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The phonology of Laze: phonemic analysis, syllabic inventory, and a short word list*

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Alexis Michaud (米 可)

Guillaume Jacques (向柏霖)

LACITO-CNRS

CRLAO-CNRS

alexis.michaud@vjf.cnrs.fr

rgyalrongskad@gmail.com

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.

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 et al. 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˥˥ɣɿ˥˥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 have been 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, ‘ɥwɣ’ in the cell corresponding to initial /h/ and rhyme /wɣ/ indicates that the combination /hwɣ/ is attested, and that its phonetic realisation can be approximated as [ɥwɣ], 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.

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).

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	ɿ	ɤ	jæ	jɣ	ja
zero	ʔa 家	—	wæ 猪崽	wa 花	ʔi 水	ʔie 打饱嗝儿	jy 梦, 坟	ʔu, u 咱们	—	—	ɣɣ 肚带	—	wɣ 猪	ɿ 书, 笑, 石	ɤ 肠	—	jɣ 奶奶	ja 袖子
h	xa 难	hæ 害羞	ɣwæ 肩膀	ɣwa 挂	ci 舌头	—	cy 痔	ɣu 孩子	xɔ 楔子	xu 晚上	—	—	ɣwɣ 渴	—	—	—	—	—
f	B	—	—	—	fi 雨	—	—	—	—	—	—	—	—	—	fy 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 y 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	—	kɤ 皮肤	tɕæ 湿	tɕɣ 煮	tɕa 蓑衣, 嚼
ɣ	ka 埡口	kæ 富	k ^w æ 反刍	k ^w a 庄稼	—	—	—	—	kɔ 吞, 客气	—	—	—	—	—	—	—	—	—
g	VH	—	VH	—	dzi 袋子	—	dzy 手镯	gu 妹妹	—	gu 弟弟	gɣ 上	—	gwɣ 下午	—	gy 雷	dzæ 泥巴	dzɣ 美	dza 泥巴
	a	æ	wæ	wa	i	ie	y	u	ɔ	u	ɣ	e	wɣ	ɿ	ɤ	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 y 出	—	—	—
t	ta 全部	—	—	—	B	tie (退)后	ty 系	tu 哄	—	—	tɣ 茶壶; 那里	—	—	—	tɤ 洞	—	tjɣ (虚词)	—

² Throughout the article, tones are indicated by means of Chao tone-letters: 1 for H(igh), 2 for M(id), 3 for L(ow), 4 for MH.

t	—	tæ 白齿	—	—	—	—	—	—	—	tu 雾	—	—	—	tɥ 皱	tɥ 骨髓	—	—	—
d	da 砍	—	—	—	di 少	die 浅	dy 地, 户	du 害羞	—	—	dy 围起来	—	—	—	dy 翅膀	—	—	—
dɥ	—	dæ 涉过去	dɥwæ 狐狸	—	—	—	—	—	—	dtu 刻	—	—	—	dɥ 湖	dɥ 坟	—	—	—
	a	æ	wæ	wa	i	ie	y	u	ɔ	uu	ɣ	e	wɣ	ɥ	ɥ	jæ	jɣ	ja
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 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	—	—
ɬ	—	—	—	—	ɬi 天花板	ɬie 月	ɬy 庚	ɬu 肋骨	—	—	—	—	—	—	—	—	—	—
l	la 手	læ 洞	lwæ 叫	—	ɬi 田	ɬie 茶	ɬy 果子	ɬu 扛	ɬɔ 马	—	—	—	—	—	ɬɥ 含	—	lɣ (虚词)	—
s	sa 气	sæ 鞋 (VH)	—	—	si 怕	—	sy 公 (马...)	su 明天	—	sɥ 知道	—	se 凉快	—	—	sɥ 磨刀	—	—	—
z	za 孩子	—	—	—	zi 睡觉	—	zy 林	zu 孤儿	—	zɥ 疹子	—	ze 儿子	—	—	zy 揉	—	—	—
ʂ	ʂa 话	ʂæ 拖	ʂwæ 马嚼子	ʂwa 搅拌	—	ʂie 七月 VH	ʂy : —	ʂu 铁	—	ʂɥ 跳蚤	—	—	ʂwɣ 盘子	ʂɥ 水獭	ʂɥ 喝	—	—	—
ʐ	—	zæ 火花	zwæ 飘动	zwa 努力	—	—	zy : —	zu 中午	—	zɥ 山	—	—	zwɣ 养	—	zy 蛇	—	—	—
	a	æ	wæ	wa	i	ie	y	u	ɔ	uu	ɣ	e	wɣ	ɥ	ɥ	jæ	jɣ	ja
tʂ ^h	tʂ ^h a 铍头	tʂ ^h æ 代	tʂ ^h wæ 快	—	—	—	—	tʂ ^h u 炒	—	tʂ ^h ɥ 掉	—	—	tʂ ^h wɣ 梳	—	tʂ ^h ɥ 染料	—	—	—
tʂ	tʂa 掷	tʂæ 段	tʂwæ 搅拌	—	—	—	—	tʂu 锥	—	tʂɥ 画	—	B	tʂwɣ 数	—	tʂɥ 传染	—	—	—

dz	dza 干 扰	dzæ 抢	dzywæ 挖	—	—	—	—	dzu 痛	—	dzu 下 (雨)	—	—	dzywɣ 抓	—	dzy 燃烧	—	—	—
ts ^h	ts ^h a 蚂 蚁	—	—	—	ts ^h i 剪	—	ts ^h y 冬 天	ts ^h u 跳	—	ts ^h ɿ 一 张	—	ts ^h e 盐	—	—	ts ^h y 拣	—	—	—
ts	tsa 刨	tsæ 钩子 (VH)	—	—	tsi 星	—	—	tsu 火塘	—	tsɿ 黏	—	tse 山	—	—	tsy 咳嗽	—	—	—
dz	dza 跑	—	—	—	dzi 海	—	dzy 缠, 桥	—	—	dzi 勒住	—	dze 吃	—	—	dzy 凿 子	—	—	—
	a	æ	wæ	wa	i	ie	y	u	ɔ	u	ɣ	e	wɣ	ɿ	ɥ	jæ	jɣ	ja
m	ma 士兵	mæ 大 竹子	—	—	mi 酥油	mie 太 阳	—	mu 天	—	—	— (neg)	—	—	—	mɥ 天	mjæ 眼 泪	—	—
n	na 海	næ 挤压	—	—	ni 嘴唇	—	—	nu 你	—	nɥ 由	—	—	—	—	nɥ 臭	njæ 眨 眼	njɣ 鼻	nja 苋米
ŋ	ŋa 我	—	—	ŋwa 膝 盖	ŋi 太阳	ŋie 霜	ŋy 火钳	—	—	ŋw 是	ŋɣ 跌	—	ŋwɣ 白 齿	—	ŋɥ 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, /məɫ/, and taking on its quality from the vowel that follows; and (ii) as many as nine nasal rhymes, shown in Table 2.

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

syllable	hṽa	hṽ	hṽ	hṽ	hṽ	hṽɣ	hṽ	hṽe	
example	绿豆	听	锯, 金	毛	走	慢	人	站, 面包	
syllable			ṽ	ṽ					ṽ
example			铜	呛					螳螂, 自己, 驴

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 /hṽ/, 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.¹ There are also three syllables without an initial /h/, consisting simply of a nasal vowel: [ṽ], [ṽ] and [ṽ].² Examples include:

(i) [ṽ] ‘brass’

(ii) [ṽ] ‘to irritate (e.g. smoke irritates the eye)’; Huang Bufan also reports [ṽ]

¹ See Michaud 2006 for Naxi, Michaud 2008 for Yongning Na, and Michaud et al. submitted for a cross-linguistic study.

² Pr. Huang also noted /wṽ/ for ‘to shout, to cry out (of pigs)’; in the dialect described here, this word is realised as /lwṽ/.

(original transcription: [ʔ̃³¹]) for ‘goose’, a word for which the language consultants in the valley of Xiangjiao now use a Chinese borrowing.

(iii) [la.lmie.lla.ʔ̃ʔ̃] ‘praying mantis’, [ʔ̃ʔ̃-tsʔ̃] ‘-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): [tʔ̃.lby.l] ‘donkey, ass’ and [nʔ̃.lby.ltɕ^{hi}.l] ‘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 [ʔ̃i]. Pushing further the logic of descriptive economy, in the absence of any [ʔ̃æ] or [ʔ̃ɔ] syllables, the syllable [ʔ̃æ] could be interpreted as the phonetic realisation of a simple /æ/, and [ʔ̃ɔ] as /ɔ/; but this option, which would be costly in terms of phonetic plausibility, is not open for [ʔ̃ʏ], since that syllable contrasts with [ʏ]. We propose to analyse [ʔ̃ʏ], [ʔ̃æ] and [ʔ̃ɔ] as /ʏ/, /æ/ and /ɔ/, a decision which is consistent with the recognition of the phonemic nasal rhymes /æ̃/, /ʏ̃/, /w̃a, /ã/, /ũ/, /w̃ɔ̃/, /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, /i.tdy.t/ ‘family’ is sometimes realised close to [y.tdy]. 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.¹ Vowel harmony is lexicalised in some disyllabic words, along with other processes such as the voicing of

¹ For instance, the form /bu.lha.t/ ‘pig swill’, from /bu.l/ ‘pig’ and /ha.t/ ‘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.lha.t/, without vowel harmony.

intervocalic voiceless consonants (and tone sandhi, about which see, again, Michaud 2009). A typical example is /ʃie-ɦie-ɦmie-ɦ/ ‘seventh month’, from /ʃur-ɦ/ ‘seven’ and /ɦie-ɦmie-ɦ/ ‘month’: in addition to the change in the vowel of the first syllable, note the voicing of /ɦ/ to /ɦ/. 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 /fiŋ/ ‘rain’, /fiŋts^{hi}/ ‘gingiva’, /fi-ɦdzi-ɦ/ ‘charcoal’, /fiŋ/ ‘lake’; /vi-ɦdzuŋ/ [tuŋ/ ‘East’, /vi-ɦ/ ‘cow’, and /viŋ/ ‘to owe’. In front of /i/, they contrast with /h/ (realised as [ç]) and with the absence of any initial, e.g. /hiŋmieŋ/ ‘tongue (body part)’, /i-ɦts^{hi}/ ‘water’.

In Laze, the two syllables containing /f/, leaving aside Chinese borrowings, are [fi] and [fɣ]; 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 [fɣ] comes to be interpreted as /fɣ/ – hence the empty slot at the intersection of initial /h/ and rhyme /ɣ/.¹

Initial [ç] 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).

¹ 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).

3.2. *The fronting of velar stops in front of high, front rhymes*

Alveolo-palatal affricates /dʒ/, /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|ɔ] ‘cicada’: this syllable can be phonemicised as /kʃɔ/, 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 [ɔ] being copied onto the previous syllable.

3.3. *The palatalisation of the velar nasal in front of high, front rhymes¹*

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/, /jɑ/, /ɔ/, /ie/, /wæ/, /wɑ/, 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

¹ Note that the symbol /ɲ/ for a palatal nasal, used here in accordance with the International Phonetic Alphabet, is strictly equivalent with the symbol /ɲ/ which is more commonly used in China.

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 [ɣɥe]), and [tɕ^hɥe]. Only one example of each was observed: [lɥe] 草木灰 ‘ashes (of wood)’, and [tɕ^hɥe] 滴 ‘classifier for drops (of liquid)’. The word for ‘ashes’ is plausibly a borrowing from the Pumi /lyɜ/ (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 /tɕ^h/, 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: [tɕɥe] and [dʒɥe]); as a consequence, it is provisionally considered as a rhyme on its own, /ɥe/. (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 /hɔ-ɬɯ-ɬ/ ‘watery rice gruel, 稀饭’, vs. /hu-ɬ/ ‘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 /bɔ-ɬɔ/ ‘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. /tʲɤ/, and /dɤ/ vs. /dʲɤ/; no example of /tʰɤ/ was observed (only examples of /tʰʲɤ/), 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 [tʰɑ-tʰɑ] ‘书, book’ and [tʰæʌ] ‘冷, cold’ would then be written as /Tʰɑ-tʰɑ/ and /Tʰæʌ/, where Tʰ stands for the archiphoneme covering [tʰ] and [tʰʲ].

The retroflex [ʎ] raises more difficult issues for phonemicisation. The only attested syllable containing [ʎ] is [ʎɔ] (e.g. [ʎɔ] ‘horse’): the retroflex initial [ʎ] is only found in this syllable. In Naxi, the syllable [ʎɔ] is phonemicised as /ɔ/: 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 [ɣu]); phonemicising [ʎɔ] as /u/ is not entirely convincing. Alternatively, it could be phonemicised as /ɔ/: the /ɔ/ would then have allophones ranging from [ʎ] to [ɣ] through [ɹ]. 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 [ŋ] in front of /æ/, /u/ and /ɤ/ ([ŋæ], [ŋu] and [ŋɤ]) 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 [ʃĩ³³dʒĩ⁵³ŋi⁵³], is [ʃuɿŋɿ|dʒuɿŋiɿ] 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 /ɖʒ/, and between /tʃ/ and /tʃ̥/, for items all of which have retroflex initials in our data, as shown in Table 3 below.

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

meaning	Pr. Huang's transcription	A. Michaud's transcription
to suffer, to be ill	ɖʒu ⁵³	dʒuɿ
earthen wall	ɖʒu ³³ bu ³³	tʃuɿɿbuɿ (cp. /tʃuɿɿ/ ‘earth’)
to fall (rain, hail...)	ɖʒi ⁵³	dʒuɿ

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.

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 (slightly above 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	mu˩	彩虹	zɯ˩ʃsu˩mɣ˩ʃsu˩	垭口	ɛa˩ly˩
天空	mu˩tu˩	雪	vie˩	山	zɯ˩tse˩
天地	mu˩dy˩	雷, 霹雷	mu˩gy˩	高山	u˩gu˩
太阳	ɲi˩mie˩	闪电, 打闪电	bɣ˩bæ˩bæ˩	山坡, 岗	tu˩bie˩
光 (阳光)	ɲi˩mie˩tu˩	冰雹	dzy˩	山脊	dzy˩kʰu˩tu˩
月亮	ʃie˩mie˩	冰雹块	dzy˩ly˩ly˩	山谷	zɯ˩tse˩.ɬæ˩tsʰu˩
星星	tsi˩	露水	dʒɯ˩kʰa˩	山洞	læ˩qʰɔ˩
流星	tsi˩qʰæ˩	冰	ɲi˩pʰy˩	森林	sy˩zy˩
风	mɣ˩hæ˩	火	mɣ˩	地上的小洞	pa˩ty˩
雨	fi˩	火花	mɣ˩lzæ˩	洞	qʰɔ˩
云	tɕi˩su˩	烟	mu˩kʰy˩	河流	zɯ˩mie˩
雾	qʰɔ˩pɔ˩	(一口) 气	sa˩	溪流	i˩tsʰi˩qʰæ˩lu˩

湖	fiJ	眉毛	mie-tu1	胆汁	tsi-tzu1
海	na1dziJ	眼睛	mie-ly1	吐酸水	tci-tzu1
小型水库	q11	眼（单音节）	mie1	腰	i1tsuJ
岸	zu1mie1khu1ku1	眼珠	mie-ly1na1li1	屁股	q1æ1sæ1p1y1mie1
水坑	pa1ty1	眼圈骨	mie-ly1sajtu1	胯	ts1u1mie1
水沟	q1æ1lu1	眼泪	mjæ1dzu1	尾椎骨	dzy1tu1
井	i1ts1i1qwæ1	鼻子	nj1x1gx1	锁骨	læ1dzy1
小堤坝	bu1tu1	鼻孔	nj1x1gx1q1h1o1	肌肉	su1na1
路	læ1gy1	鼻涕	ny1	腿	æ1ts1u1
地（天地的地）	dy1	耳朵	hie1tu1	大腿	by1sa1mie1
平坝	du1k1u1	耳孔	hie1ze1	膝盖	ɲwa1tu1
平地	hæ1du1	耳垂	hie1tu1kɔ1by1	膝盖骨	ka1p1æ1
田地	li1	耳垢	hie1q1æ1bæ1	关节	tsu1
水田	dze1li1	脸	p1y1mie1	小腿	dzy1bæ1
石头	læ1t1mie1	腮	bjæ1lo1	胫骨	w1x1nj1x1gx1sajtu1
粉，粉末	zy1	嘴，嘴巴，口	ny1q1h1o1	踝关节	læ1mie1tsu1tu1ly1
土	tsu1	嘴巴	ku1pie1	脚底	w1x1tɕ1x1
干土	tsu1zy1	嘴巴里面	ku1pie1ku1lu1	脚跟	gy1t1u1
尘土	p1y1hæ1	牙齿	fi1t1u1	脚背	mi1gy1
泥巴	dza1q1æ1	牙齿	fi1t1u1	下半身	y1d1u1tsæ1
水	i1ts1i1	白齿 + 后白齿	ɲw1x1t1æ1mie1	上半身	gx1d1u1tsæ1
洪水，大水	zu1ly1	牙龈	fi1ts1i1	四肢，手脚	zy1ts1u1
波浪	i1ts1i1t1hie1sa1sa1	舌头	ci1mie1	胳膊	la1p1hie1
水泉，山泉	zu1q1h1o1	舌头的筋	ci1zæ1	胳膊	la1bu1ly1
温泉	ts1y1tzu1	小舌	ci1zæ1	肘	la1tu1
泉水	zu1q1h1o1li1ts1i1	喉咙	qo1tsu1	臂弯	tsæ1qæ1
金子	hæ1	喉结	qo1tsu1tu1ly1	手掌	la1kw1x1hie1gy1tci1
银子	ɲy1	嘴唇	ni1tɕ1x1	手纹	la1p1hie1læ1gy1
黄铜	æ1	颧骨	p1y1sy1dzy1	手背	la1gy1
白铜	æ1p1y1	胡子	my1tsu1	拳	la1ky1ty1
红铜	æ1hi1	连鬓胡	bie1na1	手腕	la1tsu1
铁	su1	颚	ta1to1	手指	la1ɲi1
锈	tsu1q1æ1	脖子	kæ1tsu1pa1	大拇指	la1ɲi1a1mie1
炭	fi1dzi1	甲状腺肿瘤	æ1bæ1	指甲	la1tsu1
盐	ts1e1	项背	gx1to1pa1	肛门	k1æ1q1h1o1
草木灰	lu1e1	肩膀	hwæ1ts1u1	男生殖器	ɲi1tsi1
桥	dzy1	脊背	gy1tsu1	皮肤	zu1ky1
坟墓	y1dy1	肩胛骨	ts1u1	皱纹	zu1ky1t1
身体	q1u1ti1	驼背	du1qo1	黑痣	cy1
头	u1tu1	腋下	ja1da1	疮	mi1
脑子，脑髓	u1fy1	胸膛	ɲi1mjæ1q1h1o1	伤口	mi1pa1pa1
太阳穴	su1by1	乳房	a1pu1	癣	la1li1k1w1x1
头发	u1tɕ1y1	奶汁	ɲæ1	血	su1
辫子	lo1pa1	月经	dzu1h1v1ts1u1tsu1	血管	su1by1
毛	h1v1	心脏，性情	ɲi1mie1	骨头	sajtu1
人身上的毛	ɲi1h1v1	肚子	ha1mie1	骨髓	tsi1ty1
额头	tu1k1x1	肚脐	tɕ1x1pu1	脊椎骨	gy1tsu1sajtu1
眼睫毛	mjæ1tsu1	肚脐	tɕ1x1	肋骨	tu1
		胆	tsi1	肺	ts1y1

肝	siɬ	女儿	myɹ	贵族, 奴隶主	suɹɹpʰieɹ
肾	ɥɹliɹ	儿子	zeɹ	木匠	siɬgyɹhɨɹ
胃	ɥyɹmieɹ	孩子们, 子女	zeɹɹmyɹ	编竹子的工匠	mæɹdaɹhɨɹhɨɹ
鸡胃	læɹpʰjæɹɹɹɹ	姨母 (比母亲大)	aɹpɑɹ	铁匠	ʂuɹlaɹhɨɹhɨɹ
肠	ɥɹnaɹ	姨母 (比母亲小)	æɹtʰeɹɹ	打铁	ʂuɹlaɹ
膀胱	suɹɹpɥɹ	母亲的所有姐妹	aɹpɑɹlæɹtʰeɹɹ	喇嘛	laɹmaɹ
屎	qʰæɹ	姑母	æɹtʰjiɹ	尼姑	myɹɹkʰɹɹɹdaɹpɹɹ
尿	dziɹ	舅舅、舅父	æɹɹɥɹ	达巴, 巫	daɹpɹɹ
大小便的统称	aɹpʰuɹɹɹɹɹ	(比母亲大)		乞丐	dzeɹɹmieɹhɨɹ
屁	kʰæɹtʰsɨɹɹ	伯父	aɹpɑɹ	强盗	kʰɹɹmaɹ
汗 (单音节)	tʂɥɹ	叔父	aɹɹbuɹ	病人	hɨɹɹɹɹɹɹ
痰	tʰieɹkʰæɹɹbæɹ	侄子	zeɹ	朋友, 伙伴	tʰɹɹɹmieɹ
口水, 唾	tʰeɹɹ	侄女	myɹ	瞎子	mɹjæɹɹɹæɹ
脓	bæɹ	侄子侄女	zeɹzeɹmyɹmyɹ	跛子	buɹɹɹɹhɨɹ
天花	tʰuɹɹtʰɹɹ	孙子	iɹɹɹ	聋子	tʰieɹbuɹ
麻疹, 疹子	bɥɹɹzuɹɹzuɹ	孙女	hɨɹmieɹ	秃子	wɹɹɹɹɹɹ
感冒	tʰaɹɹɹɹɹɹ	孙子孙女	iɹɹɹɹɹmieɹ	傻瓜	zyɹɹbæɹ
发烧	tʂɥuɹ	重孙, 曾孙	iɹpʰɹɹ	疯子	ɥɹɹɹ
尸体	hɨɹɹmuɹ	重孙女, 曾孙女	iɹpʰɹɹ	结巴	ɥiɹtʰæɹ
生命	hɨɹɹɹuɹɹ	女	iɹpʰɹɹɹɹmieɹ	主人	daɹpɹuɹ
人	hɨɹ	重孙与重孙女	iɹpʰɹɹɹɹmieɹ	客人	hɨɹɹɹɹ
藏族	kaɹmiɹ	哥哥	maɹɹmyɹ	寡妇	uɹmieɹtʂɥɹɹhɨɹ
彝族	leɹæɹhɨɹɹɹaɹ	弟弟	gɹɹɹzuɹ	孤儿	zuɹɹtʂɥɹ
普米族	bɹɹ	兄弟 (哥哥们与弟弟们)	aɹɹɹgɹɹɹzuɹ	稀饭	hɹɹɹzuɹ
纳西族	naɹhɨɹ	姐姐	aɹɹɹ	饭 (米饭)	tʂɥæɹpʰɹɹɹɹɹ
自称	laɹzeɹ	姐姐	tʰeɹɹtʰeɹɹ	粥	huɹ
木里县的纳人	naɹɹzuɹ	妹妹	guɹmieɹ	面粉	zyɹ
汉人	hæɹ	妹妹	guɹɹmieɹ	浆糊, 浆子	huɹ
苗族	mɹjɹɹ.tsuɹ	姐妹	aɹɹɹɹguɹmieɹ	馒头	miɹɹhɨɹɹ
孩子	zaɹɹhuɹ	姐妹	gɹɹɹzuɹɹguɹmieɹ	肉	ʂuɹ
儿童	zaɹɹhuɹɹhæɹtʰeɹɹhɨɹ	弟 + 妹妹	mæɹɹɹ	熟肉	ʂuɹɹlaɹɹmiɹ
老人	hɨɹɹmyɹɹɹhɨɹ	女婿	tsʰuɹɹmieɹ	生肉	ʂuɹɹɹɹɹɹɹhɨɹ
老太太	aɹɹɹɹmieɹ	媳妇, 儿媳	miɹtʰeɹɹɹ	瘦肉	ʂuɹɹnaɹ
妇女, 女人	myɹɹɹuɹɹhɨɹ	嫂子	aɹɹɹɹ	肥肉	ʂuɹɹpʰɹɹ
女人 (已婚)	myɹɹkʰɹɹɹkʰɹɹ	祖母, 奶奶	aɹɹɹɹ	牲畜前腿的肉	laɹɹsaɹ
男人	zeɹɹkʰɹɹ	姥姥	aɹɹɹuɹɹmieɹ	牲畜后腿的肉	ʂuɹɹsaɹpʰɹɹmieɹ
小伙子	zeɹɹkʰɹɹɹzeɹhɨɹ	舅舅的舅舅	æɹɹpʰɹɹ	猪的肚皮的肉	aɹtʂɥɹ
小姐	hæɹɹkʰɹɹɹmieɹ	父子	əɹɹdaɹɹɹɹ	层肉	
少爷	hæɹɹkʰɹɹɹzeɹ	母亲与孩子们	æɹɹmieɹɹseɹzeɹ	猪胸股上的肉	ɹɹɹbiɹ
妻子	myɹɹkʰɹɹ	父亲与母亲	aɹɹdaɹɹɹmieɹ	猪尾部划出来的膘	wɹɹmiɹtʂɥɹɹhɨɹɹɹ
丈夫	zeɹɹkʰɹɹ	叔叔侄子	aɹɹɹuɹɹseɹzeɹ	的膘	hɨɹ
一户人	dyɹ	叔叔侄女	aɹɹɹuɹɹseɹɹmyɹ	猪身躯带骨头的肉	wɹɹɹtuɹ
家人	aɹɹuɹhɨɹ	劳动人民	luɹɹvieɹhɨɹ	把猪的骨头装在大肠里	buɹɹkʰuɹɹtʰeɹɹɹɹtuɹ
亲戚	tʂwɹɹtʂwɹɹhɨɹhɨɹ	士兵	maɹɹmiɹ	把瘦肉装在肠子里	ɥɹɹɹieɹ
母亲	æɹɹmieɹ	商人	gɹɹɹtʰeɹɹɹɹɹɹhɨɹ	把猪腿的皮剥下来, 缝成筒	wæɹtʰsʰuɹɹlaɹɹɹɹhɨɹ
母亲 (孩子对母亲的称呼)	æɹɹɹjiɹ	医生	tsʰuɹɹɹɹɹieɹ		
父亲	aɹɹdaɹ	寨首	ɹæɹɹzuɹhɨɹ		
后妈	aɹɹmieɹɹhæɹtʰeɹɹhɨɹ				

形, 塞满瘦肉		宝贵的毯子	zyldzu]	蒸笼	dze-lby]
猪皮	wɔ-lzɔw-ky]	垫子	q ^h ɔ]	刀	kwa-ta-lmie]
猪油	kælmij]	枕头	u-lgu]	菜板, 俎	tsu-ltæ]
酥油	mi]	褥子	zæ-lmie]	把子	qɔ]
油	mi]	被子	tɕy]hu]	勺子、瓢	bi-lze]
蛋	leæ-lmjæ]kɔ]	蚊帐	t ^h a-l-lal]tɕu]hi]	调羹	bi-lze-t ^h a-ltɕi]hi]
蛋黄	ljæ-lmjæ]kɔ]qɔ-lɕu]	木头	si]	大调羹	bi-lze]
蛋白	ljæ-lmjæ]kɔ]ku-lp ^h]	木板, 木板子	si-lp ^h æ]	碗	k ^h wɔ]
	ɣ]	家, 家庭	ɣ]dy]	盘子	ɕwɔ-lp ^h ie]
汤	zɔw]ŋij]	房屋	ɣ]k ^h wɔ]	木盘子	si]k ^h wɔ]
酒	zɔw]	家	a]u]	筷子	dzɔw]ɕu]
黄酒	pie-lmy]	座位	dzy]læ]	瓶子	dzɔ]
醋	tɕy]hi]	菜园	u-ltɕ ^h ɔ-lili]	坛子, 罐子	pi-lze]
开水	i-lts ^h i]lts ^h u]l ^h ɣ]	圈, 牲畜圈	bi]	(陶器)	
茶	lie]	土墙	tɕu-lbu]	茶壶	tɔ]l]
糖	dzy]zɔw]	城	lu-lwɔ-ljy]k ^h wɔ]	大水桶	tɕa]ta]
烟	jɔ]	城	dzɔw]	过去用杯水的	si-lpu]ta]
药	ts ^h u-lfi]	城里、市上	dzɔw-lu]	背篓	
丸、小球	tu]ly]	村寨, 村子	dɔw-lbie-l,	桶	zy]lmie]
饭	dze]		dɔw-lfy]lɔw-lbie]	木盆	si-ltse-lu]
猪食	wɔ]dze]	街	wɔ-lbie]	脸盆	p ^h ɣ-lmie-lts ^h u-lu]
马料	lɔ]ly]	石墙	lu-lwɔ]	三脚架	ɕu]lts ^h i]
线	tɕ ^h æ]	窗户	da-lk ^h u]	火塘	kwa]lu]
布	fi-ltɕu]	柱子	zæ]lmie]	厨房	tsu-lkwɔ]
丝绸	tɕu-lze]	梁	gu]ly]l ^h ie]gy]tie]	火钳	mu-lŋy]
衣服	ba]la]	门	k ^h u]bi]	风箱	my-lmi-ltsu]
蓑衣	tɕa-lɔ]	门	k ^h u]	用来背小孩的	za-lhu]pa]dzi]
上衣, 衣服	bx-lze]	门槛	k ^h u-lta]	带子	
衣领	ɕæ]hɔ]	梯子	dzy]l ^h ɣ]	背带	dzi]
袖子	ja]q ^h ɔ]	天花板	kwɔ]hi]	称	sa]
扣子	bu-lly]	石头台阶	læ]lmie]dzɣ]	钱	dzɔw]
裤子	lie]k ^h wɔ]	粮仓	gu]	价钱	tɕɔ]hi]
头帕	la]tɕ ^h ɣ]	打场	hæ]du]	工资, 工钱	ka-lp ^h ɣ]
帽子	tɣ-lɣ]	篱笆	q ^h ɔ]ta]	马鞍	tɕi]q ^h ɔ]
斗笠	u-lmu]	商品	no]	马笼头	u]y]
梳子(粗)	tɕy]lmie]	东西	tɕa-lsu]	马肚带	bie]ɔ]
毡毯	l ^h u]li]	桌子	ɕa]llæ]	马嚼子	kwa-lɕwæ-l
羊毛裙子	hɔ-lɕu]k ^h wɔ]	凳子	q ^h ɔ]	马槽	wɔ]gy]
裙子	ɕu]k ^h wɔ]	床	qɔ]	挽具, 后鞅	mæ]kɣ]
裹腿	ts ^h u]l ^h u]	箱子	su-lgy]	缰绳	lɔ-ldzi]
鞋垫	sæ]hæ]l ^h æ]	扫帚	hwɔ-ltɕu]	打马的鞭子,	mæ]ldzy]
鞋, 鞋子	sæ]hæ]	火绒(把小麻	tsa]kɔ]	马鞭	
耳环	lie-lk ^h ɣ]	皮捶绒)		驮架	li-lmi]
戒指	la]l ^h u]	火镰	tse-lmie]	牛鼻绳	njɔ-lgɔ]ldzi]
手镯	la]ldzy]	火把	my]ltɕ ^h ɣ]	斧头	ly-lmie]
珠, 珠子	q ^h ɔ-lze]	香	sy]ldy]	锯	ɕwa-lta]
席子	tɕɔ-lgɔ]	染料	tɕ ^h ɣ]zɔw]	针	u]
毯子	tɕɔ]hu]	锅	ɣ-lmie]	锥、锥子	tɕu]
		锅的盖子	u-lhu]	凿子	dzy]

木锤子	daɫɥɿ	故事	tʂʰæɿ	初一	laɫsʰiɿɰdɥuɿŋiɿ
连枷	kuɿɥɿ	舞蹈	tsʰuɿ	初二	laɫsʰiɿɰŋiɿŋiɿ
铁钉	ʂuɿqʰɔɿ	旗子	tsiɿ	初三	laɫsʰiɿɰsuɿŋiɿ
钩子	tsæɿqæɿ	声音	qʰɔɿ	初十	laɫsʰiɿɰtsʰiɿŋiɿ
剪刀	tsuɿɰtieɿ	鼓	daɿkʰɿɿɿ	十一日	tsʰiɿɰdɥuɿŋiɿ
锁	tsaɿkwaɿ	钹	bɥɿtsʰuɿ	十五日	tsʰiɿɰŋwɿŋiɿ
钥匙	tseɿɰciɿ	笛子	tʂʰuɿɰɥɿ	十六日	tsʰiɿɰqʰɔɿŋiɿ
犁头	ɰɰɣɿ	胡琴	zwæɿmæɿdaɿqɔɿ	三十日	suɿtsʰiɿŋiɿ
犁头, 犁铧	tʂʰaɿ	铃铛	tɰɥɿɰbuɿ	今天	tsʰiɿŋiɿ
耙	dzɥwɿɿ	牛角 (用来当 长号角)	buɿqʰɔɿ	昨天	æɿŋiɿ
牛轭 (单行)	ɿæɿɰhwaɿ	神, 菩萨	gaɿllaɿ	前天	ʂuɿɰɰdɥuɿŋiɿ
牛皮绳, 犁具	dzuɿɰdzuɿ	鬼	ŋiɿ	前几天	ɔɿŋiɿɰɣuɿŋiɿ
连轭之绳		灵魂, 魂魄	ɿɰɰɰɰɰ	明天	miɿsuɿ
锄头	tsɥɿɰqɔɿ	运气	tʂʰaɿɰuɿ	后天	uɿsuɿ
挖锄	bæɿɰwɿɿ	力气	ɿaɿziɿ	大后天	uɰdɥuɿsuɿ
楔子	hɔɿ	胆量	ŋiɿmieɿɰdzuɿ	四天以后	uɰŋiɿsuɿ
绳子	dziɿ	礼物	tɰʰaɿɰɰɰ	今晚	tsʰiɿɰhuɿ
背篓	kʰɿɿ	名字	hiɿ	明晚	suɿhuɿ
袋子	dziɿkɥuɿ	有区别	tʰaɿɰnieɿɰnieɿ	昨晚	aɿhuɿ
肥料, 粪	kʰæɿ	一样, 没有区 别	mɔɿɰŋuɿ	早晨	daɿnaɿ
白[坨坨]	tʂuɿɰmuɿ		tʰaɿɰnieɿɰnieɿ	黎明	pʰɥɿkwɿɿ
杵[捶捶]	luɿɰdɥuɿ			今天早上	tsʰiɿɰɰsuɿ
碓	muɿɰtʂuɿ			早点	daɿnaɿɰdzeɿɰdzeɿ
小筛子	muɿɰtʰaɿɰtɰiɿɰhiɿ	渣滓	dzuɿɰmæɿ	白天	mieɿɰlieɿɰɣɥɿ
筛子 2	bɿɿkʰuɿ	影子	daɿɰzɥɿ	中午饭、中午	zuɿ, zuɿɰtuɿ
筛子 4	iɰtʂuɿ	梦	ɥɿɰmuɿkʰwɿɿ	吃中午饭	zuɿɰdzeɿ
筛子 5	muɿɰaɿɰpaɿɰdzuɿɰhiɿ	东方	viɰɰdzuɿɰɰtuɿ	下午	zuɿɰdzeɿɰgwɿɿ
簸箕 (簸粮食 用)	muɿ	西方	iɰɰdzuɿɰɰtuɿ	晚上	miɿkʰuɿ
手磨	tɰɥɿɰɥɿ	南方	iɰtʂʰuɿɰmieɿ	晚饭	miɿkʰuɿɰdzeɿ
水磨	iɰtsʰiɿɰtɰɥɿɰɥɿ	北方	kʰuɿɰdzuɿɰɰtuɿ	吃晚饭	miɿkʰuɿɰdzeɿɰdzeɿ
水槽	iɰtsʰiɿɰwɿɿɰɣɥɿ	旁边	bieɿkuɿ	黄昏, 暮	naɿpʰɥɿtsʰaɿɰwɿɿ
织布机	ɰɰdaɿ	左边	væɿtaɿ	夜里	syɿɰqɔɿtsɥɿ
拐棍	miɰɰtʰɥɿ	右边	iɰtaɿ	年	kʰɥɿ
镰刀	hūɿɰɣɿ	前面	uɰdaɿ	今年	tsʰuɿɰvieɿ
刀鞘	ɥɿ	后面	gwɿɰtuɿ	去年	æɿɰvieɿ
枪	myɿɰɰɰɰ	外面	aɰpʰɥɿ	前年	ʂuɿɰvieɿ
准星	ɰieɿɰɣɿɰɰɰ	里面	kuɿɰluɿ	三年以前	ʂuɿɰdɥuɿɰvieɿ
装火药的皮带	kuɿɰɥɿ	周围	kʰuɰkʰuɰɰlieɿɰlieɿ	明年	suɿvieɿ
枪把	qɔɿ	地界	tʰuɰɰlaɿtsʰiɿ	后年	uɰvieɿ
弩弓	taɿɰnaɿ	上面	gɿɰɰtuɿ	鼠年	hwɿɰkʰɥɿ
弓	ɰieɿ	上面	gɿɰɰbɥɿ	牛年	viɿkʰɥɿ
箭	ɿɔɿɰbɥɿ	下面	ɥɿɰtʰæɿ	虎年	laɿkʰɥɿ
陷阱	paɿɰtyɿ	中间	dæɿmieɿ	兔年	tʰuɰɰlieɿkʰɥɿ
毒	dɥɿ	顶上	ɿɔɿɰbɥɿ	龙年	muɿɰɣɿkʰɥɿ
字	tʰaɿɰɰ	上半身	gɿɰɰdɥuɰɰdæɿ	蛇年	zɥɿkʰɥɿ
记号	hæɿɰtyɿ	下半身	ɥɿɰdɥuɰɰtʂæɿ	马年	ɰɰkʰɥɿ
纹路	læɿɰɣɿ	时候	dɥuɰɰmɿɰmiɿ	羊年	ɥɿkʰɥɿ
话	ʂaɿɰvæɿ	一夜	dɥuɰɰhiɰɰ	猴年	zyɰkʰɥɿ
		一天	dɥuɰɰŋiɿ	鸡年	læɿkʰɥɿ

狗年	k ^h uŋk ^h yŋ	40	zyŋts ^h iŋgyŋ	一架牛	ɬuŋp ^h ɣŋ
猪年	wɣŋk ^h yŋ	50	ŋwɣŋts ^h iŋgyŋ	一张	ɬuŋts ^h uŋ
过年	k ^h yŋɬsuŋ	60	q ^h ɔŋts ^h iŋgyŋ	一元	ɬuŋmæŋ
月	ɦieŋ	70	ʂuŋts ^h iŋgyŋ	一亩	ɬuŋp ^h æŋ
上半月	ɦieŋp ^h ɣŋ	80	ɕiŋts ^h iŋgyŋ	一辈子	ɬuŋtʂ ^h æŋ
正月	ɬuŋlieŋmieŋ	90	gyŋts ^h iŋgyŋ	一步	ɬuŋt ^h yŋ
二月	ŋiŋlieŋmieŋ	百	ɬuŋɕiŋgyŋ	一次	ɬuŋdzɣŋ
三月	suŋlieŋmieŋ	千	ɬuŋtɣŋgyŋ	(吃的) 一口	ɬuŋt ^h æŋ
四月	zyŋlieŋmieŋ	万	ts ^h iŋtɣŋ	经常	doŋɔŋ
五月	ŋwɣŋlieŋmieŋ	一半	ɬuŋdɕæŋ	转回	laŋɦ
六月	q ^h ɔŋlieŋmieŋ	一条绳子	ɬuŋtʂ ^h æŋ, ɬuŋkɣŋ	又, 再	ɑŋmaŋɬuŋdzɣŋ
七月	ʂieŋlieŋmieŋ	一根(线)	ɬuŋtʂ ^h æŋ	天天晚上	ɬuŋɦieŋɬuŋɦieŋ
八月	ɕiŋlieŋmieŋ	一棵树	ɬuŋdzɣŋ	每天	ɬuŋŋiŋɬuŋŋiŋ
九月	gyŋlieŋmieŋ	一根(竹子)	ɬuŋtuŋ	整天	byŋts ^h uŋŋiŋ
十月	ts ^h iŋlieŋmieŋ	一根棍子	ɬuŋkɣŋ	全部, 一切	ɬuŋɦɣŋ
十一月	ts ^h iŋɬuŋlieŋmieŋ	个(一个人)	ɬuŋɦ	都, 所有	ɑŋɦwɣŋ
十二月	ts ^h iŋŋiŋlieŋmieŋ	一只鸡	ɬuŋp ^h ɣŋ	自己	ʂɦtsɔŋ
古时候, 传说	æŋvieŋɬsuŋvieŋ	一群、一队	ɬuŋɦwɣŋ	这个(近指)	uŋt ^h uŋ
古代		一把刀	ɬuŋnaŋ	这个(近指)	tɕ ^h ɣŋt ^h uŋ
从前	ɑŋɬsuŋ	一粒(米)	ɬuŋliŋ	那个(远指)	uŋt ^h uŋ
以前	uŋdaŋ	一个碗	ɬuŋk ^h æŋ	这里	tɕ ^h ɣŋŋkuŋ
近来	ɑŋɦuŋ	一件衣服	ɬuŋɦyŋ	那里	ɦɣŋkuŋ
近来	ɑŋŋiŋts ^h uŋŋiŋ	一包、一卷	ɬuŋtuŋ	谁	k ^h ɑŋsiŋ
后(后去)	gɣŋɦtuŋ	一筐	ɬuŋk ^h ɣŋ	什么	ɑŋtsuŋ
今后	k ^h uŋt ^h uŋ	一捧	ɬuŋkwaŋ	怎么样	ɑŋŋieŋvieŋɦiŋ?
夏天、春夏	muŋzuŋbieŋ	驮子	ɬuŋtuŋɦyŋ	哪里	ɦɣŋkuŋ
冬天	muŋts ^h yŋɦieŋ	一串	ɬuŋkɣŋ	什么时候	k ^h ɑŋt ^h ɑŋ
婚姻	ts ^h uŋɦmieŋk ^h yŋ	一滴	ɬuŋtɕ ^h ɕeŋ	多少	k ^h ɑŋɦɣŋ
1	ɬuŋgyŋ	一滴水	ɬuŋtɕ ^h ɕeŋ	几个	k ^h ɑŋɦ
2	ŋiŋgyŋ	一瓶	ɬuŋdzɣŋ	粗(树粗大)	ɑŋpɣŋbuŋɦiŋ
3	suŋgyŋ	升	ɬuŋtɣuŋ	细(树)	t ^h ɑŋtɕ ^h yŋɦiŋ
4	zyŋgyŋ	一斤	ɬuŋɦsaŋ	高	ɑŋpaŋɦuŋ
5	ŋwɣŋgyŋ	一两	ɬuŋɦyŋ	低	t ^h ɑŋɦyŋɦiŋ
6	q ^h ɔŋgyŋ	一堆(比如:	ɬuŋɦuŋ	长	ɦæŋɦɦ
7	ʂuŋgyŋ	一堆粮食)		短	ɕæŋ
8	ɕiŋgyŋ	一块	ɬuŋp ^h æŋ	远	læŋq ^h ɔŋ
9	gyŋgyŋ	一对	ɬuŋdzeŋ	近	læŋɦyŋ
10	ts ^h iŋgyŋ	一双鞋	ɬuŋdzeŋ	宽(布, 纸)	ɑŋpaŋdzɣŋ
11	ts ^h iŋɬuŋgyŋ	一只	ɬuŋp ^h ɣŋ	窄	t ^h ɑŋtɕiŋ
12	ts ^h iŋŋiŋgyŋ	一段	ɬuŋtʂ ^h æŋ	宽敞	ɑŋpɣŋɦwɣŋ
13	ts ^h iŋɦsuŋgyŋ	一庹[一排]	ɬuŋɦyŋ	挤(房子)	kuŋɦkuŋ
14	ts ^h iŋzyŋgyŋ	一拃(大拇指	ɬuŋtɕyŋ	厚	ɑŋpɣŋɦuŋ
15	ts ^h iŋŋwɣŋgyŋ	和食指之间的		薄	t ^h ɑŋɦieŋ
16	ts ^h iŋq ^h ɔŋgyŋ	距离、拇指与		浅(水浅)	dieŋ
17	ts ^h iŋɦsuŋgyŋ	食指平伸量物		深(水深)	ɦaŋ
18	ts ^h iŋɕiŋgyŋ	之长)		过于, 太	koŋɦ
19	ts ^h iŋgyŋgyŋ	一拃(大拇指	tɕyŋɦeŋ	多	dziŋ
20	ŋiŋtsiŋgyŋ	和中指之间的		多	ɑŋpɣŋɦɣŋ
30	suŋts ^h iŋgyŋ	距离)		少	ɬuŋɦɦuŋ

少	di'hiŋ	硬, 坚硬	uŋ	富	læ'kæ'ɛ
一些	q̄u'ɓæ'ɛ	紧	tsiŋ	穷	mə'dzɣ'ɛ
圆形 (球)	gwx'ldie'llæ'hiŋ	松	mə'tsiŋ	很穷	dzy'ldzɣuŋ
秃	byŋ	松起来	ta'ɛ	干净	ʂwx'ŋʂwx'ŋ
皱 (衣服)	t̄ɛ'ɛ	软, 柔软	my'ŋæ'ɛ	脏	mə'ŋsuŋ
准	wx'ŋ	黏 (胶)	t'ie'ŋtsuŋ	乱	kæ'tmæ'tzu'ɛ
不对	mə'wɣ'ŋ	光滑 (路)	kæ'ɛ	痛, 病 (生病)	dzɣuŋ
歪, 偏 (帽子)	la'taŋ	生	dzy'ɛdzɣ'ɛ	觉得不舒服	mə'ŋts'h'eŋ
横 (横躺)	dæ'dqæ'llæ'ɛ	熟	miŋ	肿, 膨胀	t̄su'ɛ
竖	t̄y't̄y'llæ'ɛ	新	ʂu'ɛtsaŋ	(肚子) 胀	t̄su'ɛ
直 (站直)	t̄y't̄y'llæ'ɛ	陈旧	tsu'ɛziŋ	着凉	ts'h'a'dza'ɛzuŋ
伸直	t̄y'ɛ	好	dzɣ'ɛ	干扰、妨碍	t'ie'ɛdzɣ'ɛ
弯	la'ŋgyŋ	好 (心好)	nuŋ	好 (技巧好)	vie'ldzɣwx'ŋ
颜色	t̄ʂ'h'y'ɛzɣuŋ	稳重、谨慎	t̄ʂ'h'a't̄ʂ'h'a'ɛ	勤快	huŋ
黑 (颜色)	na'ɛ	坏	mə'dzɣ'ɛ	聪明	t'ie'ɛ
黑 (颜色)	na't̄ʂ'hæ'llæ'ɛ	贵	p'h'y'ɛdzɣ'ɛ	傻、笨、蠢	bæ'ɛ
白 (脸、衣服)	p'h'yŋ	便宜	p'h'yŋ	狡猾	tɔx'ŋ
白 (脸、衣服)	p'h'y'ŋt̄cæ'llæ'ɛ	年老	my'ɛ'ɛ	一条心, 想得	q̄u'ɛiŋ
白 (头发)	u'ŋt̄c'h'y'ŋp'h'y'hiŋ	年轻	p'hæ'ɛt̄cɛiŋ	一致	
红	wæ'ɛsu'ɛŋjie'hiŋ	温暖, 暖和	ly'ɛ	和气、和睦	wx't̄tu'ɛ
黄	ʂu'ɛiq̄o'llæ'ɛ	冷 (天气..)	dzɣ'ɛ	安静	hi'k'h'a'ɛmɣ'ŋts'h'eŋ
绿 (布)	zu'ŋh'w'a'ŋjie'hiŋ	冷 (水)	t'æ'ɛ	装做	tɔx'ŋvie'k'hæ'ɛvie'ɛ
灰	p'h'u'ɛdu'llæ'hiŋ	难作	lu'ha'ɛ	骄傲, 自以为	dæ'ɛʂyŋ
灰	p'h'y'ŋhæ'llæ'hiŋ	辛苦	lu'huŋ	好	
暗, 黑 (天)	na'ŋfy'ŋfyŋ	容易, 容易做	lu'ʂu'ɛ	凶恶	ma'ŋnuŋ
花的 (蛋、鸟)	fi't̄ʂu'ɛ'hw'a'hw'a'ɛ	轻松	p'h'a'ɛlaŋ	爱破坏	wæ'ɛk'hæ'hiŋ
重	zɣu'ɛ	香 (气味)	suŋ	客气/害羞	hi'k'ɔ'vie'ɛ
轻	p'h'a'ɛlaŋ	香 (气味)	yŋ	吝啬	la't̄ʂ'h'y'ɛ
快 (动作)	t̄ʂ'h'wæ'ɛ	香 (吃得香)	suŋ	大方	a'ŋp'ɣ'ŋɣ'ɛku'ɛ
快	la'kwx'ɛ	臭	by'ɛŋy'ɛ	贪心不足, 贪	se'ɛt̄c'h'y'ɛ
迟	h'w'ɣ'ŋ	腐烂	la'byŋ	吃	
慢	æ'ɛze'ɛ	酸	tɔyŋ	懒	mə'ŋhuŋ
(起得) 早	t̄ʂ'h'wæ'ɛ	甜	ts'h'iŋ	多嘴	ɛi'ɛmie'ldziŋ
尖	u'ŋt̄c'y'llæ'ɛ	苦	k'h'a'ɛ	笨拙	mə't̄ʂ'hæ't̄ʂ'hæ'ɛ
锋利	t'ɛ'ɛ	咸	ts'h'e'ŋsuŋ	努力	zɣwa'ɛvie'ɛ
清 (水)	ʂwx'ŋʂwx'ŋhiŋ	太咸	ts'h'e'ɛk'h'a'ɛ	不幸 (人)	ma'ŋdaŋ
浑浊 (水)	zɣu'ɛdqwæ'ɛ	食物变味, 人	tsu'ɛ'by'ɛŋy'ɛ	高兴、起劲	læ'ɛp'h'i'ɛ
干燥	læ'ɛfyŋ	虚弱、瘦		幸福, 安逸	ts'h'eŋ
湿	t̄cæ'ɛlæ'ɛ	腻 (食物)	q̄y'ɛ	喜欢, 爱	p'h'i'ɛ
浸泡 (如: 浸种子)	t'ie'ɛ't̄tu'ɛ	饿 (饭)	dze'ɛmiŋ	爱, 关心	ma'ŋdaŋ
稠 (粥)、黏	ma'ɛfy'ɛmɣ'ŋmie'ɛ	馋	tɔx'ɛ	讨厌	dzyŋ
(比较干)		需要	ŋi'ɛ	生气	gy'ldzɣuŋ
稀 (粥, 汤)	hæ'ɛ	申请, 要	mie'ɛ	高兴, 心情好	se'ɛseŋ
结实	t̄ʂ'h'a't̄ʂ'h'a'ɛ	讨饭	dze'ɛmie'ɛ	好玩 (人)	ts'h'e'ŋt̄tuŋ
		感谢	kæ'tmie'ɛ	安宁	daŋ
		饱	ŋu'ɛ	悲哀, 伤心	mə'ŋts'h'eŋ
		休息, 松懈	hi'e'ɛ	孤单	hi'ɛ't̄tu'ɛ
		忙	ŋi'ɛts'h'i'ɛ	陡峭 (山)	tu'ɛbie'ɛ
		事务繁忙	lu'ldziŋ		

安装	tɥt	拉肚子	q ^h æ-tɕwæ1	摇	dzɥ1
搬土	qɥ1	打喷嚏	a1t ^h u1	凋谢	la-k ^h u1
薅锄、锄草	lwæ1	打嗝儿	hu1tɥ1	上吊自杀, 缢	ɛæ-tsu1
挖	dzywæ1	打饱嗝儿	ie1p ^h ɥ1	冻	la1tɥ1
耙	tsa1	吐(吐口水)	tɕi-tɕ ^h u1	爬行, 匍匐	dy1
扫	væ1	喝	ɕɥ1	翻身	t ^h u1tɕy1
拔、扯(草)	py1	吸吮	ts ^h i1ts ^h i1	翻过来翻过去	zi1tɕy1p ^h ɥ1
获, 割草	zu1ts ^h u1	抽烟	ɶ1ɕɥ1	滚(石头滚)	gu1by1ly1
压扁	ŋæ1	串珠	su1	使滚	la1p ^h u1
弄扁不弄开	ta1pie1læ1	穿针	u1tsu1	躲藏	t ^h ie1ŋæ1
(竹子)		穿孔	q ^h ɔ1t ^h ɥ1	藏	t ^h ie1tɕ ^h wæ1
摆整齐、使均匀	by1by1læ1	插、戳	tɕ ^h u1	藏(一个小的东西)	t ^h ie1mɥ1
排列整齐	tɥ1	刺痛	pu1	动	li1li1
举、抬起	gɥ-tɕ ^h i1	扎(针...扎)	gy1	堵塞	dzy1
上驮子	gɥ-tɕ ^h i1	一代, 一世	qu1tɕ ^h æ1	棍子断	la1q ^h æ1
抬(几个人一起)	gɥ-tɕ ^h i1	传染	tɕɥ1	碎	q ^h ɔ1
背柴	pa1	出来, 刮(风)	t ^h ɥ1	破、碎(碗, 罐子)	q ^h ɔ1
背水	i-tɕ ^h i1pa1	下(雪)	vie1sa1	损坏	wæ1ɛæ1
背孩子	za1hu1pa1	下(雨)	fi1dqɥ1	撕(撕纸)	ɕwɥ1
扛	lu1	下(冰雹)	dzy1la1	拆(线)	ɕwɥ1
驮运	tsi1	有(露水)	dzy1k ^h a1la1	拆	q ^h æ1
帮助	ka1ka1	发生(打雷)	mu1gy1gy1	拆	wæ1q ^h æ1
包	t ^h u1	吹(灰)	mi1	生长	kɥ1pi1
瞒着别人	na1na1	缠线	dzy1dzy1	长大	gɥ1kwɥ1
刨	tsa1	钓鱼	ŋi1ze1la1	发抖, 颤抖	tɕ ^h y1tɕ ^h y1
比	t ^h a1t ^h a1nie1nie1	赶, 打猎	dzi1, hã1dzi1	发烧	tɕ ^h u1
量	læ1	打散, 驱赶, 撵	q ^h æ1li1hu1-k ^h u1	为别人担心	ŋi1mjæ1hũ1
放置	t ^h ie1tɥ1	牵(牵牛)	k ^h u1tɕæ1	发芽(树)	hwa1pɥ1-i1tɥ1
提前准备好	tɕɥ1tɕɥ1	散开	p ^h a1	发芽(种子)	y1
修理	gy1	打开(如: 开门)	la1ts ^h i1	开花	væ1
宰牲畜	k ^h a1	张开手心	k ^h æ1k ^h æ1	告状	tɕɥ1zɥɥ1
重新做	li1tie1vie1	闭	tæ1	惩罚	u1dy1
还东西	t ^h ie1la1ku1	关(羊)	tæ1	掺和	t ^h ie1ts ^h i1
唱	gɥɥ1	锁门	tse1	放牧	dzy1ldze1ly1
称	sa1	闭嘴	t ^h ie1mu1	飞	dzy1
完成	la1se1	眨眼	ŋjæ1mæ1	盘旋	q ^h æ1q ^h æ1
吃	dze1	闭眼	mjɥ1ly1	分东西	zy1zy1
拍(拍桌子)	t ^h ie1tɥ1	穿(衣服)	hɥ1	逢	zy1
咬	t ^h æ1	脱(脱衣服)	p ^h ɥ1	孵	zy1
嚼	tɕa1qɔ1	佩带	pɥ1	符合	qu1
吃草	ɛwæ1	戴手铐	pɥ1	上街	wɥ1bie1bi1
舔	jɥ1	戴帽子	tɥ1	敢	ŋwɥ1
含在嘴里	ly1	挡住	q ^h ɔ1	做, 工作	vie1
吞	ɛɔ1	等候	t ^h ie1hi1	劳动	lu1vie1
呕吐	p ^h ie1	地震	dy1dqɥ1dqɥ1;	给、传	ku1
小便, 解溲	dzi1hæ1	摇	dzy1dqɥ1	喂动物	dze1ku1
拉屎	k ^h æ1hæ1				

撒 (种子)	p ^h aJ	借给别人	ts ^h yJ, tʂ ^h uJts ^h yJ	爬, 上山	gɣ ^h -duJ
使钩住	mi ^h	欠钱	viJ	爬, 上山	dy ^h -dy ^h
钩住, 悬挂	hwaJ	递过去	ɬu ^h -pɣ ^h -thūJ	打 (如: 脱粒)	ɬuJ
够	lyJ	居住	dzyJ	敲门	ta ^h -ta ^h
为别人打工	hi ^h -k ^h ɣ ^h -ka ^h l ^h u ^h -vie ^h	聚集	la ^h -ly ^h -lyJ	打 (人, 钉)	la ^h
管理庄稼	li ^h lɔJ	蜷缩	zyJ	排队	ɬu ^h -la ^h -vie ^h
管庄稼	li ^h -tʂ ^h u ^h	观看	lɔJ	跑	dzaJ
管理	a ^h l ^h u ^h lɣ ^h -tzu ^h	看、看望	lɔ ^h biJ	碰撞	p ^h je ^h
灌溉	li ^h ʂu ^h J	听	hāJ	泼水	ɕyJ
害羞	hæ ^h duJ	听见	my ^h	欺负	dzy ^h lɔ ^h ma ^h hā ^h J
害怕	si ^h	嗅	la ^h -mi ^h	欺骗	qæJ
吓	ɬzy ^h	闻到	bu ^h -ŋy ^h	垒起来	ɣ ^h J
后悔	p ^h ɣ ^h	呼吸	sa ^h se ^h J	砌墙	tʂu ^h l ^h buJ
画、写	tʂu ^h J	烤火取暖	my ^h lkwɣ ^h J	骑马	dzu ^h J
刻	ɬuJ	站 (站立)	hi ^h ēJ	起 (起床)	gɣ ^h -t ^h u ^h
怀孕一个孩子	za ^h -th ^h l ^h pɣ ^h	跪下	ma ^h -ku ^h l ^h ie ^h -ts ^h y ^h	打招呼	ɣ ^h -k ^h u ^h l ^h u ^h lɔ ^h je ^h -tʂ ^h ?
交换	qæ ^h -qæ ^h	跪下磕头 (叩头)	lɔ ^h -p ^h y ^h lɬu ^h J	染	tʂ ^h y ^h J
变 (蛹变蛾)	tɕɣ ^h lɣ ^h -væ ^h J	咳嗽	tsy ^h	热饭	tsi ^h
换	qæ ^h , qæ ^h -qæ ^h	渴	hwɣ ^h	必须	lɔ ^h
飘动	li ^h -li ^h -tʂwæ ^h lɣwæ ^h J	困倦	ts ^h e ^h J	会	ku ^h J
挥动	tɕi ^h -tɕi ^h	拉 (向前拉)	tʂæ ^h	能, 能够	ɬzywɣ ^h J
来	i ^h	拖	gwæ ^h lɣsæ ^h J	扔	la ^h
毁灭	t ^h u ^h lts ^h u ^h J	推	mie ^h J	甩	du ^h J
使混合	tʂwæ ^h -tʂwæ ^h	按 (用手)	ŋæ ^h J	掷 (掷石头)	tʂa ^h lts ^h i ^h J
搀	zæ ^h lɣzæ ^h J	挤压	tɕy ^h	散了	p ^h y ^h
搀	ʂwæ ^h -ʂwæ ^h	靠	t ^h u ^h J	解开, 解绳结	tʂ ^h u ^h J
和泥	dzæ ^h l ^h hæ ^h lɣzæ ^h J	留下	t ^h ie ^h -ɬzy ^h -t ^h u ^h !	杀	k ^h a ^h J
累积	ku ^h -ku ^h	遗漏	my ^h J	筛	ly ^h J
记得	ŋi ^h mie ^h lq ^h ɔ ^h J	忘记	la ^h lmy ^h J	射中	zy ^h
	g ^h y ^h lts ^h i ^h J	绑, 捆	ts ^h i ^h J	伸 (伸手)	ɣ ^h l ^h tʂ ^h u ^h J
寄存	t ^h u ^h	绑	tsu ^h -tsu ^h	生锈	tʂu ^h -lq ^h -æ ^h -n ^h -ɬze ^h
寄信、服送	q ^h ɔ ^h -pɣ ^h	系	ty ^h J	生孩子	za ^h -th ^h l ^h ɬzy ^h J
妒忌	g ^h y ^h lɬzy ^h J	勒住	dzu ^h lɬzy ^h J	失踪	t ^h u ^h lts ^h u ^h J
停止	læ ^h hi ^h ē ^h J	漏水	ma ^h lɣæ ^h J	撑开 (帐篷)	q ^h æ ^h -lq ^h æ ^h J
剪	ts ^h i ^h J	滤	tsu ^h J	收拾、弄整齐	ʂu ^h lɣsu ^h J
砍 (树)	da ^h J	弄乱	wæ ^h lq ^h æ ^h J	梳	tʂ ^h h ^h wɣ ^h J
劈、剖	q ^h ɔ ^h J	驱逐	q ^h æ ^h -pɣ ^h -hū ^h J!	梳	si ^h -si ^h J
剁肉, 宰	da ^h J	埋	ŋy ^h	败、输	mæ ^h -tɕ ^h ɣ ^h
切	hæ ^h J	买	z ^h u ^h	用手剥	ʂu ^h J
断 (线)	tʂ ^h u ^h J	卖	tɕ ^h i ^h	剥皮	ʂu ^h J
马叫	lwæ ^h	生意	gɣ ^h -tɕ ^h i ^h l ^h ɣ ^h -tɕ ^h i ^h J	削	ʂu ^h J
狗吠	ly ^h J	抿嘴巴	ts ^h i ^h lts ^h i ^h J	煮熟	tɕɣ ^h J
老虎叫	lwæ ^h	触碰	g ^h y ^h J	煮了一会	ɬu ^h -lmy ^h lmi ^h lɕɣ ^h J
名字叫	hi ^h J	磨刀	sy ^h	烧开	tɕɣ ^h J
结很多果子	ly ^h dy ^h J	拧 (拧毛巾)	ɣæ ^h -tʂy ^h J	煨熟	tsi ^h J
结果子	la ^h l ^h dy ^h lɣa ^h J	搓 (搓绳子)	zy ^h J	蒸熟	by ^h J
婚姻	z ^h u ^h lɣy ^h J	缠线	dzy ^h lɬzy ^h J	炒 (肉、菜)	hi ^h J
向别人借	ŋi ^h			炒 (肉、菜)	tʂ ^h u ^h J

干炒 (麦子)	hi-thi	养 (动物)	zwx	错、犯错误	qæ
揉面	zy	溢出来	q ^h ɔ	舀水	qwa
搅拌	ɕwa	送行	py	守卫	ʃ ^h u
尝试、体会、	ɕu pɔbi	漂浮	tɕy	带孩子	qæ
经过		跨 (跨小沟)	ɛa	带路	læ ɛɔ ɕy
烘干	læ-fy-ik ^h u	遇见	ɛɔ-py	骨折	q ^h æ
弄碎 (用牙	tɕy-ly-tɕy	盖, 覆盖	hu	倒	q ^h æ
齿、手磨)		遮 (云遮月)	ka	掉下	ʃ ^h u
在磨房里磨	tɕy	挡住去路	ka	掉入、沉下去	ʃ ^h u
点灯	ʃy	包起来	ɕu ɕu , la ɕu	摔倒, 跌倒	t ^h ie dɕu
烧	dzy	遮蔽	hu	(路很滑)	
烧焦	q ^h æ	使火炉灭了	ny	立起来	t ^h ie dzy k ^h u
烧火	ts ^h i	灭, 熄	k ^h u	到达	t ^h y
熏	hwa	震动	dzy	得到	ɹ
一起摔交	zi zi	震动	dzy-dzy	丢失, 遗失	t ^h u ts ^h u
甩来甩去	ɕwx-lie u	点头	u-tu gy gy	捉 (捉鸡)	zi
睡觉	zi	抢	dzy	握 (握刀把)	ts ^h y
睡着	zi my zi	争夺	dzy-dzy	拣, 拾, 取	la ts ^h y
讲	zwx	吵架	dæ-dæ	捡起来, 拾	ku
商量、谈天	ɕa væ	偷	k ^h y	摘	ʃ ^h u
讲故事	u	催别人把东西	ta	拿过来	y
问	my du	交出来		赠送	py
读	ni tsi	织	da	哄	tu-tu
批评	dæ	编 (竹子)	mæ da	抱起小孩子	tu-t, tu-tu
骂	u dy	指	gy	亲吻	bu-tu
逃, 逃跑	p ^h u	种	t ^h y	铺 (铺床)	k ^h u
踢一脚	tsa	抓	dzywx	去	bi
踩	t ^h y	啄	k ^h y	去	bx
剔, 刮	si-tsi	醉	ɛæ	去 (过去式)	hu
满	ɕi	坐/住	dzy	走路	se
挑选	si	做梦	y mu k ^h wx	散步	ga lɔ y lɔ bi
跳舞	ts ^h u	暗 (房子)	na fy fy	走 (离开)	hū
往后仰	ɕy ɕy	天阴	mu-ta	喊 (大声叫)	ku
弄弯	tsa-qæ k ^h u	瘦 (人瘦)	ɕu-tza	笑	ɹ
退后	tie-tse	瘦 (肉)	ɕu-na	玩笑	a-tzu ɕa væ
洗衣服	ts ^h u	肥 (肥肉)	ɕu-p ^h y	逗弄 (话)	ze k ^h wx vie
冲水	ɕy	胖	ɕu dy	玩, 玩耍	a zɕu
下蛋	ɛɔ ɛɔ	干燥	fy	玩具	a zɕu tsu
相信	mu-tɕu	可爱	a-li	哭	ny
醒	ʃy	丑陋	a-tmx li	过去 (时间)	gy
学	su	辣	tsu	数	ʃwx-tʃwx
教	su	活	sy	跳	ts ^h u
写	ʃu	死 (人)	su	过河	dæ
知道	su	死	k ^h y	贴	zu zɕu
传闻	ɕɔ	合适	dɕu	想	ɕy-dɕu
懂	my	擦	ʃ ^h y, ʃ ^h y-tʃ ^h y	愿意	lwæ
寻找	ɕu	揉	zy	请	lwæ
搔痒	kwa	呛	ɹ	接	ʃy, ʃy-tʃy
阉割	læ mie gy	塌毁, 倒塌	dzy	游泳、漂浮	dzy, zɕu-dzy

有	dzyt	大苍蝇	fyɿmieɿk ^h æɿ	蝌蚪	pxɿldzyɿlyɿ
没有	məɿdzyt	蝉	wɿɿmieɿtɕəɿɿɿɿ	鱼	ɿɿɿɿɿɿɿ
大	aɿpaɿldzuɿ	蜘蛛	baɿlaɿmieɿt	兔子	t ^h uɿlieɿ
小	tɕiɿ	大蜘蛛	baɿlaɿmieɿtaɿpaɿldz	蛇	zyɿlbæɿ
交配 (动物)	lyɿ		uɿhɿɿ	蛇的蜕皮	kyɿtqæɿ
鸟	uɿiɿ	蜘蛛网	baɿlaɿmieɿk ^h uɿɿ	壁虎	lieɿdaɿ
鸡	læɿ	蜗牛, 螺蛳	njɿɿkɿɿsyɿ	水獭	ʂɿɿ
公鸡	læɿp ^h yɿ	蛻螂[牛屎]	wɿɿmieɿk ^h æɿhɿɿtu	野兽的洞	q ^h əɿ
母鸡	læɿmieɿ	虫、粪虫]	ɿɿɿɿ	鸟窝, 鸟巢	k ^h uɿ
鸭子	bæɿmieɿt	蝴蝶	p ^h ieɿlieɿ	骡子	daɿluɿ
雉	t ^h uɿtyɿ	螳螂	laɿmieɿlaɿdɿdɿ	獐子	lieɿt
雉	tʂ ^h aɿmyɿtʂ ^h aɿtʂ ^h aɿt	蝗虫	ɿɿɿɿɿkwaɿtaɿmieɿ	麂子	ts ^h iɿ
雉, 鹇	kɿɿpiɿ	小的树枝虫	siɿdzeɿdzeɿhɿɿ	猴子	yɿ
啄木鸟	t ^h uɿbieɿt ^h uɿtaɿtaɿ	象	nɿɿɿbyɿtɕ ^h iɿ	老虎	laɿ
鹤	ɿəɿ	猪	wɿɿt	豹子	zæɿ
雁	muɿzeɿhæɿzeɿt	母猪	wɿɿmieɿ	狼	p ^h aɿ
梟	buɿluɿtɕyɿ	种公猪	wɿɿsyɿ	牛	viɿ
老鹰	kaɿnaɿmieɿ	猪崽	wæɿbyɿ	公牛	viɿsyɿ
"小鹰"	tʂwɿɿlaɿtʂuɿt	野猪	wɿɿɿtuɿ	水牛	væɿ
乌鸦	laɿkæɿt	马	ɿɿt	牦牛/野牦牛	byɿ
喜雀	læɿseɿ	公马	ɿɿsyɿ	驴子	tɿɿbyɿ
鸚 (鸚)	dzyɿɿmieɿ	母马	ɿɿmieɿ	野驴子	iɿɿbæɿ
鸚鹉	aɿqæɿ	骗马	ɿɿɿəɿ	藏羚	seɿ
羽毛	hɿvɿ	马驹子	ɿɿzaɿthuɿ	牲畜	dzyɿldzeɿ
翅膀	dyɿts ^h uɿ	马鹿	tʂ ^h æɿ	野猫	ɿɿmieɿt
龙	zyɿlbæɿ	鹿	tʂ ^h æɿbyɿ	松鼠, 灰鼠	hwæɿzɿuɿ
蝙蝠	dzyɿlwɿɿ	母鹿	tʂ ^h æɿmieɿ	老鼠 = 耗子	hwɿɿ
虫	dziɿhɿɿ	狗	k ^h uɿt	黄鼠狼, 黄喉	uɿp ^h yɿ
蜈蚣	tɕyɿtɕiɿ	母狗	k ^h uɿmieɿ	貂	
蚊子	iɿtsuɿt	流浪的狗	tʂ ^h ãɿlaɿ	尖鼠、鼯鼠	ɿɿtɕyɿhwɿɿt
跳蚤	k ^h uɿtʂuɿ	看门狗	aɿluɿk ^h uɿt		ɿyɿq ^h əɿ
虱子	ʂuɿmieɿt	旱獭	dziɿhwɿɿt	飞鼠	ɿɿɿɿɿɿ
虻子	ʂuɿɿsuɿɿəɿ	熊	uɿt	刺猬	pyɿt
臭虫	qəɿtʂuɿt	熊胆	uɿtsiɿ	马鬃	ɿɿbyɿbyɿt
象鼻虫	byɿtʂ ^h æɿ	猫	hwɿɿlieɿ	蹄子	k ^h wɿɿɿbieɿ
毛虫	saɿdaɿɿbyɿts ^h yɿ	公猫	hwɿɿlieɿbyɿ	奶牛的乳房	viɿtaɿɿuɿ
瓢虫	dziɿhɿɿɿkæɿtsuɿɿlæɿt	母猫	hwɿɿlieɿmieɿ	犄角	q ^h əɿ
	hɿɿ	山羊	ts ^h uɿ	爪子	laɿtʂuɿ
四脚蛇	zaɿmɿɿbyɿ	公山羊	ts ^h uɿbyɿ	大蒜	fyɿ
蚂蟥, 水蛭	iɿts ^h iɿldzuɿhɿɿ	麝香	lieɿhuɿ	菌子 (蘑菇)	muɿtʂ ^h wɿɿ
马蜂 (黄蜂)	dzyɿ	山羊羔	ts ^h uɿt ^h uɿ	果核	tɕyɿ
蚯蚓	njɿɿɿɿdziɿhɿɿt	绵羊	yɿt	水果	siɿtuɿtaɿliɿ
蚂蚁	ts ^h aɿtzyɿ	公绵羊	yɿbyɿt	桃子	ts ^h uɿkɿyɿtaɿ
蚂蚁巢	ts ^h aɿtzyɿq ^h əɿ	母绵羊	yɿmieɿt	梨子	siɿtzyɿt
蜜蜂	dzyɿt	绵羊羔	yɿzaɿthuɿ	柿子	suɿbyɿ
蜂蜜	dzyɿtzyɿt	羊毛	ts ^h uɿhɿvɿ	大麦	miɿdzeɿ
蜂窝	dzyɿtgyɿt	岩羊[青羊]	seɿ	青稞	tʂ ^h yɿtzuɿ
蛆	muɿk ^h yɿɿlyɿ	狐狸	q ^h wæɿmieɿt	甜荞, 荞麦,	jaɿdzyɿt
苍蝇	bəɿtɿɿ	青蛙	pxɿmieɿt	花荞	

苦荞	jaɪkʰɑɪ	菁叶子	
稻子	dzeɪsyɿ	根	siɪɑɪtsʰuɿ
米	tɕʰiɿ	树枝	mæɿdyɿ
米饭	t͡sʰæɿpʰyɿdzeɿ	树枝	siɿkaɿllaɪ
玉米、包谷	kʰɑɿdzeɿ	树干	siɪdziɪ
燕麦	myɿlzuɿ	液, 汁	zuɿɪ, siɪ-zuɿɪ
莜麦	ʂuɿ	松香	tʰuɪɪɬæɿ
苋米	njaɿllaɪmaɪ	麦苗	dzuɿliɿ
糠	tsʰiɪ	种子	læɿ
麦麸	pʰɑɪdaɿ	叶子	tɕʰyɿ
麦秸	zuɿ	刺	tɕʰiɪtuɿ
麦芒	mieɪ	花	væɿ
小麦	dzeɿ	花	aɿliɿwaɿ
火麻	saɪɑɪ	草	zuɿ
大麻	saɿ	玉米包	qʰuɿɿtʰyɿ
蔬菜	uɿtɕʰyɿ	杉树果	siɪliɿ
萝卜	lyɿbiɿ	豆类的粗糠	nyɪtsaɿ
南瓜	tseɿhiɿgwxɿ	秕, 喂牛	
黄瓜	tʰyɿhwɿɿ	树墩、树桩	siɪpxɿɿtʰyɿ
土豆 (马铃薯, 洋芋)	jaɿyɿ	树瘤	tsuɿtuɿlyɿ
树	siɪdziɪ	茎	zuɿɪdzyɪ
松树	tʰuɪsiɪ	我	ŋɑɿ
松明	qʰɔɪqʰɔɿ	你	nuɪ
落叶松	tʰuɪɬyɿ	他	tʰuɪ
柳树, 杨柳	zyɿsiɿ	咱们	uɪmɿɿ
柏树	syɿ	我们	ŋɑɪmɿɿ
大竹子	mæɿ	你们	nuɪmɿɿ
竹子	tsʰuɪɿt͡sʰyɿ	他们 (对平辈)	tʰuɪɿkʰyɿ
竹子	mæɿɿtʰæɿtɕiɿhiɿ	你们俩	nuɿdziɿ
甘蔗	kʰɑɪɪdzeɿpuɪzyɪ	不	məɪ
黄豆	ŋyɿ	是 (这是什么)	ŋuɿ
豆花	ŋyɪhuɿ	这样, 这么	uɿnieɿ
豌豆	daɿtsʰyɿ	越、更	laɪhaɿ
豌豆干草	daɿtsʰyɿlzuɪ	凉山木里县	muɿliɿ
花椒	dzyɿ	木里县项脚	hʰwɑɿdzyɿ
野花椒	dzyɿɿbyɿ		
庄稼	kʰyɿɿɬwaɿ		
庄稼 (未收)	ɬɔɿɿbieɿ		
藤子	ŋyɿɿbæɿ		
辣椒	læɿɿtsuɿ		
四川桦树, 白桦树	muɿkɿɿ		
核桃	uɿduɿ		
荨麻 [和麻]	ŋiɿt͡sʰuɿ		
血满草 [臭草]	jaɿɿbyɿɿjaɿɿtsuɿɿtsuɿ		
[酸酸草]	hwɿɿtɕyɿ		
大蒜的根	fɪɿtuɪtuɿ		
酸菜, 如: 芜	tɕyɿɿlæɿ		