiŋ 'to pour off slowly and carefully'
 ïi : [ĩ:] e.g., mah̃iiw 'to be able to cry easily'
 ee : [e:] e.g., toon-leeŋ 'dangling'
 èe : [e:] e.g., l̀eeŋ 'to be hard'
 εε : [ε:] e.g., lεeŋ 'looking like a line (the way cloth is
 torn)'
 èε : [Jε:] e.g., l̀èeŋ 'to be hot and dry'
 ẽε : [ẽ:] e.g., h̃ɛk 'to cut open with sharp instrument'
 aa : [a:] e.g., kalaan 'hawk'
 àa : [Jɑ:] e.g., phan-làan 'iron bell (at neck of cattle)'
 ãa : [ã:] e.g., hãaj 'to pour (e.g., water into kettle)'
 uu : [u:] e.g., kuul 'to prop up'
 ùu : [u:] e.g., ʔakùul 'dandruff'
 ʏʏ : [ʏ:] e.g., tʏvn 'to announce'
 ̀ʏʏ : [ʏ̌] e.g., kat̀ʏvn 'not enough'
 ΛΛ : [Λ:] e.g., tΛΛŋ-lΛΛŋ 'walking-stick'
 ãΛ : [ã:] e.g., pahãΛm 'breast, chest'
 uu : [u:] e.g., luup 'to leap over'
 ùu : [u:] e.g., l̀uup 'to pat fondly'
 ùu : [ũ:] e.g., hũhũun 'to smell again and again'
 oo : [o:] e.g., toon-ʔalooŋ 'kind of wild plant'
 ̀oo : [ǒ] e.g., l̀ooŋ 'coffin'
 ɔɔ : [ɔ:] e.g., palɔɔŋ 'to boast'
 ̀ɔɔ : [ɔ̌] e.g., p̀ɔɔp 'cry of squirrel'
 ̃ɔ : [ẽ:] e.g., ʔ̃ɔɔn 'to give'
 ɒɒ : [ɒ̌] e.g., ramɒn 'niece, nephew; grandchild'
 ̀ɒɒ : [ə̌] e.g., m̀ɒn 'coconut fiber wadding (for musket)'

õɒ	: [õ·ɒ]	e.g., hõɒ 'please; too'
iə	: [i·ə]	e.g., kaliət 'to press (with elbow, knee or heel)'
ìə	: [ì·ə]	e.g., lìət 'to lick'
ia	: [i̯a·]	e.g., paliaŋ 'to turn (something) up'
ìa	: [i̯ạ·]	e.g., li̯aŋ 'clf. for dry fields'
wə	: [w·ə]	e.g., lwəm 'overriding slightly at one end or side'
ùə	: [w̥·ə]	e.g., lùəm 'to make oneself invisible'
uə	: [u·ə]	e.g., paluəj 'to exhale (tobacco smoke) slowly'
ùə	: [u̥·ə]	e.g., salùəj 'kind of squirrel'
ũə	: [ũ·ə]	e.g., ʔahũər 'nasal mucus'
ua	: [u̯a·]	e.g., luaŋ 'to snatch'
ùa	: [u̯ạ·]	e.g., lùaŋ 'to be lucky'
ũa	: [ũa·]	e.g., hũat 'to hit (e.g., with stick)'

The following are the percentages of occurrence of the sixty-eight vowels described above:

a	7.70%	ù	1.73%
aa	6.34%	ùu	1.66%
ɒɒ	4.78%	uuu	1.66%
à	3.87%	ùu	1.63%
εε	3.76%	ì	1.60%
ìa	3.56%	ɣɣ	1.46%
ùa	3.22%	ùə	1.43%
ɔ	3.09%	ìi	1.39%
ii	3.05%	ɣɣ	1.39%
ɔɔ	2.95%	ò	1.09%
uu	2.75%	ùuu	1.09%
u	2.55%	ee	0.95%
ia	2.55%	ìə	0.95%
i	2.51%	w	0.92%
oo	2.24%	è	0.82%
ε	2.14%	wə	0.78%
ʌ	2.04%	èε	0.73%
ua	2.04%	ɒɒ	0.73%
èe	2.00%	ʌ	0.61%
òo	2.00%	àa	0.58%
ɒ	1.97%	ùə	0.44%
ʌʌ	1.97%	ěε	0.34%
uə	1.93%	ã	0.31%
ó	1.76%	ãa	0.27%
iə	1.76%	òɒ	0.27%

õ	0.24%	ò	0.07%
ʋ	0.17%	ý	0.03%
è	0.10%	õ	0.03%
ũ	0.10%	ĩi	0.03%
ũ	0.10%	ãʌ	0.03%
ũa	0.10%	ũu	0.03%
e	0.07%	õɔ	0.03%
ẽ	0.07%	òɔ	0.03%
o	0.07%	ũə	0.03%

6. *Miscellaneous.*

Several phonetic features which do not fit the basic phonological pattern of Bruu have been observed, notably (a) tonal contrast in certain pairs of words and (b) peculiar consonant clusters in final position. Some of these are presumably innovations due to borrowing from Northeastern Thai (or Lao) dialects. Others should perhaps be treated under what has been proposed by Diffloth as "expressive phonology".³ Examples:

Ex. 1: ?õɔ? | 'to break';

?õɔ? | 'offering to teacher of móɔ lam singers'.

Ex. 2: hõɔŋ | 'wasp';

hɔɔŋ | 'high-frequency sound (e.g., of talking or laughter)'.

Ex. 3: tarũɔp nʌj | | 'tomorrow';

tarũɔp nʌj | | 'this morning'.

Ex. 4: kusaw tunul-hunul | | | 'red, like the end of penis';

kusaw tunul?-hunul? | | | 'red, like the inside of an unhealed wound'.

³Diffloth (1979).

Ex. 5: tuuul-pluuul | | ' (of the end of the circumcised penis)
sticking out all the time';

tùuul?-tùuul? | | 'sound of a big drum'.

Ex. 6: haaw? [ha:u? |] 'to be in high mettle (e.g., cattle)';

?ẽɛw? [?ẽ:v? |] 'imitation of cry of a small green
frog (to attract hawk)'.

7. Text: The North Wind and the Sun.⁴

"The North Wind and the Sun were arguing one day about which of them was stronger, when a man came along. They agreed that the one who could make the man take his shirt off would be considered stronger than the other one. Then the North Wind blew as hard as he could, but the harder he blew the tighter the man wrapped his shirt around him and at last the North Wind gave up trying. Then the Sun began to shine as hot as possible and right away the man took his shirt off, and so the North Wind had to admit that the Sun was stronger than he was."

| ^ ku | jaal | pΛΛη kap | màt ma | naaη |

| mùj ta | ηaj | ^ ku | jaal | pΛΛη kap | màt ma | naaη
| lòn | hɣɣm | kuaj ta | jah | tΛ? | ^ | wàaw ra | ?aaj kap
| màt ma | naaη | ^ | paaj | ?Λwh | ^ | khan ?a | lè? | ta?
| ?õon ?a | jah ?a | cùajh ?a | kii | ^ | n | luət | lèh tɛɛ
| ca? | ^ kii | paaj nΛw kii | keeη ra | wàaw ra | ?aaj | cɣɣ
| ^ ku | jaal ka | paaj | ^ | màh kΛw | nòon | ^ | wàaw | sət

⁴The vertical line (|) in the Bruu text marks a following stressed syllable. Hence |.....| are the boundaries of the rhythmic unit or foot. The lowered circumflex (^) represents phonological pause or "silent stress", which forms an integral part of the rhythmic patterns of Bruu.

pha | lajh | ^ ku | jaal l'v'j | phat | ^ | phat | r'eq tam
 | r'eq | ^ ku | jaal | phat | r'eq ma | l'e' | ^ ?a | c'ajh ?a
 | k'i h'eq | d'w' | ^ ?a | j'bh | m'ut kap | ca' | ^ ku | jaal
 ka | l'v'j | paaj | ^ | ?awh | ^ ?a | t'oo | ?an | ^ | m'at ma
 | naaj | s'oj ku | jaal | paaj ŋ | k'i' | phua' ku | h'ee c'on ku
 | b'o' ?a | c'ar ?a | c'ajh ?a | k'i | p'o' | phua' | r'eq | ^ k'i
 | w'ia ku | taw | p'l'la | w'ia pa | hoor | ^ k'i | l'v'j | tu'et ?a
 | j'bh | ^ | n'lw ku | jaal | h'v'ym ?a | c'ajh ?a | k'i | tu'et ?a
 | j'bh | ^ l'v'j | ?'on | m'at ma | naaj | keeq | l'uum ?a | t'oo
 | ^ |

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APPENDIX

p-

p-																																	
i	ì	e	è	ε	è	a	à	ɰ	ù	γ	ÿ	λ	λ	u	ù	o	ò	ɔ	ò	ɒ	ɒ	ɒ	iə	ìə	ia	ìa	wə	ùə					
						x																	x	x					ø				
						x			x																				p				
	x			x		x	x											x	x				x			x			t				
							x	x	x					x				x	x				x				x			k			
	x			x	x		x			x			x		x	x		x	x	x	x			x	x				ʔ				
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	x		x	x		x				x				x	x	x	x	x			x				x				p
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	ii	ìì	ee	èè	εε	èε	aa	àa	uu	ùu	yy	ýy	λλ	λά	uu	ùu	oo	òo	cc	çc	pp	ðp	uə	ùə	ua	ùa					
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				x	x	x	x						x		x			x	x	x	x							h
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		x	x	x		x				x					x	x		x		x		x		x	x			n
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