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A tonal analysis of Gurung, with separate systems for register and contour pitch features¹

R. K. SPRIGG

I. *Introductory: Gurung dialects*

The Gurung language made its *Bulletin* début in 1955 with an article by Burton-Page: 'Two studies in Gurungkura: I. tone; II. rhotacization and retroflexion' (*BSOAS*, 17/1, 1955, 111ff.). Since tone is the subject of one of these studies, it might seem that there would be little point in adding a further study of that same topic, important though it is; but a different dialect can lead to a considerable difference in the appearance of Gurung phonology as a whole, and so, too, can a difference in technique of analysis. As Burton-Page himself writes: 'it should be mentioned that the material presented here is relevant only to the Ghandrung dialect, which of the four or five major Gurungkura dialects is accorded the greatest prestige-value by the Gurungs themselves'; his informant was G./Lieut. Ganesh Gurung, M.C., 1/2nd K. E. O. Goorkha Rifles (Burton-Page, 1955: 111).²

My own Gurung material I collected in Pokhara, central Nepal, during the monsoon months of 1965. My informant, Manshira Gurungni, was a member of the domestic staff of the Shining Hospital in Pokhara; but her birthplace was the village of Thak (or Thonsu), about a full day's fast walk north east of Pokhara, from which Siklis, one of the largest Gurung villages, is a further full day's walk to the north (cf. Gurung, 1980: 150–89, and especially the two maps '8. Pokhara' and '9. Lamjung'). Manshira Gurungni had moved to Mohariya, to the south of Ghandrung (or Ghandruk), two or three days' walk west of Pokhara, on marriage, before settling in Pokhara; she was aware of dialect differences between her birthplace and Ghandrung, to the west, and Lamjung, to the east.³

II. *Burton-Page's analysis: a single two-term system*

The most notable feature of Burton-Page's account of tone in the Ghandrung dialect of Gurung is that, unlike my analysis of Mansira Gurungni's Gurung, he finds a single two-term system to be appropriate; the distinctions in pitch pattern that he has stated as phonetic exponents of each of the terms of this system, tone 1 and tone 2, are five in number according as the word that they characterize is (i) a monosyllable uttered in isolation, (ii) a monosyllable

¹ The enlarged version of a paper with the same title contributed to the 17th International Conference of the Linguistic Society of Nepal, Kathmandu, 1995.

² It is estimated that 37,877 Magars were enlisted in the Indian Army during the World War II along with 18,725 Gurungs' (Gurung, 1980: 193–4); indeed it was the Magars and Gurungs that Professor R.L. Turner, M.C., sometime Adjutant of the 2nd Battalion 3rd Q.A.O. Gurkha Rifles (and, as Sir Ralph Turner, Director of the School of Oriental and African Studies, 1937–57), no doubt had in mind when he ended the preface to his Nepali–English dictionary with the words 'bravest of the brave, most generous of the generous, never had country more faithful friends than you' (Turner, 1931/1980: ix); for the 3rd Gurkha Rifles was recruited solely from Magars and Gurungs. Three Gurungs won the Victoria Cross in Burma in 1943 and 1945 (Tuker, 1957: 299–300).

³ cf. Glover, Glover, and Gurung, 1977: 'Study of Gurung dialects (W. Glover and Landon, n.d.) reveals at least three major geographical dialects of Gurung—East, West, and South—with continuous variation within dialects. Ghachok falls within the West Gurung dialect' (p. v).

The number of Gurung-speakers in Nepal according to the 1981 census is given as 174,464, which is 1.1% of a total population of 15,022,839 (Subba, 1983: 2); for 1961 the number of Gurung-speakers in Darjeeling District of West Bengal, India, was 15,500 (2.5%) (Hutt, 1988: 26).

uttered with list intonation, comprising alternative patterns according as the tempo of the sentence is slow ('sS') or fast ('fS'), (iii) a monosyllable occurring finally in a list, again with slow-tempo and fast-tempo alternatives, (iv) a disyllable uttered in isolation, or (v) a disyllable with list intonation (pp. 113-16; see fig. 1).

	i	ii	iii	iv	v
tone 1:	seven	seven	ten	seventy, comes	seventy
	ni	ni	cu	nicu, khamu	nicu
	[N]	[N]	[N, [-]	[N]	[N]
tone 2:	[^]	[^], [v], [l]	[^], [-]	[^]	[^]
	'ni	'ni	'tru	'nicu, 'yamu	'nicu
	two	two	six ⁴	twenty, goes	twenty

FIG. 1

As well as the pitch features stated above there are other kinds of phonetic exponent of tones 1 and 2 such as phonation features ('clear' versus 'breathy'), word-initial features (tenseness and voicelessness of plosives and affricates, which may be aspirated, versus laxness and potential voice), duration features (short versus medium or long), and word-final features (glottal stop versus vowel), some of which apply only to monosyllabic words uttered as one-word sentences in fast tempo (pp. 112-15).

Burton-Page has assigned to monosyllabic lexical items ('morphemes' in his usage) a tonal category according as they occur in a monosyllabic tone-1 word or a monosyllabic tone-2 word; e.g. (tone-1) **kyw** 'water', **ni** 'seven'; (tone-2) **'kyu** 'sheep', **'ni** 'two', the latter category being symbolized by a grave accent preceding its initial letter; but he regards these classifications as 'irrelevant' when these lexical items occur in the second place in disyllabic words, such as (tone-1) **nicu** 'seventy', **cu'ni** 'seventeen', and **cu'ni** 'twelve', and (tone-2) **'nicu** 'twenty'. All such lexical items (or morphemes) he classifies as 'tonally neutral' when they occur in this position in the word, the lexical item **'ni**, for example, of the tone-1 word **cu'ni** 'twelve', and the lexical item **cu** of the tone-2 word **'nicu** 'twenty'.

My own solution to this problem of reconciling the tonal classification of word units with the tonal classification of their component lexical items is to avoid such a concept as 'neutral' in favour of the concept of distribution: the distribution of lexical items such as **ni** 'seven' and **cu** 'ten', members of the class of tone-1-word lexical items, and lexical items such as **'ni** 'two' and **'pra** 'hundred', members of the class of tone-2-word lexical items, in relation to tone-1 words and tone-2 words, both monosyllabic and disyllabic; for example, see fig. 2: (i. tone-1-word; ii. tone-2-word).

lexical item	tone-1			tone-2		
	mono.	disyll.	disyll.	mono.	disyll.	disyll.
i.	ni	1st ni-cu	2nd cu-ni	-	1st 'ni-cu	2nd 'ni-cu
ii.	-	-	cu-'ni	'ni	'ni-cu	['ni-'pra]⁵

FIG. 2

i.	seven,	seventy,	seventeen,	- ,	- ,	twenty
ii.	- ,	- ,	twelve ,	two,	twenty,	two hundred

Burton-Page's grave accent can be interpreted, in the light of this table, as a distribution symbol whereby a lexical item marked in this way can be said

⁴ The list-final word **'pra** 'hundred', however, is shown as having a different pitch from the two list-final pitches shown here for **'tru** 'six': fall in pitch; consequently, it overlaps the pitch shown for the sS alternative of the tone-1 word **cu** 'ten' above (iii).

⁵ The form **'pra** appears in Burton-Page's text for 'hundred' (p. 115), but 'two hundred' does not; so **'ni'pra** here is a guess on my part; Manshiri Gurungni's pronunciation of this disyllabic tone-2 word was [njɪbra] or, in fast tempo, [giɪbra].

to occur, firstly, in a tone-2 monosyllabic word, secondly, in either the first or the second place of a tone-2 disyllabic word, and, thirdly, in the second place of a *tone-1* disyllabic word; absence of accent, on the other hand, can be understood to mean that the lexical item distinguished by this absence of symbol can occur, firstly, in tone-1 monosyllabic words, secondly, in either place in tone-1 disyllabic words, and, thirdly, in the second place of *tone-2* disyllabic words (cf. also Sprigg, 1981, 58).

III. *A tonal analysis of Tamang for comparison: two two-term systems, register and contour*

The model for my tonal analysis of Gurung is a recent analysis of a closely related language, Tamang (Sprigg 1990). I introduced that Tamang analysis by comparing it with an earlier analysis of the same dialect, spoken in Rishingo (or Risiangku), east-central Nepal, by Mazaudon, in which she distinguished four tones, numbered from 1 to 4; e.g.

¹ si	² khru	³ so	⁴ ɬup
mourir	laver	préparer	coudre

(Mazaudon, 1973: 154, 160, 100, 105).

My analysis had, in one of its earlier stages, corresponded exactly to this analysis of Mazaudon's; e.g. (my examples, fig. 3, are disyllabic words comprising a verb and the past-tense suffix -ji)

[˩˩]/[˩˩]	[˩˩]/[˩˩]	[˩˩]/[˩˩]	[˩˩]/[˩˩]
tone 1	tone 2	tone 3	tone 4
shi-ji	khru-ji	so-ji	drup-ji
died	washed	prepared	sewed

FIG. 3

(the second of the alternative pitch patterns is appropriate to continuative clause intonation) (Sprigg, 1990, 36); but, later in that article, I discarded that analysis in favour of an analysis that separates the register pitch features and the contour pitch features. This later analysis recognizes a two-term tone system, comprising tones 1 and 2, for the register distinctive pitches, and another two-term tone system, comprising tones A and B, for the contour distinctive pitches. The phonetic exponent of tone 1 is high pitch at the beginning of the word, while low pitch at the beginning of the word is a phonetic exponent of tone 2. A phonetic exponent of tone A is falling pitch for the first syllable of the word (with a low rise in pitch before the fall for tone-A words that are also tone-2), and a level pitch for the first syllable of the word for tone B (fig. 4).

register tone:	[˩˩]/[˩˩]	[˩˩]/[˩˩]	[˩˩]/[˩˩]	[˩˩]/[˩˩]
contour tone:	1	2	A	B
examples:	shi-ji	khru-ji	so-ji	drup-ji

FIG. 4

IV. *Gurung tonal analysis: two two-term systems, register and contour* A. *Register difference and contour difference*

Burton-Page had described the Gurung of Ghandrung, as spoken by G/Lieut. Ganesh Gurung, M.C., as having a single tone system comprising two terms (II); but to the speech of Manshiri Gurungni, of Thak (or Thonsu), towards the centre of the Gurung-speaking area, I found that I could apply the same tonal analysis as for Tamang at (III) above: two tone systems, each comprising

two terms, register tones 1 and 2 and contour tones A and B; but the phonetic exponents of the Gurung tones A and B are by no means the same as those of the corresponding Tamang tones (fig. 5).

register tone:	[ˀ]/[ˀˀ]	[ˀ]/[M]	[ˀ]/[ˀˀ]	[ˀˀ]/[ˀˀ]
contour tone:	A	B	A	B
examples:	i. shi-la	khru-la	pri-la	yo-la
	ii. see-la	raa-la	cii-la	yaa-la
	iii. pī-la	na-la	tā-la	byō-la
	iv. tsa-la	she-la	ko-la	dō-la

FIG. 5

glosses:

i. had died	had washed	had written	had stolen
ii. had killed	had stood	had bitten	had gone
iii. had given	had hurt	had chosen	had thrown
iv. had eaten	had known	had understood	had beaten.

Like Burton-Page (II) I have taken the word to be the most suitable unit for stating tone in Gurung, not the syllable, the lexical item, or the morpheme. In tonal analyses based on the word unit it follows that individual lexical items such as shi(-), the first component of the verb-and-suffix word shi-la ‘had died’, at (i) in the left-hand column of figure 5, and see(-), pī(-), and tsa(-) at (ii), (iii), and (iv) in that column can be classified as tone-1-word lexical items, and also as tone-A-word lexical items, through their relationship with the tone-1-and-tone-A words shi-la, see-la, and other such examples of this tonal type of word; and corresponding classifications can be made for the three types of verb lexical item shown in the second, third, and fourth columns of that figure, as, respectively, tone-1-and-tone-B, tone-2-and-tone-A, and tone-2-and-tone-B lexical items.

Distinctive classifications such as those which have just been made for verb lexical items cannot be made for -la, the past-perfect suffix: this suffix lexical item occurs in words of all four tone combinations, 1-and-A, 1-and-B, 2-and-A, and 2-and-B; so giving it the tone classification tone-1/2-and-A/B, though legitimate, would be of little use; but the variety of pitches appropriate to -la, at least four in number, can be classified according to the tones of the word in which they occur:

word tone:	1-and-A	1-and-B	2-and-A	2-and-B
pitches:	high	low	low/high	low/high
	level/falling	level/rising	level	level

Unlike this suffix lexical item, -la, the verb lexical items that occupy the first-component place in the word in the examples in fig. 5 above are limited, for their share in the pitch features of the word as a whole, to whatever pitch or pitches are appropriate to the first-syllable place of a word of the appropriate register tone and contour tone:

word tone:	1-and-A	1-and-B	2-and-A	2-and-B
pitches:	high	high	low	low
	level	falling	falling/level	rising-falling/level
examples:	shi-	khru-	pri-	byō-

B. Pitch difference and phonation difference

Between the Burton-Page analysis, of 1955, and my own analysis, of 1995, there comes a rather different analysis, by W. W. Glover (1970), though it agrees with them in being based on a word unit, ‘the foot, or phonological word’. Glover’s analysis parallels my own division of tone into two tonal

systems; but, where my own analysis distinguishes register pitch differences from contour pitch differences, Glover's analysis distinguishes 'contrasts for pitch accent and contrasts for breathiness' (p. 52). That is to say, Glover (1970) uses the term 'tone' to cover both a pitch-difference sub-system and a phonation-difference sub-system: pitch accent versus no pitch accent and breathiness versus no breathiness: 'These distinctions lead to four types for monosyllabic words, six types for disyllabic words, and eight for trisyllabic words' (Glover, 1970: 59); e.g. (limited to disyllabic feet comprising verb and suffix, so that they should be comparable with my examples *shi-la*, etc. in fig. 5).

syllable:	1st	2nd	1st	2nd	1st	2nd	1st	2nd
pitch:	mid	mid	high	mid	low	low	low	mid
phonation:	clear	—	clear	—	breathy	—	breathy	—
example:	/pība/		/syéba/		/cyi ^h ba/		/cyi ^h bá/	
symbols:	none		accent		h		h, accent	
gloss:	to give		to know		to bite		to remember	

FIG. 6

(Glover, 1970: 64, 64, 72, 72).

The main difference between Glover's analysis and my own as regards fig. 6 is that he has incorporated a phonation difference, clear versus breathy, into his tonal analysis; this phonation difference applies only to the first syllable (verb lexical item), except in words containing the negative prefix (Glover, 1970: 63–4). I, on the other hand, have concentrated on associating the pitch features of the first syllable (verb lexical item) with the pitch features of the second syllable (suffix lexical item) in a single pitch pattern for the word unit as a whole, leaving the phonation difference that can be seen in the examples in fig. 6, clear versus breathy, to be treated as a syllable feature: the initial syllable (verb lexical item) of tone-1 words is clear; the initial syllable of tone-2 words is 'breathy', the so-called 'breathiness' being due, possibly, to arytenoid glottal friction (but, against this, cf. Hinton, 1970, especially 78–80).

In a later work, *Gurung–Nepali–English dictionary* (Glover, Glover, and Gurung, 1977), representing primarily the dialect of Ghachok, in the West-Gurung dialect area, Glover and his co-authors seem to me to have given up 'the foot or phonological word' as the basis of his tone-and-phonation analysis in favour of the morpheme. This difference in analysis can be seen in the way that one of the dictionary entries has been treated, the following verbal-suffix entry:

'-ba, -ba', -baa, -baa' s.v. — — gerund (-baa on voiced stop initial low clear verbs, bobaa; -baa' on other low clear verbs, pībaa'; -ba' on rising breathy verbs, jxoba'; -ba on high clear and low breathy verbs, na'ba, kxoba' (p. 8).

This lexical item *baa/baa'/ba'/ba* has been given a double tonal classification, as both 'intense', in -baa' and -ba', and 'relaxed', in -baa and -ba; this double classification suggests to me that Glover, Glover, and Gurung's analysis cannot be 'foot'-based but must be morpheme-based. By contrast the comparable suffix lexical item that I have used in my examples of word tone in fig. 5, -la, I have left unclassified: it occurs in tone-1 words and tone-2 words equally, and in tone-A words and tone-B words equally, thus rendering a distinctive tonal classification impossible.

C. *Aspiration and tone 1, in Tamang and Gurung*

In Sprigg (1990), I drew attention to the exclusive relationship of aspiration to (register) tone 1 in Tamang (pp. 42–3); the same relationship holds for (register) tone 1 in Gurung too, and is a strong argument in favour of separating a register tone system from a contour tone system; for aspiration has no

relationship with either of the terms of the contour tone system, tone A and tone B; e.g.

i.	tone 1,	tone A:	thee, hear,	khee, put on, thū,	khaa fill khii,	
ii.		tone B:	khru, wash,	khru 'wash', drink,	thung 'drink', tie (round),	khe read

(cf. Tamang: thai 'listen', ?khyap 'wear in the hair', khru 'wash', thung 'drink', khii 'tighten' khyat 'read').

FIG. 7

D. Voice and tone 2, in Tamang and Gurung

In Sprigg (1990), I used the exclusive relationship of voice as a feature of Tamang syllable-initial and word-initial plosives and affricates to (register) tone 2 as an argument in favour of separating a register from a contour tone system: no such exclusive relationship applies to either of the Tamang contour tones A and B. I now wish to use a corresponding relationship between voice and (register) tone 2 in Gurung for the same purpose, with support from examples such as the following:

i.	tone 2,	tone A:	bi, say,	bla, untie,	boo take
ii.		tone B:	dō, beat,	byō, throw,	dzō plant

(cf. Tamang: bi 'tell', bla 'untie', bor 'take' byang 'throw away', dzang 'put in').

FIG. 8

E. Comparison with Tibetan

Finally, I wish to recall that in Sprigg (1990), I was able to compare the Tamang register tone system, comprising tones 1 and 2, with tones 1 and 2 of the Tibetan tone system, in both the Reading Style of Tibetan pronunciation, used in reading and reciting written and printed books, and the spoken dialect of Lhasa (Sprigg, 1990: 40–8). The tonal system of these two forms of Tibetan is also based on a register distinction; so it should not be surprising that it corresponds well with the Gurung register system, tones 1 and 2. No such correspondence applies to the Gurung contour system, tones A and B; so this relationship and non-relationship of Gurung with Tibetan is a further, and Tibeto-Burman, argument in favour of separating register pitch from contour pitch distinctions in Gurung; e.g. (representing the Tibetan verb by its past root)

Gurung:	1, A:	shi	see	thee
Tibetan:	1:	shi	bsad	thos
		die	kill	hear
Gurung:	1, B:	khru	she	thū
Tibetan:	1:	'khru	shes	'thungs
		wash	know	drink
Gurung:	2, A:	pri	tā	ko
Tibetan:	2:	bris	'dams	go
		write	choose	understand
Gurung:	2, B:	ba	dō	byō
Tibetan:	2:	'ba	brdungs	sbyangs
		bring	beat	throw (down), clear away.

FIG. 9

F. Phonetic exponents of the tone systems, Tamang and Gurung

Since the two tone systems, the register system (1,2) and the contour system (A,B), are common to both Tamang and Gurung, one might expect the phonetic

exponents of the two terms in each of these two systems in the two languages to be equally similar; but, while they correspond well for the register system, they are almost completely the reverse of each other as regards the two terms of the contour system, A and B:

register:		tone 1		tone 2	
contour:		tone A	tone B	tone A	tone B
Tamang:		[˩]	[˨]	[˨.]	[˨.]; but
Gurung:		[˨]	[˩]	[˩.]	[˩.]; e.g.
Tamang:		shi-ji	khru-ji	brii-ji	byang-ji
Gurung:		shi-la	khru-la	pri-la	byō-la

FIG. 10

Glosses

T.: died, washed, wrote, threw away

G.: had died, had washed, had written, had thrown.

This rather unexpected reversal in phonetic exponency is paralleled in the correspondences that Mazaudon has given for Tamang and Gurung monosyllables (1978, 165), using Chao Yuen-ren's 'tone letters':

	Tamang	Gurung (Ghachok)
tone 1 (my tone 1 and tone A):	54	33
tone 2 (my tone 1 and tone B):	44	54
tone 3 (my tone 2 and tone A):	33/22	11
tone 4 (my tone 2 and tone B):	211	12

FIG. 11

(cf. also Sprigg, 1990: 51). The higher pitches, in Tamang, of Mazaudon's tones 1 and 3 (54, 33/22), my tone A, correspond to the lower pitches (33, 11) of Gurung; and the lower pitches, in Tamang, of her tones 2 and 4 (44, 211), my tone B, correspond to the higher pitches (54, 12) of Gurung.

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