

## Tonal Alternations in the Pumi Verbal System\*

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This paper presents two hitherto unnoticed sets of alternations in the tonal systems of Northern Pumi. First, in some verbs, rising tone in the citation form alternates with falling tone in the perfective. Second, the verb ‘to go’, when combined with other verbs, presents tonal alternations which are not found elsewhere in the verbal system. A sample text is added in the appendix to illustrate the tonal phenomena discussed in the article.

Key words: Pumi, tonal alternation, directional prefixes

### 1. Introduction

Like most Qiangic languages (apart from Northern Qiang and Japhug Rgyalrong), Pumi dialects<sup>1</sup> have tonal contrasts. On monosyllables, either two tone categories (Lu 2001:21, Matisoff 1997) or three (Ding 2001, 2003, Lu 2001:97) are found depending on the dialect.

Earlier work on Pumi (Lu 1983:15-20, Fu 1998:18-20, Lu 2001) analyzes the tonal system of this language on the model of Chinese, transcribing all syllables as if they had

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<sup>1</sup> Pumi (a.k.a. Prinmi) is a cluster of at least two distinct languages spoken across Yunnan and Sichuan, mainly in Lanping County, Ninglang County (Yunnan), Muli County and Jiulong County (Sichuan). The total number of speakers is above 30,000. In Muli County, it is the main language among ethnic Tibetans, and speakers of Shixing, Kami Tibetan, and other languages also learn it as a second language (Chirkova 2009:3).

an inherent tone. They do, however, mention some cases of sandhi and interaction between stems and affixes (Fu 1998:28-29, 88-89).

Matisoff (1997) is the first to use Africanist transcription instead of the Chao Yuen Ren system for transcribing Pumi tones, a system which is better suited for a language typologically closer to the African type than to the Chinese one (Hyman 2010, Evans 2008). Although the focus of this article was mainly on comparative linguistics, he nevertheless offers a valuable description of tonal sandhi and tonal alternation phenomena at the word level.

Ding (2001, 2006, 2007) analyzes the Pumi tonal system as a Pitch-accent system<sup>2</sup> and compares it to various Japanese dialects. Since his analysis is considerably more developed than those of his predecessors, it is worthwhile to describe it in more detail.

In the variety described by Ding, as in other dialects described by Lu (2001), monosyllables have three surface realizations: high (H), falling (F) and rising (R). He analyzes these categories as underlying H, HL and LH respectively. This analysis is justified by the patterns of tone spreading when an enclitic is added after a monosyllabic noun, as shown in Table 1:

**Table 1:** Analysis of Pumi tones in monosyllables according to Ding (2006:13)

Citation form	Realization with an enclitic	Meaning
ʃi <sup>F</sup>	ʃi <sup>H</sup> ge <sup>L</sup> H.L	louse
ʃi <sup>H</sup>	ʃi <sup>H</sup> ge <sup>H</sup> H.H	hundred
ʃi <sup>R</sup>	ʃi <sup>L</sup> ge <sup>H</sup> L.H	new

The fact that the same tonal categories are realized as contour tones in citation form but appear as series of High and Low when a clitic is attached shows that an analysis in terms of syllable tone is not tenable for Pumi dialects, and that all contour tones of this language must be analyzed as combinations of high and low tones.

In polysyllabic words, the range of attested possibilities for a word of *n* syllables is much lower than 3<sup>*n*</sup>, the number of categories which would be expected if each syllable had an underlying tone. Ding (2003:590, 2006:14) describes the following categories (where F, H, L and R represent the surface realizations of the tones, respectively falling, high, low and rising): only four patterns on disyllabic words (instead of an expected 3<sup>2</sup> = 9), six patterns on trisyllabic words (instead of 27) and seven on tetrasyllabic words.

<sup>2</sup> Since the category of ‘Pitch Accent’ is difficult to define rigorously cross-linguistically (Hyman 2009), we shall avoid this term in the present paper.

**Table 2:** Realization of the tonal categories in Xinyingpan Pumi (Ding 2006:14)

Category	Spread	1	2	3	4
A 1	–	F	HL	HLL	HLLL
B 1	+	H	HH	HHL	HHLL
C 2	–	R	<u>LH</u>	LHL	LHLL
D 2	+		<u>LH</u>	LHH	LHHL
E 3	–		LR	<u>LLH</u>	LLHL
F 3	+			<u>LLH</u>	LLHH
G 4	X			LLR	LLLH

The categories C and D on disyllabic words on the one hand and E and F on trisyllabic words are distinct only when a clitic or a compound word is added: with C and E categories, the high tone does not spread onto the next syllable, while it does with D and F categories. For instance,  $t\tilde{o}^1pu^H$  ‘donkey’ and  $t\int i^1m\tilde{e}^H$  ‘dog hair’ pattern differently when a subsequent syllable is added: with  $t\tilde{o}^1pu^H$ , which belongs to category D, the subsequent syllable has a high surface tone (for instance  $t\tilde{o}^1pu^Hk'u^H$  ‘donkey head’), whereas with  $t\int i^1m\tilde{e}^H$ , which belongs to category C, it has a low surface tone (no example provided in Ding’s papers).

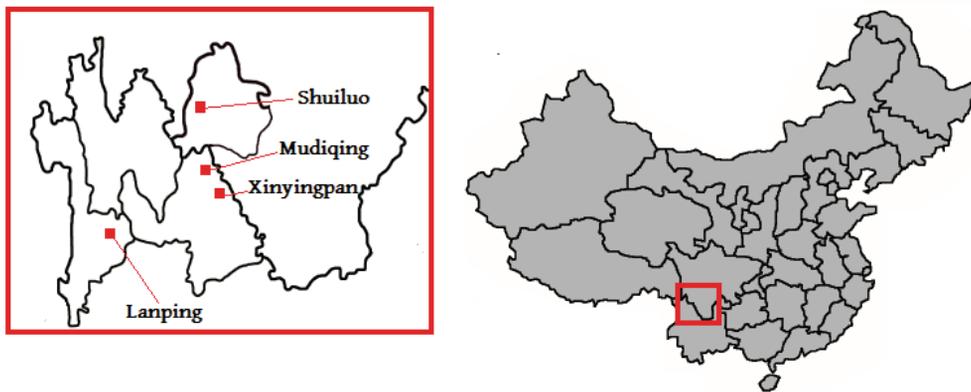
According to Ding’s analysis, two underlying properties are enough to yield the observed categories: the place of the high tone in the prosodic domain, and whether this high tone can spread on the next syllable. The number in the first column indicates which syllable in the prosodic domain is the locus of the high tone, and in the second column, + indicates that the high tone can spread, – indicates that it cannot, and X that either is possible in free variation. The underlying high tone spreads rightwards, so that syllables situated on its left are realized with a low tone. If the number of syllables in the prosodic domain is inferior to the place of the high tone (for instance, category C with a monosyllable, the high tone should be placed on the second syllable, but only one syllable is present in the prosodic domain), a rising tone results.

This analysis elegantly accounts for the data of the Xinyingpan variety; however, it will be shown below that some tonal alternations found in other Pumi dialects are difficult to explain using this model.

Since the regular tonal alternation patterns in nominal compounding observed in these Pumi dialects do not seem to exhibit exactly the same behavior as in the variety described by Ding, I shall lay out basic facts about the tonal system of Shuiluo Pumi and describe tonal alternations in nouns (which are simpler) before discussing the problematic phenomena observed in the verbal system in the following sections.

## 2. Segmental inventory

The dialects investigated in this study are the Mudiqing (木底箐, Ninglang, Lijiang, Yunnan) and Shuiluo (水洛, Muli, Liangshan Yi Autonomous Prefecture, Sichuan) varieties, which belong to the Northern Pumi language (see Figure 1).<sup>3</sup> The tonal alternation patterns in both dialects are almost identical. These dialects are related to the Xinyingpan dialect, with which they are mutually intelligible according to my informants' opinion. The data were collected during two field trips in July-August 2008 and February-March 2009 respectively. The present paper will mostly use data from the Shuiluo dialect.



**Figure 1:** The location of Lanping, Shuiluo, Mudiqing and Xinyingpan Pumi dialects

Since the segmental phonology of Shuiluo Pumi differs from all previously described varieties (including the eight dialects in Lu 2001, among which it is closest to Taoba), I shall first present a basic account of the vocalic and consonantal inventory of this language. The basic syllabic structure is C(r)(G)V(G), where C, V, and G stand for consonant, vowel, and glide respectively.

This syllabic structure is simpler than the one found in Lanping of Xinyingpan, as most consonant clusters have disappeared. The only attested clusters are br- and pr-, and br- freely alternates with dzw- in some words.

<sup>3</sup> My Mudiqing Pumi consultant Mr. Cao was born in 1962 and lives in Yongning Township in a community of speakers of the Na language (see Michaud 2008 for more information about this language). He speaks Chinese, Na, and Pumi. My Shuiluo Pumi consultant Ngag-dbang was a retired cadre. He lived in Qiaowa (the seat of the government in Muli County), was married to a speaker of Taoba Pumi (a very close variety), and spoke the language on a daily basis, though Chinese was, of course, his main language.

The list of attested rhymes is the following:

**Table 3:** The rhymes of Shuiluo Pumi

	i	e	ɛ	ə	ɜ	a	u	o	ĩ	ẽ	ã	õ
V	i		ɛ	ə	ɜ	a	u	o	ĩ	ẽ	ã	õ
Vu				-əu				-ou				
Vi		-ei										
-jV		-je	-je	-jə	-jɜ	-ja	-ju	-jo			-jã	-jõ
-wV	-ui		-wɛ	-wə	-wɜ	-wa			-wĩ	-wẽ	-wã	
		-wei		-jəu								

The phonetic realization of these rhymes is not entirely straightforward: /wə/ is realized [w̥],<sup>4</sup> the glide -w- is realized [-w̥-] after a coronal consonant and before a front vowel. /ə/ has three allophones: [ɹ] after dental fricatives and affricates (as in *tɕə* ‘to milk’ [tɕɹ<sup>55</sup>]), [ɻ] after retroflex fricatives and affricates (as in *tɕə* ‘gall bladder’, [tɕɻ<sup>55</sup>]) and as the labial trill [β] after bilabial stops (as in *pə* ‘to dig’ [pβ<sup>55</sup>]). As in other attested forms of Pumi, no final consonants are found.

There are 40 consonant phonemes in Shuiluo Pumi:

**Table 4:** The initial consonants of Shuiluo Pumi

p	t			k	
p <sup>h</sup>	t <sup>h</sup>			k <sup>h</sup>	
b	d			g	
	ts	tɕ	tɕ		
	ts <sup>h</sup>	tɕ <sup>h</sup>	tɕ <sup>h</sup>		
	dz	dɕ	dɕ		
	s	ɕ	ɕ	x	h
	s <sup>h</sup>	ɕ <sup>h</sup>	ɕ <sup>h</sup>		
	z	ʒ	ʒ	ɣ	ɦ
m	n			ŋ	
m̥	n̥			ŋ̥	
	l		r		
	l̥				

<sup>4</sup> This analysis is preferred because the non-egophoric infix <w> added to a stem in -ə yields the surface vowel [w̥]: *ɕə* ‘to jump’ > [ɕw̥] *ɕwə*.

Unlike other Pumi dialects, Shuiluo Pumi has aspirated fricatives,<sup>5</sup> and has a real trill [r] contrastive with the voiced fricative [z]. The velar fricatives /x/ and /ɣ/ are realized as uvulars before back vowels, and as palatal fricatives before /i/.

### 3. The tone system of Shuiluo Pumi

Like the Niuwozi Pumi dialect studied by Ding, Shuiluo Pumi has three surface tonal categories on monosyllables, that can be described as high, falling, and rising in isolation. This basic system on monosyllables is also remarkably similar to that of Shixing (Chirkova & Michaud 2009). For convenience, I use the Africanist tone marks (like Matisoff 1997), as summarized in the following table. Low pitch (which is either the effect of an underlying low tone or the realization of an absence of tone) will be transcribed with a grave accent.

**Table 5:** Tonal categories on monosyllables in Shuiluo Pumi

Example	Meaning	Underlying analysis
ʋ̂ njê	eye	A: 1, –spread
ʋ́ njé	red	B: 1, +spread
ʋ̌ njě	black	C: 2, –spread

For the time being, I follow Ding's analysis. However, we shall see that the analysis of the rising tone is not straightforward. On disyllabic nouns, four distinct patterns are attested:

**Table 6:** Tonal categories on disyllables in Shuiluo Pumi

	Example	Meaning	Ding's analysis
ʋ̂ HL	rwə́bò	willow	A: 1, –spread
ʋ́ HH	rwə́mí	mare	B: 1, +spread
ʋ̌ LH	rwə̀mí	female yak	C/D: 2
ʋ̌ LR	rə̀dzǎ	alcohol	E: 3, –spread

We find here the same four surface categories presented by Ding (C and D can only be distinguished if a subsequent syllable is added). For trisyllables and tetrasyllables, there are not enough words in my lexicon to provide a comprehensive account of the possible surface forms. Contour tonal patterns are restricted to the last syllable of a phonological word, following a general cross-linguistic tendency (Zhang 2004:929).

<sup>5</sup> These aspirated fricatives come from {s+aspirated affricate} clusters.

In compound words of two syllables, the following rule can be used to predict the tonal pattern of the resulting disyllable (rows indicate the first element and columns the second element of the compound):

**Table 7:** Examples of regular tonal change in composition

	dó ‘back’	rê ‘skin’	sěi ‘blood’
gwí ‘bear’	gwí dó	gwí rě	gwí sěi
kwê ‘cow’	kwě dó	kwě rě	kwě sěi
ywǐ ‘horse’	ywǐ dó	ywǐ rě	ywǐ sěi

The tonal patterns observed in Table 7 can be described as follows:

**Table 8:** Regular tonal change in composition

	H	F	R
H	HH	HH	HH
F	LH	LH	LH
R	LH	LH	LH

Only two patterns are found: high-high and low-high. The tonal pattern of the disyllable only depends on the first syllable. A similar, though not identical rule is found in the neighboring Shixing language (Chirkova & Michaud 2009:549). However, this productive rule has a few exceptions, such as bípě ‘sand’ from bí ‘sand’ and pě ‘flour, powder’ (the expected form would be \*bípě).<sup>6</sup> These exceptions are best considered as older compounds, to which the regular rule is not applicable. The composition rules presented above do not only apply to compound nouns, but sometimes also to object+verb compounds, though the exact environment where these occur still deserves further research.

#### 4. Regular alternations in the verbal system

The Pumi verb is very rich in affixes, most of which are monosyllabic. The longest suffix -mədə̀rə is three syllables long, made from the nominalizing suffix -mə (itself a grammaticalized form of the noun m̂ ‘man’), the copula d̂ə and the progressive suffix -rə. It is an evidential marker used in stories to report facts that the speaker has not

<sup>6</sup> The word <sup>Mtsa</sup>by ‘flour, powder’ in Yongning Na, whose second syllable is possibly related to pě (either as a cognate or as a loanword) also presents irregular tonal patterns (Michaud & Latami 2009:14).

witnessed himself. Although the etymology of this trisyllabic suffix is still synchronically transparent, it is fully grammaticalized, and the lexical tone of the verb spreads over the three syllables.<sup>7</sup>

Suffixes are toneless, and the intrinsic tone of the verbal stems spreads onto it.<sup>8</sup> The following table shows tonal spreading patterns with a monosyllabic suffix (the progressive -rə) and with the trisyllabic -mədərə:<sup>9</sup>

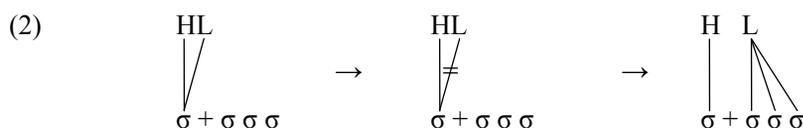
**Table 9:** Tonal spreading with monosyllabic verbs

Basic form	Monosyllabic suffix	Realization	Trisyllabic suffix	Realization	Meaning
ʒwí	ʒwí-rə	ʒwí-rə	ʒwí-mədərə	ʒwí-mədərə	observe
ʒê	ʒê-rə	ʒé-rə	ʒê-mədərə	ʒé-mədərə	stay
tǎ	tǎ-rə	tà-rə	tǎ-mədərə	tà-mədərə	arrive

The tonal spreading patterns of the first two tonal categories are straightforward. They can be represented in the following way:



The high tone is a single H tone underlyingly. It associates to the stem and spreads rightwards to all following suffixes, which are toneless.



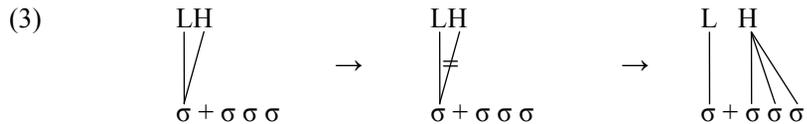
<sup>7</sup> If it were not fully grammaticalized, one would not expect the tone spreading patterns described in this section. The copula, when it appears with nouns, does not show such peculiar behaviour: the high tone of monosyllabic nouns does not spread on the copula. In isolation, the copula followed by the progressive is realized dǎ-rə (or rather dǎ-rə), but in fluent speech it is often realized as low tone on both syllables as an effect of the intonation.

<sup>8</sup> Apart from the suffixes, directional prefixes and many discourse particles are toneless; in the appended story, toneless affixes and particles have no tone marks in the underlying form. The idea that underlying low-tone syllables must be distinguished from toneless syllables in Pumi is found in Greif (2010).

<sup>9</sup> Many examples of verbs with this suffix can be found in the story in the appendix.

The falling tone is underlyingly composed of two tonal elements H and L. When suffixes are added to the stem, the high tone remains in situ, while the low tone is re-associated with the following suffix.

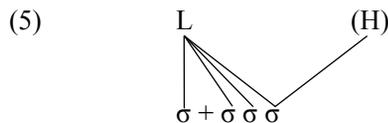
The same analysis cannot be proposed for the rising tone if it is analyzed as LH, as the following result would be expected:



We would obtain \*tà-mádérǎ, an impossible form. In order to explain the attested form tà-mədǎrǎ, a solution would be to analyze the surface rising tone as an underlying low tone. The form tà-mədǎrǎ would be as such:

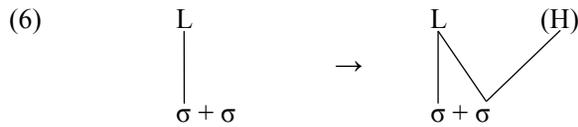


A rule against low-tone words (or rather the obligatory presence of a high tone in phonological words as in other Qiangic languages, see Evans 2008:484) would then change the last syllable of the word into a surface rising tone by insertion of a postlexical high tone.



A similar rule has been described for Yongning Na (Michaud 2008:186).<sup>10</sup> In this analysis, low-rising words such as rǎdzǎ ‘alcohol’ cited in §1 must be analyzed with a low tone pattern L as the underlying form. The only problem with this theory is the form of verbs with monosyllabic suffixes: the suffix is realized with a high tone, not a rising one. If the analysis of rising tone monosyllabic verbs as having an underlying low tone were correct, we would expect the form \*tǎ-rǎ instead of attested tǎ-rǎ:

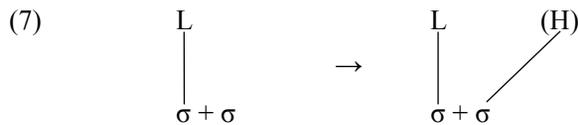
<sup>10</sup> ‘[...] the L+L sequence cannot surface as such, due to a general prohibition against all-L phonological words (and a fortiori all-L utterances) in Na. The all-L sequence is avoided by post-lexical addition of a final M tone, which modifies L+L to L+LM[...]’



I do not propose any elegant explanation for this problem. Two analyses are possible.

First, one could analyze rising tone monosyllables as underlying LH, and add a rule according to which a high tone following a low tone is deleted if it has to spread on more than one syllable. However, this analysis is problematic as it increases the complexity of the basic form and requires the addition of an arbitrary rule.

Second, if one maintains the analysis of the monosyllables as low tones, one must account for the high tone by a special rule. A possible solution is to suppose that low tone fails to spread on one-syllable suffixes, and that the postlexical high tone (automatically added in words without underlying high tone) associates with a toneless syllable. Therefore, no surface rising tone occurs.<sup>11</sup>



I shall adopt the second option in this paper.

Disyllabic verbs have a much simpler pattern: the suffixes are always realized with low pitch, except with low-rising disyllabic verbs (that is, underlying low tone verbs), as the last syllable of the verb undergoes the same change as for monosyllabic verbs.

**Table 10:** Tonal spreading with disyllabic verbs

Basic form	Tone	Meaning	Realization
sɛní	LH	to hear	sɛní mǎdǎrǎ
máçé	H	to search	máçwé mǎdǎrǎ <sup>12</sup>
súdju	HL	to think	súdju mǎdǎrǎ
kǎtsěi	L	to be small	kǎtsèi mǎdǎrǎ

<sup>11</sup> This idea was suggested by Alexis Michaud, but I remain responsible for any error in the analysis set out in this section.

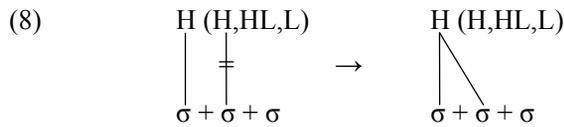
<sup>12</sup> This form has the non-egophoric volitive infix <w>.

Most prefixes are toneless, and are realized with a surface low tone,<sup>13</sup> the default realization for toneless syllables. Among the directional prefixes, only the ‘up’ prefix has a high tone:

**Table 11:** Pumi directional prefixes

Direction	Shuiluo Pumi
up	tá-
down	nɜ-
out	k <sup>h</sup> ə-
in	hɜ-
cislocative	də-
translocative	t <sup>h</sup> ɜ-

The tone of this prefix regularly spreads rightwards onto the verb stem and the verb’s own tone is dissociated (the same phenomenon has been noted in Fu 1998:28-29 for a different dialect). However, the high tone of the prefix can only cross one morpheme boundary: the suffix will remain toneless, and ends up with a surface low pitch.



This phenomenon can be observed from the following examples (the perfective forms have either the egophoric<sup>14</sup> -sǎ suffix or the non-egophoric one -çì).

**Table 12:** Spread of the high tone from the directional prefix

Basic form	Meaning	Perfective	Expected
tɕú	sour	tá-tɕú-çì	*tǎ-tɕú-çí
ç <sup>h</sup> î	wake up	tá-ç <sup>h</sup> í-sǎ	*tǎ-ç <sup>h</sup> í-sǎ
gǒ	lift	tá-gǒ-sǎ	*tǎ-gǒ-sǎ

<sup>13</sup> Unlike Shixing where the tone of the verb spreads leftwards onto the prefix (Chirkova & Michaud 2009:550-551).

<sup>14</sup> I adopt here Tournadre’s (2008) terminology rather than the terms ‘conjunct/disjunct’.

## 5. Irregular alternations

In the previous section, I have presented a basic account of the regular tonal alternations observed in the verbal system of Shuiluo Pumi. In the present section, I shall turn to two sets of alternations that cannot be accounted for synchronically by a set of simple rules and are lexically determined.

### 5.1 Rising tone monosyllabic verbs

We observe that several rising tone monosyllabic verbs undergo tonal alternation in the perfective form, when a directional prefix is added. The directional prefix has low surface tone, the verb stem high surface tone and the suffix low surface tone (the first example *suǎ* in the table is a non-alternating verb):

**Table 13:** Examples of alternating rising tone verbs

Basic form	Perfective form (1sg or 3sg)	Expected	Meaning
swǎ	k <sup>h</sup> ǎ-swǎ-sǎ		I counted
tɕǐ	nǎ-tɕí-sǎ	*nǎ-tɕì-sǎ	I poured
lěi	nǎ-léi-sǎ	*nǎ-lèi-sǎ	I ploughed
ɕ <sup>h</sup> ǎ	t <sup>h</sup> ǎ-ɕ <sup>h</sup> ǎ-sǎ	*t <sup>h</sup> ǎ-ɕ <sup>h</sup> ǎ-sǎ	I scooped
ǰǐ	nǎ-ǰí-sǎ	*nǎ-ǰì-sǎ	I wore (clothes)
těi	nǎ-téi-sǎ	*nǎ-tèi-sǎ	I wore (a hat)
ʒǐ	dǎ-ʒǐ-ɕì	*dǎ-ʒǐ-ɕì	It became lighter

The resulting perfective forms with LHL tone pattern look like perfective forms of falling tone verbs. Unlike the alternations observed with the prefix *tǎ-*, which can be explained as cases of assimilation, there is no evidence that the tone change observed here is caused by the directional prefixes. Some disyllabic verbs with low-rising tone pattern, such as *kǎtsěi* ‘small’, also present this alternation: the perfective form of this stative verb is realized as *nǎ-kǎtsěi-ɕì* ‘it became small’.

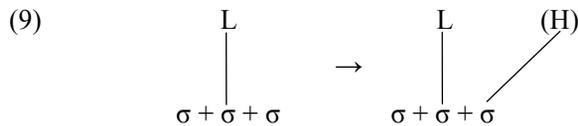
These alternations are observed both in running speech (recorded stories, as the one in the appendix) and isolated sentences. Therefore, it cannot be an effect of intonation.

Alternating verbs should be synchronically analyzed as a fourth lexical tonal class, distinct from both falling tone and rising tone, with a distinct underlying representation. However, an analysis in terms of H and L tones cannot easily account for the data presented above. Since falling and rising tone verbs have been respectively analyzed as H, HL and L in the previous section, we are left with only two possibilities: either to consider alternating verbs as underlying LH, or to suppose the existence of a contrast

between L and underlyingly toneless verbs.<sup>15</sup>

Proposing a category LH has one obvious advantage: we could unify the four tonal patterns found on monosyllables with those of disyllables shown in Table 4. However, the discussion in §3 has already shown that LH would account poorly for the spreading rules observed when various suffixes are added to the verb stem.

The other alternative, which I shall adopt in this article, is to hypothesize that of the alternating and non-alternating rising tone verbs, one category is toneless and receives a default low tone like affixes or sentence particles, and the second one has an underlying L tone. According to the analysis in §3, we should expect a prefixed monosyllabic verb with underlying Low tone to have the surface form LLH:



Non-alternating verbs are therefore verbs with underlying L tone. With toneless verbs, on the other hand, the insertion of a high tone is not accounted for by the rules presented in §3. The surface tonal pattern LHL looks as if the HL had been inserted on the toneless verbal stem (a simple H tone would not do, as it would result in an LHH pattern):



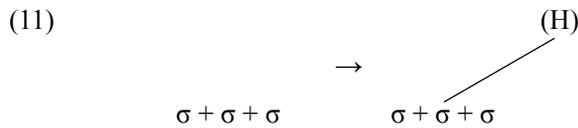
This process could be interpreted as a kind of polarity.<sup>16</sup> However, a simpler solution might be possible. As mentioned in §3, a postlexical H tone must be inserted in all-low

<sup>15</sup> One anonymous reviewer suggested that the alternation could be explained by assuming that the alternating verbs were LH underlyingly, with a leftward spread of the L tone on the prefix. He pointed out that such cases of leftward spread are attested in Pumi dialects (see for instance Ding (2001:76) concerning the *v*- prefix with the kinship terms). However, one would still have to explain why LH spreads leftwards with some verbs, and rightwards with others, and why in HL verbs the H tone does not spread leftwards. Besides, allowing leftward spread in the verbal system would unduly increase the complexity of the analysis. We adopt here the idea that only rightward spread is allowed.

<sup>16</sup> Presence of polarity in Pumi would be one further argument in favor of Evans' (2008:484-485) idea that Qiangic languages, including Pumi, present tonal features thought to be characteristic of African tone languages.

phonological words. Since toneless syllables are normally realized with a surface low tone, the high tone insertion would have to appear in a word whose syllables are all underlyingly toneless.<sup>17</sup> To explain the LHL tone pattern, we only need to add two specifications to the postlexical High tone insertion rule:

- (i) In verbal forms where all syllables are underlyingly toneless, the postlexical H tone is inserted on last syllable of the morpheme that contains the second syllable, regardless whether it is an affix or a verbal stem.<sup>18</sup>
- (ii) Postlexical H tones cannot spread.



We need an additional rule to explain why toneless and Low tone verb stems share the same tonal patterns in non-prefixed verb forms:

- (iii) In non-prefixed verb forms (when the verb stem is the first syllable of the phonological word), an L tone is inserted on toneless verbal stems.

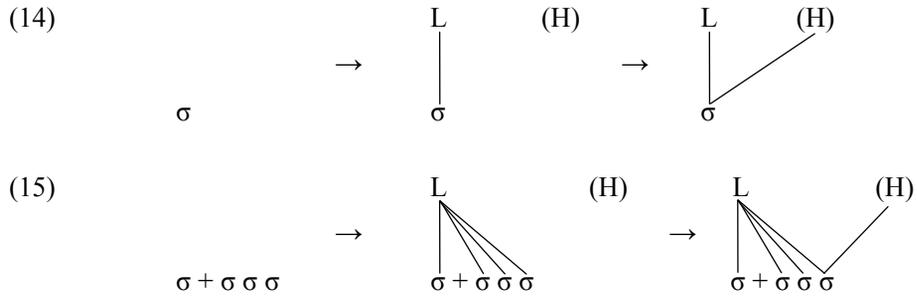
Without rule (iii), we would expect the bare stem form to be realized with a high tone (12), and the form suffixed with -mədərə to be realized as LLLH (13).



<sup>17</sup> Note that in this hypothesis, toneless verb stems do not follow the same tone rules as toneless affixes or sentence particles.

<sup>18</sup> In disyllabic verbal stems such as *nə-kətséi-ci* ‘it became small’ mentioned above, the high tone is placed on the second syllable.

With rule (iii), the non-prefixed verbal forms of toneless stems are virtually identical to L tone stems as in (14) and (15):



These alternations have never been described for Pumi dialects with three tones, but similar phenomena have been mentioned by Matisoff (1997) and Fu (1998), who both worked on two-tone dialects. Matisoff (1997:209) presents the following data:

**Table 14:** Alternating verbs in Matisoff (1997)

Meaning	Basic form	Prefixed form
carry on shoulder	tǎ	tá-tǎ
collapse	p <sup>h</sup> yě	t <sup>h</sup> ə-p <sup>h</sup> yé
drop	dǐ	nə-dǐ
dry	ɛγǔ	tə-ɛγú
get	ʒdʒǐ	tá-ʒdʒí / ɛ-ʒdʒǐ
hang	ʂǎ	tá-ʂǎ
hide	nǎN	t <sup>h</sup> ə-nǎN
mislaid	mǐ	t <sup>h</sup> ə-mí
pull out	ɬwǎ	tá-ɬwá / t <sup>h</sup> ə-ɬwǎ
rot	bdʒǐ	nə-bdʒí
satiated	kwǐ	tǎ-kwí
sew	dǎi	tə-dǎi
take with one	zʒǎ	ná-zʒǎ
understand	tʂǎ ʃǐ	t <sup>h</sup> ə-tʂǎ-ʃí
wear heat	twǎ	tá-twá
wear clothes	gwǐ	tá-gwí

Matisoff (1997:209-210) only briefly comments on this phenomenon: “In what appears to be the majority of cases, a verb under the low tone acquires the high tone after a directional prefix in Dayang [Pumi]”. In the light of the Shuiluo Pumi data, it seems that

Matisoff’s examples actually conflate two distinct phenomena: the systematic high-tone assimilation of the ‘up’ prefix tʰ- on the one hand (these cases have been shaded in grey in the table) and the genuine tonal alternation occurring with all other directional prefixes (only seven examples in all).

Fu (1998:88-89) notices 21 verbs in her corpus which undergo tone change when a directional prefix other than tʰ- is added. Her list includes the following (all tone 24, low rising tone):

**Table 15:** Alternating verbs in Fu (1998)

Meaning	Basic form	Meaning	Basic form
爛 rotten	bʒi	換 change	ʒdʒu
天陰 dark	dʒəŋ	還 give back	ts <sup>h</sup> ue
(棍子) 斷 break	dʒən	垮 collapse	bie
脫落 to get off	gə	撕 tear off	t <sup>h</sup> e
脫臼 dislocate	ʈi	賣 sell	ʃtʃi
剩餘 remain	xə	弄垮 cause to collapse	p <sup>h</sup> ie
聽見 hear	noŋ	拿 take	.ruə
滅 destroy	go	送 give	ʃtʃyn
採 pick up	q <sup>h</sup> ə	跑 run	bʒin
抽煙 smoke (= drink)	t <sup>h</sup> in	扔 throw	vba
連接 link	ʃtʃ <sup>h</sup> ua		

Several etyma are found in both Matisoff’s and Fu’s lists: “rot” and “collapse”, but since their fieldwork research was based on entirely different wordlists, relatively few comparable etyma are found. By contrast, I collected vocabulary on Shuiluo and Mudiqing Pumi using the same basic list, and as a result found many common etyma between these two varieties, allowing a better evaluation of how stable the tonal alternation is across Pumi dialects. In my data, I find the following list of examples belonging to the fourth category:

**Table 16:** Alternating verbs in Shuiluo and Mudiqing Pumi

	Shuiluo	Mudiqing
scoop	ɕ <sup>h</sup> ǎ	tɕ <sup>h</sup> ǎ
leak	zǎ	dzǎ
ride	dzěi	dzěi
plant	lěi	lěi
wear (hat)	těi	těi
pour	tɕi	
wear	gǐ	gǔ
remember	tɕǐ	
drink	t <sup>h</sup> ǐ	t <sup>h</sup> iě
flee	ts <sup>h</sup> ǐ	
break	dzǐ	dzě
light	zǐ	dzě (no alternation)
fat	ts <sup>h</sup> wǎ	ts <sup>h</sup> â
flee		p <sup>h</sup> ě
fly		biě
run		dzě
bear on the back		kǔ
do		dzǔ
sell	ɕî	kǐ
hide	ɕû	tɕǔ
understand		nǒ
use	zɕzǎ	zǎ
obtain		rǐ
give		tɕyě

From this list, we observe that not all verbs are alternating in both dialects, even when we find cognates. Five exceptions are found (out of 13 verbs with cognates in both dialects). In Mudiqing there are two falling tone verbs, dzě ‘break’ and ts<sup>h</sup>â ‘fat’, corresponding to alternating tone verbs in Shuiluo, and one rising tone verb, dzě ‘light’, without alternation (past k<sup>h</sup>ǎ-dzě-ɕî), whereas its cognate in Shuiluo has alternation. Similarly, in Shuiluo we find two falling tone verbs, ɕî ‘sell’ and ɕû ‘hide’, corresponding to alternating verbs in Mudiqing.

The tonal correspondences are even more complex if Fu’s (1998) data are taken into consideration. Although a few items in her list correspond to alternating verbs in Shuiluo or Mudiqing (‘give’, ‘hear’ = ‘understand’, ‘smoke’ = ‘drink’), in other cases they correspond to falling tone verbs, for instance ts<sup>h</sup>ue<sup>24</sup> ‘give back’, whose cognates are ts<sup>h</sup>wê in Shuiluo and ts<sup>h</sup>wî in Mudiqing.

These puzzling exceptions can be accounted for by supposing a process of analogical leveling at the expense of the alternating verbs: alternating verbs, which are much less numerous than either rising tone or falling tone verbs, tend to become falling tone verbs (or in one case, a rising tone verb) by generalizing the surface tone found on the prefixed verbal forms. In this hypothesis, whenever a verb has tonal alternation in any Pumi dialect, regardless of the fact that other dialects may have falling tone in the corresponding etymon, the verb in question ought to be reconstructed in proto-Pumi as belonging to the fourth tonal category, that is alternating verbs.

We find no cases of a correspondence between a high tone verb and an alternating verb across dialects,<sup>19</sup> and this is expected since alternation verbs never behave like high-tone verbs either in prefixed and non-prefixed form; an analogical change from high-tone to alternating or vice-versa would not be motivated phonetically.

In summary, for the Northern Pumi dialects under investigation, I propose that we must distinguish four, not three tonal classes on monosyllabic verbs:

**Table 17:** Monosyllabic verbs

Toneless	Basic form	Perfective 1sg	Meaning
H	pó	nə-pó-sǎ́	to dig
HL	kô	nə-kó-sǎ̀	to win
L	bǔ	nə-bù-sǎ́	to bury
toneless	gǐ	nə-gí-sǎ̀	to wear

For disyllabic verb stems, we find five tonal categories:

**Table 18:** Disyllabic verbs

Tone	Basic form	Perfective 1sg (or 3sg)	Meaning
LH	rə́gí	hè-rə́gí-sǎ̀	to hug
H	ɕúwá	niè-ɕúwá-sǎ̀	to wring
HL	tɕéʂwà	k <sup>h</sup> è-tɕéʂwà-sǎ̀	to throw
L	ɬòdǒ	k <sup>h</sup> è-ɬòdò-sǎ́	to step across
toneless	kàtsěi	nè-kàtsěi-ɕì	to be small

No direct evidence of a toneless category has been found in either monosyllabic or disyllabic nouns, which seem to lack this kind of tonal alternation at least in Shuiluo Pumi, but traces of it could potentially be found in seemingly irregular nominal compounds (such as those mentioned in §2). No definite historical explanation for this

<sup>19</sup> As was pointed out by an anonymous reviewers.

phenomenon can be given until the issue of Pumi tonogenesis has been properly addressed. This topic lies beyond the scope of this paper, as it would require a systematic comparison with other Qiangic languages.

## 5.2 The verb ‘to go’

When a monosyllabic verb is suffixed with the non-egophoric form  $\xi\hat{\text{a}}$  of the verb ‘to go’, this verb undergoes unusual tone changes:

**Table 19:** Tonal alternations with the verb ‘to go’

Basic form	Suffixed with the verb ‘to go’	Expected	Meaning
$dz\acute{\text{a}}$	$dz\acute{\text{a}}\text{-}\xi\hat{\text{a}}\text{-}m\acute{\text{a}}d\acute{\text{a}}r\acute{\text{e}}$	$*dz\acute{\text{a}}\text{-}\xi\hat{\text{a}}\text{-}m\grave{\text{a}}d\grave{\text{a}}r\grave{\text{e}}$	went to sit
$t\hat{\text{o}}$	$t\hat{\text{o}}\text{-}\xi\hat{\text{a}}\text{-}m\grave{\text{a}}d\grave{\text{a}}r\grave{\text{e}}$	id.	went to see
$z\grave{\text{e}}$	$z\grave{\text{e}}\text{-}\xi\hat{\text{a}}\text{-}m\acute{\text{a}}d\acute{\text{a}}r\acute{\text{e}}$	$*z\grave{\text{e}}\text{-}\xi\hat{\text{a}}\text{-}m\grave{\text{a}}d\grave{\text{a}}r\grave{\text{e}}$	went to sleep

When the basic verb is high tone, the tone of  $\xi\hat{\text{a}}$  is assimilated, and the high tone propagates again onto the suffix, quite unlike the high tone of the directional  $t\acute{\text{a}}$ -, which, as we have seen, cannot propagate across more than one morpheme boundary.

When the verb is falling tone,  $\xi\hat{\text{a}}$  becomes low-toned, and so does the following prefix. This form is expected from the rules proposed in §2:

$$(16) \quad \begin{array}{ccc} \text{HL (HL)} & & \text{HL (HL)} \\ | \quad | & \rightarrow & | \\ \sigma + \sigma + \sigma\sigma\sigma & & \sigma + \sigma + \sigma\sigma\sigma \end{array}$$

Finally, when the preceding verb is in the rising tone, we observe an entirely unexpected alternation:  $\xi\hat{\text{a}}$  becomes high tone, and this high tone spreads onto the following suffix. No matter which underlying representation one chooses for  $\xi\hat{\text{a}}$ , one cannot explain this phenomenon. Even assuming that  $\xi\hat{\text{a}}$  were a toneless stem for instance, one would expect L-L-LLR  $*z\grave{\text{e}}\text{-}\xi\hat{\text{a}}\text{-}m\grave{\text{a}}d\grave{\text{a}}r\acute{\text{e}}$ , not L-H-LLL.

As with the preceding alternation, I have no theoretical analysis to propose that would solve this problem. In present-day Shuiluo Pumi, this verb is highly irregular: it has four unpredictable forms  $\text{e}\hat{\text{a}}$ - (basic form)  $\text{e}\hat{\text{a}}$ - (egophoric with directional prefixes),  $\xi\hat{\text{a}}$  (non-egophoric) and  $\text{e}\tilde{\text{a}}$  (imperative).<sup>20</sup> Whether these unpredictable forms are the result of preservation of ancient alternations or secondary idiosyncrasies must be left for future investigations.

<sup>20</sup> Most of these forms are attested in the story in the appendix.

## **6. Conclusion**

This article has documented and analyzed several tonal alternations in the verbal system of Shuiluo Pumi. It demonstrated that four tonal classes must be distinguished for monosyllabic verbs, and five for disyllabic verbs. The issue of tonal alternations in noun phrases (including tri- and quadric-syllabic nominal compounds), and of the effect of intonation on tone realization is left for further research. An important issue would be to determine whether evidence for the contrast between toneless vs. L tonal classes found in verbal morphology can be brought to light in the domain of nominal morphology.

Properly understanding the alternation patterns of Pumi is not only of interest for historical linguistics and theoretical phonology, it also has a considerable practical importance for transcribing Pumi stories correctly, as is illustrated in the excerpt from a Pumi traditional story presented in the appendix.

## Appendix: A sample story in Shuiluo Pumi<sup>21</sup>

The glosses generally follow the Leipzig Glossing Rules, except for the following:

AGENT	agentive
ASSERT	assertive
EGO	egophoric
MOD	modal
NAR	narrative
N.EGO	non-egophoric
OBL	oblique
VOL	volitive
SIMULT	simultaneous

Clitics, indicated by = rather than -, differ from genuine suffixes in that only the rising tone can spread on them, the high tone cannot spread rightwards on clitics in this variety of Pumi, unlike in the variety described by Ding (2003).

tsək <sup>h</sup> wǎ	pá	rú = mə	= ɣɜ	tópí
<b>tsək<sup>h</sup>wǎ</b>	pá	<b>rú = mə</b>	<b>= ɣǎ</b>	tópí
pig_head	divination	divinate=NMLZ	=GEN	story

The story of the one who made divination with a pig head.

01	ʒɛní	ʒɛní	mádʒɜ	hmǐ = mə	tɜ-tɜ
	<b>ʒɛní</b>	<b>ʒɛní</b>	mádʒɜ	<b>hmǐ = mə</b>	tɜ-tɜ
	before	before	poor_man	beg=NMLZ	one-CL

Once upon a time, there was a poor beggar.

02	hmǐ	gjeljě	úní	= k <sup>h</sup> jɛ	dzǎ-mədərə
	hmǐ	<b>gjeljě</b>	úní	<b>= k<sup>h</sup>jɛ</b>	<b>dzǎ-mədərə</b>
	beg	while	this_way	time	go-NAR

He was begging around.

<sup>21</sup> A partially similar story is found in the Tibetan *ro-sgrung* cycle (Robin & Klu-rgyal 2005:177-193). This story was recorded from Ngag-dbang in Muli in February 2009. We present here only one fourth of the entire story, for want of space. The recording will be made available on the LACITO Archive (<http://lacito.vjf.cnrs.fr/archivage/>) eventually.

- 03    **t́s-hń**    =bo    **rŵ**    **í**    **t́s-ḱ**               **bǎ = wō**            **tǎ-mədərə**  
**t́s-hń**    =**b̀**    **rŵ-**    **í**    **t́s-ḱ**               **bǎ = ẃ**            **tà-mə̀dərə**  
one-day    =TOP    yak    herd    one-household    house:GEN-LOC    arrive-NAR  
One day, he arrived at a place where there was a household of yak herders.
- 04    **rŵ-**    **í-**    **hōbǎ**    **ǔ-bje**    **rŵ**    **tsá-rə**    =**k<sup>h</sup>je**    **zê-mədərə**  
**rŵ-**    **í-**    **hōbǎ**    **ǔ-bjé**    **rŵ**    **tsá-ŕ**    =**k<sup>h</sup>jè**    **zè-mə̀dərə**  
yak    herd    girl    this-DAT    yak    milk-PROG    when    stay-NAR  
There was a shepherdess milking yaks.
- 05    **tsǎ́**    **tiǒ**    **tšiwá**    **mǐjè-čǐ**,    **rŵ**    **tsá = mǎ-bje**    **zǎwǐ-mədərə**  
**tsǎ́**    **tiǒ**    **tšiwá**    **mǐjè-čǐ**,    **rŵ**    **tsá = mǎ-bjè**    **zǎwǐ-mə̀dərə**  
he    any    busy    NEG-have    yak    milk=NMLZ-DAT    watch-NAR  
He had plenty of time, and watched her milking yaks.
- 06    **utí**    **rŵ-**    **í-**    **hōbǎ**    **rŵ**    **tsá-tɕwi**    **p<sup>h</sup>ǎ = wō**  
**ùtí**    **rŵ-**    **í-**    **hōbǎ**    **rŵ**    **tsá-tɕwǐ**    **p<sup>h</sup>ǎ = ẃ**  
this    yak    herd    girl    yak    milk-PROG    half-LOC  
As she was milking yaks,
- 07    **rǐ**            **gǎp<sup>h</sup>á**            **nǎ-γǎ**            = **nǐjɛ**            = **bo**  
**rǐ**            **gǎp<sup>h</sup>á**            **nǎ-γǎ**            = **nǐjè**            = **b̀**  
turquoise    one\_half    PFV:DOWN-fall    =AGENT    =TOP  
one half of her turquoise pendant fell down.
- 08    **kí = wō**            **nǎ-tɕǐ-mədərə**  
**kí = ẁ**            **nǎ-tɕǐ-mə̀dərə**  
pasture-LOC    PFV:DOWN-fall-NAR  
It fell on the grass.
- 09    **kí = wō**            **nǎ-tɕǐ**            = **k<sup>h</sup>je**            **tsǎ́**    **xá**            **mǎ-kǔ-mədərə**  
**kí = ẁ**            **nǎ-tɕǐ**            = **k<sup>h</sup>jè**            **tsǎ́**    **xá**            **mǎ-kǔ-mə̀dərə**  
pasture-LOC    PFV:DOWN-fall    when    he    know    NEG-know-NAR  
She did not notice it when it fell on the grass.
- 10    **tǎ-tš<sup>h</sup>ǎ**            = **bo**    **rŵ**            = **nǐjɛ**            **xêi**            **tǎ-pǎ**  
**tǎ-tš<sup>h</sup>ǎ**            = **b̀**    **rŵ**            = **nǐjè**            **xêi**            **tǎ-pǎ**  
one-moment    =TOP    yak            =AGENT            dung            one-CL

tsá =tì rì =k<sup>h</sup>ú nə-x <w> eì-mədərǎ  
 tsá =tì rǐ =k<sup>h</sup>u nə-x <w> eǐ-mədərə  
 he =this turquoise =on PFV:DOWN-defecate< N.EGO:VOL>-NAR  
 At that moment, the yak defecated on her turquoise.

11 utí hmǐ =mə =ti tá-mədərə  
 u-tí hmǐ =mó =tì tá-mədǎró  
 this beg=NMLZ this see-NAR  
 The beggar saw it.

12 təbó tə-tʂ<sup>h</sup>ě rwə tsó ts<sup>h</sup>á =k<sup>h</sup>je =bo  
 təbó tə-tʂ<sup>h</sup>ě rwə tsó ts<sup>h</sup>á =k<sup>h</sup>jè =bò  
 now one-moment yak milk end when TOP  
 After a while, as she finished milking her yak,

13 rwə- ɬi- hōbǎ ně hjü =po hə-zâ =k<sup>h</sup>je =bo  
 rwə- ɬi- hōbǎ ně hjü =pó hə-zâ =k<sup>h</sup>jè =bò  
 yak herd girl milk tent =under PFV:IN-take =when =TOP  
 the shepherdess took the milk to her tent.

14 utí hmǐ =mə =ti tsá bǎ =wō hə-çǎ  
 ùtí hmǐ =mó =tì tsá bǎ =wó hə-çǎ  
 this beg=NMLZ this she house:GEN-LOC PFV:IN-go.N.3.VOL  
 təbo, hmǐ-ʂǎ-mədərə  
 təbò, hmǐ-ʂǎ-mədǎró  
 then beg-go-NAR  
 The beggar went inside her house to beg.<sup>22</sup>

15 “təbó bêi tə-k<sup>h</sup>wǎ sǐtç<sup>h</sup>ě tǎ-zǐ ç<sup>h</sup>ě-ku  
 “təbó bêi tə-k<sup>h</sup>wǎ sǐtç<sup>h</sup>ě tǎ-zǐ ç<sup>h</sup>ě-kú  
 now rice one-bowl breakfast one-CL feed-IMP  
 t<sup>h</sup>əzɛ hmǐ-ku” tç <w> ə-mədərə  
 t<sup>h</sup>əzɛ hmǐ-kú” tç <w> ə-mədərǎ  
 thank\_you beg-IMP say<N.EGO:VOL>-NAR  
 He said, “Please, give me a bowl of rice for breakfast.”

<sup>22</sup> This sentence shows an example of the alternation treated in §5.2. Note also the irregular form hə-çǎ of the verb ‘to go’.

- 16     $\check{u} = k^h j_e$      $m\acute{a}k\acute{a}b\acute{o}$     =  $n j_e$      $b\acute{e}i$      $t\acute{a}-z\acute{i}$      $t^h\acute{a}-\check{c}^h < w > \acute{e}-m\acute{a}d\acute{a}r\acute{a}$   
        **$\check{u} = k^h j\acute{e}$**      **$m\acute{a}k\acute{a}b\acute{o}$**     =  **$n j\acute{e}$**      $b\acute{e}i$      $t\acute{a}-z\acute{i}$      **$t^h\acute{a}-\check{c}^h < w > \acute{e}-m\acute{a}d\acute{a}r\acute{a}$**   
       that-time    family    =AGENT    rice    one-CL    PFV-feed<N.EGO:VOL>-NAR  
       Then, the people from this family gave him a meal.
- 17     $ts\acute{a}$      $b\acute{e}i$      $dz\acute{a}-t\check{c}u\acute{i}$      $p^h\acute{a} = w\check{o}$      $ts^h\acute{a}$     =  $k^h j_e$     =  $bo$   
        $ts\acute{a}$      $b\acute{e}i$      **$dz\acute{a}-t\check{c}u\acute{i}$**      **$p^h\acute{a} = w\check{o}$**      $ts^h\acute{a}$     =  **$k^h j\acute{e}$**     =  **$b\check{o}$**   
       he    rice    eat-PROG    half-LOC    time    =when    =TOP  
       As he was halfway through his meal,
- 18     $ut\acute{i}$      $rw\acute{a}-$      $\acute{f}i-$      $h\check{o}b\acute{a}$      $r\check{i}$      $n j\acute{a}-m\acute{i}-\check{c}i$   
        **$\check{u}t\acute{i}$**      **$rw\acute{a}-$**      **$\acute{f}i-$**      **$h\check{o}b\acute{a}$**      $r\check{i}$      **$n j\acute{e}-m\acute{i}-\check{c}i$**   
       this    yak    herd    girl    turquoise    PFV-disappear-EVD  
        $x\acute{a}$      $k\check{u}-m\acute{a}d\acute{a}r\acute{a}$   
        $x\acute{a}$      **$k\check{u}-m\acute{a}d\acute{a}r\acute{a}$**   
       understand    understand-NAR  
       The shepherdess noticed that her turquoise pendant was missing.
- 19    “ $t\acute{a}b\acute{o}$      $\acute{a}$     =  $t\acute{i}$      $r\check{i}$      $\acute{u}-n\acute{i}$      $p^h\check{u}$      $n j\acute{e} = m\acute{a}$     =  $d\acute{a}$     =  $k^h j_e$ ,  
       “ **$t\acute{a}b\acute{o}$**      **$\acute{a}$**     =  **$t\acute{i}$**      $r\check{i}$      $\acute{u}-n\acute{i}$      $p^h\check{u}$      **$n j\acute{e} = m\acute{a}$**     =  **$d\acute{a}$**     =  **$k^h j\acute{e}$ ,**  
       now    me    =this    turquoise    this\_way    price    valuable=NMLZ    =COP    =when  
       “My turquoise is so valuable,
- 20     $t\acute{a}b\acute{o}$      $n j\acute{a}-m\acute{i}-\check{c}i$     =  $bo$      $t\check{c}^h\acute{a}n\acute{i}$      $p\acute{a}-j\acute{i}$      $d\check{o}''$   
        **$t\acute{a}b\acute{o}$**      **$n j\acute{e}-m\acute{i}-\check{c}i$**     =  **$b\check{o}$**      $t\check{c}^h\acute{a}n\acute{i}$      **$p\acute{a}-j\acute{i}$**      $d\check{o}''$   
       now    PFV-disappear-EVD    =TOP    how    do-NMLZ:MOD    modal  
        $t\check{c}\check{i}-m\acute{a}d\acute{a}r\acute{a}$   
        **$t\check{c}\check{i}-m\acute{a}d\acute{a}r\acute{a}$**   
       think-NAR  
       now, it is lost, what can I do ?”, she thought.
- 21     $m\acute{a}\check{c} < w > \acute{e}-m\acute{a}d\acute{a}r\acute{a}$      $t\check{c}\acute{a} = w\check{o}$      $hi\check{u} = w\check{o}$      $l j\check{a}l j\check{a}$   
        **$m\acute{a}\check{c} < w > \acute{e}-m\acute{a}d\acute{a}r\acute{a}$**      **$t\check{c}\acute{a} = w\check{o}$**      **$hi\check{u} = w\check{o}$**      **$l j\check{a}l j\check{a}$**   
       search<N.EGO:VOL>-NAR    house-LOC    tent-LOC    all  
        $m\acute{a}\check{c} < w > \acute{e}-m\acute{a}d\acute{a}r\acute{a}$   
        **$m\acute{a}\check{c} < w > \acute{e}-m\acute{a}d\acute{a}r\acute{a}$**   
       search<N.EGO:VOL>-NAR  
       She searched for everywhere in the house, in the tent,

- 22    kɪ-wō            mǎɕ < w > é-mədərə            mǐ-tʂʰwǎ-mədərə  
**kɪ-wō**            **mǎɕ < w > é-mədərə**            **mǐ-tʂʰwǎ-mədərə**  
 pasture-LOC    search<N.EGO:VOL>-NAR    NEG.PFV-find-NAR  
 and on the pasture, but could not find it.
- 23    tǎbó    rǐ            nɪə-mî            d̂ɬ            d̂ɬ  
**tǎbó**    rǐ            **nɪə-mî**            d̂ɬ            d̂ɬ  
 now    turquoise    PFV-disappear    ASSERT    ASSERT  
 The turquoise was lost.
- 24    tǎbó    utí    rwǎ-    ʃɪ-    hōbǎ    xwéi-tɕétɕé-mədərə  
**tǎbó**    **ùtí**    **rwǎ-**    **ʃɪ-**    **hōbǎ**    **xwéi-tɕétɕé-mədərə**  
 now    this    yak    herd    girl    cry-about\_to-NAR  
 The shepherdess was about to cry.
- 25    â    rǐ            ú-ní            tsʰwí = mǎ            = dǎ            = kʰjɛ  
 â    rǐ            ú-ní            **tsʰwí = mǎ**            = dǎ            = kʰjɛ  
 I    turquoise    this\_way    good=NMLZ            =COP            =when  
 tǎbó    nɪə-mî-ʂǎ  
**tǎbó**    **nɪə-mî-ʂǎ**  
 now    PFV-disappear-N.EGO  
 “My turquoise was so beautiful, and it is lost.
- 26    tɕʰápá    nɜ-dzǎ-ʂǎ”            tɕǎ    = tǎbo    xwéi-tɕétɕé-mədərə  
 tɕʰápá    **nɜ-dzǎ-ʂǎ”**            tɕǎ    = tǎbò    **xwéi-tɕétɕé-mədərə**  
 waste    PFV-become-N.EGO    say    =then    cry-about\_to-NAR  
 What a waste !” she said, and was about to cry.
- 27    “tʰɜzɛ”    hmǐ = mǎ-bjɛ            “njê    kʰətí    tʰô    ɕǐ    mǎ-a-wǎ”  
**tʰɜzɛ**    **hmǐ = mǎ-bjɛ**            njê    **kʰətí**    tʰô    ɕǐ    **mǎ-à-wǎ”**  
 please    beg=NMLZ-DAT    you    some    method    have    NEG-Q-modal  
 She told the beggar: “Don’t you have some trick,
- 28    njê    pá            rû            nǎ    ú-ní            mǎ-a-ŋû”  
 njê    pá            rû            **nǎ**    ú-ní            **mǎ-à-ŋû”**  
 you    divination    divinate    etc    this\_way    NEG-Q-know

tɕ < w > ə- mədərə

**tɕ < w > ə- mədərə**

say<N.EGO:VOL>-NAR

wouldn't you know how to practice divination, by any chance ?"

- 29    ù = k<sup>h</sup>jɛ    = bo    utí    hmǐ̃ = mə    = nje    “pá    rû  
       **ù = k<sup>h</sup>jɛ    = bò**    **ùtí**    **hmǐ̃ = mós**    = njẽ    “pá    **rú**  
       this\_time =TOP    this    beg=NMLZ    =AGENT    divination    divinate
- hálóti    = bo    ηû”    tɕ < w > ə-mədərə  
**hálóti    = bò**    ηû”    **tɕ < w > ə-mədərə**  
 a\_little =TOP    know    say<N.EGO:VOL>-NAR  
 Then the beggar said “I know divination a little.”

- 30    tsá    pədzí    rwê-xêi    = pǎ    = po    rǐ    ù = po  
       tsá    **pədzí**    **rwê-xéi**    = **pá**    = **pò**    rǐ    **ù = pò**  
       he    just\_before    yak-dung    =CL    =under    turquoise    it=under
- nə-ʂə̃    tsá    tá-mədərə  
**nə-ʂə̃**    tsá    **tá-mədərə**  
 PFV:DOWN-go.N.EGO    he    see-NAR  
 Just before, he had seen the turquoise going under the yak dung.

- 31    tsá    gjǎ = wō    xwê    = po    dzwá    tʂǎ-mədərə  
       tsá    **gjǎ = wó**    xwê    = **pò**    dzwá    **tʂǎ-mədərə**  
       he    heart=LOC    heart    =under    smooth    very-NAR  
 He was not worried at all.

- 32    pá    rû    hálóti    dei    ηû”    tɕ < w > ə-mədərə  
       pá    rû    **hálóti**    **dèi**    ηû”    **tɕ < w > ə-mədərə**  
       divination    divinate    a\_little    PART    know    say<N.EGO:VOL>-NAR  
 He said “I know divination a little.”

- 33    nǎdjé    t<sup>h</sup>ɜzɛ̃    njə̃    = nje    pá    ti    rû-ku  
       **nǎdjé**    **t<sup>h</sup>ɜzɛ̃**    njə̃    = **njẽ**    pá    **tì**    **rú-kù**  
       then    please    you    =AGENT    divination    a\_little    divinate-IMP  
 “In this case, please make a divination,

- 34 njê mjê k<sup>h</sup>ú la ǎ-bə k<sup>h</sup>ĩ-ʂa bo  
 njê mjê k<sup>h</sup>ú **là à-bə k<sup>h</sup>ĩ-ʂá bə**  
 you what need all my-house give-FUT TOP  
 we shall provide you with anything you need,
- 35 njê pá rû =k<sup>h</sup>je mjê ti k<sup>h</sup>ú wõ,  
 njê pá rû =**k<sup>h</sup>jè** mjê **tì** k<sup>h</sup>ú wõ,  
 you divination divinate =when what a\_little need modal  
 pá rû-sǎ mjê k<sup>h</sup>ú wõ” tɕ <w> ǎ-mədərə  
 pá **rú-sǎ** mjê k<sup>h</sup>ú wõ” **tɕ <w> ǎ-mədərə**  
 divination divinate-NMLZ:OBL what need modal say<N.EGO:VOL>-NAR  
 whatever you need when you divinate, whatever you use to divinate.”
- 36 utí hmĩ-mə ti tsá tʂéi-mədərə  
**ùtí hmĩ-mə tì tsá tʂéi-mədərə**  
 this beg-NMLZ this meat want\_to\_eat-NAR  
 The beggar wanted to eat meat.
- 37 pá rû-sǎ bo tənǰə bo k<sup>h</sup>ətí k<sup>h</sup>ú mǎ-wõ  
 pá **rú-sǎ bə tənǰə bə k<sup>h</sup>ətí k<sup>h</sup>ú mǎ-wõ**  
 divination divinate-NMLZ:OBL TOP other TOP some need NEG-modal  
 “To do divination, I don’t need anything else,
- 38 tsək<sup>h</sup>uǎ tǰǰ-jǎ ǎ-k<sup>h</sup>ĩ bo dzǎ-kei  
**tsək<sup>h</sup>uǎ tǰǰ-jǎ ǎ-k<sup>h</sup>ĩ bə dzǎ-kéi**  
 pig\_head one-CL Q-give TOP fine-OPT  
 if you give me the head of a pig, it will be just fine.
- 39 tsək<sup>h</sup>wǎ tǰǰ-jǎ jǎ” tɕ <w> ǎ-mədərə  
**tsək<sup>h</sup>wǎ tǰǰ-jǎ jǎ” tɕ <w> ǎ-mədərə**  
 pig\_head one-CL bring say<N.EGO:VOL>-NAR  
 Bring me a pig’s head,
- 40 tsək<sup>h</sup>wǎ tǰǰ-jǎ k<sup>h</sup>ú” tɕ <w> ǎ-mədərə  
**tsək<sup>h</sup>wǎ tǰǰ-jǎ k<sup>h</sup>ú” tɕ <w> ǎ-mədərə**  
 pig\_head one-CL need say<N.EGO:VOL>-NAR  
 I need a pig’s head.”

- 41 “áláçi” tç <w>ǎ-mədərə tʂhá =k<sup>h</sup>je tsək<sup>h</sup>wǎ  
**áláçi** **tç <w>ǎ-mədərə** tʂhá =k<sup>h</sup>jè **tsək<sup>h</sup>wǎ**  
 thank\_you say<N.EGO:VOL>-NAR quick =when pig\_head  
 tʂá-jǎ tsǎ-bje t<sup>h</sup>ǎ-k<sup>h</sup><w>ǎ-mədərə  
 tʂá-jǎ **tsǎ-bjé** **t<sup>h</sup>ǎ-k<sup>h</sup><w>ǎ-mədərə**  
 one-CL he-DAT PFV-give<N.EGO:VOL>-NAR  
 They said “Thank you”, and immediately gave him a pig’s head.
- 42 tǎbó tsǎ =nje tsək<sup>h</sup>uǎ-bje səkəradzví tǎ-tsǎ hǎ-tsí tǎbo  
**tǎbó** **tsǎ =njè** **tsək<sup>h</sup>uǎ-bjé** **səkəradzví** tǎ-tsǎ **hǎ-tsí** **tǎbò**  
 now he =AGENT pig\_head-DAT wood\_stick one-CL PFV-insert then  
 Then, he inserted a wood stick into the pig head,
- 43 tsək<sup>h</sup>uǎ hǎ-ʂ<sup>h</sup>wěi tǎbo ũ-k<sup>h</sup>u hǎ-tsí tǎbo  
**tsək<sup>h</sup>uǎ** **hǎ-ʂ<sup>h</sup>wěi** **tǎbò** **ũ-k<sup>h</sup>ú** **hǎ-tsí** **tǎbò**  
 pig\_head PFV-pierce then this-above PFV-insert then  
 he pierced the pig head, and inserted (the wood stick) into it.
- 44 tǎbó gutǒ = wǒ pǎró-mədərə  
**tǎbó** **gutǒ = wǒ** **pǎró-mədərə**  
 now hearth-LOC burn-NAR  
 Then, he cooked it on the hearth.
- 45 tǎtçi k<sup>h</sup>ətí swǎ-rǒ “....” tç <w>ǎ-mədərə  
**tǎtçi** **k<sup>h</sup>ətí** **swǎ-rǒ** “....” **tç <w>ǎ-mədərə**  
 also some recite-DUR “....” say<N.EGO:VOL>-NAR  
 He also recited something like “....”,
- 46 swǎ-ji bo tsǎ-bje tǎǒ la mǎ-bǒ-mədərə  
**swǎ-jí** **bò** **tsǎ-bjé** tǎǒ **là** **mǎ-bǒ-mədərə**  
 recite-NMLZ:MOD TOP he-DAT any all NEG-be\_there-NAR  
 it was not at all what had to be recited.
- 47 xaswaməswá pǎ tʂǎ pǎ-mədərə  
**xàs wàməswá** pǎ tʂǎ **pǎ-mədərə**  
 recite\_nonsense do trick do:N.EGO:VOL-NAR  
 He was reciting nonsense, deceiving them.

- 48 tɔ́bó tsɔ́k<sup>h</sup>wǎ t<sup>h</sup>jě hmǐ-rə ts<sup>h</sup>ɛ́ bo  
**tɔ́bó tsɔ́k<sup>h</sup>wǎ t<sup>h</sup>jě hmǐ-rə ts<sup>h</sup>ɛ́ bò**  
 now pig\_head almost cooked-PROG time TOP  
 As the pig head was about to be cooked,
- 49 tsɔ́k<sup>h</sup>wǎ kɔ́radzɔ́wǐ =k<sup>h</sup>u djǎ-mədərə, utí k<sup>h</sup>ə-tɕǒ tɔ́bo  
**tsɔ́k<sup>h</sup>wǎ kɔ́radzɔ́wǐ =k<sup>h</sup>ù djǎ-mədərə, ùtí k<sup>h</sup>ə-tɕǒ tɔ́bò**  
 pig\_head stick =on be\_there-NAR this PFV-take\_out then  
 he took out the pig head from the stick where it was.
- 50 swǎ-rě pə nǎ bo kǒ lwǎ  
**swǎ-rě pə nǎ bò kǒ lwǎ**  
 recite-SIMULT do etc TOP valley thrust  
 já lwǎ pə-mədərə  
 já lwǎ pə-mədərə  
 mountain\_crest thrust do:N.EGO:VOL-NAR  
 While he was reciting, he thrust (the stick) around in a disorderly way.
- 51 hjǔ = wǒ tɔ́ra, gǒ tɔ́ra, tǎ-bjie tɔ́-lwǎ  
**hjǔ = wǒ tǎrà, gǒ tǎrà, tǎ-bjé tǎ-lwǎ**  
 tent=LOC these:GEN inside these:GEN here one-thrust  
 únǒ tɔ́-lwǎ t<sup>h</sup>ɔ́k<sup>h</sup>wə tɔ́-lwǎ  
 únǒ tǎ-lwǎ t<sup>h</sup>ɔ́k<sup>h</sup>wə tǎ-lwǎ  
 outside one-thrust altar one-thrust  
 He thrust it in all directions, towards the inside of the tent, towards the outside, on the altar,
- 52 ǔ = po kjǎ zə-bje tɔ́-lwǎ, úní = k<sup>h</sup>je  
**ù = pó kjǎ zə-bjè tǎ-lwǎ, úní = k<sup>h</sup>jè**  
 it=under door corner-DAT one-thrust this\_way =time  
 lwǎ-rě ɕǎ-mədərə  
**lwǎ-rě ɕǎ-mədərə**  
 thrust-PROG go:N.EGO:VOL-NAR  
 He thrust it on the corner of the door.
- 53 tɔ́-tɕ<sup>h</sup>ě bo tsǎ́ ti rwə-xəi = pǎ = po rǐ ǔ = po  
**tǎ-tɕ<sup>h</sup>ě bò tsǎ́ tì rwə-xəi = pǎ = pò rǐ ù = pó**  
 one-moment TOP he this yak-dung =CL =under turquoise under\_it

kuî            tsá    tá-mədərə    tsá    xá    kǔ-mədərə  
 kuî            tsá    **tá-mədərə**    tsá    xá    **kù-mədərə**  
 be\_there    he    see-NAR    he    know    know-NAR  
 After a while, as he knew that the turquoise was under the yak dung,

54    hjǔ    kjǎ = wō    k<sup>h</sup>ə-lwǎ    k<sup>h</sup>ə-ʒî,  
       hjǔ    **kjǎ = wō**    **k<sup>h</sup>ə-lwǎ**    **k<sup>h</sup>ə-ʒî**,  
       tent    door=LOC    PFV:OUT-thrust    PFV:OUT-come  
  
       ts<sup>h</sup>í = wō    k<sup>h</sup>ə-lwǎ    k<sup>h</sup>ə-ʒî    = nje    bo  
       **ts<sup>h</sup>í = wō**    **k<sup>h</sup>ə-lwǎ**    **k<sup>h</sup>ə-ʒî**    = **njè**    **bò**  
       pasture=LOC    PFV:OUT-thrust    PFV:OUT-come    =AGENT    TOP  
       he thrust it outside the tent, on the pasture.

55    rwê-xêi = rə    = to    la    lwǎ-rõtçə  
       **rwə-xéi-rə**    = **tò**    **là**    **lwə-rõtçə**  
       yak-dung-PL    =on    all    thrust-pretend  
       He pretended to thrust it towards many yak dungs.

56    tɜ-tɕ<sup>h</sup>ě            = k<sup>h</sup>je    bo    utí    rwê-xêi    rǐ  
       **tɜ-tɕ<sup>h</sup>ě**            = **k<sup>h</sup>jè**    **bò**    **ùtí**    **rwə-xéi**    rǐ  
       one-moment    =when    TOP    this    yak-dung    turquoise  
  
       kwî-sǎ                    ti    = to    tɜ-lwǎ    = nje    bo  
       **kwí-sǎ**                    **tì**    = **tò**    **tɜ-lwǎ**    = **njè**    **bò**  
       be\_there-NMLZ:OBL    this    =on    one-thrust    =AGENT    TOP  
       After a while, he thrust it towards the yak dung where the turquoise was.

57    njê-bǎ            rǐ            tǎpǒ            â-mə-kwî-rə            ǎ''  
       **njê-bǎ**            rǐ            **tǎpǒ**            **â-mə-kwí-rə**            **ǎ''**  
       you-house:GEN    turquoise    on\_the\_ground    Q-NEG-be\_there-PROG    INT  
  
       tɕ < w > ǎ-mədərə  
       **tɕ < w > ǎ-mədərə**  
       say<N.EGO:VOL>-NAR  
       He said: "Isn't it your turquoise here on the ground?"

58    məkǎ-bǎ    njɜ-gjǔ    = nje    bo  
       **məkə-bə**    **njɜ-gjǔ**    = **njè**    **bò**  
       house    PFV-glad    =AGENT    TOP  
       The people of this house were very glad.

- 59 məkǎ-bǎ dzǐ́ njɜ-zû, njɜ-gjǔ =njɛ “áláçi,  
 məkǎ-bǎ dzǐ́ **njɜ-zû,** **njɜ-gjǔ** =**njè** **áláçi**  
 house true PFV-believe PFV-glad =AGENT thank\_you  
 tɕósõtɕ<sup>h</sup>í niâ =bo mâ mǎ-dzâ tí dâ-çi,  
**tɕósõtɕ<sup>h</sup>í** niâ =**bò** **mâ** **mà-dzâ** tí **dâ-çi,**  
 my\_respects you =TOP man NEG-same one COP-EVD  
 áláçi” tɕ < w > ǎ-mədərə  
**áláçi** tɕ < w > ǎ-mədərə  
 thank\_you say<N.EGO:VOL>-NAR  
 These people believed it was true and said: “Thank you so much, how extraordinary,  
 you are an uncommon man, thank you !”
- 60 tǎbó tsǎ́ pá rû ŋû-rə tɕǎ,  
 tǎbó tsǎ́ pá rû **ŋû-rə** tɕǎ,  
 now he divination divinate know-PROG say  
 mǎdzǎ́ pá rû ŋû-rə tɕǎ  
 mǎdzǎ́ pá rû **ŋû-rə** tɕǎ  
 poor\_man divination divinate know-PROG say  
 They said that he knew divination, that the poor beggar knew divination.
- 61 ljowá-bje thɜ-lóz < w > ǎ-mədərə  
**ljòwá-bjé** **thɜ-lóz < w > ǎ-mədərə**  
 all-DAT PFV-tell<N.EGO:VOL>-NAR  
 They told everyone.

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## 普米語動詞系統中的聲調交替

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本文討論北部普米語聲調系統的一些現象，主要有兩個新的發現。第一，雖然普米語單音節詞只有三個調類（高平調、高降調、升調），但是有一部分升調的動詞詞幹在附加趨向前綴時變成高降調，我們把這一類動詞分析成是在底層沒有聲調的調類。第二，“去”這個動詞有非常不規則的聲調交替。附錄是一個普米語傳統故事的範例，在這個故事範例中可以找到許多動詞聲調交替的實例。

關鍵詞：普米語，聲調交替，趨向前綴