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THE INFLUENCE OF TONE AND AFFRICATION ON MANNER: SOME IRREGULAR MANNER CORRESPONDENCES IN THE TAMANG GROUP

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ABSTRACT

I have shown earlier (1978) that in the process of reinterpretation of the old voicing contrast in Proto-TGTM [Tamang-Gurung-Thakali-Manangba] in terms of phonation and tone, the final phonetic output of the merged series of initials sometimes varied according to the proto-tone. Thus the proto-voiced series of proto-TGTM developed into an aspirated series in Manang under one of the two proto-tones, while it developed into a voiceless unaspirate series under the other proto-tone, as it did under both tones in all the other TGTM languages. Other sporadic influences of the proto-tone on the development of manner can be seen in the evolution of the old voiceless lateral ***lh** in Tukche Thakali.

In Gurung, voicing is not phonemic in the stock of native words, but it is redundantly transcribed in Glover's Dictionary. An analysis of these notations shows a double conditioning of the manner of the initial by tone and affrication. *Voiced stops have become voiceless under proto-tone *I, but have retained their voicing under proto-tone *II, unless they were followed by a medial (glide or affrication).

This secondary conditioning factor leads us to an examination of the role of proto-clusters in the development of affrication and/or aspiration. In most cases this development has occurred after the tonal split, and the new aspirates have not interfered with the tonal classification of the old initial (whether *voiced or *voiceless). On the other hand, we might want to invoke a similar evolution from **voiced cluster to *aspirate occurring before the tonal split to explain a few apparent shifts from the low class of initials to the high class.

Introduction

Many authors, including myself (1977, 1978), have studied the influence of the manner of articulation of consonants, more precisely syllable or word initial consonants, on the phonetic pitch of the syllable or word, and the development of tonal contrasts. Thus, concerning the "Tamang Group" of languages which I want to consider here, I have shown (1978) how the devoicing of the old voiced series of initials led to the bipartition of an original two-way tonal system into a modern four-tone system, realized with some variation among the eight forms of speech[1] which I analyzed then (see pitch values in Table 1), but with the same structure. Two points in particular should be remembered:

1) the original two-tone system had to apply to all syllable types, including checked syllables, since all modern languages exhibit four tones on all syllable types. I will not deal with this point here, but it is rare enough in the TB family to deserve being mentioned again.

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[1]Risiangku-Tamang (Ris), Sahu-Tamang (Sa), Taglung-Tamang (Tag), Tukche-Thakali (Tuk), Marpha-Thakali (Mar), Syang-Thakali (Sya), Ghachok-Gurung (Gur), and Ngawal-Manangba (Man).

2) the later evolution of the tones in the modern languages has not obscured their original systemic relationship as a HIGH and a LOW series, although some individual tones have migrated far and wide in the phonetic space. The historical relationship of the tones is still evidenced by the neutralization, in all eight languages, of the contrast between aspirated and unaspirated stops in the context of the tones issued from the LOW series. The general pattern is the following:

	Proto-initials	Proto-tones	Modern initials	Modern tones
HIGH series	**p**, **t**,... **mh**, **nh**, **ŋh**, **jh**, **rh**, **lh**, **wh**, **s**	I, II	**p**,... **m**,... **j**,... **s**	1, 2
	ph, **th**...	I, II	**ph**, **th** ...	1, 2
LOW series	**b**, **d**, ..., **m**, **n** ..., **j**, **r**, **l**, **w**, **z**	I, II	**P**, **T**,... **m**... **j**... **s**	3, 4

1. Manang

In only one of the eight languages or dialects of TGTM studied so far have we found an aspirated reflex of the old *voiced series in any context, and that is in Manangba[2]. The rarity of the aspirated reflex in TGTM may be surprising when compared to the evolution of the rather closely related Tibetan dialects, where it seems to be as frequent as the unaspirated reflex. In any case, in Manangba, *voiced stops which were under tone *I have evolved into voiceless stops associated with tone-3, and *voiced stops under tone *II into aspirated stops associated with tone-4.

Manang proto-voiced	tone *I	tone *II
***b**, **d**, **ɖ**, **dz**, **g**	**p**, **t**, **ʈ**, **ts**, **k** / ^{3}__	**ph**, **th**, **ʈh**, **tsh**, **kh** / ^{4}__

Let us repeat that no aspirated stops are found under tone 3, and no unaspirated stops under tone 4. The aspiration feature is thus, synchronically, in this context, a redundant feature depending on the tone.

Its historical origin remains mysterious. What in the phonetic nature of proto-tone *II was favorable to aspiration? … but only in Manang. Or what in Manang tone-4? Its modern pitch [31] is a middish low, the lowest in its system, with no remarkable feature. It seems that the breathiness which was probably present between the *voiced stage and the modern stage (and which is well attested in the more conservative languages of the group) was reinterpreted as aspiration under tone-4, and as an occasionnal creak under tone-3. We still do not understand why (by which I mean under the influence of what contextual feature) or how (by which I mean through what precise evolutionary path). The only thing we can ascertain is that the shift from *voiced to aspirate occurred after the tone split, since the modern tone remains one

[2]This is true of all variants of Manangba recorded to date: Ngawal, Manang proper, and Prakaa (Prak). Manangba is a very unified form of speech. The slight variations between villages don't justify the term 'dialects', except in the acception of local variants (as in "the dialects of American English"), and barely so. The differences are incommensurable with those found between the three dialects of Tamang. To me the whole of Manang valley is one dialect.

of the LOW series: no confusion occurred between lexical items having had a *voiced initial and items having had an *aspirated one, *e.g.*:

*__dap__ [II] 'needle' > __⁴the__
*__thet__ [II] 'sibling' > __²the__.

2. The voiced stops of Gurung

2.1 Glover's Gurung Dictionary retains a series of voiced stops in the inventory of Gurung phonemes, largely under the influence of the numerous Nepali loans that he has chosen to integrate in the Dictionary. At least 40 % of the vocabulary are loans from Nepali. The socio-linguistic situation may warrant their inclusion in the dictionary, but the comparativist has to treat the two stocks of vocabulary separately.

If we exclude Nepali loans, we find a strict conditioning (in synchronic terms) of voicing by tone, with a few exceptions which we will presently consider.

2.2 All the voiced stops occur on tone 4

A first observation of the distribution of voiced stops will show that all voiced stops occur on tone 4, phonetically [12], and which historically derives from words with *voiced initials and *tone II. There are two exceptions to this rule, /**biba:**/ 'to say' and /**boba:**/ 'to take away' both transcribed with no 'stress' mark and no breathiness mark, a combination which is not supposed to be permitted in verbs. The length on the suffix, usually redundantly transcribed with tone-1 root verbs, should indicate a tone 1 ([33], historically *tone I with voiceless initial). But in fact /**boba**/ 'to take' is quoted as having a doublet under tone 4 /**⁴boba**/, and 'to say' has become in the whole TGTM group, as in Gurung, a very weak verb, used most frequently as an auxiliary in unstressed position. This would account for a loss of distinctive tone, in conformity with all the suffixes, and a 'word-internal' voicing. A third word /**bjõba**/ appears (with the same anomalous combination of no stress and no breathiness) as 'to resemble' in the *Dictionary*, and in the expression /**³ŋinde bjõba**/ 'terrible' in the 1972 *Vocabulary*, an expression not found in the *Dictionary* (*cf.* /**³ŋĩba**/ 'to be frightened' in the *Dictionary*). All other voiced-initial words on tones other than 4 are either loans or onomatopeic words.[3]

2.3 Voiceless stops on tone-4 are clusters or affricates

Conversely, if we could state that all the stops on tone 4 are voiced, the (synchronic) conditioning of voicing by tone would be complete. We cannot do so, but an examination of Table 3 will reveal that most tone-4 words with a voiceless initial have an initial cluster or an affricate initial, for example the words from /**⁴kwe**/ 'bee' to /**⁴kla**/ 'ox', the words from /**⁴cu**/ 'distribute' to /**⁴ʈwi**/ 'collapse', and again the words from /**⁴pra**/ 'to walk' to /**⁴pjo**/ 'to stamp'.

2.4 Exceptions

Among the tone-4 words with a simple voiceless initial, we find that most can be traced to a proto-form with a cluster :

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[3]The word 'wall' *__ɖim__ [I] appears as /**³ɖĩ**/ in Glover's 1972 word list with the meaning 'house'. The proper word for 'house' /**⁴dĩ**/ < *__dim__ [II] is found in the *Dictionary* A confusion between the two roots in early versions of the work on Gurung may account for the voiced transcription.

*gjat [II] > ⁴ke 'work'

or to an evolutionary path through a cluster stage:

*dot [II] > *dwi > ⁴ti 'load'

*dut [II] > *dwi > ⁴ti 'to gather'[4]

Diphthongs with a first element /a/ have been described synchronically as having a "semi-vowel" /a/ (Glover 1969: 26-27), and should be considered as having complex initials for our purpose. This may seem odd, but it corresponds to the placement of the syllable peak on the second member of the diphthong, in Gurung as in the three Thakali dialects[5] . Hence /⁴kae/ is to be considered as a "schwa-cluster" word. Another apparent exception, /⁴te/ 'to cook vegetables', corresponds to a Ris/Tag Tamang form /⁴tai/, and can be construed to have had a "cluster initial" at some point.

The other exceptions are somewhat irregular. /⁴ta:/ 'to hoe' might be cognate to Ris /³ʈwa/ 'to plant seeds one by one', pointing to a proto-cluster. But this pair needs more study. /⁴po/ 'to cover oneself' compared to Ris /⁴pa:/ 'to pile up' yields a proto *ba: [II]. Positing a cluster there is unwarranted. 'bury' is a very irregular set, with Gur /⁴pa:/, Ris /⁴pip/, Tuk /⁴pup/ and Prak /³pju:/. It may also be an allofam of Gur /⁴pu/ 'to ripen in hotbed (*i.e.* by burying)' corresponding to Ris /⁴pup/, Sa /⁴pup/, ... These three roots are too weird to make sense of.

In the end we are left with two solid exceptions:

/⁴ki/ 'thatch' < *gi [II]

/⁴ta:/ 'needle' < *dap [II]

where no clusters can be found at any point in the reconstruction[6].

2.5 Some clusters on tone-4 retain voicing

Finally we have to deal with a small list of words which retain voicing on tone-4 in spite of having an initial cluster. These words are listed in Table 2b.

Two of the velar initial words in this category are quoted with variants which eliminate their anomaly ('road' and 'one'), the third one is a plant name, which is found only in one of the sources, and may not have been checked as much as more common terms.

The labial initial words do have cluster cognates in other TGTM languages, although the tones and segments do not always match.

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[4]The evolution of the rhymes *ot and *ut into /wi/ is well attested in Gurung with non-dental initials as in :

*kot [II] 'to weigh' > Ris ²kot, Gur ²kwi

*ɖut [I] 'to pull' > Ris ³ʈut, Gur ³ʈwi

The initial dental in 'load' and 'gather' pushes the palatalization one step further.

[5]In several Gurung words /ae/ varies freely with /we/, as in /³mae ~³mwe/ 'footprint', /⁴maẽba ~ ⁴mwaĩba/ < *man [II] 'to think'. /ai/ in other languages can correspond to Gurung /wi/, as in Sahu /¹sai/, Gur /¹swi/ 'to sort' . These variations parallel those between /we/ ~/ue/ ~/oi/ ~/oe/ (see 'bee') and /wi/ ~/ui/ (see 'collapse'). After a /k/ especially /ai ~ae/ diphthongs sound somewhat like an affrication. And sometimes they do correspond to a historical cluster, as in the words:

'waist, belt': *kret [I] > Tam ¹ke:/¹keppa, Tuk ᴴʈe, Mar-Sy ¹kʌe, Gur-Man ¹kre

'one' : *grik [II] > R ⁴kik, Sa ⁴ki; Tag ⁴ki, Tuk ⁴ʈi, Mar ⁴kɤi, Sy ⁴gɨ, Gur ⁴gri, Man ⁴hři

We might also note that the open syllable short *a has become, although still phonemically /a/, a very closed [ɤ] in Manang. The addition of a "central glide" to the standard list of glides [j, w, ɥ] seems useful. The same functional variation between consonant and vocalic status accorded to /i/ ~ /j/, /u/ ~ /w/, /y/ ~ /ɥ/, should also be accepted for /a/ ~ /X/. Glover used a to transcribe this non-syllabic /a/.

[6]Although /⁴ki/ could be construed as deriving from *gji, in all likelihood not distinct from *gi.

2.6 Towards a re-phonemicization of voicing?

The Gurung evolution has created the conditions for a new phonemicisation of voicing by pairs of the type of:

*__dot__ [II] > *__dwi__ (II/__⁴__) > __⁴ti__ 'load'

if it could be opposed to:

*__di__ [II] 'to light a fire' which should become *__⁴di__.

But the word is not found. Instead we find a word /__²thiba__/ 'to scorch, burn (cloth)', which is not attested in other TGTM languages ... unless it is the same etymon.

/__⁴pa:__/ 'to bury' (with its awkward connexion to Ris /__⁴pip__/, Tuk /__⁴pup__/) misses forming a minimal pair with /__⁴ba__/ 'to bring' by one feature (vowel length).

The only apparently perfect pair is /__⁴po__/ < *__ba:__ [II] 'to cover oneself' opposed to /__⁴bo__/ < *__bor__ [II] 'to take away' ... and it should not be, since both words should have retained their voicing. What is more, the voiced member of the pair allows its tone to fluctuate, as we have seen above under 2.2, between tone-4, and a form which could be tone-1 (but for its voiced initial) or tone-3 (but devoid of breathiness) or a toneless form. Its cognates in Manangba and in Risiangku-Tamang are under tone-3.

Variability in the choice of features retained (or perhaps invented) to distinguish a merging pair of words is found in some other TGTM languages as well. 'flour' and 'cliff' are a good example[7]:

	Ris	Sa	Tag	Tuk	Mar	Sya	Gur	Man
'flour'	__⁴pra__	__⁴pra:__	__⁴pra:__	__⁴pra:__	__⁴pra__	__⁴pra__	__⁴pro__	__⁴phra__
'cliff'	__⁴pra:__		__⁴bra:__	__³pra:__		__⁴bra__		__⁴phra__

To my mind, hesitations like these, with eventual placement of the feature on the historically wrong member of the pair, reveal that we have reached a stage where hypercorrection is allowed to play. There is the "memory" of a feature still lingering as a redundant feature, but one which is not used anymore as a secondary clue for the identification of words. In Gurung, it seems that we have reached a stage where the voicing feature has lost all distinctive power, and is unable to be rephonemicized from within the system[8]. If a phonemicization of voicing is ever to occur in Gurung it will have to come from the Nepali loans.

2.7 Causes and effects, the chronology of change

From a historical point of view, where should we place the influence of the tone on the initial?

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[7]The comparison with WT *brag* 'rock' and WB *pra'* 'turret, fortification' could point to a *velar final in 'cliff' as opposed to 'flour' ⧓ WB *pra* 'ashes', ?⧓ WT *phra-mo* 'fine', *'bras* 'rice', *brabo ~ bra'u* 'buckwheat'. But the correspondences are not regular with any feature we may pick to reconstruct.

[8]I realize this is hard to accommodate in anybody's phonological theory, including my own, and will require some more thought!
Also, I just found in the *Dictionary* (but in no other source) a verb __⁴de__ 'to press mud on terrace wall/to lean hand on another's shoulder', which, if confirmed, would form a minimal pair with 'to cook veggies'. Field check is called for to determine how consistently the speakers maintain the contrast and whether they indulge in merger or feature shuffling.

That the modern conditioning of voicing by tone and syllable structure is not a plain synchronic reversal of the historical connexion [*voiced > LOW tone] is (fortunately for historical linguistics!) shown by the fact that words like /**⁴ke**/ 'work', /**⁴ti**/ 'load', or /**⁴ti**/ 'gather', which match the synchronic condition for voicing (plain single obstruent) do not re-acquire their lost voicing. Thus we are indeed dealing with the partial retention of a redundant historical feature, and not with a phonetically surprising reversal of the connexion between manner and tone.

In Manang we were presumably dealing with a tonal context favoring a change from non-aspirated to aspirate, in Gurung with a tonal context inhibiting devoicing. In both cases we may ask at what point in the chronology of change we should place the influence of the tone on the evolution of the segment.

What is there then in the making of proto-tone I, or of daughter tone-3, and in affrication, that is more hostile to voicing than in proto-tone II (or daughter tone 4) and singleness? I have no theory to offer at the moment for the feature of the proto-tone or daughter tone which could be involved, and will now focus on the other aspect of the context: the link between segmental complexity and manner.

3. Clusters, affrication, aspiration

3.1 Manang: aspiration of all places of articulation under tone-4, fricativization of aspirated velar + r

The aspiration of *voiced initials in Manang occurred with all stops under tone-4, whether single or in an initial cluster. Thus

*gla: [II] 'place' > Man **⁴khja**

*gjat [II] 'work' > Man **⁴khje**.

In the same way the old velar voiced cluster ***gr** > ***khr** / **⁴**__ . These new velar aspirate clusters in **-r-** then underwent fricativization together with the old ***khr-** clusters[9]. Thus

*khra [I] 'falcon' > Man. **¹hřɤ** [33]

*gra [II] 'enemy' > ***⁴khra** > **⁴hřɤ** [32][10]

with variation sometimes encountered :

*grik [II] 'one' > **⁴khri** ~ **⁴hři** (in Hoshi's Prakaa — /**⁴hři**/ only, I believe, in Manang village).

The old ***gr** cluster under tone *I, did not become aspirated (nor did any of the other *voiced stops under that tone), and did not lose its occlusion either. ***gr** > **kr** /**³** __ , as in (from Hoshi's Prakaa) /**³krəmə**/ 'cheek' < ***grampa** [I], /**³kuruŋ**/ 'intestines' < ***gruŋ** [I], /**³kri**/ 'body-dirt' < ***gri** [I].

Hence in the Manang evolution, tone conditioned aspiration, and in some contexts aspiration conditioned fricativization. Fricativization in itself was independent of tone.

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[9]Nishi uses this double development as an isogloss to define the place of Manangba in the TGTM group (article "Tamang group" in the *Sanseido Dictionary of Linguistics*, in press).

[10]In front of /**u**/ this aspirated vibrant tends to be grooved [**hř**] ~[**ʃ**], as in /**²ʃuba**/ 'to wash' < ***khru** [II], or in /**⁴ʃo**/ 'wheat' < ***grwa** [II]. In front of /i/ though, /**hř**/ and /**ʃ**/ seem to be in contrast as in /**²hři:ba**/ 'to scratch' < ***rhit** [II] *vs* /**²ʃi:ba**/ 'to know' < ***se:** [II].

Manang summary:

*Stage 1. tonal split and tone-conditioned manner change in the *voiced stops:*

	*tone-I > 1,3	*tone-II > 2,4
***p, t, ts, ʈ, k**	**p, t, ts, ʈ, k /¹ __** and **/² __**	
***ph, th, tsh, ʈh, kh**	**ph, th, tsh, ʈh, kh /¹ __** and **/² __**	
***b, d, dz, ɖ, g**	**p, t, ts, ʈ, k /³ __**	**ph, th, tsh, ʈh, kh /⁴ __**

Stage 2. context-free fricativization of the aspirate velar cluster in /r/:

	***khr**	***kr**	***gr**
*tone-I	***khr** > **hr /¹ __** [11]	***kr** > **kr /¹ __**	***gr** > **kr /³ __**
*tone-II	***khr** > **hr /² __**	***kr** > **kr /² __**	***gr** > ***khr** > **hr /⁴ __**

In Manang affrication is not responsible for aspiration, which is tone bound, but in Taglung and Risiangku it is.

3.2 Taglung velars: aspiration of proto-velar clusters, fricativization of velar aspirates

In the Taglung dialect of Tamang, the old *velar stops have become aspirated, but remained occlusive, when they were followed by a lateral glide, whatever the proto-manner of the stop and whatever the tone :

*__kli__ [I] 'feces' > **¹khli**

*__gla:__ [II] 'place' > **⁴khla:**

If the *glide was *__r__ or *__w__ the velar occlusion disappeared, leaving a voiceless aspirated /__w__/ initial as in :

*__kra__ [I] 'hair' > **¹hwa**

*__grwa__ [II]'wheat' > **⁴hwa**

*__kwan__ [I] 'clothes' > **¹hwan**

*__grwat__ [II] 'hawk' > **⁴hwai**

or a simple /__h__/ if the following vowel is /__u__/ or /__e__/, as in :

*__kru__ [I] 'cubit' > **¹hu**

*__gruŋ__ [I] 'intestines' > **³huŋ**

*__krat__ 'to climb' > **he:**

*__gret__ [II] 'to saw, cut throat' > **he**

The simple velar aspirated stop also lost its occlusion:

*__khu__ [II] 'vegetable' > **²hu**

*__kha:re__ [I] 'neck' > **ha:re**

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[11]There are very few examples of *__khr__ under *tone-I: besides *__khra__ [I] 'falcon' > **¹hřɤ**, we have an homonym *__khra__ [I] 'chisel' > **¹hřɤ**. Ris /**¹khrap**/ 'to bite (dog)' seems to correspond to Manangba (Manang village) /**tɕhe**/, while Ris /**¹khren**/ 'to be hungry' is /**¹krẽ**/ in Hoshi's Prakaa. (It does not seem that the Ris aspiration is secondary in this word since Gurung has it too: Gur /**¹khrẽ**/.)

It seems here that the *aspirated velar /**kh**/ and a proto affricated velar /**kx**/ < ***Kw** and ***Kr** merged into a back fricative varying between a velar fricative [**x**] and a glottal fricative [**h**].

A palatal ***j** glide, on the other hand, left the unaspirated velar initial intact (as did a simple vowel following it), as in 'work' /⁴**ke:**/ < ***gjat** [II], 'sheep' /⁴**kju**/ < ***gju** [II], 'water' /²**kju**/ < ***kjui** [II], 'nine' /²**ku**/ < ***ku** [II].

In this case the original tones *I and *II had no role to play, and the original manner or its derived register (breathiness or HIGH-LOW contrast) had none either. Aspiration and affrication developped from the three most consonantic medials ***w**, ***r**, ***l**.

This evolution, like the Manang aspiration of *voiced, has to follow the tonal split since the original tone class is maintained.

Taglung summary (all tones):

***k**, ***g**	> **k**
***kj**, ***gj**	> **kj**
***khl**, ***kl**, ***gl**	> **khl**
***kw**, ***gw**, ***kr**, ***gr**	> **hw**, **h** /__ **u**, **e**[12]
***kh**	> **h**

Note that in Gurung the evolution of the velar + lateral clusters was pushed one step further to [**ɬ**].

3.3 Risiangku

In Risiangku Tamang word internal clusters of stop with /**r**/ or /**l**/ have tended to become aspirated. So from ***bra** [II] 'powder, flour' we have /⁴**pra**/ 'flour' but /¹**mephra**/ 'ashes', /⁴**puphra**/ 'coals'; from ***kli** [I] 'feces' we have /¹**kli**/ 'feces' but /⁴**mekhli**/ 'cowdung', /²**mikhli**/ 'tear', /³**nakhli**/ 'earwax'; from ***brat** [II] 'eight' we have /⁴**prat**/, but /²**cophrat**/ 'eighteen'. Some other words are unanalyzable inside the Risiangku dialect but have unaspirated cognates in neighbouring languages :

'a fly'	Ris /¹**naphraŋ**/ , Sa /¹**napraŋ**/, Tuk /²**nəpraŋ**/, Prak /¹**na:praŋ**/
'ant'	Ris /³**nakhru**/, Sa /²**nakkhru**/, Tuk /²**naʈo**/, Gur /²**nabbru**/, Prak /¹**nokro**/
'bone'	Ris /²**nakhru**/, Tuk /²**naʈi**/ (< ***nak-rus**), Gur /³**riba**/ (< ***rus**), Prak /²**nokre**/
'snake'	Ris /²**pukhri**/, Tuk /²**puʈi**/, Gur /³**puri**/, Prak /³**pukri:**/
'crab'	Ris /¹**kakhre**/, Gur /²**kwrẽ**/

Risiangku Tamang has an aspiration contrast for simple intervocalic occlusives, as in /¹**nakhi**/ 'dog' *vs* /¹**naka**/ 'fowl', and a very marginal one for intervocalic clusters (*cf.* /²**sapra**/ 'soil', consistently unaspirated, but in all likelihood derived from the same ***bra** [II] which becomes aspirated in 'ashes'.)

Word internal aspiration does not seem to be contrastive in any of the other TGTM languages. I believe we need not reconstruct an aspiration contrast for internal clusters at the Proto-TGTM level. So the Risiangku development is only a phonetic peculiarity.

In a few cases though, I suspect that a similar evolution in word initial position, occurring before the tone split, could have led to a change in the tone class of the lexical item.

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[12]A plain unaspirated /**w**/ from ***gr** is also found in /³**wamba**/ < ***grampa** 'cheek'.

The only good example is 'body-dirt' Ris /**[1]khiti**/, Sa /**khriti**/ (tone unknown), all other forms from ***gri** [I].

There seem to have been a tendency in Risiangku to simplify word initial *velar + /**r**/ clusters when followed by a close vowel or semi-vowel:

***grik** [II] 'one' > **[4]kik**

***kre** [I] 'waist, belt' > **[1]ke:**

***grwat** [II] 'hawk' > **[4]kwat**

***grwa** [II] 'wheat' > **[4]kwa**

I would suspect that ***gri(ti)** [I] became affricated and aspirated following the same pattern as the intervocalic -***kr**- cluster. If this happened before the tone split, the word was reclassified as a HIGH tone word. Hence:

TGTM ***gri(ti)** [I] { > Pre-Tamang ***khriti** [I] > Sa **khriti**, Ris **[1]khiti**
{ > Pre-Gur-Thak ***gri** [I] > Gur-Man **[3]kri**, Mar-Sy **[3]gɣi** ~ **[3]gɨ**

REFERENCES

GLOVER, Warren. 1969. *Gurung Phonemic Summary*. Mimeogr. SIL, Nepal. 61 p.

--. 1972. *A Vocabulary of the Gurung Language*. Mim. SIL, Nepal. 40 p.

--. 1974. *Sememic and Grammatical Structures in Gurung (Nepal).* SIL Publications in Linguistics, vol. 49, Kathmandu, SIL.

--, J. R. Glover, and Deu Bahadur Gurung. 1977. *Gurung-Nepali-English Dictionary*, Pacific Linguistics, Series C, No. 51, Canberra.

HOSHI, Michiyo. 1984. A Prakaa Vocabulary - A Dialect of the Manang language. *Anthropological and Linguistic Studies of the Gandaki Area in Nepal*. Part II. Monumenta Serindica 12. ILCAA, Tokyo.

MAZAUDON, Martine. 1977. *Tibeto-Burman Tonogenetics. LTBA* 3:2.

--. 1978. Consonantal Mutation and Tonal Split in the Tamang sub-family of Tibeto-Burman. *Kailash* 6:3, p. 157-179.

--. mss. fieldnotes on Risiangku and Taglung Tamang, Marpha and Syang Thakali, Ngawal and Manang Manangba.

APPENDIX

Table 1
Phonetic pitch of the four tones in eight TGTM dialects

	TAMANG			THAKALI			GURUNG	MANANG
	Risiangku	Sahu	Taglung	Tukche	Marpha	Syang	Ghachok	Ngawal
1.	54	44	55/44	54	43	43	33	33
2.	44	54	43	44/33	45	45	54	45
3.	33/22	11	33/22	11	33/22	11	11	54
4.	211	32	51	121	51	33/22	12	31

(from Mazaudon 1978)

Table 2
Gurung native words with a voiced stop initial (all on tone-4) typically simple initials
(some cognates included for exceptional forms)

Table 2a. Simple initials

^{4}gẽ	to lean on	
^{4}gẽ	to employ other's oxen	
^{4}gã	shell of snail	
^{4}gõ	rocky area	
^{4}dĩ	house	
^{4}de	to press mud on terrace wall	
^{4}de	to lean hand on s.o.'s shoulder	
^{4}demyõ	a basket	
^{4}dõ	to thresh grain	
^{4}dũ	tree	
^{4}dũ	to stand, rest upon	
^{4}dũba	thick, fat, large	
^{4}dũri	marten	
^{4}biru	necklace	≍ Ris **^{3}pjuru**
^{4}boɖ	Tibet	
^{4}ba	to bring	
^{4}bõ	strength	
^{1}bi	to say	< ***bi^{3}**
^{1}bo ~ ^{4}bo	to take away	< ***bor^{3}**

Table 2b. Voiced initial clusters or complex segments

⁴gjã ~ **⁴gã**	road	
⁴gjõsĩ	tree *Alnus nepalensis*	
⁴gri ~ **²kri**	one	
⁴dzjũ (? ~ **³cjur**)	to crumple, wring, squeeze	
⁴dzõ	to pour, put in	
⁴dzadza	small	
⁴dzõdzu	tripod	
⁴bwi	to bring from above	⩵ Ris **²pwi**
⁴baẽ	to wait	⩵ Ris **⁴pran**
⁴bjõ	to throw down	
⁴bjã	to throw away	⩵ Ris **⁴pjaŋ**
⁴blĩ	to turn over	⩵ Ris -Sa **³pliŋ**

Table 3
Gurung words with a voiceless initial on tone-4 [12]
typically clusters or affricates
(some cognates included for exceptional forms)

⁴kwe ~ **⁴koe**	bee	
⁴kwe ~ **⁴koe**	song	
⁴kwẽ	to measure (volume)	
⁴krwe ~ **⁴kure** ~ **¹kwre**	vulture, eagle	
⁴krosena	for good	
⁴kju ~ **¹kju**	sheep	
⁴kjwi ~ **⁴kwi**	language	
⁴kjo	to plough	
⁴kla	ox	
⁴kae	to push	?⩵ Ris-Sa **¹hui** *cf.* Newari **ghwatə**
⁴ke	work	< ***gjat⁴**
⁴ki	thatch	< ***gi⁴**
⁴cu ~ **⁴cũ**	to distribute, to share	
⁴cu	to put on stove	
⁴ci	to remember	
⁴ci	to winnow sideways	
⁴cjo	to count	

⁴ʈo	to be warm	
⁴ʈo	carrying head-strap	
⁴ʈu	to sew	
⁴ʈu	six	
⁴ʈu	to glare in anger	
⁴ʈwi ~ ²ʈuiba:	to collapse	
⁴ti	load	< ***dwi** < ***dot⁴**
⁴ti	to gather into sheaves	< ***dwi** < ***dut⁴**
⁴te	to cook vegetables	≍ Ris **⁴tai**
⁴ta:	to hoe, dig	?≍ Ris **³ʈwa** 'plant corn'
⁴ta:	needle	< ***dap⁴**
⁴pra	to walk	
⁴pra ~ ¹bra ~ ¹pra	hundred	
⁴pro	cliff	
⁴pro	flour	
⁴pru	to thrash	
⁴pre ~ ¹pre	eight	
⁴pri	to grind in mortar	
⁴priũba	lower	
⁴pwe	to engage	
⁴plo	to be rich	
⁴plu	seed	
⁴pli	four	
⁴pjo	to fall over	
⁴pjo	to stamp	
⁴pu	to ripen artificially	≍ Ris-Sa **⁴pup**
⁴pa:	to bury	?≍ Ris **⁴pip** Prak **⁴pju:**
⁴po	to cover or wrap self	≍ Ris **⁴pa:** 'pile up'