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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、纳语等纳语组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: /la˥ze˥/; 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: /su˥-gɣ˥˥mi˥/) 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.^① The table is phonemicised: for instance, ‘wɿɿ’ in the cell corresponding to initial /h/ and rhyme /wɿ/ indicates that the combination /hwɿ/ is attested, and that its phonetic realisation can be approximated as [wɿɿ], 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, /tjɣ-/ , and the mirative, /ljɣ-/.^②

	a	æ	wæ	wa	i	ie	y	u	ɔ	u	ɣ	e	wɣ	ɟ	ɣ	jæ	jɣ	ja
zero	ʔa 家	—	wæ 猪崽	wa 花	ʔi 水	ʔie 打饱嗝儿	ʔy 梦, 坟	ʔu, u 咱们	—	—	ɣɣ 肚带	—	wɣ 猪	ɟ 书, 笑, 石	ɣ 肠	—	jɣ 奶	ja 袖子
h	xa 难	hæ 害羞	ɣwæ 肩膀	ɣwa 挂	ɕi 舌头	—	ɕy 痔	ɣu 孩子	xɔ 楔子	xu 晚上	—	—	ɣwɣ 渴	—	—	—	—	—
f	B	—	—	—	fi 雨	—	—	—	—	—	—	—	—	—	fɣ 脑子	—	—	—
v	—	væ 左	—	—	vi 牛	vie 雪	—	—	—	—	—	—	—	—	cf zero + ɣ	—	—	—
k ^h	q ^h a 露水	q ^h æ 沟	—	—	tɕ ^h i 卖	—	tɕ ^h y 头发	k ^h u 坝	q ^h ɔ 雾	k ^h u 狗	k ^h ɣ 背篓	—	k ^h wɣ 房屋	—	k ^h ɣ 烟	—	tɕ ^h ɣ 蔬菜	tɕ ^h a 礼物
k	qa 遮	qæ 换	—	qwa 痒, 晋	tɕi 云	tɕie 痰	tɕy 压	ku 这里	qɔ 喉咙	ku 能	kɣ 额头	—	kwɣ 黎明	—	ky 皮肤	tɕæ 湿	tɕɣ 煮	tɕa 蓑衣, 嚼
ɕ	ɕa 埕口	ɕæ 富	ɕwæ 反刍	ɕwa 庄稼	—	—	—	—	ɕɔ 吞, 客气	—	—	—	—	—	—	—	—	—
g	VH	—	VH	—	dzi 袋子	—	dzy 手镯	gu 妹妹	—	gu 弟弟	gɣ 上	—	gwɣ 下午	—	gɣ 雷	dzæ 泥巴	dzɣ 美	dza 泥巴
	a	æ	wæ	wa	i	ie	y	u	ɔ	u	ɣ	e	wɣ	ɟ	ɣ	jæ	jɣ	ja
t ^h	t ^h a 书	—	—	—	—	t ^h ie 聪明	—	t ^h u 牙齿	—	—	—	—	—	—	—	—	—	—
t ^h	—	t ^h æ 冷	—	—	—	—	—	—	—	t ^h u 这	—	—	—	—	t ^h ɣ 出	—	—	—
t	ta 全部	—	—	—	B	tie (退)后	ty 系	tu 哄	—	—	tɣ 茶壶; 那里	—	—	—	ty 洞	—	tjɣ (虚词)	—
t	—	tæ 臼齿	—	—	—	—	—	—	—	tɣ 雾	—	—	—	tɟ 皱	tɣ 骨髓	—	—	—

	a	æ	wæ	wa	i	ie	y	u	ɔ	u	ɣ	e	wɣ	ɪ	ɥ	jæ	jɣ	ja
d	da 砍	—	—	—	di 少	die 浅	dy 地, 户	du 害 羞	—	—	dɣ 围 起来	—	—	—	dy 翅 膀	—	—	—
ɖ	—	ɖæ 涉 过去	ɖwæ 狐狸	—	—	—	—	—	—	ɖu 刻	—	—	—	ɖɪ 湖	ɖɥ 坟	—	—	—
p ^h	p ^h a 狼	p ^h æ 块	—	—	p ^h i 高 兴	p ^h ie 蝴 蝶	—	p ^h u 逃 跑	—	—	p ^h ɣ 后 悔	—	—	—	p ^h ɥ 霜	—	—	—
p	pa 洞	—	—	—	pi 长 大	pie 嘴	—	pu 一 堆	—	—	pɣ 拿 B	—	—	—	pɥ 祈 祷	pjæ 一 半	—	—
b	ba 衣 服	bæ 蠢	—	—	bi 门	bie 旁	—	bu 闪 电	bɔ 苍 蝇 (VH)	—	bɣ 普 米	—	—	—	bɥ 臭	bjæ 腮	—	—
t	—	—	—	—	tɪ 天 花板	tɪe 月	tɪy 庚	tɪu 肋 骨	—	—	—	—	—	—	—	—	—	—
l	la 手	læ 洞	lwæ 叫	—	ɭi 田	ɭie 茶	ɭy 果 子	ɭu 扛	ɭɔ 马	—	—	—	—	—	ɭɥ 含	—	ljɣ (虚 词)	—
s	sa 气	sæ 鞋 (VH)	—	—	si 怕	—	sy 公 (马 天)	su 明	—	sɪ 知 道	—	se 凉 快	—	—	sɥ 磨 刀	—	—	—
z	za 孩 子	—	—	—	zi 睡 觉	—	zy 林	zu 孤 儿	—	zɪ 疹 子	—	ze 儿 子	—	—	zɥ 揉	—	—	—
ʂ	ʂa 话	ʂæ 拖	ʂwæ 马 嚼 子	ʂwa 搅 拌	—	ʂie 七 月 VH	ʂy : —	ʂu 铁	—	ʂɪ 跳 蚤	—	—	ʂwɣ 盘 子	ʂɪ 水 獭	ʂɥ 喝	—	—	—
ʐ	—	ʐæ 火 花	ʐwæ 飘 动	ʐwa 努 力	—	—	ʐy : —	ʐu 中 午	—	ʐɪ 山	—	—	ʐwɣ 养	—	ʐɥ 蛇	—	—	—

	a	æ	wæ	wa	i	ie	y	u	ɔ	u	ɣ	e	wɣ	ɹ	ɻ	jæ	jɣ	ja
ʈʰ	ʈʰa 铍头	ʈʰæ 代	ʈʰwæ 快	—	—	—	—	ʈʰu 炒	—	ʈʰɿ 掉	—	—	ʈʰwɣ 梳	—	ʈʰɻ 染料	—	—	—
ʈ	ʈsa 掷	ʈsæ 段	ʈswæ 搅拌	—	—	—	—	ʈsu 锥	—	ʈsɿ 画	—	B	ʈswɣ 数	—	ʈsɻ 传染	—	—	—
ɟʌ	ɟʌ 干扰	ɟzæ 抢	ɟzwæ 挖	—	—	—	—	ɟzu 痛	—	ɟzɿ 下(雨)	—	—	ɟzwɣ 抓	—	ɟzɻ 燃烧	—	—	—
ʈʰ	ʈʰa 蚂蚁	—	—	—	ʈʰi 剪	—	ʈʰy 冬天	ʈʰu 跳	—	ʈʰɿ 一张	—	ʈʰe 盐	—	—	ʈʰɻ 拣	—	—	—
ʈ	ʈsa 刨	ʈsæ 钩子(VH)	—	—	ʈsi 星	—	—	ʈsu 火塘	—	ʈsɿ 黏	—	tse 山	—	—	ʈsɻ 咳嗽	—	—	—
dʌ	dʌ 跑	—	—	—	dʌi 海	—	dʌy 缠, 桥	—	—	dʌɿ 勒住	—	dʌe 吃	—	—	dʌɻ 凿子	—	—	—
	a	æ	wæ	wa	i	ie	y	u	ɔ	u	ɣ	e	wɣ	ɹ	ɻ	jæ	jɣ	ja
m	ma 士兵	mæ 大竹子	—	—	mi 酥油	mie 太阳	—	mu 天	—	—	—	—	—	—	mɻ 天	mjæ 眼泪	—	—
n	na 海	næ 挤压	—	—	ni 嘴唇	—	—	nu 你	—	nɿ 由	—	—	—	—	nɻ 臭	njæ 眨眼	njɣ 鼻	nja 苋米
ŋ	ŋa 我	—	—	ŋwa 膝盖	ŋi 太阳	ŋie 霜	ŋy 火钳	—	—	ŋwɿ 是	ŋɣ 跌	—	ŋwɣ 白齿	—	ŋɻ 银	—	—	—

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.

syllable	h̃wa	h̃	h̃æ	h̃v	h̃u	h̃wɣ	h̃i	h̃e	
example	绿豆	听	锯, 金	毛	走	慢	人	站, 面包	
syllable			ã	ỹ					õ
example			铜	呛					螳螂, 自己, 驴

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 /hṼ/, where /Ṽ/ 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 obstruent and N a nasal consonant.^③ There are also three syllables without an initial /h/, consisting simply of a nasal vowel: [ʔỹ], [ʔã] and [ʔõ]^④. Examples include:

(i) [ʔã-] ‘brass’

(ii) [ʔỹ1] ‘to irritate (e.g. smoke irritates the eye)’; Huang Bufan also reports [ʔỹ1] (original transcription: [ʔỹ³¹]) for ‘goose’, a word for which the language consultants in the valley of Xiangjiao now use a Chinese borrowing.

(iii) [la1mie1la1ʔõ1ʔõ1] ‘praying mantis’, [ʔõ-tsõ1] ‘-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): [tõ1by1] ‘donkey, ass’ and [nõ1by1tɕ^{hi}1] ‘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 [ʔo] syllables, the syllable [ʔã] could be interpreted as the phonetic realisation of a simple /æ/, and [ʔõ] as /o/; but this option, which would be costly in terms of phonetic plausibility, is not open for [ʔỹ], since that syllable contrasts with [v]. We propose to analyse [ʔỹ], [ʔã] and [ʔõ] as /ỹ/, /ã/ and /õ/, a decision which is consistent with the recognition of the phonemic nasal rhymes /ã/, /ỹ/, /wã, /ã/, /ũ/, /wɣ/, /ĩ/ and /ĩe/ 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, /iɬdyɬ/ ‘family’ is sometimes realised close to [yɬdy]. 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.⁵ 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 /ɕieɬlieɬmieɬ/ ‘seventh month’, from /ɕuɬ/ ‘seven’ and /ɬieɬmieɬ/ ‘month’: in addition to the change in the vowel of the first syllable, note the voicing of /ɬ/ 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 /fiɬ/ ‘rain’, /fiɬts^hiɬ/ ‘gingiva’, /fiɬdziɬ/ ‘charcoal’, /fiɬ/ ‘lake’; /viɬdzuɬɬtuɬ/ ‘East’, /viɬ/ ‘cow’, and /viɬ/ ‘to owe’. In front of /i/, they contrast with /h/ (realised as [ɕ]) and with the absence of any initial, e.g. /hiɬmieɬ/ ‘tongue (body part)’, /iɬts^hiɬ/ ‘water’.

In Laze, the two syllables containing /f/, leaving aside Chinese borrowings, are [fi] and [fɤ]; 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 [fɤ] comes to be interpreted as /fɤ/ – hence the empty slot at the intersection of initial /h/ and rhyme /ɤ/.⁶

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/, /tʃ/ and /tʃʰ/ 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 [tʃɔ], in [wɣlmie.tʃɔ.lɔ] ‘cicada’: this syllable can be phonemicised as /kjɔ/, postulating an otherwise unattested /-jɔ/ rhyme, or as /tʃɔ/, granting phonemic status to the alveolopalatal initial. In this case, the new syllable appears to result from vowel harmony, the /ɔ/ rhyme of [lɔ] being copied onto the previous syllable.

3.3. *The palatalisation of the velar nasal in front of high, front rhymes*^⑦

Since there exists a contrast between /n/ and /ɲ/ (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 [ɲie] and [ɲy] are therefore analysed here as /ɲie/ and /ɲy/, on the analogy of the analysis of [ɲi] as /ɲi/, 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 [ny] and [nie] 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 [ɲy] and [ɲie] 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: /ɣ/, /wɣ/, /ɹ/, /jæ/, /jɣ/, /ja/, /ɔ/, /ie/, /wæ/, /wa/, and even /æ/. The first (/ɣ/) 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 [ɣ] and [e] comes from the fact that the rhyme /wɣ/ 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: [lɥe] (more precisely [ɬɥe]), and [tʃʰɥe]. Only one example of each was observed: [lɥe] 草木灰 ‘ashes (of wood)’, and [tʃʰɥe] 滴 ‘classifier for drops (of liquid)’. The word for ‘ashes’ is plausibly a borrowing from the Pumi /lyz/ (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): /lɥə/, 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 /-wɣ/; after an alveolo-palatal initial /tʃʰ/, a fronted allophone of /wɣ/ 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: [tɕɛ] and [dzɕɛ]); as a consequence, it is provisionally considered as a rhyme on its own, /ɕɛ/. (For reasons of space, this rhyme was not included in Table 1.)

3.6. *Uvular initials and the vowel [ɔ]*

The contrasts between [k^hu] and [q^hɔ], [ku] and [qɔ], [gu] and [ɣɔ] could be put down to the initial, recognising a series of uvular initials that are contrastive only in front of /-u/: /k^hu/ vs. /q^hu/, /ku/ vs. /qu/, and /gu/ vs. /ɣu/. Or they could be put down to the rhyme: /k^hu/ vs. /k^hɔ/, 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 /hɔɰzɰu/ ‘watery rice gruel, 稀饭’, 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 /tɕɔ/ mentioned in (ii), there exists a syllable /bɔ/ in /bɔɰɔ/ ‘fly’.

The interpretation of [ɣ] as an allophone of /g/ would further simplify the synchronic picture: [ɣɔ] would be interpreted as /gɔ/, and [ɣɑ], [ɣæ] and [ɣwæ] as /gɑ/, /gæ/ and /gwæ/, respectively. However, the complementary distribution between [ɣ] and [g] is not complete: processes of vowel harmony have introduced the combinations [gɑ] and [gwæ], which now contrast with [ɣɑ] and [ɣwæ]. The initial [ɣ] is therefore granted phonemic status.

3.7. *Retroflex initials*

Retroflex initial stops contrast with coronal stops in front of /ɤ/: /tɤ/ vs. /ɰɤ/, and /dɤ/ vs. /ɰɤ/; no example of /t^hɤ/ was observed (only examples of /t^hɰɤ/), 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 [t^hɑɰɰ] ‘书, book’ and [t^hæɰ] ‘冷, cold’ would then be written as /T^hɑɰɰ/ and /T^hæɰ/, where T^h stands for the archiphoneme covering [t^h] and [t^hɰ].

The retroflex [ɰ] raises more difficult issues for phonemicisation. The only attested syllable containing [ɰ] is [ɰɔ] (e.g. [ɰɔɰ] ‘horse’): the retroflex initial [ɰ] is only found in this syllable. In Naxi, the syllable [ɰɔ] is phonemicised as /ɰo/: 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 [ɰu]); phonemicising [ɰɔ] as /ɰu/ is not entirely convincing. Alternatively, it could be phonemicised as /ɰɔ/; the /ɰ/ would then have allophones ranging from [ɰ] to [ɰɰ] through [ɰ]. This phonemic solution receives support from two facts: first, there are some reasons to grant phonemic status to /ɔ/, 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 [ɰ] in front of /æ/, /u/ and /ɤ/ ([ɰæ], [ɰu] and [ɰɤ]) are phonemicised as /næ/, /nu/ and /nɤ/).

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 /hĩ/ syllable: the phrase ‘the day before yesterday, 前天’, transcribed by Pr. Huang as [ɕĩ³³dzŋ⁵³ni⁵³], is [ɕwɿŋɿɿdzwɿŋiɿ] in our data, where the nasal tail [ŋ] after the first syllable can be analysed as a reduced form of /hĩ/.

(ii) Pr. Huang reports a contrast between retroflex /dʒ/ and postalveolar /ɕ/, and between /tɕ/ and /tʃ/, for items all of which have retroflex initials in our data, as shown in Table 3 below.

meaning	Pr. Huang’s transcription	A. Michaud’s transcription
to suffer, to be ill	ɕu ⁵³	dzɿɿ
earthen wall	ɕu ³³ bu ³³	tɕwɿɿbuɿ (cp. /tɕwɿɿ/ ‘earth’)
to fall (rain, hail...)	ɕi ⁵³	dzɿɿ

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.

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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.

天	muɬ	石头	læɬɬmieɬ	嘴巴里面	kuɬpieɬkuɬluɬ
天空	muɬtuɬ	粉, 粉末	zyɬ	牙齿	fiɬ
天地	muɬdyɬ	土	ʈʂuɬ	牙齿	fiɬɬuɬ
太阳	ŋiɬmieɬ	干土	ʈʂuɬzyɬ	白齿 + 后白齿	ŋwɔɬʈæɬmieɬ
光 (阳光)	ŋiɬmieɬuɬ	尘土	pʰyɬhæɬ	牙龈	fiɬʈʂiɬ
月亮	ʰieɬmieɬ	泥巴	dzaɬqʰæɬ	舌头	ɕiɬmieɬ
星星	tsiɬ	水	iɬʈʂiɬ	舌头的筋	ɕiɬzæɬ
流星	tsiɬqʰæɬ	洪水, 大水	zuɬlyɬ	小舌	ɕiɬzæɬ
风	myɬhæɬ	波浪	iɬʈʂiɬiɬʰieɬsaɬsaɬ	喉咙	qɔɬtsuɬ
雨	fiɬ	水泉, 山泉	zuɬqʰɔɬ	喉结	qɔɬtsuɬtuɬɬyɬ
云	tɕiɬsuɬ	温泉	ʈʂʰyɬzuɬ	嘴唇	niɬtɕʰɔɬ
雾	qʰɔɬɬɔɬ	泉水	zuɬqʰɔɬiɬʈʂiɬ	颧骨	pʰyɬʈsyɬdzɬyɬ
彩虹	zuɬʈʂuɬmyɬʈʂuɬ	金子	hæɬ	胡子	myɬtsuɬ
雪	vieɬ	银子	ŋyɬ	连鬓胡	bieɬnaɬ
雷, 霹雷	muɬgyɬ	黄铜	æɬ	颚	taɬɬɔɬ
闪电, 打闪电	byɬbæɬbæɬ	白铜	æɬpʰyɬ	脖子	ɕæɬsuɬɬpaɬ
冰雹	dzyɬ	红铜	æɬhiɬ	甲状腺肿瘤	æɬbæɬ
冰雹块	dzyɬlyɬlyɬ	铁	ʂuɬ	项背	gyɬɬɔɬpaɬ
露水	dzuɬɬkʰaɬ	锈	ʈʂuɬqʰæɬ	肩膀	hwæɬʈʂuɬ
冰	ŋiɬpʰyɬ	炭	fiɬdziɬ	脊背	gyɬsuɬ
火	myɬ	盐	ʈʂʰeɬ	肩胛骨	ʈʂuɬ
火花	myɬzæɬ	草木灰	lɕeɬ	驼背	duɬqɔɬ
烟	muɬkʰyɬ	桥	dzyɬ	腋下	jaɬdaɬ
(一口) 气	saɬ	坟墓	yɬɬɕyɬ	胸膛	ŋiɬmjæɬqʰɔɬ
堰口	ɕaɬlyɬ	身体	ɬuɬhiɬ	乳房	aɬpuɬ
山	zuɬtseɬ	头	uɬtuɬ	奶汁	ŋæɬ
高山	uɬguɬ	脑子, 脑髓	uɬfyɬ	月经	dzuɬɬhɔɬʈʂuɬɬtsuɬ
山坡, 岗	tuɬbieɬ	太阳穴	suɬɬbyɬ	心脏, 性情	ŋiɬmieɬ
山脊	dzyɬɬkʰuɬtuɬ	头发	uɬtɕʰyɬ	肚子	haɬmieɬ
山谷	zuɬtseɬæɬʈʂuɬ	辫子	ɬɔɬpaɬ	肚脐	tɕʰɔɬpuɬ
山洞	læɬqʰɔɬ	毛	hɔɬ	肚脐	tɕʰɔɬ
森林	syɬzyɬ	人身上的毛	ŋiɬhɔɬ	胆	tsiɬ
地上的小洞	paɬtyɬ	额头	tuɬkɔɬ	胆汁	tsiɬzuɬ
洞	qʰɔɬ	眼睫毛	mjæɬtsuɬ	吐酸水	tɕiɬzuɬ
河流	zuɬɬmieɬ	眉毛	mieɬtuɬ	腰	iɬtsuɬ
溪流	iɬʈʂiɬqʰæɬluɬ	眼睛	mieɬlyɬ	屁股	qʰæɬsaɬpʰyɬmieɬ
湖	fiɬ	眼 (单音节)	mieɬ	胯	ʈʂuɬmieɬ
海	naɬdziɬ	眼珠	mieɬlyɬnaɬliɬ	尾椎骨	dzyɬtuɬ
小型水库	ɬɬ	眼圈骨	mieɬlyɬsaɬtuɬ	锁骨	læɬɬzyɬ
岸	zuɬmieɬkʰuɬkʰuɬ	眼泪	mjæɬɬdzyɬ	肌肉	ʂuɬnaɬ
水坑	paɬtyɬ	鼻子	ŋjɔɬɬgyɬ	腿	æɬʈʂuɬ
水沟	qʰæɬluɬ	鼻孔	ŋjɔɬɬgyɬqʰɔɬ	大腿	byɬsaɬmieɬ
井	iɬʈʂiɬqʰwæɬ	鼻涕	ŋyɬ	膝盖	ŋwaɬtuɬ
小堤坝	buɬtuɬ	耳朵	ʰieɬtuɬ	膝盖骨	kaɬpʰæɬ
路	læɬgyɬ	耳孔	ʰieɬzeɬ	关节	tsuɬ
地 (天地的地)	dyɬ	耳垂	ʰieɬtuɬkɔɬbyɬ	小腿	dzyɬbæɬ
平坝	duɬkʰuɬ	耳垢	ʰieɬqʰæɬbæɬ	胫骨	wɔɬŋjɔɬgyɬsaɬtuɬ
平地	hæɬduɬ	脸	pʰyɬmieɬ	踝关节	læɬmieɬtsuɬtuɬɬyɬ
田地	liɬ	腮	bjæɬɬɔɬ	脚底	wɔɬtɕʰɔɬ
水田	dzeɬliɬ	嘴, 嘴巴, 口	ŋyɬqʰɔɬ	脚跟	gyɬɬtuɬ
		嘴巴	kuɬpieɬ	脚背	miɬgyɬ

下半身	ɣ̃lɔu-tʂæ1	生命	hĩlɔuɔiɔ	孙子孙女	i-tɣ̃-ti-tmie1
上半身	gɣ̃lɔu-tʂæ1	人	hĩ1	重孙, 曾孙	i-tɣ̃-tɣ̃1
四肢, 手脚	zɣ̃1tsʰu1	藏族	ka-tmi1	重孙女, 曾孙女	i-tmie1
胳膊	laɔpʰie1	彝族	leæ1hĩ1ʂa1	女	
胳膊	la1bu1ɔ1	普米族	bɣ̃1	重孙与重孙女	i-tɣ̃-tɣ̃-ti-tmie1
肘	la1tu1	纳西族	na-tɦĩ1	哥哥	ma1mɣ̃1
臂弯	tsæ1qæ1	自称	la-tze1	弟弟	gɣ̃-tzu1
手掌	la1kɣ̃ɣ̃1ɦie1gɣ̃1tɕi1	木里县的纳人	na1zɔu1	兄弟(哥哥们与弟弟们)	a-ti-tgɣ̃1zɔu1
手纹	la1pʰie1læ1gɣ̃1	汉人	ɦæ1	姐姐	a-tɣ̃1
手背	la1gɣ̃1	苗族	mjen.tsu1	姐姐	tɕi1tɕi1
拳	la1kɣ̃1ɔ1	孩子	za-tɦu1	妹妹	gu-tmie1
手腕	la1tsu1	儿童	za-tɦu1tʰæ1tɕi1ɦĩ1	姐妹	a-tɣ̃1gu1mie1
手指	la1ɦi1	老人	hĩ1mɣ̃-tɣ̃1ɦĩ1	弟弟+妹妹	gɣ̃-tzu1gu-tmie1
大拇指	la1ɦi1a-tmie1	老太太	a-tɣ̃-tmie1	女婿	mae-tɣ̃1
指甲	la1tʂu1	妇女, 女人	mɣ̃1zɔu1ɦĩ1	媳妇, 儿媳	tsʰu1mie1
肛门	kʰæ1qʰɔ1	女人(已婚)	mɣ̃1kʰɣ̃1kʰɣ̃1	嫂子	mi1tɕʰi1
男生殖器	ɦi1tsi1	男人	ze1kʰɣ̃1	祖母, 奶奶	a-tɣ̃1
皮肤	zɣ̃u-kɣ̃1	小伙子	ze1kʰɣ̃1ze1ɦĩ1	姥姥	a-tzu1mie1
皱纹	zɣ̃u-kɣ̃1tɕi1	小姐	ɦæ1kʰwɣ̃1mie1	舅舅的舅舅	æ1pʰɣ̃1
黑痣	ɕɣ̃1	少爷	ɦæ1kʰwɣ̃1ze1	父子	ɔ1da1ɔ1zɔu1
疮	mi1	妻子	mɣ̃1kʰɣ̃1	母亲与孩子们	æ1mie1se1ze1
伤口	mi1pa1pa1	丈夫	ze1kʰɣ̃1	父亲与母亲	a1da1æ-tmie1
癣	la1ɦi1kʰwɣ̃1	一户人	dy1	叔叔侄子	a1bu1se-tze1
血	su1	家人	a1u1ɦĩ1	叔叔侄女	a1bu1se-tmɣ̃1
血管	su1bɣ̃1	亲戚	tʂwɣ̃-tʂwɣ̃-tɦṽ1ɦṽ1	劳动人民	lu-tvie-tɦĩ1
骨头	ʂa1tu1	母亲	æ-tmie1	士兵	ma1mi1
骨髓	tsi-tɣ̃1	母亲(孩子对母亲的称呼)	a1ɦi1	商人	gɣ̃-tɕʰi1ɣ̃1tɕʰi1ɦĩ1
脊椎骨	gɣ̃-tsu1tʂa1tu1	父亲	a1da1	医生	tsʰu1tɦi-tvie1
肋骨	tɦu1	后妈	a-tmie1tʰæ1tɕi1ɦĩ1	寨首	kæ-tzu1ɦĩ1
肺	tsʰɣ̃1	女儿	mɣ̃1	贵族, 奴隶主	su1pʰie1
肝	si1	儿子	ze1	木匠	si-tɣ̃1ɦĩ1
肾	ɣ̃1ɦi1	孩子们, 子女	ze1mɣ̃1	编竹子的工匠	mae1da1ɦĩ1ɦĩ1
胃	dɣ̃1mie1	姨母(比母亲大)	a1pa1	铁匠	ʂu1la1ɦĩ1ɦĩ1
鸡胃	læ1pʂæ1ɔ1	姨母(比母亲小)	æ1tɕi1	打铁	ʂu1la1
肠	ɣ̃-tna1	母亲的所有姐妹	a1pa1læ1tɕi1	喇嘛	la-tma1
膀胱	su1tɣ̃1	姑母	æ-tɣ̃1	尼姑	mɣ̃1kʰɣ̃1da1pɣ̃1
尿	qʰæ1	舅舅、舅父(比母亲大)	æ-tɣ̃1	达巴, 巫	da-tɣ̃1
尿	dzi1	伯父	a1pa1	乞丐	dze1mie1ɦĩ1
大小便的统称	a1pʰu1dzɣ̃1	叔父	a1tu1	强盗	kʰɣ̃-tmae1
屁	kʰæ-tʂɣ̃1	侄子	ze1	病人	ɦĩ1dzɣ̃1ɦĩ1
汗(单音节)	tʂɣ̃1	侄女	mɣ̃1	朋友, 伙伴	tɕʰɣ̃-tmie1
痰	tɕie1kʰæ1bæ1	侄子侄女	ze-tze-tmɣ̃1mɣ̃1	瞎子	mje-tkæ1
口水, 唾	tɕi1	孙子	i-tɣ̃1	跛子	bu1dɣ̃1ɦĩ1
脓	bæ1	孙女	i-tmie1	聋子	tɦe-tɣ̃1
天花	tsʰu1tʰɣ̃1			秃子	wɣ̃-tɣ̃1tɣ̃1
麻疹, 疹子	bɣ̃-tzu1zɔu1			傻瓜	zy-tbæ1
感冒	tsʰa1dza1zɔu1			疯子	ɣ̃1ɔ1
发烧	tʂʰu1			结巴	ɕi1tʰæ1
尸体	ɦĩ1mu1				

主人	daɿpuɿ	丸、小球	tuɿlyɿ		街	ɬuɿfyɿɬquɿbieɿ
客人	hiɿtsoɿ	饭	dzeɿ		街	wɿɿbieɿ
寡妇	uɿmieɿtʂʰyɿhiɿ	猪食	wɿɿɬdzeɿ		石墙	luɿwɿɿ
孤儿	zuɿtʂʰyɿ	马料	ɬɔɿlyɿ		窗户	daɿkʰuɿ
稀饭	hoɿzɿuɿ	线	tʂʰæɿ		柱子	zæɿmieɿ
饭(米饭)	tʂʰæɿpʰyɿɬdzeɿ	布	fiɿtʂʰuɿ		梁	guɿlyɿɦieɿɬgyɿɦieɿ
粥	huɿ	丝绸	tʂʰuɿzeɿ		门	kʰuɿbiɿ
面粉	zyɿ	衣服	baɿllaɿ		门	kʰuɿ
浆糊, 浆子	huɿ	蓑衣	tɕaɿɬɔɿ		门槛	kʰuɿtaɿ
馒头	miɿhiɿēɿ	上衣, 衣服	bxɿzeɿ		梯子	dzyɿɬtʰyɿ
肉	ʂuɿ	衣领	ɿæɿɦyɿ		天花板	kwxɿɦiɿ
熟肉	ʂuɿlaɿmiɿ	袖子	jaɿqʰɔɿ		石头台阶	læɿmieɿɬdzyɿ
生肉	ʂuɿɬdzyɿɬdzyɿɦiɿ	扣子	buɿlyɿ		粮仓	guɿ
瘦肉	ʂuɿnaɿ	裤子	ɦieɿkʰwxɿ		打场	ɦæɿduɿ
肥肉	ʂuɿpʰyɿ	头帕	laɿtʂʰyɿ		篱笆	qʰɔɿtaɿ
牲畜前腿的肉	laɿsaɿ	帽子	tʰyɿtʰyɿ		商品	noɿ
牲畜后腿的肉	ʂuɿsaɿpʰyɿɦieɿ	斗笠	uɿɦuɿ		东西	tɕaɿsuɿ
猪的肚皮的肉	aɿtʂʰyɿ	梳子(粗)	tʂʰyɿɦieɿ		桌子	ʂaɿlæɿ
层肉		氍毹	tʰuɿɦliɿ		凳子	qʰɔɿ
猪胸股上的肉	ɬɔɿbiɿ	羊毛裙子	ɦyɿtʂʰuɿkʰwxɿ		床	qoɿ
猪尾部划出来的膘	wɿɿmiɿtʂʰyɿtʰieɿɬdyɿɦiɿ	裙子	ʂuɿkʰwxɿ		箱子	suɿgyɿ
猪身躯带骨头的肉	wɿɿɦuɿ	裹腿	tsʰuɿtʰuɿ		扫帚	ɦwxɿtʂʰuɿ
把猪的骨头装在大肠里	buɿkʰuɿtɕʰyɿɦuɿ	鞋垫	sæɿɦæɿtʰæɿ		火绒(把小麻皮捶绒)	tsaɿtsoɿ
把瘦肉装在肠子里	yɿɦieɿ	鞋, 鞋子	sæɿɦæɿ		火镰	tseɿɦieɿ
把猪腿的皮剥下来, 缝成筒形, 塞满瘦肉	wæɿtsʰuɿɦlaɿɦyɿɦiɿ	耳环	ɦieɿkʰyɿ		火把	myɿtɕʰyɿ
猪皮	wɿɿzɿuɿkʰyɿ	戒指	laɿtʰuɿ		香	syɿɬzyɿ
猪油	kæɿɦmiɿ	手镯	laɿɬzyɿ		染料	tʂʰyɿɬzɿuɿ
酥油	miɿ	珠, 珠子	qʰɔɿzeɿ		锅	yɿɦieɿ
油	miɿɦɿ	席子	tɕɿɿgyɿ		锅的盖子	uɿɦuɿ
蛋	leɿɦmjæɿtsoɿ	宝贵的毯子	zyɿɬdzyɿ		蒸笼	dzeɿɦyɿ
蛋黄	ɦjæɿɦmjæɿtsoɿqoɿtʂʰuɿ	垫子	qʰɔɿɬɔɿ		刀	kwaɿtaɿɦieɿ
蛋白	ɦjæɿɦmjæɿtsoɿkuɿpʰyɿ	枕头	uɿtɕuɿ		菜板, 俎	tsuɿtʂæɿ
汤	zɿuɿɦjiɿ	褥子	zæɿɦieɿ		把子	qoɿ
酒	zɿuɿ	被子	tɕyɿɦuɿ		勺子、瓢	biɿzeɿ
黄酒	pieɿɦmyɿ	蚊帐	tʰaɿɦlaɿtʂʰuɿɦiɿ		调羹	biɿzeɿtʰaɿɦiɿ
醋	tɕyɿɦiɿ	木头	siɿ		大调羹	biɿzeɿ
开水	iɿtsʰiɿtʂʰuɿtʰyɿ	木板, 木板子	siɿpʰæɿ		碗	kʰwxɿ
茶	lieɿ	家, 家庭	yɿɬyɿ		盘子	ʂwxɿɦpʰieɿ
糖	dzyɿɬzɿuɿ	房屋	yɿkʰwxɿ		木盘子	siɿkʰwxɿ
烟	ɦɿ	家	aɿuɿ		筷子	dzyɿɦsuɿ
药	tsʰuɿɦfiɿ	座位	dzyɿɦlæɿ		瓶子	dzyɿ
		菜园	uɿtɕʰyɿɦliɿ		坛子, 罐子(陶器)	piɿzeɿ
		圈, 牲畜圈	biɿ		茶壶	tɿɦɿ
		土墙	tʂʰuɿɦbuɿ		大水桶	tɕaɿtaɿ
		城	luɿɦwxɿɦyɿkʰwxɿ		过去用杯水的	siɿɦpuɿtaɿ
		城里, 市上	dzyɿ		背篓	
		村里, 市上	dzyɿɦuɿ		桶	zyɿɦieɿ
		村寨, 村子	ɬuɿɦbieɿ			

木盆	si+tsɛ+lu]	肥料, 粪	kʰæ+	有区别	tʰa]nie]nie]
脸盆	pʰy+mie+tsʰu+lu+	白[坨坨]	tʂu]mu]		mə+ŋu]
三脚架	ʂu]tsʰi]	杵[捶捶]	lu]qʉ]	一样, 没有区	tʰa+nie]nie]
火塘	kwa]lu]	碓	mu+tsu+	别	
厨房	tsu+kwɔ+	小筛子	mu]tʰa]tci]hi]	渣滓	dzu]mæ]
火钳	mu+ŋy]	筛子 2	bɔ]kʰu]	影子	da]zɣ]
风箱	my+mi+tsu]	筛子 4	i]tʂu]	梦	y]mu]kʰwɔ]
用来背小孩的	za+hu]pa]dzi]	筛子 5	mu]a]pa]dzu]hi]	东方	vi]dzy]tʉ]
带子		簸箕(簸粮食	mu]	西方	y]dzy]tʉ]
背带	dzi]	用)		南方	i+tsʰu]mie+
称	sa]	手磨	tɕy+ly+	北方	kʰu]dzy]tʉ]
钱	dʒu]	水磨	i+tsʰi]tɕy+ly+	旁边	bie+ku+
价钱	tɕɔ]hi]	水槽	i+tsʰi]wɔ]gy+	左边	væ+ta+
工资, 工钱	ɛa+pʰy+	织布机	ɹ]da]	右边	i]ta]
马鞍	tci]qʰɔ]	拐棍	mi+tʰy]	前面	u]da]
马笼头	u]ly]	镰刀	hū+gy]	后面	gwɔ+tu]
马肚带	bie]ɔ]	刀鞘	y]	外面	a]pʰy]
马嚼子	kwa+ʂwæ+	枪	my+lie+	里面	ku]lu]
马槽	wɔ]gy]	准星	hie+gy]tie]	周围	kʰu+kʰu+lie+lie+
挽具, 后鞅	mæ]ky]	装火药的皮带	ku]ly]	地界	tʰu]la]tsʰi]
缰绳	ɔ+dzi]	枪把	qɔ]	上面	gɔ+tu]
打马的鞭子,	mæ]dʒy]	弩弓	ta+na+	上面	gɔ+by]
马鞭		弓	hie]	下面	y+tsʰæ]
驮架	li+mi+	箭	ɛɔ+by+	中间	dæ]mie]
牛鼻绳	njɔ+gɔ]dzi]	陷阱	pa]ty]	顶上	ɛɔ+by+
斧头	ly+mie+	毒	dʒ]	上半身	gɔ]dʒu]dæ]
锯	ʂwa+da+	字	tʰa+ti+	下半身	y]dʒu]tʂæ+
针	u]	记号	hæ]ty]	时候	du+mi]mi]
锥、锥子	tʂu]	纹路	læ+gy]	一夜	du+hiē]
凿子	dzy]	话	ʂa+vae]	一天	du+ŋi+
木锤子	da]ty]	故事	tʂʰæ]	初一	la]tsʰi]dʒu]ŋi]
连枷	ku+ty+	舞蹈	tsʰu]	初二	la]tsʰi]ŋi]ŋi]
铁钉	ʂu]qʰɔ]	旗子	tsi+	初三	la]tsʰi]su]ŋi]
钩子	tsæ+qæ]	声音	qʰɔ+	初十	la]tsʰi]tsʰi]ŋi]
剪刀	tsu]tie]	鼓	da]kʰɔ]	十一日	tsʰi]dʒu]ŋi]
锁	tsa]kwa]	钹	by+tsʰu+	十五日	tsʰi]ŋwɔ]ŋi]
锁	tsa]kwa]	笛子	tʂu]ly]	十六日	tsʰi]qʰɔ]ŋi]
钥匙	tse]ci]	胡琴	zwa]mæ]da]qɔ]	三十日	su]tsʰi]ŋi]
犁头	ɔ]gy]	铃铛	tɕy]bu]	今天	tsʰi]ŋi]
犁头, 犁铧	tʂʰa+	牛角(用来当	bu]qʰɔ]	昨天	æ]ŋi]
耙	dʒwɔ]	长号角)		前天	ʂu]n]dʒu]ŋi]
牛鞭(单行)	ɛæ]hwa]	神, 菩萨	ga]la]	前几天	ɔ]ŋi]ʂu]ŋi]
牛皮绳, 犁具	dzu+dzu]	鬼	ŋi]	明天	mi+su]
连轭之绳		灵魂, 魂魄	ɛɔ]hie]	后天	u]su]
锄头	tsy+qɔ]	运气	tʂʰa+u]	大后天	u+du]su]
挖锄	bæ+twɔ+	力气	ɛa]zi]	四天以后	u+ŋi]su]
楔子	hɔ]	胆量	ŋi]mie]dzu]	今晚	tsʰi]hwa]
绳子	dzi+	礼物	tɕʰa]ɔ]	明晚	su]hwa]
背篓	kʰɔ]	名字	hi]	昨晚	a]hwa]
袋子	dzi]ku]				

早晨	da'naJ	从前	aJsuwJ	一粒(米)	du'liJ
黎明	p'h'Y'kwɔ'ɾ	以前	u'ldaJ	一个碗	du+'k'hæJ
今天早上	ts'h'iJsuJ	近来	a'tmu+	一件衣服	du+'lyJ
早点	da'naJdze+'dze+	近来	a'tɲi+'ts'hu+'ɲiJ	一包、一卷	du+'tu+
白天	mie+'lie+'gy+	后(后去)	gwɔ'+'tuJ	一筐	du+'k'hɔ'ɾ
中午饭、中午	zu+, zu+'tuJ	今后	k'hu+'t'uJ	一捧	du+'kwa+
吃中午饭	zu+'dze+	夏天、春夏	mu'zu'lbieJ	驮子	du'+'tu'ly+
下午	zu+'dze+'gwɔ'ɾ	冬天	mu+'ts'hy+'bie+	一串	du'+'kwɔ'ɾ
晚上	mi'k'huJ	婚姻	ts'hu+'mie'k'h'yJ	一滴	du+'tɕ'h'yeJ
晚饭	mi'k'huJdze+	1	du'lyJ	一滴水	du+'tɕ'h'ye+
吃晚饭	mi'k'huJdze+'dze+	2	ɲi'lyJ	一瓶	du'+'dzɔ'ɾ
黄昏, 暮	naJp'h'yJts'a'lwɔ'ɾ	3	su'ly+	升	du+'tu+
夜里	sy+'qo+'tsy+	4	zy'lyJ	一斤	du+'saJ
年	k'h'yJ	5	ɲwɔ'lyJ	一两	du+'y+
今年	ts'hu+'vie+	6	q'h'oJgyJ	一堆(比如:	du+'pu+
去年	æ+'vie+	7	su'lyJ	一堆粮食)	
前年	su'JvieJ	8	ci'lyJ	一块	du+'p'hæJ
三年以前	su'Jdu'JvieJ	9	gy'lyJ	一对	du+'dzeJ
明年	su'lvieJ	10	ts'h'ilgy+	一双鞋	du+'dzeJ
后年	u+'vie+	11	ts'h'ildu'lyJ	一只	du+'p'hɔ'ɾ
鼠年	hwɔ'k'h'yJ	12	ts'h'ilɲi'lyJ	一段	du+'tɕæJ
牛年	vi'k'h'yJ	13	ts'h'il'su'lyJ	一庹[一排]	du'+'tyJ
虎年	la'k'h'yJ	14	ts'h'il'zy'lyJ	一拃(大拇指	du+'tɕy+
兔年	t'hu+'lie'k'h'yJ	15	ts'h'il'ɲwɔ'lyJ	和食指之间的	
龙年	mu'ly'k'h'yJ	16	ts'h'il'q'oJgyJ	距离、拇指与	
蛇年	zy'k'h'yJ	17	ts'h'il'su'lyJ	食指平伸量物	
马年	lo'k'h'yJ	18	ts'h'il'ci'lyJ	之长)	
羊年	y'k'h'yJ	19	ts'h'il'gy'lyJ	一拃(大拇指	tɕy+'ze+
猴年	zy'Jk'h'yJ	20	ɲi+'tsi+'gy+	和中指之间的	
鸡年	læ'k'h'yJ	30	su'+'ts'h'ilgy+	距离)	
狗年	k'hu'k'h'yJ	40	zy'+'ts'h'ilgy+	一架牛	du+'p'hɔ'ɾ
猪年	wɔ'Jk'h'yJ	50	ɲwɔ'+'ts'h'ilgy+	一张	du+'ts'huJ
过年	k'h'yJsuJ	60	q'h'oJts'h'iJgyJ	一元	du+'mæJ
月	ɦie+	70	su'+'ts'h'ilgy+	一亩	du+'p'hæJ
上半月	ɦie+'p'hɔ'ɾ	80	ci'+'ts'h'ilgyJ	一辈子	du+'tɕ'hæJ
正月	du+'lie+'mie+	90	gy'+'ts'h'ilgy+	一步	du+'t'hyJ
二月	ɲi+'lie+'mie+	百	du'+'ci'lyJ	一次	du+'dzɔJ
三月	su'+'lie+'mie+	千	du+'ty+'gy+	(吃的)一口	du+'t'æJ
四月	zy'+'lie+'mie+	万	ts'h'il'tyJ	经常	do+'loJ
五月	ɲwɔ'+'lie+'mie+	一半	du+'dqæJ	转回	la+'ɦi
六月	q'h'oJlie'JmieJ	一条绳子	du'+'tɕ'hæJ, du+'kɔ'ɾ	又, 再	a+'ma+du'+'dzɔJ
七月	ɕie+'lie+'mie+	一根(线)	du'+'tɕ'hæJ	天天晚上	du+'ɦi'ɕi'+'du+'ɦi'ɕi'
八月	ci'lie'JmieJ	一棵树	du'+'dzɔJ	每天	du+'ɲi+'du+'ɲi+
九月	gy'+'lie+'mie+	一根(竹子)	du+'tuJ	整天	by'+'ts'hu+'ɲi+
十月	ts'h'il'lie'JmieJ	一根棍子	du+'kɔ'ɾ	全部, 一切	du+'taJ
十一月	ts'h'il'du'+'lie'JmieJ	个(一个人)	du+'ɦi	都、所有	a+'hwɔ'ɾ
十二月	ts'h'il'ɲi'+'lie'JmieJ	一只鸡	du+'p'hɔ'ɾ	自己	ɦi+'tsɔJ
古时候, 传说	æ+'vie'+'su'+'lvieJ	一群、一队	du'+'hwɔ'ɾ	这个(近指)	u'+'t'huJ
古代		一把刀	du'+'naJ	这个(近指)	tɕ'h'ɔ'+'t'huJ

那个 (远指)	u ^l h ^u l	白 (脸、衣服)	p ^h y ^l t ^æ ll ^æ t	温暖, 暖和	ly ^t
这里	t ^ç h ^ɤ lku ^l	白 (头发)	u ^l t ^ç h ^ɤ l ^p h ^ɤ l ^h i ^l	冷 (天气..)	dzu ^t
那里	t ^ɤ lku ^l	红	w ^æ l ^s u ^l h ^ɤ ie ^l h ⁱ l	冷 (水)	t ^h æ ^t
谁	k ^h a ^l si ^l	黄	ʂu ^t q ^o ll ^æ l	难作	lu ^l ha ^t
什么	a ^l tsu ^l	绿 (布)	zu ^l h ^w a ^l h ^ɤ ie ^l h ⁱ l	辛苦	t ^h u ^l
怎么样	a ^l h ^ɤ ie ^l v ^{ie} li ^l ?	灰	p ^h u ^l du ^l ll ^æ h ⁱ l	容易, 容易做	lu ^l ʂu ^t
哪里	ʂ ^ɤ lku ^l	灰	p ^h y ^l h ^æ ll ^æ h ⁱ l	轻松	p ^h a ^l la ^l
什么时候	k ^h a ^l t ^h a ^l	暗, 黑 (天)	na ^l fy ^l fy ^l	香 (气味)	su ^l
多少	k ^h a ^l ʂ ^ɤ l	花的 (蛋、鸟)	fi ^l ʂu ^l h ^w a ^l h ^w a ^l	香 (气味)	y ^l
几个	k ^h a ^l ti ^l	重	a ^l la ^l h ⁱ l	香 (吃得香)	su ^l
粗 (树粗大)	a ^l p ^ɤ lbu ^l h ⁱ l	轻	zu ^t	臭	by ^l h ^ɤ t
细 (树)	t ^h a ^l t ^ç h ^ɤ l ^h i ^l	快 (动作)	p ^h a ^l la ^l	腐烂	la ^l by ^l
高	a ^l pa ^l hu ^t	快	t ^ɕ h ^w æ ^l	酸	t ^ç y ^l
低	t ^h a ^l ty ^l h ⁱ l	迟	la ^l kw ^ɤ t	甜	ts ^h i ^l
长	h ^æ l ^h i ^t	慢	h ^w ɤ ^l	苦	k ^h a ^t
短	d ^ç æ ^t	(起得) 早	æ ^l ze ^t	咸	ts ^h e ^l su ^l
远	læ ^l q ^h ɔ ^t	尖	t ^ɕ h ^w æ ^l	太咸	ts ^h e ^l k ^h a ^t
近	læ ^l h ^ɤ l	锋利	u ^l t ^ç y ^l ll ^æ l	食物变味, 人	tsu ^l by ^l h ^ɤ t
宽 (布, 纸)	a ^l pa ^l dz ^u l	清 (水)	t ^h a ^t	虚弱、瘦	
窄	t ^h a ^l t ^ç i ^l	浑浊 (水)	ʂw ^ɤ lʂw ^ɤ l ^h i ^l	腻 (食物)	d ^ç y ^t
宽敞	a ^l p ^ɤ lhw ^ɤ t	干燥	zu ^l d ^ç wæ ^l	饿 (饭)	dze ^l mi ^l
挤 (房子)	ku ^l ku ^t	湿	læ ^l fy ^l	馋	t ^ç ɤ ^t
厚	a ^l p ^ɤ llu ^t	浸泡 (如: 浸种子)	t ^ç æ ^l læ ^t	需要	h ^ɤ t
薄	t ^h a ^l bie ^l	稠 (粥)、黏 (比较干)	t ^h ie ^l tu ^t	申请, 要	mie ^l
浅 (水浅)	die ^l	稀 (粥, 汤)	ma ^l fy ^l tm ^ɤ l ^{mie} l	讨饭	dze ^l mie ^l
深 (水深)	ha ^l	结实	h ^æ t	感谢	ka ^l mie ^t
过于, 太多	ko ^l ly ^t	硬, 坚硬	t ^ɕ h ^a t ^ɕ h ^a t	饱	h ^ɤ t
多	dzi ^l	紧	u ^l	休息, 松懈	h ^{ie} t
多	a ^l p ^ɤ l ^ʂ ɤ ^t	松	tsi ^l	忙	h ^ɤ ts ^h ɤ ^t
少	d ^ç u ^l mu ^l	松起来	m ^ə ltsi ^l	事务繁忙	lu ^l dzi ^l
少	di ^l h ⁱ l	软, 柔软	ta ^t	富	læ ^l kæ ^t
一些	d ^ç u ^l bæ ^t	黏 (胶)	my ^l h ^æ t	穷	m ^ə dzy ^t
圆形 (球)	g ^w ɤ ^l die ^l ll ^æ h ⁱ l	光滑 (路)	t ^h ie ^l tsu ^l	很穷	dzy ^l dzy ^l
秃	by ^l	生	ka ^l	干净	ʂw ^ɤ lʂw ^ɤ l
皱 (衣服)	t ^ɕ ɤ ^t	熟	dzy ^l dzy ^t	脏	m ^ə lʂu ^l
准	w ^ɤ l	新	mi ^l	乱	kæ ^l ma ^l ɤ ^l zu ^t
不对	m ^ə l ^w ɤ ^l	陈旧	ʂu ^l tsa ^l	痛, 病 (生病)	dzy ^l
歪, 偏 (帽子)	la ^l ta ^l	好	tsu ^l zi ^l	觉得不舒服	m ^ə lts ^h e ^l
横 (横躺)	d ^ç æ ^l d ^ç æ ^l ll ^æ l	好 (心好)	dzy ^l	肿, 膨胀 (肚子) 胀	ʂu ^l
竖	ty ^l ty ^l ll ^æ l	稳重、谨慎	t ^ɕ h ^a t ^ɕ h ^a t	着凉	ts ^h a ^l dza ^l zu ^l
直 (站直)	ty ^l ty ^l ll ^æ l	坏	mie ^l dzy ^t	干扰、妨碍	t ^h ie ^l dzy ^t
伸直	ty ^t	贵	h ^{ie} l ^{dzy} ɤ ^l	好 (技巧好)	vie ^l dzy ^ɤ ɤ ^l
弯	la ^l gy ^l	便宜	hu ^l	勤快	h ^ɤ t
颜色	t ^ɕ h ^ɤ lzy ^l	年老	t ^h ie ^t	聪明	t ^h ie ^t
黑 (颜色)	na ^t	年轻	bæ ^t	傻、笨、蠢	bæ ^t
黑 (颜色)	na ^l t ^ɕ h ^æ ll ^æ l		t ^ç ɤ ^l	狡猾	t ^ç ɤ ^l
白 (脸、衣服)	p ^h ɤ ^l		d ^ç u ^l ti ^l	一条心, 想得	d ^ç u ^l ti ^l

一致		背水	i'ts'hi'paJ	下(雨)	fi'ldzɯŋ
和气、和睦	wɔ'tɕuŋ	背孩子	za'hul'paJ	下(冰雹)	dzy'laa1
安静	hi'k'a'lmɔ'ts'heJ	扛	luJ	有(露水)	dzy'k'a'laa1
装做	tɕɔ'lvie'k'hæ'lvieJ	驮运	tsi1	发生(打雷)	mu'gy'gy'1
骄傲, 自以为好	dæ'ɕyJ	帮助	ka'ka1	吹(灰)	mi1
凶恶	ma'nuJ	包	t'hu1	缠线	dzy'ldzyJ
爱破坏	wæ'k'hæ'hiŋ	瞒着别人	na'na1	钓鱼	ŋi'ze'laa1
客气/害羞	hi'tɕɔ'vie'1	刨	tsa1	赶, 打猎	dzi1, hã'dzi1
吝啬	la'tɕ'ɣy1	比	t'h'a't'h'a'nie'nieJ	打散, 驱赶, 撵	q'hæ'li'Jhu'k'huŋ
大方	a'pɔ'jɔ'kuŋ	量	læ1	牵(牵牛)	k'h'u'ɕæ1
贪心不足, 贪吃	se'tɕ'ɣyJ	放置	t'ie'tuŋ	散开	p'h'aJ
懒	mə'huŋ	提前准备好	tɕɔ'tɕɔ'1	打开(如: 开门)	la'ts'hiJ
多嘴	ɕi'lmie'dziŋ	修牲畜	gyJ	张开心心	k'hæ'tk'hæ1
笨拙	mə'tɕ'hæ'tɕ'hæ'1	重新做	li'tie'vie'1	闭	tæJ
努力	zwa'vieJ	还东西	t'ie'la'kuŋ	关(羊)	tæJ
不幸(人)	ma'ldaJ	唱	gwɔ'J	锁门	tseJ
高兴、起劲	læ'p'hi	称	sa1	闭嘴	t'ie'lmuŋ
幸福、安逸	ts'heJ	完成	la'seJ	眨眼	njæ'lmæ1
喜欢, 爱	p'hi	吃	dze'1	闭眼	mjɔ'lyJ
爱, 关心	ma'ldaJ	拍(拍桌子)	t'ie'tuŋ	穿(衣服)	hɔ'1
讨厌	dzyJ	咬	t'hæ1	脱(脱衣服)	p'h'y1
生气	gy'ldzɯŋ	嚼	tɕa'qɔJ	佩带	pɔ'1
高兴, 心情好	se'seJ	吃草	ɛwæ1	戴手镯	pɔ'1
好玩(人)	ts'he'luŋ	舔	jɔ'J	戴帽子	ty1
安宁	daJ	含在嘴里	ly'1	挡住	q'hɔJ
悲哀, 伤心	mə'ts'heJ	吞	ɛɔ'1	等候	t'ie'hi'e'1
孤单	hi'tuŋ	呕吐	p'heJ	地震	dy'ldzɯŋ'ldzɯŋJ;
陡峭(山)	tu'bieJ	小便, 解溲	dzi'lhæŋ	摇	dzɯ'ldzɯŋ'1
安装	ty'1	拉屎	k'hæ'lhæŋ	摇	dzɯ'1
搬土	q'uJ	拉肚子	q'hæ'ɕwæ1	凋谢	la'k'huŋ
薅锄、锄草	lwæJ	打喷嚏	a't'huJ	上吊自杀, 缢	ɛæ'tsuŋ'1
挖	dzɔwæJ	打嗝儿	hu'lyJ	冻	la'tɕJ
耙	tsa1	打饱嗝儿	ie'p'h'y1	爬行, 匍匐	dy'1
扫	væ1	吐(吐口水)	tɕi'ts'huŋ	翻身	t'hu'tɕyJ
拔、扯(草)	pyJ	喝	ɕyJ	翻过来翻过去	zi'ɕy'p'h'y1
获, 割草	zu'ts'huŋ	吸吮	ts'hi'ts'hiJ	滚(石头滚)	gu'by'ly'1
压扁	ŋæJ	抽烟	jɔ'ɕyJ	使滚	la'p'huŋ
弄扁不弄开(竹子)	ta'pie'laeJ	串珠	suŋ	躲藏	t'ie'ŋæ'1
摆整齐、使均匀	by'tby'laeJ	穿针	u'tsuŋ	藏	t'ie'tɕ'hwæ1
排列整齐	tuŋ	穿孔	q'hɔ't'hyJ	藏(一个小的东西)	t'ie'lmɣJ
举、抬起	gy'ts'hiŋ	插、戳	tɕ'hu1	动	li'li1
上驮子	gy'ts'hiŋ	刺痛	pu1	堵塞	dzyJ
抬(几个人一起)	gy'ts'hiŋ	扎(针...扎)	gyJ	棍子断	la'q'hæŋ
背柴	paJ	一代, 一世	qu'tɕ'hæ1	碎	q'hɔ'1
		传染	tɕyJ		
		出来, 刮(风)	t'hy'1		
		下(雪)	vie'saŋ		

破、碎（碗、罐子）	q ^h ɔ ¹	变（蛹变蛾）	tɕɤ ¹ ʂa ¹ tvæ ¹	跪下磕头（叩头）	ʂɔ ¹ tpɤ ¹ ldɕu ¹
损坏	wæ ¹ ʂæ ¹	换	qæ ¹ , qæ ¹ qæ ¹	咳嗽	tsɤ ¹
撕（撕纸）	ʂwɤ ¹	飘动	li ¹ li ¹ ɰzwæ ¹ ɰzwæ ¹	渴	hwɤ ¹
拆（线）	ʂwɤ ¹	挥动	tɕi ¹ tɕi ¹	困倦	ts ^h e ¹
拆	q ^h æ ¹	来	i ¹	拉（向前拉）	tʂæ ¹
拆	wæ ¹ q ^h æ ¹	毁灭	t ^h u ¹ ʂts ^h u ¹	拖	gwæ ¹ ʂæ ¹
生长	kɤ ¹ pi ¹	使混合	tʂwæ ¹ tʂwæ ¹	推	mie ¹
长大	gɤ ¹ kwɤ ¹	搀	zæ ¹ ɰzæ ¹	按（用手）	ŋæ ¹
发抖，颤抖	tɕ ^h y ¹ tɕ ^h y ¹	搀	ʂwæ ¹ tʂwæ ¹	挤压	tɕy ¹
发烧	tʂ ^h u ¹	和泥	dzæ ¹ k ^h æ ¹ ɰzæ ¹	靠	t ^h u ¹
为别人担心	ŋi ¹ ɰmjæ ¹ hū ¹	累积	ku ¹ ku ¹	留下	t ^h ie ¹ dzɤ ¹ tɕu ¹ !
发芽（树）	hŋw ¹ a ¹ ɰɤ ¹ i ¹ ŋtɕɤ ¹	记得	ŋi ¹ ɰmie ¹ q ^h ɔ ¹	遗漏	my ¹
发芽（种子）	y ¹	寄存	tɕu ¹	忘记	læ ¹ my ¹
开花	væ ¹	寄信、服送	q ^h ɔ ¹ ɰɤ ¹	绑，捆	ts ^h i ¹
告状	tɕɤ ¹ ɰzwɤ ¹	妒忌	gɤ ¹ ɰdzɕu ¹	绑	tsu ¹ tɕsu ¹
惩罚	u ¹ ɰdy ¹	停止	læ ¹ hīē ¹	系	ty ¹
掺和	t ^h ie ¹ ts ^h i ¹	剪	ts ^h i ¹	勒住	dzu ¹ ɰdzu ¹
放牧	dzɕu ¹ ɰdze ¹ ɰɰ ¹	砍（树）	da ¹	漏水	ma ¹ ʂæ ¹
飞	dzɤ ¹	劈、剖	q ^h ɔ ¹	滤	tsu ¹
盘旋	q ^h æ ¹ q ^h æ ¹	剁肉，宰	da ¹	弄乱	wæ ¹ q ^h æ ¹
分东西	zy ¹ ɰzy ¹	切	hæ ¹	驱逐	q ^h æ ¹ ɰɤ ¹ hū ¹ !
逢	zy ¹	断（线）	tʂ ^h u ¹	埋	ŋy ¹
孵	zy ¹	马叫	lwæ ¹	买卖	zɕu ¹
符合	q ^h u ¹	狗吠	ɰ ¹	卖	tɕ ^h i ¹
上街	wɤ ¹ ɰbie ¹ ɰbi ¹	老虎叫	lwæ ¹	生意	gɤ ¹ tɕ ^h i ¹ ɰɰtɕ ^h i ¹
敢	ŋwɤ ¹	老虎叫	lwæ ¹	抿嘴巴	ts ^h i ¹ ʂts ^h i ¹
做，工作	vie ¹	名字叫	hī ¹	触碰	gɤ ¹
劳动	lu ¹ tvie ¹	结很多果子	ly ¹ ɰdy ¹	磨刀	sy ¹
给、传	ku ¹	结果子	la ¹ ɰdy ¹ ŋa ¹	拧（拧毛巾）	ɕæ ¹ ɰʂy ¹
喂动物	dze ¹ ku ¹	婚姻	zɕu ¹ ɰʂy ¹	搓（搓绳子）	zy ¹
撒（种子）	p ^h a ¹	向别人借	ŋi ¹	缠线	dzɤ ¹ ɰdzɤ ¹
使钩住	mi ¹	借给别人	ts ^h y ¹ , tʂ ^h u ¹ ʂts ^h y ¹	爬，上山	gɤ ¹ du ¹
钩住，悬挂	hwa ¹	欠钱	vi ¹	爬，上山	dy ¹ dy ¹
够	ɰ ¹	递过去	q ^h u ¹ ɰɤ ¹ thū ¹	打（如：脱粒）	q ^h u ¹
为别人打工	hī ¹ tk ^h ɤ ¹ ka ¹ ɰlu ¹ tvie ¹	居住	dzɤ ¹	敲门	ta ¹ ta ¹
管理庄稼	li ¹ ɰɰ ¹	聚集	la ¹ ɰly ¹ ɰly ¹	打（人，钉）	la ¹
管庄稼	li ¹ tʂ ^h u ¹	蜷缩	zy ¹	排队	q ^h u ¹ ɰlæ ¹ tvie ¹
管理	a ¹ ɰu ¹ ɰɕæ ¹ ɰzu ¹	观看	ɰ ¹	跑	dzɔ ¹
灌溉	li ¹ ɰsu ¹	看、看望	ɰ ¹ ɰbi ¹	碰撞	p ^h je ¹
害羞	hæ ¹ ɰdu ¹	听	hā ¹	泼水	ɕy ¹
害怕	si ¹	听见	my ¹	欺负	dzɤ ¹ ɰɰma ¹ hā ¹
吓	dzɤ ¹	嗅	læ ¹ mi ¹	欺骗	qæ ¹
后悔	p ^h ɤ ¹	闻到	bu ¹ ɰŋy ¹	垒起来	ɰ ¹
画、写	tʂu ¹	呼吸	sa ¹ ɰse ¹	砌墙	tʂu ¹ ɰbu ¹
刻	q ^h u ¹	烤火取暖	my ¹ ɰkwɤ ¹	骑马	dzu ¹
怀孕一个孩子	za ¹ thū ¹ ɰɤ ¹	站（站立）	hīē ¹	起（起床）	gɤ ¹ tɕu ¹
交换	qæ ¹ qæ ¹	跪下	ma ¹ ku ¹ ɰt ^h ie ¹ ts ^h y ¹	打招呼	ɰɤ ¹ ɰku ¹ ɰk ^h u ¹ ɰɰɰjæ ¹ ?

染	tʂʰy˧	睡着	zi˧lmy˧zi˧	争夺	dzæ˧tdzæ˧1
热饭	tsi˧	讲	zwx˧	吵架	dæ˧tdæ˧
必须	lɕ˧	商量、谈天	ʂa˧tvæ˧	偷	kʰy˧
会	ku˧	讲故事	u˧	催别人把东西	ta˧
能, 能够	dzywx˧	问	my˧du˧	交出来	
扔	la˧	读	ŋi˧tsi˧	织	da˧
甩	du˧	批评	dæ˧	编 (竹子)	mæ˧da˧
掷 (掷石头)	tʂa˧tsʰi˧	骂	u˧dy˧	指	gy˧
散了	pʰy˧	逃, 逃跑	pʰu˧	种	tʃy˧
解开, 解绳结	tʂʰu˧	踢一脚	tsa˧	抓	dzywx˧
杀	kʰa˧	踩	tʰy˧	啄	kʰy˧
筛	ly˧	剔, 刮	si˧si˧	醉	ɤæ˧
射中	zy˧	满	ʂy˧	坐/住	dzy˧
伸 (伸手)	y˧tʂʰu˧	挑选	si˧	做梦	y˧lmu˧kʰwx˧
生锈	tʂu˧tqʰæ˧n˧dze˧	跳舞	tsʰu˧	暗 (房子)	na˧lɸy˧lɸy˧
生孩子	za˧hu˧dzɿ˧	往后仰	ɰ˧ɰ˧	天阴	mu˧na˧
失踪	tʰu˧tsʰu˧	弄弯	tsa˧tqæ˧kʰu˧	瘦 (人瘦)	ʂu˧dzæ˧
撑开 (帐篷)	qʰæ˧tqʰæ˧	退后	tie˧tse˧	瘦 (肉)	ʂu˧na˧
收拾、弄整齐	ʂu˧ʂu˧	洗衣服	tsʰu˧	肥 (肥肉)	ʂu˧pʰy˧
梳	tʂʰwx˧	冲水	ɕy˧	胖	ʂu˧dy˧
梳	si˧si˧	下蛋	ɤ˧ɤ˧	干燥	ɸy˧
败、输	mə˧tɕʰɤ˧	相信	mu˧tɰu˧	可爱	a˧li˧
用手剥	ʂu˧	醒	tʂy˧	丑陋	a˧mɤ˧li˧
剥皮	ʂu˧	学	su˧	辣	tsu˧
削	ʂu˧	教	su˧	活	sɸy˧
煮熟	tɕɤ˧	写	tʂu˧	死 (人)	su˧
煮了一会	dʉu˧mɤ˧mi˧tɕɤ˧	知道	su˧	死	kʰɤ˧
烧开	tɕɤ˧	传闻	ŋɕ˧	合适	dʉu˧
煨熟	tsi˧	懂	my˧	擦	tʂʰy˧, tʂʰy˧tʂʰy˧
蒸熟	by˧	寻找	ʂu˧	揉	zy˧
炒 (肉、菜)	hi˧	抠痒	kwa˧	呛	ɕy˧
炒 (肉、菜)	tʂʰu˧	阉割	læ˧mie˧gy˧	塌毁, 倒塌	dzɤ˧
干炒 (麦子)	hi˧hi˧	养 (动物)	zwx˧	错、犯错误	qæ˧
揉面	zy˧	溢出来	qʰɕ˧	舀水	qwa˧
搅拌	ʂwa˧	送行	py˧	守卫	tʂʰu˧
尝试、体会、	dʉu˧lɕ˧bi˧	漂浮	tɕy˧	带孩子	qæ˧
经过		跨 (跨小沟)	ɤa˧	带路	læ˧ɤ˧sɸy˧
烘干	læ˧ɸy˧lkʰu˧	遇见	ɤ˧py˧	骨折	qʰæ˧
弄碎 (用牙	tɕy˧ly˧tɕy˧	盖, 覆盖	hu˧	倒	qʰæ˧
齿、手磨)		遮 (云遮月)	ka˧	掉下	tʂʰu˧
在磨房里磨	tɕy˧	挡住去路	ka˧	掉入、沉下去	tʂʰu˧
点灯	tʂy˧	包起来	ʂu˧ʂu˧, la˧ʂu˧	摔倒, 跌倒	tʰie˧dʉu˧
烧	dzy˧	遮蔽	hu˧	(路很滑)	
烧焦	qʰæ˧	使火炉灭了	ŋy˧	立起来	tʰie˧dzɿ˧kʰu˧
烧火	tsʰi˧	灭, 熄	kʰu˧	到达	tʰy˧
熏	hwa˧	振动	dzyu˧	得到	ɰ˧
一起摔交	zi˧zi˧	震动	dzyu˧dzyu˧	丢失, 遗失	tʰu˧tsʰu˧
甩来甩去	ʂwx˧lie˧lu˧	点头	u˧tu˧lgy˧lgy˧	捉 (捉鸡)	zi˧
睡觉	zi˧	抢	dzæ˧	握 (握刀把)	tsʰy˧

拣, 拾, 取	la'ts ^h y]	老鹰	ka'lna-tmie]	猪崽	wæ:by]
捡起来, 拾	ku]	"小鹰"	tswɔ-tla-tswɔ]	野猪	wɔ:ltu]
摘	tʂ ^h u]	乌鸦	la-tɛæ]	马	lɔ]
拿过来	y]	喜雀	læ]se]	公马	lɔ]sy]
赠送	pɔ]	鸚 (鸚)	dʒwɔ-tmie]	母马	lɔ]mie]
哄	tu-tu]	鸚鵡	a]qæ]	骗马	lɔ-tɛɔ]
抱起小孩子	tu-t, tu-tu]	羽毛	hɔ]	马驹子	lɔ-tza-t ^h u]
亲吻	bu-tbu]	翅膀	dɣ]ts ^h u]	马鹿	tʂ ^h æ]
铺 (铺床)	k ^h u]	龙	zɣ]bæ]	鹿	tʂ ^h æ-tby]
去	bi]	蝙蝠	dʒy]wɔ]	母鹿	tʂ ^h æ-tmie]
去	bɔ]	虫	dzi-t ^h i]	狗	k ^h u]
去 (过去式)	hu]	蜈蚣	tɣ-tɕi]	母狗	k ^h u-tmie]
走路	se]	蚊子	i-tsu]	流浪的狗	tʂ ^h ã]la]
散步	ga]lɔ]y]lɔ]bi]	跳蚤	k ^h u-tsu]	看门狗	a]u]k ^h u]
走 (离开)	hũ]	虱子	ʂu-tmie]	早獭	dzi]hwɔ]
喊 (大声叫)	ku]	虻子	ʂu]ʂu]lɔ]	熊	u]
笑	ɹ]	臭虫	qɔ-tsu]	熊胆	u-tsi]
玩笑	a-tzɔ]ʂa-tvæ]	象鼻虫	bɣ]tʂ ^h æ]	猫	hwɔ-tlie]
逗弄 (话)	ze]k ^h wɔ-tvie]	毛虫	sa]da]bɣ-t ^h y]	公猫	hwɔ-tlie-tby]
玩, 玩耍	a]zɔ]	瓢虫	dzi-t ^h i]tɛæ]tsu]læ]	母猫	hwɔ-tlie-tmie]
玩具	a]zɔ]tsu]		hĩ]	山羊	ts ^h u]
哭	ŋy]	四脚蛇	za]mɔ-tby]	公山羊	ts ^h u]by]
过去 (时间)	gy]	蚂蟥, 水蛭	i-t ^h i]dzɔ]hĩ]	麝香	lie-t ^h u]
数	tswɔ-tswɔ]	马蜂 (黄蜂)	dzy]	山羊羔	ts ^h u]t ^h u]
跳	ts ^h u]	蚯蚓	njɔ-tgɔ]dzɔ]hĩ]	绵羊	y]
过河	dæ]	蚂蚁	ts ^h a-tzy]	公绵羊	y-tby]
贴	zɔ]zɔ]	蚂蚁巢	ts ^h a-tzy]q ^h ɔ]	母绵羊	y-tmie]
想	ʂ-tɕu]	蜜蜂	dzy]	绵羊羔	y-tza-t ^h u]
愿意	lwæ]	蜂蜜	dzy-tzɔ]	羊毛	ts ^h u]hɔ]
请	lwæ]	蜂窝	dzy-tgu]	岩羊[青羊]	se]
接	tʂy-t, tʂy-tʂy-t	蛆	mu-tk ^h ɣ]ly]	狐狸	dɣwæ-tmie]
游泳、漂浮	dʒy], zɔ-tdʒy]	苍蝇	bɔ-tɔ]	青蛙	pɔ-tmie]
有	dʒy]	大苍蝇	fɣ]mie]k ^h æ]	蝌蚪	pɔ-tdzy]ly]
没有	mɔ-tdʒy]	蝉	wɔ]mie]tɕɔ]lɔ]	鱼	ŋi]ze]
大	a]pa]dzɔ]	蜘蛛	ba-tla-tmie]	兔子	t ^h u-tlie]
小	tɕi]	大蜘蛛	ba-tla-tmie-ta]pa]dz	蛇	zɣ]lbæ]
交配 (动物)	ly]		u]hĩ]	蛇的蜕皮	ky-tqæ]
鸟	u]i]	蜘蛛网	ba-tla-tmie-tk ^h u]	壁虎	lie-ta]
鸡	læ]	蜗牛, 螺螄	njɔ-tkɔ]sy]	水獭	ʂɹ]
公鸡	læ-t ^h y]	蜚螋[牛屎	wɔ]mie]k ^h æ]hĩ]tu	野兽的洞	q ^h ɔ]
母鸡	læ-tmie]	虫、粪虫]	ly]	鸟窝, 鸟巢	k ^h u]
鸭子	bæ-tmie]	蝴蝶	p ^h ie-tlie]	骡子	da]u]
雉	t ^h u-ty]	螳螂	la]mie]la]dɔ]dɔ]	獐子	lie]
雉	tʂ ^h a-tmɣ-tʂ ^h a-tʂ ^h a-t	蝗虫	ŋi-tby-tkwa]ta]mie]	麂子	ts ^h i]
雉, 鹑	kɔ]pi]	小的树枝虫	si-tdze-tdze]hĩ]	猴子	y]
啄木鸟	t ^h u-tbie-t ^h u-ta-ta]	象	nɔ]bɣ]tɕ ^h i]	老虎	la]
鹤	ɛɔ]	猪	wɔ]	豹子	zæ]
雁	mu-tze-t ^h æ-tze]	母猪	wɔ]mie]	狼	p ^h a]
枭	bu-tlu-tfy]	种公猪	wɔ]sy]	牛	vi]

公牛	viːsyː	糠	tsʰiː	酸菜, 如: 芜	tɕyːlæː
水牛	væː	麦麸	pʰaːdaː	菁叶子	
牦牛/野牦牛	byː	麦秸	zɹuː	根	siːaːtsʰuː
驴子	tõːbyː	麦芒	mieː	树枝	mæːdyː
野驴子	iːlbæː	小麦	dzeː	树枝	siːkaːllaː
藏羚	seː	火麻	saːaː	树干	siːdziː
牲畜	dʒɹuːdzeː	大麻	saː	液, 汁	zɹuː, siːzɹuː
野猫	ʃoːmieː	蔬菜	uːtɕʰɹɹɹ	松香	tʰuːtɕæː
松鼠, 灰鼠	hwæːtɹuː	萝卜	lyːbiː	麦苗	dzuːliː
老鼠=耗子	hwɹɹɹ	南瓜	tseːhiːlgwɹɹɹ	种子	læː
黄鼠狼, 黄喉貂	uːpʰyː	黄瓜	tʃyːhwɹɹɹ	叶子	tɕʰɹɹɹ
尖鼠、鼯鼠	ʃoːtɕyːhwɹɹɹ	土豆(马铃薯, 洋芋)	jaːyː	刺	tɕʰiːtuː
飞鼠	ŋyːlqʰoː	树	siːdziː	花	væː
刺猬	ŋiːzeː	松树	tʰuːtsiː	花	aːliːwaː
马鬃	pyː	松明	qʰoːqʰoː	草	zɹuː
蹄子	ʃoːbyːbyː	落叶松	tʰuːtɕɹɹɹ	玉米包	dɹuːlʰyː
奶牛的乳房	kʰwɹɹɹbieː	柳树, 杨柳	zyːsiː	杉树果	siːliː
犄角	viːaːpuː	柏树	syː	豆类的粗糠	ŋyːtsaː
瓜子	qʰoː	大竹子	mæː	秕, 喂牛	
大蒜	laːtɹuː	竹子	tsʰuːtɹyː	树墩、树桩	siːpɹɹɹtʃyː
菌子(蘑菇)	fyː	竹子	mæːtʰæːtɕiːhiː	树瘤	tsuːtuːlyː
果核	muːtɹɹɹwɹɹɹ	甘蔗	kʰaːdzeːpuːtzyː	茎	zɹuːdʒyː
水果	tɕyː	黄豆	ŋyː	我	ŋaː
桃子	siːuːaːliː	豆花	ŋyːhuː	你	nuː
梨子	tsʰuːkyːtaː	豌豆	daːtsʰyː	他	tʰuː
柿子	siːtzyː	豌豆干草	daːtsʰyːzɹuː	咱们	uːmɹɹɹ
大麦	suːtbyː	花椒	dzyː	我们	ŋaːmɹɹɹ
青稞	miːdzeː	野花椒	dzyːbyː	你们	nuːmɹɹɹ
甜荞, 荞麦	tɹɹyːtɹuː	庄稼	kʰyːtɕwaː	他们(对平辈)	tʰuːkʰɹɹɹ
花荞	jaːdʒɹuː	庄稼(未收)	ɛːɔːbieː	你们俩	nuːdziː
苦荞	jaːtkʰaː	藤子	ŋyːlbæː	不	məː
稻子	dzeːtsyː	辣椒	læːtsuː	是(这是什么)	ŋuː
米	tɕʰiː	四川桦树, 白桦树	muːkɹɹɹ	这样, 这么	uːnieː
米饭	tɹɹæːpʰyːdzeː	核桃	uːduː	越、更	laːhaː
玉米、包谷	kʰaːdzeː	荨麻[和麻]	ŋiːtɹɹɹ	凉山木里县	muːliː
燕麦	myːzɹuː	血满草[臭草]	jaːbyː jaːtsuːtsuː	木里县项脚	hwaːdzyː
莜麦	ɹuː	[酸酸草]	hwɹɹɹtɕyː		
苋米	ŋjaːlaːmaː	大蒜的根	fyːtuːtuː		

^① 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).

^② Throughout the article, tones are indicated by means of Chao tone-letters: ˩ for H(igh), ˨ for M(id), ˩ for L(ow), ˨˨ for MH.

^③ See Michaud 2006 for Naxi, Michaud 2008 for Yongning Na, and Michaud et al. 2012 for a cross-linguistic study.

^④ Pr. Huang also noted /wæ̃/ for ‘to shout, to cry out (of pigs)’; in the dialect described here, this word is realised as /lwæ̃/.

^⑤ For instance, the form /baɭha/ ‘pig swill’, from /bu/ ‘pig’ and /ha/ ‘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 /buɭha/, without vowel harmony.

^⑥ 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).

^⑦ Note that the symbol /ɲ/ for a palatal nasal, used here in accordance with the International Phonetic Alphabet, is strictly equivalent with the symbol /ɺ/ which is more commonly used in the People’s Republic of China.