

TAMANG PHONEMIC SUMMARY

Tibeto Burman Phonemic Summaries VII

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### I. Introduction.

- A. Name of the language. The language is generally referred to as Tamang. G. A. Grierson, Linguistic Survey of India, <1909>, Vol. II, Part I. listed the language as Murmi with Tamang, Bhotia, Ishang, and Sain as other names by which the people are known. It is also referred to as Murmi by C. F. and F. M. Voegelin in 'Languages of the World: Sino-Tibetan Fascicle Four', Anthropological Linguistics, Vol. 7, No. 5, <May 1965>.
- B. Relatedness to neighbouring languages. According to the Linguistic Survey of India, Vol. III, Part I, Tamang belongs to the non-pronominalised group of the Himalayan languages within the Tibeto-Burman family. Tamang is said to be more closely related to Gurung than to any other language in this group. Computations by Warren Glover based upon the Swadesh 100-word list for the languages of the report, places Tamang with Thakali-Gurung <57 per cent shared cognates>.
- C. Place spoken. The Tamangs are to be found north, south, east, and west of the Kathmandu Valley. According to Bista, People of Nepal, 1967, p. 48, 'The eastern majority of Tamangs is found in settlements in Bagmati Zone just outside the hills surrounding Kathmandu Valley.'. Of the 500,000 Tamangs registered in the 1952/4 Census 112,000 were from the Western hills' area. Bista also reports that scattered settlements of Tamangs are found in the Darjeeling area of West Bengal.
- D. Number of speakers. According to the 1961 Nepal Census Report the number of Tamang speakers was listed as 518,812. Of this number 64,344 were listed as living in the Nuwakot West No. I Jilla of the Bagmati Anchal.

- E. Dialect studied. The data upon which this analysis is based reflects the Western dialect of Tamang, as spoken in the Tupche Panchayat of Nuwakot West No. 1 Jilla, north-west of Kathmandu.
- F. Informants: Both informants, Karna Bahadur Tamang and Bhajuman Bahadur Tamang, are from the village of Sahugaon, in the Tupche Panchayat.
- G. Time of research. The analysis described here is based on data collected during several stays in Sahugaon between September 1967 and September 1969, approximately eight months, and on further data elicited from the informants during the time spent in Kathmandu.
- H. Auspices. This research was conducted under the auspices of the Summer Institute of Linguistics in Nepal and Tribhuvan University, Kirtipur, Nepal.
- I. Acknowledgements: This research was supported in part by the Department of Health, Education and Welfare, Office of Education, Washington, D. C. under contract number OEC-0-9-097721-2778.
- J. Bibliography.

Pike, Kenneth L. <1947> Phonemics, A technique for reducing languages to writing. Ann Arbor, University of Michigan Press.

\_\_\_\_\_. <1948> Tone Languages, A technique for determining the number and type of pitch contrasts in a language, with studies in tonemic substitution and fusion. Ann Arbor, University of Michigan Press.

\_\_\_\_\_. <1962> 'Practical Phonetics of Rhythm Waves.' Phonetica 8, 9-30.

Shafer, Robert. <1955> 'Classification of the Sino-Tibetan Languages.' Word 11, 94-111.

Sprigg, R. K. <1955> 'The Tonal System of Tibetan <Lhasa dialect> and the Nominal Phrase.' BGCAS 17, 133-153.

Turner, Sir Ralph Lilley. <1931> A Comparative and Etymological Dictionary of the Nepali Language. London, Routledge and Kegan Paul <Reprinted, 1965>.

The distinctions among the stops and nasals between Gurung and Murmi were mentioned by C. F. and F. M. Voegelin, but to the author's knowledge there is no published phonemic statement of Tamang. According to Robert Shafer, Bibliograph of Sino-Tibetan Languages <1957 and 1963>, Wiesbaden, R. K. Sprigg has unpublished material on Tamang verbs at the School of Oriental and African Studies.

- K. Orthography. Segments enclosed in quotation marks " " are those used in text orthography, those in slant lines / / are those used in Phonemic transcription. Phonetic transcriptions are enclosed in square brackets [ ]. A raised [<sup>h</sup>] following a vowel represents breathiness, [o<sup>h</sup>], and following a consonant, [p<sup>h</sup>]. Length is represented by a colon, /o:/, [o:].

The following conventions are used for pitch:

	Orthographic	Phonemic
High	"q" following the morpheme as in "netq"	Acute accent over the vowel as in /né/ 'full'
Mid	"g" following the morpheme as in "bretg"	Macron over the vowel as in /prēt/ 'eight'
Low	"'" following the morpheme as in "gren'"	Grave accent over the vowel as in /krèn/ 'eldest'
Unstressed	" " Unmarked as in "Thil"	Unmarked as in /t <sup>h</sup> il/ 'a loom rod'

In disyllabic and trisyllabic morphemes two patterns are possible:

- a) a pattern in which all syllables of the morpheme have the same tone,
- b) a pattern in which the final syllable(s) of the morpheme differ from the initial syllable in that the final syllable(s) are unstressed.

Pattern <a> and <b> are distinguished as follows:

Pattern <a>			Pattern <b>		
HH	" -q"	/''/	HU	" -:q"	/' /
MM	" -g"	/--/	MU	" -:g"	/- /
LL	" -'"	/^^/	LU	" -:'"	/^ /
UU	" "	/ /			

The retention of the non-phonemic voicing distinction in word-initial stops and affricates for the purpose of text orthography represents a compromise between three points of view.

- 1> From the phonemic point of view the voicing of a word-initial stop is predictable given the tone of the morpheme involved. Word-initial stops and affricates in high tone and unstressed morphemes are voiceless. Word initial stops and affricates in low and mid tone morphemes are voiced. These statements apply for both patterns <a> and <b> discussed above. Following sonants we find the same four-way tone contrast without the concomitant word-initial voicing alternation, thus, from the phonemic point of view we may predict voicing from tone in general but not tone from voicing.
- 2> From the point of view of Dr. R. S. Pittman and others, the voicing of word-initial stops and affricates constitutes an exponent of the tonal contrast and is independently contrastive. Arguments from simplicity of rules in predicting phonetic facts from minimally redundant underlying representations are somehow discounted in this point of view.
- 3> The major informant can express the voicing distinction in Devanagari script, with which he is familiar, but not tone. He finds voicing easier to work with where it is a possible clue to tone, than he does to work with tone itself. It should be added here, however, that attempts to teach the tone analysis here presented to our major informant have not been particularly successful, a fact which leaves us unhappy, but, at the present, no viable alternative to the current analysis has been discovered.

The first point of view is adequately expressed in the phonemic orthography. Voicing distinctions in stops and affricates are retained in text orthography in deference to the other two points of view.

The diagraph "ng" is underlined in text orthography when it represents the phoneme /ŋ/, the "g" of a syllable final "ng" represents mid tone.

Morpheme division is represented by a minus sign, "pii-pa" /pi:-pa/.

II. Segmentals

A. Stops, affricates, and fricative, <obstruants>.

	Bilabial	Dental	Alveolar	Alveolar retroflexed	Velar
Un- aspirated	"p" /p/ "b"	"t" /t/ "d"	"c" /c/ "j"	"ɟ" /ɟ/ "D"	"k" /k/ "g"
Aspirated	"ph" /p <sup>h</sup> /	"th" /t <sup>h</sup> /	"ch" /c <sup>h</sup> /	"T <sup>h</sup> " /ɟ <sup>h</sup> /	"kh" /k <sup>h</sup> /
			"s" /s/		

1. Contrast.

<pres> refers to the present tense of the verb,  
 <past> refers to the past tense of the verb.

"pai"	/pai/	'wool'
"pii-pa"	/pi:-pa/	'to be wet with mud' <pres>
"ponq"	/pon/	'vessel for wine'
"pu"	/pu/	'cooking pot'
"phaiq"	/p <sup>h</sup> ái/	'iron'
"phii-pa"	/p <sup>h</sup> i:-pa/	'to sprout' <pres>
"phoq"	/p <sup>h</sup> ó/	'stomach'
"phuu"	/p <sup>h</sup> u:/	'cooking place'
"taa <sup>h</sup> q"	/tá:/	'what'
"teng"	/ten/	'with'
"tonq"	/ton/	'up'
"thaak <sup>h</sup> q"	/t <sup>h</sup> a:kaŋ/	'loom part'
"the"	/t <sup>h</sup> e/	'he'
"thonq <sup>h</sup> q"	/t <sup>h</sup> ón/	'vessel for milk'



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"T <u>an</u> ga"	/t̪aŋa/	'half a rupee'
"Tiq-pa"	/t̪í-pa/	'sit' <pres>
"Thaarq"	/t̪ <sup>h</sup> á:r/	'a leaf plate'
"Thil"	/t̪ <sup>h</sup> il/	'a loom rod'
"kaa <u>q</u> "	/ká:/	'blood'
"kolu <u>q</u> "	/kólá/	'child'
"kurn <u>g</u> aq"	/kúrŋá/	'a tree'
"khaara <u>q</u> "	/k <sup>h</sup> á:rá/	'throat'
"khore:q"	/k <sup>h</sup> óre/	'a small dish'
"khutu <u>q</u> "	/k <sup>h</sup> útú/	'honey'
"ca <u>n</u> g"	/caŋ/	'elder brother's wife'
"ca-pa"	/ca-pa/	'eat' <pres>
"cata"	/cata/	'salt'
"cen <u>T</u> e:q"	/cénɽe/	'a tree'
"cura"	/cura/	'bangle'
"tunca <u>q</u> "	/túncá/	'short'
"cha <u>n</u> g"	/c <sup>h</sup> aŋ/	'a basket'
"cha <u>q</u> -pa"	/c <sup>h</sup> á-pa/	'pain from an open wound'
"sa <u>n</u> g-pa"	/saŋ-pa/	'dry' <pres>
"sera <u>q</u> "	/sérá/	'hailstone'
"gansa <u>g</u> "	/kānsā/	'red clay'

2. Variation.

"p"  
"b" /p/ [p] [b] [p̥] [p̚]

[p] a voiceless bilabial unaspirated stop occurs word-initial before high tone or a low unstressed vowel.

"prooq" /pró:/ [p̥fo:] 'a light meal'

"ping" /piŋ/ [p̥iŋ] 'blue'

[b] a voiced bilabial unaspirated stop occurs word-initial before a non-high stressed vowel, and word-medial following a breathy vowel.

"bug" /p̥u/ [bu] 'field'

"pehq-pa" /pe<sup>h</sup>-pa/ [pe<sup>h</sup>-ba] 'separate' <pres>

[p̥] a lenis voiceless bilabial stop occurs word-medial following clear vowels.

"ipiq" /ípi/ [ip̥i] 'enemy'

"apa" /apa/ [ap̥a] 'father'

[p̚] an unreleased voiceless bilabial stop occurs word final.

"Tup" /t̥up/ [t̥up̚] 'thread'

"dapg" /t̥āp/ [dap̚] 'needle'

[p] fluctuates with [b] word-medial when preceded by a clear vowel and /l, r/, or a nasal consonant.

"balpa:" /p̥alpa/ [balpa] / [balba] 'a frog'

"sol-pa" /sol-pa/ [sol-pa] / [sol-ba] 'eat' <pres. honourific>

"torpo" /torpo/ [toɣpo] / [toɣbo] 'mountain people'

"cirpaarq" /círpa:r/ [t̥siɣpa:ɣ] / [t̥siɣba:ɣ] 'a beam'

"kumpa" /kumpa/ [kumpa] / [kumba] 'lift up'

"lampug" /lāmpū/ [lampu] / [lambu] 'a priest'

"t"  
"d"

/t/ [t̥] [d̥] [t̚] [d̚] [tʰ]

[t̥] a voiceless dental unaspirated stop occurs word-initial before high tone or low unstressed vowel.

"taa" /ta:/ [t̥a:] 'what'

"tor" /tor/ [t̥oʔ] 'up'

[d̥] a voiced dental unaspirated stop occurs word-initial before a non-high stressed vowel, and word-medial following a breathy vowel.

"daa" /t̥a:/ [d̥a:] 'an upright post'

"nyeht'-ci" /nye<sup>h</sup>t-ci/ [nye<sup>h</sup>d̥-dzi] 'spill' <past>

[t̚] a lenis voiceless dental stop occurs word-medial following clear vowels.

"ag-ta-pa" /ā-ta-pa/ [a-t̚a-pa] 'not allowed' <pres>

"ag-too" /ā-tc:/ [a-t̚o:] 'not needed' <pres>

[d̥] a voiced dental fricative occurs following sonants.

"rilto" /rilto/ [ru<sup>h</sup>l̥do] 'a circle'

"bar'-teng" /bār-ten/ [ba<sup>h</sup>ʃ-d̥en] 'with a basket'

"kang-teng" /kaŋ-ten/ [kaŋ-d̥en] 'with a foot'

[tʰ] a voiceless dental affricated stop occurs word-final.

"Detg" /t̥ēt/ [d̥etʰ] 'half'

"pot" /pot/ [potʰ] 'bone'

"ṭ"  
"ḍ"

/ṭ/ [ṭ] [ḍ]

[ṭ] a voiceless alveolar retroflexed unaspirated stop occurs word or morpheme initial before high tone or low unstressed vowel.

"Tiq-pa" /ṭí-pa/ [ṭi-pa] 'sit' <pres>

"Tup" /ṭup/ [ṭup] 'thread'

[ɖ] a voiced alveolar retroflexed unaspirated stop occurs word or morpheme initial before stressed non-high tone, and in fluctuation with [ʈ] following a nasal consonant.

"ag-Tæ-pa"	/ā-ʈe:-pa/	[a-ʈe:-pa]	'not support' <pres>
"Doo'-pa"	/ʈð:-pa/	[ɖo:-pa]	'run away' <pres>
"ag-Dik"	/ā-ʈɪk/	[a-ɖɪk]	'not-mix' <pres>
"ceŋte:q"	/cɛŋʈe/	[t͡sɛŋʈe]/[t͡sɛŋɖe]	'a flower'

Elsewhere /ʈ/ does not occur.

"k" /k/ [k] [g] [k̚] [k̚̚]  
 "g"

[k] a voiceless velar unaspirated stop occurs word-initial before high tone or unstressed vowel.

"ketq"	/két/	[ket̚]	'voice'
"kra"	/kra/	[kʰa]	'head'

[g] a voiced velar unaspirated stop occurs word-initial before non-high stressed vowels and word-medial following breathy vowels.

"giig"	/kī:/	[gi:]	'one'
"sahku"	/sə <sup>h</sup> kū/	[sa <sup>h</sup> gu]	'dirty' <cf water>

[k̚] a lenis voiceless velar stop occurs word-medial following clear vowels.

"naki"	/naki/	[nak̚i]	'dog'
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[k̚̚] an unreleased voiceless stop occurs word-final.

"tak"	/tak/	[tak̚̚]	'seventh year'
"cekq"	/cék/	[tsck̚̚]	'a little'

[k] fluctuates with [g] word-medial when preceded by a clear vowel and /l, r/, or a nasal consonant.

"sal-ke"	/sal-ke/	[sal-ke] / [sal-ge]	'may I open'
"char-ku"	/c <sup>h</sup> arku/	[ts <sup>h</sup> aɪku] / [ts <sup>h</sup> aɪgu]	'rain shield'
"barkug"	/pārku/	[baɪku] / [baɪgu]	'woman's garment'
"minku:q"	/mínku/	[mɪŋku] / [mɪŋgu]	'smoke'
"phrengkaq"	/p <sup>h</sup> rɛŋká/	[p <sup>h</sup> ɛŋka] / [p <sup>h</sup> ɛŋga]	'a necklace'

"c" /c/ [ts] [dz] [t̚s] [d̚z] [t̚ʃ] [d̚ʒ]  
 "j"

[ts] a voiceless alveolar unaspirated affricate occurs word-initial and medial before high tone and unstressed low tone, and morpheme-initial before unstressed low tone.

"cang"	/caŋ/	[tsaŋ]	'elder brother's wife'
"ca-cimŋ"	/ca-cim/	[tsa-t̚sim]	'having eaten'
"icuq"	/ícú/	[itsu]	'this here'

[dz] a voiced alveolar unaspirated affricate occurs word-initial before stressed non-high tone, and following a breathy vowel.

"ja"	/cà/	[dza]	'son'
"nehng-ci"	/nē <sup>h</sup> n-ci/	[ne <sup>h</sup> n-d̚zi]	'cover' <past>

[t̚s] [d̚z] fronted variants occur preceding the front vowels /i/ and /e/.

"tou-ci"	/to:ci/	[to:-t̚si] / [to:-d̚zi]	'need' <past>
"nga-ce"	/ŋa-ce/	[ŋa-t̚sɛ] / [ŋa-d̚zɛ]	'I' <agentive>
"ciq"	/cí/	[t̚si]	'ten'

[t̚ʃ] a voiceless alveo-palatal unaspirated affricate occurs before /y/ preceding high tone and unstressed low tone.

"cyamq"	/cyǎm/	[t̚ʃyam]	'urine'
"cyaa-pa"	/cya:-pa/	[t̚ʃya:-pa]	'see' <pres>

[d̚ʒ] a voiced alveo-palatal unaspirated affricate occurs before /y/ preceding stressed non-high tone.

"jya'-pa"	/cyà-pa/	[d̚ʒya-pa]	'good'
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Following clear vowels [ts] fluctuates with [dz].

"icuq"	/ícú/	[itsu] / [idzu]	'this here'
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/c/ does not occur word final.

Variants of aspirated stops and affricates are parallel to those for unaspirated stops and affricates and thus are not given separately here.

"s" /s/ [s] [ʃ]

[s] a voiceless alveolar fricative occurs word-initial, medial, and final.

"sa"	/sa/	[sa]	'tooth, ground'
"su"	/su/	[su]	'who'
"sinsor"	/sɪnsər/	[sɪnsɔf]	'bee'
"gansag"	/kānsā/	[gansa]	'red clay'
"nyisq"	/nyís/	[ʰɪs]	'seven'

[ʃ] a voiceless alveo-palatal grooved fricative occurs preceding /y/.

"sya"	/sya/	[ʃya]	'meat'
"syup"	/syup/	[ʃyupʔ]	'knife sheath'

### 3. Distribution.

#### a) Interpretation.

##### 1) Single / Cluster.

The affricate [ts] has been interpreted as unit phoneme /c/ as it occurs with /y/ in an initial consonant cluster. Its interpretation as a sequence of two phonemes would thus produce an initial cluster of three consonants which does not otherwise occur in the language.

##### 2) Aspiration.

Likewise aspirated stops cluster with /y, l/, and /r/ and thus are also interpreted as unit phonemes. The phone [h] occurs only as aspiration.

##### 3) [h] never occurs word-initial or syllable-final contiguous to clear vowels hence, where not occurring with a preceding consonant it has been interpreted as the non-phonemic onset or release of a breathy vowel. For interpretation of aspiration of consonants see <2> above.

4> Palatalisation.

The treatment of palatalisation here adopted requires for its justification a bit of discussion. In general each syllable has one syllabic peak and one tone. The glides [w] and [y] do not occur at the syllabic peak nor do they have contrastive pitch independent of the nearest syllabic peak. They constitute a part of the syllable, never a syllable by themselves. So far no morphological evidence has been discovered to show regular alternations between [i] and [y] and between [u] and [w]. The glides fit into the CVC pattern quite well as manifestations of an initial consonant before a vowel and contrast with the consonants in this position. We therefore describe Tamang as having the consonant phonemes /y/ and /w/.

Having decided to view /y/ and /w/ as consonant phonemes in words such as

"yaa"	/ya:/	[ya:]	'hand'
"yooq-pa"	/yó:-pa/	[yo:-pa]	'enough' <pres>
"wa"	/wa/	[wa]	'fish trap'
"wahg"	/wā <sup>h</sup> /	[wa <sup>h</sup> ]	'wheat'

we now must decide whether to consider [n<sup>y</sup>], [m<sup>y</sup>], [s<sup>y</sup>], [p<sup>y</sup>], [k<sup>y</sup>], [c<sup>y</sup>], [p<sup>hy</sup>], [k<sup>hy</sup>], and [c<sup>hy</sup>] as clusters with /y/ or as members of a palatalised series. Since /y/ may be replaced by /l/ or /r/ for all but the affricates [c<sup>hy</sup>], [c<sup>y</sup>], and the fricative [s<sup>y</sup>], the required non-suspect precedent is available, hence we interpret them as clusters. This leads to certain consequences in the statement of variation which follows. The phonemes /n/ and /y/, for example, will be described as "coalescing" in the phone [ŋ]. This does not, however, pose a serious problem.

b> Sequential constraints.

The phonemes /l/, /r/, and /y/ are the only ones which occur as the second member of an initial CC-cluster, where the first member is a stop or a fricative. Co-occurrence restrictions are shown below.

	l	r	y
p, p <sup>h</sup>	x <1>	x <2>	x <3>
t, t <sup>h</sup>	-	-	-
t̥, t̥ <sup>h</sup>	-	-	-
k, k <sup>h</sup>	x <4>	x <5>	x <6>
c, c <sup>h</sup>	-	-	x <7>
s	-	-	x <8>

x = occurrence  
- = non-occurrence

Numbers in the above chart refer to the following examples:

- <1> "pleng" /plɛŋ/ 'edible frog'  
 "blig" /plī/ 'four'  
 "phlik-pa" /p<sup>h</sup>lik-pa/ 'flash' <pres>
- <2> "prang" /praŋ/ 'stand over'  
 <fire-place>  
 "bretg" /prēt/ 'eight'  
 "phrengkaq" /p<sup>h</sup>rɛŋká/ 'a necklace'
- <3> "pyantala:q" /pyántala/ 'butterfly'  
 "byó" /pyð/ 'a bamboomat'  
 "phyæaq" /p<sup>h</sup>yá:/ 'broom'
- <4> "klang-pa" /klaŋ-pa/ 'play' <pres>  
 "gleg" /kiē/ 'clan name'  
 "khlaa-pa" /k<sup>h</sup>la:-pa/ 'throw away' <pres>



<5>	"kra"	/kra/	'head'
	"gren	/grèn/	'eldest'
	"khrangq-pa"	/k <sup>h</sup> raŋ-pa/	'burn' <pres>
<6>	"gyuug"	/kyū:/	'sour' <pres>
	"khya-pa"	/k <sup>h</sup> ya-pa/	'glue' <pres>
<7>	"cyamq"	/cyám/	'urine'
	"jya'-pa"	/cyà-pa/	'good'
	"chyongq"	/c <sup>h</sup> yoŋ/	'necklace of precious stone'
<8>	"sya"	/sya/	'meat'
	"syim'	/syim/	'cool'

B. Sonants.

Bilabial	Dental	Alveolar	Alveo- palatal	Velar
"m" /m/	"n" /n/	"l" /l/ "r" /r/ "rh" /r <sup>h</sup> /		"ŋq" /ŋ/
"w" /w/			"y" /y/	
"wh" /w <sup>h</sup> /				

1. Contrast.

"maah'"	/màŋ <sup>h</sup> /	'sister's husband'
"min"	/min/	'name'
"mehq"	/mē <sup>h</sup> /	'cow'
"ama"	/ama/	'mother'
"thaamq"	/t <sup>h</sup> á:m/	'post'
"nahmq"	/ná <sup>h</sup> m/	'rain'
"plum"	/plum/	'rafter'
"phumq"	/p <sup>h</sup> úm/	'egg'

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"na"	/na/	'nose'
"naah'"	/nà: <sup>h</sup> /	'pus'
"nahmq"	/ná <sup>h</sup> m/	'rain'
"nyah'-pa"	/nvà <sup>h</sup> -pa/	'cry out' <pres>
"nyeh'"	/nyè <sup>h</sup> /	'milk'
"anaq"	/áná/	'elder sister'
"pin-o"	/pin-o/	'give!'
"min"	/min/	'name'
"sun"	/sun/	'unhusked rice'
"punpun"	/punpun/	'knuckle'
" <u>ng</u> a"	/ŋa/	'I'
"ngah'"	/ŋà <sup>h</sup> /	'a drum'
" <u>an</u> gaq"	/áné/	'younger sister'
" <u>sun</u> g"	/suŋ/	'mouth'
" <u>syin</u> gq"	/syín/	'wood'
"la"	/la/	'god'
" <u>lon</u> g-pa"	/lon-pa/	'be afraid' <pres>
" <u>mlan</u> gq"	/mlán/	'black'
" <u>nyal</u> -pa"	/nyal-pa/	'chew the cud' <pres>
"talq"	/tál/	'a beam'
"ra"	/ra/	'goat'
" <u>riiq</u> -pa"	/rí:-pa/	'scratch' <pres>
" <u>reeq</u> -pa"	/ré:-pa/	'roost' <pres. of hens>
" <u>ron</u> g-pa"	/ron-pa/	'be tasty' <pres>
" <u>mrang</u> q"	/mrán/	'garden'
"syar"	/syar/	'east'
"tar"	/tar/	'white'

"rhih"	/r <sup>h</sup> i <sup>h</sup> /	'forest'
"rheeq-pa"	/r <sup>h</sup> é:-pə/	'raise' <pres>
"wə"	/wə/	'fish trap'
"ware"	/ware/	'sickle'
"wha-pa"	/w <sup>h</sup> a-pa/	'dig' <pres>
"whaaq-pa"	/w <sup>h</sup> á:-pa/	'feed' <pres>
"yaa"	/ya:/	'hand'
"yaahg"	/yā: <sup>h</sup> /	'yak'
"yooq-pa"	/yó:-pa/	'enough' <pres>
"mayo"	/mayo/	'skirt'

2. Variation.

"m" /m/ [m] a voiced bilabial nasal occurs in all the environments of /m/.

"maah"	/mə: <sup>h</sup> /	[mə: <sup>h̃</sup> ]	'sister's husband'
"miiq"	/mí:/	[mi:]	'eye'
"me"	/me/	[me]	'fire'
"muhkg-pa"	/mū <sup>h</sup> k-pa/	[mu <sup>h̃</sup> k-ba]	'damp cloth' <pres>
"myar-pa"	/myar-pa/	[m <sup>y</sup> æf-pa]	'flood' <pres>
"yahm"	/yā <sup>h</sup> m/	[ya <sup>h̃</sup> m]	'very ill'
"dimg"	/tim/	[d̥im]	'house'

"n" /n/ [n] [ɳ] [ŋ]

[n] a voiced alveolar nasal occurs word-medial contiguous to an alveolar stop, affricate, fricative, and intervocalically.

"pin-o"	/pin-o/	[pɪn-o]	'give!'
"gansag"	/kānsā/	[gansa]	'red clay'
"tuncaq"	/túncá/	[t̥untsa]	'short'
"ganTu:"	/kànṭu/	[ganṭu]	'dried raddish'

[ŋ] voiced palatalised nasal occurs in coalescence with a following palatal glide.

"nyisq"	/nyɪs/	[ŋɪs]	'seven'
"nyeh"	/nyɛ <sup>h</sup> /	[ŋe <sup>h</sup> ]	'milk'
"nyal-pa"	/nyal-pa/	[ŋɛl-pa]	'chew cud' <pres>

[ŋ] voiced dental nasal occurs elsewhere.

"na"	/na/	[ŋa]	'nose'
"netq"	/né <sup>t</sup> /	[net <sup>q</sup> ]	'full'
"sun"	/sun/	[suŋ]	'unhusked rice'
"antarq"	/ántár/	[aŋtáɪ]	'middle'
"punpun"	/punpun/	[puŋpuŋ]	'knuckle'

"ng" /ŋ/ [ŋ] a voiced velar nasal occurs in all the environments of /ŋ/.

"nga"	/ŋa/	[ŋa]	'I'
"ngah"	/ŋà <sup>h</sup> /	[ŋa <sup>h</sup> ]	'a drum'
"ngoh"	/ŋð <sup>h</sup> /	[ŋo <sup>h</sup> ]	'forehead'
"cuhngq-pa"	/cú <sup>h</sup> ŋ-pa/	[tsu <sup>h</sup> ŋ-ba]	'sell' <pres>
"syangq"	/syɑŋ/	[ʒyɑŋ]	'a small bell'

"l" /l/ [l] a voiced alveolar lateral occurs in all the environments of /l/.

"la"	/la/	[la]	'god'
"lih'-pa"	/li <sup>h</sup> -pa/	[li <sup>h</sup> -ba]	'heavy'
"luuh'-pa"	/lù: <sup>h</sup> -pa/	[lu: <sup>h</sup> -ba]	'pour from one vessel to another' <pres>
"mlangq"	/mlán/	[mlaŋ]	'black'
"blig"	/plī/	[bli]	'four'
"sal-ke"	/sal-ke/	[sal-ke]/[sal-ge]	'may I open'
"rilto"	/rilto/	[ɾulɔ]	'a circle'
"yahrg-pa"	/yā <sup>h</sup> r-pa/	[yæ <sup>h</sup> ɾ-ba]	'go' <pres>

"r" /r/ [ɾ] [ɽ]

[ɾ] a voiced alveolar trilled vibrant occurs word-initial and final.

"ra"	/ra/	[ɾa]	'goat'
"ru"	/ru/	[ɾu]	'animal's horn'
"marg"	/mār/	[maɾ]	'gold'
"bar"	/pār/	[baɾ]	'a basket'
"jir"	/jɪr/	[dʒiɾ]	'hookah plug'

[ɽ] a voiced alveolar flapped vibrant occurs word-medial.

"braag"	/prā:/	[bɽa:]	'flour'
"mring"	/mriŋ/	[mɽiŋ]	'wife'
"areg"	/ārē/	[aɽe]	'no'
"gurig"	/kūrī/	[guɽi]	'cat'
"tamra"	/tamra/	[tamɽa]	'a type of bean'
"ngartung"	/ŋartuŋ/	[ŋaɽtuŋ]	'lower leg'

"rh" /r<sup>h</sup>/ [r<sup>h</sup>] a voiced aspirated alveolar vibrant occurs in all the environments of /r<sup>h</sup>/.

"rhih"	/r <sup>h</sup> i <sup>h</sup> /	[r <sup>h</sup> i <sup>h̃</sup> ]	'forest'
"rheeq-pa"	/r <sup>h</sup> é:-pa/	[r <sup>h</sup> e:-pa]	'raise' <pres>

"w" /w/ [w] a voiced unaspirated bilabial semi-vowel occurs in all the environments of /w/.

"wahg"	/wā <sup>h</sup> /	[wa <sup>h</sup> ]	'wheat'
"wa"	/wa/	[wa]	'fish trap'

"wh" /w<sup>h</sup>/ [w<sup>h</sup>] a voiced aspirated bilabial semi-vowel occurs in all the environments of /w<sup>h</sup>/.

"wha-pa"	/w <sup>h</sup> a-pa/	[w <sup>h</sup> a-pa]	'dig' <pres>
"whaaq-pa"	/w <sup>h</sup> á:-pa/	[w <sup>h</sup> a:-pa]	'feed' <pres>

/y/ [y] a voiced alveo-palatal semi-vowel occurs in all the environments of /y/.

"yaa"	/ya:/	[ya:]	'hand'
"yog"	/yō/	[yo]	'thief'
"nyeh'"	/nyè <sup>h</sup> /	[ŋe <sup>h</sup> ]	'milk'
"syeeh'-pa"	/syè: <sup>h</sup> -pa/	[ʃye: <sup>h</sup> -ba]	'cooked rice'
"mayo"	/mayo/	[mayo]	'skirt'

### 3. Distribution.

#### a> Interpretation.

##### 1> Semi-vowels.

The glides /y/ and /w/ do not constitute the syllabic nucleus of a syllable and do not carry a tone independent of the peak oor which they constitute a slope or margin. The glides occur as syllable-initial consonants in the patterns CV and CVC, and in this position they contrast with other consonants. They are, therefore, interpreted as consonants.

##### 2> Aspiration and palatalisation.

The aspirate [h] does not occur as a syllable-initial consonant in the patterns CV and CVC. It occurs only with stops, affricates, /w/ and /r/. If it were to be interpreted as a phoneme, therefore, it would have a rather peculiar and restricted distribution, occurring only as the second member of certain CC-clusters. Furthermore, Tamang has non-suspect precedents such as /pl/, /pr/, /kl/, and /kr/ for CC-clusters, but no such non-suspect patterns for syllable-initial CCC-clusters. One must therefore choose, when interpreting aspirated palatalised stops such as [p<sup>h</sup>y] whether the second consonant in the cluster will be the aspirate [h] or the palatal glide [y], since one cannot have them both as phonemes and stay within the bounds of non-suspect patterns already in the language. The choice seems rather obvious in this case, since /y/ occurs alone as the initial C in both CV and CVC patterns in contrast to other consonants, and has what may be described as a respectable consonantal distribution. These considerations have lead to the interpretation of aspirated stops and affricates as unit phonemes, but to the interpretation of palatalised consonants as CC-clusters.

b) Distributional restrictions.

Whereas /y/ occurs word-initial before all vowels, /w/ occurs word-initial only before /a/. Before /e/ there is fluctuation between [y], [w], and [w<sup>y</sup>] as in:

"yenq" /yén / wén / wyén/ <Single slash between phonemic entries indicates alternation here>  
 [yen] / [wen] / [w<sup>y</sup>en] 'cloth'

"yetg" /yēt / wēt / w<sup>y</sup>ēt/  
 [yet] / [wet] / [w<sup>y</sup>et] 'eagle'

The distribution of consonants within the syllable occurs as shown in the chart below. C<sub>1</sub> indicates initial consonant, C<sub>2</sub> indicates medial consonant, and C<sub>3</sub> indicates final consonant.

	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>
p	x <1>	-	x <2>
p <sup>h</sup>	x <3>	-	-
t	x <4>	-	x <5>
t <sup>h</sup>	x <6>	-	-
t̚	x <7>	-	-
t̚ <sup>h</sup>	x <8>	-	-
k	x <9>	-	x <10>
k <sup>h</sup>	x <11>	-	-
c	x <12>	-	-
c <sup>h</sup>	x <13>	-	-
s	x <14>	-	x <15>
m	x <16>	-	x <17>
n	x <18>	-	x <19>
ŋ	x <20>	•	x <21>
l	x <22>	x <23>	x <24>
r	x <25>	x <26>	x <27>
r <sup>h</sup>	x <28>	-	-
w	x <29>	-	-
w <sup>h</sup>	x <30>	-	-
y	x <31>	x <32>	-

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As shown by the chart above, all consonants occur syllable initial, medial consonants are restricted to /l, r/, and /y/. Syllable final consonants are /p, t, s, m, n, ŋ, l/, and /r/.

Initial refers to the first member of a consonant-cluster or consonant in isolation preceding the vowel. Medial refers to the second member of a consonant-cluster occurring before the vowel. Following the vowel consonant-clusters do not occur.

Numbers in the chart above refer to the following examples:

<1>	"prooq"	/prú:/	'light meal'
	"bug"	/pū/	'field'
<2>	"Tup"	/t̚up/	'thread'
<3>	"phii"	/p <sup>h</sup> i:/	'peel'
<4>	"tor"	/tor/	'up'
	"dimg"	/tīm/	'house'
<5>	"syit"	/syit/	'husked rice'
<6>	"thonq̄q"	/t <sup>h</sup> ón̄/	'vessel for milk'
<7>	"Tanga"	/t̚aŋa/	'half a rupee'
<8>	"Thil"	/t̚ <sup>h</sup> il/	'a loom rod'
<9>	"kaaḡ"	/ká:/	'blood'
<10>	"phlik-pa"	/p <sup>h</sup> lik-pa/	'flash' <pres>
<11>	"khaaraḡ"	/k <sup>h</sup> á:rá/	'throat'
<12>	"caḡ"	/caŋ/	'elder brother's wife'
<13>	"chaḡ-pa"	/c <sup>h</sup> á-pa/	'pain from an open wound'
<14>	"seraḡ"	/sérá/	'hailstone'
<15>	"nyisq̄"	/nyís/	'seven'
<16>	"mehḡ"	/mē <sup>h</sup> /	'cow'
<17>	"plum"	/plum/	'rafter'



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<18>	"nahmq"	/ná <sup>h</sup> m/	'rain'
<19>	"punpun"	/punpun/	'knuckle'
<20>	" <u>n</u> ga"	/ŋa/	'i'
<21>	" <u>s</u> ng"	/suŋ/	'mouth'
<22>	" <u>l</u> oŋq-pa"	/loŋ-pa/	'be afraid' <pres>
<23>	" <u>m</u> laŋq"	/mláŋ/	'black'
<24>	" <u>t</u> alq"	/tál/	'a beam'
<25>	" <u>r</u> oŋq-pa"	/roŋ-pa/	'be tasty' <pres>
<26>	"braag"	/prā:/	'flour'
<27>	"tar"	/tar/	'white'
<28>	"rheeŋq-pa"	/r <sup>h</sup> é:-pa/	'raise' <pres>
<29>	"ware"	/ware/	'sickle'
<30>	"wha-pa"	/w <sup>h</sup> a-pa/	'dig' <pres>
<31>	"yooŋq-pa"	/yó:-pa/	'enough' <pres>
<32>	"syar"	/syar/	'east'

C. Vowels.

There are five vowels in Tamang: /i, e, a, o/, and /u/. Each of these may be long or short, breathy or clear.

<The terms 'High', 'Mid', and 'Low' as used in the following chart refer to tongue position and not to pitch or tone. Likewise in the articulatory description that follows, tongue position and not tone is what is specified.

	Front	Central	Back
High	"i" /i/		"u" /u/
	"ii" /i:/		"uu" /u:/
	"ih" /i <sup>h</sup> /		"uh" /u <sup>h</sup> /
	"iih" /i: <sup>h</sup> /		"uuh" /u: <sup>h</sup> /
Mid	"e" /e/		"o" /o/
	"ee" /e:/		"oo" /o:/
	"eh" /e <sup>h</sup> /		"oh" /o <sup>h</sup> /
	"eeh" /e: <sup>h</sup> /		"ooh" /o: <sup>h</sup> /
Low		"a" /a/	
		"aa" /a:/	
		"ah" /a <sup>h</sup> /	
		"aah" /a: <sup>h</sup> /	

1. Contrast.

a> Vowel quality.

"me"	/me/	'fire'
"mee"	/me:/	'fail'
"miih"	/mí: <sup>h</sup> /	'man'
"miiq"	/mí:/	'eye'
"maah"	/mà: <sup>h</sup> /	'sister's husband'
"phoq"	/p <sup>h</sup> ó/	'stomach'
"phaq"	/p <sup>h</sup> á/	'husband'
"phiiq"	/p <sup>h</sup> í:/	'bark'

"cho"	/c <sup>h</sup> o/	'rope'
"chiq"	/c <sup>h</sup> í/	'grass, fat'
"kiq"	/kí/	'water'
"kuq"	/kú/	'vegetable'
"laq"	/lá/	'month'
"leq"	/lé/	'tongue'
"la"	/la/	'god'
"le"	/le/	'ear of wheat'
"liiq"	/lí:/	'face'
"lah'"	/l <sup>h</sup> á/	'mountain'
"rii-pa"	/ri:-pa/	'scratch' <pres>
"raa-pa"	/ra:-pa/	'weave' <pres>
"syee-pa"	/sye:-pa/	'know' <pres>
"syoo-pa"	/syo:-pa"	'beg' <pres>
"rup-pa"	/rup-pa/	'vomit' <pres>
"rep-pa"	/rep-pa/	'grind spices' <pres>
"ru"	/ru/	'horn'
"ra"	/ra/	'goat'
"naah'"	/n <sup>h</sup> à:/	'pus'
"nuuh'"	/n <sup>h</sup> ù:/	'large wasp'
"na"	/na/	'nose'
"no"	/no/	'also'
"khoq"	/k <sup>h</sup> ó/	'pig pen, trip'
"khuq"	/k <sup>h</sup> ú/	'cooked vegetable'
"doo'-pa"	/tò:-pa/	'arrive' <pres>
"duu'-pa"	/tù:-pa/	'be tired' <pres>

b> Vowel length.

"gig"	/kī/	'thatch'
"giig"	/kī:/	'one'
"me"	/me/	'fire'
"mee"	/me:/	'tail'
"sa"	/sa/	'tooth, soil'
"saaq"	/sá:/	'breath'
"taa-pa"	/ta:-pa/	'hold hand out' <pres>
"ta-pa"	/ta-pa/	'be' <pres>
"goo'-pa"	/kà-pa/	'remove crust from pot' <pres>
"go'-pa"	/kà-pa/	'understand' <pres>
"bug"	/pū/	'field'
"buug"	/pū:/	'laboured breathing'

c> Breathiness.

"lah"	/lā <sup>h</sup> /	'mountain'
"laahg"	/lā: <sup>h</sup> /	'a flower'
"laq"	/lá/	'month'
"la"	/la/	'god'
"miiq"	/mí:/	'eye'
"miih"	/mī: <sup>h</sup> /	'man'
" <u>ngoh</u> "	/ŋā <sup>h</sup> /	'forehead'
" <u>ngooq</u> "	/ŋā:/	'tease, provide'
"eeg"	/ē:/	'you'
"eeh"	/ē: <sup>h</sup> /	'eighth year'
"me"	/me/	'fire'
"mehg"	/mē <sup>h</sup> /	'cow'
"kuuq-pa"	/kú:-pə/	'be cloudy'
"kuuhq-pa"	/kú: <sup>h</sup> -pə/	'bend'

d) Nasalisation.

Nasalsed vowels are very rare. Only three instances of nasalisation not attributable to adjacent nasal consonants have been recorded.

"Thewan:q"	/t <sup>h</sup> é:wə/	'green'
"blaensyang'"	/plè:ɣiŋ/	'a flower'
"pecpəq"	/pé:pé/	'a fruit'

2. Variation.

"i" /i/ [i] [ɪ]

[i] a short high front close unrounded vowel occurs in open syllables.

"ciq"	/ci/	[tɕi]	'ten'
"kiq"	/ki/	[ki]	'water'
"blig"	/pli/	[bli]	'four'

[ɪ] a short high front open unrounded vowel occurs in closed syllables.

"dimg"	/tɪm/	[dɪm]	'house'
"min"	/min/	[mɪn]	'name'
"syim"	/syim/	[sɻɪm]	'cool'

"a" /a/ [a] [æ]

[æ] a short low front vowel occurs in closed syllables which have initial /y/ or consonant plus /y/, and which are closed by /l/ or /r/.

"nyal-pa"	/nyal-pa/	[næɪ-pa]	'chew cud' <pres>
"myar-pa"	/myar-pa/	[mɻæɻ-pa]	'flood' <pres>
"syar"	/syar/	[sɻæɻ]	'cast'
"yahl'"	/yæ <sup>h</sup> l/	[yæ <sup>h</sup> ɪ]	'sunlight'

[a] a short low central clear vowel occurs elsewhere.

"yahm'"	/yæ <sup>h</sup> m/	[yæ <sup>h</sup> m]	'very ill'
"yap-pa"	/yap-pa/	[yap <sup>&gt;</sup> -pə]	'winnow' <pres>
"syang"	/syaŋ/	[sɻyaŋ]	'a small bell'
"nyah'-pa"	/nyæ <sup>h</sup> -pa/	[næ <sup>h</sup> -ba]	'cry out' <pres>

The following vowels have only one observed variant:

"ii"	/i:/	[i:]	a long high front unrounded clear vowel.
"miiq"	/mí:/	[mi:]	'eye'
"phii"	/p <sup>h</sup> i:/	[p <sup>h</sup> i:]	'bark, rind'
"ih"	/i <sup>h</sup> /	[i <sup>h</sup> ]	a short high front unrounded breathy vowel.
"lih'-pa"	/li <sup>h</sup> -pa/	[li <sup>h</sup> -ba]	'heavy'
"iih"	/i: <sup>h</sup> /	[i: <sup>h</sup> ]	a long high front unrounded breathy vowel.
"miih'"	/mi: <sup>h</sup> /	[mi: <sup>h</sup> ]	'man'
"phiihq-pa"	/p <sup>h</sup> i: <sup>h</sup> -pa/	[p <sup>h</sup> i: <sup>h</sup> -ba]	'to peel'
"e"	/e/	[e]	a short mid-front unrounded clear vowel.
"me"	/me/	[me]	'fire'
"bretg"	/prēt/	[břet]	'eight'
"ee"	/e:/	[e:]	a long mid-front unrounded clear vowel.
"mee"	/me:/	[me:]	'tail'
"bree'"	/prè:/	[bře:]	'a tree'
"eh"	/e <sup>h</sup> /	[e <sup>h</sup> ]	a short mid-front unrounded breathy vowel.
"mehg"	/mē <sup>h</sup> /	[me <sup>h</sup> ]	'cow'
"nyeh'"	/nyè <sup>h</sup> /	[ñe <sup>h</sup> ]	'milk'
"eeh"	/e: <sup>h</sup> /	[e: <sup>h</sup> ]	a long mid-front unrounded breathy vowel.
"eeh'"	/è: <sup>h</sup> /	[e: <sup>h</sup> ]	'eighth year'
"syeeh'-pa"	/syè: <sup>h</sup> -pa/	[šye: <sup>h</sup> -ba]	'cooked rice'
"aa"	/a:/	[a:]	a long low central clear vowel.
"taaqa"	/tá:/	[ta:]	'eleventh year, what'
"braag"	/prā:/	[břa:]	'flour'
"ah"	/a <sup>h</sup> /	[a <sup>h</sup> ]	a short low central breathy vowel.
"lah'"	/la <sup>h</sup> /	[la <sup>h</sup> ]	'mountain'
" <u>ng</u> ah'"	/ŋa <sup>h</sup> /	[ŋa <sup>h</sup> ]	'a drum'

"ah"	/a: <sup>h</sup> / [a: <sup>h̃</sup> ]	a long low central breathy vowel.
"maah"	/mà: <sup>h</sup> /	[ma: <sup>h̃</sup> ] 'sister's husband'
"laahg"	/lā: <sup>h</sup> /	[la: <sup>h̃</sup> ] 'a flower'
"u"	/u/ [u]	a short high back rounded clear vowel.
"bug"	/pū/	[bu] 'field'
"kuq"	/kú/	[ku] 'vegetable'
"uu"	/u:/ [u:]	a long high back rounded clear vowel.
"buug"	/pū:/	[bu:] 'laboured breathing'
"nuug-pa"	/nū:-pa/	[nu:-pa] 'sleep' <pres>
"uh"	/u <sup>h</sup> / [u <sup>h̃</sup> ]	a short high back rounded breathy vowel.
"muhkg-pa"	/mū <sup>h</sup> k-pa/	[mu <sup>h̃</sup> k-ba] 'damp cloth' <pres>
"cuhngq-pa"	/cú <sup>h</sup> ŋ-pa/	[tsu <sup>h̃</sup> ŋ-ba] 'sell' <pres>
"uuh"	/u: <sup>h</sup> / [u: <sup>h̃</sup> ]	a long high back rounded breathy vowel.
"luuh'-pa"	/lù: <sup>h</sup> -pa/	[lu: <sup>h̃</sup> -ba] 'pour from one vessel into another' <pres>
"syuuh'-pa"	/syù: <sup>h</sup> -pa/	[sʏu: <sup>h̃</sup> -ba] 'sit' <pres>
"o"	/o/ [o]	a short mid-back rounded clear vowel.
"tor"	/tor/	[toɪ̯] 'up'
"phoq"	/p <sup>h</sup> ó/	[p <sup>h</sup> o] 'stomach'
"oo"	/o:/ [o:]	a long mid-back rounded clear vowel.
"prooq"	/pró:/	[pʰo:] 'light meal'
"yog"	/yō/	[yo] 'thief'
"oh"	/o <sup>h</sup> / [o <sup>h̃</sup> ]	a short mid-back rounded breathy vowel.
"ngoh"	/ŋð <sup>h</sup> /	[ŋo <sup>h̃</sup> ] 'forehead'
"Dohg-pa"	/t̚ō <sup>h</sup> -pa/	[ɬo <sup>h̃</sup> -ba] 'sow' <pres>
"ooh"	/o: <sup>h</sup> / [o: <sup>h̃</sup> ]	a long mid-back rounded breathy vowel.
"rooh"	/rð: <sup>h</sup> /	[ʰo: <sup>h̃</sup> ] 'friend'
"syoooh"	/syð: <sup>h</sup> /	[sʏo: <sup>h̃</sup> ] 'morning'

3. Distribution.

a> Interpretation of vowel clusters and long vowels.

1> Vowel clusters.

There is only one non-suspect VV pattern [ea] in [tea] 'a type of yam'. As this sequence consists of two peaks it is considered to be two syllables, each having a single vowel nucleus, /tea/. The vowel clusters [ai], [ui], [oi], and [ua] also appear to contain two syllabic peaks, hence they are interpreted as two syllables, /ai/, /ui/, /oi/, and /ua/, and not as unit phonemes.

"pai"	/pai/	[pai]	'wool'
"puiq"	/púí/	[pui]	'knee'
"moi-pa"	/moi-pa/	[moi-pa]	'plough' <pres>
"cua"	/cua/	[tsua]	'frangipani flower'

2> Vowel length.

The long vowels [i:], [e:], [a:], [u:], and [o:] have only one peak and only one tone. Hence they have been interpreted as unit phonemes, /i:/, /e:/, /a:/, /u:/, and /o:/.

"phii"	/p <sup>h</sup> i:/	[p <sup>h</sup> i:]	'peel'
"eeg"	/ē:/	[e:]	'you'
"saaq"	/sá:/	[sa:]	'breath'
"broog"	/prō:/	[b <sup>h</sup> o:]	'small-pox'
"Tuuq"	/tú:/	[tu:]	'sweat'



b> Co-occurrence restrictions of vowels within the syllable.

1> Clear vowels.

Restrictions on vowels following initial consonants are as follows:

- /i/ does not occur following /n, ŋ, w, or w<sup>h</sup>/.
- /e/ does not occur following /w<sup>h</sup>/.
- /a/ does not occur following /t<sup>h</sup>, or r<sup>h</sup>/.
- /u/ does not occur following /t<sup>h</sup>, ŋ, r<sup>h</sup>, w, w<sup>h</sup>/.
- /o/ does not occur following /t<sup>h</sup>, r<sup>h</sup>, w, w<sup>h</sup>/.

Preceding final consonants:

- /i/ precedes all final consonants.
- /e/ precedes all final consonants except /l/ and /s/.
- /a/ precedes all final consonants except /s/.
- /u/ precedes all final consonants except /s/.
- /o/ precedes all final consonants except /s/.

Following consonant clusters:

- /i/ does not occur following /p<sup>h</sup><sub>r</sub>, k<sup>h</sup><sub>r</sub>, py, p<sup>h</sup><sub>y</sub>, ky, k<sup>h</sup><sub>y</sub>, my, cy, ml/.
- /e/ does not occur following /k<sup>h</sup><sub>r</sub>, py, p<sup>h</sup><sub>y</sub>, k<sup>h</sup><sub>y</sub>, my, cy, sy, p<sup>h</sup><sub>l</sub>, kl/.
- /a/ does not occur following /p<sup>h</sup><sub>r</sub>/.
- /u/ does not occur following /p<sup>h</sup><sub>r</sub>, mr, k<sup>h</sup><sub>y</sub>, p<sup>h</sup><sub>l</sub>, k<sup>h</sup><sub>l</sub>/.
- /o/ does not occur following /p<sup>h</sup><sub>r</sub>, mr, k<sup>h</sup><sub>y</sub>, my, p<sup>h</sup><sub>l</sub>, k<sup>h</sup><sub>l</sub>, ml/.

2> Breathy vowels.

Following initial consonants:

/i <sup>h</sup> /	occurs following	/p <sup>h</sup> , c, m, l, r <sup>h</sup> , y/.
/e <sup>h</sup> /	occurs following	/p, c, m, n, r/
/a <sup>h</sup> /	occurs following	/t, s, m, ŋ, n, l, w, y/.
/u <sup>h</sup> /	occurs following	/c, s, m, n, l/.
/o <sup>h</sup> /	occurs following	/t, c, n, ŋ, l, r, y/.

Preceding final consonants:

/i <sup>h</sup> /	precedes	/m, n/.
/e <sup>h</sup> /	precedes	/p, t, m, ŋ/.
/a <sup>h</sup> /	precedes	/ŋ, r, l/.
/u <sup>h</sup> /	precedes	/k, r/.
/o <sup>h</sup> /	precedes	/p, k/.

Following consonant clusters.

/e <sup>h</sup> /	occurs following	/ny, sy/.
/a <sup>h</sup> /	occurs following	/ml/.
/u <sup>h</sup> /	occurs following	/py/.
/o <sup>h</sup> /	occurs following	/sy/.

c> Breathy vowels.

Breathiness occurs only with vowels having high, mid, and low stressed tones. All unstressed vowels are clear.

III. Higher Levels.

A. The Syllable.

The syllable is the minimum unit of the foot and consists of a nucleus filled by a vowel with consonants occurring optionally in pre- and post-nuclear position.

1. Contrast.

The following five contrastive syllable-patterns occur:

V	CV	CVC	CCV	CCVC
V:				
"eeg"			/ē:/	'you'
"ale"			/ale/	'younger brother'
"ipiq"			/ípi/	'enemy'
CV:				
"sa"			/sa/	'tooth, ground'
"kiq"			/kí/	'water'
"ru"			/ru/	'animal's horn'
CVC:				
"k <u>an</u> q"			/kaŋ/	'foot'
"m <u>ar</u> g"			/mār/	'gold'
"t <u>u</u> p"			/tʉp/	'thread'
CCV:				
"kra"			/kra/	'head'
"gyuug"			/kyū:/	'sheep'
"gleg"			/klē/	'clan name'
CCVC:				
"m <u>lan</u> gq"			/mlán/	'black'
"p <u>len</u> g"			/plen/	'edible frog'
"g <u>ren</u> "			/krèn/	'eldest'

2. Variation.

Consonant clusters within the syllable occur as following:

	l	r	y
p p <sup>h</sup>	x	x	x
t t <sup>h</sup>	-	-	-
ṭ ṭ <sup>h</sup>	-	-	-
k k <sup>h</sup>	x	x	x
c c <sup>h</sup>	-	-	x
s	-	-	x
m	x	x	x
n	-	-	x
ŋ	-	-	-
l	-	-	-
r r <sup>h</sup>	-	-	-
y	-	-	-
w w <sup>h</sup>	-	-	-

CCV:

"plaa-pa"	/pla:-pa/	'slip' <pres>
"papphlup"	/papp <sup>h</sup> lup/	'upside down'
"kli"	/kli/	'faeces'
"khlaa-pa"	/k <sup>h</sup> lɛ:-pa/	'throw away' <pres>
"mlangq"	/mlánŋ/	'black'
"kra"	/kra/	'head'
"khrúq-pa"	/k <sup>h</sup> rú-pa/	'wash' <pres>
"prooq"	/pró:/	'light meal'
"mraaq"	/mrá:/	'a weed'
"byo"	/pyð/	'a bamboo mat'
"phyaaq"	/p <sup>h</sup> yá:/	'broom'
"kyaq-pa"	/kyá-pa/	'a wooden spoon'
"khya-pa"	/k <sup>h</sup> ya-pa/	'glue' <pres>

"cyaa-pa"	/cya:-pa/	'see' <pres>
"chyuku"	/c <sup>h</sup> yuku/	'oil'
"sya"	/sya/	'meat'
"nyeh'"	/nyè <sup>h</sup> /	'milk'

CCVC:

"pl <u>en</u> q"	/plen/	'edible frog'
"ph <u>lik</u> -pa"	/p <sup>h</sup> lik-pa/	'flash' <pres>
"k <u>lan</u> q-pa"	/klan-pa/	'play' <pres>
"m <u>lan</u> qq"	/mlán/	'black'
"p <u>ran</u> q"	/praŋ/	'stand over fire-place'
"ph <u>ren</u> gkaq"	/p <sup>h</sup> rénká/	'a necklace'
"k <u>rin</u> q-pa"	/kriŋ-pa/	'cry out' <pres>
"k <u>hran</u> qq-pa"	/k <sup>h</sup> rén-pa/	'burn' <pres>
"m <u>rin</u> q"	/mriŋ/	'wife'
"p <u>yan</u> q-pa"	/pyan-pa/	'able to run' <pres>
"p <u>hyan</u> q-pa"	/p <sup>h</sup> yan-pa/	'fly' <pres>
"k <u>yun</u> q-pa"	/kyun-pa/	'lemon'
"k <u>hyan</u> q"	/k <sup>h</sup> yan/	'platform'
"j <u>yor</u> '-pa"	/cyðr-pa/	'wring out' <pres>
"c <u>hyon</u> q"	/c <sup>h</sup> yon/	'necklace of precious stones'
"m <u>yuhr</u> q"	/myú <sup>h</sup> r/	'overflow'
"n <u>yan</u> qq"	/nyán/	'we'
"s <u>yit</u> "	/syit/	'husked rice'

3. Distribution.

Breathy vowels occur only in the first syllable of the word, and cause an initial voiceless consonant in the second syllable to become voiced. This breathy influence does not occur beyond the second syllable.