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\\ SOUTH-EAST ASIAN LINGUISTICS:
Essays in honour of Eugénie J.A. Henderson

Edited by

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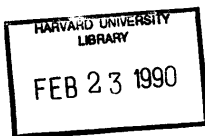
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ORAL VOWELS AND NASALIZED VOWELS IN LEPCHA (RONG):
AS THE KEY TO A PUZZLING VARIATION IN SPELLING

R.K. Sprigg

1. Lepcha and related languages

Lepcha has been classified by Shafer (1955:104-7; see also Henderson 1957, 1963) as belonging 'rather precisely' to the same 'section' as the Lushai (cf. Henderson 1948) and the Tiddim and Teizang Chin languages (*idem*, 1957, 1963, 1965), though not to the same 'branch' of that 'section'; he sub-classified Lepcha as belonging to the Ao 'unit' of the Northern Naga 'branch' of Kukish, with Tengsa Naga as the language most closely related to it (Shafer 1955:106, 109). Earlier L.A. Waddell (1899:42 ff.)¹ had proposed the Arleng (or Mikir) language, spoken in the Garo and Khasia hills, as the most closely related language to Lepcha, and since Shafer classified Mikir as forming a 'branch' of Kukish, Waddell's proposal would still place Lepcha within Shafer's Kukish 'section'; but the list of comparisons of Lepcha with thirteen other languages, including Lushai and Mikir (and four reconstructed languages) by Bodman (1968) shows Lepcha as most closely related to a language, or language group, that Shafer classifies not as Kukish, or even Burmic, but as belonging to the Misingish 'section' of the Bodic 'division', the Adi group of languages, formerly termed Abor-Miri, spoken in the new state of Arunachal Pradesh.

According to these three views, Lepcha, spoken in Sikkim and the Darjeeling District of West Bengal, is a western outlier, separated by three or four hundred miles from the languages to the east to which it is most closely related; and Shafer (1955:109-10) asks:

Were the Rong left behind when the Northern Naga Branch (and perhaps all the Kukish peoples) migrated from the Himalayas to their present location on the Indo-Burmese border, or are the Rong a remnant left behind from a time when the Northern Naga extended clear across the Valley of Assam?

P.K. Benedict (1972:7-8) on the other hand, associates Lepcha with the Magar language, to the west, in west-central Nepal:

Dzorgai (western Szuchuan), Lepcha (Sikkim), and Magari (Nepal) all appear to be closer to Tibetan-Kanauri than to any other nucleus. Lepcha (or Rong) ... might equally

well be regarded as a separate nucleus linking Tibetan-Kanauri with Bahing-Vayu and groups on the south.

Finally, and especially because of Henderson's research interest in Khasi (1967) it should be mentioned that R.A.D. Forrest (1962:333) attempted to classify Lepcha as partly Austro-Asiatic:

... it will be seen that Rong has in common with Austro-asiatic languages as large a proportion of its phonetically identifiable prefixes as those languages have with each other. If there remains any doubt as to the reality of the Austroasiatic provenance of this feature in Rong, the probability of its affinity is corroborated by a plentiful series of lexical correspondences.

He supports this claim with a list of 70 Lepcha lexical items and their proposed Austroasiatic cognates, of which 22 are from Khasi; and the most remarkable of which are:

- (i) 'Water: R. uñ ['*ang* in my romanization], Khasi um, Riang om, Palaung om, Hua Miau au', (ii) 'Dog: R. kã-ju ['*ka-ju* in my romanization], Khasi ksew, Stieng sōu, Biat ého, Riang sho, etc.', (iii) 'Dung: R. ít ['*it* in my romanization], Khasi cit, Khmer ác, Bahnar ik, Stieng ech, Biat ác, etc.' [*ibid.*, 333-4].² 'It is clear that we have in Rong a very mixed form of speech, ... it is much less easy to determine whether the Austroasiatic or the older Tibeto-Burman (or Tibetan?) stratum is the more fundamental.' [*ibid.*, 335].

From these four conflicting attempts at classifying Lepcha, it is clear that its precise classification is still something of a mystery, from which my present phonetic, phonological, and grammatical observations may possibly derive an interest that the number of speakers of Lepcha would not justify: Siiger (1967:33) gives the number of Lepchas in Sikkim and the Darjeeling District of West Bengal as 25,780 according to the 1931 census, of whom about 13,000 were estimated to be in Sikkim, but it does not follow that all 25,780 spoke Lepcha; and in any case, by now, some two generations later, the number of speakers must have declined under the influence of Nepali.³

2. Variation in spelling

I have found it useful to present these observations of mine in the form of an orthographic problem. The late General Mainwaring refers to the pronunciation of the vowel symbol *o* as follows:

Ɱ *o* has the sound of *o* in no, as: ⱮⱮ *amo*, mother, ⱮⱮ *abo* father, Ɱ *go* I &c.

The Lepchas are apt to pronounce this letter as *u*, and hence when writing, to confound it with Ɱ *ú*, this error should be avoided, and corrected in the Lepchas (Mainwaring 1876:9).

In some instances, this 'error' appears to be due to an attempt to assimilate loanwords from Tibetan; e.g. '*yok* 'work' (Tib. *g.yog*) (Mainwaring 1876:95); cf. '*yúk* (Macdonald 1899, in Grierson 1909:244); *thop* 'receive' (Tib. *thob*) (Mainwaring 1876:88); cf. *thúp* 'getting' (Macdonald, *op.cit.*: 242). These variant spellings correspond to differences in pronunciation, e.g. *ʔjok* versus *ʔjuk*, *thop* versus *thúp*, in which the former phonetic form of each pair is an attempt to imitate a Tibetan pronunciation, while the latter is more in keeping with the vowel distinctions of what one might term 'original' Lepcha.

The examples of variation in spelling that I wish to try and account for in this article, however, are not the same as the half-assimilated loanwords such as '*yok*/*yuk* and *thop*/*thúp* cited in the preceding paragraph, for, on the one hand, there is, in their case, no variation in pronunciation parallel to the variation in spelling, and, on the other, the variation results from the important distinction in Lepcha between syllables containing nasalization as a vowel feature (and therefore nasality as an initial-consonant feature) and syllables containing an oral vowel (and therefore only oral syllable-initial consonants), e.g. *ngo* 'fish' (Mainwaring 1876), but *ngú* (Sitling 1929; Tamsang 1981); '*á-mo* 'consonant', 'mother' (Mainwaring 1876; Sitling 1929), but '*á-mú* (Sitling 1970; Tamsang 1981); *fa-ngo* 'five' (Mainwaring 1876; Sitling 1929; Tamsang 1981), but *fa-ngú* (Sitling 1970), with which can be compared *fo* 'bird', *cho* 'book', *óú* '(snow) mountain', *prú* 'Bhutan', for which there is no variation in spelling. It is this distinction that I have taken as the subject of this study; and I have further limited it to open syllables.

3. Open syllables and open/closed-syllable lexical items

The characteristic qualities of the vowel units that need to be phonologically distinguished are (i) for oral vowels:

i:, *e*:, *ɛ*:, *ɜ*:, *ə*:, *a*:/*a*:, *u*:, *o*:, *ɔ*:,⁵

and (ii) for nasalized vowels:

ĩ:, *ẽ*:/*ɛ̃*:, *ɨ̃*:, *ã*:/*ã*:, *ũ*:/*ũ*:, *õ*:

but (iii) for closed syllables they are:

i/I, *e*, *ɛ*, *ɜ*/Y, *ə*:, *a*/a, *u*/u, *o*, *ɔ*/D

(where alternatives are given, the vowel sounds concerned are complementarily distributed in relation to differences in initial

consonant, especially palatal and palatalized versus the other types of initial consonant, and to differences in final consonant, velar versus labial and dental, and liquid versus nasal and plosive), e.g.

	(i)	(ii)	(iii)
i:	<u>li</u> , <u>li</u> ⁶	<u>ɪ:</u> <u>nyɪ</u> , <u>nyɪ</u>	<u>ɪ</u> <u>dɪŋ</u> , <u>dɪŋ</u>
e:	<u>ye</u>	<u>ɛ:</u> <u>nye</u>	<u>e</u> <u>lem</u>
ɛ:	<u>gve</u> , <u>gval/gve</u>	<u>ɤ:</u> <u>mā</u> , <u>ma</u>	<u>ɛ</u> <u>lem</u> , <u>lyam</u>
ɯ:	<u>yu</u>	<u>ɯ:</u> <u>mā</u>	<u>ɯ</u> <u>qum</u>
ə:	<u>yā</u> , <u>ya/yā</u>	<u>ɤ:</u> <u>ngə</u> , <u>ngo</u>	<u>ə:</u> <u>lām</u>
a:	<u>dā</u>	<u>ɔ:</u> <u>nyō</u>	<u>a</u> <u>māt</u>
u:	<u>'u</u>		<u>u</u> <u>sūk</u>
o:	<u>tho</u>		<u>o</u> <u>rok</u>
ɔ:	<u>gō</u>		<u>ɔ</u> <u>nōŋ</u>

- (i) 'speak', 'chew', 'win', 'descend', 'know',
'sleep', 'fry', 'put', 'happy'
- (ii) 'have', 'afterwards', 'call', 'hide',
'stew', 'borrow'
- (iii) 'stand', 'pile up', 'play', 'is', 'fly', 'do',
'make', 'read', 'go'

The vowels i, ɤ, and u are characteristically closed-syllable vowels, though they are shared with the open-syllable type when nasalized.

Open/closed-syllable lexical items

A number of verb lexical items have both open-syllable and closed-syllable forms: (a) the open-syllable forms when

colligated with a particle, apart from the nominalizing particle ('ā-), e.g. bām, syo; and (b) a closed-syllable form (i) when colligated with the auxiliary-verb category, e.g. khū, kōn, or the nominalizing particle ('ā-), or (ii) when in the negative form, in -n, e.g.

- a. li-bam 'am speaking'; dī-syo 'shall come'
- b. i. līn ma-khun 'cannot say'; ryūm kōn 'may it turn out well'
- 'ā-zōm 'food', 'meal'; 'ā-yām 'knowledge', 'knowing'
- ii. ma-zūn 'is not burning' ma-yām 'do not know'.

This type of verb includes a number of lexical items that are in very common use; indeed, having a consonant-final form like those shown at (b.i), -n, -m, -t, can almost be considered as a criterion of 'original' Lepcha status; but the same cannot be said for those at (b.ii), where the final consonant -n of the negative form is shared with lexical items that may well be loans, e.g. gō 'rejoice' (Tib. dga'), mā, ma/mā 'pray' (Tib. smon). The following is a representative set of examples:

	a.	b.i.	b.ii.	a.	b.i.	b.ii.	
<u>bi:</u>	<u>bin</u>	<u>bin</u>	<u>bi</u> , <u>byi</u>	<u>bīn</u> , <u>byīn</u>	<u>bīn</u> , <u>byīn</u>	<u>bīn</u> , <u>byīn</u>	'give'
<u>li:</u>	<u>lim</u>	<u>lin</u>	<u>li</u> , <u>li</u>	<u>līm</u>	<u>līn</u>	<u>līn</u>	'heavy'
<u>di:</u>	<u>dit</u>	<u>din</u>	<u>dī</u> , <u>dī/dī</u>	<u>dīt</u> , <u>d(y)īt</u>	<u>dīn</u>	<u>dīn</u>	'come'
<u>de:</u>	<u>dɛm</u>	<u>dɛ(e)n</u>	<u>dɛ</u>	<u>dɛm</u>	<u>dɛn</u>	<u>dɛn</u>	'soothe'
<u>tɔm:</u>	<u>tɔvm</u>	<u>tɔvn</u>	<u>cu</u>	<u>cum</u>	<u>cun</u>	<u>cun</u>	'small'
<u>bv:</u>	<u>bvn</u>	<u>bvn</u>	<u>bu</u>	<u>bun</u>	<u>bun</u>	<u>bun</u>	'carry'
<u>djm:</u>	<u>djvt</u>	<u>djvn</u>	<u>dju</u>	<u>djut</u>	<u>djun</u>	<u>djun</u>	'fight'
<u>je:</u>	<u>je:m</u>	<u>je:n</u>	<u>yā</u> , <u>ya/yā</u>	<u>yām</u>	<u>yān</u>	<u>yān</u>	'know'
<u>də:</u>	<u>də:</u>	<u>dən</u>	<u>dā</u>	<u>dā</u>	<u>dān</u>	<u>dān</u>	'sleep'
<u>rīu:</u>	<u>rīum</u>	<u>rīun</u>	<u>ryū</u>	<u>ryūm</u>	<u>ryūn</u>	<u>ryūn</u>	'good'
<u>du:</u>	<u>dun</u>	<u>dun</u>	<u>dū</u>	<u>dūn</u>	<u>dūn</u>	<u>dūn</u>	'dig'
<u>zo:</u>	<u>zɔ:m</u>	<u>zɔ:n</u>	<u>zo</u>	<u>zōm</u>	<u>zon</u>	<u>zon</u>	'eat'
<u>bo:</u>	<u>bɔən</u>	<u>bɔən</u>	<u>bo</u>	<u>bōn</u>	<u>bon</u>	<u>bon</u>	'give'
<u>gɔ:</u>	<u>gɔ:</u>	<u>gɔən</u>	<u>gō</u>	<u>gō</u>	<u>gōn</u>	<u>gōn</u>	'rejoice'

A similar variation applies to certain pronouns: they have (i) a vowel-final form, and (ii) a consonant-final form

(objective) in m, e.g.

<u>hu:</u>	<u>hym</u>	<u>həju:</u>	<u>həjum</u>	<u>kədo:</u>	<u>kədom</u>
<i>hu</i>	<i>hum</i>	<i>hu-yú</i>	<i>hu-yúm</i>	<i>ka-do</i>	<i>ka-dom</i>
'he'	'him'	'they'	'them'	'myself'	'to oneself'

Verb and pronoun lexical items such as these can be classed as a sub-category of the open-syllable lexical item, an alternating sub-category: each has a closed-syllable form in addition to its open-syllable form; for verbs a form in -m, -n, or -t (b.i) and in -n (b.ii), and for pronouns a form in -m; closed-syllable lexical items, on the other hand, are invariably closed by a consonant, and do not alternate in this way.

4. The 'oral syllable-initial piece', and oral vowels

From the list of syllable-final oral vowels given in section 3, it appears that nine phonological vowel units need to be distinguished, thus forming a nine-term system, and that the phonetic exponents of each one of them are comprised in a pure vowel sound: i:, e:, ɛ:, u:, ə:, a:/a:, ɔ:, o:, ɔ:. Indeed, Siiger and Rischel (1967:23) state:

i	u	u
e	ə	o
ɛ	a	ɔ

The vowels thus form a symmetric system of 3 x 3.

However, not all of these nine vowels can be treated as functionally comparable; they do not all combine with the same preceding consonant sounds and non-syllabic vowel sounds; so that from this point of view, a syntagmatic point of view, some of them have quite different implications from others as regards the possible set of preceding sounds.

A. i:

The vowel i:, for example, with closeness, frontness and lip-spreading as its features, does not, in my data from K.P. Tamsant (qv., n.4), combine with a syllable-initial non-syllabic front spread vowel (j-) or with the cluster ?j-. In Tamsang (1981), however, I do find examples of yi (his ye), the following three: yi-dám, yi-dó (máng), yi-she (tehâ-thup); but it is significant that none of them is a verb; and, in fact, all three are loanwords, religious terms, from Tibetan: yi-dám, yi-davags, and ye-shes respectively. I do not, therefore, consider these counter-examples powerful enough to upset my

syntagmatic generalization that -i: does not regularly combine with j- (and ?j-) in Lepcha.

B. i:, e:, and ɛ:

On similarly syntagmatic grounds the vowels i:, e:, and ɛ: belong to a different type of syllable-initial 'piece' from the remaining six: these last can combine with syllable-initial tɛ, tsh, and z; but the front vowels i:, e:, and ɛ: do not. Thus, tqi: ci 'beer', zi: ji 'annoy', tqe: ce 'fond of', and ze: je 'twist' occur, and so does zen jen 'bad'; but *tsi:, *zi:, *tse:, *ze:, and *zen do not, and cannot, occur.

In fact, the last of these three vowels, ɛ:, is rare, and almost certainly confined to loanwords from Tibetan, e.g.

<u>the:</u>	<i>the</i>	'come to an end'	?Tib. <i>thal</i>
<u>the:</u>	<i>the</i>	'excessive', 'anxious'	?Tib. <i>'theb</i>
<u>de:</u>	<i>de</i>	'destroy'	?Tib. <i>'debs, rdebs</i>
<u>de:kun</u>	<i>de-kung</i>	'daphne'	?Tib. <i>deb</i> 'book'
<u>te:trok</u>	<i>te-cök</i>	'whip'	?Tib. <i>rta-loag</i>
<u>re:</u>	<i>re</i>	'wick'	?Tib. <i>ras</i> 'cotton'
<u>le:</u>	<i>le</i>	'fate'	?Tib. <i>las</i> 'karma'

C. u:, ə:, a:/a:, u:, o:, ɔ:

These six types of vowel occur in the same type of syllable-initial 'piece', i.e. under the same prosodic conditions; hence, they are syntagmatically comparable, and form a six-term phonological vowel system applicable to that type of 'piece'. The term 'back' can usefully be applied to their type of 'piece', as opposed to the 'front piece', to which the vowels i:, e:, and ɛ: of section (B) belong (but with the vowel i: assigned to a separate sub-section of the 'front piece', because of the syntagmatic difference stated in section (A)); and six symbols such as Y, Ө, A, U, O, and W, need to be allotted to the terms of the 'back piece' phonological vowel system, e.g.

Y: <u>tjw:</u>	<i>thyu</i>	'mix';	<u>vw:</u>	<i>vu</i>	'buzz around'
Ө: <u>plje:</u>	<i>plyâ, plya</i>	'produce';	<u>flə:</u>	<i>flâ, fla</i>	'narrate'
A: <u>va:</u>	<i>vâ</i>	'swing';	<u>blja:</u>	<i>blyâ</i>	'smear'
U: <u>zu:</u>	<i>zú</i>	'burn';	<u>ru:</u>	<i>hrú</i>	'warm'
O: <u>lo:</u>	<i>lo</i>	'dry';	<u>tho:</u>	<i>tho</i>	'put'
W: <u>tqo:</u>	<i>cö</i>	'go';	<u>kljo:</u>	<i>khyö</i>	'overcook'.

5. The 'nasal syllable-initial piece', and nasalised vowels

The next task is to analyse lexical items that have nasalized vowels and, therefore, syllable-initial nasal consonants, by the same syntagmatic method as was used in Section 4 for the oral-vowel lexical items. Within this second prosodic class of lexical items, I find that I need to draw a distinction between (A), those which have only a nasal consonant in the syllable initial (N̄V:), and (B) those in which the syllable-initial nasal combines, in a cluster, with a lateral or a rolled consonant, or a non-syllabic front spread vowel, or both a lateral and a non-syllabic front spread vowel: (Nl(j)/r/jV:, N̄l̄j̄V̄:).

A. N̄V:

The set of vowel units, six in number, that need to be distinguished in this type of 'piece' has already been listed, with examples, in Section 3, but to recapitulate, it comprises:

ĩ:, ẽ:/ẽ:, ĩ̃:, ã:/ã:, ũ:/ũ:, õ:.

If the same syntagmatic principle is applied to these six as was applied to the oral vowels, it will be found that: (1) ĩ: and ẽ:/ẽ: combine with only two types of nasal, the labial and the palatal (m̄, n̄), and on that account, can be grouped together in what can be termed the 'front syllable-initial piece' (cf. also (4.C) above); and (2) the remaining four, ĩ̃:, ã:/ã:, ũ:/ũ:, and õ:, combine not only with the labial and the palatal nasal but also with the dental and the velar, a total of four (m̄, n̄, ɲ̄, ŋ̄), e.g.

1. 'front syllable-initial piece'

a.	<u>m̄ĩ:</u>	<u>n̄ĩ:</u>	b.	<u>m̄ẽ:</u>	<u>n̄ẽ:</u> ⁸
	<i>mĩ, mĩ</i>	<i>nyĩ, nyĩ</i>		<i>me</i>	<i>nye</i>

2. 'back syllable-initial piece'

a.	<u>ɲ̄m̄õ:</u>	<u>n̄õ:</u>	<u>n̄õ:</u>	<u>ŋ̄õ:</u> ⁹
	<i>mã, ma/mã</i>	<i>nyã, nya</i>	<i>nu</i>	<i>ngu</i>
b.	<u>m̄ã:</u>	<u>n̄ã(ro):</u>	<u>n̄ã:</u>	<u>ŋ̄ã:</u>
	<i>mã</i>	<i>nyã(-rô)</i>	<i>nã</i>	<i>ngã</i>
c.	<u>ɲ̄m̄ũ:</u>	<u>n̄ũ:</u>	<u>n̄ũ:</u>	<u>ŋ̄ũ:</u>
	<i>mũ, mo</i>	<i>nyũ, nyo</i>	<i>nũ, no</i>	<i>ngũ, ngo</i>
d.	<u>ɲ̄m̄õ:</u>	<u>ɲ̄õ:</u>	-	<u>ŋ̄õ:</u>
	<i>mô</i>	<i>nyô</i>	-	<i>ngo, ngô/ngã</i>

1.a. 'fire', 'have'; b. 'that', 'afterwards'

2.a. 'pray', 'stagger', 'suck', 'get threadbare'

b. 'hide', 'ministering to', 'go' (imp.), 'weariness'

c. 'plough', 'snot', 'sharpen', 'thirsty'

d. 'sore', 'borrow', —, 'be time' ('early', Mainwaring 1898).

The N̄V: type of syllable, then, needs a two-term phonological vowel system for its 'front' type of syllable-initial 'piece'; and, for the 'back' type, it needs a four-term system, two of the four members of which have lip-spreading as a phonetic exponent, ĩ̃: and ã:/ã:, while the other two, ũ:/ũ: and õ:, have lip-rounding.¹⁰

B. Nl(j)/r/jV:, N̄l̄(j)V̄:

I have left this type of nasal-initial syllable until last because it is not clear to me whether it should be classified as belonging to the nasal syllable-initial piece, the oral syllable-initial piece, or, perhaps, to a third type separate from either of those two.

The phonetic criteria that have thus far been used for classifying a lexical item as being an example of the nasal syllable-initial piece are: (i) nasalization as a feature of the syllabic vowel in association with nasality as a feature of the syllable-initial consonant; and (ii) a twofold or fourfold distinction in syllabic vowel, twofold for the front piece (ĩ:, ẽ:/ẽ:), fourfold for the back piece (ĩ̃:, ã:/ã:, ũ:/ũ:, õ:), as in (A) above. In this second type of syllable, in which labial nasality occurs in association with a lateral or a rolled consonant or with a non-syllabic front spread vowel (ml̄/r̄/j-), and velar nasality in association with a lateral or a rolled consonant or with a non-syllabic front spread vowel (nr̄-), I have noted examples in which the nasal resonance extends from the syllable-initial nasal consonant to the syllabic vowel via the intermediate sounds, e.g. m̄l̄ũ: *m̄l̄ũ*, *m̄l̄o* 'thing', m̄l̄j̄v̄: *m̄l̄yã*, *m̄l̄ya* 'efface', but they are comparatively rare. It would seem that the articulatory stretch, or span, of non-nasal sounds is a formidable obstacle; and beside the example m̄l̄j̄v̄: ('efface') given above, I have also noted m̄l̄j̄v̄:, in which the non-nasal consonant and the vowels, both non-syllabic and syllabic, are purely oral, together with such other examples as nr̄u: *ngrũ* 'groan' and sẽ̃m̄ju: *sẽ̃-myũ* 'man' (Tamsang 1981).

In comparison with the N̄V: type of syllable analysed in section (A), the number of examples of syllables of this cluster type is very small; in fact, there are none containing the two types of vowel ĩ: and ẽ:/ẽ: distinguished in the front syllable-initial piece (A.1), but this type of syllable does, however, seem to have the same fourfold distinction as was made for vowels

in the back syllable-initial piece (A.2). If, therefore, a Y-A-U-O vowel system is accepted for this nasal-cluster type of syllable too, examples of these four vowels can be given as follows:

Y:	<u>mlyj</u> :	<i>mlyâ, mlya</i>	'slant'	[<u>mlyj̄v̄:</u> <u>mlyv̄:</u>	<i>mlyâ, mlya</i>	'efface'
A:	<u>mlyja</u> :	<i>mlyâ</i>	'level'		<u>mlyja:</u>	<i>myâ</i>
U:	<u>mlyũ:</u> <u>sa'mlyũ:</u>	<i>mlyũ, mlo</i> <i>sa-myũ</i>	'thing' 'man'	<u>ngru:</u>	<i>ngryũ</i>	'groan'
O:	<u>mlyo:</u>	<i>myũ/myo, myo</i>	'course'			

6. Oral syllable-initial piece and nasal syllable-initial piece compared

The various vowel units can be compared, and grouped in systems as follows, according to the type and sub-type of syllable-initial piece in which they function, and especially oral (4.A-C) versus nasal (5.A.1-2; 5.B):

	<i>lip-spread</i>	<i>lip-rounded</i>
4. A. <u>i</u> :		
B. <u>e</u> :. <u>ɛ</u> :		
C. <u>u</u> :. <u>o</u> :. <u>a</u> :/ɹ:	<u>u</u> :. <u>o</u> :. <u>ɔ</u> :	
5. A.1. <u>ĩ</u> :. <u>ẽ</u> :/ɛ̃:	<u>ĩ</u> :. <u>ã</u> :/ã̃:	<u>ũ</u> :/ũ̃:. <u>õ</u> :
2. <u>ĩ</u> :. <u>ẽ</u> :/ɛ̃:	<u>ĩ</u> :/ĩ̃:. <u>ã</u> :.	<u>ũ</u> :/ũ̃:. <u>õ</u> :.
B. <u>ĩ</u> :. <u>ẽ</u> :/ɛ̃:	<u>ĩ</u> :/ĩ̃:. <u>ã</u> :.	<u>ũ</u> :/ũ̃:. <u>õ</u> :.

Thus, in the back syllable-initial piece (4.C., 5.A.2, 5.B.), the oral type (5.C.) has three lip-spread vowel units as against two for the nasal type (5.A.2, 5.B.): u:. o:. a:/ɹ: versus ĩ:. ã:/ã̃:; and it also has three lip-rounded units as against two for the nasal type: u:. o:. ɔ: versus ũ:/ũ̃:. õ:. To provide for the former three, there are the three Lepcha symbols romanized as *u*, *â* (or *a*), and *ã*, one too many for the needs of the corresponding nasal-piece vowel units; and for the latter three there are the three symbols romanized as *ũ*, *o* and *ô*, also one too many for the corresponding nasal-piece vowel units. It is from this lack of balance between the two sets of vowels,

three versus two, that fluctuation in spelling has arisen between (a) *u* and *â* (or *a*), on the one hand, and (b), more prominently, *ũ* and *o* on the other.

a. Lip-spreading

For *u* and *â* (or *a*) the fluctuation is especially to be seen in weak-stress syllables, in which the vowel is central and half-close, e.g. *ma-rum*, *ma-rum/mu-rum* mɛ'rym 'life-span', *mu-zu*, *ma-zu/mu-zu* mɛ'zɔm: 'body', of which *mu-rum* and *mu-zu* are preferable on etymological grounds because the first lexical item in each of these compounds is *mu* 'body'.

b. Lip-rounding

For the fluctuation between *o* and *ũ* there are examples in Section (2) above, *ngo* versus *ngũ* 'fish', 'stew', *â-mo* v. *â-mũ* 'consonant', 'mother', etc.¹²

There are oral-initial piece lexical items that show a correspondence of Lepcha *o* with Tibetan *a*, e.g.

i. oral-initial:	Lep. <i>fo</i> 'bird'.	'â-bo	'father',	<i>so</i>	'eat'
	Tib. <i>bya</i>	<i>pha</i>		<i>za</i>	

so that it is tempting to suppose that the threefold distinction in back rounded vowels might be a comparatively recent development in Lepcha, whereby one of the six terms of the vowel system appropriate to the back syllable-initial piece (4.C.) developed lip-rounding as one of its phonetic exponents instead of lip-spreading.¹³ While a resulting threefold distinction (u:. o:. ɔ:) would present no difficulties in the articulation of oral vowels, the well-known muffling effect of nasal resonance might have been responsible for making such distinction too fine for the language to bear, whence a reduction from threefold to twofold for nasal-initial syllables, with the consequent fluctuation in spelling between *o* and *ũ*.¹⁴ However, the possibility of comparing Lepcha *o* with Tibetan *a* in the nasal-initial syllable, too, gives the *o* spelling an advantage over the *ũ* spelling, e.g.

ii. nasal-initial:	Lep. <i>ngo</i> 'fish',	'â-mo	'mother',	<i>fa-ngo</i>	'five'
	Tib. <i>nya</i>	<i>a-ma</i>		<i>lŋa</i>	

The spelling with *o*, then, would be the Sino-Tibetan comparatist's preference; but the Lepchas are not Sino-Tibetan comparatists and seem to be moving towards the spelling with *ũ* in these nasal-initial-piece lexical items, e.g. *ngũ* 'fish', 'stew'; *â-mũ* 'mother' (Tamsang 1981).¹⁵

NOTES

1. This was cited in Siiger (1967:27) but not available to me; similarly, I rely on Shafer (1955) since Marrison (1967) was also not available.

2. My romanization follows Mainwaring (1876) except for the following:

Lepcha:	ʋ	ɹ	ɹ̄	ɹ̄̄	ɹ̄̄̄	~	ʃ̄
Mainwaring:	ch-	ohh-		ay-	-ang	-ā(-)	-ī(-)
Sprigg:	c-	ch-	'-	'y	-am	-ā(-)	-ī(-)

My -am̄ is for the Lepcha symbol called *nyin-dō*, literally 'sun-moon' (Tib. *nyi-sla*), resembling the *candra bindu* of the Devanagari script (Lambert 1953:70).

3. For the expansion of Nepali as a *lingua franca* in Sikkim see Nakane 1966:261-2.

4. For a corresponding stylistic variation to that of o with u in Lepcha, compare the use of /u/ in English in the loanwords *Jungfrau* and *Sung*, in imitation of the German and the Chinese pronunciation, as opposed to the /ʌ/ of 'original' English in velar-nasal-final syllables, e.g. *young*, *sung*, and, indeed, an alternative pronunciation of *Sung* as /sʌŋ/ (Jones 1977:280, 479, 558).

My phonetic and phonological analysis is based on data in the Tamsangmo dialect from K.P. Tamsang, Research Assistant in Lepcha at the School of Oriental and African Studies, University of London, in 1952; K.P. Tamsang was, at that time, Mandal of Bong Bustee, Kalimpong, and Secretary of the Darjeeling Lepcha Association. I compared these data with the pronunciation of the late J. Rongong, of Kalimpong, and of the late Pastor P.S. Targain, a speaker of the Ilammo dialect, at Kalimpong in 1965. To all three, but especially to K.P. Tamsang, I am grateful for the patience and care that they showed in helping me towards this analysis.

5. I have symbolized the vowels in open syllables as long here; but they vary in length in accordance with differences in junction.

6. The Mainwaring (1898) spelling differs from that of Tamsang (1981), I have given both, with the Mainwaring (strictly speaking, the Grünwedel) spelling following the Tamsang spelling after a comma, e.g. *li*, *li*, and, so that examples may be grammatically comparable, I have used verbs where possible, but this list contains one noun: *nye* 'afterwards'.

7. The qualification 'almost' is necessary here because the open/closed-syllable type of verb includes lexical items that have aspiration as a syllable-initial feature; and this feature suggests loanword status, e.g. *thi/thit*, *thi/thit* 'reach' (?Tibetan *thebs*), *khū/khut*, *khū/khum* 'able' (?Tib. *khnyud*; Das 1902/1960:196; but Grünwedel, in Mainwaring 1898:46, suggests *khugs*). It is significant that the aspirated initials, unlike some of the non-aspirated initials, do not combine with l and r to form initial clusters; cf.

<u>kh</u>	<u>ph</u>								
<u>k</u>	<u>kl</u>	<u>kr</u>	<u>p</u>	<u>pl</u>	<u>pr</u>				
<u>g</u>	<u>gl</u>	<u>gr</u>	<u>b</u>	<u>bl</u>	<u>br</u>	<u>nr</u>	<u>ml</u>	<u>mr</u>	
	<u>f</u>	<u>fl</u>	<u>fr</u>						

I find further support for my view of aspiration as a loan feature in Lepcha in Bodman (1968). In his lists of Lepcha-Adi cognates his occlusive-occlusive correspondences show only three, out of a total of 61 examples, in which the Lepcha word has aspiration (and, incidentally, there are no examples of aspiration in the Adi words).

8. The nasalization feature is prominent in syllables in which the (nasal) initial consonant is lingual, but less so where it is labial, indeed, I have not symbolized it in examples in which I have perceived it as weaker than in the nasalized vowels of French. The reason for this relative weakness is, presumably, that a labial closure is at the far end of the oral cavity from the naso-pharynx, with the result that, the instant that the lips part, the whole of the oral cavity functions as a resonator in competition with the nasal cavity; and the nasal resonance is correspondingly less prominent. I believe that the same (aerodynamic) reason is responsible for the lesser prominence of nasalization in association with front vowels in labial-initial syllables, e.g. *mi*: *mi*, *mī* 'fire', *me*: *me* 'that', as compared with syllables in which the obstruction caused by the raising of the tongue is further back in the mouth, e.g. *ṁi*: *mī*, *mī*: *mī*; *ṁu*: *mu*, *mū*: *mu*; p.206, 2.a-d; the rearward raising of the tongue, when combined with the lowered soft palate, impedes the flow of air into the oral cavity, and, as it were, directs it into the nasal resonance chamber.

9. The role of the glottal-stop type of cluster, e.g. *ṁm*-, *ṁn*-, *ṁj*-, as a criterion of borrowing from Tibetan is discussed in Sprigg 1966a.

10. I should have preferred to give to the two members (i.e. 'terms') and to the four members of these two vowel systems a different set of phonological symbols from those used for the phonological vowel units of the two systems appropriate to the oral syllable-initial piece (4.B.; 4.C.), but this would mean going beyond the resources of the Roman and Greek scripts combined; so I find it necessary to use some of the same symbols as have already been used in those earlier sections. Y, A, U, and O, for example, can be re-used for the four units of the vowel system stated above for the back syllable-initial piece (5.A.2). Duplicating symbols in this way need not cause confusion provided that it is always made clear which of the systems a given symbol belongs to in any given instance, as, for example, whether the symbol U is being used for the appropriate member of the six-term vowel system that applies to the oral syllable-initial piece (4.C) or to the four-term vowel system appropriate to the nasal syllable-initial piece (5.A.2). Thus, the four sets of examples of the back nasal syllable-initial piece at (5.A.2) can also be treated as examples of each of that type of piece's four vowel units:

- a. Y: ?m̃ː, etc.; b. A: m̃ː, etc.;
- c. U: ?m̃ː, etc.; d. O: ?m̃ː, etc.

11. My arguments in favour of classifying Lepcha as a stress language rather than as a tone language are in Sprigg 1966b: esp. 199-201.

12. cf. also Rischel, Siiger (1967:25):

We do not want, however, to insist upon our transcription of /u/ and /o/ after /m/. It would be tempting to suggest that they do not commute at all in open syllable after nasal consonant. Our distinction is made mainly on the basis of the Lepcha orthography.

13. Lepcha shares the lip-rounding feature with certain related languages further east, especially Adi, e.g. abu - abbo 'father'; do 'eat'; əgo - oŋo 'fish' (Ao əŋo); pilŋo - əgo 'five' (Mikir phōŋo); cf. also Kachin ū 'bird' (Bodman 1968).

14. cf. James (1929:120-1):

The ear is less able to distinguish a nasalized vowel from its near neighbour than it is to distinguish an oral vowel from its neighbour. It is harder to hear the difference between ẽ and ẽ̃ than between e and ɛ. Hence the acoustic confusion arising from the

existence of a number of nasalized vowel phonemes in French was considerable, and after a period of hesitation there emerged the four nasalized phonemes of the present language. Even now the process of reduction seems to be proceeding.

15. A recent publication by the Government of Sikkim (Anonymous 1972) is exceptional in this respect, e.g. 'á-mo, ngo, fa-ngo, mlo (1, 4, 19, 24), and thop (21). Lepcha has recently been recognized, together with Sikkimese Tibetan and Nepali, as an official language of the State of Sikkim, so this use of the older spellings may be quite significant for Lepcha orthography.

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