

Brao-Krung phonology

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1. Introduction

This study is based on the Brao speech variety known as Krung spoken in the province of Ratanakiri in northeastern Cambodia. Members of this speech group sometimes refer to themselves as Krung-Brao or Brao-Krung. Three prominent varieties of Brao within Cambodia are Krung itself, Kavet (sometimes written Kravet), and a type often simply called Brao, which is spoken in most villages of Taveng District in Ratanakiri. The generic form Brao thus designates several very closely related speech varieties.¹

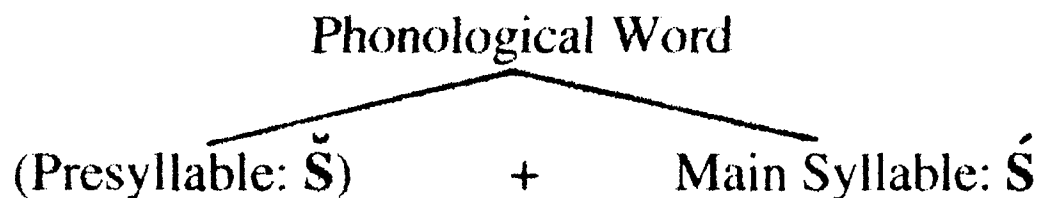
Classified by Thomas and Headley (1970:399) as a member of the Western Bahnaric group of Mon-Khmer, Brao was first documented under the ethnonym Kha Palau by Phraya Prachakij, a Thai administrator-scholar, during his travels to southern Laos and northeastern Cambodia between 1891 and 1893 (Phraya, 1919; 1995). Further identified with the Brao are the Lave, who live to the south and east of the Se Kong river where Attopeu Province in Southern Laos shares a border with Cambodia (Lebar, Hickey, and Musgrave, 1964; Matras and Ferlus, 1971). Again, more than one hundred years ago Phraya (1995:56) had located the Kha Rawe (i.e. Lave) in precisely the same locale as noted by modern researchers.

Krung, the dialect described here, is spoken in the region north, west and south of Ban Lung, the administrative and commercial center of Ratanakiri. Kavet speakers are found (see map in the Appendix) northwest of Ban Lung in Vooun Sai District of Ratanakiri and also in the northern part of Stung Treng Province which lies to the west of Ratanakiri. Both of these provinces border Laos on the north. The Brao of Taveng District have villages located along the Se San River which lies upstream and to the east of Vooun Sai District. Krung, Kavet and Brao of Taveng are mutually intelligible dialects.

¹Earlier study of the language with Krung speakers living elsewhere has been followed by two years residence in the Krung speaking area of Ratanakiri Province. Special thanks for suggestions through the paper to David Thomas and Kenneth Gregerson.

2. Words and syllables

The phonological word in Krung exhibits the familiar Mon-Khmer sesquisyllabic (Matisoff, 1989) structure, in which a strongly stressed Main Syllable (\acute{S}) is optionally preceded by a weakly stressed Presyllable (\check{S}), that is:



2.1 Presyllables

Constructionally, the presyllable in Krung may be represented as:

C \check{v} (N/R)-

That is, the presyllable is always initiated by a consonant onset (C), including glottal stop [ʔ] and consonant clusters, followed by a short syllabic nucleus as rhyme, which can include V, VN, or syllabic reductions of V, VN or VR, as detailed below. The formula above generates the following types of Krung presyllables:

Open presyllables generally take the following form:

C \check{v} --> C $\check{ə}$

ʔənam	'gift'	ʔərəək	'carry (things) suspended from both ends of a pole'
ʔənuʔ	'age'	bərəŋ	'cocoon'
kətaar	'board'	dənaj	'river'
gəməh	'length'	həraaw	'to howl, cry out'
ʔəniʔ	'sickness'	pədəh	'ground, land'
pəʔiŋ	'to cause to stop'	təhiʔ	'bad, evil'
təkien	'lamp'	wəwak	'to exchange'

A consonant onset /ç/ becomes syllabic [ç̥] except when followed by another identical consonant /ç/ which is the initial of the main syllable, e.g. *ççər* [ç̥əçər] 'to tremble', *ççəj* [ç̥əçəj] in *bak ççəj çjiiŋ* 'to wear a long necklace', *ççiiŋ* [ç̥əçiiŋ] '(chicken) to scratch the ground':

C \check{v} --> Ç

çʔbiən	'food stuffs'
çʔbuj	'to be frayed'
çʔdah	'to pull with a jerk'
çʔdoo in <i>ruəç çʔdoo</i>	'big tuskless elephant'
çʔjəəŋ	'very thin (said of a person)'
çʔuəj	'small type of mushroom'

çbah	'to be tired out'
çdaa tŋgaan-çrəŋ	'to wash dishes'
çgaaw	'to know by acquaintance'
çgir	'drum'
çjiiŋ in <i>bak ççəwç çjiiŋ</i>	'to wear a long necklace'
çkuup	'to turn (bowl shaped object) upside down'
çlaa	'leaf'
çlæew	'to drift'
çlik	'thousand'
çmoon	'dusty faced'
çmii dii	'to be equal to'
çŋəwç in <i>kuu çŋəwç</i>	'to be angry (said of a small person)'
çnəŋ	'long reed straw (for drinking from beer jar)'
çniw	'leftover things'
çnii	'thing'
çjii	'a type of fruit'
çpaak	'uninhabited beehive'
çpaan in <i>nih taa çpaan</i>	'not yet finished'
çpæek	'leather'
çpiŋ	'coil spring'
çpəəm	'to lack night vision'
çpiŋ in <i>?ja? çpiŋ</i>	'to be proportionate in size'
çtər	'sound of walking on a wooden floor'
çtuk	'lake'
çtiŋ in <i>brii ?ja? çtiŋ</i>	'dense (of forest)'
çwiəŋ ?bəw	'bamboo shavings'
çwiiw raan	'to turn ones head and look'
çnəəŋ in <i>muh mat çnəəŋ</i>	'a certain facial type'

Nasally closed presyllables (N) with laryngeal and glottal onsets (H, ?) reduce to syllabic nasal syllables, while nasal final presyllables with all other consonant onsets vary between a syllabic nasal and a fuller short shwa-like vowel plus nasal coda, thus:

HVN --> HN̩ = N̩N̩ (i.e., voiceless nasal + syllabic voiced nasal)	
hmbaan	'cloth'
hmbəək	'skin'
hmpiət	'tongue'
hmpuət	'to sell'
hndəəm	'new'
hŋkəwç	'type of ant (red, medium-sized)'
hŋkip	'sleep while sitting'
hnnaj dii	'as for'
hnnuuh in <i>çlaa hnnuuh</i>	'fallen leaves'
hntaak toon	'peanut'
hŋcət	'to dry by dripping through strainer'

ʔVN --> ʔN

ʔmbraa	‘two people (used for 3rd person reference)’
ʔmbiʔ	‘late afternoon’
ʔmpæək	‘to herd’
ʔmpiep	‘example’
ʔŋʔaaŋ	‘infant’
ʔnduu	‘shortly ago’
ʔntɔɔr	‘(a) top (for spinning)’
ʔntun	‘afterwards’
ʔntəək	‘turtle’
ʔŋçaʔ	‘to regret’
ʔŋçaaj	‘fishing pole and line’
ʔŋciicliic	‘(waves) to break’
ʔŋjəw in <i>dɔk ʔŋjəw</i>	‘to walk about for pleasure’

CVN --> CN /CǞN

cnduu [çnduu]/[cənduu]	‘mountain’
cŋhiɛŋ [çŋhiɛŋ]/[cəŋhiɛŋ]	‘to listen’
kmbiək [kɱbiək]/[kəmbiək]	‘to carry on hip’
knʔduul [kŋʔduul]/[kənʔduul]	‘stupid’
pŋgap [pŋgap]/[pəŋgap]	‘to order, to command’
pŋhiɛn [pŋhiɛn]/[pəŋhiɛn]	‘to teach’
pntronj [pŋtronj]/[pəntronj]	‘to straighten’
rŋçaal [rŋçaal]/[rənçaal]	‘rice storage basket’

Presyllables with an R coda all reduce to the syllabic [r], that is:

CVR --> CR

ʔrjaac	‘to look alike’	ʔrjaaw	‘to run’
ʔrjuʔ	‘to be bent over’	ʔrliɛt	‘castrated animal’
brbəw	‘pumpkin’	crhəəw	‘young unmarried man’
çrlaap	‘wing’	çrŋuuk	‘to snore’
drɔk	‘journey’	grjəəŋ	‘shelf’
hrɟij maam	‘blacksmith’	hrjɔɔl	‘echo’
hrmæɛt	‘yellow’	krlip	‘lid’
krpɿi	‘water buffalo’	ɟrlɛʔ-ɟrluəʔ	‘carelessly’
prɛɔn	‘to hurry (intrans.)’	prdiiw	‘to compare’
prʔdɔk	‘inheritance’	prdiŋ	‘width’
prkæək	‘to object’	prlaap	‘to destroy’
prnɛɛŋ	‘(animals) to fight (using their horns)’	prjjuʔ puer	‘food (cooked)’
prɱak	‘to try hard’	trnəəw	‘to answer’
trçaak	‘to tear (trans.)’	trtuuq tuuç	‘brain’

In terms of Thomas’ 1992 sesquisyllabic structure typology, Krung appears, despite the phonetic predictability of some transitions, as noted above, fundamentally to constitute a type (ii) language, maintaining as it does contrast between vocalic

presyllables (Cə-L) in sesquisyllabic words vs. consonant clusters with liquids (CL) in monosyllabic forms, as shown below (see further 2.2.2):

Sesquisyllables		Monosyllables	
bəluu	'to play'	bluu	'thigh'
gəliim	'very black'	gliim	'to be cold'
kəlam	'dark'	klam	'to sink, hundred'
kəlaŋ	'large recipient to measure unhusked rice'	klaŋ	'spirit power'
kələŋ	'type of small bird'	kləŋ	'deep pool in river'
pələep	'to flood'	plah	'to break'

In some cases these contrastive presyllable vs. initial cluster sets are lexically or grammatically motivated, e.g.:

kələɔ	'male'	klɔɔ	'husband'
kəliih	'to drop'	kliih	'to fall'
gələh	'window opening'	gləh	'dōorway'

Though not as common as C+L contrasts, forms like the following with C+R also distinguish presyllables from clusters, e.g.:

çraaw [çraaw]	'the popping sound of fast burning forest'	çraaw [çraaw]	'crossbow'
çruk [çruk] in <i>trjaaw çruk hi? brii</i>	'of running swiftly into the woods'	çruk [çruk]	'village')

It is probably worth noting that this limited set results from contrasts created with oppositions involving adverb-like ideophones (in the sesquisyllabic column).

2.2 Main syllables

2.2.1 Syllable patterns

Main syllables in sesquisyllabic words as well as monosyllabic forms in general take the following shape or some subset thereof:

C(L/N)V(C)

Consonants (C) of an unrestricted set (see Figure 1) occur in the onset of the Main Syllable and a restricted list of C co-occurs in clusters with an optional liquid or nasal (L/N), followed by a rhyme with a strongly stressed vocalic peak of syllabicity (V) and optionally closed by a restricted group (see Figure 2) of final consonants (C).²

²Word final consonant clusters occur rarely. Those that have been found have a glottal stop preceding or following another consonant and often involve ideophone forms:

/wʔ/ kraawʔ 'sound of chewing and crunching small bones', *krɔɔwʔ* 'sound of chewing and crunching large bones', *ʔdaawʔ* 'again'

Main Syllables in Krung are thus of the following types:

- CV:** Initial consonants of Figure 1 co-occur in open syllables with long vocalics, i.e. long vowels or diphthongs (see Figure 3 Vowels): *laa* ‘to request, which, who’, *hɔɔ* third person singular pronoun, *tɔɔ* ‘to extend’, *tii* ‘hand’, *wii* ‘a space of time, an amount of space’, *ɲiə* ‘bait’, *luə* ‘a shovel’, *dɔk riɛ* ‘to move quickly (said of small thing)’, *ɕiɛ* ‘sloping low roof over doorway and porch’, *ʔoo* ‘small bowl for drinking & bathing’
- CVC:** Initial consonants co-occur in closed syllables with vocalics, i.e. short or long vowels or diphthongs, which are followed by a consonant from the set of syllable final consonants: *cɔŋ* ‘to eat rice’, *ɕuuh* ‘to pierce’, *dɔk* ‘to walk’, *taj* ‘to see’, *duuk* ‘boat’, *miɪr* ‘planting field’, *puər tit* ‘cooked sticky rice’, *ruət* ‘to buy’, *ɕiij* ‘to sit back in a relaxed manner’, *wiɛŋ* ‘wall (of city, etc.), fence’, *jip* ‘exceedingly, excessively’; *ɕuəj* ‘to help’, *ʔuŋ* ‘fire’, *wan khiəp* ‘type of large earthenware jar with small mouth’
- CCV:** Initial consonant clusters (see 2.2.2 Consonant Clusters) co-occur in open syllables with long vocalics, i.e. long vowels or diphthongs: *kræɛ* ‘sky’, *klɪi* ‘tiger’, *brii* ‘forest’, *doo* ‘two-string violin’, *ɕraa* ‘thin (said of a person)’, *klɔɔ* ‘husband’, *ɕiʔ ʔbriɛ* ‘to have a stinging painful spot’, *bruu* ‘pheasant’, *proo* ‘very short rice plant sprout’
- CCVC:** Initial consonant clusters also co-occur in closed syllables with vocalics, i.e. short or long vowels or diphthongs which are followed by a consonant from the set of final consonants: *bluk* ‘tusk’, *ɕrul* ‘to butt’, *brɔŋ* ‘box trap with dropping door (for mice and rats)’, *praj* ‘to make (someone) do (something)’, *kloom* ‘to blow (with ones mouth)’, *ɕruk* ‘village’, *brəəj* ‘immediately’, *brəh* ‘to sow’, *ɕrook* ‘to take shelter’, *cruəl* ‘chain, to have a convulsion’, *drɔɔk wiɛŋ* ‘gate of fence or wall’, *glɔŋ mat* ‘blind’, *griɛɕ* ‘to make very short stroke marks’, *ɕraaw* ‘medicine’

2.2.2 Consonant clusters

Consonant clusters consist of a stop or affricate followed by /l/ or /r/. It is to be noted that /ʔb/, /ʔd/, and /ʔj/ are by their patterning unit phonemes. The following clusters have been found initially in monosyllabic words:

- | | |
|------|--|
| /ʔb/ | <i>ʔblɛɛŋ</i> ‘wall-eyed’, <i>ʔbliəw</i> ‘very smooth’ |
| /b/ | <i>blah</i> ‘between, a certain time’, <i>quŋ bləəŋ</i> ‘fire’, <i>blooc</i> ‘freed, to escape, be past, be gone’ <i>bluk</i> ‘tusk’ |
| /gl/ | <i>glɔh</i> ‘doorway’, <i>gliim</i> ‘to be cool’, <i>glaaw</i> ‘to sharpen’ |
| /kl/ | <i>klɪi</i> ‘tiger’, <i>kloom</i> ‘to blow’, <i>klam</i> ‘to sink, hundred’, <i>klɔɔ</i> ‘husband’, <i>klɔk</i> ‘to peck’, <i>kləəm</i> ‘liver’, <i>kloh</i> ‘to crush with mortar and pestle’ |

/jʔ/ dɔɔjʔ ‘to fall having had ones feet slip out in front of one’, *trɔɔjʔ* in *cɛɛm criip trɔɔjʔ* ‘birds to be perched at same height’, *hrkɔɔjʔ* ‘to be spread out evenly’, *ɕntiijʔ* ‘with chest thrust out (said of a small person), *pɔɔ cuujʔ hɔɔ* ‘his uncles

/ʔr/ huuʔŋ ‘a sound of flying up’, *kɛɛʔŋ* ‘a sound of iron being struck’

- /pl/ *plah* ‘break’, *play piir* ‘fruit & flowers’, *plooc* ‘to hop’, *plonj* ‘to jump’, *dik plɔɔt* ‘to jump up onto (porch, etc.), to come up into someone’s house without being invited’
- /ʔbr/ *duuŋ ʔbrii* ‘to be extremely frightened’, *ʔbriiŋ* ‘to be slightly illuminated’, *ʔbrook* ‘sound of object breaking from being bent’, *tariɨ ʔbruəŋ* ‘to break loose simultaneously from something that binds’, *ʔbroh* ‘breaking through’
- /ʔr/ *ʔruu* ‘completely ripe (all the fruit on a tree or plant)’, *tih dəhuəw ʔruəŋ* ‘extremely big’
- /br/ *brii* ‘forest’, *braaj* ‘thread’, *brəh* ‘to sow’, *braak* ‘peacock/ peahen’
- /çr/ *çruk* ‘village’, *çruu puər* ‘steam rice’, *çrah* ‘pond’, *çriɸ rəqet* ‘quiet (not speaking)’, *çraa* ‘to be thin (said of a person)’, *çriŋ* ‘the sound of a sick person moaning’, *çraaw* ‘crossbow’
- /cr/ *cruut* ‘to harvest’, *cruh* ‘to dive, jump’, *criiw* ‘to predict, suppose’, *crieŋ* ‘to sing’, *crɛew* ‘a woman’s close woman friend’
- /dr/ *dreh* ‘fast’, *drɔɔk wiəŋ* ‘gate of fence or wall’, *kuu droom* ‘to stay and wait’
- /gr/ *grun gɔɔ* ‘fever & chills’, *grɛɛ* ‘bed’, *griɛç* ‘to make short stroke marks’
- /kr/ *kraʔ* ‘old’, *krɛɛ* ‘sky’, *kraan hnaam* ‘household’, *krik* ‘breast bone’, *kruək* ‘immediately’, *kriit* ‘too heavy to lift’, *krooj* ‘barking deer’
- /ʃr/ *ʃruuŋ* ‘high’, *ʃraŋ* ‘post, piling’, *ʃruʔ* ‘deep’, *ɲɛɛt ʃriw* ‘to drink leftover beer on the morrow’, *ʃriɛŋ* ‘to be refracted into rainbow colors’, *ʔuŋ-ʃriɛw cŋʔɔɔŋ* ‘flame reaches the rice steaming basket’
- /pr/ *prɨit* ‘banana’, *praat* ‘morning’, *pral haral* ‘to be well (from illness/injury)’, *prɛeŋ* ‘to look after (children)’, *ɲiiç pruuŋ* ‘(many insects) to leave (from hole)’
- /tr/ *triɨ* ‘fish’, *trɔɔm* ‘hole’, *traaj* ‘to prune (a vine)’, *trac* ‘rear’, *trɔɔ* ‘true, correct’, *trɛɛ* ‘floor surface of split bamboo’, *trəw* ‘six’, *truuŋ* ‘path, road’, *trii* ‘wife’, *trut* ‘to push’

3. Consonants

Krung has twenty-nine consonantal phonemes as charted in Figure 1.

	Labial	Dental-Alveolar	Palatal	Velar	Glottal
Voiceless unaspirated obstruents	p	t	c	k	ʔ
Voiceless aspirated obstruents	ph	th	ç	kh	h
Voiced obstruents	b	d	ɟ	g	
Glottalized obstruents	ʔb	ʔd	ʔɟ	ʔg	
Plain nasals	m	n	ɲ	ŋ	
Preaspirated nasals	hm	hn		hŋ	
Trill		r			
Approximants	w	l	j		

Figure 1. Krung initial consonants

Fifteen of the consonants in Figure 1 also occur in word final position. These are shown in Figure 2.

	Labial	Dental-Alveolar	Palatal	Velar	Glottal
Stops	p	t	c	k	ʔ
Nasals	m	n	ɲ	ŋ	
Continuants			ç		h
Approximants	w	l/r	j		

Figure 2. Krung final consonants

3.1 Description of consonants

- /p/ Voiceless unaspirated bilabial stop, with no audible release in syllable final position: *puər* ‘cooked rice’, *hap* ‘receive’, *pæŋ* ‘to gore’, *plaj* ‘fruit’, *puuŋ çur* ‘pig fat’
- /t/ Voiceless unaspirated dental stop, with no audible release in syllable final position: *təŋaa* ‘to ask’, *tit* ‘to stick’ (to something), *git* ‘from’, *pətuer* ‘star’, *kæet* ‘to die’; it has an alveolar point of articulation in the cluster /tr/: *trii* ‘fish’
- /c/ Voiceless unaspirated palatal affricate/stop; syllable initial, it is an affricate; in syllable final position, it is a stop with no audible release: *caa* ‘to eat (food other than rice)’, *cəh* ‘unhusked rice’, *ci? trac tii* ‘to come back’, *phaac* ‘sand’, *juuc* ‘wrong’, *cəw* ‘grandchild’, *cɛɛm kur* ‘dove’
- /k/ Voiceless unaspirated velar stop, with no audible release in syllable final position: *kəət* ‘to be born, to happen’; *dək* ‘walk’, *daak* ‘water’, *kləəm* ‘liver’, *kra?* ‘old’, *kuən* ‘child’, *kræɛ* ‘sky’, *kiit* ‘frog’
- /ʔ/ Voiceless unaspirated glottal stop having no audible release in syllable final position: *?am* ‘to give’, *?uu?* ‘older brother’, *ja?* ‘grandparent’, *rɛ?* ‘to go’
- /ph/ Voiceless aspirated bilabial stop, occurring only syllable initial: *phæɛ* ‘rice’ (husked, uncooked), *phaam* ‘blood’, *phəw* ‘soul’, *phuuŋ juu* ‘relatives’, *phɛ?* ‘full (no longer hungry)’
- /th/ Voiceless aspirated dental stop, occurring only syllable initial: *thun* ‘season’, *thaam* ‘eight’, *thaŋ* ‘strong’, *thoot* ‘fault, guilt’, *thəəp* ‘to smell by sniffing (e.g. as a dog does)’
- /ç/ Voiceless aspirated obstruent, varying from fricative to affricate and from palatal to alveolo-palatal in syllable initial position; it is a lenis unaspirated palatal fricative in syllable final position: *çəəŋ* ‘five’; *çruk* ‘village’, *çuəj* ‘tail’, *ɲiiç* ‘to leave, to exit’, *ruəç* ‘elephant’
- /kh/ Voiceless aspirated velar stop, occurring only syllable initial: *khin* ‘dare’, *dii khəwŋ* ‘because’, *khaj* ‘moon’, *khier* ‘to burn (intrans., i.e. food)’, *khoo* ‘pants, slacks’, *khuuc* ‘broken’
- /h/ Voiceless laryngeal fricative: *hap* ‘to receive’, *hit* ‘tobacco’, *coh* ‘to burn (trans.)’, *cəh bəh* ‘to salt’, *pədəh* ‘ground, soil’
- /b/ Voiced unaspirated bilabial stop, occurring only syllable initial: *but* heart (non-physical), *baar* ‘two’, *bənih* ‘human’, *bəbɛɛ* ‘goat’, *buər* ‘mouth’, *baak* ‘to put out food (for animals)’, *bat* ‘grass’, *bam* ‘to hold (something) in the open mouth’, *bəŋ* ‘to fall down’, *biŋ* ‘to be full (e.g. a container)’, *brəh* ‘unmarried young woman’, *buut* ‘maize’

- /d/ Voiced unaspirated dental stop, occurring only syllable initial: *dək* 'walk', *dooç* 'pointed', *doq* 'hot', *pədaɲ* 'to show', *duər* 'type of flute'; it has an alveolar point of articulation in the cluster /dr/: *druo* 'two-stringed violin', *drək wiən* 'gate of fence or wall'
- /ʃ/ Voiced unaspirated palatal affricate, occurring only syllable initial: *ʃiŋ* 'foot', *ʃiŋ* 'to sew', *ʃuut* 'to wipe', *ʃəɲah* 'to wash', *ʃi?* 'sick', *ʃe?* 'what, which', *ʃraaw* 'medicine'
- /g/ Voiced unaspirated velar stop, occurring only syllable initial: *gəgiət* 'to itch', *gook* 'land', *grun gɔɔ* 'fever & chills', *çgaaw* 'know by acquaintance', *gliim* 'to be cool', *gaar* 'to herd'
- /ʔb/ Voiced preglottalized bilabial stop, occurring only syllable initial: *tənəəm ʔbɔɔ* 'bamboo tree', *ʔbɔɔn* 'place', *ʔbal ʃe?* 'how much, how many', *ʔbiɪ* 'to rain', *ʔbaaw* 'servant'
- /ʔd/ Voiced preglottalized alveolar stop, occurring only syllable initial: *ʔduər* 'before', *ʔdiɪ* 'some', *ʔdal* 'to punch', *ʔduuŋ* 'coconut tree', *ʔdaaw?* 'again'
- /ʔʃ/ Voiced preglottalized palatal stop: *ʔjaa* 'we' (exclusive), *ʔjier* 'chicken', *ʔja?* 'good', *ʔjuuj ʔuŋ* 'smoke'
- /ʔg/ Voiced preglottalized velar stop, occurring only syllable initial: *ʔgaam* 'sweet', *ʔgaam -ʔgaam ʔguut -ʔguut* 'dessert'
- /m/ Voiced bilabial nasal: *maam* 'iron', *muəç* 'mosquito', *mo?* 'older sister', *muh* 'nose', *hnaam* 'house', *pɛɛm* 'gizzard', *trɔɔm* 'hole', *hndəəm* 'new', *rɛɛm* 'to love'
- /n/ Voiced alveolar nasal: *nɛɛ* 'this, these, here'; *naq* 'still, yet, be at', *nɔh* 'to know (information), to know how', *niw* 'monkey', *niŋ* 'up at', *naaŋ* 'Miss (term of address for young woman)', *hŋan* 'sleep', *hmbaan* 'cloth', *mɔɔn* 'nephew/niece'
- /ɲ/ Voiced palatal nasal: *ɲɛɛt* 'to drink', *ɲɔɔn diɪ* 'on account of', *ɲiw* 'live', *ɲuŋ* 'want', *ʔuŋ* 'fire'
- /ŋ/ Voiced velar nasal: *ŋɛh* 'cooking pot', *ŋaç* 'to turn one's head', *pntrɔŋ* 'make straight', *çŋuuk* 'to snore', *raaŋ* 'to look at'
- /hm/ Bilabial preaspirated nasal: *hmɛh* 'toward', *hmə?* 'to be sickened by', *hmooç* 'ant'
- /hn/ Alveolar preaspirated nasal: *hnaam* 'house', *hnɔɔ* '3rd pers. sg. pron. (a variant of *hɔɔ*)'
- /hŋ/ Velar preaspirated nasal: *hŋan* 'to sleep' (no other monosyllabic examples found)
- /r/ Voiced alveolar trill: *riɛn* 'to say', *ruəj* 'fly', *raaŋ* 'to look at', *baar* 'two', *çuər* 'to write'
- /w/ Voiced labial-velar approximant: *wiɲ* 'to forget; *wəwak* 'to exchange'; *waaw* 'to measure (liquids, rice, etc)', *trəw* 'six'
- /j/ Voiced palatal approximant: *jiɪ* 'we (dual, exclusive)', *ja?* 'grandparent', *kuəj* 'to carry on shoulder', *taj* 'to see'
- /l/ Voiced alveolar lateral: *luuk* 'to reach (into something)', *laap* 'spread', *lɔɔŋ* 'wood', *liɲ liɲ* 'always', *laak* 'to bloom', *lɛɛk* 'all', *pral* 'to be well after an illness or injury', *kn?duul* 'stupid', *ʃiŋil* 'stump'

4. Vowels

Brao Krung has nineteen vowel phonemes: eight short, eight long, and three long diphthongs. as shown in Figure 3.

		Front		Central		Back	
High	Plain	i	ii	i	ii	u	uu
	Diphthong	iɛ		iə		uə	
Mid		ɛ ɛɛ		ə əə		o oo	
Low		a aa				ɔ ɔɔ	

Figure 3. Krung vowels

4.1 Description of vowels:

Short Vowels:

- /i/ High front unrounded vowel, varying between [i] and [ɪ]: *ʃih* ‘to ride’, *ʃit daak* ‘to draw water’, *bih* ‘snake’, *niw* ‘monkey’, *jiŋ* ‘to sew’, *tih* ‘big’, *bic* ‘to have’, *phɛɛ tit* ‘cooked sticky rice’, *ʃəmiw* ‘raw’
- /ɛ/ Mid front unrounded vowel: *rɛʔ* ‘to go’, *brɛŋ* ‘fast’, *mɛʔ jaʔ* ‘ancestors’, *pɛh* ‘to pick’, *kəjɛʔ* ‘unripe’, *gɛh* ‘hard’, *dɛl* ‘to taste with the tip of the tongue’, *?blɛm ?blɛm* ‘watch a moving person from a hiding place’, *lɛh* ‘to untie’, *ʃɛl* ‘to cut (an object up to about 20 cms. across)’, *kɛʃɛt pluuj* ‘plug of drinking gourd’, *ʃɛn* ‘to wear on the foot’, *kɛn* ‘to confine’
- /a/ Low non-back unrounded vowel: *daŋ* ‘to look for’, *maŋ* ‘night’, *nak* ‘person’, *bat* ‘grass’, *ʃəjar* ‘swamp’, *həbak* ‘rattan’, *par* ‘to fly’, *mat* ‘eye’, *caj* ‘louse’, *kap* ‘to bite’, *cah* ‘red’, *mah* ‘cotton’, *təpaj cɾlaʔ* ‘brightly shining light’, *lan* ‘to be stuck (in something)’
- /ɨ/ High central unrounded vowel: *wɨr* ‘to stir, to be transformed’, *hiʔ* ‘at’, *ʃiŋ* ‘foot, leg’, *kəjik* ‘heavy’, *gɨl daak* ‘a spring with a stream’, *katim* ‘to stub’, *ʃim* ‘delicious’, *kɾlip* ‘lid’, *ciʔ* ‘to return, come back’, *kɾik* ‘breast bone’, *ʃəgɨr* ‘a drum’, *ʃiŋɨl* ‘stump’, *gɨt* ‘from’
- /ə/ Mid central unrounded vowel: *bəʔ* ‘carry (a child) in a cloth on back or chest’, *?mbiʔ hnəw* ‘this coming afternoon’, *pəh* ‘seven’, *brəh* ‘to sow’, *kədəʔ* ‘to sprain’, *kələʔ* ‘self’, *pəcəʃ* ‘to complete, finish’, *trkəw* ‘knee’, *cəw* ‘grandchild’, *brnəw* ‘tomorrow’, *wəj* ‘INTERJ. (of protest)’, *pɾtəh* ‘to praise’, *hnəj ?əən* ‘a large number of...’, *cəgəw* ‘bear’
- /u/ High back rounded vowel varying between [u] and [ʊ]: *mut* ‘enter’, *tuc* ‘to pull out of (e.g. the ground)’, *tuh* ‘ash’, *buk* ‘rotten (wood)’, *ʃɾul* ‘to butt’, *dum* ‘ripe’, *khəpun* ‘rice noodles with sauce and fresh vegetables’, *buŋ* ‘type of large basket’, *cur* ‘pig’, *buç* ‘to cook in water’, *mut* ‘to enter’, *cuʔ* ‘to put’, *duŋ* ‘long time’
- /o/ Mid back rounded vowel: *doʔ* ‘hot’, *joŋ* ‘to stand’, *?oʔ ?uət* ‘mist’, *doŋ* ‘to hear’, *moʔ* ‘older sister’, *goh* ‘long’, *troŋ* ‘straight’, *kəjoh* ‘to spit’
- /ɔ/ Low back rounded vowel: *dəŋ* ‘neck’, *kədəɔh* ‘to break off’, *nəh* ‘to know’, *bəh* ‘salt’, *cəŋ* ‘to eat rice’, *kəjɔʔ* ‘corpse’, *bət* ‘to slaughter’, *dən* ‘soft’

Long Vowels:

- /ii/ High front unrounded vowel: *tii* 'wife', *wiih* 'to leave', *miik* 'younger aunt', *gliim* 'cool', *criiŋ* 'rainbow', *ɕwiiw* 'to turn head back and look'
- /ɛɛ/ Mid front unrounded vowel: *pɛɛ* 'three', *bəbɛɛ* 'goat', *kəlɛɛ* 'egg', *bɛɛl* 'mat', *hɛɛŋ* 'to pour', *ɲɛɛt* 'to drink', *ɕlɛɛw* 'to drift', *trɛɛ* 'floor of thin split bamboo'
- /aa/ Low non-back unrounded vowel: *baar* 'two', *maang* 'to speak', *daak* 'water', *gaak* 'to be pregnant', *phaam* 'blood', *trpaanɲ-ŋ* 'sole of foot', *raaɕ ʔmbaaɕ* 'possessions', *krlaat* 'slice(s)', *kədaaw* 'sugar cane', *cəŋaaj* 'far', *kəʔaaj* 'watermelon'
- /ii/ High central unrounded vowel: *ʔbii* 'to rain', *kəkriic* 'to scratch', *ɲiiim* 'to cry', *kadiiŋ* 'bone', *kuu ɲiiip* 'to not react', *piir* 'flower', *hrmiic* 'rhinoceros', *ɲiiɕ* 'to go out', *priit* 'banana', *trɲiiw* 'forehead', *ɕiiŋ* 'to sit back in a relaxed way', *wiiŋ* 'to forget', *kəjiiw* 'wind'
- /əə/ Mid central unrounded vowel: *bəəʔ* 'father', *kələə* 'close friend', *cəkəəl* 'to pry up', *bəəm* 'to make', *ʔəən* 'much', *ɕəəŋ* 'five', *ʔəh ləəp* 'spouse's younger sibling', *rəəɕ* 'to choose', *bəbəət* 'to feel, touch', *trnəəw* 'to answer', *ɲəəj* 'to look up'
- /uu/ High back rounded vowel: *pəduu* 'termite hill', *cruut* 'to harvest', *yuuc* 'wrong', *buuh* 'beer fermentation starter', *duuc tii* 'to wash hands', *cuuŋ* 'long handled axe', *huup* 'picture', *gənit gənuur* 'to be valuable', *pɲjuuʔ puər* 'food', *tuuɕ* 'head', *ɲuuŋ* 'a type of large deer', *maam cuup* 'magnet'
- /oo/ Mid back rounded vowel: *hook* 'to be happy', *plooc* 'to hop', *doom* 'to urinate', *təboot* 'to deceive', *booj cnduu* 'mountain top', *gənoop* 'friend, associate', *kədoop* 'to cover'
- /ɔɔ/ Low back rounded vowel: *bɔɔk* 'field house', *gɔɔ* 'cold', *kəmɔɔ* 'year', *pɔɔ* 'younger uncle', *pəjɔɔ* 'to hand (something to someone)', *hrjɔɔl* 'echo', *trɔɔm* 'hole', *mɔɔn* 'nephew, niece', *lɔɔŋ* 'wood', *kəɔɔʔ* 'to hide', *teem gɔɔr* 'kapok tree', *rəɔɔɕ* 'to do blacksmithing', *bɔɔw* 'rolled up', *ɕɔɔj* 'to follow'

Diphthongs:

- /iɛ/ High front unrounded vowel, gliding to mid front vowel: *təkiɛŋ* 'lamp', *hiɛn* 'to study', *kmbiɛk* 'to carry on hip', *cəniɛ* 'tree slabs', *diɛn* 'candle', *riɛɕ* 'root', *ʔjiɛr* 'chicken', *dədiɛt* 'rice plants having little grain', *krniɛw* 'scythe'
- /iə/ High central unrounded vowel, gliding to mid central unrounded vowel: *khiiəj* 'customarily (do), (with negative) 'never (do)', *phiə* 'for', *ɕiə* 'to believe'
- /uə/ High back rounded vowel, gliding to mid central unrounded vowel: *cuər* 'to write', *cruəl* 'chain, to have a convulsion', *tuəŋ* 'to suppose, predict', *ruət* 'to buy', *tih dəhuəw* 'big (viewed from the inside)', *cuəj* 'to plant field rice', *cəən* 'to be numb'

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Appendix 1. Map of Krung, Kavet and Brao (Taveng) areas in northeastern Cambodia

