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Martine Mazaudon

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The evolution of vowel length in TGTM
(Tamangish) languages¹MARTINE MAZAUDON
CNRS-Lacito

Vowel length in open syllables is a rare feature in Tibeto-Burman languages. It is not reconstructed at the Proto-Tibeto-Burman (PTB) level, and it is not widely reported in modern languages. The languages of the Tamang group (= TGTM, Shafer's (1955) Gurung branch of Bodish) have developed it and are in the process of losing it again, as a part of a general process of reduction of the syllable canon.

We will touch briefly upon the development of vowel length on open syllables in Proto-Tamang (= Proto-TGTM), and concentrate on the different evolution patterns followed by diverse dialects in eliminating vowel length contrast.

1 Reconstructing a length contrast

At the level of Proto-Tibeto-Burman (PTB) Matisoff rules out the reconstruction of vowel length in open syllables (Matisoff 2003: 233), although he and Benedict do reconstruct some length contrasts in closed syllables. At the level of the different sub-groups of Tibeto-Burman, vowel length seems to be also rarely reconstructed and mostly on closed syllables. Burling does not reconstruct any for Proto-Lolo-Burmese (Burling 1967), neither do later authors. Proto-Karen lacks vowel length altogether, in all of its re-workings from Haudricourt (1946), Jones (1961) and Burling (1969), all the way to the most recent improvements on rime reconstructions by Solnit (2013). Proto-Bodo-Garo evinces some length contrast, but only on closed syllables (Burling and Joseph 2006), and so does Proto-Kuki-Chin (VanBik 2009). In Kiranti, length on open syllables has been shown to be secondary in several languages

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and is not reconstructed, but length in closed syllables may need to be reconstructed on the basis of Limbu and Yamphu (Michailovsky 2004). Proto-Tani is the only group, as far as we know, in which vowel length is (albeit marginally) reconstructed on open syllables (Sun 1993: 78).

All in all, length contrasts are at best transient and especially on open syllables.

Contrary to the majority pattern, in the languages of the Tamang group, as in Tani, vowel length is absent from closed syllables, but it is well established and reconstructable at the level of Proto-Tamang on open syllables, with regular correspondences in the daughter languages which are reminiscent of the developments in Romance languages, thousands of miles away.

The vowel length, in some Proto-Tamang words, but not all, can be seen clearly to originate in lost final consonants. This can be observed by comparison with Written Tibetan, representing the ancestor of the sister branch which includes all Tibetan languages (e.g. Proto-TGTM² **ʰna*: ‘pus’ cf. WT *rnag*, but not systematically e.g. Proto-TGTM **ʰku*: ‘nine’ cf. WT *dgu*) or by comparison with more remotely related languages (e.g. Risiangku Tamang *ʰu*:*-pa* ‘be buried as by a landslide’, Limbu *lup*- ‘be covered’).

Morphological variation inside one dialect also reveals former final consonants. For instance the infinitive of open verb roots with short vowels in Risiangku Tamang is made by adding the suffix *-o/-u*, but the infinitive of long vowel (open) verb roots is formed by adding *-ko*, a /k/ which can be attributed to an older form of the root although later analogical regularization has obscured things somewhat, e.g. *ʰni*-*pa/ʰni*-*u* ‘go’ vs. *ʰthi*:*-pa/ʰthi*:*-ko* ‘lift’.

Whatever the origin, it is sufficient for us that the contrast is well established in all of the conservative dialects, and has regular correspondences in the others, as we will see.

Since we will not consider closed syllables in detail here, let us mention that these closed syllables, devoid of a length contrast, are on the other hand fully provided with tone contrasts. The same four tones are found on short open syllables as on long open syllables or syllables closed by final stops or final resonants. This also is not typical of TB languages, where tone contrasts are generally fewer in closed than in open syllables.³ In Maru, Burling could invoke intrusive consonants to explain the identity of tonal patterning between some stopped syllables and the general patterning of open syllables (Burling 1966, 1967: 59). Since all vowel timbres occur with all final consonants in Proto-

² Tones are irrelevant to the evolution of vowel length in TGTM. All languages of the group have a four tone system, with varying phonetic realization, transcribed here with their etymological value by numbers 1 to 4. The modern tones can be shown to derive from an earlier two-tone system, transcribed by raised capital A and B (Mazaudon 1978).

³ Here again Proto-Tani joins the minority pattern, and so does, among modern languages the Turung variety of Singpho (Morey 2011) Thanks to the editors for drawing my attention to these similarities.

Tamang, we cannot explain away final consonants in this manner. Even if some finals may derive from suffixes, many others seem to go back to PTB.

2 The loss of the Proto-Tamang length constrast

2.1 The ‘prosodic change’ of the Proto-Tamang syllable canon

The Proto-Tamang syllable canon for root syllables (excluding suffixes) can be reconstructed with a structure only slightly depleted as compared to the PTB syllable canon. The Proto-TGTM syllable consists of a tone (T), an optional initial onset, and a rime. The onset is either empty (\emptyset), or consists of a simple initial (I), a cluster of an initial + a liquid (IL), or an initial + a glide (IG), or an initial + a liquid + a glide (ILG). The rime consists of a short vowel (V), a long vowel (V:), or a short vowel and final consonant (VF)

$$T \{ \emptyset, I (L) (G) \} V \{ \emptyset, :, F \}$$

FIGURE 1 – A formula for the Proto-TGTM syllable canon

The full syllable canon is exemplified in the most conservative dialects of the group, the Eastern Tamang dialects, and it gets progressively, but not regularly, reduced as one goes West, with a dialect like Ghachok Gurung having no syllable final consonants, and no vowel length, and Tukche Thakali having no initial consonant clusters except those formed with the palatal semi vowel /j/ or groups of labial + /l, r/. So for instance Proto-TGTM **khraŋ* ‘to roast’ > Ghachok Gurung *khrõ*, Tukche Thakali *thaŋ*. The disappearance of vowel length is certainly part of this general syllable reduction process.

Such reduction processes can be viewed in the light of the opposition drawn by Vennemann (1995: 185–186) between ‘sound change’ and ‘prosodic change’, as interpreted by Page (2007: 340).

A sound change is a phonological change that targets the feature composition of a segment or group of segments. Example: Grimm’s Law, which changes the laryngeal and continuancy features for inherited PIE plosives in Proto-Germanic.

A prosodic change is a phonological change that affects the rhythmic pattern of a language. Its focus is a prosodic constituent, not the feature composition of a segment or group of segments. Example: Fixing of initial stress in Proto-Germanic.

Vowel length changes in Germanic seem to have happened independently of any timber changes, and can thus easily be considered to belong to a different

level ('tier' in some theories) than the segmental features, a higher level where 'supra-segmental' elements, like stress, by definition belong. I believe that changes in the syllable canon, including vowel length changes, can usefully be considered as 'prosodic' changes, which does not mean that they have no relation to 'sound changes'

In most cases a prosodic change is accompanied by a 'sound change' in the sense that, for instance, a lost final consonant is reflected by a change in the vowel timbre.

In TGTm languages, some extreme results of the palatalization of vowels preceding final coronals (consonantal /t/ or vocalic /i/) can be observed in two otherwise conservative dialects spoken up North in the Rasuwa area of Nepal, in the villages of Dhunce and Haku (Table 1 – Table 2).

TABLE 1 – Dhunce Tamang: the contextual palatalization of vowels

*it	*ut	*at	*et	*ot	*i:	*e:	*ai	*oi	*ui
it	ɛt	et			i:	e:			ui

TABLE 2 – Haku Tamang: the contextual palatalization of vowels

*it	*ut	*at	*et	*ot	*i:	*e:	*ai	*oi	*ui
it	ut	et		ot	i:	e:	i:		ui

2.2 The context-free evolution of vowels in TGTm open syllables

What we want to examine here is the context-free evolution of the vowels of open syllables, where changes in the timbre of the vowels are conditioned only by the restructuring of the system, and not by any immediate context.

Context-independent evolutions of the vowel systems, similar to the Great English Vowel Shift or to the early Romance vowel shortening, are not often described in Tibeto-Burman languages. The Romance example, the origin of the Common Romance vowel system, is an example of the trans-phonologization of a length contrast into a timbre contrast, quantity into quality, which is not rare in languages of the world. It has also occurred in TGTm.

A major difference is that, whereas in Romance languages the context-free evolution of the vowel system happened even in the presence of a potential conditioning context (in closed syllables), the tightly bound structure of the TB syllable did not allow such paradigmatic context-free restructuring to happen in the presence of a syllable final consonant.

Another major difference is that whereas the loss of vowel length in Romance can be reconstructed between Late Latin (5 vowels plus length) and Common Romance (Hewson 1998: 3–4), resulting in a common system of 7 vowels without length from which all of the Romance vowel systems derived

(except for Corsican and Sardinian and partly Rumanian), it seems that the Tamangish languages each went their own way in the process of losing length or replacing it by timbre differences. This reminds us of the different paths that TGTM languages took in the general process of replacing voicing contrasts on initial consonants by tonal contrasts (Mazaudon 2012).

2.3 The different evolutions

The Proto-Tamang vowel system can be reconstructed with five vowels: *i e a o* and *u*, which, in open syllables, can be long or short.

TABLE 3 – The Proto-Tamang vowel system

i:	i	e:	e	a	a:	o	o:	u	u:
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The Tamang dialects of Dhunce and Haku, to the North of the Trisuli river, preserve these vowels unchanged in open syllables. Risiangku Tamang seems on the way to losing the length contrast without change in the vowel timbres. That would be a ‘Sardinian’ type of change and the only example in the TGTM languages of a ‘pure’ prosodic change (without any compensation). Since this is a change in progress it would be imprudent to make predictions on its outcome.

The other languages of the group have all brought modification to this original pattern. In the Nar-Phu dialect, spoken to the North of the Manang valley, the surviving length difference is accompanied by a timbre difference for all vowels. The short vowels have become more open or more centralized, except for the short **a* which has become more front, with some diphthongization of the mid front vowel, while the long vowels keep the original, peripheral in the sense of Labov (1994: 173) timbre. This is reminiscent of the Common Romance phase of evolution from the old five vowels of Latin, and one could have expected that this would represent the phase through which other languages of the TGTM group would have gone to reduce their length contrast. But in fact the opening of the short vowels, if it ever existed in an intermediate phase, is nowhere exemplified in the other modern languages.

TABLE 4 – The evolution of open syllable vowels in Nar-Phu

*i:	*i	*e:	*e	*a	*a:	*o	*o:	*u	*u:
i:	ɪ	je:	jɛ	ɛ/æ	a:	ɔ	o:	ʊ	u:

The Thakali of Tukche followed an evolution identical to that of the national Indo-Aryan language Nepali. The length difference was lost without compensation for all vowels except the central *a/a:* where an additional timbre was created, the short **a* becoming more central and back.

TABLE 5 – The evolution of open syllable vowels in Tukche Thakali

*i:	*ī	*e:	*ē	*a	*a:	*o	*o:	*u	*u:
i		e		ʌ	a	o		u	

The variety of Manangge spoken in Praka village followed a similar evolution, except that the timbre of the short *a became much more closed and back, and that a distinction was maintained between old long and short *e, by the diphthongization of the short *e.

TABLE 6 – The evolution of open syllable vowels in Praka Manangge

*i:	*ī	*e:	*ē	*a	*a:	*o	*o:	*u	*u:
i		e	ie	ɤ	a	o		u	

In all the preceding cases, the old long vowels have maintained their timbre, while the short vowels changed. The Gurung dialect of Ghachok shows the effect of another general evolutionary principle, which is that the long vowels become more closed. In this case the short vowels all maintained their original timbre, and symmetrical mergers in the back and the front led to a new system without an increase in the number of vocalic timbres.

TABLE 7 – The evolution of open syllable vowels in Ghachok Gurung

*i:	*ī	*e:	*ē	*a	*a:	*o	*o:	*u	*u:
i		e		a		o		u	

3 Toward a conclusion

With the TGTM languages we are neither in the situation of the Great English Vowel Shift, where the length contrast was retained and only long vowels moved, according to the principle that in chain shifts long vowels rise, nor in that of the Romance languages after the Common Romance period where length had already disappeared. In the TGTM changes it seems that vowel length and timbre evolved at the same time with the pressure of the impending loss of length contrast causing the vowel timbres to change in many cases. When it occurs, the shift of these vowels does follow the principle that long vowels rise and short vowels fall, but in the case of TGTM this happens either to the long vowels or to the short vowels, while length is disappearing.

There is no intermediate stage from which all the evolutions could be derived; each evolution has to be drawn from Proto-TGTM itself.

4 Appendices

The following Appendices give example words for each vowel (Appendix 1), and representations of the vowel evolution and contextual palatalization in each of the linguistic varieties (Appendix 2). The sources of the data are listed in Table 8.

TABLE 8 – Sources of the data

Broader ethnic group or language	Dialects (Villages)	Source
Tamang	Risiangku, Dhunce, Haku	personnal notes (Mazaudon 1973, 2009)
Thakali	Tukche	Hari (Hari 1969)
Gurung	Ghachok	Glover (Glover 1969)
Nar-Phu language		personnal notes (Mazaudon 1996)
Manang language	Praka	Hoshi (Hoshi 1984)

APPENDIX 1 An example word for each vowel

*i	* ^A mi > * ³ mi	‘man’
*i:	* ^B m ^{hi} : > * ² mi:	‘eye’
*e	* ^B me > * ⁴ me	‘cow’
*e:	* ^A m ^{he} : > * ¹ me:	‘tail’
*a	* ^A sa > * ¹ sa	‘earth’
*a:	* ^A da: > * ⁴ ta:	‘post’
*o	* ^B pho > * ² pho	‘belly’
*o:	* ^B bro: > * ⁴ p(h)ro:	‘smallpox’ (Gur.missing)
*u	* ^B blu > * ⁴ p(h)lu	‘seed’
*u:	* ^B ku: > * ⁴ ku:	‘nine’

APPENDIX 2 A more dynamic representation of the evolutions

Appendix 2.1 The context-free evolution of vowel length in four dialects

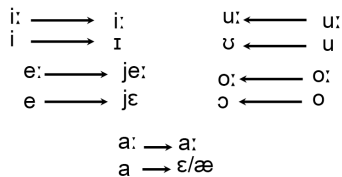


FIGURE 2 – Vowel evolution in Nar-Phu

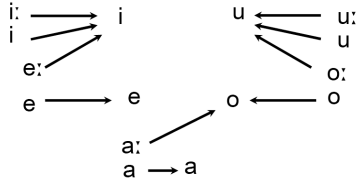


FIGURE 3 – Vowel evolution in Gurung of Ghachok

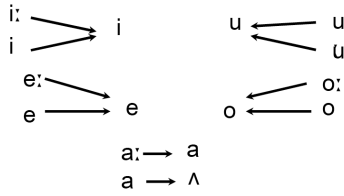


FIGURE 4 – Vowel evolution in Thakali of Tukche

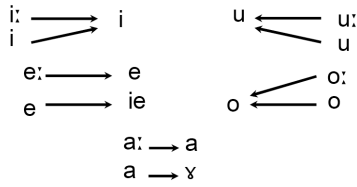


FIGURE 5 – Vowel evolution in Manange of Praka

Appendix 2.2 The contextual palatalization of Dhunce and Haku Tamang vowels

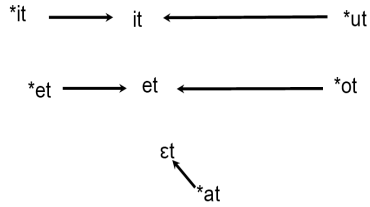


FIGURE 6 – Contextual palatalization in Dhunce Tamang: *Vt

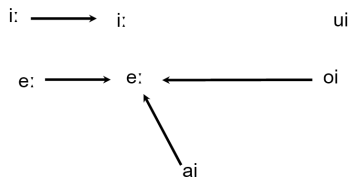


FIGURE 7 – Contextual palatalization in Dhunce Tamang: *Vi

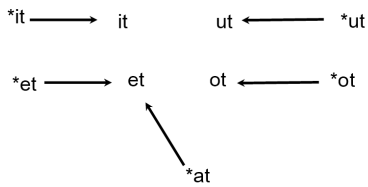


FIGURE 8 – Contextual palatalization in Haku Tamang: *Vt

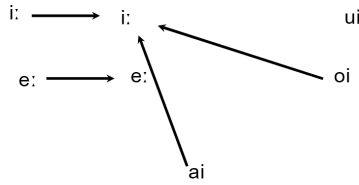


FIGURE 9 – Contextual palatalization in Haku Tamang: *Vi

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