

# TIBETO-BURMAN TONES WITH A NOTE ON TELEO-RECONSTRUCTION<sup>1</sup>

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The history of studies on the tones of Tibeto-Burman (TB) and its parent proto-language, Sino-Tibetan (ST), is a rather curious one as regards the sequence of events. In 1938 Shafer (1938) presented evidence for a correlation of the tones of Phunoi and Akha (Southern Lolo) with those of Burmese, thus supplying a properly localized beginning for our history. Somewhat later (1940-41) the writer was able to establish tonal correlations for Burmese and several other Burmese-Lolo (BL) languages (Lahu, Lisu, Ahi Lolo, Lolopho, Nyi Lolo) (Benedict, 1972) and, more recently, the proto-BL tonal system has been reconstructed in some detail by Nisida (1964), Burling (1967) and Matisoff (1970). This development has been along standard lines, from the smaller unit (Phunoi/Akha) to the larger (BL), and one might anticipate that the present stage would be one of attempting to reconstruct a proto-TB tonal system (or establishing the lack of one), to be compared with the tones of Karen, the other member of the Tibeto-Karen (TK) division of ST, with the goal of an ultimate comparison with the tones of Chinese, thus establishing a tonal system (or the lack of one) for proto-ST itself. This has not been the case, however, simply because the writer also early (1940-41) discovered that the Karen tones show a precise correlation with the BL system, but with splitting of the two basic (\*A, \*B) tones (Benedict, *cit. op.*). Shortly thereafter Haudricourt (1942-45) showed that the splitting was secondary to an earlier contrast

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between voiceless and voiced initials, as in Chinese. In any event the tonal phenomena could scarcely be explained in terms of borrowing or areal factors in view of the absence of splitting in the BL system, hence it appeared that conclusive evidence was already at hand, in the early 1940's, for setting up a two-tone system at the proto-TK level.

Our history of tonal studies entered upon a new phase later in the same decade when the writer (Benedict, 1948) reviewed the tonal systems in Southeast Asia. By this time material on the two-tone system of Trung, a language of the Nungish group, the closest of all other TB languages to the BL group, had become available (C. P. Lo, 1945), and this system also showed a high degree of correlation with the TK system as previously established. It was now time to explore the possibility of a basic correlation with the Chinese tonal system, especially since one of the three Chinese tones (*ch'ü*) was considered to be of relatively late origin. A careful analysis of the two systems (TK and Chinese) failed to reveal any satisfactory schema of correlation at the proto-ST level and this failure was duly recorded (Benedict, 1948). Recently, however, the writer made one further effort and was rewarded this time by the uncovering of an apparently significant correlation of TK tone \*A with Chinese *p'ing* tone, TK tone \*B with Chinese *shang* tone, the main group of exceptional forms showing a systematic \*B > \*A shift after sibilant initial/prefix (Benedict, 1972bis). It also appears that the third Chinese (*ch'ü*) tone, interpreted by Haudricourt (1954) as the product of an earlier suffixed \*/s, had in fact been developed from either of the two basic tones as a sandhi tone. Whatever may be the case as regards the *ch'ü* tone, the critical fact remains that a two-tone system (or its equivalent) must be set up at the proto-ST level. Egerod (1970) has emphasized the glottal friction of the *shang* tone in many Chinese dialects, with the suggestion that glottality antedated tonality. Glottalization of one kind or another is also a prominent feature of the corresponding (\*B) tone in most Thai languages as well as in Vietnamese (Benedict, 1948), but it must be noted that both the Thai and Vietnamese tonal systems appear to have been derived directly from the Chinese system through areal diffusion (Benedict, 1974, *Introduction*). There is further evidence

for glottality in association with TK tone \*B in certain Karen speeches, including both Sgaw and Pwo (Benedict, 1972bis, table on p. 25), but Karen also shows the imprint of the same diffusion process, with an additional, specific feature (the mid-high, pre-glottalized initial, series) shared with Thai (Haudricourt, op. cit.). Within TB itself, however, lying generally outside the boundaries of the above areal phenomenon, neither the Nungish nor the BL tonal systems show anything of this kind; rather, Lisu has glottalization in association with BL tone \*1 = \*A (Benedict, 1972bis, table on p. 25) while Burmese has a "third tone" = "creaky tone", actually a suprasegmental glottal accent (Benedict, 1948), apparently of secondary origin (Benedict, 1972), contrasting with both basic tones \*A and \*B. The TB data (see above cited table) do, however, show an association of low pitch with tone \*A, high pitch with tone \*B, paralleling a similar distinction between the corresponding tones of Chinese: *p'ing* (long, level, low: ave. height 2.53) and *shang* (short, level, high: ave. height 3.25) (Cheng, 1972). On the whole, then, the evidence appears to favor the reconstruction of a low (tone \*A) vs. high (tone \*B) contrast at the proto-ST level rather than plain vs. glottal or the like, the glottalization which appeared later in Chinese (> Karen) arising secondarily, perhaps through the association of high pitch with stress; note that throughout ST in general the vocalism remains unaffected by the suprasegmental contrast (same vowels in minimal tone \*A and \*B pairs), as might be anticipated in a tonal but not a plain/glottal contrast; the development of a third, sandhi tone in Chinese (see above) also speaks in favor of the tonal reconstruction.<sup>2</sup> Inasmuch as the proto-ST language was exclusively monosyllabic, one is tempted to speculate that the two-tone system arose through the reduction of an earlier monosyllabic/disyllabic pre-ST language pattern, as follows: monosyllable → tone \*A (low); disyllable (end-stress) → tone \*B (high) with the further possibility of glottalization through apheresis, as in Thai and elsewhere; cf. proto-Thai \**ʔbja* "(fish) poison", from

<sup>2</sup> An identical two-tone, low vs. high, system has been set up for Ur-Bantu but Stevick ("Tone in Bantu", *IJAL* 35: 330-341, 1969) strangely argues for a one-tone (l) system as a result of his inability to solve the problem of tone reversal (the "flip-flop" of Sino-Tibetanists).

\*(tə)ba < proto-Austro-Thai (AT) \*(n)tu(m)ba; Mon ʔbau "sugar-cane", from \*(to)bo[s], an early loan from proto-AT \*(n)lobos (Benedict, 1974).

The above affords an excellent illustration of 'teleo-reconstruction', i.e. reconstruction based on relatively isolated correspondences at a distance, without the step-by-step reconstruction of one or more intervening links. In the present case, we have reconstructed at the proto-ST level before achieving a reconstruction at the much later proto-TB level: Burmese [= proto-TB] = Karen = proto-TK = Chinese = proto-ST. As in all studies involving reconstructions, we make an inference to the effect that all other possibilities are less likely than the indicated one; here we exclude as unlikely the possibility that proto-TK/proto-ST had a distinct tonal system (or the equivalent) that independently, through parallel development, produced basically identical two-tone systems in Chinese as well as in Burmese and Karen, e.g. the possibility of a proto-ST three-tone system that, through merging of two of the tones, gave rise to the above two-tone systems, with precisely the same tonal mergers throughout, as shown by the basic tonal correspondences in the ST roots. The uncritical use of teleo-reconstruction, as in the direct comparison of Tibetan and Chinese by W. Simon (1929), can lead to linguistic disaster but the sophisticated employment of this technique as a kind of 'probing' of possibilities can be highly productive, as witness the recent comparison of Mon and Khmer vowels by H. Shorto (1973), which supplies a foundation for setting up the proto-Mon-Khmer vocalic system. Our present instance involving tonal reconstruction is distinctive, however, in affording a 'pre-mature' but firm reconstruction of some feature (tones) of the ultimate proto-language (proto-ST).

Finally, if the above argument is sound, we are left with the task of trying to confirm the indicated reconstruction of a two-tone system for proto-TB. As noted earlier (Benedict, 1972bis), Nungish (the most closely related group to BL) presents somewhat conflicting data: Trung has a two-tone system correlating with the proto-BL system but both the Mutwang (Morse, 1963, 1965) and Lungmi (Bodman: pers. comm.) dialects of Răwang have three-tone systems, the third tone (relatively rare) apparently related

primarily to tone \*A rather than tone \*B (here and hereafter read: proto-BL/TB/TK tone \*A, tone \*B) but the material is too scanty to permit of detailed study. Pyu, an extinct language which appears to have closest affinities for Nungish, is known to have had a two-tone system (correlating with the two-tone BL system) as early as the 11th century (Benedict, 1972bis) while Taman, lying closest to Kachin, shows evidence of a two-tone system with similar correlation (Benedict, cit. supra). Kachin (Jinghpaw), which also bears some special affinity to BL, has a three-tone system (low, mid, high) which can now, for the first time, be analyzed in detail since the tones have been supplied by Laraw Maran (pers. comm.). The writer (1972bis) noted that the Kachin high tone is correlated with tone \*B but in the tables he excluded forms with only TB cognates. Matisoff (1972) has recently completed an extensive comparative study of Kachin and BL tones, making use of basic material from the *Sino-Tibetan Linguistics* series (Benedict, 1940) and tones supplied by Maran. He confirms the correlation of the Kachin high tone, which he calls a 'less primary' (= less frequent lexically) tone in contrast to the 'more primary' mid and low tones, with tone \*B (twice as many cognate sets than with tone \*A), and also shows that this high tone is associated with voicelessness. The Kachin mid/low tonal split, as presented by Matisoff, shows some correlation with the tone \*A/\*B contrast only in certain types of syllables (with voiceless obstruent, spirant, voiceless resonant or glottal stop initial). It appears that we are far from having a satisfactory picture of the development of the three-tone system in Kachin and it now seems likely that this matter will remain unclear until such time as we shall have achieved solutions to certain other problems of Kachin comparative phonology with implications for tonal development, notably the secondary voicing of certain initials (possibly the result of loss of earlier prefixes; cf. *gwi* "dog", Jili *təkwi*, Răwang *tagi* < TB \**kwəy*).

Going further afield in TB, we are confronted with the complex Kuki-Naga group of languages, probably all tonal in nature but with little satisfactory material available. In an earlier paper (Benedict, 1972bis) the writer pointed out that a four-tone system could be set up for Kuki on the basis of correlations for tones

recorded for Lushei (Burling, 1957), Tiddim (Henderson, 1965) and Siyin (Stern, 1963), also that Kuki tone \*1 shows a correlation with tone \*A, but again in the tables he excluded forms with only TB cognates. He further noted that Angami, in the northern (Naga) division of the group, has been described as having a five-tone system (Burling, 1962), and that two of the tones ("resonant" and "normal") appear to be correlated with Kuki tone \*1 = tone \*A. Löffler (1970) has recently supplied material on additional Kuki languages, viz. Bawm (Lai-Zo, older Banjogi) and Khumi as well as on Mru, a language with marked Kuki-Naga affinities. After commenting *en passant* that Lushei has only two tones (*contra* Burling, who describes four), he describes a two-tone system for Bawm and three-tone systems both for Khumi (based on unpublished material by Nepean) and Mru, then presents a table showing Tiddim-Khumi tonal correlations, with an additional note to the effect that one of the Mru tones (his tone 2) corresponds with Burmese falling tone (< tone \*B). The tonal correlation for the Kuki system can now be set up as follows; note that tone \*2 (based essentially on Lushei tone 2, incorrectly described as "high-rising" in Benedict, 1972bis), is marginal in the system, also that it is possible that Lushei actually has only two tonemes (see the remark by Löffler cited above), so that both Lushei and Bawm perhaps reflect an earlier two-tone Kuki system:

	Kuki *1	Kuki *2	Kuki *3	Kuki *4
Lushei	high	high-falling	low	low-falling
Tiddim	level	[rising ~ falling]	rising	falling
Siyin	low	[high]	rising	rising
Bawm	"flat"	?	"flat"	high
Khumi	"flat"	?	high	low

The striking correlation of Kuki tone \*1 with tone \*A, and Kuki tone \*3 with tone \*B, is demonstrated in the tables below, which indicate also that Kuki tone \*4 as well as Kuki tone \*2 are both marginal to the system as a whole (additional examples included in the tonal tables in Benedict, 1972bis):

Karen \*A = Burmese \*A (unmarked tones) (C = "creaky tone")

	Karen	Burmese	Kuki
boil, fry	—	<i>kay</i>	* <i>kay</i> <sup>1</sup>
barking-deer	*( <i>tə</i> ) <i>khi</i> -	<i>khye</i>	*- <i>khi</i> <sup>1</sup>
all/twenty	—	<i>a/kun</i>	* <i>kul</i> <sup>1</sup>
straight (piece)	—	<i>a/tam</i>	* <i>lam</i> <sup>1</sup>
hot/pain/sick	* <i>tsha</i>	<i>tsha</i>	* <i>tsa</i> <sup>1</sup>
water/spittle	—	<i>re</i>	* <i>ci</i> <sup>1</sup>
uncle/sir	—	<i>a/hray</i>	* <i>tray</i> <sup>1</sup>
grandfather	* <i>phu</i>	<i>a/phui</i> <sup>B</sup>	* <i>pu</i> <sup>1</sup>
husks/chaff	* <i>phe</i>	<i>phwai</i> <sup>B</sup>	* <i>wa · i</i> <sup>1</sup>
village	—	<i>rwa</i>	* <i>khwa</i> <sup>1</sup>
buy/sell	—	<i>wai</i>	* <i>ywar</i> <sup>1</sup>
ripe/cooked	* <i>hmin</i>	<i>hmyaŋ</i> <sup>C</sup>	* <i>min</i> <sup>1</sup>
ill/pain	{ —	<i>na</i>	* <i>na</i> <sup>1</sup>
[be]witch	{ * <i>hna</i>	—	—
sun/day	* <i>ni</i>	<i>ne</i>	* <i>ni</i> <sup>1</sup>
laugh	* <i>ni</i> <sup>A</sup> ~ <sup>B</sup>	—	* <i>nwi</i> <sup>1</sup>
nose	{ * <i>hna</i>	<i>hna</i>	—
	{ —	—	* <i>hna · r</i> <sup>1/4</sup>
smell (intr.)	{ —	<i>nam</i>	* <i>nam</i> <sup>1</sup>
	{ * <i>hnum</i>	—	—
smell (tr.)	{ —	<i>nam</i> <sup>B</sup>	* <i>nam</i> <sup>4</sup>
	{ * <i>hnum</i>	—	—
middle	—	<i>a/lai</i>	* <i>lai</i> <sup>1</sup>
fathom	—	<i>a/lam</i>	* <i>hla(·)</i> <sup>m1</sup>
wind, n.	*( <i>kə</i> ) <i>li</i>	<i>le</i>	* <i>khli</i> <sup>1</sup>
tongue	* <i>ble</i>	—	* <i>lei</i> <sup>1</sup>
spirit/ghost	*( <i>kə</i> ) <i>la</i>	* <i>hla</i> (BL)	* <i>khla</i> <sup>1</sup>
moon	* <i>hla</i>	<i>la</i> <sup>C</sup>	* <i>khla</i> <sup>4</sup>
warm	* <i>lom</i>	<i>lum</i>	* <i>lum</i> <sup>1/3</sup> ~ <sup>4</sup>
battle/quarrel	—	<i>ran</i>	* <i>ra · l</i> <sup>1</sup>
snake	* <i>ru</i> <sup>B</sup>	<i>mrwe</i>	* <i>ru · l</i> <sup>1</sup>

Karen \*B = Burmese \*B (unmarked tones) (C = "creaky tone")

	Karen	Burmese	Kuki
divaricate/fork	—	<i>ka</i>	* <i>ka</i> <sup>3</sup>
congeal	—	<i>khai</i>	* <i>khai</i> <sup>2 ~ 4</sup>
bee	—	<i>kwai</i>	* <i>kwai</i> <sup>1</sup>
smoke	* <i>khu</i>	<i>a/khui</i>	* <i>khu</i> <sup>3 ~ 4</sup>
flower	—	<i>pan</i>	* <i>pa · r</i> <sup>1</sup>
bean	—	<i>pai</i>	* <i>bε</i> <sup>3</sup>
bamboo	* <i>hwa</i>	<i>wa</i>	* <i>rwa</i> <sup>1 ~ 4</sup>
bird	* <i>wa</i>	—	* <i>wa</i> <sup>3</sup>
tooth	* <i>swa</i>	<i>swa</i>	* <i>ha</i> <sup>1</sup>
blood	* <i>swi</i>	<i>swe</i>	* <i>si</i> <sup>3</sup>
get/obtain	* <i>ne</i>	—	* <i>nei</i> <sup>3</sup>
breast/milk	{ * <i>nü</i>	<i>nui</i> <sup>C</sup>	—
	{ —	—	* <i>noi</i> <sup>3</sup>
dream	* <i>may</i>	<i>hmay</i> <sup>A</sup>	* <i>may</i> <sup>3</sup>
fire	* <i>hme</i>	<i>mi</i>	* <i>mei</i> <sup>3/4</sup>
road/way/track	* <i>lam</i>	<i>lam</i>	* <i>lam</i> <sup>3</sup>
buffalo	—	<i>kywai</i>	* <i>lwa · i</i> <sup>1</sup>
mortar	* <i>tshom</i>	<i>tshum</i> <sup>A</sup>	* <i>tsum</i> <sup>3</sup>

Tones have also been recorded for a few TB languages outside the systems already discussed, including Chang Naga (Hutton, 1929), in the Konyak group (closest to Bodo-Garo), and Kadu (Brown, 1920), with closest affinities for Kachin. Tones are lacking in the Bodo-Garo languages on the west, however (R. Burling: pers. comm.), and apparently also in the Himalayish languages, indicating that the basic two-tone pattern of ST was lost as the early ST-speaking peoples moved westward into a non-tonal linguistic area. Central Tibetan and most Tibetan dialects have secondarily developed tonal systems (related to initial voiceless/voiced contrast) while Balti, the archaic westernmost dialect, shows tonal distinctions (in polysyllables only) which Sprigg (1966) relates to stress distinctions. Sprigg further describes pitch distinctions in certain polysyllabic forms in Lepcha, also bearing some relationship to stress. In Nepal, a transitional area, there is a gradation from Newari, which completely lacks tones, to Chepang, which has an "incipient tonal system" (pitch distinctions de-



pendent upon voicing/unvoicing of initial), to Sunwari and the Tamang-Gurung-Thakali (TGTh) group, all showing basically two-tone systems (Hale and Pike, 1970). The available Sunwari material is inadequate for comparative analysis but the TGTh tones, as presented by Pittman and Glover (1970), exhibit a significant correlation with the \*A/\*B system. The TGTh prosody "tense" (written -q) correlates with tone \*A, and prosody "lax" (written -zero) with tone \*B, with allotones dependent upon the initial: original voiceless (\*"tense-tense" and "tense-lax") or voiced ("lax-tense" and "lax-lax"), patterning precisely as in Karen (TGTh provisional reconstructions by the writer; TB cognates in above tables or in Benedict, 1972bis, unless otherwise noted).

#### Tone \*A, voiceless initial

\*hle "tongue"; \*hna "sick"; \*tshi "fat/grease"; \*cham "hair"; \*hla "moon"; \*hmwi "silver"; \*cha "pain", \*pw[e]i "chaff/straw"; \*tshar "new"; also \*-pra "ashes" (Burmese, app. also Karen); \*thug "drink" (BL), but \*-ga "fish", \*syig "wood/firewood" and \*hmwi "body hair" all show tone \*B > \*A shift after original sibilant initial/prefix, as in Chinese (see above).

#### Tone \*A, voiced initial

\*dim "house" (secondary voicing: \*kyim > \*tyim > dim); \*gway "bee" (also perhaps secondarily voiced) correlates with Kuki as opposed to Burmese but \*blu "seed" deviates from Burmese.

#### Tone \*B, voiceless initial

\*kli "feces", \*hmei "fire" and "tail", \*sa "tooth", \*hñem "soft", \*-hli "bow", \*hmya "arrow", \*-ku "smoke" (Gurung has secondary voicing > tone \*A); also sya "flesh/meat" (not shifting to tone \*A despite the sibilant initial) and \*syi "die" (irregular tone \*B for \*A, as in Chinese); also \*hmu "sky" (BL), but \*-prag "fly", n., \*hmin "name" and \*hna "nose" are all irregular (in the last pair perhaps because of the aspiration; cf. the note on tone \*A).

Tone \*B, voiced initial

\**dza* "eat" and "son", \**na* "ear", \*[*g*]*am* "molar"; also \**mi* "man" (Kuki); \**li* "heavy" (BL); \**bri* "write" (BL), but \**rig*- "long" deviates from BL.

In review of the TB evidence for an original two-tone system, it would seem that the point is far from established but the data now available suggest that a reconstruction of this type for the proto-language is not unlikely. The Nepal evidence in particular is encouraging since the language group involved (TGTh) is far removed from Karen and BL, and the tonal splitting which it presents precisely parallels the Karen phenomenon.

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