

PHOM PHONOLOGY AND WORD LIST

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INTRODUCTION.

The Tibeto-Burman languages that are often referred to as the "Northern Naga" or "Konyak" languages are spoken along the extreme northeastern border of India on both sides of the boundary that divides the Indian states of Nagaland and Arunachal Pradesh.¹ From north to south, this group of languages includes Tangsa, Nocte and Wancho in Arunachal Pradesh, and Konyak, Phom, and Chang just to the southwest in Nagaland. Starting, it seems, with Shafer (1955) a number of linguists have noted resemblances that suggest a special relationship between these Northern Naga languages and the Bodo-Koch languages. The latter (which have often, though misleadingly, been referred to as the "Bodo-Garo") are scattered to the west and south of the Northern Naga area, primarily in the northeast Indian states of Assam, Meghalaya, and Tripura.² In addition, several linguists have suggested that Jingphaw also has a special tie with both the Northern Naga and the Bodo-Koch groups (Benedict 1972, 1976; Burling 1971, 1983). Jingphaw is found primarily in northern Myanmar but the language is spoken all the way from Yunnan in southwest China to northeastern India (where it is known as "Singpho"). The evidence for the historical grouping of Northern Naga, Jingphaw and the Bodo-Koch languages within the larger Tibeto-Burman family has been marshaled most thoroughly and persuasively by Walter

¹ Burling would like to express his thanks to the Fulbright Foundation which gave generous support for a period of teaching and research in northeastern India between November 1996 and May 1998.

² The Bodo-Koch languages, also sometimes called "Barish" include three main subgroups: 1. Koch (including A'tong, Rabha and Koch itself), 2. Bodo (including Kachari, Kokborok, Lalung and Bodo proper), and 3. Garo. It is clear that the Garo and Bodo branches are more closely related to each other than either is to the Koch branch, and if "Bodo-Garo" is to be used at all, it should refer to the subgroup that does not include Koch (Burling 1959). In northeast India, all of these languages, including Koch, are generally referred to simply as the "Bodo" group.

French (1983), and the evidence now seems to be sufficiently strong that any remaining skeptics must assume the burden of disproof. We believe the Northern Naga languages are substantially closer to Jingphaw and to the Bodo languages than to other Tibeto-Burman languages. The Northern Naga group is less closely related even to the other so-called "Naga" languages than it is to Bodo-Koch and Jingphaw.

The study of the Northern Naga languages, and their comparison with other languages, has been hampered by the lack of good descriptions of their phonology and by the unclear transcriptions used in the available dictionaries and word lists. French had to use transcriptions that, among other things, completely failed to show distinctions of tone. Indeed, his sources did not always even indicate whether or not the languages have contrasting tones. Since French presented his study, Nagaraja (1994) has given us the first description of a Northern Naga language where tones are shown, and the purpose of this paper is to give somewhat more limited data for a second Northern Naga language. The next article (Burling and Wangsu) gives similar data for a third Northern Naga language, Wancho.

One of us, (it will come as no surprise to readers to learn that it is Phom) is a native speaker of the Phom language. He has participated for several years in efforts by his community to standardize Phom orthography, and his special concern is effective bible translation. Burling has long had an interest in the Bodo-Koch languages and he has wanted to extend his investigations to the Northern Naga languages. Together, we have worked out an analysis of the phonological system of Phom, and we have assembled a list of core vocabulary. It is this material that we now present. We hope it will provide a better basis for future comparative work than the materials that have previously been available.

Phom does turn out to be a tone language, and like many such languages of East and Southeast Asia, its sound system is most easily described in terms of its syllables and their parts: 1. Initial consonants, 2. Vowels, 3. Final consonants, 4. Tones. Phom has many one syllable words, and it is easy to find minimal pairs that illustrate most phonological contrasts. Longer words are also found in abundance, but adjacent syllables have only limited phonological influence upon one another and, for the most part, the phonology of polysyllables can easily be described in terms of their constituent syllables. We find no evidence of limitations on the kinds of syllables can stand beside one another.

Thus, for example, word initial and word final consonant clusters are all but nonexistent in Phom (but see below), but a wide range of consonant sequences can be found in the middle of words. All these apparent "medial clusters", however, are simply formed from the final consonant of one syllable followed by the initial consonant of the next. We have found no restriction on which consonants can occur together across a syllable boundary, except for the limitations set by the range of initial and final consonants that can occur in a single syllable. A modest amount of assimilation occurs across syllable boundaries (see below) but a description of the phonology of the syllable goes a long way toward describing the phonology of words as well. In the following paragraphs we consider, in turn, the four constituents of the syllable.

SYLLABLE INITIAL CONSONANTS

The distinctive consonants that can occur as syllable initials are shown in Table 1. It is also possible for a syllable to have no initial consonant at all.

pæ	tæ		kæ
b	d	«c	g
m	n	~n	≥
		Δ	h
w	y	Ô	l

Table 1. Syllable Initial Consonants

Phom has two series of stops, voiceless aspirated and unaspirated. These appear at the bilabial, apical (immediately post-dental), and velar positions. As word initial, the unaspirated stops are somewhat less voiced than the voiced stops of English. More precisely, voice onset time is just a bit later than in English. When following a voiced sound in the previous syllable of the same word, however, these stops may be fully voiced, and to emphasize their contrast with the aspirated series, we symbolize the unaspirated series as /b, d/ and /g/. Symbolizing the unaspirated stops in this way would permit us to omit the explicit indication of aspiration in the other series, but aspiration is strong, and we continue to indicate it both as a way of

emphasizing the contrast and of showing the difference between syllable initial and syllable final stops.

In addition to its stops, Phom has an unaspirated palatal affricate, symbolized here as /c/. This has the same conditions of voicing as the unaspirated stops. An expectation of symmetry leads one to look for an aspirated affricate as well, but there is none. Four nasal consonants can also occur as initials. They are articulated in the same positions as the stops and the affricate, and we symbolize them as /m, n, ~n/ and /ŋ/.

/Δ/ is a voiceless palatal spirant very similar to the initial of English 'shadow' and 'shoe'.

/Ô/ is the voiced equivalent of /Δ/ but the tongue is drawn so far back that it can sound quite rhotic. It has somewhat less friction than /Δ/ but decisively more than /y/. We do not have examples of /Ô/ before /o/ or /ø/.

/w/ is a bilabial continuant virtually identical to English /w/. In all of our examples it occurs before either /o/ or /ø/. This means that it is in complimentary distribution with /Ô/ and, strictly speaking, [w] and [Ô] could be considered to be allophones of the same phoneme. We keep them separated here because they are strikingly different phonetically, and because L. Amon Phom finds it difficult to think of them as the "same" sound.

/y, h/ and /l/ are all very similar to the English phones that are usually represented by the same letters.

In addition to these simple consonants, a handful Phom words begin with sequences that could be heard as clusters. These all have /l/ as the second consonant. These apparently adjacent consonants are less tightly fused than the constituents of English clusters, however, and they are quite rare. We interpret them as two consonants separated by a very short /%/: /b%ø/ 'jackfruit'; /m%li/ 'medicine'.

VOWELS

The vowels of Phom are more difficult than either the consonants or tones, but the language can be described as having ten simple vowels and six diphthongs.

/i/. High, front, unrounded. This vowel is higher in open syllables and before /ð/ than in syllables closed with other consonants. /iʃ/ 'blood'; /Δinʃ/ 'turn'; /~nið/ 'day'.

/e/. Higher mid, front, unrounded. /eʃ/ 'speak'; /«cá≥nen/ 'turtle'; /e/ 'see'.

/%/. Lower mid, unrounded. This vowel is a bit front of central, but not so far front as /e/. It can sound a bit like an English schwa, though it can be more strongly accented than the English vowel, and it is a bit further front. /n%ʃ/ 'not'; /m%ʃlØy/ 'where?'; /yo≥y%nfj/ 'stream'.

/á/. Low, front-central, unrounded. This vowel is slightly farther front than the vowel that most English speakers use in 'father', but by no means as far front as the vowel of such English words as 'hat'. We symbolize it here by /á/ in order to differentiate it from another vowel which is a bit further back, and for which we need to reserve /a/. /«cá/ 'new'; /lá≥/ 'dyed cane'; /~náð/ 'fish'.

/Σ/. Very high and far back. The lips are usually somewhat everted but not rounded. This vowel does not give the acoustic impression of being rounded and it contrasts clearly with the high back rounded /u/. /Σ/ is very tense. /ΔΣ/ 'pull'; /hΣ≥/ 'ginger'; /mΣk/ 'eye'.

/Ø/. A vowel that is a bit higher and further back than mid central, but not so high or so far back as /Σ/. The lips are often slightly spread. It is less tense than /Σ/. Unwary speakers of other languages than Phom can easily confuse /Σ/ and /Ø/, but many minimal pairs demonstrate the need to distinguish them: /ΔØʃ/ 'forest'; /ΔΣʃ/ 'nine'; /lØ≥fj/ 'row'; /lΣ≥fj/ 'crack'.

/a/. This vowel is realized in several differing ways that depend upon the consonant that immediately follows and that ends the syllable. Before /≥/ and /k/ it is a low central or somewhat backed central vowel. It resembles the first vowel of English 'father': /Ôa≥/ 'rain'; /«cakʃ/ 'burn'. Before /m/ and /p/ it is a bit higher than before /≥/ and /k/: /«cam/ 'three'; /≥apʃ/ 'buttocks'. In open syllables and before a syllable final /n/ or /t/ it may be still higher and a bit fronted. Here it gets close to the vowel of English 'but' and it can even approach the vowel of English 'bet': /~natʃ/ 'seven'; /anfj/ 'ten'. This vowel is unrounded in all positions. Depending upon which of these variants occurs, /a/ is in danger of being confused with /á/, /Ø/, or /%/. The following minimal pairs show that it must be distinguished from all three:

/ma^{∞∞∞}/ 'corpse', /má^{∞∞∞}/ 'not yet'; /la^{∞∞∞}/ 'straw', /lØ^{∞∞∞}/ 'bed'; /ha^{∞∞∞}/ 'basket', /h%^{∞∞∞}/ 'exhort'.

/u/. High, back, rounded. This vowel is similar to the vowel of English 'moon', but with no diphthongization. /Δu^{∞∞∞}/ 'head hair'; /kæu^{∞∞∞}/ 'bag'; /Δuk^{∞∞∞}/ 'grasshopper'.

/o/. Mid, back, rounded. /go^{∞∞∞}/ 'empty'; /of^{∞∞∞}/ 'folk song'; /ok^{∞∞∞}/ 'pig'.

/ø/. Low, back, rounded. This is similar to the vowel in 'paw' in many dialects of English. /Δø^{∞∞∞}/ 'skin'; /tæø^{∞∞∞}/ 'ear'; /wøk^{∞∞∞}/ 'six'. The three back rounded vowels are shown to be in contrast by many sets of words such as: /u^{∞∞∞}/ 'bird'; /of^{∞∞∞}/ 'folk song'; /ø^{∞∞∞}/ 'fire'. They are unlikely to be confused with any other vowel.

Diphthongs. In addition to the simple vowels, Phom has six distinctive diphthongs. As will be explained in the next section, syllables with simple vowels can be followed by one of seven final consonants. The only syllable final consonant that can follow a diphthong, however, is the glottal stop and even that is not common (see below).

/ay/. A diphthong that starts low and unrounded and moves toward a high front unrounded position. It is very similar to the vowel of English 'my', 'time', 'fight'. /pæay^{∞∞∞}/ 'meat, flesh'; /lay^{∞∞∞}/ 'book'.

/Øy/. A diphthong that starts in between a mid central and mid front unrounded position and moves toward high front unrounded. To the foreign ear this can sound quite similar to /ay/, but /Øy/ begins with the tongue in a slightly higher position than /ay/ though further back than the starting point of the English vowel of 'pay' or 'game'. />Øy^{∞∞∞}/ 'I'; /lØy^{∞∞∞}/ 'come back'.

/a^{∞∞}/. A diphthong that starts low and unrounded and moves toward a high back unrounded position. It is not remotely like anything in English. /la^{∞∞}ɰ_i/ 'correction'; /ha^{∞∞}/ 'hot, spicy'.

/Ø^{∞∞}/. Another diphthong that is quite unlike anything in English. It starts about where /Øy/ starts, somewhere between mid front unrounded, and mid central unrounded, but then moves toward high back unrounded. /<<Ø^{∞∞}ɰ_i/ 'fat, grease'; /lØ^{∞∞}/ 'dedicate (a church)'.

/aw/. A diphthong that starts low, central, and unrounded and that moves in the direction of a higher-mid back unrounded vowel. It is quite similar to the vowel of American English 'cow'. /goʊəw/ 'squirrel'; /dɔʊ/ 'grab and pull'.

/oy/. A diphthong that moves from mid back rounded toward a high front unrounded position. It is eerily like the vowel of English 'boy'. /mɔɪ/ 'blessing'; /hɔɪ/ 'call'; /θɪn/ 'thin'.

SYLLABLE FINAL CONSONANTS

Only seven consonants can occur as syllable finals. Many syllables are open, having no final consonants at all.

/p/	/t/	/k/	/ɰ/
/m/	/n/	/ŋ/	

Table 2. Syllable Final Consonants

/p, t/ and /k/ are similar to the unaspirated initial stops, but they are even less voiced. They are generally unreleased, and they bring the syllable to an abrupt conclusion. Vowels in stopped syllables are shorter than in open syllables. /ɰ/ is a glottal stop and it is found only in syllable final position. Vowels that precede /ɰ/ are even shorter than those that come before other stops. /m/, /n/, and /ŋ/ are pronounced much as they are at the beginning of a syllable. They shorten the preceding vowels slightly, but not as much as syllable final stops. The nasals are otherwise unremarkable. Except for /ɰ/, consonants do not occur after diphthongs.

TONES

Three distinct tones can occur with most types of syllables and they are quite transparent. Syllables ending with /ɰ/, however, show no tonal contrast. The shortness of the vowels that occur before /p, t/ and /k/ gives the tones on such syllables less time to be clearly or fully expressed and they have less resonance than unstopped syllables. Nevertheless, there is no serious difficulty about assigning syllables stopped with /p, t/ or /k/ to the same three tones that are found in open and nasal to syllables.

/ $\infty\infty$ /. In open and nasal syllables this tone is quite high and level and it has a rather resonant or "sung" quality. It is shorter and less resonant in stopped syllables. It is also rarer than tone / ff / in stopped syllables. / $\Delta i\infty\infty$ / 'millet'; / $ma\geq\infty\infty$ / 'corpse'; / $op\infty\infty$ / 'land leech'; / $p\text{æ}ak\infty\infty$ / 'horn shaped hook for hanging things'; / $at\infty\infty$ / 'beyond'.

/ ff /. Like tone / $\infty\infty$ /, this tone is quite level, but with a mid level pitch it is decisively lower than / $\infty\infty$ /. The majority of stopped syllables have this tone and, as with tone / $\infty\infty$ /, stopped syllables are less resonant than open and nasal syllables. Although syllables ending with the glottal stop, show no contrast in tones, Among Phom's firm intuition is that they should be assigned to tone / ff / along with the largest number of other stopped syllables. / $\Delta i\text{f}\text{f}$ / 'dog'; / $ma\geq\text{f}\text{f}$ / 'dream'; / $h\sum k\text{f}\text{f}$ / 'one'.

/ f_i /. This is a falling tone that drops decisively from a mid pitch to low. It is distinctly less resonant than the other two tones. Tone / f_i / is somewhat unusual with stopped syllables, but not unknown: / $ma\geq\text{f}_i$ / 'evil spirit'; / $p\text{æ}ak\text{f}_i$ / 'sit idly'; / $at\text{f}_i$ / 'drive (animals)'.

A number of intransitive verbs have transitive or causative partners that differ only in tone. Intransitive verbs with tone / $\infty\infty$ / or / ff / correspond to transitive or causative verbs with tone / f_i /:

Intransitive		Transitive/Causative	
$l\emptyset y\text{f}\text{f}$	'come, return'	$l\emptyset y\text{f}_i$	'bring'
$u\infty\infty$	'sit'	$u\text{f}_i$	'cause to sit'
$\hat{O}\emptyset\infty\infty$	'fall down'	$\hat{O}\emptyset\text{f}_i$	'let fall'
$y\sum\geq\infty\infty$	'drink'	$y\sum\geq\text{f}_i$	'feed liquid'
$\Delta\emptyset\infty\infty$	'enter'	$\Delta\emptyset\text{f}_i$	'insert'
$\Delta e\text{f}\text{f}$	'rot'	$\Delta e\text{f}_i$	'cause to rot'

ASSIMILATION ACROSS SYLLABLE BOUNDARIES

Some modest assimilation occurs across the syllable boundaries of polysyllabic words. This is most easily recognized in compounds that are constructed from shorter, often one syllable, morphemes that can occur as words by themselves. Comparisons between the pronunciation of these syllables as separate words and as components of compounds is straightforward.

The least problematic type of assimilation is the more complete voicing shown by the unaspirated initial stops when they follow a voiced vowel or consonant in the preceding syllable. Stops that are barely voiced or even unvoiced when they occur at the beginning of words, are generally fully voiced when they directly follow a voiced phone.

An only slightly more complex type of assimilation occurs when a final stop of one syllable immediately precedes an initial /h/ of the next. When, for example /lakfɛ/ 'hand' joins with /hʌmɔ/ 'wash' to yield a compound meaning 'wash the hands', the result, phonetically, is [lakfɛkæmɔ]. This assimilation appears to be automatic and regular.

A more complex and less predictable type of assimilation can occur when a final nasal of one syllable is followed by a syllable that, on etymological grounds, can be shown to be derived from a form that lacks any initial consonant at all. In such cases, a nasal consonant that duplicates the final consonant of the first syllable is sometimes, though not always, added to the beginning of the second syllable. The fact that this does not always happen is shown by such words as /goʒaw/ 'squirrel', in which the /ʒ/ is clearly confined to the first syllable. There is, in fact, a very slight glottal onset to the second syllable. This is decisively less strong than the phonologically distinct syllable final glottal stop, but it forms an effective barrier between the /ʒ/ and the following syllable.

In /«c%mfɛmi»/ 'with', 'together', on the other hand, not only does the second syllable not start with any sort of glottalization, but careful articulation suggests that the second syllable actually begins with an /m/. The syllable transition in /«c%mfɛmi»/ appears to be identical to the syllable transition of /ΔemmØy/ 'rich, wealthy', where both syllables have underlying /m/'s: /Δem/ 'house, home'; /mØy/ 'good'. (Phom is not the only language in this part of the world where the phrase "good home" carries the sense of "wealthy".) The second syllable of /«c%mfɛmi»/ does not have an underlying /m/, however, as shown by /ʒyɛfi/ 'by me', where the same suffix is found without an initial /m/. Thus, if /«c%mmi»/ has two /m/'s like /ΔemmØy/, the second /m/ is added by assimilation, but /goʒaw/ shows that assimilation is not automatic. Different words appear to act in varied ways but we have not been able thoroughly to explore the conditions under which assimilation takes place. All we can do is note the existence of assimilation and record the pronunciation that is actually used in each word. Further study of this type of assimilation is needed.

Except for this relatively modest amount of assimilation, we have found no other ways in which syllables influence their neighbors. So far as we have discovered, any type of syllable can follow any other type. There appear to be no restrictions on tone sequences, and we have had no difficulty in identifying the tones of polysyllabic words with the tones found on one-syllable words. Nor does the Phom language have the kind of "half" syllables that characterize many of the Tibeto-Burman languages spoken further to the east, in which the initial syllables of many words have restricted phonological complexity compared with the "full" syllables that follow. Phom does have a few initial syllables that share some characteristics with the "prefixed" half-syllables of some other Tibeto-Burman languages. For example, /aʔ/ occurs as the first syllable of many names of bird species. These initial "prefixes" do not seem to be phonologically reduced or restricted in Phom, however, and they are not very common.

Syllable boundaries are important in Phom. Vowels in closed syllables are pronounced somewhat shorter than those in open syllables. This means that two-syllable words that have a medial stop or nasal between the two vowels, are pronounced differently when the consonant is the final of the first syllable than when it is the initial of the second. By placing the tone marks at the end of the syllable, as we have done, the boundary is made unambiguous. If however, tones were indicated earlier in the syllable, as with accents over the vowels or if, as would be convenient in a practical orthography one tone was left unmarked, some ambiguities would arise unless syllable boundaries were explicitly marked in some other way.

RHYMES

The Phom language has some rather eccentric limitations on which rhymes (combinations of a vowel and final consonant) can occur. Even among rhymes that do occur, some are far more common than others. Table 3 gives the number of examples of each rhyme that is found in the words we have transcribed. Thus, an /-it/ rhyme (the combination of /i/ with the final consonant /t/) appears in five examples in our data. Diphthongs, as previously noted, never occur with any final consonant except the glottal stop.

We have tried to count each morpheme just once, even if it appears in several words of our sample, but the sample is hardly "random". Indeed, it is hard to know what would constitute a "random" sample in a case like this. Our intention is only to offer an impression of the far from random association of vowels with final consonants. It is quite likely that some of the gaps in

Table 3 are accidental and that a larger collection of words would provide examples that would fill some of these gaps, but it is unlikely that the markedly uneven distribution of rhymes would be eliminated. Indeed, by searching for rare cases, we may even have biased the sample in favor of the less common rhymes.

Vowel	Final Consonant								Total
	-p	-t	-k	-÷	-m	-n	-≥	-#	
i		5		8	1	11	2	42	69
e				1		6	1	32	40
%o	1	4	1	1	2	2	2	20	33
á	7	3	9	19	9	12	33	61	153
∑	3		7	11	9		32	43	96
Ø	4		12	1			12	42	71
a	14	8	16	10	21	15	35	13	132
u	1		5	5			11	36	58
o	3	2	10	1	18	2	42	7	85
ø			11	5			34	42	92
ay								36	36
Øy				6				35	41
a∑								17	17
Ø∑								13	13
aw				1				30	32
oy				2				13	15

Table 3. Rhymes

ALTERNATIVE TRANSCRIPTIONS

Both Marrison (1967) and French (1983) give numerous Phom examples and a small dictionary has now been published (Kumar et al. 1973) with additional examples. French gives a phonemic inventory of the language and inventories can be constructed from the examples given by Marrison and by Kumar et al. French cites Marrison as the sole source of his Phom data (he

used not only Marrison (1967) but also other unpublished work), so it is to be expected that their data and analysis will be similar, although French does alter the transcription in some minor ways. The data in Kumar et al. is, presumably, independent, but it does not appear to be very different. All of these transcriptions differ from that used here in a number of respects.

All three sources recognize three series of initial stops, written as if they are aspirated, voiceless unaspirated, and voiced (i.e. <ph, p, b> etc.) while we find only two series. Phom spelling is not well standardized, but when native speakers write their own language they usually write <ph, th>, and <kh> for the aspirated series because this is the way similar sounds are written for neighboring languages. All three sources follow this practice. Phom writers are inconsistent in their choice between <p, t, k>, and <b, d, g>, and indeed there is some allophonic variation that could lead them to vary their choice. This may have misled Marrison and French into believing that a contrast had to be recognized. Kumar et al. generally use <p, t>, and <k> but <b, d>, and <g> are used occasionally, often in borrowed words.

Marrison and French transcribe the nasals just as we do. Kumar et al. differs only in using <ny> and <ng> where the rest of us use <~n> and <~>. All of us agree on <l> and <y> and on <h> when used initially. Our <Δ> becomes <<s> for French, <sh> for Kumar et al, and remains <Δ> for Marrison. Our <<c> becomes <j> for French, while Kumar et al. vacillates between <ch> and <j> on no grounds that we are able to discern, and Marrison vacillates between <c> and <j>. Among initial consonants, this leaves only our <w> and <Ô>.

We have pointed out that the phones we write as <w> and <Ô> are in complimentary distribution, and French and Marrison use <v> for both the allophones. The choice of <v> for this phoneme may seem odd, but some Phom speakers use <v> for our <Ô>. This is probably why Marrison and French used <v>. (Phom speakers generally use <w> where we do). <v> does not usually represent a somewhat rhotic palatal fricative, which is the way Phom speakers pronounce their <v>, but it an entirely satisfactory letter for a practical orthography, since it has no other use. Rather mysteriously, Kumar et al. sometimes use <v> and sometimes <vg> where we use either <Ô> or <w>. Occasionally they even use <w>. The choice between <v> and <vg> appears to be quite arbitrary (and even inconsistent for the same morpheme).

French remarks that, like neighboring Konyak and Chang, Phom lacks an /r/ (pg. 99). In fact, our /Ô/ has a rather rhotic quality, and it is cognate to

the /r/ that is found in a number of related languages. Phom /Ŏang^{oo}/, a common first syllable in words for weather and the sky, for example, is clearly cognate to /rang/, with the same meaning, in several Bodo-Koch languages. While our /Ŏ/ (<v> as written by many Phom speakers) is phonetically very different from the flapped /r/ that is more typical of northeast Indian Tibeto-Burman languages, it is no more different than are the various flapped, retroflex, and uvular "/r/'s" that are found in European languages are from each other. French is correct to point out that Phom does not have an /r/ if that means a flap, but /Ŏ/ is a clear reflex of the /r/ that is found elsewhere.

Transcription of syllable final stops is straightforward in all the sources. French and Marrison transcribe them exactly as we do. Kumar et al. use <ng> finally as well as initially. They also use <h> for the glottal stop. This is a common convention among the "Naga" languages, and it is satisfactory for word final position, since nothing like the initial /h/ occurs at the end of a word. Unfortunately, but both /h/ and /÷/ occur medially, however, and since Kumar et al. use <h> for both phonemes, it is sometimes impossible to tell whether a medial <h> stands for /÷/ or for /h/

Unlike the transcription of consonants, the transcription of the vowels in the earlier sources verges on the chaotic. All three sources recognize only six simple vowels, written with the usual five vowel letters plus <v>, <v'>, and <ÿu> in French, Marrison, and Kumar et al. respectively. <ÿu> is a common way to represent high back unrounded vowels in the orthographies used in the Naga hills, and the "sixth" vowel used in all three of these sources is used for both our /Ø/ and our /Σ/. As already pointed out, numerous minimal pairs leave no doubt that these represent contrasting phonemes in the dialect of Phom spoken by L. Amon Phom, but none of the other sources recognize this contrast. Our <á> is fairly consistently transcribed as <a> elsewhere, but our <a> (which is allophonically quite variable) shows up sometimes as <a> and at other times as <e>. Both our <e> and our <%o> are most often represented by <e> in the other sources. There are, however, a great many irregularities that make it difficult to predict what will be found in any particular instance.

Oddly, perhaps, there seems to be a more consistency in the transcription of diphthongs. Clear examples are difficult to find, but where we write <ay, Øy> and <oy> Marrison and Kumar et al. seem most often to write <ai, ei>, and <oi>. Our <aw> shows up as <ou> in Marrison and in Kumar et al. The latter use <aÿu> in a few examples where we, recognizing an extra contrast, write either <aΣ> or <ØΣ>.

None of these authors records tones.

The remainder of this paper consists of a list of Phom words that illustrate the phonology that we have described.

WORD LIST

NATURE

Sky and Weather

cloud, *pæom*
 earthquake, *b%diŋ; Óuk*
 fog, mist, *~naΣ*
 lightning, *g%lla>*
 moon, *lenŋ;~nΣ* (*lenŋ;* 'month';
~nΣ 'mother')
 rain, *Óa>*
 sky, *pæomΔa>*
 snow, *ΔO*
 star, *litfhá*
 sun, *Óa>he*
 thunder, *Óa>muk*
 wind (air), *Óa>lΣk*

Land and Water

dust, *pæi÷láŋ;* (*pæi÷* 'sand')
 earth, soil, *ga÷fdøk*
 lake, *Δamyo>* (*Δam* 'house';
yo> 'water')
 mountain, *gá÷Δa>*
 mud, *~naΣhot*
 puddle, *pæiflyo>*
 river (large), *yo>~nΣ*
 saline spring, *ΔΣŋ;*
 sand, *pæi÷*
 sea, ocean, *yo>«c>*
 spring (for water), *yo>lok*
 stone, *yo>*
 stream, small river, *yo>y%onŋ;*
 valley, *gá÷«ci>*

water, *yo>*
 waterfall, *yo>lø>*

ANIMALS m

Mammals, Domestic

animal, *yamŋ;hiŋmák*
 buffalo, (of the plains) *ΔOk*
 camel, *otŋ;*
 cat, *máΔi>*
 cattle, cow, ox, *moŋho÷*
 dog, *Δif*
 goat, *yom*
 horse, *gøoyØy>*
 mithun, water buffalo, *~náŋ;*
 pig, *ok*
 sheep, *mi>*

Mammals, Wild

bat (animal), *apŋbak*
 bear, *Δapŋdaw>*
 deer, (barking) *mØyŋ;Δiŋ;*
 deer, (big horned) *Δøk*
 elephant, *mØyŋ;~nΣ*
 gibbon (black), *hu>lu*
 gibbon (brown), *Δif>á>*
 jackal, fox, *mátŋ;huŋ;*
 mole (animal), *ÓΣŋ;*
 monkey (langur, long tailed), *hap*
 monkey (macaque), *mØyŋ;Δá>*
 mountain goat, *mØyŋ;ya÷*
 rabbit, *yØŋpæØ÷ŋfo>*
 rat, *yΣpŋfhΣ÷*

areca nut, *gə̀ə̀ə̀ə̀cə̀kə̀ə̀ə̀*
 bamboo, *wə̀ə̀ə̀ə̀*
 banana, *ə̀uə̀ə̀*
 jackfruit, *bə̀ə̀ə̀ə̀lə̀ə̀ə̀ə̀*
 lime (fruit),
tə̀iə̀ə̀ə̀yəkə̀ə̀ə̀háə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀
 mango, *afə̀ə̀ə̀ə̀ə̀j*
 orange,
Óə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀
 papaya, *amə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀*
 pomelo, *yáə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀*

Grain

maize, *oə̀ə̀ə̀ə̀ə̀cə̀kə̀ə̀ə̀*
 millet, *Δiə̀ə̀ə̀*
 rice (cooked), *nə̀kə̀ə̀ə̀*
 rice (husked), *ə̀ə̀ə̀ə̀*
 rice plant, paddy, *háə̀ə̀ə̀ə̀*
 rice (sticky), *nə̀kə̀ə̀ə̀ə̀caə̀ə̀ə̀ə̀*

Tubers

arum, *doə̀ə̀ə̀*
 ginger, *hə̀ə̀ə̀ə̀ə̀*
 manioc, tapioca, *bə̀ə̀ə̀ə̀ə̀Δeə̀ə̀ə̀*
 potato, *Δeə̀ə̀ə̀ə̀cə̀kə̀ə̀ə̀*
 sweet potato, *mə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀*
 yam, *Δeə̀ə̀ə̀*

Vegetables, Miscellaneous Plants

bamboo shoots (dry), *mə̀yə̀ə̀ə̀ə̀ə̀ə̀ə̀*
 bamboo shoots (juice, from),
mə̀yə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀
 bamboo shoots (crushed),
mə̀yə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀
 beans (green), *liə̀ə̀ə̀ə̀ə̀ə̀*
 betel leaf, pan, *bə̀ə̀ə̀ə̀ə̀ə̀ə̀*
 cane, *Óə̀yə̀ə̀ə̀*
 chili peppers, *tə̀ə̀ə̀ə̀ə̀háə̀ə̀ə̀ə̀*
 cotton, *pə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀*
 dyed cane, *láə̀ə̀ə̀ə̀*

egg plant, bringal, *binə̀ə̀ə̀ə̀ə̀ə̀*
 garlic, *afə̀ə̀ə̀ə̀ə̀ə̀*
 gourd, *lawə̀ə̀ə̀*
 grass, *tə̀ə̀ə̀ə̀ə̀*
 mushroom, *goə̀ə̀ə̀ə̀ə̀*
 straw, *laə̀ə̀ə̀*
 sugar cane, *yáə̀ə̀ə̀*

Foods

bread, *ánə̀ə̀*
 cooked food, *laə̀ə̀ə̀*
 curry, *hawə̀ə̀*
 dried fish, *~náə̀ə̀ə̀ə̀Óánə̀ə̀* (*~náə̀ə̀ə̀* 'fish';
Óánə̀ə̀ 'dry')
 fat, grease, *ə̀ə̀ə̀ə̀ə̀*
 feast, *mə̀ə̀ə̀*
 meat, flesh, *pə̀ə̀ə̀ə̀*
 oil (cooking), *mayə̀ə̀ə̀ə̀*
 salt, *hə̀ə̀ə̀ə̀*
 wine, liquor, rice beer, *yə̀ə̀ə̀*
 yeast, *də̀ə̀ə̀*

Plant Parts

bark, *Δə̀ə̀ə̀*
 branch (of tree), *gawə̀ə̀*
 flower, *ə̀ə̀ə̀ə̀*
 fruit, *bə̀ə̀ə̀ə̀ə̀cə̀kə̀ə̀*
 joint (of bamboo), *wə̀ə̀ə̀ə̀ə̀mə̀kə̀ə̀*,
wə̀ə̀ə̀ə̀ə̀ə̀ə̀ (*wə̀ə̀ə̀ə̀* 'bamboo';
mə̀kə̀ə̀ 'eye')
 juice, *ə̀ə̀ə̀ə̀*
 poison, *lə̀ə̀ə̀*
 root, *də̀ə̀ə̀ə̀ə̀láə̀ə̀*
 seed, *Óáə̀ə̀*
 stick, *lə̀ə̀ə̀*
 thorn, *háə̀ə̀*
 trunk, (of tree) *bə̀ə̀ə̀ə̀~nə̀ə̀ə̀ə̀ə̀*
(bə̀ə̀ə̀ 'tree'; ~nə̀ə̀ə̀ 'mother')
 vine, *~náə̀ə̀ə̀ə̀ə̀ə̀ə̀ə̀*

Plant Maturation and Stages

bloom, *bo*_{∞∞∞}
 decay, *Δe**ff*
 new growing shoot, *in**fj*
 ripe, *ΔΣm**ff*
 ripe, mature, *li**fj*
 rot (intrans.), *Δe**ff*
 rot, cause to (trans.), *Δe**fj*
 seedling, *li*_{∞∞∞}
 shoot of plant, *Δu*_∞*fj*
 spoil, *má*_∞*ff*
 sprout, germinate, *in**fj*
 unripe, green, *tæ*_{∞∞∞}

BODY PARTS

body, *ha*_{∞∞∞}

Head

cheek, *om**fj**tæ*_∞*ff* (*tæ*_∞*ff* 'ear')
 chin, *Δa*_∞*ff**Óá*_∞*ff*
 ear, *tæ*_∞*ff*
 eye, *m*_∞*kff*
 face, *tæ**fj*
 forehead, *Δa*_{∞∞∞}*bá**fj*
 head, *Δa*_{∞∞∞}*c*_{∞∞∞}
 lip, *«cu*_{∞∞∞}*ban**ff*
 mouth, *«cu*_{∞∞∞}
 neck, *Σ*_∞*ff*
 nose, *Δo*_∞*ff*
 tongue, *y*_∞*y*_{∞∞∞}
 tooth, *pæ**áfj*

Torso

back (of body), *dok**ff*
 belly, *wom**ff*
 breast, milk, *am*_{∞∞∞}*má*_{∞∞∞}
 chest, *«cá*_{∞∞∞}*bá**fj*
 navel, belly button, *hu*_∞*ff*
 nipple, *am*_{∞∞∞}*má*_{∞∞∞}*«cu*_{∞∞∞}
 (*am*_{∞∞∞}*má*_{∞∞∞} 'breast'; *«cu*_{∞∞∞} 'mouth')
 waist (of body), *Δ*_∞*ff*

anus, *gom*_{∞∞∞}
 buttocks, *≥ap**ff*
 clitoris, *hø**ff*
 penis, *da*_∞*ff*
 testicle, *da*_∞*ff**a**ff**di*_{∞∞∞}
 vulva, *ΔΣ*_∞*ff*

Arms, Hands

arm/hand, *lak**ff*
 armpit, *pæk**ff**Δá*_{∞∞∞}
 elbow, *lak**ff**naw*_∞*ff*
 finger, *lak**ff**«cá*_{∞∞∞}
 hand, *lak**ff**háp*_{∞∞∞}
 nail (finger) *lak**ff**tæan**fj*
 palm (of hand) *lak**ff**pæ**áfj*
 shoulder, *pæk**ff**«cø*_∞*ff*

Legs, Feet

foot, top of, *láf**ff**døk**ff* (*døk**ff* 'back')
 footprint, *láf**ff**men*_{∞∞∞}
 heel, *láf**ff**o*_{∞∞∞}
 knee, *láf**ff**ΔΣ*_∞*ff*
 leg, foot *láf**ff*
 thigh, lap, *Δ*_∞*ff*, *Δ*_∞*ff**go*_{∞∞∞}

Hair

bald, *Δa*_{∞∞∞}*bá*_{∞∞∞}
 beard, mustache, *«cu*_{∞∞∞}*mom*_{∞∞∞}
 eyebrow, *m*_∞*kff**mom*_{∞∞∞}
 hair (body), *mom*_{∞∞∞}
 hair (head), *Δu*_{∞∞∞}
 underarm hair, *pæk**ff**Δá*_{∞∞∞}*mom*_{∞∞∞}

Liquids and Miscellaneous

blood, *if**ff*
 dirt, feces, *n*_∞*fj**hi**ff**nám**ff*
 fart, *i*_∞*ff**du**fj* (*i*_∞*ff* 'feces'; *du**fj* 'blow')
 fart slowly, *I*_{∞∞∞}
 feces, stool, dung, *i*_∞*ff*
 milk, breast, *am*_{∞∞∞}*má*_{∞∞∞}
 nose dirt, snot, *u**fj*

placenta, afterbirth, *lamff*
 pus, *máfiΔΣff*
 scars, *gøff*
 skin, *Δøøøø*
 spit, saliva, *yoffupøøø*
 sweat, perspiration, *lamøøøøfi*
 tears, *mΣkffpæifi*
 urine, *Δenfi*
 vomit, *pæayfi*

Internal Organs, Bones

bladder, *Δomøøøbuøøø*
 brain, *Δuøøøliøøø*
 flesh, meat, *pæayøøø*
 gall bladder, *yΣfi*
 guts, intestines, *løyff*
 heart, *mø≥øøøda≥ff*
 kidney, *Δeff*
 liver, *tæanff*
 muscle, *yuøøø*
 stomach, *womff*
 womb, uterus, *naΣøøøøuøøøΔΣ≥ff*
 (*naΣøøø* 'baby'; *uøøø* 'sit'; *ΔΣ≥ff*
 'place'; 'the baby's sitting place')
 bone, *Óá≥ff*
 backbone, *døkffÓá≥ff*
 jaw bone, *Δá÷ffÓá≥ff*
 marrow, *Óá≥ffniøøø*
 rib, *hámoøøøbátøøøÓá≥ff*
 skull, *Δa≥øøøÓá≥ff*

PEOPLE

Pronouns

I, *≥øyff*
 you (sg.), *nΣ≥ff*
 she, *binff~nΣøøø*
 he, *bøffbáøøø*
 we (exclusive), *hámlffpæo≥ff*
 we (dual, inclusive), *«ciøøø*
 you (plu.), *ámffpæo≥ff*

they, *«comøøøpæo≥ff*
 self, *~nΣ≥fi~nΣ≥fi*

Age, Gender, Occupational Categories

adolescent boy, *n%øffftæøøø*
 adolescent girl, *n%øfffláøøø*
 baby, *naΣøøø*
 bastard, *Δo≥fiháff*
 boy, *baffháøøønaΣøøø*
 child (young person), *háfffi÷ff*
 girl, *~nΣffháøøønaΣøøø*
 guest, *yanff*
 king, *o≥øøø*
 lover, *mayff*
 man, male person, *baffháøøø*
 old man, *ÓΣfi báff*
 old woman, *ÓΣfi~nΣff*
 person, *Δanfi~nakff*
 poor man, *dawøøøbáff*
 settler from outside, *banfi*
 slave, *áøøø*
 subjects (of a king, etc.), *lo≥ff*
 thief, *gΣ÷ffbáff* (*gΣ÷ff* 'steal')
 widow, *Óamøøø~nΣff*
 widower, *Óamøøøbáff*
 woman, *~nΣffháøøø*
 young people, youth, *tæøøøhiffláøøø*
 (cf. 'adolescent boy, girl')

Kinship Terms

grandfather, *offbΣff*
 grandmother, *offbiff*
 father, *báff*
 father's older brother,
báffba÷ffheffbáøøø
 father's sister, *~nøyff*
 father's younger brother,
báffnaΣøøøøøøbáff
 mother, *~nΣff*

roof, $\Delta am\infty\infty a\mathbb{f}\mathbb{f}d\mathbb{o}k\mathbb{f}\mathbb{f}$ ($\Delta am\infty\infty$
 'house'; $d\mathbb{o}k\mathbb{f}\mathbb{f}$ 'back'),
 sitting platform, $d\mathbb{O}\mathbb{f}\mathbb{j}$
 thatch, $yu\div\mathbb{f}\mathbb{f}$
 village meeting house, $b\acute{a}\geq\mathbb{f}\mathbb{f}$
 wall, $p\acute{a}e\acute{a}m\mathbb{f}\mathbb{f}$

Countryside, Fields

bridge, ladder, $t\acute{a}e\mathbb{y}\infty\infty$
 fields, $g\acute{a}\div\mathbb{f}\mathbb{f}$
 garden, fence, $b\mathbb{e}\infty\infty$
 retaining log to hold dirt back, $\mathbb{O}\Sigma\mathbb{f}\mathbb{j}$
 road, path, $lam\infty\infty$
 village, $\ll c\Sigma\geq\mathbb{f}\mathbb{f}$
 well (for water), $yo\geq\infty\infty g\mathbb{o}k\infty\infty$
 ($yo\geq\infty\infty$ 'water')

Miscellaneous Artifacts

boat made from bamboo, $ay\mathbb{f}\mathbb{j}$
 book, $lay\infty\infty$
 flute (musical), $li\infty\infty bi\geq\mathbb{f}\mathbb{j}$
 umbrella, $p\acute{a}\Sigma\mathbb{f}\mathbb{j}$

NOUNS, ABSTRACT AND MISC.

ashes, $\mathbb{o}\mathbb{f}\mathbb{f}ni\div\mathbb{f}\mathbb{f}$, $dap\mathbb{f}\mathbb{f}l\acute{a}\mathbb{f}\mathbb{j}$ ($\mathbb{o}\mathbb{f}\mathbb{f}$ 'fire')
 bride price, $m\mathbb{O}\infty\infty$
 chips (from chopping), $p\acute{a}e\mathbb{u}\infty\infty$
 clan (kin group), $p\acute{a}e\geq\infty\infty$
 corpse, dead bod, $ma\geq\infty\infty$
 correction, $yan\mathbb{f}\mathbb{j}$, $la\Sigma\mathbb{f}\mathbb{j}$
 cultivation, $\acute{O}a\geq\mathbb{f}\mathbb{j}$
 dirt, $mak\mathbb{f}\mathbb{f}$
 evil spirit, $ma\geq\mathbb{f}\mathbb{j}$
 fragrance, perfume, $wo\geq\mathbb{f}\mathbb{j}$
 fire, $\mathbb{o}\mathbb{f}\mathbb{f}$
 firewood, $b\mathbb{O}\infty\infty$
 flood, $b\Sigma\geq\mathbb{f}\mathbb{j}$, $b\Sigma\geq\mathbb{f}\mathbb{j}hi\mathbb{f}\mathbb{f}ya\geq\infty\infty$
 folk song, $\mathbb{o}\mathbb{f}\mathbb{f}$
 force, power, strength (of a man,
 elephant etc.), $w\mathbb{o}\geq\mathbb{f}\mathbb{j}$ (cf. difficult)

gold, $hon\mathbb{f}\mathbb{j}$
 hole, $\Delta\acute{a}\infty\infty$
 iron, $\sim nam\infty\infty$
 joint, seam (between cloth, boards, etc.),
 $b\mathbb{O}\geq\mathbb{f}\mathbb{j}$
 language, $\Delta a\div\mathbb{f}\mathbb{f}$ (cf. 'chin')
 lime (mineral), $t\acute{a}e\mathbb{O}\geq\mathbb{f}\mathbb{f}$
 medicine, $m\%o\infty\infty li\infty\infty$
 money, $lop\mathbb{f}\mathbb{j}$
 name (n.), $m\%on\mathbb{f}\mathbb{j}$
 pit, trench, $ba\geq\mathbb{f}\mathbb{f}$
 place (n.), $\Delta\Sigma\geq\mathbb{f}\mathbb{f}$
 property mark, $p\acute{a}e\mathbb{u}\infty\infty$
 remainder, remnant, $aw\mathbb{f}\mathbb{f}b\mathbb{O}\mathbb{f}\mathbb{f}$
 row, line, queue (n.), $l\mathbb{O}\geq\mathbb{f}\mathbb{j}$
 rust, $d\Sigma\mathbb{f}\mathbb{f}$
 shade, shadow, $t\acute{a}\Sigma m\mathbb{f}\mathbb{j}$
 silver, $\geq in\infty\infty$
 sin, $m\acute{a}\geq\mathbb{f}\mathbb{f}$ (cf. 'spoil')
 smoke, $\mathbb{o}\mathbb{f}\mathbb{f}\Delta it\mathbb{f}\mathbb{f}$ ($\mathbb{o}\infty\infty$ 'fire')
 sneeze, (n.) $ha\div\mathbb{f}\mathbb{f} \Delta\mathbb{O}\infty\infty$ (two words)
 soul, spirit, $l\acute{a}\div\mathbb{f}\mathbb{f} \acute{a}\geq\mathbb{f}\mathbb{f} h\acute{a}\infty\infty$
 wisdom, $gon\mathbb{f}\mathbb{j}$

TIME EXPRESSIONS

after, $p\acute{a}e\mathbb{O}y\infty\infty g\mathbb{O}\mathbb{f}\mathbb{f}$
 after a while, $\acute{a}\geq\mathbb{f}\mathbb{f}$
 again, $\Delta aw\infty\infty$
 again, right after, $n\mathbb{O}\geq\infty\infty \mathbb{O}y\mathbb{f}\mathbb{f}$
 always, $d\mathbb{O}\geq\mathbb{f}\mathbb{j}$
 before, $\Delta e\infty\infty g\mathbb{O}\mathbb{f}\mathbb{f}$
 cold season, $h\mathbb{O}\geq\mathbb{f}\mathbb{j}$
 day (not night), $\sim ni\div\mathbb{f}\mathbb{f} n\Sigma\geq\mathbb{f}\mathbb{f}$ (cf.
 'morning')
 day (unit of time), $\sim ni\div\mathbb{f}\mathbb{f}$
 evening, $om\mathbb{f}\mathbb{j}$
 every day, $\sim ni\div\mathbb{f}\mathbb{f} \ll c\mathbb{O}y\div\mathbb{f}\mathbb{f}$
 last, $\Delta om\mathbb{f}\mathbb{j}$
 late, $g\acute{a}\infty\infty$
 month, $len\mathbb{f}\mathbb{j}$ (cf. moon)

morning, *napfɛnʒɛɛ* (cf. 'day time')
 night, *Ōa*_{≥∞∞}~*nakɛɛ* (~*nakɛɛ* 'dark')
 not yet, *má*_{≥∞∞}
 now, *Δá÷ɛɛá*_{≥∞∞}
 suddenly, *≥áɛɛ≥áɛɛhʒkɛɛ*
 summer, *Δawɛj*
 today, *Δinɛj~ni÷ɛɛ*
 tomorrow, *≥inɛj~ni÷ɛɛ*
 winter, *Ōɛj~nŌɛj~*
 year, *Ōa*_{≥∞∞}*boɛj*
 yesterday, *minɛj~ni÷ɛɛ*

ADJECTIVES

Numbers

one, *hʒkɛɛ*
 two, ~*niɛj*
 three, «*cam*_{∞∞}
 four, *a*_{∞∞}*li*_{∞∞}
 five, *≥áɛj*
 six, *wokɛɛ*
 seven, ~*natɛɛ*
 eight, *Δatɛɛ*
 nine, *Δʒɛɛ*
 ten, *anɛj*
 zero, *go*_{≥ɛɛ}
 twenty, *guk*_{∞∞}*há*_{∞∞}
 one hundred, *kæoɛɛhʒkɛɛ* (*hʒkɛɛ* 'one')

Color

black, ~*nakɛɛlá*_{∞∞}
 dark, *Ōa*_{≥∞∞}~*nakɛɛ* (~*nakɛɛ* 'black')
 green, *tæ*_{ʒ∞∞}*lá*_{∞∞}
 light (not dark), *Ōa*_{≥∞∞}*≥ayɛj*
 red, *hakɛɛlá*_{∞∞}
 white, *Δufɛɛlá*_{∞∞}
 yellow, *wo*_{≥∞∞}*lá*_{∞∞}

Taste

bitter, *Δá÷ɛɛyák*_{∞∞}
 hot (like chilies), *ha*_{ʒ∞∞}

sour, *tæi*_{∞∞}
 sour thing, *tæi*_{∞∞}*yøk*_{∞∞}
 sweet, *Ōʒ*_{≥∞∞}~*na*_{≥∞∞}

Size

big, *lø*_{≥∞∞}
 deep, «*cʒɛɛ*
 far, *day*_{∞∞}
 fat (of people), *nitɛɛ*
 high, *Δawɛj*
 long, *mo*_{≥ɛɛj}
 long (time, roads), *luɛɛ*
 narrow, *ΔoɛɛΔʒpɛɛ*
 shallow, *pæayɛɛle*_{∞∞}, *pæayɛɛle*_{÷∞∞}
 short (people), *ΔawɛjΔo÷ɛɛ*
 short (time, roads), *Δo÷ɛɛlø÷ɛɛ*
 small, *mán*_{∞∞}
 tall (people), *Δawɛjluɛɛ* (*luɛɛ* 'long')
 tall (things, trees, etc.), *Δawɛj*
 thick, «*catɛɛlŌɛɛ*
 thin, *baʒɛj~na*_{≥ɛɛ}
 thin (people), *goy÷ɛɛ*
 wide, *báɛjlø*_{≥∞∞} (*lø*_{≥∞∞} 'big')

Miscellaneous Adjectives

afraid, fear, ~*namɛj*
 alive, *yamɛj*
 all, *bŌʒɛj*
 angry, *mø*_{≥∞∞}*Δi÷ɛɛ* (*mø*_{≥∞∞} 'heart')
 ashamed, *ŌŌʒɛj*
 bad, *n%oɛɛmŌy*_{∞∞}
 bent, crooked, *gøkɛɛ*
 careful, *liɛj*
 clean, *daʒɛɛlá*_{≥∞∞}
 cold, *Ōʒ*_{≥∞∞}*mák*_{∞∞}
 different, distinct, *law*_{∞∞}*law*_{∞∞}
 difficult, *wø*_{≥ɛɛj}
 dirty, *makɛɛhatɛɛ*
 dull, blunt, *ná÷ɛɛ«cŌ*_{≥∞∞}
 easy, *yø*_{∞∞}*bay*_{∞∞}
 empty, *go*_{≥ɛɛ}

extreme, too much, *loyff*
 fast, quick, $\Delta\acute{a}\infty\infty$
 fed up, tired of, $d\%o\geq\infty\infty$
 full, *máfi*
 good, $m\emptyset y\infty\infty$
 guilty, $\Delta ayff$
 happy, joy, $m\emptyset\geq\infty\infty\emptyset\geqff$ ($m\emptyset\geq\infty\infty$
 'heart'; $\emptyset\geqff$ 'climb, go up')
 hard (firm), $\acute{O}\acute{a}n\infty\infty$
 heavy, $\acute{O}i\div ff$
 hot, warm, $\Delta\acute{a}m\infty\infty lok\infty\infty$
 hungry, *ayfi*
 identical, $le\infty\infty$
 lazy, $\acute{O}\acute{a}kff$
 left side, $lakff\sim n\emptyset\geqff$ (*lakff* 'hand,
 arm')
 less, *gomfi*
 light, (weight) $\Delta\acute{a}\geqffk\acute{a}\acute{e}\div ff$
 male, (animal) $b\emptyset\geqff$
 many, very, $l\emptyset\geq\infty\infty\geq iff$ ($l\emptyset\geq\infty\infty$ 'big')
 near, $y\emptyset\infty\infty$
 new, $\ll\acute{c}\acute{a}\infty\infty$
 next, *neffyoiff*
 not cautious of, $n\%o\infty\infty h\acute{a}\infty\infty g\acute{a}\infty\infty$
 not eloquent, $\Sigma\geq\infty\infty$
 old (people), $\acute{O}\Sigma fi$
 old (things), $\ll ca\geqff$
 other, $l\%opff\text{b}\Sigma ff$
 perceptive, discerning, *yawfi*
 poor (impoverished), $daw\infty\infty$
 portion, share *hanfi*
 pregnant, $na\Sigma\infty\infty g\emptyset\div ff$ ($na\Sigma\infty\infty$
 'baby')
 raw, uncooked, $t\acute{e}\Sigma\geq\infty\infty$
 rich, wealthy, $\Delta am\infty\infty m\emptyset y\infty\infty$ ($\Delta am\infty\infty$
 'house'; $m\emptyset y\infty\infty$ 'good')
 right side, $lakff\acute{d}\acute{a}\div ff$ (*lakff* 'hand,
 arm')
 right, correct, $\ll c\Sigma\infty\infty$
 rough, $p\acute{a}\acute{e}\infty\infty p\acute{a}\acute{e}\infty\infty l\acute{a}\infty\infty$
 round, $doy\infty\infty la\geq\infty\infty$

royal, $u\geqff$
 same, *ayfjh\emptysetkff*
 separate, apart, in different places,
 $lu\infty\infty lu\infty\infty$
 sexy, $la\Sigma\infty\infty$
 sharp, $n\acute{a}\div ff$
 sincere, $\Delta\emptyset ff$
 slow, $ma\geq\infty\infty$
 slowly, $yo\geq fi m\emptyset ff$
 smart, *naff*
 smooth, slippery, $\sim n\emptyset ff l\emptyset k\infty\infty$
 soft, *inff*
 some, $h\acute{a}n\infty\infty n\emptyset yff$
 steep, $t\acute{e}\emptyset\geq fi$ (cf. 'step down')
 sticky, $k\acute{e}am\infty\infty$
 straight, $la\Sigma fi l\emptyset k\infty\infty$
 strong, $w\emptyset\geq fi g\emptyset\div ff$ ($w\emptyset\geq fi$ 'power,
 difficult')
 stupid, *yoyfi*
 swept clean (of dirt, water), $g\emptyset\infty\infty$
 true, correct, $h\Sigma\geq ff m\emptyset y\infty\infty$
 unhappy, sad, $m\emptyset\geq\infty\infty m\acute{a}\geq ff$ ($m\emptyset\geq\infty\infty$
 'heart'; $m\acute{a}\geq ff$ 'spoil')
 weak, *dakff*, $w\emptyset\geq fi n\%o\text{ff}g\emptyset\div ff$
 ($w\emptyset\geq fi g\emptyset\div ff$ 'strong'; $n\%o\text{ff}$
 'negative')
 whole, entire, *gamff*
 wrong, at fault, $bo\geq\infty\infty$

VERBS

able to earn livelihood, $l\acute{a}\geq fi$
 accompany, go with, $mo\geq\infty\infty$
 accuse, $no\geq fi$
 agree, $\emptyset\infty\infty$
 anoint, apply ointment, $p\acute{a}\emptyset\infty\infty$ (cf.
 'wash face')
 arrive, reach, $\geq oy\infty\infty$
 ask, $p\acute{a}e\infty\infty$
 attend, $haw\infty\infty$

bathe, take a bath, <i>ha</i> _{≥∞∞} <i>há</i> _{∞∞∞} <i>lak</i> _{££} (<i>ha</i> _{≥∞∞} 'body')	damage, <i>den</i> _{££}
be born, <i>a</i> _{≥£j}	dance, <i>pæok</i> _{∞∞∞} <i>dOy</i> _{∞∞∞} (<i>dOy</i> _{∞∞∞} 'mutual, reciprocal')
beckon, wave, <i>lak</i> _{££y} <i>O</i> _{p££} (<i>lak</i> _{££} 'hand, arm')	deceive, <i>l</i> _{∞∞∞}
bend, <i>y</i> _{ø££}	dedicate (church), <i>lO</i> _{££££}
bend by force, <i>g</i> _{£££}	defile, <i>ΔOy</i> _{÷££}
bite, <i>gat</i> _{££}	depend on others, <i>ø</i> _{≥£j}
bless, touch, <i>moy</i> _{£j}	descend, go down a little way, <i>y</i> _{££j}
blow (with mouth), <i>du</i> _{£j}	descend, go down a long way, <i>Δá</i> _{££}
boil, <i>Δám</i> _{£j}	die, <i>di</i> _{£j}
borrow, <i>lu</i> _{££}	dig, <i>Δu</i> _{££}
bow down, <i>tæø</i> _{≥∞∞}	disappear, cause to (trans.), <i>Δu</i> _{£j}
break (glass etc.), <i>pæaw</i> _{£j} <i>dO</i> _{k∞∞∞}	disappear, melt (intrans.), <i>Δu</i> _{∞∞∞}
breathe, <i>≥O</i> _{£j} <i>h</i> _{%∞∞∞}	dive, sink, <i>a</i> _{£j} <i>yO</i> _{p££ΔO} _{∞∞∞}
bring, bring back, <i>lOy</i> _{£j}	do, <i>dOk</i> _{££}
burn (intrans.), <i>bá</i> _{÷££}	dream, <i>ma</i> _{≥££}
burn (trans.), « <i>cak</i> _{££}	drink, <i>y</i> _{££≥∞∞∞}
burst, <i>pæaw</i> _{£j}	drive (animals), <i>át</i> _{£j}
bury, (the dead) <i>ÔO</i> _{∞∞∞}	drown, <i>la</i> _{≥££}
bury, in ground <i>du</i> _{≥£j}	dry (intrans.) <i>Ôán</i> _{££}
buy, <i>Δak</i> _{££}	dry (trans.), <i>Ôán</i> _{£j}
call, cry out, <i>hoy</i> _{££}	eat, <i>ha</i> _{÷££}
care for, foster, <i>u</i> _{≥£j}	embrace, <i>kæay</i> _{∞∞∞} , <i>ak</i> _{££kæay} _{∞∞∞}
carry from a tump line, <i>gø</i> _{∞∞∞}	emerge, come out gradually, <i>Ôám</i> _{££}
carry in the arms (esp. baby), <i>bam</i> _{∞∞∞}	emerge, come out suddenly, <i>law</i> _{£j}
carry in the hand, <i>yO</i> _{≥££}	encroach, as pushing into the bordering field, <i>len</i> _{££}
carry on the shoulder, <i>bay</i> _{∞∞∞}	enter, <i>ΔO</i> _{∞∞∞}
chew, <i>Δay</i> _{∞∞∞}	exhort, <i>h</i> _{%ø} _{≥££}
climb, go up, <i>ø</i> _{≥££}	extinguish, <i>mat</i> _{££}
close (box etc.), cover, <i>gap</i> _{££}	fall, <i>dø</i> _{∞∞∞}
close (mouth), <i>kæ</i> _{£m} _{££}	fall down, <i>ÔO</i> _{∞∞∞}
come, <i>hOy</i> _{÷££}	feed liquid, make drink, <i>y</i> _{££≥£j}
come, return <i>lOy</i> _{∞∞∞}	feel very cold, <i>ton</i> _{∞∞∞}
cook, « <i>cO</i> _{££j}	fight, <i>O</i> _{p££dOy} _{∞∞∞} (<i>dOy</i> _{∞∞∞} 'mutual, reciprocal')
cough, <i>gay</i> _{∞∞∞}	float, <i>pæo</i> _{≥££}
crack (intrans.), <i>l</i> _{££≥£j}	flow, <i>yan</i> _{∞∞∞}
crawl, <i>Δom</i> _{∞∞∞}	fly (vb.), <i>bi</i> _{∞∞∞}
cry, weep, <i>tæap</i> _{££}	follow someone, <i>mO</i> _{££}
cut with an axe, <i>hay</i> _{∞∞∞}	forget, <i>be</i> _{£j}
cut with knife, <i>Ô</i> _{%ot} _{££}	

freeze, <i>tæan^{∞∞∞}</i>	lie down, <i>lam^{£j}</i>
frighten (of animals), <i>baw^{£j}</i>	life, <i>ya^{≥∞∞∞~nu^{££}}</i>
gather, collect, <i>tæay^{££}</i>	listen, <i>bá^{≥££}</i>
get up from bed, <i>bu^{££}</i>	make, <i>l[∑]≥££</i>
give, <i>Δu^{÷££}</i>	make a bamboo wall, <i>á^{££}</i>
give birth, <i>b[∑]÷££</i>	make a hole through, <i>lø^{£j}</i>
give shelter, take into one's home (trans), <i>loy^{£j}</i>	match, be alike, <i>gø^{££}</i>
go, leave, <i>day^{££}, lø^{∞∞∞day^{££}}</i>	melt, dissolve (water, wax, fat, etc.), <i>~na[∑]∞∞∞</i>
gossip, <i>lá^{£j}</i>	miss the target, « <i>cay^{££}</i>
grab and pull, <i>daw^{£j}</i>	mourn, lament, <i>yo^{≥£j}</i>
grind (spices, etc.), <i>≥[∑]m^{∞∞∞}</i>	move restlessly, <i>bø^{∞∞∞}</i>
handle (vb.), <i>Δo^{≥£j}</i>	need, want, <i>ná^{∞∞∞}</i>
hear, <i>dán^{£j}</i>	news, <i>Δá^{÷££}«cá^{≥££}</i>
help, <i>gáp^{£j}, Δa[∑]££</i>	open (door), <i>Δá^{£j}áp^{∞∞∞}</i>
hide, « <i>cø^{£j}</i>	open (door, box), <i>ap^{∞∞∞}</i>
hit, <i>gø^{≥£j}</i>	open (earth, mouth), <i>gá^{£j}</i>
hit, beat, <i>øp^{££}</i>	overtake, run ahead, <i>yøy^{£j}</i>
hold in hand, <i>nø^{££}</i>	pass through, <i>bøy^{÷££}</i>
imagine, <i>le^{∞∞∞}</i>	pile up in orderly way, <i>pæø^{≥£j}</i>
inject, <i>Δu^{≥££}</i>	pile up, heap up, <i>lo^{≥£j}</i>
insert, <i>Δø^{£j}</i>	pile up, heap up messily, <i>Δ[∑]≥£j</i>
insert a stick, <i>la[∑]££</i>	play, <i>≥á^{÷∞∞∞}</i>
insert, put between, <i>it^{££}</i>	play (musical instruments), <i>ó[∑]≥£j</i>
itch, scratch (hurt, soothe), <i>≥[∑]÷££</i>	point, <i>Δ[∑]≥∞∞∞</i>
join together, as bringing in an accomplice, putting meat on a rod, <i>be^{≥£j}</i>	pound (rice), <i>Δ[∑]££</i>
join, connect, <i>kæay^{∞∞∞}</i>	praise (vb.), <i>du^{££}</i>
jump down, <i>lø^{≥£j}</i>	prevent, <i>ba^{≥£j}</i>
keep, <i>du^{÷££}</i>	pull, <i>Δ[∑]∞∞∞</i>
keep orderly, put neatly, <i>h%o^{≥∞∞∞}</i>	pull up, <i>daw^{£j}</i>
kick, <i>haw^{£j}</i>	push, <i>ho^{≥∞∞∞}</i>
kill, <i>cø^{£j}</i>	push down slanting, <i>lø^{£j}</i>
know, learn, imitate, <i>~n[∑]≥£j</i>	put (inside), <i>Δi^{÷££}</i>
laugh, <i>~ni^{∞∞∞}</i>	put in, <i>hø^{££}</i>
leave, go, <i>lø^{∞∞∞day^{££}}</i>	put on, place, <i>ha[∑]£j</i>
let fall, cause to fall, <i>óø^{£j}</i>	quarrel (with words), <i>de^{£j}</i>
let go, set free, <i>døy^{£j}døk^{∞∞∞}</i>	read, count, <i>e^{£j}</i>
let loose, <i>lay^{£j}, lay^{£j}døk^{∞∞∞}</i>	redeem, accept back a person who has done wrong, <i>a^{≥££}≥øy^{££}, a^{≥££}øy^{££}</i>
lick, <i>lay^{££}</i>	remove from mouth, <i>yay^{££}du^{÷££}</i>
	resist, <i>dø^{≥£j}</i>

return, come, <i>lŋy^{oo}</i>	steal (theft), <i>g^{∑÷}ŋŋ</i>
roam, <i>lŋ^{oo}dŋy^{oo}</i> , <i>lŋ^{oo}obŋ^{oo}</i>	step down, <i>tæθ[≥]ŋj</i>
roll down (intrans.), <i>≥θŋj</i>	stir (curry etc.), <i>lŋ^{oo}le^{oo}</i>
roll up, <i>dŋŋ</i>	stretch (body, back side of a stick, by bending), <i>ga[≥]ŋŋ[≥]ŋyŋŋ</i> , <i>ga[≥]ŋŋŋyŋŋ</i>
run, flee, <i>mŋkŋŋ</i>	suck, <i>«cŋpŋŋ</i>
sag (as strung up wires), <i>nay^{oo}</i>	swim, <i>ŋŋj</i>
say, speak, talk, <i>eŋŋ</i>	taboo, <i>«cayŋj</i>
scatter, <i>hayŋj</i> , <i>yánŋj</i>	take, <i>yá÷ŋŋ</i>
scream, <i>Ōa[∑]ŋŋ</i>	take shelter (from rain etc.), become a member, <i>loy^{oo}</i>
see, <i>e^{oo}</i>	teach, <i>Ōanŋj</i>
sell, <i>yufŋj</i>	tear off, <i>layŋj</i>
send a message to someone, <i>pæθ[≥]ŋj</i>	think, remember, <i>dŋy÷ŋŋ</i>
set up, as a post, <i>hŋ[≥]ŋŋ</i>	throw, <i>Δŋk^{oo}</i>
sew, stitch, <i>tæ[∑]≥^{oo}</i>	throw away, <i>yakŋŋdŋk^{oo}</i>
shake (intrans.), <i>kæŋ[∑]ŋ^{oo}</i>	throw spear from a distance, <i>Δ^{∑÷}ŋŋ</i>
shake (trans.), <i>tæiŋj</i>	throw upward, <i>domŋjdoŋŋ</i>
shine, <i>kæa[≥]ŋ^{oo}</i>	tickle, <i>d[∑]ŋ^{oo}</i>
shoot (gun, etc.), <i>lá÷ŋŋgáp^{oo}</i>	tie a knot, <i>hinŋj</i>
show, <i>huŋj</i>	tie (with bamboo strips), bind, wrap, bind (of law), <i>Δáŋj</i>
sing, <i>lŋkŋŋ</i>	tired, <i>~nŋ^{oo}</i>
sit, <i>u^{oo}</i>	torture, <i>Ōinŋj</i>
sit, cause to (e.g. baby, chicken), <i>ufŋj</i>	touch (vb.), <i>hŋ[≥]ŋŋ</i>
sit idly, <i>pæákŋj</i>	try, <i>kæ%^{oo}</i>
sleep, <i>Δiŋj</i>	turn, <i>Δinŋj</i>
smell (notice smell), <i>bŋŋŋ</i>	untie, <i>Δeŋŋ</i>
smell (test by smelling), <i>d[∑]mŋj</i>	use up, run out, <i>Δŋ^{oo}</i>
smell bad, <i>Δeŋj bŋŋŋ</i> (<i>Δeŋj</i> 'rot')	wake up (intrans.), <i>bawŋŋ</i>
smell good, <i>≥ŋŋj mŋy^{oo}</i> (<i>≥ŋŋj</i> 'breathe'; <i>mŋy^{oo}</i> 'good')	wake up (trans.), <i>pæok^{oo}</i>
sneeze (vb.), <i>Δŋ^{oo}</i>	walk, <i>gámŋŋ</i>
snore, <i>Δŋ[≥]ŋŋhŋk^{oo}</i>	want, need, <i>ná^{oo}</i>
spill, overflow, pour down, <i>lá[≥]ŋŋ</i>	warm at fire (hands, food, etc.), <i>ga[≥]ŋj</i>
split, <i>gák^{oo}</i>	wash face, <i>tæeŋjpæŋ^{oo}</i> (<i>tæeŋj</i> 'face')
squeeze, rub on body, <i>noy^{oo}</i>	wash hands, <i>lakŋŋh^{∑÷}ŋŋ</i> (<i>lakŋŋ</i> 'arm/hand')
stab (with spear) <i>h[∑]mŋj</i>	weave, <i>dakŋŋ</i>
stab (with large knife, dao), <i>bapŋŋ</i>	welcome warmly, <i>omŋŋbomŋj</i>
stand, <i>yŋ[≥]ŋŋ</i>	wipe, rub off dirt, <i>tæitŋŋ</i>
stand in line, <i>l[∑]≥^{oo}ŋyŋŋyŋ[≥]ŋŋ</i>	wrestle, <i>pæŋŋj</i>
(<i>l[∑]≥^{oo}ŋyŋŋ</i> 'line, queue'; <i>yŋ[≥]ŋŋ</i> 'stand')	
start, <i>ba[≥]ŋ^{oo}</i>	

----- "The Sal Languages". *Linguistics of the Tibeto-Burman Area*. 7(2): 1-32

FRENCH, WALTER. 1983. *Northern Naga: A Tibeto-Burman Mesolanguage*. Ph.D. thesis, City University of New York.

KUMAR, BRAJ BIHARI, L. PONGHOK PHOM, AND A. P. MANDAL. 1973. *Hindi Phom English Dictionary*. Kohima, Nagaland: Nagaland Bhasha Parishad

MARRISON, GEOFFREY M. 1967. *The Classification of the Naga Languages of North-East India*. PhD thesis, University of London.

NAGARAJA, K. S. 1994. *Konyak-Hindi-English Dictionary*. Manasagangotri, Mysore: Central Institute of Indian Languages.

SHAFER, ROBERT. 1955. "Classification of the northernmost Naga languages". *Journal of the Bihar Research Society*. 39: 225-264.