BWE KAREN AS A TWO-TONE LANGUAGE?

AN ENQUIRY INTO THE INTERRELATIONS OF PITCH, TONE AND INITIAL CONSONANT

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1.1 When Professor Gordon Luce directed my attention to Western Bwe Karen many years ago, he pointed out that the special interest these dialects hold for Sino-Tibetan linguists is the fact that they are a living testimony to one of the principal tenets of Sino-Tibetan linguistics: namely, that the loss of an earlier distinction between voiced and voiceless stops has resulted in the doubling of the original number of tones in many languages in the area. It is assumed that pitch differences correlated with the presence or absence of voice, which were phonologically non-distinctive as long as the voice/voiceless contrast survived, became phonemic themselves once the voice contrast was lost. The better known Sgaw and Pwo dialects of Karen, in which there is no longer a phonemic opposition between voiced and voiceless stops, are commonly described as having six tones (four for Bassein Pwo, see Jones 1961); whereas Western Bwe, which preserves the opposition between voiced and voiceless stops, is described as having only three tones. At the time, the only "modern" publication on Karen was Haudricourt's celebrated 1946 paper, in which he accepted the traditional 6 tone analysis of contemporary Pwo and Sgaw, but divided the 6 tones into a high and low series, with 3 tones in each, systematically associated, as in Chinese and Tai, with features of the initial consonants. By comparing these two dialects, and without benefit of knowledge of Western Bwe, he postulated a 3-tone system for Proto-Karen, and a 3-way system of initial consonants: voiceless unaspirated, voiceless aspirated and voiced. Since Haudricourt's third tone was associated with stopped syllables

only, like the Chinese **ch'ü sheng**, this left a 2-tone system for unstopped syllables. Nevertheless, some consternation was expressed when, after working for some time with the Western Bwe dialect which has no stopped syllables to complicate the issue, I suggested in a seminar paper that there are clear indications that in this dialect the underlying (synchronic) phonological contrast is between 2 rather than 3 tones.

1.2 In recent years, the case for the reconstruction of Proto-Karen and of Sino Tibetan itself as 2-tone languages has been further and cogently argued by such scholars as Benedict and Jones.[1] It seems appropriate therefore, to present here the evidence pointing towards a 2-tone interpretation of contemporary Bwe. I must emphasise that the evidence presented is purely synchronic: I leave its historical interpretation to colleagues better versed than I in this field. I have however attempted to correlate the Bwe forms in my material with the forms cited by Benedict in the revised and expanded version of his paper to the Second Sino-Tibetan Conference (Benedict 1969), and with those cited by Jones in his paper to the Fourth Sino-Tibetan Conference (Jones 1971), and with the hypotheses put forward by Haudricourt (1946 and 1953).

1.3 My research and field work were mainly concerned with what is sometimes referred to as the Blimaw dialect of Western Bwe, but I was also able to do a little work on the closely related Geba dialect, and shall draw upon this, and upon Luce's Geba word lists (Luce 1959, and further material at present in the press), when appropriate.

2.1 It is beyond dispute that from the phonetic point of view Blimaw exploits three pitch levels for lexical purposes. These are high level (pitch 1), and mid level (pitch 2), and low level (pitch 3), as in lɛ^{1} *'moon'*, lɛ^{2} *'leaf'* and lɛ^{3} *'to keep, conserve'* - an excellent prima facie case for postulating three tones, it would seem. A closer examination of the distribution of these pitches in relation to initial consonants and of other factors affecting pitch in this dialect - such as tone-sandhi, the use of what I have called tone-dissimilation (Henderson 1961 and 1967) in the word-compounding process, and the use of pitch-raising as a syntactic marker - soon demonstrates, however, that the picture is not quite so simple as it at first appears. On the other hand, some of these factors offer explanations of forms which at first glance appear tonally deviant from a historical point of view. I have

described a number of these pitch-determining factors in some detail in Henderson (1961) and so will refer to them only briefly here. I cannot, however, forbear to point out how misleading it can be to select for comparative purposes the odd cognate syllable from a dissyllabic or polysyllabic word without being aware of the possible effect of such factors on the pitch of the syllable concerned. A case in point is the apparent tonal irregularity of the Blimaw words for *'tail'*, *'tooth'*, and *'pot'* in Jones' lists (see section 6 below). The full Blimaw word for *'tail'* is not me^{3} but ka^{1}me^{3} (ka^{1} = *'bottom'*), that for *'tooth'* is not mɛ^{32} but θo^{1}mɛ^{3}. In both instances the low pitch of the final syllable, which Jones seems to find irregular, is the perfectly regular realisation on the second syllable of a disyllabic compound of this kind of a common type of high-low word-intonation pattern, and is thus not necessarily to be equated with the pitch to be expected of the component morphemes in isolation. From the point of view adopted in this paper I do not regard these forms as tonally irregular. See Section 5.1.6. Similarly, the (to Jones) "irregular" high pitch on bo^{1} in *'pot'* is the realisation of a second dissimilated pattern, low-high - the full form of the Blimaw word for *'pot'* being gǒ^{2}bo^{1} or gǒ^{3}bo^{1}.[3]

2.2 Below, at 2.4 will be found a table showing the distribution of the Western Bwe (Blimaw) syllables occurring in my material, arranged according to vowels, consonants, and pitches. All Western Bwe syllables are of the CV type. There are no final consonants, no diphthongs, and no distinctive vowel nasalisation.[4] There may be a glide (r, R or w) between C and V; since the pitch distribution of such syllables does not differ significantly from that of syllables without glides, they are omitted from the table for the sake of simplicity. As observed elsewhere (Henderson 1965), *all* mid and low pitch syllables before a pause may exhibit glottal constriction finally (i.e. a weak glottal stop); high pitch syllables before a pause never do so, but an h-like off-glide is sometimes audible. (The universality of these pre-pause syllable-closing features in Bwe prohibits their interpretation as echoes of formal final consonants, now vanished, but may nevertheless be relevant to the history and development of the tones.)

2.3 The symbols in the Table, where not self-explanatory, are to be interpreted as follows:

✓ marks the occurrence of a syllable as a full, "normal" monosyllabic word, e.g. as a noun, pronoun, or verb, etc.

1 indicates that the syllable is found as the first (bound) syllable

of a disyllabic or polysyllabic word or compound, but is not found as an independent word. For the purposes of this paper, the term "compound" is used to include the very common type of "double" construction in which one of the elements does not occur independently, e.g. θi²-ja², as in mɛ²θi²mɛ²ja² *'to be able to do s.'* in which mɛ² *'to do'* and ja² *'to be able'* occur as independent verbs, but θi² does not. (There are independent words θi² *'comb'*, θi² *'dental decay'* and θi² *'to thread on a string'*, but it doesn't make sense to attempt to identify any of these with the first element of -θi² - ja².)

2 indicates that the syllable concerned is found only as the second (bound) element in a disyllabic word or compound. The numerals 1 and 2 together (e.g. 12) indicate that the syllable concerned is found both as the first and as the second element in disyllabic words or compounds, but that it is not found as an independent word.

3 (one instance only) indicates that the syllable is found only as the third element in a polysyllabic word or compound. Information about the position of a syllable within a polysyllabic word is especially important in this language because of the effect polysyllabic word-patterns can have upon the pitch of component syllables.

C means that the syllable is only found as a numeral classifier.

E indicates a syllable found as an exclamation only.

F marks a loan-word (usually from Burmese). There are doubtless many unidentified loan-words in the material.

O indicates an onomatopoeic or phonaesthetic word of some kind.

O1 and O2 indicate that the syllable is found only as the first or second element respectively in an onomatopoeic or phonaesthetic expression.

P marks syllables which only occur as affixes, particles or particle-like words which are highly susceptible in this language to pitch variation that can be associated systematically with syntactic, morphological and emotional factors. P2 means *'only found as a particle OR as the second syllable of a disyllable'*, and so on.

Q indicates a question-word used (*how much, how many, how narrow, how small, what kind,* etc.) in wh-type questions (and often in the answers to them) which characteristically bears a high pitch as part of an overall interrogative intonation pattern. Q1 means *'only found in question words OR as the first syllable of a disyllable'*, and so on.

2.4 *TABLE SHOWING DISTRIBUTION OF PITCHES*

		1. HIGH PITCH								2. MID PITCH								3. LOW PITCH							
		i	ɪ	e	ɛ	a	ɔ	o	ʊ	u	i	ɪ	e	ɛ	a	ɔ	o	ʊ	u	i	ɪ	e	ɛ	a	ɔ	o	ʊ	u
1.	ʔ	✓	✓	E	✓	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓									
2.	p	F1		F1		12	F	✓	✓	✓	✓	2	F	✓	✓	✓	2	✓	✓									
3.	t	3	Q	✓	1	1	✓	✓	✓	2		O1	✓	✓	✓	✓	✓	✓	✓									
4.	c		1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓									
5.	k	✓	1		✓	✓	✓	✓	✓	1	✓	✓	✓	✓	✓	✓	✓	✓	✓									
6.	ɓ	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓									
7.	ɗ	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓									
8.	ph	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓									
9.	th			✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓			2						
10.	ch	✓	Q								F	✓						✓										
11.	kh	✓	✓	1	✓	✓	✓	✓		✓	✓	2	✓	✓	✓	✓	✓	✓	✓									
12.	h	1	✓		✓	1	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓									
13.	ʃ	✓	✓	F1	✓	✓	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓									
14.	θ	✓			✓	✓	F12	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓									
15.	x						✓		F1			✓		O1	✓	O2		O2					O		✓			
16.	b	F		P	O		P	Q		✓	1	1		✓	✓	✓	✓	✓	✓	12	2	✓	✓	1	✓	✓	1	1
17.	d		Q	1	C	Q	C		P	1	✓	2	✓	✓	✓	✓	✓	✓	✓	1	2	✓	✓	1	✓	1	✓	✓
18.	j			F	1	2	E	✓					✓	✓	✓	✓	✓	✓	✓	✓				✓	1	✓	✓	✓
19.	g			P	P	2			P	1			✓	✓	✓	✓	✓		2	✓	✓	O1	✓	✓	✓	O	✓	✓
20.	m	✓	P	✓	✓	✓	✓	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		2		✓	2	✓	✓		✓	1
21.	n	✓	Q1	✓	✓	Q1	P		P	✓	✓	P2	✓	✓	✓	P	✓		✓						✓	✓	✓	✓	✓
22.	l	✓	✓	✓		✓	✓	✓	2	✓	12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	C	✓	✓	✓	✓
23.	r		✓	✓			O2			✓	✓	1	1	✓	✓	2	1	12	✓						✓		✓	O
24.	R														✓	✓	✓		✓				✓		✓			✓
25.	ʔw	✓									✓	2																
26.	w	2		✓	✓	✓					✓	✓	✓	✓	✓			2	1	✓	✓	✓	✓	✓			✓	1
27.	ʔy					✓	2								✓	O		F	O									
28.	y				✓	1	✓		✓				Fl	✓	✓	✓	✓	✓		✓	12		✓	✓	✓	✓	✓	✓
29.	#																						P		E	2		

3.1 The pattern for rows 1-14 is immediately apparent. The initials concerned comprise voiceless aspirated and unaspirated stops, glottalised stops (including ?) and voiceless "aspirates" or "hissers": h, ʃ and θ. Syllables beginning with these consonants are never found on a low pitch except as the result of a very common and perfectly regular type of tone-sandhi (described in more detail in Henderson 1961) whereby all mid pitch syllables following a low pitch syllable are lowered until the end of the phrase or breath-group, or until the next high pitch syllable.

The one apparent exception to this rule in my material is the syllable tha^3, which occurs in bwɛ^{2}tha^3, an impolite name used to describe the Geba-speaking Karens living near the great watershed beyond Thandaung. My informant said the English semantic equivalent would be something like *"wild men of the hills"*. His suggested explanation of the lowered pitch of tha^3 was that the name is probably a contraction of the phrase bwɛ^{2}gɔ^{3}tha^3 *'the people above'* - cp. jəbwɛ^1 ə-gɔ^{3}tha^3 *'above, over, the table'*, as contrasted with jəbwɛ^1 ə-kho^2 *'on the table'*. In gɔ^{3}tha^3 *'above'*, the second element is probably to be associated with tha^2 *'to rise, go up'*, its lowered pitch being the predictable outcome of tone-sandhi after gɔ^3. This seems a reasonably plausible explanation.

It seems clear that for syllables with voiceless and glottalised initials there is only a 2-way pitch contrast, high v. mid. Note that this also holds good for preglottalised ?w and ?y in rows 25 and 27 respectively.

Certain oddities in the distribution of voiceless consonants may be noted. th and ch appear to be in complementary distribution, ch appearing before the close front vowels i and ɪ. The form chu^2 *'dog'*, which appears to be an exception, is in free variation with the form thwi^2, and offers an example of that curious fluidity of features within syllables that James Matisoff (1973) has noted as a characteristic of the languages of the area.

Initial x (in row 15) is rare and appears to be an exception to the rule for voiceless consonants. I am in some doubt as to whether it can be regarded as a genuinely Bwe Karen consonant. Some of the few words in which it occurs seem to be loans from Sgaw, e.g. xu^1 *'six'*, and xɔ^3 *'eight'*. xu^1 and xɔ^3 were used by my informants in counting series and in certain compound numerals, but the everyday words for 6 and 8 were θɔ^{1}θʊ^2 and lwi^{1}θʊ^2, literally *'3 pairs'* and *'4 pairs'*. xɪ^2 *'to scream, yell'* is perhaps phonaesthetic; similarly xɛ^{2}xɔ^2 *'to be clumsy and slow'*, which is in free variation with khɛ^{2}khɔ^2; and xɛ^{3}xɛ^3 *'slowly'*, which is in free variation with krɛ^{2}krɛ^2. That leaves us with xa^2 *'to measure (rice) in baskets'*, and xa^1 *'the same'*, still unaccounted for.

3.2 Moving from the voiceless initials to the voiced stops in rows 16-19, one finds syllables spread over all these pitches, but whereas straightforward monosyllabic nouns, and verbs, etc. preponderate in the mid and low pitch columns, under the high pitch column almost all the instances recorded are in forms particularly susceptible to pitch modification as a mark of syntactic or "expressive" function. It is, of course, only too easy to "cheat" when making an analysis of this kind in which one is following one's linguistic intuitions to a large extent. I have, however, honestly tried to apply the same (admittedly subjective) criteria to all entries in the table. Thus the absence of anything but ticks in rows 6 and 7 means that there are clear and incontestable examples of "ordinary" native monosyllabic words for each entry. The assortment of Fs, Ps, Qs etc. for rows 16-19 in the high pitch column means that the only instances of high pitch syllables with these initials were in -

(a) loanwords (such as bi^{1} *'opium'*, je^{1} *'bazaar'* < Burmese);

(b) particles used at the beginning or end of sentences and regularly subject to pitch-raising or lowering as an intonational feature, such as be^{1} and gɛ^{1};

(c) a class of words used in wh- questions, the intonation of such sentences always comprising a high pitch on the question-word followed by a low falling pitch on the matching sentence-final particle;

(d) exclamations and vocatives, which may have high pitch among their possible realisations;

(e) the first or second syllable of disyllabic words, which frequently in Bwe have a word-intonation pattern involving tonal dissimilation, i.e. either low-high or high-low.
cp. la^{2} *'to descend'*, but la^{1}de^{3} *'to fall'*
ɗɔ^{2} *'to speak'*, but ɗɔ^{1}ʃa^{2} *'to tell'*
ca^{2} *'to see'*, but ca^{1}lɛ^{2}
ca^{1}lɛ^{3} *'to search'*
jɛ^{2} *'to be soft'*, but jɛ^{1}pho^{2} *'to be young and tender'*
ni^{1} *'to obtain'*, mɛ^{1} *'wife'*,
but ni^{2}mɛ^{1} *'to marry'*

(f) numeral classifiers or quantifiers which appear sometimes as "raised pitch" versions of mid pitch nouns,
cp. dɛ^{2} *'thing, object'*
ə-dɛ^{1}ʃi^{1} *'ten things'*

(g) syntactic markers like du^1 *'when, till'*, bɔ^1 *'until, so that'*, ge^1 *'after all'*, which, whatever their initial consonant, are regularly pronounced with very high pitch frequently accompanied by lengthening of the vowel and a following pause, all of which features serve to mark off very clearly the major sentence constituents in co-ordinate and subordinate constructions. Such words are also found with initials from the row 1-14; ɗo^1, for example, is one of the commonest syntactic markers of this kind. The reason there is no entry P under the o column in row 7 is because there are also monosyllabic nouns and verbs like ɗo^1 *'village'*, ɗo^1 *'to let, allow'*, ɗo^1 *'to swell'*. There are *no* nouns and verbs homophonous with the forms marked 'P' in rows 16-19.

The two entries marked with ✓ in these rows are (a) the inalienable locative form -bu^1, *'inside'*, as in nə-cu^{2}bu^1 *'in your hand'*, also dɛ^2-bu^1 *'hole'*; and (b) the form jo^1 used after verbs to express the notion of *'mutual aid'*, e.g. mɛ^{2}jo^1 (cp. mɛ^2 *'to do'*) *'to give someone a hand with something'*, a^{2}jo^1 (cp. a^2 *'to eat'*) *'to help someone to eat'*. A high pitch is not regularly predictable for other words of similar function, so that I feel unable to call upon intonation, syntactic or otherwise, to explain these forms away. And yet there is some indication in the case of -bu^1, which never stands on its own, and is never first syllable in a word, that a "step-up" word-intonation pattern may be involved. In some Bwe villages the form of the word is -bu^2, with mid pitch; and it is to be remarked that the quantifier for dɛ^2-bu^1 *'hole'* is bu^2, which must surely be related, e.g. dɛ^{2}bu^{1}ki^{1}bu^2 *'two holes'*. Compare also Geba -bu^2 *'inside'*.

Even allowing for one or two unexplained exceptions, the general pattern for the pitch alternations proper to syllables with initial voiced stops is markedly different from that of voiceless or glottalised consonants. It is, I think, fair to postulate the regular pitch choice for such syllables as being between mid and low.

3.3 Rows 20-22 present yet a third pattern. Nouns and verbs are scattered pretty evenly over all three pitches in Blimaw. If, however, we compare Blimaw words in these rows with their Geba counterparts, in many instances the Geba forms have voiceless hm, hn or hl, where Bwe has m, n or l on high or mid pitch. It is clear therefore that the Blimaw high and mid columns represent a merging of voiceless and voiced sonorants, and one may postulate an underlying /hm- hn- hl-/, behaving quite regularly as regards pitch. The relation of underlying initials and pitches may be aranged thus:

Pitch	1	2	3
	/hm/	/hm/	
		/m/	/m/
	/hn/	/hn/	
		/n/	/n/
	/hl/	/hl/	
		/l/	/l/

Where we have words beginning with m, n or l in Blimaw on a high pitch we shall expect to find Geba cognates with hm-, hn- and hl-. Where Blimaw has words beginning with m, n or l on a mid pitch we shall expect to find Geba equivalents with either hm-, or m-, hn- or n-, hl- or l-. As far as my limited Geba material goes, this seems generally to be the case, though if the records are to be relied upon, there are exceptions which require further investigation.

3.4 In the remaining rows 23-28 we have a mixed bag of glides, most of them of rather rare occurrence. Preglottalised ?w and ?y have already been seen to conform with the pitch rules for glottalised consonants, i.e. pitch will be either high or mid, never low. High-pitch w and y are matched, as with the nasals and laterals, by voiceless hw and hy in Geba, so that the same solution may be proposed. High pitch y-words in Blimaw are somewhat suspect. Words with ya^{1}- as the first syllable are possibly examples of word intonation; one of them, ya^{1}dɔ^{3}, appears to be a loan from Burmese. yɛ^{1} *'five'* is the form used in some counting constructions, but the regular Bwe form for *'five'* is yɛ^{3}. yɔ^{1} *'to mix'* (e.g. lime with betel) may be a Burmese loan; yu^{1} is only used in poetic language; yo^{1} is used in much the same contexts as jo^{1} (see above).

The glides r and R are difficult to classify. They appear unstable, being frequently found to be in free variation either with each other, or with initial w or h. R is not found with high pitch. -Ro^{2} and Rɔ^{2} are in free variation with hɔ^{2} *'to clear (taungya)'*, and hɔ^{2} *'morning, early'* respectively; Ru^{2} *'snake'* varies freely with Ru^{3} and with wi^{2}. Rɛ^{3} *'to tackle, bring down'* has a variant wɛ^{3}; Rɔ^{3} *'to poke'* has a variant rɔ^{3}.

r seems most firmly established on mid pitch. On high pitch, ru^{1}, used to describe buildings (usually of stone) such as offices, law-courts, etc., may be borrowed. re^{1} *'to make friends with, be friendly towards'* and rɪ^{1} *'to have a stinging acid taste'* are the only other instances recorded of high pitch monosyllables with this initial. On

low pitch ru^3 ru^3 is an onomatope; rɔ^3 *'to poke'* has the variant Rɔ^3; rʊ^3 *'to smelt (lead)'* has the variant wɛ^3. The only example without a variant is ru^3, a quantifier of seasons or periods of time. A case could be made out for the phonological interpretation of r ∿ R ∿ w as variant realisations of a single underlying glide, there being a tendency for the R realisation to appear before open and back vowels on mid and low pitch, and for the r- realisation to appear before high vowels on high pitch, and perhaps also before rounded vowels in general. (Note the absence of *wɔ, *wo and limited distribution of wu, wʊ.) For the purposes of this paper, however, these initials will be kept separate, R being classed with the mid-low pitch set, and r with the high-mid set, though with exceptions noted.

3.5 Row 29 shows the rare instances of words or syllables containing a vowel without a preceding consonant or glottal stop. There is a gradual rather breathy onset to these syllables, quite distinct from the sharp attack of the syllables with initial glottal stop. In kɛ^{1}ʊ^{3}kɛ^{1}ɗɛ^1, an expression meaning *'What a waste!'* (cp. kɛ^1 *'to be bad, spoilt, useless'*), the onset to the syllable ʊ^3 is so fricative that it almost becomes wʊ^3. It should be noted that there are no monosyllabic words other than particles or exclamations with this kind of beginning.

4. It is argued from the above that if tone-sandhi and intonational influences, whether grammatical or emotional, are abstracted for appropriate separate treatment by phonological or syntactical rules, Western Bwe exploits a two-fold pitch contrast for lexical purposes. Syllables may be classed as having relatively high or relatively low pitch, and it is this alternation that I would regard as manifesting the phonological tones of the language. These tones may, to distinguish them from mere pitches, be labelled A (for the relatively high one) and B (for the relatively low one). (This labelling is not purely arbitrary; it is intended to facilitate comparison with Benedict's tones A and B, which by and large appear to correspond closely with my A and B.) The phonetic *realisation* of these tones in terms of high, mid and low pitch is determined by and predictable from the nature of the (phonological) initial consonant.

4.1 The Table at 2.4 may be simplified and rearranged to show the relations between pitch, tone and initial consonant as illustrated below.

The square bracketed forms are those whose realisations overlap in Blimaw, but not in Geba.

The arrangement into sets is not entirely arbitrary, but is meant to suggest the possibility, which I cannot explore further in this paper, of further phonological generalisations as regards the features functioning in the Bwe initial system.

	1. High Pitch Realisation	*2. Mid Pitch Realisation*	*3. Low Pitch Realisation*
I	A p	B p	
	A ph	B ph	
		A b	B b
II	A ɓ	B ɓ	
	A hm	[B hm / A m]	B m
III	A t	B t	
	A th ∿ ch	B th ∿ ch	
		A d	B d
IV	A ɗ	B ɗ	
	A hn	[B hn / A n]	B n
V	A c	B c	
	A ʃ	B ʃ	
		A j	B j
VI	A hl	[B hl / A l]	B l
VII	A θ	B θ	
VIII	A x	B x	
IX	A ʔ	B ʔ	
	A h	B h	
X	A ʔy	B ʔy	
	A hy (?)	[B hy / A y]	B y
XI	A ʔw	B ʔw	
	A hw	[B hw / A w]	B w
XII	A r	B r	
		A R	B R

Sets I-V illustrate the operation of syllable-initiating features which might be given some such labels as "tight" or "sharp" onset to the vowel (for the voiceless unaspirated and glottalised initials), "loose" or "aspirated" onset (for the aspirates and ʃ), and voiced onset. With some modification of present definitions, it might be possible to use the Halle and Stevens (1971) larynx features *spread/constricted* and *stiff/slack*, or the multivalued Ladefoged (1972) features *glottal stricture* and *voice onset*. A further feature would be required to distinguish Set I from Set II, and Set III from Set IV. What is required is not *nasal/non-nasal* but rather *oral/non-oral* - *oral* applying to Sets I and III, *non-oral* to Sets II and IV in which there is either nasal cavity resonance or glottal modification to supplement the oral articulatory gesture.

Sets VI and VII appear to be without the "tight" onset feature - though Bwe θ is sometimes quite strongly glottalised. On the synchronic evidence, without recourse to what is known of the history and origin of Bwe θ, one might be tempted to propose a grouping of θ, hl, and l. (This alignment is not perhaps so wildly unlikely from the phonetic point of view as it may appear. Bwe θ has quite firm dental contact so that air flows round the sides of the tongue rather than "through" the narrow gap between tongue and incisors, as is frequently stated for English θ. There is thus common phonetic ground with the lateral l.) Set IX might be interpreted as being the "tight" and "loose" versions of zero consonant, while X-XII may contain examples of zero + glide initials. An enquiry is needed into the status of the other glide-initial complexes, viz. phl-, bw-, ɓw-, θr- etc. before these sets could be handled with any hope of plausibility.

5. It remains to compare the allocation of phonological tones A and B to Bwe syllables proposed here with the examples cited by Benedict (1969) and Jones (1971).

5.1 Below I have added Bwe examples (where I could identify them) to the lists given by Benedict. Benedict's reconstructed tones *A and *B are included as he gives them. Page references are to Benedict (1972). The corresponding Bwe forms are shown with pitch marks (1, 2 or 3), followed by the tone allocation, A or B, suggested in this paper.

5.1.1 Benedict's Numerals (p. 28)

	TB	K	W. Bwe	
'two'	*g/ni	*khi^{A}	ki^{1}	A
	*g/ni/s	*hni^{A}	(gi^{3} when counting in pairs)	(B)
'three'	*g/sum	*som^{A}	θo^{1}	A
	*b/sum			
'four'	*bləy	*lwi/t	lwi^{3}	B
			lwi^{1} ∿ lu^{1} (in certain contexts)	(A)
'five'	*b/ŋa	*ŋa/t	yɛ^{3}	B
			(yɛ^{1} in some contexts)	(A)
'nine'	*d/kəw	*khu/t	khwi^{1} ∿ khu^{1}	A
	*d/gəw	*ku/t		
	*kəw/a	*gu/t		

Note the variants for *'two'* used in counting in pairs; also Tone A variants for *'four'* and *'five'* used in some contexts, e.g. some compound numerals, but felt by Bwe informants to be less genuinely "Bwe" than the Tone B forms.

5.1.2 Benedict's TK tone *A = Chinese tone B (p. 29)

	TB	K	W. Bwe	
'elephant'		*tshaŋ^{A}	gă∫a^{1}	A
'boil, cook'			(see below)	
'die'		*si^{A}	θi^{1}	A
'grandmother'	*phəy^{A}	*phi^{A}	[ə-] phi^{1}	A
'rain'	*r/wa		wɛ^{2}	A

Of the many words for various cooking processes, none seems to fit very well with Benedict's cited Burmese form tshu^{A}, corresponding to Ancient Chinese t'ṣiwo^{B}. Perhaps the nearest is ∫u^{1}ɓu^{1} *'to roast'*, which has Tone A in both syllables. There is complete agreement here between my Tone A and Benedict's.

5.1.3 Benedict's TK tone *B = Chinese tone A (p. 29)

	TB	K	W. Bwe	
'ginger'		*eŋ^{B}	[θĕ] ʔe^{1}	A
'cold'			co^{2}	B
'carry on shoulder'	(Bur. tham^{B})		ʔya^{2} (?)	B
'salt'	(Bur. tsha^{B})		[ɪ^{2}]θɛ^{2}	B
'old woman'			mu^{2}bwe^{2}	A
'house'	*kyim^{A} ∿ *kyum^{A}	*hyi[m]^{B}	hi^{2}	B
'neck'	*liŋ		[gɔ^{3}]	(B)
'hawk, kite'			[le^{3}]	(B)
'near'	*ney ∿ *nay		[ɓu^{2}chɪ^{2}]	(B)

There is disagreement here over *'ginger'*, which, with a presumed θ- prefix, is tone A in W. Bwe. If mu^{2}bwe^{2} *'old woman'* is correctly identified, this also is Tone A rather than B. It is interesting, in view of Benedict's comments at the bottom of p. 29, to note that the Tone B form mu^{3}bwe^{3} in Western Bwe means *'parents-in-law'*.

5.1.4 Benedict (p. 30) (Words not listed elsewhere)

	TB	K	W. Bwe	
'rat'	*(ś-)yəw	*yü^{B}	yu^{3}	B
'pain'	(Bur. na^{A})		ni^{2}na^{2} (=*be seriously hurt, to suffer severely*)	B
'smoke'	*kəw	*khu^{B}	khu^{2}	B
'elder sibling'	*kəw^{A}		[wɛ^{1}] ?	(A)

5.1.5 Benedict (p. 31) Reflexes of ST Tone *A ∿ TB *A ∿ Karen A

	TB	K	W. Bwe	
'call, cry out'	*gaw *kaw		ha^{2} (?) (cp. hɔ^{1} *'to scold'*)	B (A)
'body'	*guŋ		co^{1} (?) (=*corpse*)	A
'body'	*(s)kəw		[hɪ^{2}]klɛ^{1}	A
'red'	*(s/)kyeŋ		[lɪ^{2}]gɔ^{2} (?)	A
'ashamed'			[θa^{1}wa^{3}]	

	TB	K	W. Bwe	
'water'	*təy	*thi	chi^{1} Geba: thi^{1}	A
'hair, feather'	*tsâm *sâm		ʃʊ^{2}	B
'fat, grease'	*tsil		θo^{2}	B
'new, fresh'	*sar		θɛ^{1}	A
'breath, sound'	*səm		θɛ^{2}	B
'heart'			θa^{2}	B
'alive'	*śriŋ		θʊ^{1}[klʊ^{2}]	A
'green'			θʊ^{1}[mʊ^{1}]	A
'white'	*[p]wa·r	*?(b)wa	ɓʊ^{1}[θa^{1}]	A
'bear'	*d/wam	*tham	thɛ^{1}	A
'I, me'	*ŋa	(*ŋə)	yɛ^{2}	A
'silver'	*/d/ŋul		hʊ^{1}	A
'name'	*r/miŋ	*men	mi^{2}	A
'thou'	*naŋ *(na)	*na	nɛ^{2}	A
'boil, fry'			ga^{2}	A
'barking deer'		*(tə)khi	[so^{3}]khi^{1}	A
'span'		*tha	thɛ^{1}	A
'to be sick, to hurt'		*tsha	ʃɛ^{1}	A
'ten'		*tshi	ʃi^{1}	A
'grandfather'		*phu	phu^{1}	A
'older sibling'		*phu	wɛ^{1}	A
'pus'		*phi	mi^{1} Geba: hmi^{1}	A
'husks, chaff'		*phe	phɪ^{1}	A
'village'			[ɗo^{1}]θɔ^{1}wɔ^{1}	A
'buy'			[ʔa^{1}]bwɪ^{2}	A
'sell'			[ʔa^{2}]ʃɛ^{1}	A
'ripe, cooked'		*hmin	mi^{1}	A
'sun'		*ni	[lŭmu^{2}]	A
'day'		*ni	[mu^{2}]	A
			(ni^{2} = classifier of *'days'*)	A
'laugh'		*ni$^{A\sim B}$	yɛ^{3}	B
'smell'		*hnum	nu^{1} Geba: hnu^{1}	A
'nose'		*hna	nɛ^{2} [khĕ^{1}ɗe^{1}]	A
'fathom'			khlɪ^{1}	A
'wind' n.		*(kə)li	[gɣ]li^{2}	A

	TB	K	W. Bwe	
'grandchild'		*li	li^{3}	B
'dog-flea'		*k(h)li	kle^{2}	B
'boat'		*khli	khli^{1}	A
'tongue'		*ble	blɪ^{3}	B
'spirit, ghost'		*(kə)la	[gɛ̌]lɛ^{2}	A
'moon'		*hla	lɛ^{1} Geba: hlɛ^{1}	A
'warm'		*lom	lɛ^{2}	A
'hundred'		*rya	gɛ̌yɛ^{2}	A

There is considerable disagreement here in the forms with "hissing" initials - ʃ, h and θ - in which Tone B is often found where, if I understand Benedict's table alright, Tone A is to be expected. From *'alive'* onwards there is agreement everywhere, except in *'grandchild'*, *'dog-flea'* and *'tongue'*. yɛ^{3} *'to laugh'* (Tone B) presumably derives from the B variant of the reconstructed form.

Note the example of pitch dissimilation in the words for *'buy'* and *'sell'*, ʔa^{1}bwɪ^{2} and ʔa^{2}ʃɛ^{1}, in which we presumably have in each case the same verbal prefix ʔa-, with in the first case high pitch to dissimilate from the mid-pitch of bwɪ^{2} (high-low word-intonation), while in the second case ʔa- is mid pitch, thus forming a low-high intonation pattern with the following high pitch ʃɛ^{1}. This is the regular behaviour of verbs with this particular prefix.

5.1.6 Benedict's ST Tone *B ∿ TB Tone *B ∿ Karen Tone *B (p. 32)

	TB	K	W. Bwe	
'bitter'	*ka	*kha	khɛ^{2}	B
'excrement'	*kləy		ɪ^{2} (?)	B
'to open mouth/door window/door'	*ka *(m)ja *(ga)		khɔ^{2} khɔ^{1}[glɛ^{3}]	B (see note below)
'dog'	*kwəy	*thwi	thwi^{2} ∿ chu^{2}	B
'tiger'	(*k/la)		khɪ^{1}	A
'dumb'	*m/a		[tə]ʔu^{2} (?)	B
'eat'	*əm	*am	a^{2}	B
'jaw'	*gəm		khɛ^{2}	B
			(= *chin, lower jaw*)	B
'bird'	(*tow)	*tho	tho^{2}	B
'youngest child'	*za/doy		θɛ^{1}ɗɛ^{2}	B

	TB	K	W. Bwe	
'wash'	*m/syil		cu^{1} (?)	A
'child'	*tsa *za	*sa	[phʊ^{2}]θɛ^{2}	B
'carry on back'	*bəw	*?bü *phü/n	phu^{2}	B
'ear'	*r/na	*na	nɛ^{2}[ku^{1}]	B
'hear, listen'	*g/na		[ʃɔ^{1}]ne^{2}	B
'soft'	*n[ə]m		jɛ^{2} (?)	A
'tail'	*r/may	*me	[ka^{1}]me^{3} Geba: [ka^{1}]hmi^{2}	B
'female, woman' *'mother'*	*mow	*mo ∿ *mu	[bo^{3}]mu^{1}, mo^{2}	(see below)
			mo^{2}	B
'close (eyes), sleep'	*myel		[ʃɔ^{1}]mi^{1} = *'sleep'*	A
			ɓi^{2} = *'to close (eyes)'*	B
'fork'			kwa^{2}	B
'congeal'			[θă]ga^{3}	B
'body dirt'		*khri	wi^{2} Geba: hwi^{2}	B
'mortar'		*tshom	[ʃi^{1}]ʃo^{2}	B
'urine'		*tshi	ʃi^{2}	B
'flower'			phɔ^{1}	A
'bean'			[ɓɔ^{2}]ɓɛ^{2}	B
'bamboo'		*hwa	hʊ^{2}	B
'tooth'		*swa	θo^{1}[mɛ^{3}]	(see below)
'blood'		*swe	θwi^{2} ∿ θu^{2}	B
'get, obtain'		*ne	ni^{1}	A
'breast'		*nü	nu^{2}	B
'dream'		*maŋ	[ʃɔ^{1}mi^{1}]ma^{2} Geba: hma^{2}	B
'fire'		*hme	mɪ^{2} Geba: hmi^{2}, mi^{2}	B
'road, way, track'		*lam	le^{2}	B
			klɛ$_{2}$	B
'buffalo horn (used as musical instrument)'			gwɛ^{2}	A
			Geba: gwɛ^{3}	B
'arrow'		*bla	blɛ^{2}	A
'bow'		*khli	khli^{2}	B
'snake'		*ru	wi^{2} ∿ Ru^{2} ∿ Ru^{3}	A ∿ B

There is general agreement here, notable exceptions being the words for *'flower'*, *'tiger'*, *'obtain'* and *'sleep'* which have Tone A according to the criteria set out here. Perhaps the true reflex of Benedict's TB

*myel *'close the eyes, sleep'* is not Bwe mi^{1} (Tone A) but ɓi^{2} (Tone B) *'to close (the eyes)'*. cu^{1} *'to wash'*, also Tone A in my reckoning, is perhaps not related to TB *m/syil. The high pitch of the first syllable of khɔ^{1}glɛ^{3} *'door, window'* is not irregular. It is quite clearly the same morpheme as the tonally regular khɔ^{2} *'to open'*, with the raised pitch appropriate to high-low word-intonation. So also with the high pitch of the first syllable of θo^{1}mɛ^{3} *'tooth'*. A similar process of pitch dissimilation within words has raised the pitch of the second syllable of bo^{3}mu^{1} *'female, woman'*; note the expected mid pitch (Tone B here) of the monosyllabic form mo^{2}. In several instances in this set of words Geba forms are useful in determining whether a Blimaw mid pitch syllable with initial nasal or w is to be regarded as a realisation of Tone B rather than Tone A. The aspirated hm in Geba [ka^{1}] hmi^{2} *'tail'* and hma^{2} *'dream'* confirm that the corresponding unaspirated Blimaw forms must represent the low tone alternants of /hm-/ syllables, not the high tone alternants of /m-/ syllables. The same is true of Blimaw wi^{2} *'body dirt'*, the Geba equivalent of which is hwi^{2}. Luce gives Geba variants, both hmi^{2} and mi^{2}, beside Blimaw mɪ^{2} *'fire'*, but the fact that there *is* an aspirated form in Geba, added to Benedict's reconstructed K *hme, seems to justify the allocation of Tone B here also. I have no explanation for the Tone A of jɛ^{2} *'soft'*. The Tone B form demanded by Benedict's analysis would be *jɛ^{3} gwɛ^{2} *'buffalo horn'* and blɛ^{2} *'arrow'* are also Tone A rather than B in Blimaw. However, I recorded a low pitch form in Geba for gwɛ^{3} *'buffalo horn'*. Unfortunately my data does not include the Geba form for *'arrow'*.

5.1.7 Benedict's TK Tone *B = Chinese Tone A (p. 33)

	TB	K	W. Bwe	
'sour'	*sin		ʃɪ^{2}	B
'liver'	*m/sin	*sün	θu^{2} θu^{1} [θa^{2}]	(see below)
'tree, wood'	*siŋ	*sen	θo^{2}	B
'flesh, meat'	*sa		hɪ^{2}	B
'kin, aunt'	*sru		θɛ^{1} = *'kin, to be related to'*	A
			(to^{2} = *'aunt'*?)	(B)
'go, walk'	*wa *s/wa		hɛ^{2}	B
'fish'	*(s/)ŋya	*hn̓a	da^{3}[pho^{3}]	B
'year'	*(s/)niŋ	*hniŋ	ɗe^{2}	B

Almost total agreement with Benedict here. The apparently exceptional Tone A for θɛ^{1} *'kin, to be related to'* is noteworthy. This form

in Bwe may be regarded as a prefix of kinship, or perhaps as a verb expressing kinship. It is found in such sentences as: yə-θɛ^{1} bu^{2}wɛ^{2}lɛ^{3}lɛ^{1}cɛ^{2} *'I am related to him'*; yɛ^{2}lɛ^{1}cɛ^{2}(mɪ^{2} ə-)θɛ^{1}bu^{2}wɛ^{2} *'I and he (are) brothers'*. Compare also -θɛ^{1}ɗɛ^{2} *'youngest child, last child of a family'*, in which the θɛ^{1} may be the "kinship prefix" or perhaps a reflex of θɛ^{2} *'child, offspring'* (as suggested by Benedict's TB *za/doy - see 5.1.6).

6.1 *THE JONES AND HAUDRICOURT HYPOTHESES*

In his paper to the Fourth TB Conference, R.B. Jones added Bwe words (taken from Luce's lists) to his own material from other Karen dialects, and arranged his word lists in sets, associated with his reconstructions of two Proto-Karen (PK) "basic initial types" (aspirate and non-aspirate), two PK tones, "high" (ˊ) and "low" (ˋ),[5] and laryngeal final elements marked ', h, and q. For "open syllables", this gave a total of six sets which he compared with Haudricourt's classification of similar syllables. Haudricourt's solution was based on 3 basic types of initials (voiced, voiceless non-aspirate, and voiceless aspirate), combined with 2 original tones (for non-stopped syllables). In his Bwe examples Jones does not usually mark the pitches, nor does he always indicate when a cognate syllable has a prefix or is "bound", i.e. not found as an independent word in the dialect concerned. Both these factors have a bearing upon one's assessment of the tonal "regularity" or "irregularity" of Bwe forms. I have therefore added pitch marks to the Blimaw forms cited by Jones, and have commented on some points of interest. Page references are to Jones' paper.

6.1.1 Jones' Set I (p. 4)

Jones' PK	Haudricourt's Common Karen
*aspirated initials	*voiced initial
*low tone	*Tone 1
*final element '	

'tongue' blɪ^{3}, *'buy'* bwɪ^{2}, *'pot'* (bo^{1}), *'horn, trumpet'* gwɛ^{2}, *'warm'* lɛ^{2}, *'wind'* li^{2}, *'work, do'* mɛ^{2}, *'dizzy, drunk'* mũ^{2} (Geba: hmu).

Most of these forms are Tone A for me. Exceptions are blɪ^{3} *'tongue'* (Tone B) and mu^{2} *'dizzy, drunk'*, where the aspirated form in Geba also points to interpretation as Tone B. (Note that the nasalisation noted by Jones for this word is not phonologically relevant.)

The Bwe material seems here to fit the Haudricourt solution well, i.e. voiced initial (with one exception) and the higher of the two

possible tones.

Note that the full word for *'pot'* in Blimaw is go^{3}bo^{1} and that for *'wind'* gɣlɨ^{2}. The high pitch of bo^{1}, which Jones finds irregular, is discussed in Section 2.1. The full form of *'buy'* is ʔa^{1}bwɪ^{2}.

6.1.2 Jones' Set II (p. 5)

Jones' PK	Haudricourt's Common Karen
*non-aspirate initial	*voiceless non-aspirate initial
*low tone	*Tone 1
*final element '	

'ginger' -ʔe^{1}, *'drink'* ʔɔ^{1}, *'white'* ɓu^{1}, *'spear'* -ɓa^{1}, *'bury'* ɓu^{1}, *'umbilical cord'* ɗɪ^{1}, *'spread'* ɗɛ^{1}, *'axe'* kʊ^{1}, *'moon'* lɛ^{1}.

Note that ʔe^{1} and ɓa^{1} are second syllables of disyllables: θə̌^{1}ʔe^{1} *'ginger'*, θə̌^{1}ɓa^{1} *'spear'*. All these words are Tone A in my (synchronic) analysis.

6.1.3 Jones' Set III (p. 6)

Jones' PK	Haudricourt's Common Karen
*aspirate initial	*voiceless aspirate initial
*low tone	*Tone 1
*final element h	

'flower' phɔ^{1}, *'water'* chi^{1}, *'sweet'* ʃi^{1}, *'chicken'* ʃɪ^{1}, *'boat'* khli^{1}, *'seed'* khwi^{1}, *'dry'* we^{1} (Geba: hwe), *'new'* θɛ^{1}, *'ripe, cooked'* mi^{1} (Geba: hmi).

All these words agree in tone, and are Tone A in my analysis. Note that phɔ^{1}, which is irregular in Benedict's list in 5.1.6, fits in quite regularly here. There is also agreement everywhere over the aspirated initials (provided one takes Geba as a guide for the Western Bwe material). I have been unable to identify Jones' word mu *'spear trap'* in my material. Possibly this is because a preceding syllable has been omitted (cp. similar omissions in the words for *'pot'*, *'wind'* and *'buy'* in 6.1.1, and *'ginger'* and *'spear'* in 6.1.2), which makes the form difficult to trace unless one happens to remember it.

6.1.4 Jones' Set IV (p. 7)

Jones' PK	Haudricourt's Common Karen
*aspirate initial	*voiced initial
*high tone	*Tone 2
*final element '	

'father' pa^{2}, *'old, mature'* bwɛ^{2}, *'arrow'* blɛ^{2}, *'wash (face)'* bla^{2}, *'ant'* do^{2}, *'hot'* go^{2}, *'rattan'* wɪ^{2}, *'snake'* Ru^{2} ~ wi^{2}, *'sun'* -mu^{2}, *'tail'* (-me^{3}), *'stone'* lo^{2}.

All these words have Tone A except pa^{2} *'father'* (Tone B), and -me^{3}, from ka^{1}me^{3} *'tail'*. The low pitch of the last syllable of ka^{1}me^{3} may be ascribed to word-intonation (see 2.1); nevertheless the Geba cognate form hme indicates that we are here dealing with the realisation of Tone B and initial /hm-/ rather than with the realisation of Tone A and initial /m-/.

Note: the full Blimaw word for *'sun'* is lŭmu^{2}.

Western Bwe agrees in initial with Haudricourt, except in the word pa^{2} *'father'*, which seems to be irregular in this set. Tonally, however, the words in this set have (with the 2 exceptions mentioned) the *higher* of the two tonal possibilities - and this usually corresponds with Haudricourt's Tone 1. In this respect W. Bwe fits Jones' tonal solution for this set of words better than Haudricourt's.

Note that blɛ^{2} *'arrow'*, which was an exception in 5.1.6 is here quite regular.

6.1.5 Jones' Set V (p. 8)

Jones' PK	Haudricourt's Common Karen
*non-aspirate initial	*voiceless non-aspirate initial
*low tone	*Tone 2
*final element h	

'many' ʔɛ^{1}, *'blow'* ʔu^{2}, *'rice, paddy'* ɓu^{2}, *'turbid'* ɗu^{2}, *'flea'* kle^{2}, *'hand'* cu^{2}, *'breath'* θɛ^{2}, *'fat'* θo^{2}.

All these words are Tone B except the first, and are thus in agreement with both Jones and Haudricourt. The seemingly irregular high pitch of ʔɛ^{1} *'many'* is ascribable to the fact that this is a bound form, occurring in the disyllabic word ʔɔ^{2}ʔɛ^{1} *'to be many'*. Note that the words θɛ^{2} *'breath'* and θo^{2} *'fat'*, which appear irregular in Benedict's list at 5.1.5, are regular members of this set.

6.1.6 Jones' Set VA (p. 9)

	Jones' PK	Haudricourt's Common Karen
	*aspirate initial	*voiceless aspirate initial
?	low tone[6]	*Tone 2
?	final element h	

'child' -pho^{2}, *'sow'* phwi^{2}, *'bone'* khwi^{2}, *'right (hand)'* thwɛ^{2} (full form dəthwɛ^{2}), *'pungent'* hɛ^{2}, *'tooth, tusk'* (mɛ^{3}) in θo^{1}mɛ^{3}. (I cannot

trace in my material the words cited by Jones for *'orphan'* and *'insect'*.)

All these words seem to be regularly Tone B, even the mɛ^{3} of θo^{1}mɛ^{3}, which Jones marks as irregular. Any irregularity in this form seems to lie in the nasal initial rather than in the tone, since all other initials are aspirates. Apart from this last word, the Bwe material accords well with both solutions.

6.1.7 Jones' Set VI (p. 10)

Jones' PK	Haudricourt's Common Karen
*aspirate initial	*voiceless aspirate initial
*high tone	*Tone 2
*final q	

'spherical' phlo^{2}, *'swing, rock'* thwa^{2}, *'sour'* ʃɪ^{2}, *'bitter'* khɛ^{2}, *'body dirt'* wi^{2} Geba hwi^{2}, *'star'* ʃɛ^{2}, *'bow'* khli^{2}, *'flesh'* hɪ^{2}, *'leaf'* lɛ^{2} Geba hlɛ^{2}, *'nail, claw'* mi^{2} (full form θɪ̆mi^{2}) Geba mi^{2}, *'bamboo'* hʊ^{2}.

All aspirate initials (except [θɪ̆]mi^{2} *'nail, claw'*, Geba mi^{2}, not hmi^{2}, apparently); all Tone B. This is in complete agreement with Haudricourt, but differs tonally from Jones.

6.1.8 Jones' Set VIA (p. 11)

Jones' PK	Haudricourt's Common Karen
*non-aspirate initial	*voiceless non-aspirate
*high tone	*Tone 2
*final q	

'be, have' ʔɔ^{2}, *'eat'* ʔa^{2}, *'dung'* ʔɪ^{2}, *'delicious'* ʔwi ∿ ʔu^{2}, *'crooked'* ke^{2}, *'grain basket'* pu^{2}, *'left hand'* cɪ^{2} (full form təcɪ^{2}), *'liver'* θu^{2}, θu^{1}θa^{2}, *'exact'* ɓɛ^{2}, *'egg'* ɗi^{2}.

All the above agree with Haudricourt in having non-aspirate initials (though not always voiceless, e.g. ɓ-), and low tone. They agree with Jones in initial, but not in tone. (Note the raised pitch of θu^{2} *'liver'*, in the disyllabic form θu^{1}θa^{2}, which would be misleading if cited on its own.)

7. Jones notes that Haudricourt classes Set VIA with Set V, and Set VA with Set VI, "without comment on the differences of tonal correspondences". For Haudricourt, Sets V, VA, VI and VIA all have Tone 2; for Jones V and VA have low tone, VI and VIA have high tone. As will be

seen above, my synchronic interpretation of the Western Bwe material appears to support Haudricourt, all these sets having Tone B. Jones, of course, is drawing upon a far wider range of dialects than was accessible to either Haudricourt or myself and therefore has the far more difficult problem of trying to produce a solution which will as far as possible reconcile the differences, tonal and otherwise, between them. Not surprisingly, therefore, his solution is more complicated than Haudricourt's. The satisfying neatness of the latter, however, leads me to hope that further exploration of the factors that may systematically influence the pitch realisations of underlying lexical tones may enable scholars to iron out what at present seem to be tonal anomalies or irregularities in some of the other Karen dialects, and between Karen as a whole and its Sino-Tibetan relations.

NOTES

1. But note doubts expressed on p. 3 of Jones 1971.

2. Misprinted as me^3 in Jones 1971.

3. Compare Geba gŏ^{2}bo^2 *'pot'*. Geba does not appear to have Blimaw's preference for pitch dissimilation.

4. Jones occasionally marks nasalisation in the Blimaw forms taken from Luce's material. Such nasalisation is, however, a matter of phonetic detail, occurring after nasal consonants. Nasalisation in Bwe is not phonologically distinctive.

5. Since elsewhere in *Karen Linguistic Studies* Jones uses ' to indicate high tone and ` to indicate low tone, I have assumed he means this convention to apply also to Proto-Karen, though I do not recall that he ever explicitly says so. If he merely means to differentiate 2 Proto-tones without prejudging their nature in any way, this would cast rather different light upon certain cases where Jones' "high" corresponds to my "low" (B) and vice versa.

6. I am not clear from Jones' notation which tone and final element he proposes for this set.

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