The phonology of Laze: phonemic analysis, syllabic inventory, and a short word list
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Abstract: Laze is a Sino-Tibetan language spoken in the county of Muli, in Sichuan, by a population of less than 1,000. The article proposes a synchronic account of Laze phonology, supplemented by a list of about 1,400 words in the Appendix. A phonemic analysis is proposed, with an inventory of syllables that brings to light the synchronic distributional properties of Laze onsets and rhymes – properties that are crucial to ongoing research into the historical phonology of the subgroup of Sino-Tibetan to which Laze belongs.

Keywords: Muli Shuitian; Laze; phonemic analysis; word list; syllabic inventory

木里水田话（拉热话）音系分析：音位归纳与音节盘点

提要：木里水田话（拉热话）是四川凉山州木里县的一种语言，使用人口不到一千人。本文是对拉热话音系的共时分析，附录一个1,400词左右的词汇表。通过音位分析表这个归纳工具，可以看出拉热话声母与韵母的分布特征，这些特征对拉热话、纳西语、纳语等纳语族语言的历史研究有较为重要的意义。

关键词：木里水田话，拉热话，音位归纳，词汇表，音节分析表

0. Introduction

This article focuses on Laze (autonym: /lɑːlze/; referred to in China as Muli Shuitian 木里水田话 or Lare 拉热话), as spoken in Xiangjiao township, Muli prefecture, Sichuan, China (四川凉山州木里县项脚乡). Laze has fewer than 300 proficient speakers, and is little documented; see Huang Bufan 2009 for an introduction to a neighbouring dialect. The first author of this article conducted fieldwork on Laze in 2008 and 2009.

The article provides a synchronic analysis of Laze; a Chinese-Laze word list is provided in the Appendix. A phonemic analysis is proposed, with a discussion of issues encountered in phonemicisation, and an inventory of syllables that brings to light the synchronic distributional properties of Laze onsets and rhymes – properties that are crucial to ongoing research into the historical phonology of the subgroup of Sino-Tibetan to which Laze belongs: see Jacques and Michaud 2011.

The phonemic system of Laze is analysed here following the classical methods developed in the Prague school of phonology, as set out, for instance, by Martinet (1956, 1980 [1960]:61-82).

* The Laze data were collected by Alexis Michaud in Muli in 2008 and 2009. Many thanks to Mrs. Tian Xiufang (田秀芳女士; in Laze: /sɨŋɡɨˈmiː/) and her family. Many thanks to our colleagues Katia Chirkova, Huang Xing, Latami Dashi, Lurong Duoding and Sun Hongkai for their help and support, and to an anonymous reviewer for helpful and encouraging comments; errors are our own responsibility. Fieldwork was funded by the Agence Nationale de la Recherche (France) as part of the research project “What defines Qiang-ness? Towards a phylogenetic assessment of the Southern Qiangic languages of Muli” (ANR-07-JCJC-0063; acronym: PASQi).
1. Syllable structure and inventory of syllables

Laze, like Naxi and Yongning Na, has a simple syllabic structure: (C)(G)V+T, where C is a consonant, G an on-glide, V a vowel, and T a tone. Brackets indicate optional constituents. There are neither initial clusters nor final consonants. Table 1 provides a syllabic inventory. For the sake of convenience, glides are considered as part of the rhyme: thus, there are separate columns for /æ/, /wæ/ and /jæ/. Tones are not included because in synchrony they combine freely with all syllable types. The table is phonemicised: for instance, ‘wəwɔ’ in the cell corresponding to initial /h/ and rhyme /wɔ/ indicates that the combination /hwɔ/ is attested, and that its phonetic realisation can be approximated as [w̥wɔ], i.e. the consonant /h/ undergoes allophonic rounding in this context. Explanations on the phonemicisation process will be provided below (section 3).

Each cell contains (i) the phonetic realisation of the syllable and (ii) at least one example in Chinese translation. A long dash (—) indicates an unattested combination. In addition to these two clear cases (existence vs. nonexistence), there exist a few borderline cases, essentially consisting of borrowings and of syllables resulting from vowel harmony. ‘B’ indicates a recent borrowing from Chinese, e.g. ‘B’ in the cell corresponding to initial /f/ and rhyme /a/ means that the syllable /fa/ is only found in recent Chinese borrowings; an example is 发, Pinyin: fā. (A description of the essentials of the Chinese dialect of Muli, the most important donor dialect from the 1950s to recent years, is provided by Li Lan 2010.) ‘VH’ indicates that the combination at issue is very likely to be the result of vowel harmony: that it is only found as the first syllable within disyllables whose two syllables have the same rhyme. This important phenomenon is described in section 2 below.
Table 1. An inventory of the syllables of Laze. The two words glossed as ‘（虚词）’ (‘function words’) are the accomplished, /tj\Ɉ˧/ , and the mirative, /lj\Ɉ˧/.②

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<td>—</td>
<td>mp 天</td>
<td>mjæ 眼泪</td>
</tr>
<tr>
<td>n</td>
<td>na 海</td>
<td>næ 挤压</td>
<td>—</td>
<td>—</td>
<td>ni 嘴唇</td>
<td>—</td>
<td>nu 你</td>
<td>—</td>
<td>—</td>
<td>nũ 由</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>nũ 臭</td>
<td>njæ 睁眼</td>
<td>njy 鼻</td>
<td>mjja 看米</td>
</tr>
<tr>
<td>ŋ</td>
<td>ŋa 我</td>
<td>—</td>
<td>—</td>
<td>ŋwa 膝盖</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>ŋu 是</td>
<td>ŋv 跌</td>
<td>—</td>
<td>—</td>
<td>ŋy 银</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>
To the onsets and rhymes in Table 1 must be added some phonemes that are so restricted in their distribution that it is simpler to present them separately. These are (i) a neutral vowel, /ə/, appearing in some function words such as the negation, /mə/; and taking on its quality from the vowel that follows; and (ii) as many as nine nasal rhymes, shown in Table 2.

<table>
<thead>
<tr>
<th>syllable example</th>
<th>hwał</th>
<th>hǔ</th>
<th>hē</th>
<th>hǎ</th>
<th>hǔ</th>
<th>hǔ</th>
<th>hě</th>
<th>hő</th>
<th>hie</th>
</tr>
</thead>
<tbody>
<tr>
<td>绿豆</td>
<td>听</td>
<td>锯，</td>
<td>毛</td>
<td>走</td>
<td>慢</td>
<td>人</td>
<td>站，</td>
<td>面包</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 2. Laze syllables containing nasal rhymes (in phonemic notation).

Most syllables with nasal vowels are made up of an initial [h] and a nasal vowel: nasality runs throughout the syllable. They can be analysed synchronically in either of two ways: as /hV/, where /V/ is a nasal vowel, in which case a large set of nasal vowels must be granted phonemic status; or as /hV/, recognising an additional consonant: a nasal fricative, /h/. The latter solution, adopted by Bradley 2003:224 for similar examples in Lisu, is more economical in terms of number of phonemes.

These sounds originate diachronically in initial consonantal clusters CN-, where C is an obstructant and N a nasal consonant. There are also three syllables without an initial /h/, consisting simply of a nasal vowel: [ʔ̃], [ʔ̃] and [ʔ̃]. Examples include:

(i) [ʔ̃] ‘brass’

(ii) [ʔ̃] ‘to irritate (e.g. smoke irritates the eye)’; Huang Bufan also reports [ʔ̃] (original transcription: [ʔ̃])) for ‘goose’, a word for which the language consultants in the valley of Xiangjiao now use a Chinese borrowing.

(iii) [ʔ̃] ‘praying mantis’, [ʔ̃] ‘-self (in: myself, yourself)’, and two likely borrowings from Pumi/Prinmi, which up until the middle of the 20th century was the lingua franca of Muli (about the history of Muli, see Wellens 2006): [ʔ̃] ‘donkey, ass’ and [ʔ̃] ‘elephant’.

These syllables raise an issue for phonemicisation. Those with an initial glottal stop can be interpreted phonemically as simple vowels, the phonetic glottal stop being an empty-onset filler, on the analogy of other cases such as /i/, realised as [ʔi]. Pushing further the logic of descriptive economy, in the absence of any [ʔæ] or [ʔa] syllables, the syllable [ʔæ] could be interpreted as the phonetic realisation of a simple /æ/, and [ʔa] as /ə/; but this option, which would be costly in terms of phonetic plausibility, is not open for [ʔ̃], since that syllable contrasts with [v]. We propose to analyse [ʔ̃], [ʔ̃] and [ʔ̃] as /æ/, /æ/ and /ə/, a decision which is consistent with the recognition of the phonemic nasal rhymes /æ/, /i/, /ə/, /a/, /u/, /o/, /oi/ and /i/ after /h/.

2. A note about vowel harmony and sandhi phenomena in Laze
Some syllables in Table 1 carry the mention ‘VH’, indicating that they are probably the result of vowel harmony. Some explanations about this phenomenon are in order.

Sporadic anticipatory vowel harmony (‘right-to-left’ harmony) is common in Laze in connected speech: for instance, /i˧dy˧/ ‘family’ is sometimes realised close to [y˧dy]. Phenomena such as vowel harmony and the voicing of intervocalic voiceless consonants are cross-linguistically common in connected speech; however, the extent to which these phonetic tendencies manifest themselves and eventually become lexicalised or even generalised as phonological rules is highly language-specific. Of the three Naish languages studied here (Laze, Na and Naxi), Naxi is least prone to the lexicalisation of such phenomena, and Laze most prone to it. Vowel harmony is lexicalised in some disyllabic words, along with other processes such as the voicing of intervocalic voiceless consonants (and tone sandhi, about which see, again, Michaud 2009). A typical example is /ɕie˧lie˧mie˧/ ‘seventh month’, from /ɕur˧/ ‘seven’ and /ie˧mie˧/ ‘month’: in addition to the change in the vowel of the first syllable, note the voicing of /ɓ/ to /l/. Importantly, processes of categorical, lexicalised vowel harmony are sporadic: they are not the result of regular phonological sandhi rules.

Lexicalised cases of vowel harmony are still relatively few; however, this is an important phenomenon, which in the course of language evolution has the potential for filling any of the gaps in Table 1.

3. Remarks on phonemicisation

The phonemicisation process that led to the creation of Table 1 brought out the following facts, arranged from the most obvious to the most problematic:

3.1. The labial-dental fricatives /f/ and /v/, and the allophones of the glottal fricative /h/

The labial-dental fricative initials /f/ and /v/ are phonemic in Laze. Examples include /f˧hli˧/ ‘rain’, /f˧ltsʰli˧/ ‘gingiva’, /f˧dzi˧/ ‘charcoal’, /f˧lak će/; /vi˧dzuŋ˧tʊŋ˧/ ‘East’, /vi˩/ ‘cow’, and /vi˨/ ‘to owe’. In front of /i˧/, they contrast with /h/ (realised as [ɕ]) and with the absence of any initial, e.g. /hi˩mie˩/ ‘tongue (body part)’, /i˧ltsʰi˧/ ‘water’.

In Laze, the two syllables containing /f/, leaving aside Chinese borrowings, are [fi] and [fy]; the initial [f] in the latter syllable could be treated as an allophone of /h/ (as is the case in Naxi and Yongning Na), but since this option is not open for [fi], as mentioned in the previous paragraph, initial [f] must be granted phonemic status, and [fy] comes to be interpreted as /fy/ – hence the empty slot at the intersection of initial /h/ and rhyme /y/. Initial [ɕ] and [h] are analysed as allophones of /h/; the situation is one of perfect complementary distribution, unlike in Naxi, where gap-filling processes have disrupted this pattern (Michaud 2006).
3.2. The fronting of velar stops in front of high, front rhymes

Alveolo-palatal affricates /dz/, /tɕ/ and /tɕʰ/ are analysed as allophones of velar stops /g/, /k/ and /kʰ/ in front of high vowels or rhymes starting with a palatal on-glide. These syllables are much more fronted than in Naxi, where the allophones of velar stops in this context are palatal, not alveolo-palatal. This results phonetically in two sets of well-differentiated initials – a situation which holds a potential for systemic gap-filling, whereby velars and alveolo-palatals would cease to be in neat complementary distribution. The only example observed so far is [tɕɛ], in [wɿmɕi.ǐɕɔɿ] 'cicada': this syllable can be phonemised as /kʃ/, postulating an otherwise unattested /-jɔ/ rhyme, or as /tɕʃ/, granting phonemic status to the alveolo-palatal initial. In this case, the new syllable appears to result from vowel harmony, the /ɔ/ rhyme of [ɔ] being copied onto the previous syllable.

3.3. The palatalisation of the velar nasal in front of high, front rhymes

Since there exists a contrast between /n/ and /ŋ/ (the latter realised as palatal) in front of /i/, there is no obvious reason why this contrast should be neutralised in front of the other high, front rhymes, /ie/ and /y/. The combinations [nɪɛ] and [nɪj] are therefore analysed here as /ŋiɛ/ and /ŋiʃ/, on the analogy of the analysis of [ni] as /ŋi/, even though no contrast has been found between alveolar and (palatalised) velar nasals in front of /ie/ and /y/. At present, it is not possible to rule out entirely the possibility that some [nɪj] and [nɪɛ] syllables do exist, and that the words in which they appear are missing from our lists (or even that they were mistakenly bunched together with the [ŋɪj] and [nɪɛ] syllables in our transcriptions, though this is less likely).

3.4. The rhyme [e] and its possible phonemic analyses

The rhyme [e] is so infrequent – appearing only after coronal fricatives and affricates – that it could actually be said to be in complementary distribution with any of the following rhymes: /ɿ/, /wɿ/, /ɿ/, /iɛ/, /iʃ/, /jɔ/, /ʃ/, /ie/, /wɛ/, /wa/, and even /æ/. The first (/ʃ/) is a plausible choice, since the only difference between the two allophones would consist in the frontness of the allophone [e]. An indirect argument pointing to a special closeness between [ʃ] and [e] comes from the fact that the rhyme /wʃ/ is sometimes realised close to [we], but this argument is less than conclusive. Given this high degree of uncertainty, it appeared safest to let [e] appear on its own in Table 1.

3.5. The rhyme [-ɥe]

The rhyme [-ɥe] appears in only two syllables: [ɿɥe] (more precisely [ɿɥe], and [tɕʰɿe]). Only one example of each was observed: [ɿɥe] 草木 ‘ashes (of wood)’, and [tɕʰɿe] ‘classifier for drops (of liquid)’. The word for ‘ashes’ is plausibly a borrowing from the Pumi /ɿɿ/ (recall that up until the middle of the 20th century Pumi was the lingua franca of Muli), or a borrowing from another language of the area. A similar word is found in Shuiluo Na (a dialect of Na spoken in Shuiluo township, Muli county; 2009 fieldwork data): /ɿɿ/, which is likewise marginal in the phonological system, and could likewise be put down to borrowing. The latter may likewise call for a special explanation, but so far we have not been able to clarify this point. The rhyme [-ɥe] could in principle be treated as an allophone of /-wʃ/; after an alveolo-palatal initial /tɕʰ/, a fronted allophone of /wʃ/ would make good phonetic sense. However, there are reasons to treat
this syllable as a marginal case (such as the absence of syllables with other initials of the same series: [tɕe] and [dʑe]); as a consequence, it is provisionally considered as a rhyme on its own, /ŋe/. (For reasons of space, this rhyme was not included in Table 1.)

3.6. Uvular initials and the vowel [ɔ]

The contrasts between [kʰu] and [qʰɔ], [ku] and [qɔ], [gu] and [kɔ] could be put down to the initial, recognising a series of uvular initials that are contrastive only in front of /u/:

/kʰu/ vs. /qʰɔ/, /ku/ vs. /qu/, and /gu/ vs. /kɔu/. Or they could be put down to the rhyme:

/kʰu/ vs. /kʰɔ/, etc. Support for the latter option comes from the fact that /ɔ/ contrasts with /u/ in another context: after /h-/.

The examples are /hɔ/ ‘wedge’, and /hɔʔqu-/ ‘watery rice gruel’, ɭɨɑ, vs. /hu-/ ‘gruel, 粥’. Moreover, processes of vowel harmony involving [ɔ] tend to consolidate the phonemic status of this vowel: in addition to the syllable /tɔə/ mentioned in (ii), there exists a syllable /baɔ/ in /baɔlɔ̩/ ‘fly’.

The interpretation of [k] as an allophone of /g/ would further simplify the synchronic picture: [kɔ] would be interpreted as /gɔ/, and [kʌ], [kæ] and [kwæ] as /gə/, /gæə/ and /gwæ/, respectively. However, the complementary distribution between [k] and [g] is not complete: processes of vowel harmony have introduced the combinations /gə/ and /gwæ/, which now contrast with [kə] and [kwæ]. The initial [k] is therefore granted phonemic status.

3.7. Retroflex initials

Retroflex initial stops contrast with coronal stops in front of /v/: /tv/ vs. /tʃv/ and /dy/ vs. /dv/; no example of /tʰv/ was observed (only examples of /tʰv/), but this is likely to be an accidental gap rather than a systemic one. These contrasts lead to the recognition of a series of retroflex stops. The contrast is neutralised in all other contexts. This situation is somewhat complex, but it can easily be handled in synchronic description: under a strict approach to phonemic description, in all the contexts where coronal and retroflex stops do not contrast, they can be subsumed under the same archiphoneme. The words [tʰɑəɾ] ‘ʃɔ, book’ and [tʰæə] ‘ʃi, cold’ would then be written as /Tʰɑəɾ/ and /Tʰæə/, where Tʰ stands for the archiphoneme covering [tʰ] and [tʰ].

The retroflex [l] raises more difficult issues for phonemicisation. The only attested syllable containing [l] is [p] (e.g. [pl] ‘horse’): the retroflex initial [l] is only found in this syllable. In Naxi, the syllable [p] is phonemicised as /lo/: retroflex and coronal initials contrast only in front of /o/ (Michaud 2006). However, this option is not open in Laze, since this language does not have an /o/. The only back rounded vowel in Laze is /u/, and there exists a /lu/ syllable (realised close to /ʃu/); phonemicising [p] as /l/ is not entirely convincing. Alternatively, it could be phonemicised as /lɔ̩; the /l/ would then have allophones ranging from [l] to [ʃ] through [l]. This phonemic solution receives support from two facts: first, there are some reasons to grant phonemic status to /ɔ̩/, as was mentioned in (vi); second, retroflex allophones of coronal initials are found elsewhere in the system: the nasal initial /n/ is realised as retroflex [ɳ] in front of /æ/, /u/ and /v/ ([ŋə], [ŋu] and [ŋv] are phonemicised as /næ/, /nəu/ and /nv//).

4. A brief note on Pr. Huang Bufan’s notations concerning a close dialect

Pr. Huang Bufan (2009) provides a similar but not entirely identical phonemic inventory
for another dialect of Laze, spoken in the township of Bowa (二区博瓦乡达瓦村).

(i) Pr. Huang presents a nasal rhyme, /ŋ/, which is absent from our inventory. The ninth nasal rhyme is in fact the product of coalescence with a /h ŋ/ syllable: the phrase ‘the day before yesterday, 前天’, transcribed by Pr. Huang as [sฑ³³dz.�³³nì³³], is [sŧȗn.lɖuŋ.ni] in our data, where the nasal tail [ŋ] after the first syllable can be analysed as a reduced form of /h ŋ/.

(ii) Pr. Huang reports a contrast between retroflex /ɖ/ and postalveolar /ʢ/, and between /ʦ/ and /ʧ/, for items all of which have retroflex initials in our data, as shown in Table 3 below.

<table>
<thead>
<tr>
<th>meaning</th>
<th>Pr. Huang’s transcription</th>
<th>A. Michaud’s transcription</th>
</tr>
</thead>
<tbody>
<tr>
<td>to suffer, to be ill</td>
<td>ʧu³³</td>
<td>ɖu³³</td>
</tr>
<tr>
<td>earthen wall</td>
<td>ʧu³³bu³³</td>
<td>ʈuʢ⁴buʢ (cp. /ʈuʢ/ ‘earth’)</td>
</tr>
<tr>
<td>to fall (rain, hail...)</td>
<td>ʧi¹</td>
<td>ɖu¹</td>
</tr>
</tbody>
</table>

Table 3. Some words transcribed with postalveolar initials by Pr. Huang.

This may be a case of dialectal difference; on the other hand, Pr. Huang (p.c.) indicated that her Laze data were collected over a relatively short period of time, and as part of an extremely crowded fieldwork agenda, so that not all notations could be fully verified at the stage of phonemicisation.

5. Conclusion and perspectives for future research

This article aimed to contribute both to the synchronic study of Laze and to a better understanding of its historical phonology as a member of the Naish branch of Sino-Tibetan.

Laze has a relatively large phonemic inventory, with massive neutralisations of the contrasts. As is customary, synchronic statements about restricted distributions flip diachronic statements around. For instance, synchronically, the contrast between /e/ and other vowels is neutralised in all positions except TS-; diachronically, /e/ appeared in a single context: *TS-, from former *TSa. The features analysed as redundant in phonemic analysis constitute important cues to diachronic developments.

While Laze is similar with Na and Naxi in many respects, including its present-day syllable structure, using Laze data in the comparison brings out a larger number of correspondences than those that exist between Na and Naxi alone; in turn, conservative languages provide useful indications for interpreting these correspondences between short forms. For instance, the initial /f/ and /v/ of Laze lead to postulate earlier consonant clusters, and evidence from conservative Sino-Tibetan languages suggests plausible hypotheses about the nature of these clusters.

Our long-time project is to document the entire phonological history of the Naish languages. Ultimately, it should be possible to account for all synchronic restrictions on combinations of onsets and rhymes. There remains a long way to go; however, on a positive note, a good degree of certainty is now being reached on some parts of the system.
References
Martinet, André (1956) La Description phonologique avec application au parler franco-provençal d'Hauteville (Savoie). Genève: Droz.

Appendix: A short Chinese-Laze glossary, arranged semantically
This short list, arranged by semantic field, is based on a subset of the first author’s field notes (heretofore unpublished). Despite its shortcomings, such as the lack of proper definitions and example sentences, it appeared useful to publish it as an illustration of the analyses presented in this article. A longer list (some 2,000 items, with English and
Chinese glosses) was deposited with the Sino-Tibetan Etymological Dictionary and Thesaurus (STEDT) project in February 2011 for open access online.
早晨
da'naːl

黎明
pʰɉkvr

今天早上
tʃᵲʃᵲa

早点
da'naːlizdeːdзе=

白天
mɪlʂilgyːt

中午饭，中午
zuːl, zuːtʃuːl

吃中午饭
zuːlizdeː

下午
zuːlizdeːɡvr

晚上
mɪlʂuːl

晚饭
mɪlʂuːlizdeː

黄昏，暮
nʊʂpʰtsʰaʂwːt

夜里
sɪtʃpʃsɪtʃyː

年
kʰvː

今年
tʂᵲtʃvːieːl

去年
æːtʃvːieːl

前年
ʂʊtʃvːieːl

三年以前
ʂʊtʃdʊtʃvːieːl

明年
sʊtʃvːieːl

后年
ʊtʃvːieːl

鼠年
hʊvːkʰvːl

牛年
vɪlשתמש

虎年
lʊlʂɪkʰvːl

兔年
tᵲʊlʂɪkʰvːl

龙年
mʊlʂɪkʰvːl

蛇年
zɪkʰvːl

马年
bɪkʰvːl

羊年
yɪkʰvːl

猴年
zykʰvːl

鸡年
lækʰvːl

狗年
kᵲʊvːkʰvːl

猪年
wʊkʰvːl

过年
kʰvːjʊtʃuːl

月
fiːt

上半月
fiːpʰɉvːt

正月
dʊlʂɪlɪmɕieːt

二月
ŋɪlɪmɕieːt

三月
sʊlɪmɕieːt

四月
zylɪmɕieːt

五月
nʊvːlɪmɕieːt

六月
qʰʊlɪmɕieːt

七月
ɕɪlɪmɕieːt

八月
ɕɪlɪmɕieːt

九月
ɡɪlɪmɕieːt

十月
tᵲɪlɪmɕieːt

十一月
tᵲɪqʊlɪmɕieːt

十二月
tᵲɪŋɪlɪmɕieːt

古时候，传说
æːvːɪʃʊtʃvːieːl

古代

In Laze, there are three lexical tones for nouns: High, Mid and Low, and four for verbs (including stative verbs): again, High, Mid and Low, and Mid-to-High, the latter consisting of a sequence of two tonal levels (see Michaud 2009 for an analysis of this tone system).

(1) Throughout the article, tones are indicated by means of Chao tone-letters: ³ for H(igh), ４ for M(id), ˩ for L(ow), ¹ for MH.

Pr. Huang also noted /wæ˨˩/ for ‘to shout, to cry out (of pigs)’; in the dialect described here, this word is realised as /hwæ˨˧/.

For instance, the form /bɑ˨˩hɑ˧/ ‘pig swill’, from /bu˨˩/ ‘pig’ and /hɑ˧/ ‘food’, is reported by He Jiren and Jiang Zhuyi 1985 and confirmed by He Jiren (p.c. 2002) for his own native dialect: Yangxi 漾西; however, other dialects of the Lijiang plain retain the form /bu.hɑ˨˧/, without vowel harmony.

From a comparative point of view, some of the words with initial /f/ or /v/ in Laze correspond to stop-initial words in Naxi and Na (see Jacques et al. 2011 for details). A look at comparanda in conservative languages suggests that the fricatives in the Laze words result from spirantisation: pre-initials can be reconstructed for the Proto-Naish stage. In Laze, these pre-initials caused a lenition of the following stop – a phenomenon akin to that observed in Vietnamese, where medial consonants were spirantised (Ferlus 1982; about the term “spirants”, see Martinet 1981, 1985).

Note that the symbol /ŋ/ for a palatal nasal, used here in accordance with the International Phonetic Alphabet, is strictly equivalent with the symbol /ȵ/ which is more commonly used in the People’s Republic of China.