Proto-Ersuic

by

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**Abstract**

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This is a reconstruction of Proto-Ersuic, the ancestor language of Lizu, Tosu, and Ersu, three closely related languages spoken in southwestern Sichuan which are generally considered to be part of the Qiangic branch of Tibeto-Burman. To date, no in-depth historical work has been carried out on these languages. Approximately 800 lexical items are reconstructed based primarily on data from six sources: Mianning Lizu (data collected by the author in Mianning County, Sichuan, in 2008 and 2010), two sources for Kala Lizu (Muli County, one modern and one older source), Naiqu Lizu (Jiulong County), and two varieties of Ersu (Zeluo and Qingshui, both in Ganluo County).

Chapter 1 provides a general introduction to Lizu, Tosu, and Ersu, along with basic information for each source to help the reader properly interpret the phonetic transcriptions and parse the individual forms for each language.

Chapter 2 presents the Proto-Ersuic syllable canon, providing the skeleton upon which the individual reconstructions are built.

Chapters 3 and 4 lay out the complete inventory of Proto-Ersuic initials and rhymes. All reconstructed consonants and vowels are supported by comprehensive cognate sets demonstrating regular sound correspondences across the languages, with exceptions carefully noted.

Chapter 5 offers a reconstruction of the lexical tones of Proto-Ersuic, with a general unmarked tone assigned to most words and a second, marked, tone of unclear origin specified on a minority of the lexicon.

Chapter 6 presents an outline of shared morphosyntax that can be reconstructed to the Proto-Ersuic level, specifically morphosyntax related to nouns, verbs, and numerals/classifiers.

Chapter 7 brings together all the sound changes that yielded the regular correspondences presented in Chapters 3 and 4, organizing them by language, and ordering them chronologically. From these sound changes emerges a picture of the internal structure (i.e. subgrouping) of Ersuic.

Chapter 8 takes a top-down approach, examining the sound changes from Proto–Tibeto-Burman to Proto-Ersuic and attempting to find regular patterns in the development of Proto–Tibeto-Burman rhymes, initials, and prefixes. Comparisons with other languages and branches of Tibeto-Burman are made as well in an attempt to uncover new roots.

The final chapter (Chapter 9) addresses the place of Proto-Ersuic in Tibeto-Burman, summarizing current views on the matter and offering some speculations on how the results of the present study might help us decide how Proto-Ersuic fits in the larger Tibeto-Burman family tree.

For Grandma, who should be pleased there is now a *vɔkʰuɹ* 博士 in the family.

*In memory of Sarah Berson, friend, colleague, and fellow traveler.*

# Preface

This is a modest work reconstructing the ancestor language of three closely related languages with approximately 20,000 total speakers. However, that does not mean the content is uninteresting, or that the work was easy.

This dissertation is organized in such a way as to make it useful and convenient for those wishing to build upon it, either by improving the reconstructions with new data, or by using the reconstructions to try to go further up the family tree. (At least, that is the intention!) It is my hope, however, that readers from a larger audience will also find the content here of interest.

For the phonetician/phonologist or general historical linguist interested in sound changes, Chapter 7 is a whirlwind tour of all the interesting sound changes that happened in Ersuic. In particular, there are a great many developments related to rhotic vowels and retroflex consonants. The vowel space is also notable for having a rather large number high vowels, demonstrated by robust contrasts of acoustically quite similar vowels and diphthongs. Palatalization, retroflexion, and apicalization all interact in complex ways in the history of these languages.

For the Tibeto-Burmanist comparativist, Chapters 8 and 9 should give you a good idea of how Ersuic fits with everything else. Anyone who has worked on a Tibeto-Burman language will probably also have fun identifying cognates to words they know in Chapters 3 and 4.

For the general (non-linguistics) reader, I hope you will at least find the maps, charts, and diagrams of interest. A list of figures has been provided for the reader's convenience.

Finally, historical linguists will understand if I take a brief moment to geek out.

The comparative method really works! There is nothing quite like seeing a dʑ:dʑ:dʑ correspondence, reconstructing *d because it only appears before [i] and *dʑ was already taken, and then discovering that an old travelogue that someone wrote *actually has a "d-"!* And there is nothing quite like seeing a ʂ:x correspondence, reconstructing something random-looking like *ʃ (because both *ʂ and *x were already taken), then having all your facebook friends tell you that *that exact change happened in Spanish!*, and then finding out that your solution explains some forms that looked irregular and matches up with external evidence besides, and feeling like you've done something that you've only read about before in books.

No, I suppose there really isn't anything exactly like that.

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# Acknowledgements

David Kamholz, and especially David Mortensen for giving me a gentle introduction to the project (and for throwing me into the deep end of LaTeX).

To all my housemates from Hillegass Parker House over the years (numbering in the hundreds by now!), especially the OG's: thank you for making our house a home.

I would like to thank Andrew Leong for all the good times and for making grad school that much less unpleasant.

Finally, I thank my family for their unwavering support.

# Symbols and Abbreviations

| | |
|---|---|
| A ⋈ B | A and B are allofams (see p. 17) |
| HPTB | Matisoff 2003, *Handbook of Proto–Tibeto-Burman* |
| Kl. | Kala Lizu |
| MC | Middle Chinese (in Baxter and Sagart 2011) |
| Mn. | Mianning Lizu |
| Nq. | Naiqu Lizu |
| PEr | Proto-Ersuic |
| PKC | Proto–Kuki-Chin |
| PL | Proto-Loloish (in Bradley 1979) |
| PLB | Proto–Lolo-Burmese |
| PNa | Proto-Naish |
| PTB | Proto–Tibeto-Burman |
| Qŝ. | Qingshui Ersu |
| TBL | Kala Lizu as recorded in Dài and Huáng 1992, *A Tibeto-Burman Lexicon* |
| WB | Written Burmese |
| WT | Written Tibetan |
| Zl. | Zeluo Ersu |
| GLOSS | gloss of a PTB/PLB protoform |
| 'gloss' | all other glosses |

# Chapter 1

# The Ersuic Languages

Here I introduce the Ersuic[1] languages, list the sources for the data used in the reconstruction of Proto-Ersuic presented below, and describe the basic phonology and morphology of each variety where descriptions are available.

## 1.1 Background

The Ersuic languages, consisting of Lizu, Tosu, and Ersu, are spoken in southwestern Sichuan, with Lizu in the west, Tosu in the middle, and Ersu in the east of the Ersuic-speaking region. Sūn (1982b:241) gives the population of all Ersuic speakers as about 20,000, with approximately 13,000 Ersu speakers, 3,000 Tosu speakers, and 4,000 Lizu speakers. Speakers of Ersuic languages are officially classified as Tibetan by the government. Chirkova's (2008) language consultants estimate the population of Lizu speakers to be about 7,000, while there are almost no Tosu speakers remaining (Meier, p.c.). Thus the Ersu are the most numerous and, apparently, are more likely to identify themselves as distinct from the "Tibetan nationality".[2]

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[1]With three different languages in this group, why call it Ersuic, rather than Lizuic or Tosuic (or even Losuic, since some varieties of Ersu have not undergone the **lo** > **ɚ** change)? The reasons are twofold: conventional and disambiguatory. First, this set of languages has been referred to as "Ersu" in work published in Chinese (e.g. Sūn 1982b and later articles, the edited volume Lǐ and Liú 2007 entitled *Ersu Tibetan Studies*, etc.); it is advantageous to refer to the group by this name for the sake of scholarly continuity. Second, calling the entire group by the name of "Lizu" would be potentially confusing, given that another Tibeto-Burman language by the name of Lisu is much more well-known. This problem would be compounded in Chinese translation, since Mandarin has no [z] sound (in pinyin orthography "z" represents [ts]). On the other hand, the name "Ersu" seems to be unique and therefore unambiguous.

[2]See, for example, the web site <http://www.ersuren.com/>, which promotes Ersu language, culture, and texts written in a unique script (see Liú et al. 1981 and Sūn 1982a for an overview of this writing system). This situation is reminiscent of that of the Moso, who are classified as "Naxi" but in Yunnan have a special sub-designation of "摩梭人 Mósuōrén" (Moso People), although the Ersu have no special government recognition. It should also be noted that the Moso are Na speakers, and that some Na speakers in Sichuan are classified as "Mongolian".

Sūn (1982b) describes the three varieties as *topolects* (方言 *fāngyán*) of a single language "Ersu" since they have clear lexical and grammatical similarities; however, they should not be considered *dialects*, since they are mutually unintelligible (Nishida and Sūn 1990:15). Given the lexical similarities, it seems that speakers of one variety might, with difficulty, understand speakers of another (e.g. a Lizu speaker will recognize items from an Ersu wordlist when given the form and the gloss); however to my knowledge no formal tests of mutual intelligibility have been performed, and I have not heard any informal accounts since the Lizu and Ersu have historically occupied non-overlapping territories,[3] and there are practically no Tosu speakers left.

Due to various factors, including geographic variation and the imprecise nature of transcribing proper names in Chinese characters, the Ersuic languages are referred to with a large number of different names in the literature. Lizu, for example, has been referred to variously as 栗苏 *Lìsū* (Sūn 1982b)[4], 吕苏 *Lǚsū* (Huáng and Rénzēng 1991), 里汝 *Lǐrǔ* (Lǐ and Liú 2007) (this is because Mandarin "r" [ʐ] is pronounced [z] in some dialects), *Lyuzu* (Ikeda 2009), and *Lizu* (Chirkova 2008).

The name for Tosu (and the Chinese name 多续) comes from their autonym as transcribed in Volume 6 of the Sino-Xenic Vocabularies, the 華夷譯語 *Huá-Yí Yìyǔ* from the Qiánlóng period of the Qīng dynasty (Nishida 1973 analyzes this text and also reproduces the data therein). "Tosu" is derived from the Tibetan-script transcription (ཏོག་སུ tog-su), and 多續 *Duōxù* is the Chinese-script transcription. Sūn (1982b) records the autonym as **doˀꜜꞵuˀ**.

The name for Ersu (Mandarin 尔苏 *Ěrsū*) is much more straightforward, since there is only one obvious way of transcribing this autonym into Mandarin Chinese, but note that there are dialects of Ersu where the autonym is **loˀsuˀ** (Liú 1983), and this is sometimes transcribed as 鲁苏 *Lǔsū*.

### 1.1.1   Context

See Figures 1.1 and 1.2 for maps illustrating the Ersuic-speaking area.

The region inhabited by the Lizu, Tosu, and Ersu lies in the mountain ranges at the eastern edge of the Tibetan plateau, and the Tibetan influence in this area is obvious. Harrell (2001:67), speaking of the inhabitants of the western Liangshan area, notes that "by the nineteenth century, many… were adherents of one or another sect of Tibetan Buddhism, and many had picked up other Tibetan customs such as drinking yak-butter tea and barley beer. The influence of Tibetan civilization in this area, while rather late historically, is thus nevertheless profound."

In addition to Tibetan influence from the west and Chinese from the east (southwest Mandarin is spoken in this area), there is also sizable Nuosu (Yi) influence.[5] For example, the Liángshān Yi

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[3]In fact, when mentioning the term "Ersu", speakers of Lizu (in Mianning, at least) will most likely think of their neighboring Namuyi speakers, whom they refer to as [əˈ¹³³su⁵⁵], rather than the Ersu of Shimian, Ganluo, etc., whose autonym is [əˈ¹⁵⁵su⁵⁵].

[4]Not to be confused with 傈僳 *Lìsù*, a Central Loloish language.

[5]*Nuosu* is pronounced [nɔ³³su³³]. (The spelling "-uo" is Nuosu pinyin for [-ɔ].)
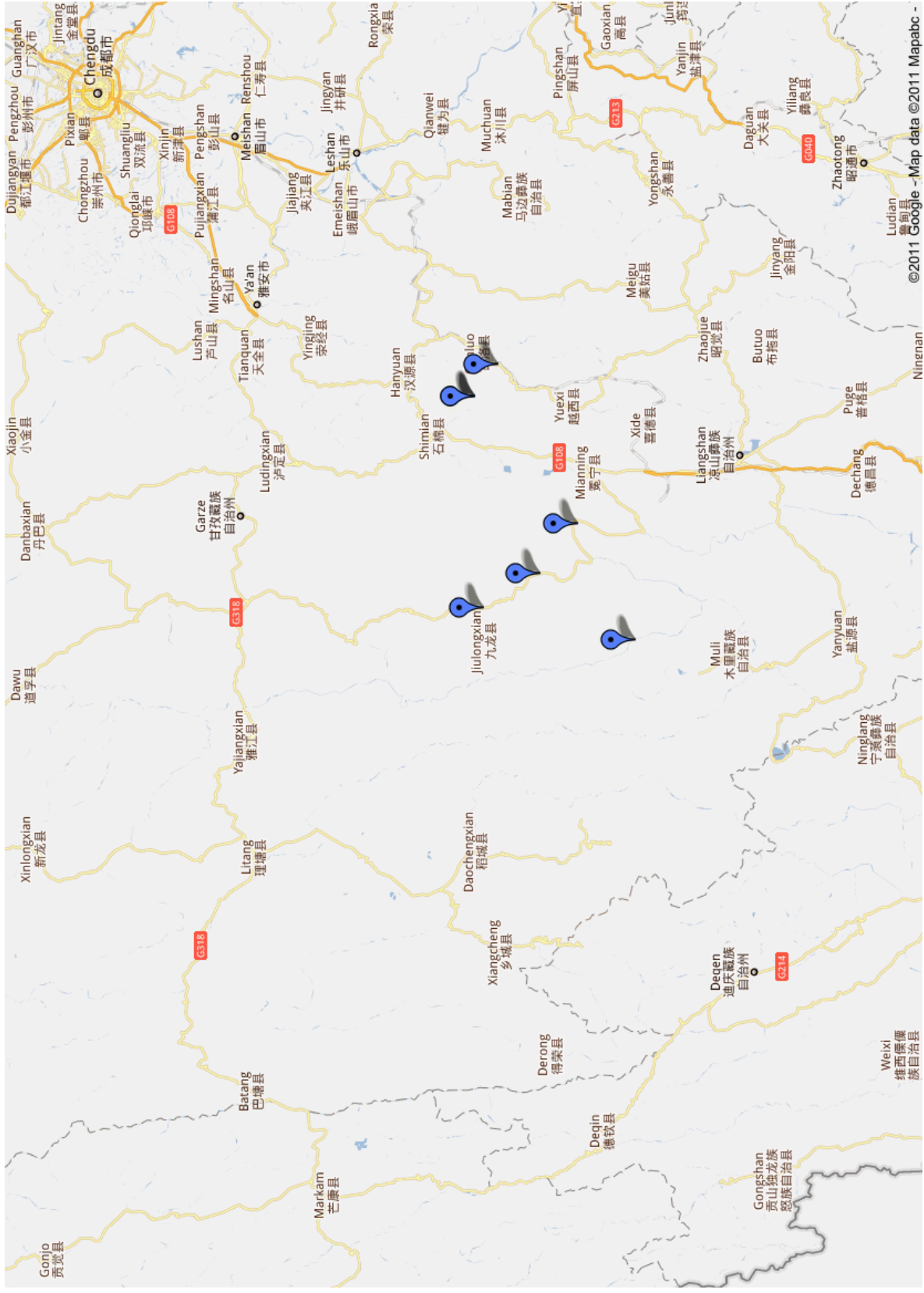
Figure 1.1: Map of Southwest China (Chengdu at top right, Burma at bottom left)
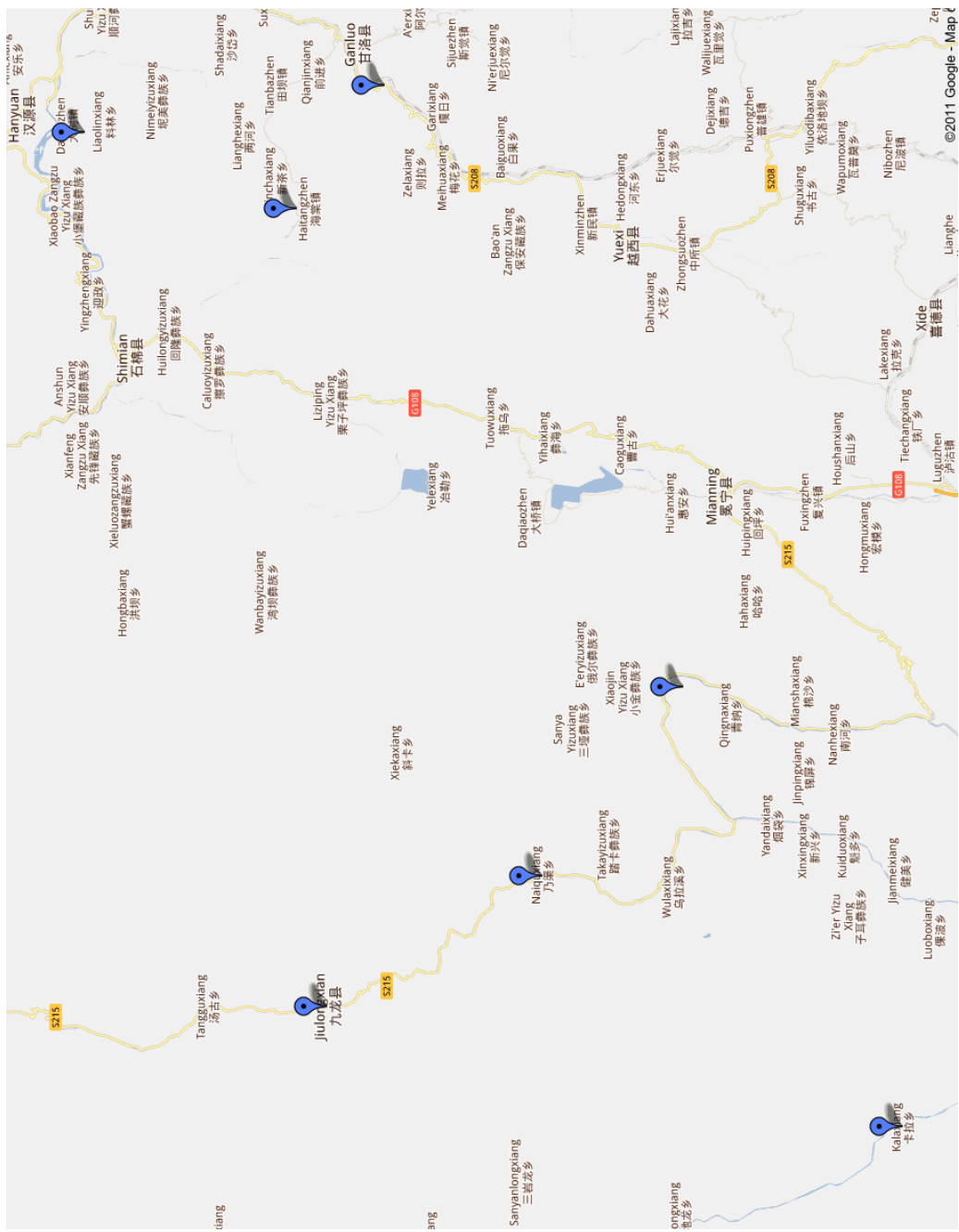
Figure 1.2: Map of Ersuic-speaking area. Center, Mianning Town (Tosu speakers). To the west, various Lizu-speaking locations (listed from north to south): Jiulong Town (=Gura), Naiqu, Lagusa (in He'ai Township, Mianning County), and Kala (in Muli County). To the east, some Ersu-speaking locations: Hanyuan, Qingshui (Haitang District), and Zeluo (Yutian District).

4

Autonomous Prefecture alone has an estimated 1.3 million Yi, far outnumbering any Qiangic-speaking populations in the area.[6]

Harrell (2001) provides an anthropological perspective on ethnicity and ethnic relations in the greater Liangshan area; readers who are curious about what life is like in this region will find it of great interest.

## 1.1.2   Genetic affiliation

Sūn (2001) places Ersuic under the Qiangic branch of Tibeto-Burman. The Qiangic branch is characterized by the existence of directional verb prefixes, complex consonant systems, and the loss of all PTB final consonants. According to Sūn, Ersuic falls under the Southern branch of Qiangic and are most closely related to Namuyi and Shixing. (See p. 210 for Sūn's full Qiangic family tree.) However, this grouping is based on geography and impressionistic similarity, rather than on shared innovations. In the Chinese linguistic tradition, subgroupings such as this one are arrived at through examining the languages involved with respect to the following three attributes: phonology, lexicon, and syntax. (For a lucid discussion (in Chinese) of TB subgrouping within this framework, see Dài et al. 1994.) Chirkova (2006), reviewing the *New found minority languages in China* series, describes the methodology as follows:

> Discussion of linguistic affiliation… is mainly based on lexicostatistical methods (counting the percentage of corresponding cognate sets) and is typically structured as follows. The authors first identify languages to which the language in question is supposedly related and subsequently carry out detailed phonological comparisons (separate for initials, main vowels, and codas) between these languages based on the Swadesh lists of basic vocabulary. Then follow lexical and syntactic comparisons and, as a conclusion, an assessment of the degree of similarity between the languages and a tentative subgrouping of the relative language group. Unfortunately, the authors never provide either the reconstructed forms (and, at times, even no sound correspondences) or a description of the features of the parent language. Rather, they organize and classify the amassed data in lengthy comparative tables, letting the tables speak for themselves.

With regard to Sūn's hypothesis of a subgroup within Qiangic encompassing Ersuic, Namuyi, and Shixing, Chirkova (2008) has looked at the question of whether these languages have an especially close historical relationship, and so far has not found evidence in favor of such a subgrouping.

The place of Proto-Ersuic within Tibeto-Burman will be discussed in Chapter 9, along with an overview of current views on which languages constitute Qiangic.

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[6]In earlier times, the Nuosu would raid the villages of neighboring ethnic groups, pillaging and plundering and taking people away as slaves, so historically the Nuosu have been generally disliked by their neighbors.

## 1.2 Sources

The data for this reconstruction of Proto-Ersuic comes mainly from the following sources:

- Lizu

    1. Mianning Lizu. Spoken in Lagusa 拉姑萨 Village (Lizu name `wontʂʰɨ `lombɑ), He'ai ("Hoŋai") 和爱 Township, Mianning 冕宁 County, Liangshan 凉山 Prefecture. Data collected by the author in Mianning County in 2008 and 2010.

    2. Kala Lizu. Spoken in Kala 卡拉 Township, Muli 木里 County, Liangshan Prefecture. Data from Chirkova (2008).

    3. Another, older variety of Kala Lizu, described in Huáng and Rénzēng (1991), with additional lexical items from Dài and Huáng (1992) ("TBL").

    4. Naiqu Lizu. Spoken in Naiqu 乃渠 Village, Naiqu Township, Jiulong 九龙 County, Garzê དཀར་མཛེས་ (Gānzī 甘孜) Prefecture. Data from Ikeda (2009).

- Ersu

    1. Zeluo Ersu. Spoken in Zeluo 则洛 Township (?) of the former Yutian District 玉田区, Ganluo 甘洛 County, Liangshan Prefecture. Described in Sūn (1982b), with additional data from Sūn et al. (1991).

    2. Qingshui Ersu. Spoken in Qingshui 清水 Village, Liaoping 廖坪 Township (?) of the former Haitang District 海棠区, Ganluo County, Liangshan Prefecture. Described in Liú (1983).

Sūn Hóngkāi has conducted fieldwork on all three Ersuic languages, although most of his published data is on Ersu. There are a small number of Tosu forms in Sūn (1982b), and a small number of Lizu and Tosu forms in Nishida and Sūn (1990:15-17). These lexical items are provided for reference in Appendix A.

Finally, there are some Ersu lexical items in a wordlist in Baber (1882).

## 1.3 Phonology

Below are brief summaries of the phonological inventories and transcription systems of each of the dialects used in this study. The main differences among these varieties are that Kala has a set of uvular initials, and the two Ersu dialects have a set of alveopalatal initials.

### 1.3.1 Mianning Lizu

The consonants of Mianning Lizu are as follows:

| | bilabial | dental | palatal | retroflex | velar | glottal |
|---|---|---|---|---|---|---|
| stop | b p pʰ<br>mb mpʰ | d t tʰ<br>nd ntʰ | | | g k kʰ<br>ŋg ŋkʰ | |
| affricate | | dz ts tsʰ<br>ndz ntsʰ | dʑ tɕ tɕʰ<br>ndʑ ntɕʰ | dʐ tʂ tʂʰ<br>ndʐ ntʂʰ | | |
| nasal | m | n | ɲ | | ŋ | |
| approximant | w | l ɬ | j | | | |
| fricative | f v | s z | ɕ ʑ | ʂ ʐ | x ɣ | [h] |
| clusters | hp | ʃt ʒd | ɕtɕ | ʂtʂ | xk | |

In native words, **f-** and **v-** only appear before **-u**; **h-** is the allophone of **x-** before nasalized vowels.

Notice that prenasalized consonants only come in two varieties: voiced and voiceless aspirated.

All of the consonant clusters in the last row above, with the exception of **ʒd-**, consist of a voiceless fricative followed by a voiceless unaspirated stop. The fricative can only be of one type, and thus is predictable based on the stop. For this reason one can think of these as pre-aspirated stops. In fact, there is variation among speakers with respect to the place of articulation of the fricative portion, and the **h** in **hp** clusters assimilates to the following vowel, e.g. `**hpje** 'medicine' is realized as [çpje⁵⁵] (sometimes with lip rounding on the [ç] in anticipation of the bilabial closure).

The clusters are conservative; the other dialects of Lizu presented here have lost these clusters, but Mianning Lizu along with Ersu have preserved them.

In addition to the preaspirated clusters, there are also clusters of bilabial stops + fricatives: retroflex clusters /**(m)bʐ-, pʂ-, (m)pʰʂ-**/, palatal clusters /**(m)bʑ-, pɕ-, (m)pʰɕ-**/ (which are phonologically bilabial + high front glides or vowels /**-j-, -i**/), and dental fricative clusters /**bz-, ps-, mpsʰ-**/ (these are rarer and thus there are no prenasalized voiced or non-prenasalized voiceless aspirated initials of this type).

The vowels are shown below, with nasalized vowels in the second chart:
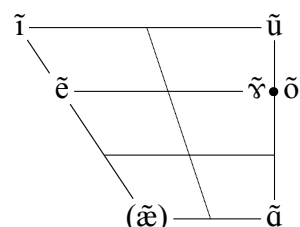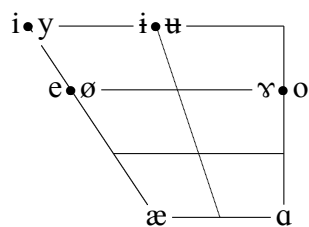


In addition, there are two rhotic vowels, **-əˠ** and **-æˠ**, the first of which is also found after **h-** and thus can be nasalized as well.

Syllable shape is (C)(G)V, with C and V as specified above, and **-j-** and **-w-** as possible medial glides.

The high vowels can potentially be collapsed into a simple two-way distinction (front unrounded /**i**/ vs. back rounded /**u**/), since **-y** only appears after palatals, and **-ɨ** (I use this symbol for the

apical vowels [-ʅ, -ɻ̩]) only appears after dental and retroflex fricates.[7] To keep the transcriptions closer to the surface forms I have maintained the four-way distinction as shown in the vowel chart.

**-ʉ** is pronounced with frication after velar stops (i.e. [ɣ] with lip rounding), and with lip vibration after dental stops (i.e. [ʙ]). After dental fricates, **-ʉ** is like [-ɥ] (the rounded counterpart of [-ʅ]).

**-ɯ** is an allophone of **-ɤ** after velars.

After dental stops and affricates, there is variation between **-e** and **-ɤ**.

**ũ** appears only in Tibetan and Chinese loans, and **æ̃** appears only in the question word ˋ**hæ̃ne ~** ˋ**æne** 'what' and in Chinese loans.

On monosyllables, there are two tones. The high tone is transcribed with a preceding grave accent /ˋ/, and the low/rising tone is unmarked.

## 1.3.2  Kala Lizu

The transcription used here for Kala is the phonetic transcription used in Chirkova (2008), with the tone marks modified to match that for Mianning, above.

Kala consonants are largely similar to Mianning, with the addition of a set of uvular stops (plain and prenasalized) and a uvular fricative. The development of these is secondary, and in some cases was conditioned by the presence of a rhotic element in the rhyme. (See section 3.8.)

| | bilabial | dental | retroflex | palatal | velar | uvular | glottal |
|---|---|---|---|---|---|---|---|
| stop | b p pʰ<br>nb npʰ | d t tʰ<br>nd ntʰ | | | g k kʰ<br>ng nkʰ | q qʰ<br>ɴɢʁ nqʰ | |
| affricate | | dz ts tsʰ<br>ndz ntsʰ | dʐ̩ tʂ tʂʰ<br>ndʐ̩ ntʂʰ | dʑ tɕ tɕʰ<br>ndʑ ntɕʰ | | | |
| nasal | m | n | | ɲ | ŋ | | |
| approximant | w | r l ɬ | | j | | | |
| fricative | f | s z | ʂ ʐ̩ | ɕ ʑ | x ɣ | ʁ | h ɦ |

In addition, Kala has clusters transcribed as /**bʑ-, pʑ, pʰʑ- ~ pɕ-, br-, pr-, pʰr- ~ pʂ-**/. These correspond to (and indeed are probably phonetically similar or identical to) the Mianning clusters /**bʑ-, pɕ-, pʰɕ-, bʐ̩-, pʂ-, pʰʂ-**/ described above, which phonologically derive from medials /**-j-, -r-**/.

The Kala clusters /**mr-, ɦr-**/, on the other hand, are not found in Mianning.

Note that for Kala, as well as Lʉ̌sū and Ersu below, prenasalized stops are all transcribed using **n-** regardless of the place of articulation.

The oral and nasal vowels in Kala are listed below:

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[7]Following Matisoff (2003:27), I use the term *fricate* as a convenient cover term for fricatives and affricates.

i•y ——— ɣ•ʎ ——— ɯ•u     ĩ•ỹ ——— ũ
  e ——————————— o         ẽ ——————— õ
        ɚ                       ɚ̃
    æ ——————— ɑ             æ̃ ——————— ã
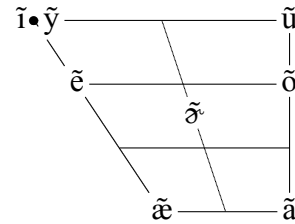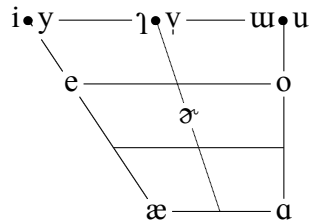
All of these vowels can constitute the rhyme of the syllable, as can the diphthongs /**-je, -jæ, -rae, -wæ, -wɑ**/, and syllabic nasal /ŋ̍/.

Note that Chirkova analyses [ɯ] as the allophone of /**e**/ after velars, i.e. /**ke**/ -> [kɯ].

-**ɣ** tends to be trilled after bilabial and dental stops and realized close to [ʙ̩].[8] After dental fricates, -**u** is fronted to [ʉ].

Chirkova analyzes Kala Lizu as having two tones, high and unmarked (low/rising).

### 1.3.3 Lǔsū = Kala Lizu (TBL)

Lǔsū is another variety of Lizu from Kala. It shares a similar consonant inventory to Mianning, but has more rhotic vowels.

Transcriptions for Lǔsū and Ersu are unmodified from their sources. The consonants of Lǔsū are as follows:

|  | bilabial | dental | retroflex | palatal | velar | glottal |
|---|---|---|---|---|---|---|
| stop | b p ph<br>nb nph | d t th<br>nd nth |  |  | g k kh<br>ng nkh |  |
| affricate |  | dz ts tsh<br>ndz ntsh | dʐ tʂ tʂh<br>ndʐ ntʂh | dʑ tɕ tɕh<br>ndʑ |  |  |
| nasal | m | n |  | ȵ | ŋ |  |
| approximant | w | l ɬ |  | j |  |  |
| fricative | f v | s z | ʂ ʐ | ɕ ʑ | x ɣ | h ɦ |
| clusters | bʑ pʑ phʑ | ptsh | nbʐ (n)phʐ |  | sk |  |

---

[8]This seems to be an areal phenomenon. Huáng and Rénzēng (1991:156) reports this for Namuyi, and Lidz (2010) reports that bilabial stops are realized as trills before all high back vowels in Na (/ɯ, u, ɣ/). In Nuosu as well, bilabial stops before /u/ "with vibrating lips" as documented by Fù (1997:48) and more informally by Baber (1882:72), who makes the following comments:

> The speech of the Independent Lolos is harsh, abounding in gutturals and strange vibrating consonants. The Welsh aspirated *l* frequently occurs, as in *hlopo* (moon), but it is not so easy to aspirate an *n* as in *hnabé* (nose). There is a labial sound which might be written *bwrbwru*, pronounced as if the speaker were shivering with cold, and which is not difficult to imitate; but when the same process of shuddering has to applied to a lingual, as in the word for *iron*, which I have despairingly written *shu̧-thdhru*, an English tongue is dumb-foundered. Happily for strangers these odd vocables are freely modified into much simpler sounds without danger of misapprehension.

Lǔsū rhymes are listed below. Rhymes found only in loanwords are listed in parentheses.

i•y ——— ɿ•ʉ ——— ɯ•u     ĩ ——————— ũ•ũ     ɯˠ
e ——————— o     (ẽ) ——————— õ     oˠ
                        əˠ
æ ——— a     ã     æˠ ——— aˠ
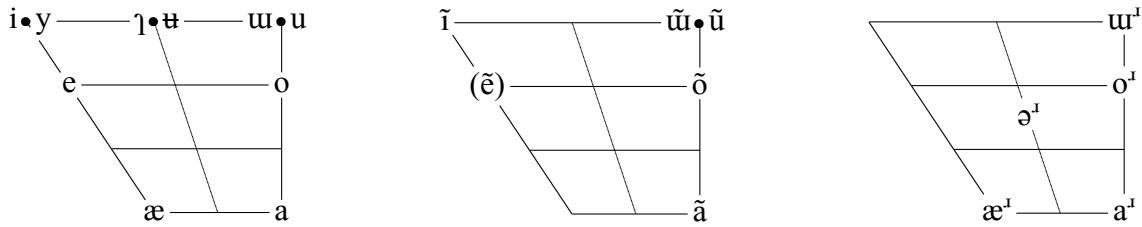
The diphthongs are /(ie), iu, iæ, iũ, iæ̃, uæ, uo, ua, (uã), (ei), (uei), (ai)/; the nasal-final rhymes are /(uŋ), (oŋ), (aŋ)/.

-ʉ appears after velars and retroflexes as syllabic [ɣ], and after dental stops as [ʙ].

-o only appears after bilabials, and contrasts with -uo and -u; everywhere else, the closest final to -o appears to be -uo.

[əˠ] and [ʐə] are in free variation.

The final -iu appears only after l-, and varies with -i.

There are four surface tones transcribed for Lǔsū; however, just as for the two dialects of Lizu described above, there are only two contrastive tones: high, transcribed as /⁵³/ or /⁵⁵/, and low/rising, transcribed as /³⁵/. The mid level tone /³³/ appears in multisyllabic words and phrases, approximately where one would expecting the low/rising tone (the details are not immediately obvious; see Chirkova 2008 for further discussion). Finally, the low tone /³¹/ appears in phrase-final position and in obvious Chinese loanwords.

## 1.3.4 Naiqu Lizu

Unfortunately, Ikeda (2009) does not provide a phonological analysis or a phonetic description (all items transcribed use narrow phonetic transcription). However, judging from the transcriptions of the lexical items, the structure of this variety of Lizu seems quite similar to the Lizu varieties described above. The following chart, which consists of all the initial consonants which happen to show up in Ikeda's transcription, gives a rough idea of the consonant inventory (though certainly there are gaps).

| | bilabial | dental | palatal | retroflex | velar | uvular | glottal |
|---|---|---|---|---|---|---|---|
| stop | b p pʰ<br>mb mpʰ | d t tʰ<br>nd | | | g k kʰ<br>ng nkʰ | qʰ | |
| affricate | | dz ts tsʰ<br>ndz ntsʰ | dʑ tɕ tɕʰ<br>ndʑ | dʐ tʂ tʂʰ<br>ndʐ | | | |
| nasal | m m̥ | n | ɲ̥ | | ŋ | | |
| approximant | w | r l ɬ | j | | | | |
| fricative | | s z | ɕ ʑ | ʂ ʐ | x ɣ | | [h] |
| clusters | | htsʰ | htɕ | | | | |

Note that some of these consonants only appear once in Ikeda's 200-item list. For example, the uvular initial appears only in **mbɐ³³qhʌ⁵⁵** 'horse', and there is no way to know if uvulars are contrastive.

Unfortunately, the result of attempting this same maneuver with the rhymes is not quite as pleasing, and it becomes quite apparent the transcription is not phonemic (for example, it is possible that there is only one rhotic vowel which has been transcribed in three different ways):
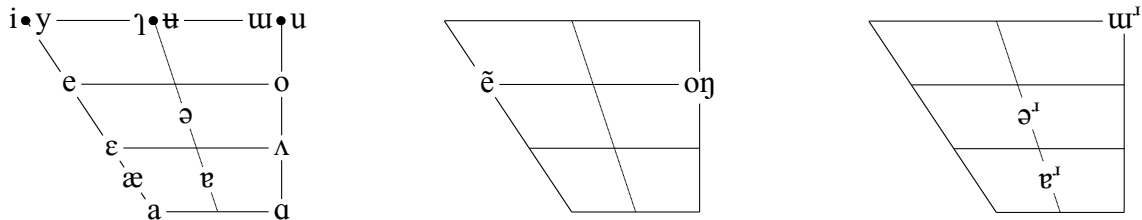


There is also a diphthong variously transcribed as "ue", "we", and "wi".

The tones appear to be similar to the other Lizu dialects as well, and Naiqu can probably be analyzed as having a two-tone system like the others.

## 1.3.5   Zeluo Ersu

Ersu consonants are listed below:

|  | bilabial | dental | retroflex | alveopalatal | palatal | velar | glottal |
|---|---|---|---|---|---|---|---|
| stop | b p ph<br>nb nph | d t th<br>nd nth |  |  |  | g k kh<br>ng nkh |  |
| affricate |  | dz ts tsh<br>ndz ntsh | dʐ tʂ tʂh<br>ndʐ ntʂh | dʒ tʃ tʃh<br>ndʒ ntʃ | dʑ tɕ tɕh<br>ndʑ ntɕh |  |  |
| nasal | m | n |  |  | ɲ | ŋ |  |
| approximant | w | l ɬ r |  |  | j |  |  |
| fricative | f v | s z | ʂ ʐ | ʃ ʒ | ɕ ʑ | x | h |
| clusters | hp hps<br>bz ps phs<br>nbz nphs | ht hts | htʂ<br>bʐ pʂ phʂ<br>nbʐ nphʂ | htʃ | htɕ | hk |  |

According to Sūn (1982b), the retroflex affricates have a relatively prominent stop component, and are close to **[ɖ, ʈ, ʈʰ]** .

The dental fricates and the alveopalatal fricates are in variation when followed by **-u**.

**r-** and **ʐ-** are in free variation in certain words.

**w-** is sometimes pronounced with frication, as **[ɣʷ-]** .

Syllabic **ŋ̇** is pronounced with rounding.

Ersu vowels are as follows:
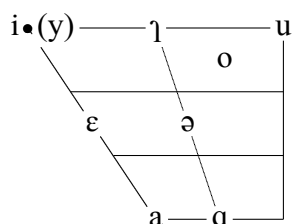


The nasal vowels, /ĩ, ỹ, ũ, ə̃, ã, ɑ̃/, are found mostly in Chinese loanwords.

There are two rhotic vowels, **aˑ** and **əˑ**.

Diphthongs are /**iɛ, iɑ, io, iã, iɑ̃, ui, uɛ, ua ~ ɔ, uaˑ, uə̃, uã, uɑ̃, yɛ, (yã), ɛi, əi, ai, əu, ou, ɑu, (iəu), uɑi, (iɑu)**/.

**-u** after bilabials is pronounced with vibration of the lips (i.e. as [ʙ]); after velars, it is pronounced close to **[ɣ]** ; after other consonants it is close to **[ʉ]** .

In connected speech, the vowels in the syllables **mu**, **ŋu**, and **n̠i** are often dropped.

**-ə** is pronounced close to [ɯ] in isolation.

There are two tones, high level (⁵⁵) and mid level (³³); mid level is often realized as mid rising.

## 1.3.6   Qingshui Ersu

The initials and rhymes of Qingshui Ersu are essentially the same as for Zeluo. The reader should note that Liu uses /æ/ and /ʌ/ where Sūn (for Zeluo Ersu) uses /a/ and /ɑ/, respectively.

Similarly, Qingshui Ersu is described as having five tones: ⁵⁵ (˥), ⁴² (˦˨), ⁵³ (˥˧), ²¹ (˨˩), ³¹⁴ (˧˩˦). The last one only occurs with the **-ʌ˧˩˦** suffix, marking perfective aspect.

Given that all the varieties described so far have two tones, it seems unlikely that Qingshui Ersu would have four tones. Tones are transcribed inconsistently throughout this source; for example, two variants for 'thick' are given as **jʌ˦˨bi˦˨** and **jʌ˥˧bu˥˧**, with different tones; but since **jʌ-** is the Ersu adjective prefix, we would expect the tones to be identical (this is the case with the adjective prefix **jɑ-** in Zl. Ersu and **pæ-** in Mn. Lizu).[9]

Although Liu gives putative minimal sets for the tones, it seems that ⁵⁵ often appears as the first syllable of disyllables where the second syllable has a ⁵³ tone. Thus, on monosyllables ⁵⁵ and ⁵³ could both be considered as representing a single High tone; in fact, this exact variation is described for Zeluo Ersu. The ⁴² tone is relatively rare, showing up in only 20 of 250 cognate sets presented below; given the unreliability of the tonal transcriptions, it probably represents either

---

[9]The surface tone of the second syllable is not relevant here. Generally speaking, all the Ersuic languages can be understood to have two word tones, high/high-falling and low/low-rising (see Chapter 5). The tone category of a multisyllabic word can be determined by looking at the surface tone of the first syllable; the word tone is high if the first syllable has a high tone, and the word tone is low if the first syllable has a low/mid tone.

high or low tone, depending on the surrounding tonal context. In sum, there is little reason to believe that there are more than two lexical tones in Qingshui Ersu.

## 1.4 Morphology

Although a thorough morphosyntactic treatment would be impractical here, basic knowledge of the directional prefixes in Ersuic will be important in parsing the forms that follow. The directional prefixes can attach to almost any verb (verbs of existence seem to be the exception), including e.g. color terms, and are obligatory in the perfective aspect. Below is a chart comparing the directional prefixes in each of the languages used in this study:

|  | TBL | Kl | Nq | Mn | Zl | Qŝ |
|---|---|---|---|---|---|---|
| up | de- | de- | də- | de- | dɛ- | dɛ- |
| down | ne- | ne- | nə- | ne- | nɛ- | nɛ- |
| inward/upstream | khe- | khe- | khə- | khe- | khɛ- | khɛ- |
| outward/downstream | ŋe- |  |  |  | ŋɛ- | ŋɛ- |
| away | the- | the- | thə- |  |  | (thɛ-) |
| uphill/left |  |  |  |  | khuaꟲ- |  |
| downhill/right |  |  |  |  | ŋuaꟲ- |  |
| backwards/returning |  |  |  |  | ȵu- |  |

Figure 1.3: Ersuic directional prefixes

TBL and Qingshui seem to have the most "complete" sets; Kala, Naiqu, and Mianning appear to have lost the **ŋe-** 'outward/downstream' prefix (presumably Kala and Naiqu use the **tʰe-** prefix to cover that space, and Mianning uses **kʰe-** to mean 'across (in any direction)'). Zeluo is unique in having three extra prefixes for uphill/downhill/returning, though the first two seem derivable from the upstream/downstream prefixes.

The vowel in these prefixes tends to be greatly reduced, and in some transcriptions (especially in the TBL data) the vowel is sometimes completely assimilated to the following vowel.

# Chapter 2

# The Proto-Ersuic Syllable Canon

$$
\begin{array}{ccccc}
 & & & & (N) \\
(P) & (C) & (G_1) & (G_2) & V
\end{array}
$$

The Proto-Ersuic syllable consists of an initial consonant (C), possibly with preaspiration or prenasalization (indicated by the "prefixal" slot P), followed by a glide (G—sometimes there are two of these) and a nuclear vowel (V) with possible nasalization (N). Tone is not included as part of the syllable, but rather specified on lexical items (that is, Proto-Ersuic has word-tone, not syllable-tone).

## 2.1  Prefixes

The "prefix" slot in the syllable canon includes **h-**, **N-**, **s-**, and **r-**. **h-** and **N-** can also be understood as preaspiration and prenasalization, respectively. **s-** can perhaps be understood as a convenient notational variant of **h-** (see section 3.2.4), and in fact both **h-** and **s-** descend from PTB **\*s-**. **r-** is relatively rare and can be thought of as voiced preaspiration, but I have chosen this symbol both because in some cases it seems to descend from PTB **\*r-** and also for reasons of notational convenience (**ɦ-** is a bit unwieldy and visually too similar to **h-**).

## 2.2  Initials

Proto-Ersuic is reconstructed with a three-way VOT contrast on stops and affricates: voiceless aspirated, voiceless unaspirated, and voiced. To these, prenasalization or preaspiration can be added. Only the voiceless aspirated and voiced series can be prenasalized (e.g. [mp$^{\text{h}}$] and [mb],

but no unaspirated [mp]).[1] Preaspirated initials, on the other hand, cannot be aspirated,[2] and for the most part are limited specifically to the voiceless unaspirated initials, although we will see some examples of reconstructions with preaspirated voiced initials below.

The reconstructed consonant inventory for Proto-Ersuic is as follows:

| | bilabial | dental | retroflex | alveopalatal | palatal | velar | glottal |
|---|---|---|---|---|---|---|---|
| stop | b p pʰ<br>mb mph<br>hp | d t tʰ<br>nd nth<br>ht rd | | | | g k kʰ<br>ŋg ŋkʰ<br>hk rg | |
| affricate | | dz ts tsh<br>ndz ntsh<br>hts | dʐ tʂ tʂh<br>ndʐ ntʂh<br>htʂ | dʒ tʃ tʃh<br>ndʒ ntʃ<br>htʃ | dʑ tɕ tɕh<br>ndʑ ntɕh<br>htɕ | | |
| nasal | m | n | | | | ŋ | |
| approximant | w | l ɬ | r | | j | | |
| fricative | | s z | ʂ ʐ | ʃ ʒ | ɕ ʑ | x ɣ | h |

Figure 2.1: Proto-Ersuic consonants

## 2.3   Medials

The Proto-Ersuic medials are **-j-**, **-w-**, and **-r-**. In rare cases **-r-** can combine with one of the glides, in which case they are written as **-rj-** and **-rw-**.

## 2.4   Rhymes

The Proto-Ersuic rhyme is very simple, often just a vowel or glide + vowel. A small number of roots are reconstructed with nasalized vowels.

The rhymes of Proto-Ersuic are presented below, with r-medial and nasalized rhymes in separate diagrams:

---

[1]This is reminiscent of Written Tibetan, where the prefixes སྨ- (**m-**) and འ- (**ḥ-**) only precede voiceless aspirated and voiced consonants. However, the aspiration contrast in WT is marginal (see Hill 2007 for an exhaustive list of exceptional non-prefixed unaspirated voiceless consonants in Old Tibetan Inscriptions), whereas in Proto-Ersuic the three-way VOT contrast is already quite robust, as demonstrated in the cognate sets below.

[2]This is similar to, e.g., English consonant clusters where consonants following [s] are unaspirated, or Icelandic preaspirated stops which are always unaspirated.

| | | | |
|---|---|---|---|
| i | iu | ui | u |
| je | | wE | wo |
| e | ew | | o |
| (w)æ | | ja | (w)ɑ |

| | | |
|---|---|---|
| ri | riu | ru |
| re | | ro |
| ræ | | rɑ |

| | |
|---|---|
| ĩ | ũ |
| jẽ | wõ |
| ẽ | õ |
| | ɑ̃ |

Figure 2.2: Proto-Ersuic rhymes

## 2.5   Tones

As noted above, tones are not part of the Proto-Ersuic syllable proper; a brief overview is included here to complete the schema for the reconstructions presented below.

Two tones are reconstructed for Proto-Ersuic, and they are marked with superscript [1] and [2] where it is possible to make an educated guess at the proto-tone; the remaining forms are left unmarked for tone. Chapter 5 describes the process used to try to determine the tonal categories of the reconstructed words.

# Chapter 3

# Initials

The following cognate sets are arranged by place of articulation. For an overview of the manners of articulation, see section 2.2.

Before diving into the cognate sets, a few notes on formatting are in order. First, note that the cognate sets are arranged such that similar rhymes appear next to each other.

Due to space constraints, the column labeled "Ersu" combines forms from both Qingshui ("Qŝ.")[1] and Zeluo ("Zl.") Ersu (these two dialects are in fact quite similar). The reader will be able to tell these two apart by the tone marks employed: Qingshui uses IPA tone letters, whereas Zeluo uses superscript numerals.

Similarly, the column labeled "Kl./Nq." combines forms from Kala and Naiqu Lizu; for the most part this does not present a problem because these sources have relatively few forms. Again, the reader will be able to tell these two apart by the tone marks employed, with Kala using a grave accent to mark high tone (low tone is unmarked), and Naiqu using tone numbers.

A list of the sound changes posited for each language, along with relative chronologies, can be found in Chapter 7.

For discussion of the PTB roots referenced below, along with their sources, see Chapter 8. These roots, for the sake of clarity, will exclude obviously irrelevant allofams. E.g. though SON is reconstructed as **\*za ⪥ \*tsa**, since all the modern Ersuic reflexes start with **z-**, the **\*tsa** allofam is omitted.[2] Reconstructions from lower-level TB groups, such as Proto–Lolo-Burmese (PLB) or Proto-Qiangic, are given where the root has not been reconstructed to the PTB level.

Note that a cognate set may appear more than once if it is relevant to more than one section. For example, the disyllabic form Mn. **`pʰoŋgo** 'thing' will show up under *Bilabials* as well as under *Velars*. In cases where it may be unclear which syllables are under discussion, or where syllable

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[1]The "ŝ" (with circumflex) is a valid (though rare) pinyin abbreviation for "sh".

[2]*Allofams* are members of a word family. For example, TBL **æ³³pʰu⁵³ ~ æ³³pu⁵³** 'grandfather' are allofams in a single language showing variation in the aspiration of the initial consonants. Mn. **ɬɤɬɑ** and TBL **la³³la⁵³** 'roll' are a pair of allofams from two different dialects showing voicing variation in the initial consonants. See Matisoff (1978b) and Matisoff (2003) for discussion of allofamic variation across Tibeto-Burman.

boundaries may not be immediately obvious to readers unaccustomed to large initial consonant complexes, the relevant syllables have been bolded.[3]

# 3.1  Bilabials

## 3.1.1  Plain stops

A three-way contrast for plain stops is supported by the following sets:

Aspirated *$p^h$-:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *pʰi¹ | **phsɿ⁵⁵** | | **pʰɕi,** `ne**pʰɕi**-æ | ŋe³³**phi**-æ⁵³, ŋe³³**phʐ**-æ⁵³ | | lose / mislay, throw away |
| *mpʰi² | pʰsɿ˥; nphsɿ⁵⁵ | phi⁵³ | `mpʰɕi | nphi⁵³, nphʑi⁵³ | *m-pat | vomit, spit |
| *lipʰi/læpʰi¹ | | | lipʰɕi | læ³³phi⁵³ 'pot, jar'? | | winnowing tray/basket |
| *pʰælæ¹ | pʰʌ˥lɛ˥ | | (ne)pʰælæ | phæ³³læ⁵³ | | used / old |
| *pʰæ¹ | -pʰʌ | | pʰæ | phæ³⁵ | | can, be able |
| *pʰɑ | -pʰʌ˥ | | -pʰɑ | | | classif. sheet/small object |
| *nepʰɑ¹ | pʰʌ↓; phɑ⁵⁵ | | nepʰɑ | na³³phɑ⁵³ | | break open, broken |
| *pʰwo | -phɛ⁵⁵ | | -pʰo | -phu | Lahu phɔ̂ < *paŋ | side, direction⁴ |
| *pʰwo | | | -pʰo | (te³³) phu³¹ | | classif. one of pair (hand, eye) |
| *tʰepʰo¹ | | tha³³**pho⁵³** | kʰe**pʰo** | tha³³**ph**-a⁵³ 'die out' | | extinguish, put out fire |
| *pʰo¹ | phu⁵⁵ | pho³³ji⁵³ | `nepʰo-ɑ | pho³⁵ | *ploŋ ? | run away / escape⁵ |
| *(pʰe)ŋgwo² | ngɑ³³ngu⁵⁵ | | `pʰoŋgo | phe³³ngu⁵³ | | thing, tool |
| *pʰulje¹ | | | pʰele, pʰʉli | phu³³li⁵³ | | dust |
| *lepʰew¹ | lɛ³³phɛ⁵⁵ | le³³phu⁵³ 'arm' | lepʰe | le³³phu⁵³ 'arm' | | hand |
| *pʰekʰwæ¹ | phɛ⁵⁵khuɑ⁵⁵ | | pʰʉkʰwɑ | phe³¹khuæ⁵³ | *pəw PRICE | expensive⁶ |

---

[3]Hint: in almost all cases any consonant symbol you see will belong to the initial.

[4]Cf. the Mn. forms `ɳapʰo 'back, behind', ʂapʰo 'front', kʰʉpʰo 'inside', `kopʰo 'this side, here', gapʰo 'on top of, up there', japʰo 'below, down there', ŋapʰo 'that side, across the way, downstream'. The classifier for 'one of a pair' is clearly the same morpheme. Note that PL *pa² (PL 460) does not fit here since Lahu -ɔ < *-aŋ or *-əw.

[5]The forms listed here may not be a regular development from PTB *ploŋ since apparently the cluster *pl- > Proto-Ersuic l-; see section 3.2.6 below.

[6]The second syllable means 'big'. Cf. the Mn. forms tsʰukʰwɑ 'adult' and dekʰwɑ 'grow (up)'. Perhaps this syl-

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *pʰui¹ | pʰʂɿˋ; phʂɿ⁵⁵ | | pʰwehõ (~ lg.) | phu⁵³ | WT bod | Tibetan |
| *kʰepʰui¹ | | khə³³phu⁵⁵ | pʰwe | khe³³phu⁵³ | cf. Lahu phɛ | tether (a cow) |
| *pʰukʰæ² | | | `pʰʉkʰjæ | phu⁵³khæ⁵³ | | fortune / luck |
| *ŋepʰwo¹ | phu⁵⁵ | | | ŋe³³phu⁵³ | *m-pup | flip over, reverse |
| *æpʰu¹ | | | ɑpʰʉ | æ³³phu⁵³ | *pəw | grandfather |

Note that there is an aspirated/unaspirated doublet for 'grandfather' (see TBL **æ³³phu⁵³** above and **æ³³pu⁵³** below). The unaspirated variant may have had aspiration suppressed by the presence of the PTB glottal kinship prefix (see Matisoff 2003:14, and also PLB **\*ʔ-bəw²** GRANDFATHER). If this is the case, then the unaspirated variant has had two successive layers of kinship prefixes, with the first layer disappearing after suppressing aspiration, and the second evident in the first syllable (**ɑ/æ-**).

Unaspirated **\*p-**:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *pɑ | pʌˋ; pɑ⁵⁵ | | -pɑ | (te³³) pa³¹ | | peck, unit of dry measure for grain (=1 decaliter) |
| *pætɕe¹ | | | pætɕe | ne³³pæ⁵³tɕi³¹ | | cut (paper, cloth) |
| *pwEpwE² | pɛ³³pɛ⁵⁵ | (gə³³mo⁵⁵) pu³³ | `pʉtɑ 'patch (v.)' | pe⁵³pe⁵³ | *pʷa, PLB *ba¹ ? | patch (clothing) |
| *pwEki/pwEtɕi | | | `pʉki | the³³pe⁵³tɕi³¹ | | send/dispatch (a person) |
| *pi² | **pʂɿ⁵⁵** | | `ʃtipi | ȵæ⁵³**pi⁵³** | | chip (the rim) |
| *pimæ¹ | pʐɿˋmʌˋbʌˋkʌˋ; pʂɿ⁵⁵ma⁵⁵ȵi⁵⁵za⁵⁵ | | pimæ | pi³³mæ⁵³ | *s-bal | frog, toad |
| *dzepi/dzopʰi¹ | dzɛ⁵⁵pʂɿ⁵⁵ | | dzopʰɕi | | | hoe |
| *pjembje | piˋnpiˋ; pi⁵⁵mbi⁵⁵ | pi³³nbi⁵³ | | pi⁵³nbi⁵³ | | knee |
| *sẽpu¹ | siˋbuˋ; si⁵⁵pu⁵⁵ | sepv; sə³³pu⁵³ | sipʉ | se³³pu³¹, se³³pu⁵³ | | tree |
| *æpu | ʌˋpuˋ; ɑ³³pu⁵⁵ | | | æ³³pu⁵³ | *pəw | grandfather |
| *pu | -puˋ, -buˋ; pu⁵⁵ | -pv | -pʉ | (te³³) pu³¹ | PLB *baŋ¹ | classif. trees/flat obj. |
| *piu¹ | pɛ⁵⁵rɛ⁵⁵ | pu⁵³ | pø | pu³⁵ | *m-blen | pus |
| *pwondz̯oŋgæ² | | | `pondz̯oŋgjæ | pu⁵³dz̥ʉ̃⁵³ngæ³¹ | | window |

Note that the aspiration does not match for the second syllables of 'hoe' above.

lable can be related to PLB **\*kak^H** 'expensive/intense/at its peak' (see (Matisoff 1972)); however, note the form for 'branch', PTB **\*s-kaːk** > e.g. TBL **se³³kæ⁵³li³¹**, where the protoform (similar in phonological shape to PLB **\*kak^H**) does not develop a labiovelar glide.

Voiced **\*b-**:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|------|---------|-----|-----|-----|-------|
| *ba² | dʌˋbæˋ; ba³³wɑ⁵⁵ | | ˋdebɑlo | ba³³laŋ⁵³laŋ³¹ | PLB *m-ba³ | bright[7] |
| *batʂi/batʂe | ba³³tʂɛ⁵⁵ | | batʂɨ | | | basket (for straining) |
| *æbæ² | ʌˋbʌ; a⁵⁵ba⁵⁵ | ˋæpæ | ˋæbæ | æ⁵³bæ⁵³ | | father |
| *bædzje¹ | ba⁵⁵dzɛ⁵⁵ | ba³³dʐɻ⁵⁵ | bædʑi | bæ³³dʐɻ⁵³ | | money[8] |
| *bæni¹ | bʌ↓ɲiˋ, bʌˋɳiˋ; ba³³ɲi⁵⁵, bɐ³³ɲi⁵⁵ | be³³ɳi⁵³ | bæɳi | bæ³³ɳi⁵³ | *r/g-na | listen |
| *debæ¹ | ba⁵⁵ | | debæ | de³³bæ⁵³ | *ba ? | carry on the back |
| *bebe¹ | bɛ⁵⁵bɛ⁵⁵ | ˋbebe | bøpø, bøbø | be³³be⁵³ | | crawl, climb |
| *bedi¹ | bɛ³³dzɻ⁵⁵ | bə³³di⁵³ | bødzɨ | be³³dʑi⁵³ | *bəw, *zril > PLB *di¹ | insect / worm |
| *bugi¹ | | | bʉgje | be³³gi⁵³ | | bury |
| *behẽ/behĩ | | | ˋbehẽ | be³³hĩ⁵³ | | fly (n.) |
| *belæ¹ | | | belæ | be³³læ⁵³ | | work / labor |
| *bibi¹ | | | debibi | de³³bi³³bi³¹ | PKC *ɓuay | busy |
| *bje¹ | jʌˋbiˋ | | pæbi | bi³³bi⁵³ | | coarse, rough, wide (in diameter) |
| *bi² | bzɻ↓; bzɻ³³ | bi³³jə⁵³ | ˋbi | bi³⁵ | *bya | bee, honey |
| *bje | bi⁵⁵ | ˋbje | labje | (te⁵³) bi⁵³ | | heap (e.g. of dung) |
| *bi¹ | bzɻ³³bzɻ⁵⁵ | bi³³bi⁵³ | pæbi, ˋbibi | bi⁵³bi⁵³ | *ba | thin |
| *bo¹ | boˋ 'have livestock', buˋ 'have N (be age N)'; bo⁵⁵ | bo | bo | bo³¹ | | have, exist (money) |
| *debwo¹ | | | (ji) debo | (ji³⁵)de⁵³pu³¹ | | want (to go) |
| *lo(bwo)¹ | əʳˋkʰuʌˋ; əʳ⁵⁵khuɑ⁵⁵ | lo³³**pu**⁵³, lo³³**bu**⁵³ | | luo³³**bo**⁵³, luo⁵³**bu**⁵³ | *r-lung, *k-luk | stone, rock |
| *berA/burA | ʂɛˋbɛ⁵⁵ra⁵⁵ | bu³³ra⁵⁵ | | bu³³əʳ⁵³ | *g/p-rwak | ant |
| *bulo | bɛ³³əʳ⁵⁵ | | bʉlo | | *s-luk/ŋ | maggot |
| *bu¹ | bəʳˋ 'wild ox buffalo' ? | | bʉkʰwa | bu³³kʰɯ⁵³ | | yak (male) |
| *bu¹ | bu⁵⁵ | | | ka³³bu⁵³ | *m-bup ROT / SPOTTED / WRITE | multicolored / patterned (cloth) |

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[7]The fact that these forms for 'bright' have not undergone "brightening" (i.e. **ba** > **bi**) suggests that they are loans from Loloish.

[8]This word is possibly ultimately from an Indo-Aryan source; cf. WB **puik-cham**/Burmese **pai?-hsã** 'pice', which Judson (1893:655) identifies as a loan from Bengali.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *biususu[1] | bɛ⁵⁵su⁵⁵su⁵⁵ | | bøsʉsʉ | bu³³sʉ⁵³sʉ³¹ | | bladder |
| *butsʰɑ[1] | vu⁵⁵tshuɑ⁵⁵ | ˋnbutsʰæ | bʉtsʰɑ | bu³³tsha⁵³ | *r-pʷa | axe |
| *batṣa/butṣa | pʌˋlṭʂʌˋl; ba³³tʃɑ⁵⁵ | | bʉtṣɑ | | | knife |
| *beri[2] | bɛↃrəˋl; bɛ³³ɳ⁵⁵ | ˋbəɚ; bu³³rə⁵³ | ˋbəˑ | buɯ³³ɣɯˑ³⁵ | *s-b-ruːl | snake |

The Ersu and Kl. forms for 'axe' are irregular, Ersu having a [v-] initial and Kl. having a prenasalized stop. This may have to do with the PTB **r-** prefix; for another example of PTB prefixal **r-** with seemingly irregular developments in Proto-Ersuic, see 'eight' (section 3.3.5) and perhaps 'rain' (section 3.7.3). However, in other cases, the combination of PTB **r-** prefix + oral stop seems to have developed into simple prenasalization in Proto-Ersuic, as in 'steal' (section 3.1.3) and 'leech' (see prenasalized [bilabial] stops below).

The voiceless [p] in TBL 'want (to go)' may be a transcription error.

## 3.1.2 Stops with high front glides

Collected here are all examples of bilabial initial + palatal glides; these turn out to have interesting developments. In TBL, Mn., and Kl., phonemic palatal glides (and even the high front vowel /-i/, though this is more obvious if the stop is aspirated) are pronounced with salient frication. In Nq. these sequences have become palatal affricates; and in Ersu they have undergone a further change to dental affricates (except before [-o]). Note that even in TBL, Huáng and Rénzēng (1991:135) report that, e.g., [pʑ-] is sometimes pronounced [ptɕ-].

In Mn. it seems that the palatal glide here has become a dental fricative before [-e], as in 'run' and 'fly'; indeed, there are no Mn. forms consisting of labial stop + palatal fricative (e.g. [bʑe]).[9]

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *mpʰjo | jʌˋntɕʰoˋl; ja³³ntɕho⁵⁵ | | mpʰɕo | phiu⁵³nphiu⁵³ | | beautiful |
| *pʰjo | | | -pʰɕo | (te³³) phiu³¹ | | bolt (of cloth) |
| *pʰjo | -tɕʰoˋl | -tɕʰo | -pʰɕo | phʑuo⁵³ | <WT phyogs | direction / orientation |
| *mpʰjo[2] | ntɕho³³/⁵⁵ | | mpʰɕo 'slap' | te⁵³nphʑu³³nphʑu³¹ | | strike (the table) |
| *pjo | | | ˋpɕowɑ, ˋpɕowəˑ 'agate' | pʑu³³wu⁵³, ptɕu³³wu⁵³ | | coral |
| *pʰja | -tsʰʌˋl; tshɑ⁵⁵ | | -pʰɕɑ | (te³³) phʑæ³¹ | | classif. garments |
| *lepʰja[1] | | le³³ tɕhə⁵³ | lepʰɕɑ | | | palm |

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[9] However, note that there *is* a Mn. form ˋ**bzɨbzɑ** 'soft', forming a near-minimal pair with **pɕɑ** 'hang'. I have not found this form in other Ersuic languages, but if this word is reconstructible to Proto-Ersuic we will need an explanation for its development of a dental fricative in Mn.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *sēpʰja¹ | si⁵⁵tshɑ⁵⁵ | sæ³³tɕhe⁵³ | sɨpʰɕɑ | se³³pʰʐæ⁵³ | *r-pak | leaf |
| *-pʰja | | li³³tɕhə⁵³ | `tsʰɨpʰɕɑ | tʂhu³³phiæ⁵³ | | thigh |
| *pʰja | | `pɕæ | | ŋe³³pʰʐæ⁵³ | *py(w)ak | sweep |
| *pʰjapʰja¹ | | dɐ³³tɕhɯ⁵⁵tɕhɯ³³ | | ne³³phiæ⁵³phiæ³¹ | | wipe (the table) |
| *pʰja² mu | | | `pʰɕɑ mʉ | phʐæ⁵³/(n)phiæ⁵³ mu⁵³ | | kowtow, make obeisance to |
| *pja¹ | tsɑ⁵⁵ | pʐæ | pɕɑ | de³³pʐæ⁵³ | | hang |
| *pja¹ | | depʐæ | | pʐæ³⁵ | | catch (in mouth) |
| *pjē | | tɕi⁵⁵ | `pse | pʐe³⁵ | *b-ləy, PLB *p-re | run |
| *bjēbjē¹ | | dʐe³³dʐe⁵³, dʐi³³dʐi⁵³ | bzɨbze | bʐe³⁵ | *byam | fly (v.) |

The Kl. form for 'direction' does not have a bilabial initial, but this is probably because it is a loan from Tibetan (cf. Khams (Batang) **ɕhoʔ⁵³**).

Note that the transcription for Kl. **pɕæ** 'sweep' represents an aspirated initial (the unaspirated version is written pʐ-).

## 3.1.3 Stops with -r- medials

The following items are reconstructed with bilabial + [r] clusters. In certain environments, the effect of [-r-] on the initial consonant is similar to that of the palatal glide, encouraging a change from a labial to a coronal place of articulation. Note the variation between bilabial and retroflex place of articulation in the forms for 'steal' and 'steam(er)'; this variation is also noted in Huáng and Rénzēng (1991:135), which states that e.g. **nphzɯ³⁵** 'steal' varies with **nphtʂɯ³⁵**. The second syllable of Mn. 'face' also shows this variation. The transcriptions for bilabial + retroflex clusters as opposed to retroflex affricates may look startlingly different on the page (compare, e.g., Kl. 'young lad' **pʰrezæ** with Nq. 'steal' **tʂhə³³sɯ⁵³**), but it would appear that the two are acoustically quite similar, especially when the consonants are aspirated. In Nq. and TBL, this change into retroflex affricates only applied to aspirated initials (see also chapter 7).

In the Mn. forms, we see clusters apparently descended from *Pru, *Præ, *Pro, and *Pre (where P stands for any kind of bilabial stop). As for the remaining vowels, the rhymes *-ri and *-rɑ seem to become the r-colored vowels [əʳ] and [æʳ], respectively (though notice the variation in the form for 'call out/loud').

In TBL, [-r-] > retroflex fricative after aspirated stops, although note that all of these examples also have high vowels. After unaspirated stops and before high vowels, [-r-] seems to disappear completely ('flock', 'dragon' < Tibetan **ḥbrug**). The other examples seem to have rhotacization on the vowel, except for 'arrive' and 'tall'. However, rhotacization is not consistently transcribed in TBL; for example, 'lip' is listed **ku⁵³pe⁵³ nga³³pi³¹**, where the second element means 'skin'

and is transcribed elsewhere as **nga⌐¹³³pi⁵³** or **n-gə⌐¹³⁵**. Similarly, some of the forms where Mn. has the rhyme [-æˑ] are transcribed without rhotacization in TBL.

In Nq. the non-aspirated forms have lost any trace of -r-, except in the rhyme [-ɐɹ] < *-ræ.

In Kl., *-ro, *-re > [-ɚˑ], and *-ru > [-o]. *-rɑ and *-ræ merge to [ræ].

In Ersu, all -r-'s drop except next to the low vowel [a], where it colors the vowel.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *pʰru | | | | ʂæ⁵⁵**phz̩ʉ**⁵³ | PLB *ʔ-blu¹ | porcupine |
| *mpʰrozæ¹ | pho⁵⁵za⁵⁵ 'husband' | pʰrezæ | mpʂʰozæ | nphzɯ³³zæ⁵³ | PL *m-laŋ/plaŋ¹ 'husband' (PL 217) | young lad / chap |
| *mpʰru¹ | **npho⁵⁵** | **tʂʰə³³**sɯ⁵³ | `**mpʂʰʉ** | **nphzɯ**³⁵, **ntʂhʉ**³⁵ | *r-kəw | steal |
| *mpʰru¹ | | | ntʂʰʉ | nphzʉ³⁵ | | steam (v.) |
| *mpʰru | | | `mpʂʰʉ | ntʂhʉ³³tɕæ⁵³ | | bamboo steamer |
| *pʰru | | | `mjɑ**pʂʰʉ**, `mjɑt**ʂʰʉ** | | PLB *p(l/y)uːŋ² (MLBM 62) | face¹⁰ |
| *præ¹ | **pa**⌐¹⁵⁵duɑ⁵⁵ | `de**præ** | dep**ʂæ** | **pæ**⁵³læ⁵³ | | arrive |
| *debræ¹ | **bə⌐ˑl** | `de**bræ**; dɐ³³**be**⁵³ | **bzæ** | de³³**bæ**⌐¹⁵³ | *b(w)ar ⋊ *p(w)ar | burn |
| *mbro | jʌ⌐l**bo**⌐l; jɑ³³**nbo**⁵⁵ | nbə⌐nbɚ; bo³³**mbo**³³ | pæ**mbzo**, **mbzɨmbzo** | bo⁵³**nbo**⁵³ | *m-raŋ | high / tall |
| *debro¹ | | | de**bzo** gɤ | de³³**boɹ**⁵³ | PKC *puar | feel bloated (stomach) |
| *bru² | dzʉ³³ ?? | | `**bzʉ** | | | tendon |
| *bru | bu⌐l; bu³³ | -bo | -**bzʉ** | (te³³) bu³¹ | | flock (of sheep) |
| *(ji)mbru² | **bz̩**⌐l | | `ɣɑji**mbzʉ** | ji⁵³**nbu**⁵³ | *m-bruŋ ⋊ *m-bruk; < WT ḥbrug? | dragon |
| *nebre¹ | **bə⌐ˑl**n̩i⌐l; **ba**⌐¹⁵⁵n̩i⁵³ 'rest' | ne**bɚ** | ne**bze** | ŋe³³**bɯ**⌐¹⁵³ | | tired, fatigued |
| *m(b)ro² | bo↓; nbo³³ | `**nbɚ**; mbɐ³³qhʌ⁵⁵ | `**mbzo** | **nbo**⌐¹³⁵ | *k-m-raŋ | horse |
| *pri | -pe⌐ˑl; pa⌐¹⁵⁵ | `**pɚ** 'grain'; nu³³**pi**⁵³ 'peas' | -**pə**ˑ | (te³³) pɯ³¹ | | classif. small round obj. |
| *pʰrɑ² | | | `**pʰæ**ˑ, dzæ**pʰæ**ˑ | **pha**⁵³ | *pwaːy | chaff / bran |
| *brɑ¹ | p**z̩**⌐l ? | `**bræ** | **bæ**ˑ, **bæ**ˑjo | **ba**⌐¹³⁵ | | rope / string |
| *brɑ¹ | | | ntʂʰa**bæ**ˑ | tsh̩³³**ba**⁵³ | | cane / vine |
| *debrɑ¹ | **bə⌐ˑl**; dɑ³³**ba**⌐¹⁵⁵ | dɐ³³**bɐɹ**⁵³ | de**bæ**ˑ | de³³**ba**⌐¹⁵³ | *bliŋ | full |

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¹⁰This binome appears in Loloish as well; the first syllable is < EYE. Cf. Lahu **mɛ̂ʔ-phû**. See Matisoff 1978a ("MLBM") #62.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *mbrɑ$^{1}$ | bə˩˥; nba˩$^{55}$ | nbɜɹ$^{55}$ | `mbæ˩ | nba˩$^{35}$ | | urine |
| *mbrɑ$^{1}$ | bə˩˩ | | mbombæ˩, mbʑɨmbʐæ | de$^{33}$nba˩$^{53}$ | Lahu bù < *mbwa | loud |

The Ersu form for 'tendon' above may not be cognate to the Mn. form because it has a retroflex, rather than the expected bilabial initial.

There are some Mn. palatals that correspond to TBL retroflexes. These are reconstructed with a medial palatal glide **\*-j-**. The retroflexes then become palatals in Mn. under influence of the high front glide. See also 'money' on p. 53 for a retroflex initial with the **\*-je** rhyme. (Interestingly, this would be the opposite of the change posited in section 3.4.1, where palatals become retroflexes under the influence of a high back vowel.)

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tsip$^{h}$rjo/ ts$^{h}$ip$^{h}$rjo$^{2}$ | ts$^{h}$ɿ˩˥**p$^{h}$o**˩; tsɿ$^{55}$**pho**$^{55}$ | | `ts$^{h}$**ip$^{h}$ɕo** | tshe$^{53}$**phzʉ**$^{53}$ | | age |
| *mp$^{h}$rjo$^{1}$ | ntshɛ$^{55}$ | | mp$^{h}$ɕo (xko) | ntʂhuo$^{53}$ | | measles |
| *tsjẽp$^{h}$rje$^{1}$ | tsi˩**p$^{h}$ʂɿ**˩; tsi$^{55}$**phʂɿ**$^{55}$ | | tɕe p$^{h}$ɕip$^{h}$ɕi | tɕe$^{33}$phzu$^{53}$ | *pran/t | braid / plait |

## 3.1.4 Prenasalized Stops

For the voiceless (aspirated) series, Kl. and Nq. have lost all prenasalization, except for Nq. 'hide'. Ersu, Mn., and TBL retain prenasalization, except for Ersu 'husband'.[11]

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *khemp$^{h}$e | p$^{h}$i˩ | khɜ$^{33}$nphe$^{53}$ | `mp$^{h}$e | khe$^{33}$nphe$^{53}$ | *s-p$^{w}$ak | hide oneself |
| *demp$^{h}$je$^{1}$ | np$^{h}$i˩; nphi$^{55}$ | dɜ$^{33}$phi$^{53}$ | demp$^{h}$je | de$^{33}$nphi$^{53}$ | | cold (weather, water) |
| *mp$^{h}$je$^{1}$ | mphi$^{55}$ | `p$^{h}$je | `mp$^{h}$jekɑ | (n)phi$^{35}$ | *s-p$^{w}$al ? | ice |
| *mp$^{h}$i$^{2}$ | p$^{h}$ʂɿ˩; nphsɿ$^{55}$ | phi$^{53}$ | `mp$^{h}$ɕi | nphi$^{53}$, nphʐi$^{53}$ | *m-pat | vomit, spit |
| *mp$^{h}$jo | jʌ˩ntɕ$^{h}$o˩; ja$^{33}$ntɕho$^{55}$ | | mp$^{h}$ɕo | phiu$^{53}$nphiu$^{53}$ | | beautiful |
| *mp$^{h}$womp$^{h}$wo | | | mp$^{h}$o gɤ, mp$^{h}$omp$^{h}$o | (n)phu$^{53}$nphu$^{53}$ | | industrious / hardworking |
| *mp$^{h}$ru$^{1}$ | | | ntʂ$^{h}$ʉ | nphzʉ$^{35}$ | | steam (v.) |
| *mp$^{h}$ru | | | `mpʂ$^{h}$ʉ | ntʂhʉ$^{33}$tɕæ$^{53}$ | | bamboo steamer |
| *mp$^{h}$rozæ$^{1}$ | pho$^{55}$za$^{55}$ 'husband' | p$^{h}$rezæ | mpʂhozæ | nphzɯ$^{33}$zæ$^{53}$ | PL *m-laŋ/plaŋ$^{1}$ 'husband' (PL 217) | young lad / chap |

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[11] Nonetheless, this Ersu form seems the most likely cognate for the Lizu forms for 'young man', although another possibility would be the second syllable of Ersu **tsho$^{55}$pha˩$^{55}$** 'young man' (the first syllable means 'person'). A comparison might also be made to Lahu **phâ** 'young man'.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *mpʰru¹ | **npho⁵⁵** | **tʂhə³³suɪ⁵³** | `**mpʂʰʉ** | nphʐɯ³⁵, ntʂhʉ³⁵ | *r-kəw | steal |
| *mpʰjo² | ntɕho³³/⁵⁵ | | mpʰɕo 'slap' | te⁵³nphʐu³³nphʐu³¹ | | strike (the table) |
| *mpʰrjo¹ | ntshɛ⁵⁵ | | mpʰɕo (xko) | ntʂhuo⁵³ | | measles |
| *mpʰri¹ | suˈmoˈnpʰaˈˈ 'cremate' | | mpʰəˈ | | | burn, singe |
| *mpsʰu¹ | ntshu⁵⁵ | | mpsʰʉ, ntsʰʉ | ntshʉ⁵³ | | hail |

There is a single form, 'hail', which seems to be reconstructible with a *mps- cluster, based on the Mn. form. There is also a form in Huáng and Rénzēng (1991) **te⁵⁵ptshae⁵⁵** 'to taste' which, were we to find appropriate cognates, might also reconstruct to a *ps- cluster.

Unlike its voiceless counterpart, prenasalized [mb-] is retained in all dialects. Some forms are missing their prenasalization, but this may be due to transcriber error (e.g. 'tall', 'shy').

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *mumbæ¹ | | mu³³nba⁵³ | | mu³³nbæ⁵³ mu³¹ | | hunt |
| | htɕi³³nba⁵⁵su⁵⁵ | | | pi⁵³nbæ⁵³mu³³sʉ³³ | | doctor |
| *rbæ | rbæˈ | | `əˈmbæ | | | kind, type |
| *mbra¹ | bəˈ√; nba¹⁵⁵ | nbeɹ⁵⁵ | `mbæˈ | nba¹³⁵ | | urine |
| *mbra¹ | bəˈ√ | | mbombæˈ, mbʐɨmbʐæ | de³³nba¹⁵³ | Lahu bù < *mbwa | loud[12] |
| *mbere² | mbɛ³³ rɛ⁵⁵ | | | na⁵³nbəˈ⁵³ | *ba-y | cheek |
| *mbje | nbi³³ʂa⁵⁵ | mbi³⁵, mbi³³mbi⁵³ | | nbi³³ʂuæ⁵³ʂuæ³¹ | | cool (pleasantly) |
| *mbje¹ | bi√; nbi⁵⁵ | mbe⁵³ | mbivʉ | nbi³⁵ | | hill / mountain |
| *pjembje | piˈnpiˈ; pi⁵⁵mbi⁵⁵ | pi³³nbi⁵³ | | pi⁵³nbi⁵³ | | knee |
| *mbi | mbzɹ√/ˈ; nbzɹ⁵⁵ | | `mbi 'step across' | (te³³) nbi³¹ | | step / stride |
| *mbi¹ | | | mbi | nbi³⁵ | *k-r-pʷat | leech |
| *mbimbi² | nbzɹ³³nbzɹ⁵⁵ | | mbimbi | nbi⁵³nbi⁵³ | Lahu pὲ < *bya | divide / share (things) |
| *mbiulje² | nbɛ³³li⁵⁵ | mbə⁵⁵ | `mbøli | nbo³³ly⁵³ | | kidney |
| *mboto | | `nbuto | | nbo³³tuo⁵³ | PL *taŋ³ (PL 257) | knife |
| *mbro | jʌˈboˈ; ja³³nbo⁵⁵ | nbənbə; bo³³mbo⁵³ | pæmbʐo, mbʐɨmbʐo | bo⁵³nbo⁵³ | *m-raŋ | high / tall |
| *mbo¹ | buˈ; nbu³³ | nbo | mbo, mbojo | nbo³⁵, nbo⁵³ju⁵³ | | hat |
| *nembo | | | `nembo | ne³³nbo⁵³ | *m-baŋ | deaf |
| *nambo² | na³³nbo⁵⁵ | | `æˈ na mbo | na³³nbo³⁵ | *m-baŋ | deaf person |

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[12]The voiced initial in Lahu points to an earlier prenasalized stop.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *m(b)ro² | bo↓; nbo³³ | `nbɚ; mbɐ³³qhʌ⁵⁵ | `mbʐo | nbo˦³⁵ | *k-m-raŋ | horse |
| *mbroʐa | nbo⁵⁵za⁵⁵ | | `mbʐoʐɑ | | | saddle |
| *mbro¹ | nbo⁵⁵si⁵⁵ | | | nbo˦³³wu⁵³ | | willow |
| *mbwo² | nbo³³ntsho⁵⁵ | | `mbo | nbu⁵³ '100,000' | WT ḥbum '100,000' | ten thousand |
| *mbwo | | nbə⁵³ | `mbo | nbu³⁵, nbo³⁵ | | dig / scoop out / excavate |
| *mbu¹ | | | mbʉ 'roast' | ne³³nbu⁵³ | | scald / burn |
| *mbuʂew | | bu³³ʂu⁵⁵ | `dembʉʂɤ | nbu³³ʂu⁵³ | | shy / bashful |
| *(ji)mbru² | **bʐ̩˥˩** | | `ɣɑjimbʐʉ | ji⁵³**nbu⁵³** | *m-bruŋ ⚶ *m-bruk; < WT ḥbruɡ? | dragon |
| *mbre¹ | nba˦⁵⁵ | se³³mbe⁵³ | | se³³nbɯ⁵³ | | root |

## 3.1.5 Preaspirated Stops

All dialects except for Mn. and Ersu have lost the preaspiration. (This is consistent with the fate of preaspiration for other places of articulation; see the relevant sections below.)

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *hpje² | | `pje; pi⁵³, pẽ⁵³ | `hpje | pi⁵³ | *s-man | medicine |
| | htɕi³³nba⁵⁵su⁵⁵ | | | pi⁵³nbæ⁵³mu³³sʉ³³ | | doctor |
| *hpwo² | hpo⁵⁵ | | `hpo | pu⁵³ | | incense (bark of cypress? tree) |

The nasalization in Nq. 'medicine' is unexplained.

The Ersu form **n̩i⁵⁵htɕi⁵⁵** for 'medicine' does not appear to be cognate to the Lizu forms, since bilabial initials do not palatalize before high front vowel. It is more likely that this form is < PTB ***r-tsəy** MEDICINE / JUICE / PAINT. To complicate matters, Sūn (1982b) glosses **htɕi⁵⁵** as 'to treat', and the word for 'medicine' as an object-verb compound, literally "illness-treat".

## 3.1.6 Nasals

For the most part, these forms are [m] all the way across, except for Ersu 'do' and 'mortar', which have syllabic [ŋ̍]. The conditioning environment for this change is unclear but seems to involve a back rounded vowel. A related change may be found in Ersu 'cat' and 'brother', with syllabic [m̩].

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *æmæ¹ | ᴀˋlmᴀꜜ,ᴀˋlmᴀˋl; a⁵⁵ma⁵⁵ | ˋæmæ | æmæ | a³³ma⁵³ | *ma | mother |
| *mætʰu | | | | `mætʰʉ | ma³³thu⁵³ | | lazy |
| *mɑmo | mᴀꜜmoˋl 'mom' | mæmo | mɑmo 'wife' | ma⁵³mo⁵³ | | old lady |
| *mrɑ¹ | maɹ⁵⁵ | maɹ⁵⁵, mɐɹ³³ʂ̩⁵³ | `mæɹ | ma⁺³⁵ | *m-la-y | bow / arrow |
| *me¹ | | | me | me³⁵ | <WT mar ? | butter |
| *me¹ | mɛꜜl; mɛ⁵⁵ | mə⁵³, sa³³mə⁵³ | `me | me³⁵ | *mey | fire |
| *tʰeme² | tʰɛꜜlmɛˋlnuᴀꜜl; thɛ³³mɛ⁵⁵ | thə³³mə⁵³ | `kʰeme | the³³me⁵³ | *ma-t | forget |
| *mwEdzæ¹ | | | mʉdzæ | me³³dzæ⁵³ | | barley |
| *meli/mele² | mɛ⁵⁵ə⁺⁵⁵ | melje; mə⁵⁵ | `mele | me⁵⁵le⁵³ | *g-ləy | wind[13] |
| *melje | mɛ³³li⁵⁵ | | mele | | *m-ley ⩵ *m-ləy | earth, ground |
| *mjalo¹ | miɑ⁵⁵lo⁵⁵ | | `mjɑlo | mi³³luo⁵³ | | mirror |
| *miso | | | `misʉəɹ | mi³³suo⁵³ | | three days from now |
| *metɕo | | | `metɕo | mi³³tɕu⁵³ | | flower[14] |
| *mi | miˋl; mi³³ | mi³³jə⁵³ | | mi³⁵ | PLB *myuk^L, *s-myuk^H | monkey |
| *mi¹ | miˋl; mi⁵⁵ | mi³⁵mi⁵³ | mi | mi³⁵ | *r/s-miŋ | name |
| *mi¹ | mi⁵⁵ | | mi | | PLB *s/ʔ-mi¹ | catch |
| *nemi¹ | mi⁵⁵ | | `nemi | ne³³mi⁵³ | | swallow |
| *ɑmja/ɑmjo/æmi | | | ɑmjo, ɑmja | æ⁵³mi⁵³ | | now |
| *mja¹ | miɑ⁵⁵ | | mjɑ | miæ³³ku⁵³ 'blind' | *s-mik ⩵ *s-myak | eye |
| *mjare¹ | | | mjɑəɹ | miɑ³³əɹ⁵³ | | tears ("eye-water") |
| *mja² | miᴀˋl; vu³³miɑ⁵⁵ | | `mjɑpʂʰʉ, `mjɑtʂʰʉ | miæ³⁵ | cf. EYE | face |
| *mje/mja | jɑ³³mi⁵⁵ | mjemje | mimjɑ | miæ⁵³miæ⁵³ | *mra, PLB *C-mya² | many / much |
| *mo¹ | | `mo | ə⁺mo | mo³⁵ | <MC muH 墓 ? | tomb[15] |
| *mo | mɛ⁵⁵ | `mo | `mo | | *d-mak | soldier, army |
| *tʰemo/momo¹ | moˋlmoˋl; mo⁵⁵mo⁵⁵ | thɐ³³mo⁵³ | kʰemo-ɑ | tho³³mo⁵³ | *maŋ | old / elderly |
| *mopæ² | mo³³pa⁵⁵ | | | mo⁵³pæ⁵³ | *s-mak | son-in-law |

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[13]First syllable is SKY.

[14]The form listed here is either a native Ersuic word or an earlier loan from WT; note the recent loan WT **me-tog** > Mn. **meto**, TBL **mi³³tuo⁵³**.

[15]The Middle Chinese form **muH** (ASCII-friendly transcription from Baxter and Sagart 2011) is not to be confused with Klingon **muH** 'execute, put to death'.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *mopʰæ¹ | muˋ; m̩⁵⁵pha⁵⁵ | | mopʰæ | | | brother |
| *mentʃʰo² | mɛˋntʃʰɛˋ; mɛ³³ntʃhɛ⁵⁵ | ˋmentʂʰo | | | *r-may ⋊ *r-mey ⋊ *r-mi | tail |
| *mukr(w)V¹ | | mu³³kəɹ⁵³ | mʉkwəˈ | mu³³kəɹ⁵³ | *r-may ⋊ *r-mey ⋊ *r-mi | tail |
| *mumbæ¹ | | mu³³nba⁵³ | | mu³³nbæ⁵³ mu³¹ | | hunt |
| *mutsi¹ | m̩³³tsʅ⁵⁵ | | mʉtsɨ | mu³³tsʅ⁵³ | | cat |
| *mu¹ | ŋuəˋ; ŋ̍⁵⁵ | ˋmu | mʉ | mu³⁵ | *mow | do / make |
| *tsumu/tsumo² | tsu³³ŋ⁵⁵ | ˋtsumo | | tsuo⁵³mo⁵³ | *tsum ? | mortar |
| *mui² | miˈmæˈ; maˈ⁵⁵ | ˋmv; mu⁵³ | ˋmwe, ˋməˈ | mu⁵³ | *s-mul | feather, hair (of body) |
| *muimui¹ | maˈ⁵⁵maˈ⁵⁵ ('close eye') | | jibɑ ˋdemʉmwe | ne³³mu⁵³mu³¹ | *s-miːt | close (the mouth) |
| *demwo¹ | maˈ⁵⁵ ? | dɐ³³mɑ⁵³ ? | mo | te⁵³mu⁵³ | *s-mut | blow (away) |
| *me/mo | | ˋme | | muo³⁵ | *r-məw | sky |
| *mjari/meri¹ | miɑ⁵⁵ɻŋ⁵⁵ | | məˈ | muɯ³³ɦiɯˈ³⁵ | *r-ma + *ri GLEET | sore / boil |
| *mri¹ | jɑ³³maˈ⁵⁵ | mræ | məˈ | muɯˈ³³muɯˈ³⁵ | | tasty / delicious |

There are two items where [m-] corresponds with [ɲ̟-] before [-i] in Mn. Perhaps these can be reconstructed as *my-. It seems unlikely that these terms are loanwords, since 'throat' is a body part and there is a separate, higher-register term for 'rabbit', `juŋ; however I will note in passing the similarities with Khams Tibetan (Sdedge) ɲi⁵⁵pa⁵³ 'throat'; and also WB **jun²** 'rabbit'.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *myihkwo¹ | mi⁵⁵hku⁵⁵ | | ˋɲipwe-kotɑ | mi³³ku⁵³ | *mit, *l-ko(k) | throat |
| *myidzi² | xiˋdzɛˋ ?; mi³³dzʅ⁵⁵ | | ˋɲidzɨ | mi³³tsʅ⁵³ | | rabbit |

## 3.2   Dental stops and sonorants

There are relatively few roots with dental initials, most of which seem to be followed by some sort of back vowel, suggesting that in an earlier stage of the language, there did indeed exist dentals which have changed to other segments in non–back-vowel environments.

One peculiarity is that Ersu dental stops have become bilabials before the rhyme /-u/.[16] This seems to be due to influence of the /u/ vowel, which, for example, in Mn. is realized as a bilabial trill after dental stops. Note that the Ersu form for 'thousand' exhibits variation between [htu] and [hpu]. As noted on page 9, footnote 8, this is an areal feature found in Nuosu, Namuyi, and Na (at least), and documented at least since the 1880s.

### 3.2.1   Plain stops

Again we have a three-way contrast in the plain stops, starting with voiceless aspirated:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| **Voiceless aspirated** | | | | | | |
| *lipʰo/lotʰo¹ | | lo³³tho⁵³ | litʰo | luo³³thuo⁵³ | *b-ləy | grandchild |
| *mætʰu | | | `mætʰʉ | ma³³thu⁵³ | | lazy |
| *tʰwɑ¹ | | | tʰɑ | thua³⁵ | | fit, can hold |
| *tʰæ¹ | thɑ⁵⁵ | `tʰæ | `tʰæ | thæ³³ | *ta | neg. imp. |
| *tʰe¹ | tʰɛˋ; thɛ⁵⁵ | `tʰe | tʰe | the⁵³ | | s/he |
| **Voiceless unaspirated** | | | | | | |
| *ljelje¹ | pu⁵⁵li⁵⁵li⁵⁵ | ta³³li⁵³ | tɑli, tɑlili | ta³³li⁵⁵li³¹ | | circular (spherical) |
| *tɑ¹ | | | detɑ 'accurate' | ta³³ma⁵³ | | true |
| *tæniu¹ | tʌˋn̠oˋ; ta/tɑ⁵⁵n̠o⁵⁵ | | tæn̠i | tæ³³n̠ʉ⁵³ | | today[17] |
| *taso¹ | | | taso 'just now' | ta³³suo⁵³ | PLB *C-sok | morning |
| *t(w)ɑh(w)ã¹ | tuɑ⁵⁵xuɑ⁵⁵ | | tɑhã | ta³³xa⁵³ | *s-r(y)ak 24-HOURS | tonight |
| *tɑ | tʌ√ (perf.) | | `netɑ | də³³ta⁵³ 'open (an umbrella)' | | close |
| *te¹ | tɛˋ; tɛ⁵⁵ | `te; tə⁵³ | `te | te³¹ | | one |
| *tupri¹ | | tu³³pi⁵³ | | tu³³pɯ⁵³ | | bean / soybean / pea |
| *tu¹ | | | kʰetʉ | ŋe³³tu⁵³ | | infect |
| *detwɑ¹ | tuɑ⁵⁵ | | `detɤtɑ | de³³tua⁵³ | | hug / embrace |

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[16]That is, the rhyme consisting solely of the nuclear vowel /-u/, not rhymes which happen to contain the glide [-w-] (sometimes transcribed as /-u-/).

[17]The first syllable in 'today', 'tonight', and '(this) morning' may be related to the word for 'one'.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tosi mæni | | | tosɨ `mæn̠i | tuo⁵³ʂŋ⁵³ mæ³³n̠ʉ⁵³ | | no problems, leisurely |
| *mboto | | `nbuto | | nbo³³tuo⁵³ | PL *taŋ³ (PL 257) | knife |
| **Voiced** | | | | | | |
| *dɑdɑ² | | | pædɑ, `dedɑ | da⁵³da⁵³ | | short |
| *de¹ | dɛ⁵⁵ | de³⁵ | dɤ | de³¹ | *dak | weave / knit |
| *dede¹ | | də³³də⁵³ | | de³³de⁵³ | | heavy |
| *dĩbæ | | `dĩbæ 'stupid' | | di³³nbæ⁵³ | | honest / well-behaved |
| *du(liu)¹ | **bu˥lɛ˩**; **bu⁵⁵lɛ⁵⁵** | `**dv** 'plumage'; **du³³rɯɹ⁵³** | **dølømæ** | **du³³ly⁵³** | *duŋ | wing |
| *dedulæ² | | | `dedʉlæ | te⁵³du⁵³læ³³sæ³¹ | | consult / discuss |
| *du¹ | bu⁵⁵ | | `dʉ | du³⁵ | | plow (n.) |
| *kʰedu¹ | | | kʰedʉ 'complete' | khe³³du⁵³ | | right / correct |
| *ʐiudu² | ʐo³³**bu⁵⁵** | | | ʐu⁵³**du⁵³** | | square / rectangular |
| *dwɑ¹ | duʌ˅; ŋɛ⁵⁵dua⁵⁵ 'pass by' | dæ | dɑ | dua³⁵, ŋe³³dua³⁵ | | go / leave (past) |
| *ɑdo(ri)¹ | | | ɑdo (incl.) | a³³do˙³⁵ | | we |

## 3.2.2 Palatalized/affricated stops

In addition, there are a few forms where the Nq. and/or Ersu reflexes suggest a dental stop in the protolanguage: 'rich' and 'slow' have palatal affricate initials, which are unexpected since the regular reflex of *palatal affricates in Ersu are dental affricates (see section 3.4.1, "Palatal fricatives"), and in fact Baber (1882:77) records the Ersu word for 'slow' as *Di-wa*; the remaining forms have stops in Nq. and/or Ersu (in Ersu these have become /b-/ under the influence of the rhyme) where the other dialects seem to have palatalized the initial consonant.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *djemo¹ | dʑi⁵⁵mo⁵⁵ | | | dʑe³³mo⁵³ | | rich[18] |
| *diwæ¹ | dʑi⁵⁵vɑ⁵⁵ | | dʑyæ˙ | dʑi³³wæ⁵³ | | slow / clumsy |
| *bedi¹ | bɛ³³**dʐŋ⁵⁵** | bə³³**di⁵³** | bø**dzɨ** | be³³**dʑi⁵³** | *bəw, *zril > PLB *di¹ | insect / worm |
| *didi | | | `dzɨdzɨ | dʑi³³dʑi⁵³ | | spacious |

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[18]These forms are glossed simply as 富 'rich' in their respective sources, but it seems likely that they mean 'rich man' because of the suffix **mo** < PTB **\*maŋ** OLD. Cf. Ersu **ndzo³³mo⁵⁵**, TBL **ndzuo⁵³mu⁵³** 'official'; and TBL **tshuo⁵³mo⁵³** 'old man'.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *rdi¹ | zๅˋ; ʐๅ⁵⁵ | | dzɨ | dʑi³⁵ | *b-r-gyat ⩶ *b-g-ryat | eight |
| *diupʰæ¹ | **bu⁵⁵phɑ⁵⁵**, ji³³pha⁵⁵ | `**tɕupʰæ**; **di³³pe⁵³** | **dʐypʰæ** 'stomach' | **dʑi³³phæ⁵³** | | belly |
| *diutʂʰe¹ | **bu⁵⁵tʂhɛ⁵⁵** | **ti⁵⁵tɕhə⁵³** | **dʑitʂʰɤ** | (te³³)**dʐʉ³³tʂhɯ³¹**, **dʐu⁵³tʂhɯ³¹** | | year |

The vowel in Mn. 'slow' may be rounded due to coarticulation with the original [w] of the following syllable (i.e. **\*dʑiwæˈ** > **\*\*dʑywæˈ** > **dʑyæˈ**).

Ersu 'eight' has a fricative initial where Lizu has an affricate, perhaps pointing to a complex (possibly voiced preaspirated) cluster in the protolanguage.

### 3.2.3  Prenasalized stops

The prenasalized series are straightforward as well. As with the bilabial prenasalized stops, Kl. and Nq. lose the nasal component in word-initial position for the voiceless series:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ntʰe¹ | | `thentʰe | nentʰɤ 'stumble, fall' | nthe³⁵ | | jump |
| *ntʰwɑ¹ | jʌˋntʰuʌˋ; nthuɑ⁵⁵ | thʌ̃³³nthʌ⁵³ | ntʰɑ gɤ | thua⁵³nthua⁵³ | PLB *takᴴ | sharp, pointed |
| *ntʰwɑ | ntʰoˋ; nthuɑ⁵⁵ | | -ntʰɑ | (te⁵⁵) nthua⁵³ | | drop (of oil) |
| *ntʰontʰo¹ | | | ntʰo, ntʰon-tʰo | nthuo³³nthuo⁵³ | PLB *tok TSR #15 | peck at (of a chicken) |

Prenasalization is retained across the board for the voiced series, assuming the TBL forms are inconsistently transcribed:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *wra¹ | kʰɛˋvəˈˋ; nda⁵⁵vaˈ⁵³ | | `ndæˈwæˈ | da³³wu⁵³ | | guest |
| *mende | mɛ³³ndɛ⁵⁵ | nde | | me³³de⁵³ | | clear (weather) / sunny |
| *kʰendo¹ | ndo⁵⁵ | thẽ³³ndo⁵³ | kʰendo | kho³³nduo⁵³ | | see |
| *ndojo¹ | | | ndojo | nduo³³jʉ⁵³ | | calf (yak) |

### 3.2.4  Preaspirated stops

There seem to be two sets of preaspirated dentals: one that corresponds to [t-, d-] in most languages, and another that corresponds to [k-]. The first set is very well supported by

correspondences between Ersu and Mn. All other languages have lost the preaspiration; while data is lacking for Nq., the likeliest looking cognates have aspirated affricates.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *htje | htɛ$^{55}$ | | `ʃti | | *r-tsyəy | count |
| *htæ$^{1}$ | thuɑ$^{55}$ ?? | | ʃtæ | tæ$^{53}$ | | mule |
| *ht(w)arA$^{2}$ | htuɑ$^{33}$rɑ$^{55}$ | | ʃtæ$^{ˈ}$ | ta$^{53}$ə$^{ˈ53}$ | *m-liŋ | neck |
| *htɑhta$^{2}$ | htɑ$^{33}$htɑ$^{55}$ | tɑ$^{33}$tsha$^{53}$ ?? | `ʃtʁʃtɑ | na$^{33}$ta$^{53}$ta$^{33}$ | | chew |
| *hto/htæ | -xto$^{ˈ}$l; hto$^{55}$ | | `ʃtæ, `ʃtʁʃtæ | | PQc <br> *N/s-tsak | jump |
| *hte$^{1}$ | xtɕi$^{ˈ}$l ?? | | ʃtʁ | de$^{33}$te$^{53}$ | | hold (a pen) |
| *ht(s)ipi$^{2}$ | **htsɻ$^{33}$psɻ$^{55}$** | ɕi$^{33}$pa$^{53}$ ??? | `ʃti | ti$^{53}$pi$^{53}$ | *s-l(y)a | tongue |
| *sini/htimi$^{1}$ | **sɻ↓ɲi$^{ˈ}$l;** <br> **sɻ$^{55}$ɲi$^{55}$** | ʂu$^{33}$mbu$^{53}$ <br> ??? | ʃtimi | ti$^{53}$mi$^{53}$ | *s-ni-ŋ | heart |
| *hti(u) <br> 'nose' | | | ʃtintʂ$^{h}$ɨ | ti$^{33}$nkhæ$^{53}$ | | snot |
| *hto | | `to; <br> khɐ$^{33}$htsho$^{53}$ | ʃto | tuo$^{53}$ | | watch, look |
| *htũ$^{2}$ | tu$^{ˈ}$l,tu↓; <br> hpu$^{55}$(htu$^{55}$) | | `ʃtũ | tu$^{53}$ | *s-toŋ | thousand; ten cents |

The Ersu form for 'mule' may be a mistranscription, and it would fit better if it was indeed **htua$^{55}$**. Ersu 'heart', with no preaspirated stop, seems to be unrelated, since we expect initial [ht-] in Ersu; however, perhaps the first and second syllables of this form come from the PTB prefix and root, respectively. This would make it very similar in form and diachronic development to the Ersu word **ʃɻ$^{55}$ɲ̩$^{55}$** 'seven' (below), especially considering the fact that Ersu /ɲi/ can allophonically be realized as syllabic [ɲ̩].

The second set of preaspirated stops has [k-] in most of the Lizu dialects. The apparent Ersu cognates have plain sibilants here. The forms for 'seven' are the most aberrant: TBL **skɳ̍$^{53}$** is the only syllable with that shape in that language, the Kl. form shows variation between [t-] and [k-] initials, and the Ersu form has an alveopalatal fricative initial.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *stiupe$^{1}$ | | ku$^{33}$pe$^{55}$ | ʃtʁpe | ku$^{33}$pe$^{53}$ | | mouth |
| *stiumui$^{2}$ | su$^{55}$ma$^{ˈ55}$ | | `ʃtimwe | ku$^{53}$mu$^{53}$ | | beard / moustache |
| *sini/stē$^{2}$ | sɻ̃$^{ˈ}$l; ʃɻ$^{55}$ɲ̩$^{55}$ | `tŋ~`kŋ; <br> ki$^{53}$ | `ʃtʁ̃ | skɳ̍$^{53}$ | *s-nis | seven |
| *stim(b)u$^{1}$ | **su↓mbu$^{ˈ}$l;** <br> **sɻ$^{55}$nbu$^{55}$** | **kŋræ 'snot';** <br> **ki$^{33}$mɐ$^{53}$** | `ʃtimbʉ | ki$^{33}$mu$^{53}$ | *s-na | nose |
| *stiu(d)zære$^{1}$ | su$^{55}$za$^{55}$ɣɛ$^{55}$, <br> su$^{55}$za$^{55}$rɛ$^{55}$ | kŋræ | ʃtedzæ$^{ˈ}$ | | *s-nap + <br> *rəy | snot (liquid) |

Given the similarity of the PTB roots which these two sets of words with preaspirated initials descend from (mostly **\*s- + n/l**), it seems quite possible that there was some environment which conditioned a split into [t-] vs. [k-] initials in Lizu, and [ht-] vs. [s-] initials in Ersu. Note, for

example, that in this second set TBL and/or Kl. have the rhymes [-u] or [-ŋ̍]. ('thousand' in the first set, above, also has an [-u] rhyme, but it may be a loan from Tibetan.) However, since there is no clear conditioning environment, I will reconstruct the initials which yield **k-** in Kl., Nq., and TBL with initial **\*st-**, distinguishing them from the items above where **\*ht- > t-**.

Mn. [ʒd-] corresponds with [d-] in all the other languages, except for [nd-] in TBL 'eye'. This is one case where there is clear evidence for a voiced preaspirated series. For a more tentative example, see 'rain' in section 3.7.3 below.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *rdose[1] | do$^{55}$sɛ$^{55}$ ja$^{55}$dzɛ$^{55}$ 'pupil' | do$^{33}$sɯ$^{55}$ | ʒdo, ʒdosɨ 'eyeball' | nduo$^{33}$se$^{53}$ | | eye[19] |
| *rdumo[2] | kʰɛˋ**bu**↓; **bu**$^{33}$mo$^{55}$ | | ˋ**ʒdo**mo, ˋ**ʒdʉ**sʉ | **dʉ**$^{53}$mo$^{53}$ | *ru | crazy person, lunatic |
| *rdurdu | jʌˋbiˇ, jʌˋbuˋ; ja$^{33}$bi$^{55}$, ja$^{33}$bu$^{55}$ | dy$^{33}$dy$^{53}$ | ˋʒdʉʒdʉ | | *t/dow-n, *tu:k | thick |

## 3.2.5 Nasals

All of the following forms descend from Proto-Ersuic *n:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *nɑ | | | əˈnɑ | na$^{55}$na$^{53}$tʂhu$^{33}$tʂhu$^{53}$ | | stable, steady |
| *nɑ² | nɑ$^{55}$ku$^{55}$ | nɑ$^{33}$pu$^{55}$ | ˋæˈnɑpi | na$^{53}$pi$^{53}$ | *r/g-na | ear |
| *nɑ- | | | nɑmi | næ$^{53}$pu$^{53}$ | | host / master |
| *ne/no² | nɛˋ; nɛ$^{55}$ | ˋne | ˋno, ne | ne$^{53}$ | *naŋ | you |
| *neri | nɛˋrəˋ; nɛ$^{55}$ŋ$^{55}$ | | | næˈ$^{53}$ | | you (pl.) |
| *ne¹ | nɛˋ; nɛ$^{55}$ | ne; nə$^{53}$ | ne, næ | ne$^{35}$ | *g/s-nis | two |
| *nwo¹ | ɲ̊oˋ; ɲ̊o$^{55}$ ?? | no$^{33}$pa$^{53}$ | əˈno | nu$^{53}$ | *s-nuk | brains |
| *denwa¹ | dʌˋnuʌˋ; nuɑ$^{55}$ | dɐ$^{33}$nɐ$^{53}$ | denɑ | dɐ$^{33}$nua$^{53}$ | *s-nak | black[20] |
| *nene | jɑ$^{33}$nɛ$^{55}$ | | | nɯ$^{53}$nɯ$^{53}$ | *s-nak | deep |
| *nopri¹ | | nu$^{33}$pi$^{53}$ | nopəˈ 'soy-bean' | | *s-nuk BEAN | beans/peas |

While 'black' and 'deep' ultimately descend from the same PTB root, they appear to have already differentiated by the Proto-Ersuic stage.

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[19]This root is separate from the one which descends from PTB **\*myak** EYE under "Bilabials" above. The second syllable is < PTB **\*sey** FRUIT / ROUND OBJECT; see also 'fruit' in section 3.3.4.

[20]The similarity of **nuɑ**$^{55}$ 'black' to French *noir* **nwaʁ** 'black' is accidental.

## 3.2.6 Laterals

Both voiced and voiceless laterals appear in all Ersuic varieties.

**\*l-** remains [l-] in all Lizu dialects, with the one exception of Kl. 'donkey'. In Ersu, there is a set of forms where \*li/liu/lu/lo > [ə˞], though there are some exceptional forms: 'wait', 'tael', 'mirror', and the penultimate syllable of 'dove' descend from **\*lo**, but do not become ə˞ in Ersu.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| \*sjelje | si⁵⁵li⁵⁵ | | | | \*d/s-ləy | bow (weapon) |
| \*ljelje[1] | pu⁵⁵li⁵⁵li⁵⁵ | ta³³li⁵³ | tɑli, tɑlili | ta³³li⁵⁵li³¹ | | circular (spherical) |
| \*melje | mɛ³³li⁵⁵ | | mele | | \*m-ley ≍ \*m-ləy | earth, ground |
| \*mbiulje[2] | nbɛ³³li⁵⁵ | mbə⁵⁵ | `mbøli | nbo³³ly⁵³ | | kidney |
| \*sēlɑ[1] | | | selɑ | se³³lɑ⁵³ | | forest |
| \*lɑ[2] | lʌˊ; lɑ³³phɛ⁵⁵; lɑ³³ma⁵⁵ | | `lɑ | la³³mæ⁵³, la³³nphæ⁵³ | WT glaba 'musk deer' | deer (river) |
| \*lɑ[1] | lʌˋ 'plant (v.)'; lɑ⁵⁵ | | lɑ | lɑ³⁵ | | plow / till (v.) |
| \*lɑ[1] | lʌˋ; lɑ⁵⁵ | | lɑ | lɑ³⁵ | | dung, manure |
| \*lɑmo | lɑ⁵⁵mo⁵⁵ | | | lɑ⁵³mu⁵³ | | stutterer |
| \*læ[1] | lʌˋ | | =læ | læ³⁵ | | and |
| \*læ[1] | lʌˊ; lɑ⁵⁵ | | læ | læ³¹, læ³⁵ | \*la-y | come |
| \*belæ[1] | | | belæ | be³³læ⁵³ | | work / labor |
| \*læ | | | -læ 'pint, 1/10 peck' | (te³³) læ³¹, læ³⁵ | | liter, container (measuring, 1-liter-volume) |
| \*læ[1] | lʌˋ; lɑ⁵⁵ | | læpʰæ, læ | læ³³phæ⁵³ | PLB \*k-la[2] | tiger |
| \*pʰælæ[1] | pʰʌˋlɛˋ | | (ne)pʰælæ | phæ³³læ⁵³ | | used / old |
| \*pʰulje[1] | | | pʰele, pʰɯli | phu³³li⁵³ | | dust |
| \*lekrwa[2] | lɛ³³ kuaˈ⁵⁵ tʃhu³³ | | `lɑkwə˞ tsʰɯ (v.) | | | elbow |
| \*le(pje) | | le⁵³ | | le³³pi⁵³ | \*g-lak | hand |
| \*lepʰew[1] | lɛ³³phɛ⁵⁵ | le³³phu⁵³ 'arm' | lepʰe | le³³phu⁵³ 'arm' | | hand |
| \*legija[1] | | | ligjæɑ, ligiɑ | le³³gi⁵³jæ³¹ | | armpit |
| \*leji[1] | lɛˋjiˋ; li⁵⁵ | le³³ji⁵⁵pu³³ | `lejo 'right'? | le³³ji⁵³ | | left (side) |
| \*letɕu[1] | lɛˋtsuˋ; lɛ⁵⁵ tʃu⁵⁵ kɛ³³ | le³³tɕi⁵⁵pu³³ | `letɕy 'left' | le³³tɕy⁵³ | | right (side) |
| \*lemæ | | | `lømæ | le³³mæ⁵³ | | daughter-in-law |
| \*lemæ[1] | lɛ³³ ma⁵⁵ | | lømæ | le³³mæ⁵³ | | thumb |
| \*lesē | lɛ³³su⁵⁵ | le³³se⁵⁵ | | le³³se⁵³ | | finger |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ledzi/letsa² | lɛ³³dzɻ⁵⁵ | `ledzɻ; le³³tsa⁵³ | `lidzɑ 'claw' | le³³tsa⁵³ | *m-tsyen | nail |
| *letʂu¹ | lɛ³³tʂu⁵⁵ | | lʉtʂʉ | le³³tʂu⁵³ | MC draewk 鐲, Mand. zhuó | bracelet |
| *leŋgui² | lɛ³³ngua˞⁵⁵ | | `liŋgwe | le³³ngu⁵³ | | ring |
| *tʰele¹ | | | lɤ | the³³le⁵³ | *g-lwat | release / set free |
| *ŋeleʂi¹ | | | neleʂɨ 'face downhill' | ŋe³³le⁵³ʂɻ³¹ | | turn around |
| *le¹ | lɛ⁵⁵ | le | | | PLB *ʔ-li¹ | old |
| *lirV¹ | | | liə˞ | li³³ə˞³⁵ | <MC lij 梨 ? | pear |
| *lje¹ | jʌˇliˇ; ja³³li⁵⁵ | lje | lje | li³³li⁵³ | *l(y)ak | good |
| *(rV)li¹ | | | ə˞li | li³⁵ | | dance (n.) |
| *liu | -liuˇ; lio⁵⁵ | | -li | (te⁵⁵) liu⁵³ | *lam ? | fathom |
| *lu | | | `delʉ | khe³³lu³¹ | | dilute / add water |
| *lu | | | `lʉ 'mattress; felt' | lu³⁵ | | pad |
| *lwo | | (mbe³³) lo⁵³ | | (nbi³³) lu⁵³ | | climb (a mountain) |
| *kʰelo¹ | lo⁵⁵ | khelo | `lo | kho³³luo⁵³ | *l(y)aŋ | wait |
| *lo | -loˇ; lo⁵⁵ | | -lo | (to³³) luo³¹ | <MC ljangX 兩 ? | tael (=50 grams) |
| *lo | | | loxo | dʐuo³³luo⁵³ku³¹ | | ditch / gully ("water-ditch"?) |
| *lakʰa/lokʰa¹ | | | lakʰa kʰeæ˞ 'get hurt' | luo³³khua⁵³ə˞³¹ 'get hurt' | | wound |
| *-ŋgra² | tsu³³ndzɛ⁵⁵ | | `laŋgæ˞ | luo³³nga⁵³ | | pestle |
| *lo¹ | ə˞˥kʰuʌˇ; ə˞˥⁵khua⁵⁵ | | **lo**mæ | **luo**³³mæ⁵³ | *r-lung *k-luk | stone |
| *lo(bwo)¹ | ə˞˥kʰuʌˇ; ə˞˥⁵khua⁵⁵ | **lo**³³pu⁵³, **lo**³³bu⁵³ | | **luo**³³bo⁵³, **luo**⁵³bu⁵³ | *r-lung, *k-luk | stone, rock |
| *lodʑu¹ | | | lodʑy | luo³³dʑʉ⁵³ | | wall (stone) |
| *litʰo/lotʰo¹ | | **lo**³³tho⁵³ | **li**tʰo | **luo**³³thuo⁵³ | *b-ləy | grandchild |
| **lolu²** | ndza³³**lo**⁵⁵ə˞⁵⁵ 'pigeon' | **lo**³³lu⁵³ | | **luo**³³lʉ⁵³ | | dove |
| *lolo/lulu¹ | ə˞˥⁵ | `**lulu** | **lʉlʉ** | **luo**³⁵ | *s-loŋ | bark (of dog) |
| *liu¹ | ə˞˥⁵ | **ly** | **lø, løl**ø | **ly**³⁵, the³³**ly**⁵³ | | rob / loot |
| *meli/mele² | mɛ⁵⁵ə˞˥⁵ | me**lje**; mə⁵⁵ | `me**le** | me⁵⁵**le**⁵³ | *g-ləy | wind |
| *bulo | bɛ³³ə˞˥⁵ | | bʉ**lo** | | *s-luk/ŋ | maggot |
| *li/le¹ | ə˞˥⁵ | | `mele **l**ɤ | me³³le⁵³**læ**³³ ? | | blow (wind) |

35

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *lipʰew¹ | rə˥pʰɛ˥; ə˞$^{55}$pʰɛ$^{55}$ | li$^{33}$phu$^{53}$ | | li$^{33}$phiæ$^{53}$ | | foot |
| *liŋgje/leŋge² | ə$^{33}$ndʑi$^{55}$, ə$^{33}$ndʑi$^{55}$ | | `leŋɣ | | | foot, leg |
| *li¹ | ə˞˥; ə˞$^{55}$ | li | li | | *pla, PLB *C-la¹ | ashes[21] |
| *deliu¹ | dɛ˥ə˞˥; ə˞$^{55}$ | lju; dɐ$^{33}$lu$^{53}$ | `delø | de$^{33}$lʉ$^{53}$ | *plu | white |
| *ku(liu)¹ | ku$^{55}$ə˞$^{55}$ | kurə | kʉli | ku$^{33}$liu$^{53}$ | <MC ljo 驢 ? | donkey[22] |

The voiceless laterals are also straightforward, for the most part. It appears that in Mn., voiceless laterals become plain [l] in intervocalic position (unless it is preceded by a "weak" syllable, i.e. a reduplicated syllable or a directional prefix).

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *goɬæ² | gu$^{33}$ɬa$^{55}$ | | `xolæ | guo$^{33}$ɬa$^{53}$ | *m/s-laːy | middle |
| *lala¹ | la$^{55}$la$^{55}$ | `lælæ | deɬa, deɬˠla | la$^{33}$la$^{53}$ | | roll |
| *ɬa¹ | | | deɬa, deɬˠla | ɬa$^{33}$hũ$^{53}$ | | roll, turn (cause to) |
| *ɬa¹ | ɬa$^{55}$ | | ɬa | ɬa$^{53}$, ɬa$^{55}$ | *gliŋ | flute |
| *ɬæpʰe¹ | ɬA 'month'; ɬa$^{55}$pʰɛ$^{55}$ | `ɬæphe; ɬe$^{55}$ | `ɬæpʰø | ɬæ$^{33}$phe$^{53}$ | *s/g-la | moon |
| *ɬæwo | | | ɬæwo | ɬæ$^{53}$ɣuo$^{53}$ | | temple |
| *ntsʰoɬiu¹ | ntsho$^{55}$ɬo$^{55}$ | ɬe$^{53}$ | `ntsʰʉli | ɬe$^{33}$ | *s-ləy | flea |
| *ntsʰeɬiu | | | `ntsʰili | tshe$^{33}$ɬe$^{53}$ | | gift / present |
| *nelje/neɬje¹ | li$^{55}$ | | neɬe, neɬˠ | ne$^{33}$ɬi$^{31}$ | *s/m-grəy | melt, dissolve |
| *ɬjeki¹ | ɬi$^{55}$tʂʅ$^{55}$ | `ɬetɕi | | ɬi$^{33}$ki$^{53}$ | *s-lay ⋈ *s-ley | ladder |
| *ɬje¹ | phɛ$^{55}$ɬi$^{55}$ | | | ne$^{33}$ɬi$^{53}$ɬi$^{31}$ | | winnow |
| *ɬæ | ɬA˥; ɬa$^{33}$ | | ɬæ | | *m-hla / WT lha | spirit, deity |

The voicing alternation in 'roll' vs. 'cause to turn' seems to be the result of a causative prefix in the protolanguage; see the section on initial consonant alternations for more examples.

Similarly, the voiced, as opposed to voiceless, lateral in Ersu 'melt' may reflect the simplex alternative of a causative/simplex pair (note the variation between causative **s-** and stative **m-** in the PTB reconstruction as well).

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[21]The forms for 'ashes' and 'white' seem to indicate that PTB **pl-** initials simplified to **l-** by the Proto-Ersuic stage.

[22]The MC word for donkey (驢, Mand. *lǘ*) in not listed in the OC reconstruction of Baxter and Sagart (2011), but the homophonous (in MC) word 蘆 'madder (plant)' is.

## 3.3 Dental fricates

### 3.3.1 Plain

A three-way contrast for the affricates can be reconstructed based on these sets:

Voiceless aspirated:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tsʰo | ntʃho⁵⁵ ??? | | | me³³tshuo⁵³ | | dawn (the day) |
| *tsʰawa¹ | | | tsʰawa | tsha³³wa⁵³ | | gruel / porridge |
| *kʰetsʰa¹ | | | kʰetsʰa | khe³³tsha⁵³ | | block (the wind) |
| *butsʰa¹ | vu⁵⁵tshua⁵⁵ | `nbutsʰæ | butsʰa | bu³³tsha⁵³ | *r-pʷa | axe |
| *tʰetsʰæ¹ | | | kʰetsʰæ | the³³tshæ⁵³ | | finish |
| *tsʰæ² | tsha⁵⁵ | tshe³³tshe⁵⁵ | `detsʰæ | tshæ⁵³tshæ⁵³ | *tsa-t | hot |
| *tsʰehĩ¹ | tshi⁵⁵xi⁵⁵ | tsʰehẽ | tsʰehĩ | tshe³³hĩ⁵³ | *s-niŋ | this year |
| *tsʰẽ¹ | tshi⁵⁵ | | tsʰe | tshe³⁵ | *tsiːt | goat |
| *detsʰe² | tshɛ⁵⁵ | `tsʰe; də³³tshɯ⁵⁵ | `detsʰi; tsʰi | tshe⁵³ | PLB *ʔ-dzəy² | cough |
| *tsʰe² | tsʰɛˋ; tshɛ³³ | nentsʰe, `tsʰe; ne³³tshɯ⁵³ | `tsʰi | ne³³tshe⁵³ | PLB *tsəy² | wash (clothes) |
| *tsipʰrjo/ tsʰipʰrjo² | tsʰɻˋpʰoˋ; tsɻ⁵⁵pho⁵⁵ | | `tsʰipʰço | tshe⁵³phzʮ⁵³ | | age |
| *tsʰi¹ | tshɻ⁵⁵ 'shoulder blade' | tshɻ³³tshɻ⁵³ | tsʰitsʰi | tshɻ³³tshɻ⁵³-ta³³ta³³ | *tsik | joint |
| *tsʰi² | tsʰɻ↓; tshɻ³³ | tshɻ⁵³ | `tsʰi | tshɻ⁵³ | *tsa | salt |
| *netsʰi¹ | nɛˋtsʰɻˋ; nɛ⁵⁵tshɻ⁵⁵ | nə³³tshɻ⁵³ | `nɤtsʰi | ne³³tshɻ⁵³ | | twenty[23] |
| *tsʰutsʰu¹ | | | tsʰʉ, tsʰʉt-sʰʉ | tshʉ³³tshʉ⁵³ | | knock / strike |
| *detsʰu¹ | | detsʰv; dɐ³³tshu⁵³ | detsʰʉ | de³³tshʉ⁵³ | *tsow | fat |
| *tsʰu | | | tsʰipəˈ | tshu⁵³ | | Sichuan pepper |
| *tsʰwa | | | -tsʰa | (te³³) tshua⁵³ | | classif. rooms |
| *tsʰo¹ | tsʰuˋ | | netsʰo | ŋo³³tshuo⁵³ | | extract / take out |
| *tsʰo¹ | tsho⁵⁵phaˈ⁵⁵ 'young man' | tsho⁵³, tɕho⁵³ ? | tsʰo | tshuo⁵³ | PLB *tsaŋ¹ | human being, person |
| *tsʰokʰwæ | | | tsʰukʰwa | tshuo⁵³khuæ⁵³ | | adult |

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[23]The second syllable descends from some allofam of PTB **ts(y)i/əy/ay** TEN, but is distinct from the word for 'ten' (cf. Mn. **tɕʰetɕʰe** 'ten').

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tsʰomo | | `tsʰomo | tsʰumo | tshuo⁵³mo⁵³ | | old man[24] |
| *tsʰwo¹ | | | tsʰw-ɑ | ma³³tshu⁵³ 'forbid' | | allow |
| *tsʰekʰɑ¹ | tshɛ⁵⁵kɑ⁵⁵ | | tsʰɨkʰɑ | (n)tshɿ⁵³kha⁵³ | *kaːk | sputum, phlegm |

The lack of aspiration on Ersu 'age' is unexplained.

Voiceless unaspirated:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tso | tso˥xto˥ | | əʳli tso | li³³tsuo⁵³ | | dance |
| *mutsi¹ | m̥³³tsɿ⁵⁵ | | mɨtsɨ | mu³³tsɿ⁵³ | | cat |
| *tsɑ¹ | tsɑ⁵⁵ | khe³³tsa⁵³le³¹ | tsɨtsɑ, tsɑ | khe³³tsa⁵³le³¹ | | tie up, bind |
| *tsexwo¹ | tsɑ³³xɑ⁵⁵ | | tsɨxo | tse³³hu⁵³ | | pheasant (short-tailed) |
| *tse | | | `tsɨ | tse³³tɕe⁵³ji³¹ | | welcome, receive s.b. |
| *tse² | tsɛ⁵⁵ | | `tsɨ | tse⁵³ | | hemp |
| *tsẽ | | | tsɤ | tse⁵³ | *dzyut ? | pull up (weeds) |
| *tsẽ | | | tsɤ 'rip, tear' | the⁵³tse⁵³ | | snap (thread) |
| *detsu¹ | | | mbo tsɨ | do³³tsu⁵³ | | wear (a hat) |
| *tsukʰæ | | | `tsɨkʰjæ | tsu³³khæ⁵³ | | stove (cooking) / range (kitchen) |
| *detsu¹ | tsu˥; tsu⁵⁵ | | `detsɨ æ | de³³tsu⁵³ | *tsyow | boil (of water) |
| *kʰetsu | tsɛ³³tsɛ⁵⁵ | | | khe³³tsu⁵³ | *tsyap or PLB *ʔ-dzak^L ? | connect / join |
| *detsu¹ | dɛ˥tsu˥; tsu⁵⁵ | | | de³³tsu⁵³ | | dye |
| *tswɑ | | | `tsɑ | ne³³tsua⁵³ | | filter / strain |
| *tsumu/tsumo² | tsu³³ŋ̍⁵⁵ | | `tsɨmo | tsuo⁵³mo⁵³ | *tsum ? | mortar |
| *tsi¹ | tsɿ⁵⁵ | | tsɨ | | *s-dzya | feed |

Voiced:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ledzi/letsɑ² | lɛ³³dzɿ⁵⁵ | `ledzɿ; le³³tsa⁵³ | `lidzɑ 'claw' | le³³tsa⁵³ | *m-tsyen | nail |
| *dzidzi/dzɑdzɑ | dzɿ⁵⁵ dzɿ⁵⁵ | `ledzɿ; dza³³dza⁵³ | `lidzɑ | dza³³dza³³ | *m-tsyen | claw / talon |
| *dzæpʰæ¹ | dza⁵⁵pha⁵⁵ | | `dzæpʰæ | dza³³pha⁵³ | | pillar / column |
| *nedzje/nedzɑ¹ | nɛ˥dzi˥ | | nedzɑ | ne³³dza⁵³ | | you two |

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[24]This same binome is found in Lolo-Burmese; cf. Lahu **chɔ-mɔ̂**.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *dzæbu¹ | | | -bʉ, dzæbʉ | dzæ³³bu⁵³ | | straw (rice) |
| *dzæpu¹ | | | dzɑpʉ | dzæ³³pu⁵³ | | food |
| *dzæ¹ | dzʌ↓; dza⁵⁵ | | dzæ- | dzæ³⁵ | | rice (paddy), seedling (rice)²⁵ |
| *dzæ | tɛˋdzʌˋ | | -dzæ | (te³³)dzæ⁵³ | | meal |
| *dzẽ¹ | | | dzɨdzɤ, dzɤ | dze³⁵ | *ts(y)ap | chop / hew |
| *dzẽ | dziↄ | | dzɤ | | | enough |
| *dzi¹ | dzʐ⁵⁵ | | | de³³dzʐ⁵³ | | give birth to (e.g. piglets) |
| *dzi² | dzʐˋ; dzʐ³³ | dzʐ; dzʐ⁵³ | dzi | dzʐ⁵³ | *dzya | eat |
| *(d)zi² | jʌˋfiˋ ??; jɑ³³zʐ⁵⁵ ? | | `dzɨdzɨ | dzʐ⁵³dzʐ⁵³ | | wide / broad |
| *(d)zibu¹ | zoˋbuˋ; zʐ⁵⁵bu⁵⁵ 'stick' | | dzɨbʉ | | | walking stick |
| *dzepi/dzopʰi¹ | dzɛ⁵⁵psʐ⁵⁵ | | dzopʰçi | | | hoe |
| *(n)dzɑ¹ ? | dzʌˋ; ndzɑ⁵⁵ | ndzɑ | dzɑ | dzaŋ³⁵ | | drum |
| *ɑdzje/ɑdzɑ¹ | ʌˋdziˋ; ɑ⁵⁵dzi⁵⁵ | | ɑdzɑ | a³³dza⁵³ | | we (dual) |

The roots for 'nail' and 'claw' appear to be the same for all the languages except Nq. and TBL, which have voiceless variants.

The Ersu forms for 'wide' and 'walking stick' have fricatives where we expect affricates.

## 3.3.2 Prenasalized

Nq. has lost prenasalization in word-initial position. Note that TBL transcribes prenasalization inconsistently; for example, the form for 'liver' is transcribed without it in Dài and Huáng (1992), but Huáng and Rénzēng (1991) (presumably from the same data, collected by the same fieldworkers) transcribes it *with* prenasalization.

Voiceless aspirated:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ntsʰæ¹ | ntsha⁵⁵ | | ntsʰæ | | | make, fix, repair |
| *ntsʰɑ¹ | ntsha⁵⁵ | tsha³⁵ | ntsʰɑ | tsha³⁵ | *m-sin | liver |

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²⁵Unlike in Lolo-Burmese, the words for 'paddy' and 'eat' are not minimal tonal pairs, although they do share the same initial. Compare with Naish, which also has a vowel alternation (see Jacques and Michaud 2011): PNa **dza** 'wheat' and **ndzi** 'eat'. Jacques and Michaud surmise that this vowel alternation "can only be a trace of morphology," with the **-i** rhyme of the verb 'eat' "the result of the fusion of the root with a suffix." In the case of Proto-Ersuic, **dzi** 'eat' is clearly the regular reflex of PTB **dzya** EAT (see chapter 8), and some other explanation must be found for the **-æ** rime in the related words 'paddy' and 'meal'.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *dentsʰa$^1$ | ntsha$^{55}$ | \`dentsʰæ | ntsʰintsʰa | ntsha$^{35}$, de$^{33}$ntsha$^{53}$ | Lahu šɛ < *sin | pull / drag / lead (a cow) along[26] |
| *bra$^1$ | | | ntsʰabæˑ | tshŋ$^{33}$ba$^{53}$ | | cane / vine |
| *ntsʰæ | ntsha$^{55}$ | | | ntshæ$^{53}$ | | mark / sign / boundary line |
| *kʰentsʰæ | kha$^{33}$ntsha$^{55}$ | | | khe$^{33}$ntshæ$^{53}$ | | remember |
| *ntsʰełiu | | | \`ntsʰili | tshe$^{33}$łe$^{53}$ | | gift / present |
| *ntsʰe$^2$ | ntsʰɛ↓; ntshɛ$^{55}$ | | \`nentsʰi | ntshe$^{53}$ | *m-tsak DRIP | leak |
| *ntsʰi$^1$ | ntshŋ$^{55}$ | | \`(de)ntsʰi | de$^{33}$ntshŋ$^{53}$ | | choose / pick |
| *dentsʰu$^1$ | | tshũ$^{33}$ntshu$^{53}$ | dentsʰʉ | de$^{33}$ntshu$^{53}$ | | alive |
| *ntsʰu$^2$ | tshu$^{55}$ | bu$^{33}$tshu$^{55}$ | \`ntsʰipʰwe, \`ntsʰipʰəˑ | ntshʉ$^{53}$ | *tsut | lung |
| *ntsʰew | | (dʐe$^{33}$nu$^{55}$) tshe$^{33}$ | ntsʰɤ 'milk; squeeze' | ntshʉ$^{53}$ | *m-dzu/ip SUCK | squeeze (for milk) |
| *ntsʰo$^1$ | ntshu$^{55}$ | | dentsʰo | kho$^{33}$ntshuo$^{53}$ | | light (a fire, a light) |

For 'lung', both the Ersu and Nq. forms lack prenasalization where we expect it (i.e. prenasalization should be preserved intervocalically in Nq.; and the other Ersu forms in this set all have prenasalization recorded).

Voiced:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ndza$^2$ | dzʌ↓; ndza$^{55}$ | \`ndza | \`ndza | dʑæ$^{53}$, dza$^{33}$ | | Chinese (Han) |
| *ndza$^1$ | ndza$^{55}$ | | \`bi ndza | ndza$^{35}$ | | sting (of wasps) |
| *ndzæ$^1$ | ndza$^{55}$ | | ndzæ | ndzæ$^{53}$ | | stir-fry |
| *ndzẽ$^1$ | ndzi$^{55}$ | | | ndze$^{35}$ | *N-dzyam | wedge |
| *ndze$^1$ | dɛ\`ndzʌ↓ (perf.); ndzɛ$^{55}$ | | ndzi | dze$^{53}$ | *dzyi | ride (a horse) |
| *ndzi$^1$ | ndzŋ$^{33}$nua$^{55}$ | | ndzi | dzŋ$^{33}$mu$^{53}$ | *g-zik | leopard / panther |
| *ndzu | | | ntʂʰi dendzʉ | (tʂʰŋ$^{53}$) khe$^{53}$ndzu$^{31}$ | *tsow THORN | pricked (on a thorn) |
| *ndzew$^1$ | ndʑo$^{55}$ndʑo$^{55}$ | | ndzɤ | ndzu$^{35}$ | | friend |
| *ndzewbjẽ$^2$ | | | \`ndzibze | ndzʉ$^{53}$bʑe$^{53}$ | | friend / amiable |
| *ndzew$^1$ | ndʑo$^{55}$ji$^{55}$ | | ndze | ndzu$^{33}$ji$^{53}$ | | other person(s) |
| *tʰendzo | | | jo kʰendzo 'spoil-child' | tho$^{53}$ndzuo$^{53}$ | | accustomed to, in the habit of |
| *ndzomo$^2$ | ndzo$^{33}$mo$^{55}$ | | | ndzuo$^{53}$mu$^{53}$ | PLB *m-dzəw$^2$ | official (government) |

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[26]This root is not found in HPTB or Bradley (1979), but note the similarity between the words for 'liver' and 'pull/lead (a cow)' in both Ersuic and e.g. Lahu; in Ersuic they are homophonous, and in Lahu ɔ̀-šɛ̄ 'liver' and šɛ 'lead' differ only in tone.

Ersu 'friend' and 'other' (these seem to be the same morpheme) have a palatal where Lizu has a dental affricate.

### 3.3.3 Preaspirated

Lizu does not have preaspirated dental affricates, but there is one likely cognate in Ersu, 'forge, strike (iron)'. This word may be related to 'knock / strike', which has an aspirated initial in Lizu (cf. Mn. **tsʰʉ**).

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *htsu | n̪ʌ˥˩xtʂu˩su˥ 'silver-smith'; htsu⁵⁵ | -tsv | | | | forge, strike (iron) |

### 3.3.4 Fricatives

Finally, both voiced and voiceless dental fricatives can be reconstructed. Voiceless:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *lesẽ | lɛ³³su⁵⁵ | le³³se⁵⁵ | | le³³se⁵³ | | finger |
| *sɑ-² | | | ˋsɑʑi | sæ⁵³ | | earth, ground |
| *desæ¹ | | | sæ | de³³sæ⁵³ | | wear (a bracelet) |
| *sæ¹ | sɑ⁵⁵ | | (tɑli) desæ | khe³³sæ⁵³xæ³¹ | | bear (fruit) |
| *sẽ¹ | | se⁵³ | se | se³⁵ | *r-sak | air, breath, steam |
| *sẽ¹ | si⁵⁵ | ˋse; se⁵⁵ | se | se³⁵ | *siŋ ⪦ *sik | wood / log |
| *sẽse¹ | si⁵⁵sɛ⁵⁵ | tʂhɻ³³sɻ⁵³ 'persimmon' | | se³³sɻ⁵³ | *sey | fruit |
| *se² | sɛ˩; sɛ⁵⁵ | | ˋsɻbwe | se⁵³ | *su | who |
| *si | sɻ˩tʂuʌ˩; sɻ⁵⁵ | | ˋsisɨ | | *g-sik | new |
| *si¹ | sɻ˩; sɻ⁵⁵ | nɐ³³sɯ⁵³ | sɨ | de³³s-æ⁵³ | *g/b-sat | hit, kill |
| *suniu | | | ˋsʉn̪i 'self' | sʉ³⁵n̪y⁵³sʉ³³n̪y⁵³ | | each / respective / individual |
| *su¹ | | | (de)sʉ 'stab' | nɐ³³sʉ⁵³, ŋo³³sʉ⁵³ | | thread (a needle) |
| *biususu¹ | bɛ⁵⁵su⁵⁵su⁵⁵ | | bøsʉsʉ | bu³³sʉ⁵³sʉ³¹ | | bladder |
| *kʰesu¹ | kʰɛ˩su˩; khɛ⁵⁵su⁵⁵ | | | khe³³su⁵³ | | tight / taut |
| *desu¹ | su⁵⁵ | te³³su⁵³ | bʉtʂɑ sʉ, bʉtʂɑ sʉsʉ | te⁵³su⁵³ | PLB *si² | sharpen, whet (a knife) |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *soso[1] | so˩so˩; so⁵⁵so⁵⁵ | | suso | suo³³suo⁵³, suo³⁵ | | learn, teach |
| *taso[1] | | | taso 'just now' | ta³³suo⁵³ | PLB *C-sok | morning[27] |
| *sohĩ[1] | so⁵⁵xi⁵⁵ | | sohĩ | suo⁵³hĩ⁵³ | | next year |
| *somwoŋkʰwo | | | sɨmonkʰo | suo⁵³mu⁵³nkhu³¹ | | tomorrow night / evening |
| *soniu² | so˩ɲo˩; so⁵⁵ɲo⁵⁵ | `soɲi | `sɨə˞ | suo⁵³ɲ̩ɻ̍⁵³ | | tomorrow |
| *swɑ[1] | | | sɑ | sua³⁵, gu³³sua⁵³ | | send (a message) |

Voiced:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *zæzæmu[1] | zɑ⁵⁵zɑ⁵⁵ŋ̍⁵⁵ | | æzɨzæ mɨ | æ³³zæ⁵³mu³¹ | | careful / cautious |
| *zæzæ[1] | zA˥zA˥ 'young'; za⁵⁵za³³ | | zɨzæ | zæ³³zæ⁵³ | | tender, young (plant) |
| *-zæzæ² | | | `jozɨzæ | ja⁵³ka⁵³zæ³³zæ³¹ | | baby |
| *mpʰrozæ[1] | pho⁵⁵za⁵⁵ 'husband' | pʰrezæ | mpʂʰozæ | nphzɯ³³zæ⁵³ | PL *m-laŋ/plaŋ[1] 'husband' (PL 217) | young lad / chap |
| *zẽ[1] | zi⁵⁵ | | zə˞, zɨə˞ | ne³³ze⁵³ | | press (with palm or finger) |
| *zi[1] | zʅ⁵⁵ | zʅ | zɨ | zʅ⁵³ | | shoe |
| *zi² | | `zʅ | `zɨ | zʅ⁵³ | *za | son |
| *zi | -zʅ˩; -zʅ³³ | | -zɨ | -zʅ⁵³ | | ten (bound), -ty |
| *zikæ | | | `zikjæ | sʅ³³kæ⁵³, mæ³³zʅ⁵³mæ³³kæ³¹ | *ga ≳ *ʔa | mute, dumb, stupid |
| *te zu | | | `te zɨ | (te³³) zɨ³¹ | | lifetime |
| *zjeji/zijo² | zi˥xi˥ 'woman'; zi³³ji⁵⁵ | `ʐeje ? | `zɨjo | zɨ³³ju⁵³, zɨ⁵³ju⁵³ | | daughter, woman |
| *zulje[1] | | zɯ³³li⁵³ | | zɨ³³lɨ⁵³ | | testicle |
| *zu[1] | zu˩; zu⁵⁵ | | | zɨ³⁵ | | animal fat/oil |
| *zo[1] | zo⁵⁵; khɛ³³zo⁵⁵ | | zo, kʰezo-ɑ | (ndzu³⁵) zuo⁵³ | | owe/lose (money), suffer (illness); hit (a target) |

[27]The **so** of 'morning' seems to be the origin of the first syllable of the words 'tomorrow', 'tomorrow night', 'next year', etc.

### 3.3.5 Palatalized dental fricates

There are a number of forms where TBL has palatal initials corresponding to dental affricates in the other languages. These are all followed by [-i] or [-e] rhymes in TBL. It seems likely that these forms have palatalized due to the rhyme; notice that the Ersu cognates all have [-i] rhymes.

It is also interesting to note that many of these forms seem to descend from PTB roots with nasal finals (*-am or *-im).

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *kuts$^h$je$^1$ | | ku$^{33}$tshi$^{53}$ | kɯts$^h$epə$^1$ | kuo$^{33}$tɕhi$^{53}$ | | life |
| *ts$^h$je$^1$ | | | ts$^h$e 'throw down' | ŋe$^{33}$tɕhæɹ$^{53}$ | | throw / hurl / toss |
| *ts$^h$jets$^h$je$^1$ | ts$^h$i$^1$ts$^h$i$^1$; tshi$^{55}$tshi$^{55}$ | | pæts$^h$e | tɕhi$^{33}$tɕhi$^{53}$ | | thin (in diameter) / fine |
| *ʂats$^h$je | ʂa$^{33}$tshi$^{55}$ | | (ʂatɑ) | fu$^{53}$tɕhi$^{53}$ | | broom |
| *tetsje | | | -tʌtse | (ne$^{33}$) te$^{53}$tɕi$^{31}$ | | mace (=0.1 tael) |
| *tsjẽ$^1$ | tsi$^{55}$ | tsi$^{53}$ | tɕe, tsɤ | tɕe$^{31}$ | *tsam | hair |
| *tsjẽʂi$^1$ | | | tɕiʂɨ | tɕi$^{33}$ʂ̩$^{53}$ | | comb |
| *dzjẽ$^1$ | dzi$^{55}$ | | dze | dʑe$^{35}$ | *m-dzam | bridge |
| *dzjẽ | | | `dzɨjo | dʑe$^{35}$ | | sickle |
| *dzjẽdzjẽ$^2$ | dzi$^{55}$dzi$^{55}$ | | `dzɨdzɤ | dʑe$^{55}$dʑe$^{53}$ | *dz(y)im | wet |
| *dzjẽdzjẽ | | | `dzɨdzɤ | dʑe$^{33}$dʑe$^{53}$ | *dz(y)im | raw / uncooked |
| *zjẽ$^1$ | zi$^{55}$ | | zɤ | ʑe$^{35}$ | *zum ⋊ *zuŋ | use |
| *sjẽ$^2$ | si$^1$; si$^{55}$ | si$^{53}$ | `ɕe | ɕi$^{53}$, ɕe$^{35}$ | *g-sum | three |

Note that in Mn. column, 'three' and one of the variants for 'hair' do not quite fit the pattern, since they have palatal initials where we expect dentals. They have been included here because the Ersu and TBL forms match perfectly.

Some forms with palatal initials in TBL are reconstructed with dental stop initials. See section 3.2.2.

TBL 'throw' may not seem to belong here because it does not have a high front vowel, but I have included it here because the form may actually be morphologically decomposable into **tɕhi** + **æɹ**, where the root corresponds perfectly but has a perfective suffix attached. (This is the case for 'hit/kill' in TBL: **de$^{33}$sæ$^{53}$** = **de$^{33}$s̩$^{53}$** + **æ**.)

## 3.4 Palatals

### 3.4.1 Palatal fricates

There aren't very many forms with palatals in general, and in the modern languages it is theoretically possible to analyze them as allophones of the dental fricates before a palatal glide. However, the palatals are reconstructed as a separate series for Proto-Ersuic, with a distinction between **\*tsj-** and **\*tɕ-**, as we will see below.

Ersu has merged almost all of the palatals with the dental fricates; the major exception is before the vowel [-o]. This change applied not only to the palatal fricates listed in this section, but also to extrusional palatal fricatives between bilabials and high front vowels, e.g. \*pi > pɕi > psɿ, where there must have been an intermediate stage with a palatal fricative emerging due to coarticulation with the high vowel (this is in fact the situation in Lizu). In Ersu, the palatal fricative, originally the result of an allophonic process, later participated in sound changes which applied to all palatal fricates.

There appear to be multiple origins for the palatals we see in Mn. and TBL., as suggested by the fact that Nq. sometimes has plain dentals corresponding to palatals in the other Lizu dialects. While there is not as much data available for Nq., the forms from it and the associated PTB roots suggest that some of these roots descend from a combination of dental fricate + palatal glide, as opposed to a different, older source of palatals.[28] For example, tn 'hair' may have developed as follows: PTB **\*tsam** > PErsuic **\*tsjẽ**, followed by separate developments into Ersu **tsi⁵⁵**, Nq. **tsi⁵³**, TBL **tɕe³¹**; whereas 'cloud' would have followed the route PTB **\*s-dim** > PErsuic **\*tɕe** > Ersu **tsɛ⁵⁵** and TBL **tɕe⁵³**.[29]

The expected manner contrasts can all be reconstructed for the palatals.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| **Voiceless aspirated** | | | | | | |
| *tɕʰa¹ | tɕho⁵⁵ | | -ɕɑ | tɕhæ³¹ | | on (the wall) |
| *tɕʰetɕʰe¹ | tsʰɛˋltsʰɛˋl; tshɛ⁵⁵tshɛ⁵⁵ | tɕhe³³tɕhi⁵³ | tɕʰetɕʰe | tɕhe⁵³tɕhe⁵³ | *ts(y)i/əy/ay | ten |
| *tɕʰe¹ | tsʰɛˋl; tshɛ⁵⁵ | ˋtɕʰe; tɕhu⁵³ | tɕʰe | tɕhi⁵³ | | drink |
| *tɕʰu¹ | | | ɑmjo **tɕʰyde** 'now' | (te³³) **tɕhu³³tɕhu³¹** | | a while |
| *netɕʰo¹ | | ne³³tɕhu⁵³ | tɕʰo, tɕʰitɕʰo | ne³³tɕhu⁵³ | | cut up (vegetable) |
| *tɕʰopu² | | | ˋtɕʰopʉ | tɕhu⁵³pu⁵³ | *taŋ | pine |
| **Voiceless unaspirated** | | | | | | |
| *detɕa¹ | da³³tsa⁵⁵ | də³³tɕɯ⁵³ | dentɕʰɑ ?? | de³³tɕæ⁵³ | | wake up |
| *letɕu¹ | lɛˋltsuˋl; lɛ⁵⁵ tʃu⁵⁵ kɛ³³ | le³³tɕi⁵⁵pu³³ | ˋletɕy 'left' | le³³tɕy⁵³ | | right (side) |
| *pætɕe¹ | | | pætɕe | ne³³pæ⁵³tɕi³¹ | | cut (paper, cloth) |

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[28]These have been separated out and placed in the section on dental fricates (previous page).

[29]Unfortunately the Nq. form for 'cloud', **mə³³khɑ⁵⁵**, is not cognate and thus is of no diagnostic value here.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tɕe$^{1}$ | tsɛˀ; tsɛ$^{55}$ | tɕe | tɕe, tsɤ | tɕe$^{53}$ | *s-dim | cloud, fog |
| *tɕitæ$^{1}$ | **tsɿ$^{55}$ta$^{55}$** | | ˋ**tɕi**tæ | khe$^{33}$**tɕi**$^{53}$tæ$^{31}$ | | collect, harvest, put away |
| *rwatɕo$^{1}$ | tsɛ$^{55}$ | rɤ$^{33}$tɕu$^{53}$ | æˑtɕo | ɣua$^{33}$tɕu$^{53}$ | *dz(y)u | egg |
| *tɕo$^{1}$ | | | æˑtɕo (ne)tɕo | tɕu$^{35}$ | | lay (eggs) |
| *netɕʰiu/ netɕiu$^{1}$ | **tɕʰo**ˀ?; **tɕho**$^{55}$? | (ni$^{33}$ma$^{55}$) ne$^{33}$**tɕi**$^{55}$ | ˋn̩imæ netɕi-æ | ne$^{33}$**tɕu**$^{53}$ | *g(l)im ≍ *g(l)um | set (of the sun) |
| *tɕukʰwa$^{2}$ | tsɿ$^{33}$khua$^{55}$ | | | tɕu$^{53}$khua$^{53}$ | | cucumber |
| *tɕo$^{1}$ | tɕoˀ 'twist, coil' | | (ˋnkʰwe) pɨtɕo | de$^{33}$tɕu$^{53}$tɕu$^{31}$ | | wind (thread onto a keel) |
| *tɕuru | ə$^{ˑ33}$ tsu$^{33}$ **ru**$^{55}$ | ˋtɕorə | | tɕye$^{33}$**ɦæ**$^{ˑ35}$ | | footprint / track |
| *tɕutɕu | tsuˀtsuˀ; tsu$^{55}$tsu$^{55}$ | | | tɕy$^{53}$tɕy$^{53}$ | | straight |

**Voiced**

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *(d)ʑapu | | | ˋʑapɨ 'rich man' | dʑæ$^{33}$pu$^{53}$ | | leader / chieftain / headman (Mand. 'tǔsī') |
| *tʰedʑo$^{1}$ | dʑo$^{55}$ | | | the$^{33}$dʑu$^{53}$ | PLB *C-cak$^{L}$ | push / shove |
| *lodʑu$^{1}$ | | | lodʑy | luo$^{33}$dʑɨ$^{53}$ | | wall (stone) |
| *dʑiki$^{1}$ | | dʑi̠$^{33}$kɯ$^{53}$ | dʑiki | dʑi̠$^{33}$ki$^{53}$ | *m-ts(y)il | saliva |
| *dʑi$^{1}$ | | dʑi | dʑi | dʑi$^{35}$ | | speak, say |
| *(n)dʑi(u)$^{2}$ | ndʑo$^{33}$ndʑo$^{55}$ ? | | | dʑi$^{53}$ | cf. Lahu ɔ̀-cɛ̄ < *dzya ? | ear / spike |
| *nedʑo | | | nedʑo 'collapse' | ne$^{53}$dʑu$^{53}$sɨ$^{31}$ | | topple / tear down (a wall) |
| *dʑu$^{1}$ | dzu$^{55}$ | dʑy$^{53}$ | | dʑy$^{35}$ | *duk ≍ *tuk | poison |
| *kʰedʑudʑu$^{2}$ | dzu$^{33}$dzu$^{55}$ | | ˋkʰedʑydʑy | khe$^{33}$dʑy$^{53}$dʑy$^{31}$ | | meet / come across |

**Prenasalized (voiceless)**

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *dentɕʰu | ntshɛ$^{33}$ntshɛ$^{55}$ | | | de$^{33}$ntɕhu$^{53}$ | | carry with pole, lift up |
| *ntɕʰo | ntshɿ$^{55}$pi$^{55}$ | | ˋkʰentɕʰo | | | choke |

**Prenasalized (voiced)**

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *kʰendʑa$^{1}$ | dzʌˀ; ndza$^{55}$ | khe$^{33}$ndʑɯ$^{55}$ | kʰendʑa | khe$^{33}$ndʑa$^{53}$ | *g-r(y)ap | stand |
| *ndʑindʑa$^{2}$ | ndzɿ$^{33}$ndza$^{55}$ | | ˋndʑindʑa | ndʑi$^{33}$ndʑæ$^{53}$, te$^{53}$ntɕi$^{53}$ntɕæ$^{53}$ | | think / idea / opinion |
| *ndʒo$^{1}$ | ndzɛ$^{55}$ | ndʑu | ndʑo | ne$^{33}$ndʑu$^{53}$ | | soak / steep |
| *zjendʑu/ zindʑu$^{2}$ | zi$^{33}$ndzu$^{55}$ | | | zɿ$^{53}$ndʑɨ$^{53}$ | | nephew (brother's son) |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| **Preaspirated** | | | | | | |
| *htɕi¹ | | tɕi³³mi⁵³ | ɕtɕimæ | | *s-tu | vagina |

The Kl. form for 'soak/steep' is irregular, since it is transcribed with a retroflex initial.

There is also a voiceless fricative:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ɕaŋæ² | | | `ɕæɲæ | ɕæ⁵³ŋæ⁵³ | | pitiable / pitiful |
| *sæmbæ² neɕi | sʌ˩nbʌ˥ 'feeling, emotion' | | `sæmbæ `neɕi | sæ⁵³nbæ⁵³ɕi⁵³ | | worry / be anxious |

and a voiced fricative:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ʐo¹ | | | mele ʐo, me ʐo | me³³ʐu⁵³ | | quake (earth) |
| *ʐa¹ | za⁵⁵tshɛ⁵⁵ | | ʐɑ | ʐæ³³tshɻ⁵³ | *s-la | pants / trousers |
| *ʐa¹ | zʌ˥; za⁵⁵ | ʐ³³ ʐɛ⁵³ | ʐɑ | (te³³) ʐæ⁵³ | *b-r-gya | hundred |
| *ʐi¹ | zɻ˥tʌ˥ 'chair'; zɻ⁵⁵ | | `neʐi | ne³³ʐi⁵³ | | sit down |
| *ʐiu¹ | ʐo⁵⁵ | ʐe | ɣwæ ʐi | ʐu³⁵ | | fall (rain) |
| *ʐu | | zu⁵³ | | ʐy³⁵ | | plant ash |
| *ʐu¹ | zɻ˩; zɻ⁵⁵ | | `ʐy | ʐy³⁵ | | snow |

There are a small number of forms where Mn. retroflex fricates correspond with palatals in the other Lizu dialects. These are all followed by a high back vowel in either Mn. or TBL, with the exception of the copula, which may have undergone an irregular change due to its frequency and/or status as a grammatical word. I tentatively reconstruct these with a -w- medial glide, with a *ɕw > ʂ sound change in Mn. This is plausible on phonetic grounds because lip rounding lowers all formants, potentially causing palatals to be misheard as retroflexes. It seems unlikely that this set belongs with the retroflexes; compare, e.g., the forms for 'torch' (section 3.5.2) which trivially descend from Proto-Ersuic *ʂu (i.e., nothing special happens to retroflexes when combined with /-u/) with the forms here for 'catch fire', which I reconstruct as **ɕwu**. This set also does not fit with the other palatal series, which I reconstruct as *ʃ (section 3.6), since in that case *ʃu > *xu > fu in Mn.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ɕʷiu¹ | ɕo⁵⁵ | ɕi³³ | bædʑi ʂi | khe³³ɕu⁵³ | *s-kəy | borrow (money) |
| *tʰeɕʷiulɑ | | | `(kʰe)ʂilɑ | tho³³ɕuo⁵⁵la³¹ | | slanted / askew |
| *ɕʷu¹ | | | se ʂɰ 'burn wood' | (ɲi³³me⁵³) ɕy³¹ | | catch fire (a house) |

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| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ʐʷi¹ | zɻˋ; zɻ⁵⁵ | | zɨ | ʑi³⁵ | *s-ri(y) | be (copula) |
| *ndʐʷundʐʷu¹ | | | ndʐʉndʐʉ | khe³³ndʑy⁵³ndʑy³¹ | | coax / fool |
| *tɕʷʰiu² | tʂʰoˎ; tʂho⁵⁵ | `tɕʰe; tɕhi⁵³ | `tʂʰɨ | tɕhu⁵³ | *d-kʷəy | dog |
| *putɕʷew/ gutɕʷew | | | `depʉtʂɤ 'flip over' | the³³gu⁵³tɕu³¹ | | turn (a corner) |
| *dʐʷew¹ | dʑyiˋ; dʑo⁵⁵lɑ⁵⁵ | | dʑɤ læ | dʑu³³læ⁵³ | | return, go back |

As noted above, the Ersu forms in this section are mostly dental fricates, with a subset that retain palatals before [-o] rhymes ('borrow', 'return', 'push', 'ear / spike'). The remaining exception is 'dog', which for some reason has a retroflex initial in Ersu.

See also section 3.2.2 for forms with initial palatals that are actually reconstructed with stop initials. (Note that if there are no Ersu or Nq. forms, it is impossible to tell if we should reconstruct a stop or a palatal affricate here.)

### 3.4.2 Palatal sonorants

Most palatal glides in Ersuic have simple correspondences:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *æja¹ | | | æjɑ | æ³³jæ⁵³ | PLB *ʔ-wyik^L | elder brother/sibling |
| *jakrɑ | **jɑ⁵⁵dʑɛ⁵⁵** | `**jæqɑ** | | **jɑ⁵³ka⁵³** | | child |
| *janiu¹ | jʌˎɲ̪oˋ; jɛ⁵⁵n̪o⁵⁵ | `jæɲi | jæɲi | jæ⁵³n̪ʉ⁵³ | cf. Lahu yàʔ- < *yak | yesterday |
| *jahãŋkʰwo¹ | | `jæxwæ ? | jɑhãnkʰo | ja³³ha³³nkhu³⁵ | | last night |
| *ja(ji)hĩ¹ | jʌiˎxiˋ; jɛ⁵⁵xi⁵⁵ | | `jæhĩ | jæ³³hĩ⁵³ | | last year |
| *jajihĩ² | jɛi³³hi⁵⁵ | | `jæjy | jæ³³ji⁵³hĩ³¹ | | story |
| *jiji¹ | ji⁵⁵ 'child' | | jiji | ji³³ji⁵³ | *z(y)əy ?, cf. Lahu i | small |
| *jimɑ¹ | ji⁵⁵mɑ⁵⁵ | nejemɑ; jɛ³³mɐ⁵⁵ | (ne)jimɑ | ji³³ma⁵³, ʑi³⁵ma⁵³ | *yip + *mak | dream |
| *ji¹ | jiˋtsʰuˋ | | jitʰo | ji³³mæ⁵³ | < yi? | ladle |
| *jimui¹ | | | jimwe 'sweet ~' | ji³³mu⁵³ | | buckwheat |
| *(ji) mui¹ | (kʰʌˋ)məˋˋ 'sleep'; maˋ⁵⁵ | | **ji**mwe ŋʉ, **ji**mwe dedzɨ | **ji³³mu⁵³** kɯ³³ | | doze / nod off |
| *(ji)mbru² | bzɻˋ | | `ɣa**ji**mbzʉ | **ji⁵³nbu⁵³** | *m-bruŋ ≍ *m-bruk; < WT ḥbrug? | dragon |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ju¹ | ndzʐ³³ji⁵⁵ 'buckwheat flour' | | jy | dzʐ³³ji⁵³ | | flour |
| *jVsi¹ | sʐ⁵⁵jɑ⁵⁵ | | jisɨ | ju³³su⁵⁵ | | peach |
| *leji¹ | lɛ˥ji˥; li⁵⁵ | le³³ji⁵⁵pu³³ | ˋlejo 'right'? | le³³ji⁵³ | | left (side) |
| *jizæ¹ | i³³zɑ⁵⁵ | ji³³ze⁵⁵ | jozæ 'husband' | ji³³zæ³¹ 'man' | | son |
| *tʰejo | | | ˋɣo ˋkʰejo | the³³ju⁵³ | | drunk, be |
| *kʰejo | ji˥tʌ˥ 'bed' ? | khə³³jə⁵⁵ | ˋkʰejo | khe³³ju⁵³ | (*s-yip ≽) *s-yup | sleep, lie down |
| *deju¹ | | | dejy | de³³jʉ⁵³; de³³ju⁵³ | | hot / spicy |

There are two forms where Ersu [j-] corresponds to a fricative [ʑ-] in some dialect(s) of Lizu, and three where the opposite is the case (Ersu [z-] corresponding with Lizu [j-]). The case of Ersu [z-] may be completely regular: *j > ʑ / _ i, followed by ʑi > zʐ (this is a regular change that applied to all palatal fricates, as discussed above). Note that Ersu has both variants, **zʐ˥** and **ji˥**, for 'go'.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ji¹ | kʰ-i˩ 'enter', zʐ˥, ji˥; zʐ⁵⁵, ji⁵⁵ | nə³³ji⁵³ | **ji** | **ji³⁵** | *ʔay | go |
| *(ju/ʑu)xwɑ¹ | zu⁵⁵xuɑi⁵⁵ | | | jy³³xua⁵³ | *hya SWID-DEN | paddy fields |
| | zʐ⁵⁵mi⁵⁵ | | ˋjime | Mand. 玉米 yùmǐ | | corn, maize[30] |

However, the forms with Ersu [j-] are perplexing. In Lizu, 'sit down' (above, under voiced fricative [ʑ]) and 'live' seem like they might be homophonous (they are both transcribed with low tone in TBL), but these two words are distinct in Ersu. It is possible that the Ersu word for 'live' is not cognate (perhaps a loan from Nuosu **i⁵⁵** 'sleep, live').

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ji¹ | ji⁵⁵ | | ˋji | ʑi³⁵ | Tai *ʔya/ MC 'en 煙? | tobacco / cigarette |
| *ji/ʑi¹ | **ji⁵⁵** | **ʑi** | | ne³³ʑi³¹, ne³³ʑæ³¹ | | live / reside |

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[30] 'Corn' is probably anachronistic for Proto-Ersuic; I have included it here for completeness, and to highlight the difficulty of separating late loanwords with good-looking correspondences from true cognates. Since corn is a New World plant and only appeared in Asia as a result of the Columbian exchange, a root for corn seems unlikely to be reconstructible for Proto-Ersuic, although this depends on the time depth assigned to the protolanguage. One way of estimating the time depth is to look at Tangut, which like Proto-Ersuic had undergone the brightening change of PTB **-a** > **-i**. Since Tangut is documented since the eleventh century, Proto-Ersuic should also date to that time, assuming the brightening change was historically the same change (either a shared innovaton in a common ancestor or an areal change that spread through the region).

There are a handful of forms where Ersu [j-] corresponds to a palatal nasal in Lizu. These descend from PTB forms with nasal finals.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *jẽ¹ | ji˩; ji⁵⁵ | ɲe; ɲi³³tshɯ⁵³, ɲĭe³⁵ | ɲe | ɲi³⁵ | *k-yim ≍ *k-yum | house |
| *jã¹ | ja⁵⁵ | | ɲɑ | | | home |
| *jõ¹ | jo˩; jo⁵⁵ | | ɲo | ɲu³⁵ | *yaŋ | sheep |

The palatal nasals all correspond perfectly, except for Nq. 'day (clf.)' and 'soft', which have dental nasals.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *njapʰo/ njopʰo¹ | ɲo˩pʰɛ˩; ɲo⁵⁵phɛ⁵⁵ | ɲopʰo | `ɲapʰo 'back, behind' | ɲæ³³phu⁵³ | | outside |
| *ŋenja¹ | ŋa³³ɲa⁵⁵ | | kʰeɲiɲa | t/ŋe³³ɲæ⁵³ɲæ⁵ | | dodge, make way, retreat |
| *deni¹ | ɲiˎ; ɲi⁵⁵ | ɲi⁵³ | deɲi | de³³ɲi³¹, de³³ɲi⁵³ | *na-t | sick, ache |
| *deni¹ | dɛˋɲi˩; ɲi⁵⁵ | ɲi³³tsɯ⁵⁵tsɯ³³ | `deɲi | de³³ɲi⁵³ | *r-ni | red |
| *ni¹ | ɲi˩; ɲi⁵⁵ | ɲi⁵³ | əˑɲi | ɲi³⁵ | | gold[31] |
| *(ri)ni¹ | ɲi⁵⁵ | | əˑɲi | ə³³ɲi⁵³ | *s-ney | near |
| *nini | jᴀˋɲiˋɲiˋ; ɲi⁵⁵ɲi⁵⁵ | | | ɲi⁵³ɲi⁵³ | *s-nem | low / short |
| *xuini¹ | ʂɿ⁵⁵ ɲi⁵⁵ wɑ⁵⁵ zɑ⁵⁵ | | | fu³³ɲi⁵³ | | gum ("tooth-red")[32] |
| *ni² | | | `kʰeɲi | te⁵³ɲi⁵³ | | be startled/afraid |
| *niu(mæ)lawu¹ | | | ɲimælɑvɐ | ɲi³³la⁵³wu³¹ | | daytime |
| *niumæ¹ | ɲo⁵⁵ma⁵⁵ | `ɲime; ni³³ma⁵⁵ | `ɲimæ | ɲi³³me⁵³, ɲi³³mi⁵³ | | sun |
| *nina¹ | ɲo˩- ??; ɲi⁵⁵nuɑ⁵⁵ | `jena | `ɲinɑ | ɲi³³na⁵³, ji³³na⁵³ | *nyey/*na-w | younger sibling |
| *niuŋkʰwa bedi | ɲo³³nkhuɑ⁵⁵ bɛ⁵⁵dʐɿ⁵⁵ | | | ɲi³³nkhuo⁵³ be³³dʑi³¹ | | earthworm |
| *niu¹ | ɲoˋtɕʰoˋ; ɲo⁵⁵tɕho⁵⁵ | | | ɲi³⁵ | *s-ni/u(:)p | west |
| *neni¹ | | | neɲi | ne³³ɲi⁵³ | | decrease, reduce |
| *bæni¹ | bᴀˎɲiˋ, bᴀˋɲiˋ; ba³³ɲi⁵⁵, bɐ³³ɲi⁵⁵ | be³³ɲi⁵³ | bæɲi | bæ³³ɲi⁵³ | *r/g-na | listen |
| *breni¹ | baˑ⁵⁵ɲi⁵³ | | `debʐeɲi sæ | ŋe³³ɲi⁵³, bɯ³³ɲi⁵³ | *g-na-s | rest |

[31] Although the form is different, the semantic connection between 'gold' and 'red' is also found in PTB *tsyak (see STC #184).

[32] The second syllable means 'red' (the gums are the "red" of the teeth).

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *nikʰæ² | | | `ɳ̍ikʰjæ | ɳ̍i⁵³khæ⁵³ | | when |
| *niu | ɳ̍o↓,ɳ̍oˋ; ɳ̍o⁵⁵ | nɯ⁵⁵ | -ɳ̍i | (te⁵³) ɳ̍y⁵³ | *nəy SUN | day, day's (work) |
| | | | teɳ̍i `mæɕi | te³³ɳ̍y⁵³mæ³³thæ³¹ | | every day |
| *niu¹ | ɳ̍o↓ '~ (polite)'; ɳ̍o⁵⁵ | ɲe | ɳ̍i | ɳ̍y³⁵ | *r-ney-t | have, exist (general/abstract) |
| *niuniu² | | | `ɳ̍yɳ̍y (ndzomɑ) | ɳ̍ʉ⁵³ | | oneself |
| *nini¹ | ɳ̍i⁵⁵ɳ̍i⁵⁵ | ɳ̍i³³ɳ̍i⁵³ | ɳ̍iɳ̍i gɤ | ɳ̍u⁵³ɳ̍i⁵³ | | few / little |
| *njonjo² | ɳ̍o↓ɳ̍oˋ; ɳ̍o³³ɳ̍o⁵⁵ | nu³³nu⁵³ ?? | | ɳ̍u⁵³ɳ̍u⁵³ | *now | soft |
| *ɣeniu/ɣoniu¹ | vɛ⁵⁵ɳ̍o⁵⁵ | `ɣɯɲi~`gɯɲi; wo³³nu⁵³ | ɣweɳ̍i, ɣʉɳ̍i | ɣuo³³ɳ̍u⁵³ | *ril ≍ *rul | intestine |
| *æniu¹ | ɑ⁵⁵ɳ̍o/a⁵⁵ 'mother-in-law' | | `æɳ̍i | æ³³ɳ̍ʉ⁵³ | | aunt |

# 3.5 Retroflexes

## 3.5.1 Affricates

The retroflexes across Lizu correspond straightforwardly, but in Ersu these seem to correspond to two separate series: retroflexes and alveopalatals. Compare, e.g. 'six' with 'sweet', 'grind' with 'sour', 'wok' with the first syllable of 'letter/book', and 'ghost' with 'skirt':

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tʂʰu² | tʂʰuˀ꜒; tʂhu⁵⁵ | tʂhu⁵³ | ˋtʂʰʉ | tʂhu⁵³ | *d-kruk | six |
| *detʃʰiu¹ | tʃho⁵⁵ | | ˋdetʂʰɨ | de³³tʂhu⁵³ | *kyəw | sweet |
| *dʑe¹ | dʑɛ⁵⁵ | | dʐɤ | ŋe³³dʐu⁵³dʐu³¹ / dʐɯ³¹ | *kriːt | grind |
| *detʃew¹ | tʃɛ⁵⁵ | dɐ³³tʂu⁵⁵ | detʂɤ | de³³tʂu⁵³ | *s-kyuːr ⋇ *s-kwyaːr | sour |
| *dʑiu¹ | dʐoˀ꜒; dʐo⁵⁵ | ˋdʐɭ | ˋdʑɨ | dʐɯˌ³⁵ | | wok (large, iron) / pan |
| *ndʒiundʑi¹ | **dʐo꜒ndʐɭ꜒; ndʐo⁵⁵ndʐɭ⁵⁵** | | **ndʑɨdʑi** | **dʐɯ³³ndzi⁵³, dʐɯ³³ndʑi⁵³** | | letter, book |
| *tʂʰæ¹ | tʂʰʌ꜒; tʂha⁵⁵ | | tʂʰæ | tʂhæ⁵³ | | ghost / spirit |
| *(n)tʃʰæ | ntʃhɑ⁵⁵ | | | tʂhæ⁵³ | | skirt |

Unfortunately the Qingshui and Zeluo forms disagree in some instances (e.g. 'letter, book' above); for such cases it seems least objectionable to prefer the Zeluo forms, which in general seem to be more reliably transcribed.

I have separated out the roots that have alveopalatal cognates in Ersu and listed them in a section of their own (section 3.6.2 below). The PTB forms suggest that the alveopalatals may descend from earlier clusters with -y-, whereas the retroflexes descend from clusters with -r- medials.

Sūn (1982b:243) notes that there is not only a difference in place of articulation between the Ersu retroflexes and alveopalatals, but also a difference in manner: Ersu retroflex affricates have a "relatively strong stop component", i.e., they are close to retroflex stops in their pronunciation. This phonetic fact would be consistent with the idea that the Ersu retroflexes descend from -r-clusters, since the same change (velar or bilabial stop + -r- > postalveolar stop) happened in, e.g., Lhasa Tibetan and Central Chin languages; and similarly, palatalized stops tend to become affricates cross-linguistically.[33]

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[33]It is also interesting to note that some modern Mandarin loanwords into Ersu that have retroflex affricate initials in the donor language are borrowed as alveopalatal affricates—it seems that affricate-ness outranks retroflexion/place of articulation for these loanwords. For example, 'county head' ɕã³³tʃã⁵⁵, cf. Standard Mandarin *xiànzhǎng*, where the second syllable is retroflex, is borrowed with an alveopalatal initial; on the other hand, the first syllable of **tʂə̃³³fu⁵⁵** 'government' (Standard Mandarin *zhèngfǔ*) is borrowed with a retroflex initial.

## Retroflex Affricates

Voiceless aspirated:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tʂʰæ¹ | tʂʰʌˋ; tʂhɑ⁵⁵ | | tʂʰæ | tʂhæ⁵³ | | ghost / spirit |
| *tʂʰɑ/tʂʰi² | | | ˋtʂʰɑ ??? | tʂhŋ⁵³ | | bed |
| *detʂʰe | | | ˋdetʂʰɤ | (tshŋ⁵³) de³³mæ⁵³tʂhŋ⁵³ chɛ < *kyim/kyum | cf. Lahu | flavorful |
| *(n)tʂʰo¹ | ntʂho⁵⁵ntʂho⁵⁵ | dɤ³³tʂho⁵³ | tʂʰɨtʂʰo | | *m-krak, PLB *m-prak^H | scratch |
| *detʂʰu¹ | | | detʂʰʉtʂʰʉ | de³³tʂhu⁵³ | | mix / blend / mingle |
| *tʂʰu² | tʂʰuˋ; tʂhu⁵⁵ | tʂhu⁵³ | ˋtʂʰʉ | tʂhʉ⁵³ | *d-kruk | six |
| *tʂʰwæ | | | ˋtʂʰwæ 'water tank' | tʂhuæ³³ɦæˑ³⁵-dʐu³³gu⁵³ | | vat / jar |
| *tʂʰe¹ | tʂho⁵⁵ | (maɹ³³) tʂhɯ⁵³ | tʂʰɤ | (me³³ndæ⁵³) tʂhɯ⁵³ | | shoot, fire a shot |
| *tʂʰe¹ | tʂʰoˋ; tʂho⁵⁵ | | tʂʰɤ 'voice' | tʂhɯ³⁵ | cf. Lahu khɔ̂ < *kraŋ | sound |
| *tʂʰe | | | tʂʰɨtʂʰɤ 'wall off' | tʂhɯ⁵³dʐʉ⁵³ | *kram | fence (bamboo / twig) |

Ersu 'scratch' has unexpected prenasalization.

Voiceless unaspirated:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *letʂu¹ | lɛ³³tʂu⁵⁵ | | lʉtʂʉ | le³³tʂu⁵³ | MC draewk 鐲, Mand. zhuó | bracelet |
| *tʂu¹ | tʂu⁵⁵ | | tʂʉ | tʂʉ⁵³ə˥⁵³ | *s-krul | sweat |
| *batʂa/butʂa | pʌˋtʂʌˋ; ba³³tʃɑ⁵⁵ | | bʉtʂɑ | | | knife |

Voiced:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *nedʐæ¹ | nɑ⁵⁵dʐɑ⁵⁵ | nedʐæ | ˋnedʐæ | ne³³dʐæ³⁵, ne³³dʐæ⁵³ | *k/gla-k/y/t | drop / fall |
| *dʐiu¹ | | dʐe | dʐɨ | dʐu³³dʐu⁵³ | | have, exist (container) |
| *dedʐu¹ | dʐu⁵⁵ | | dedʐʉ | de³³dʐʉ⁵³ | | dry |
| *nedʐu | | | ˋnedʐʉ | ne³³dʐʉ⁵³ | | puncture (sthg.) |
| *dʐe¹ | dʐɛ⁵⁵ | | dʐɤ | ŋe³³dʐu⁵³dʐu³¹ / dʐɯ³¹ | *kriːt | grind |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *dʐe | -dʐɛ, -dʐi; dʐɛ⁵⁵ | -dʐe | -dʐɤ | (te⁵³)dʐɯ⁵³ | *dzum ≍ *tsum | pair |
| *dʑiu¹ | dʐoˀ˥; dʐo⁵⁵ | `dʐɻ̩ | `dʑɨ | dʐɯˈ³⁵ | | wok (large, iron) / pan |
| *dʐwɑ | | dʐɑ³³le⁵⁵ | | dʐua⁵³le⁵³ | | put in order / arrange |
| *bædʑje¹ | ba⁵⁵dʑɛ⁵⁵ | ba³³dʐɻ̩⁵⁵ | bædʑi | bæ³³dʐɻ̩⁵³ | | money |

'Money' is reconstructed with a retroflex but has a palatal initial in Mn. The Mn. form has an [-i] rhyme, but it cannot be reconstructed with **\*-i** because that would yield an apical vowel after retroflexes. Thus, it is reconstructed with the **\*-je** rhyme. See also p. 24 for forms reconstructed with complex **\*-rj-** medials after bilabial initials.

Prenasalized (voiceless):

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *mæntʂʰew | | | `ɣʉmæ `mæntʂʰɤ | mæ³³**ntʂhʉ**⁵³ | | pregnant |
| *ntʂʰɑ | | | ntʂʰɑ 'play inst.' | ntʂha⁵³ | | blow (the trumpet) |
| *ntʂʰæntʂʰæ² | jʌˋ**ntʂʰɛˀ˥**; jɛ³³**ntʂhɛ**⁵⁵ | | **ntʂʰintʂʰæ**, **ntʂʰæ** gɤ | **tʂha⁵³ntʂha⁵³** | | clever |
| *ntʂʰe¹ | | | -ntʂʰɤ | (te³³) ntʂhɯ³¹ | | handful (of rice) |
| *ntʂʰe | | | ntʂʰɤ 'pull out' ??? | te⁵³ntʂhɯ⁵³ | | grab / seize / catch |

Prenasalized (voiced):

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *dendʑew¹ | | | dendʑɤ | de³³ndʐu⁵³ | | slippery (road) |
| *ndʑe² | dɛˋldʐʌ√ (perf.); ndʑɛ³³ | ndʐɯ³³ndʐɯ⁵³ | `ndʑɤ | ndʐɯ⁵³ndʐɯ⁵³ | | sew (up) |

Preaspirated:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *htʂomo² | **ʂo⁵⁵**mo⁵⁵ | | `**ʂtʂo**mo | **ʂɻ̩**⁵³mu⁵³ | *kraŋ | strength (physical)[34] |
| *htʂew | | | ʂtʂɤ | ʂu⁵³ | | dare |

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[34]The forms here assume an earlier **s-** prefix. Cf. WT **(m)khraŋ** 'hard, solid, firm', with evidence for a nasal prefix.

## 3.5.2 Retroflex fricatives

Most retroflex fricatives have simple correspondences across Ersuic. Nq. has undergone a [ʂɿ] > [xɯ] change, as evidenced by 'blood' and 'die'.

At least one of the PTB sources for the voiceless retroflex fricative seems to be **\*s + r** clusters.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *mbuṣew | | bu³³ṣu⁵⁵ | `dembʉṣɤ | nbu³³ṣu⁵³ | | shy / bashful |
| *ṣa | | | ṣa | | *sywar SCATTER | pour (water)[35] |
| *ṣa | ṣɛ˅ṣɛ˅; ja³³ṣɛ⁵⁵ | ṣa³³ṣa⁵³, ṣɐ³³ṣɐ⁵³ 'far' | pæṣa, ṣiṣa | ṣa⁵³ṣa⁵³ | *s-riŋ | long |
| *htʃæ/ṣæ¹ | xtʃʌ˥; htʃa⁵⁵ | | `ṣiṣæ | ʂɿ³³ṣæ⁵³ | PLB *x-ra¹ ? | search, look for |
| *ṣæpʰo/ṣopʰo¹ | ṣo˥pʰɛ˥; ṣo⁵⁵phɛ⁵⁵ | | ṣapʰo | ṣæ³³phu⁵³ | | front |
| *ṣe¹ | sɛi˥; ʂɿ⁵⁵ji⁵⁵ | `ṣe; ṣe⁵³ | | ṣe³⁵ | *sram | otter |
| *ṣinwa | ʂɿ³³nua⁵⁵ | | | ʂɿ³³nua⁵³ | | mole |
| *ṣi² | ʃɿ˥; ʂɿ⁵⁵ | | `vʉli ṣi, tɕe ṣɨ | ʂɿ⁵³ | *si(y) | comb (v.) |
| *ṣewmæ¹ | ṣɛ³³ | ṣe³³mi⁵³ | ṣɤmæ, ṣɤ | ṣu³³mæ⁵³ | *s-r(y)ik, *s-row NIT | louse |
| | ṣɛ³³tsɛ³³ | | | ṣu³³pe⁵³tshe³¹ | | nit |
| *ṣu | | | `ṣʉ | ṣu³³me⁵³ | | torch |
| *ṣu¹ | | | ṣʉ | ṣu³³su⁵³ | | guard / defend |
| *ṣiu¹ | ṣo˅; ṣo⁵⁵ | `ṣe; xɯ⁵³ | `ṣɨ | ṣu³⁵ | *s-hywəy | blood |
| *tʰeṣiu¹ | ṣo⁵⁵ | thɯ³³xɯ⁵³ | `kʰeṣɨ | the³³ṣu⁵³, thu⁵³ṣu⁵³ | *səy | die, dead |
| *ṣo¹ | ṣo⁵⁵ | | | hĩ³³ṣu⁵³ | | dew |
| *ŋeṣu¹ | ŋɛ⁵⁵ṣu⁵⁵ | | | ŋe³³ṣu⁵³ | | rescue / save |
| *ṣiu¹ | ṣu⁵⁵ | | `ṣikʰwakʰwa | de³³ṣʉ⁵³ | | yellow < yi? |
| *ṣwa | | `ṣwa | | ṣua³³nphʐi⁵³ | | mosquito (relatively small) |
| *ṣo(ji)hĩ¹ | ʃo⁵⁵i⁵⁵xi⁵⁵ | | `ṣohĩ | ṣu³³hĩ⁵³ | | year before last |
| *ṣoniu² | ʃo⁵⁵n̩o⁵⁵n̩o⁵⁵ | | `ṣʉnkʰo `ten̩i | ṣu⁵³n̩ʉ⁵³ | | day before yesterday |

For some reason the Ersu morpheme **ʃo** for 'the one before the last' (e.g. 'day before yesterday', 'year before last') has an alveopalatal initial where Lizu has a retroflex. One may be tempted to

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[35]The TBL form for 'pour' is **ne³³qa⁵³sʉ³¹** (the first syllable is a directional prefix, and the last syllable is a causative suffix). Since **q-** is not in the phonological inventory of TBL, one may be suspicious that it may be a typo for **ṣ-**; however, **q-** may simply be an allophonic variant of **k-**, since Huáng and Rénzēng (1991:144) cite the form **the⁵⁵ka⁵³** 'splash (water)', also with a dorsal initial.

reconstruct *alveopalatal here, but this turns out to be incompatible with the *alveopalatal series which will be reconstructed below (next page). For now I will leave this morpheme unexplained, as it is the only example of this correspondence (except for Ersu 'search', but the preaspirated initial adds an extra complication in this case.)

There are a small number of cognates with voiced retroflex fricatives. Unlike its voiceless counterpart, the PTB origin of this initial is unclear; for reflexes of PTB initial **r-**, see section 3.9.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|------|---------|-----|-----|-----|-------|
| *ʐɿu² | ʐo˩; ʐo³³ | `ʐe; tʂʅ⁵³ ??? | `ʐɨ | ʐu³⁵ | *b-ləy | four |
| *ʐu¹ | | | ʐʉ | ʐu³⁵ | PLB *s-yəy² | grass |
| *ʐɿudu² | **ʐo³³bu⁵⁵** | | | **ʐu⁵³du⁵³** | | square / rectangular |
| *ʐwæʐwæ | | | ʐʉʐwæ | te⁵³ʐuæ⁵³ʐuæ³¹ | | rinse (the mouth) |
| *ʐuʐu² | ʑɛ˩ʑɛ˩ ??;<br>ʐu³³ʐu⁵⁵ | | `ʐʉʐʉ,<br>`pæʐʉ | vu⁵³vu⁵³ ?? | | narrow |

## 3.6   *Alveopalatals

### 3.6.1   Fricatives

The following set gives us evidence for reconstructing a fourth set of sibilant fricatives, in addition to the dental, palatal, and retroflex sibilants reconstructed above. The reflexes of this series, which I reconstruct here as *ʃ and *ʒ, are retroflex in all daughter languages except Mn., where they have become velar fricatives. Before a high back vowel, a further change, [x] > [f], occurred in this dialect. Also, note that in Nq. there is variation between a retroflex and a palatal initial for 'meat', and the form for 'highland barley' has only a variant with a palatal initial. Also note that the forms here in Nq. do not undergo the [ʂʐ] > [xɯ] change mentioned above for the retroflex fricatives, giving us a relative chronology: in Nq. [ʂʐ] > [xɯ] before [ʃʂ] > [ʂʐ].

It appears that PTB origins of this set are palatal fricatives, which is neatly demonstrated by the minimal triplet MEAT, CLEAN, and IRON.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ʃæ¹ | ʂʌˀ; ʂa⁵⁵ | ʂa⁵⁵ | xjæ | ʂæ⁵³ | | wheat |
| *ʃæ | | | (de)xjæ, xæˀ | (dʐu⁵³)ʂæ⁵³ji³¹ | | fetch / draw (water) |
| *ʃi² | ʂʐˀ; ʂʐ⁵⁵ | ʂʐ⁵³, ɕi³³ | `xɤ | ʂʐ⁵³ | *sya | meat |
| *deʃo | | | `dʑɨ `dexo | de³³ʂu⁵³ | PLB *C-sipᴸ | thirsty |
| *ʃoʃo¹ | ʂoˀʂoˀlʌˀlʌˀ; ʂo⁵⁵ʂo⁵⁵ | `deʂu | `xuxo | ʂu³³ʂu⁵³ | *syaŋ | clean |
| *ʃje¹ | ʂɛ⁵⁵ | `ʂe; ʂɯ⁵³ | xje | ʂɯ⁵³ | *syam | iron |
| *ʃu¹ | | | fɰ | (ʐʐ³³/ɣɯɹ³³)ʂu⁵³ | | guide, lead (the way) |
| *ʃu² | ʂu³³ | ɕu⁵³ | `fɰpəˀ | ʂu⁵³ | | barley (highland) |
| *ʃu² | ʂu⁵⁵ | | `wæˀ fɰ | khe⁵³ʂu⁵³ | | marry (a woman) |
| *ʒje¹ | ʐʐˀ; ʐɛ⁵⁵ | | ɣiɣje 'climb' | ʐʐ³³ʐʐ⁵³ | | crawl (of insects) |
| *tʰekiʃi¹ | (thɛ⁵⁵)ɬi⁵⁵ ? | thɐ³³tɕhi⁵⁵ɕi³³ | kiɕi | the³³kɯ⁵³ʂɯ⁵³ | | hide (sthg.) |

Note that there is only one example of a voiced *alveopalatal ('climb/crawl'), forming a minimal pair with 'iron'.

The forms for 'hide' are included here since they seem to fit best here, even though the initial is not a palatal/retroflex (or velar, in Mn.) fricative; perhaps there was a change of [x] > [ɕ] / _ [i] in Mn. (note that there are no full (that is, non sesquisyllabic) syllables of the form [xi] or [ɣi] in Mn.). The Ersu form appears similar, but with a voiceless lateral initial, it may not be related.

### 3.6.2   Affricates

As noted above (section 3.5.1), there are a number of roots which have alveopalatals in Ersu corresponding to retroflexes in Lizu, which I reconstruct with *alveopalatal initials here.

Plain stops (voiceless aspirated, unaspirated, and voiced):

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tʃʰiujo² | tʃhŋ³³ji³³ | | `jotʂʰɨjo, jotʂʰɨjo | tʂhu³³ju⁵³ | | orphan |
| *tʃʰiumæ | | | `mozo tʂʰɨmæ | tʂhu³³mæ⁵³ | Lahu mɛ̂-chɔ̂-ma < *kyəw | widow |
| *netʃʰiu¹ | tʃho⁵⁵ | | | ne³³tʂhu⁵³ | | rot |
| *detʃʰiu¹ | tʃho⁵⁵ | | `detʂʰɨ | de³³tʂhu⁵³ | *kyəw | sweet |
| *tʃʰiu² | tsʰoˋmiAˋ; tʃho⁵⁵mia⁵⁵ | | `tʂʰɨ- | tʂhu⁵³ pɯ⁵³ | | how many |
| *tʃæ¹ | tʂA; tʃa⁵⁵ | dɐ³³tʂe⁵³ | | tʂæ³¹, ŋe³³tʂæ⁵³ | | chase after, drive out / expel |
| *tʃew¹ | tʃo⁵⁵ | tʂu⁵³ | `tʂɤ | khe³³tʂu⁵³ | *s-glak ⋇ *klak | cook / boil |
| *detʃew¹ | tʃɛ⁵⁵ | dɐ³³tʂu⁵⁵ | detʂɤ | de³³tʂu⁵³ | *s-kyu:r ⋇ *s-kwya:r | sour |
| *ndʒew | | | ndzɤ | de⁵³ndzu⁵³ | *kyi:n | weigh (v.) |
| *dʒiu¹ | dʐo⁵⁵ | `dʐe; dʐ̩⁵⁵, dʐu³³khu⁵³ 'river' | dzɨ | (n)dzu³⁵, dzu³⁵ | *m-t(w)əy | water, river |
| *dʒwa¹ | dʒAˋ; dʒa⁵⁵ | dzuæ | dza | dzua³¹ | | have, exist (movable) |
| *tʃwapu¹ | | | tʂapʉ | tʂua³³pu⁵³ | *kyak | navel |

Prenasalized (both voiceless and voiced):

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ntʃʰiu¹ | ntʃho⁵⁵ | tshŋ³³pu⁵³ | ntʂʰɨ | tʂhŋ³⁵ | | thorn / splinter |
| *ntʃʰew¹ | ntʂʰɛˋ; ntʃhɛ⁵⁵ | tɕhə³³pi⁵³, tɕhə⁵³ ?? | ntʂʰɤ | (n)tʂhu⁵³ | | rice (uncooked) |
| *ntʃʰi/ntʃʰe¹ | ntɕhi⁵⁵ | tʂhi⁵³ | (əˠkʰo) ntʂʰɤ | tʂhɯ³⁵ | | gnaw / nibble |
| *ntʃʰiu² | ja³³ntʃhɛ⁵⁵ | | `ntʂʰɨ-, kʰentʂʰa ? | tʂhu⁵³ntʂhu⁵³ | | fast / quick / early |
| *ndʒelje¹ | ndʒɛ⁵⁵li⁵⁵ | | `ndzɨʃte gɤ, `neʃti gɤ | dzɯ³³li⁵³ | | believe / trust |
| *ndʒiundʑi¹ | dzoˋndʐ̩ˋ; ndʐo⁵⁵ndʐ̩⁵⁵ | | ndzɨdʑi | dzɯ³³ndzi⁵³, dzɯ³³ndʑi⁵³ | | letter, book |

Note that Nq. 'thorn' and 'rice' have non-retroflex initials here, and and Ersu 'gnaw' has a palatal instead of alveopalatal initial.

Preaspirated:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *htʃiu² | htʃo³³re⁵⁵, htʃo⁵⁵ | ʂe; tʂ̩⁵³ | `ʂtʂɨ | ʂu³⁵ | *kləy | feces |
| *htʃiukra² | htʃo³³tʂɛ⁵⁵ | | `ʂtʂɨkæˠ | ʂu³³ka⁵³ | | fart |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *htʃew¹ | htʃɛ⁵⁵ | | ʂtʂɤ | khe³³tʂu⁵³ ?? | | catch / grab / hold |

There are also a number of forms where Mn. palatal affricates correspond to retroflexes in other Lizu dialects. Most of these correspond to alveopalatals in Ersu, as with the above sets.[36] These forms seem to be in complementary distribution with those forms above which have retroflexes across all Lizu dialects. The sets below have only a limited number of vowel correspondences: Mn. **-i**: TBL **-ɻ**; **-y:-u**; **-o:-u**; and **-ɑ:-æ**.[37] These vowel correspondences do not appear where we have (Mn.) retroflex: (TBL) retroflex correspondences above. In terms of *rhymes, the above items are reconstructed with **\*-iu, \*-ew, \*-wɑ, \*-e**; whereas the items below are reconstructed with **\*-i, \*-u, \*-o, \*-A** (see next chapter).

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tʃʰi | tʃʰɻ˩ | (sa³³phu⁵⁵) tʂʰɻ⁵³ | | ne³³tʂʰɻ⁵³ | | cut (meat) |
| *tʃʰitʃʰi¹ | tʃʰɻ⁵⁵tʃʰɻ⁵⁵ | | tɕʰitɕʰi | ɕæ⁵³tʂʰɻ⁵³ 'move (house)' | *m-kyit | move |
| *ntʃʰi² | | tʂʰɻ⁵³ | `ntɕʰi | ntʂʰɻ⁵³ | | kill / slaughter (an animal) |
| *ngeso/ndʒiso¹ | **ngɛ³³so⁵⁵** | | **ndʑisʉə¹** | **ndʐɻ³³suo⁵³** | | day after tomorrow |
| *ndʒihĩ² | **ndʒɻ³³xi⁵⁵** | | **ndʑi hĩ** | **ndʐɻ⁵³hĩ⁵³** | | year after next |
| *tʃʰu¹ | tʃhu⁵³ 'open (door)', tʃhɻ⁵⁵ 'open (lid)' | `tʂʰv | | de³³tʂhu⁵³ | | open |
| *tʃʰulje¹ | tʃhu⁵⁵li⁵⁵ | `tʂʰv 'earth' | tɕʰyli | tʂhʉ³³ly⁵³ | | mud |
| *tʃʰu¹ | tʂhu⁵⁵ 'dirty' | nentʂʰu | tɕʰyli 'mud' | tʂhʉ⁵³ | | muddy / turbid |
| *gætʃu¹ | | | gjætɕy | gæ³³tʂʉ⁵³ | | monkey |
| *dʒu | | | -dʐy | dʐʉ³⁵ | | hair / down[38] |
| *dʒu¹ | dʒu⁵⁵ | | dʐy '(lower) back' | dʐʉ³⁵ | *gyuk | waist |
| *dʒu² | dʐɻ³³mo⁵⁵ | | | dʐʉ⁵³lʉ⁵³ | | goose (wild) |
| *dʒumæ¹ | dʒu⁵⁵ma⁵⁵ | | | dʐʉ³³mæ⁵³ | | fox |
| *ndʒu | ndʒu³³khuɑ⁵⁵ | | | dʐu³³khæ⁵³ | MC drjoH 箸 | chopsticks[39] |

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[36]The form 'year' also has a palatal/retroflex correspondence, but it seems to descend from a dental stop. See section 3.2.2. Similarly, a number of forms with palatals in Mn. but retroflexes in TBL are reconstructed with **-rj-** medials; see p. 24.

[37]The low front vowel in Mn. **dʑæɳy** 'breast' is due to vowel harmony. Cf. **`ɕæɳæ** 'miserable', where we expect the first syllable to be **ɕɑ**, but the vowel is fronted because of the vowel in the second syllable.

[38]Lahu actually has a triplet here, **jɨ ~ cɨ ~ yɨ** < **\*(n)(d)zip**.

[39]The MC word for 'chopsticks' is not in Baxter and Sagart (2011), but the homophonous 除 'pass away' is (in this case the Mandarin reading is **zhù**, not **chú**).

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *netʃʰo¹ | | | netɕʰo | ne³³tʂhu⁵³ | | pull down (a house), untie |
| *(xwɑjo)ntʃʰo¹ | xuɑi⁵⁵ntʂhɛ⁵⁵ | | xɑjo ntɕʰo | xua³³ntʂhɨ⁵³ | *kʷəy ? *(t)si/up? | nest (bird) |
| *mentʃʰo² | mɛˋntʃʰɛˋ; mɛ³³ntʃhɛ⁵⁵ | `mentʂho | | | *r-may ⋊ *r-mey ⋊ *r-mi | tail |
| *nedʒo¹ | | | nedʑo | ne³³dʑu⁵³ | | collapse / fall down |
| *dʒo¹ | dzoˋ; dʒo⁵⁵ | dʑu | dʑo | dʑu⁵³ | *m-dzyaŋ | have, exist (animate) |
| *ndʒo¹ | ndʒo⁵⁵ | ndʑu | ndʑo | | | know how to, be capable of |
| *ndʒo² | ndʒo³³khuɑ³³dzɻ³³ʂɛ⁵⁵ | | `ndʑowɑ, `ndʑowæˑ | ndʑu⁵⁵dzɻ⁵⁵ | | noon |
| *tʃʰatʃʰa¹ | tʂʰʌˋtʂʰʌˋ; tʃhɑ⁵⁵tʃhɑ⁵⁵ | tʂʰætʂʰæ | `tɕʰatɕʰa | tʂhæ³³tʂhæ⁵³ | | magpie |
| *kætʃa | | | `kjætɕa | ku³³tʂæ⁵³ | | squirrel |
| *(n)tʃʰæ | ntʃhɑ⁵⁵ | | | tʂhæ⁵³ | | skirt |
| *dʒaniu¹ | ȵo⁵⁵ȵo⁵⁵ | dʑæ³³nɨ⁵³ | dʑæȵy | dʑæ³³nɨ⁵³ | *nəw | breast, milk |
| *dʒa¹ | | dʑa | dʑa | dʑæ³⁵ | WT ja | tea |
| *sundʒa² | suɑ³³ndʑɑ⁵⁵ | | `sūdʑa | (suo⁵³)ndʑæ⁵³, su⁵³ndʑæ⁵³ | Mand. 算账 suànzhàng ? | count (numbers), calculate |
| *dʒwæ | dzuɑ⁵⁵ | | -dʑa ? | (te³³)dʐuæ³¹ | *m-twa | span (thumb to finger) |

Ersu 'dirty' lacks prenasalization which is evident in Kl.

Note that under the present analysis, the *alveopalatal fricatives develop into retroflexes in Ersu but the affricates of the same proto-place of articulation do not.

# 3.7   Velars

The development of Ersuic velars is perhaps the most complicated of all the places of articulation. While the same manner contrasts are reconstructed as for other places of articulation, the picture is complicated by changes in place (due to -r- in the rhyme) and manner ([g] > [ɣ] in various environments) which overlap with original Proto-Ersuic retroflexes, velar fricatives, and **\*r**. Thus, the cognate sets in this section are presented in a slightly different order to facilitate comparison with retroflexes and fricatives.

## 3.7.1   Velar Stops + r > Retroflexes

A number of forms have retroflexes which descend from earlier velar + -r-, as evidenced by Nq. and TBL. The likely PTB roots/PLB comparanda also show evidence of velar + r clusters.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *kriu(ju)[1] | tʂo↓; tʂɻ⁵⁵tʂo⁵⁵ | | ˋtʂɨjy | kəɹ³³jy⁵³ | | frost |
| *kri[1] | tʃɹˈ; tʂɻ⁵⁵ | ˋtʂɻ; kəɹ⁵⁵ | ˋtʂitsʰe | kəɹ³⁵ | PLB *ʔgrəy[1] | star |
| *kriu² | tʂo⁵⁵ | ˋtʂɻ | ˋtʂɨ | kəɹ⁵³ | *krəy, PLB *ʔgrəy[1] | gall bladder |
| *dekri | | deʐ³³kəɹ⁵³ | ˋdetʂitʂɨ | deʐ³³dʐɻ⁵³ | *m-tsik ? | itch |
| *kri[1] | tʂɻ⁵⁵ | khə³³kuɹ⁵³ | ˋtʂɨ | neʐ³³tʂɻ⁵³, tʂɻ⁵³ | | bite |
| *tʰegri[1] | | theʐ³³**dʐɻ**⁵³, theʐ³³**keɹ**⁵³ | kʰe**dzɨ** | theʐ³³**dʐɻ**⁵³ | *gra | hear |
| *ŋgriupje[1] | **ndzo**⁵⁵pi⁵⁵ | **ndzɻ**; **ngəɹ**³³phi⁵³ | ˋ**ndzɨ**pi; ʃtɤpe-ˋ**ndzɨ**pi 'lip' | nga ̣³³pi⁵³, **n-gə**³⁵; ku⁵³pe⁵³ **nga**³³pi³¹ 'lip' | PLB *m-k-rəy | skin |

When comparing with extra-Ersuic languages, it is important to keep in mind that there may be more forms that belong in this set but are hiding in the retroflex sections above because of lack of evidence in Nq. or TBL. Note that velar initials are only preserved when the Proto-Ersuic rhyme is **\*-i** or **\*-iu** (see section 8.2.3).

In addition to these, there are several items where Ersu has gone a step further, developing retroflexes where Lizu retains velars. This is the case for 'catty', 'pestle', 'shake', and 'tile' below. Notice that besides 'tile', Mn. retains *-r- as rhotacization on the vowel in these forms.

There are also some forms ('speech', 'exchange') where Ersu has developed alveolar affricates. The remaining forms show Ersu retroflex fricatives corresponding with Lizu velar fricatives; these seem to have developed under the influence of the **\*-ui** rhyme (see section 4.2.8).

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *krɑ | -tʂɛˋ˥; tʂɛ⁵⁵ | | -kæˈ | (te³³) ka³¹ | | catty (=1/2 kilogram) |
| *-ŋgrɑ² | tsu³³**ndzɛ⁵⁵** | | ˋla**ŋgæ**ˈ | luo³³**nga**⁵³ | | pestle |
| *ŋgrɑŋgrɑ¹ | ndzɛ³³ndzɛ⁵⁵ | ˋnɢˤɑnɢˤɑ | ŋgɤŋgæˈ | nga³³nga⁵³ | | shake / shiver |
| *ŋgo² | dʒɿˋ ?; ndzu⁵⁵? | | ˋŋgolo | guo⁵³luo⁵³ | | tile |
| *gui¹ | dʒɿˋ; dʒɿ⁵⁵ | ˋgv | ˋgʉ, ˋgwe | (te³³) gʉ³¹, gu³³sua⁵³ 'send message' | | speech, phrase, words |
| *deŋgui¹ | dɛˋndʒɿˊ 'change'; ndʒɿ⁵⁵ndʒɿ⁵⁵ | | ŋgweŋgwe, ŋgʉ | ne³³ngu⁵³ngu³¹ | | exchange |
| *ɣuini/ ɣuindzA¹ | ʐɿ³³n̩i³³ | | ɣɤndzɑ | **ɣɯ³³n̩i⁵³ɣɯ³³ndzæ⁵³** | | relatives |
| *ɣuiɣui | ʐɿˋ**ʐɿ**ˋtsʰA˥tsʰA˥; jɑ³³**ʐɿ**⁵⁵ | | **ɣʉɣwe** | | *lway ? | easy |
| *ɣui¹ | ʐɿˋ; ʐɿ⁵⁵ | v; wu³⁵ | (ɣ)we, vʉ | vu³³ji⁵³ 'go buy' | *rey | buy |
| *deɣui¹ | ʐɿˋ; ʐɿ⁵⁵ | ˋkʰev | ˋde(ɣ)we, ˋdevʉ | de³³vu⁵³ | *gwa-n | wear (a garment) |
| *xui¹ | ʂɿ⁵⁵ma⁵⁵ | ˋfvme; xu⁵³ | ˋxwe | fu³⁵ | *swa | tooth |
| *xui | ʂɿ³³ʂɿ⁵⁵ | | | fu³³fu⁵³ | *s-wa GO | walk |

## 3.7.2 Velar Stops > Palatals

Ersu has developed palatals before rhymes with high front vowels. The items in which this occurred have been collected below:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *kʰje¹ | tɕʰiˋ˥; tɕhi⁵⁵ | khe⁵⁵ | (kʰe)kʰje | khe³⁵ | | give |
| *meŋkʰje | mɛ⁵⁵ntɕhi⁵⁵ | ˋmentɕʰe | | te⁵³me⁵³nkhi³¹ | | ask / question |
| *gje² | ŋuaˈ³³dʑi⁵⁵ 'pen' | -dʑe | degje le | (tshe⁵³n̩u⁵³) khe³³gi⁵³ | | pen in (sheep) |
| *gjegje | dʑi⁵⁵dʑi⁵⁵ | | | gi⁵³gi⁵³phu³¹ | | horizontal |
| *gje¹ | dʑiˊ; dʑi⁵⁵ | | ˋgijo | gi³⁵ | | jar (earthen) |
| *ŋgje² | vu³³ndʑi⁵⁵ | | ˋŋgi | ngi³⁵ | *m-kum ⪤ *m-kim | pillow |
| *ŋgi¹ | dzɿˊ; ndzɿ³³ | ngi⁵³ | ŋgje | ŋgi³⁵ | PLB *g-ra² ? | buckwheat |
| *ŋgi | jɑ³³ndzɿ⁵⁵ | | ˋdeŋgi | | | difficult, hard |
| *megi² | mɛ³³dzɿ⁵⁵ | ˋmedʑe | ˋmegje | me³³gi³⁵, me⁵³gi⁵³ | *gle:k | thunder |

The last three forms have undergone a further change of palatal > dental affricate. This is due to

the contrast between the **\*-i** and **\*-je** rhymes (see section 4.4).

## 3.7.3 Preaspirated Stops

A preaspirated velar stop is supported by the forms in Ersu and Mn.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *hko¹ | xkuˀ 'hatch' | | xko | ŋo³³kuo⁵³læ³¹ | | appear, come out |
| *hke¹ | hkɛ⁵⁵ | pẽ³³nbi⁵⁵khɯ³³ | dexkɤ, koxkɤ | pi⁵³nbī⁵³ khe³³kɯ⁵³ | | kneel |
| *hke¹ | kɛˀ; hkɛ⁵⁵ | `kɯ | xkɤ 'hawk' | kɯ³³nua⁵³ | | eagle / hawk |
| *hke | hkɛ⁵⁵ | -kɯ | -xkɤ | ne³³kɯ⁵³ 'break, snap' | | half |
| *hkui¹ | **hku⁵⁵** | | **xkwe** 'herd' | zuo³³ŋuo⁵³ **ku⁵³** | | herd, put out to pasture |
| *hkwohkwosʉ¹ | | | xkoxkosʉ | ku³³ku³³sʉ³¹ | | beggar |
| *hko¹ | pɛ⁵⁵hku⁵⁵ | `qoqo | xko | | *g/kuŋ, *kor | hole |
| *dexwɑ/ dehkwɑ¹ | dɑ³³xɑ⁵⁵ | | dexkɑ | de³³xuæ⁵³, de³³xua⁵³ | | open |
| *hkwɑ | hkɑ⁵⁵dʑu⁵⁵ 'lean (meat)' | qwɑ | | | | skinny |

The Mn. form for last form above, 'open', supports reconstructing a preaspirated initial, but Ersu and TBL have fricative initials instead of the expected preaspirated (in Ersu) and plain stop (in TBL) initials.

Note that the Nq. form 'kneel' has an aspirated initial, unlike the cognates for e.g. preaspirated bilabials, which are unaspirated.

A highly unusual form is 'rain', where the initial consonants do not pattern with any other cognate sets. I am tentatively reconstructing this form as **\*rgwæ** (with a voiced, **r**-prefixed initial), which can plausibly develop into a plain voiced stop in Ersu, a prenasalized stop in Kl., and a voiced fricative in the other dialects of Lizu. (See also p. 131 for a discussion of the rhymes to motivate the **r-** prefix.) This solution is admittedly a bit ad hoc, but Sūn (1982b) does note that some older speakers of Ersu had preaspirated voiced stops (in addition to the preaspirated voiceless stops) which younger speakers had lost (unfortunately Sūn does not say which specific lexical items had this preaspiration).

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *rgwæ¹ | guɑ³³ | ngwæ; ɣue⁵³ | ɣwæ | ɣuæ³⁵ | *r/g-wa | rain |

### 3.7.4  Prenasalized Stops

Voiceless prenasalized:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *meŋkʰje | mɛ⁵⁵ntɕhi⁵⁵ | `mentɕʰe | | te⁵³me⁵³nkhi³¹ | | ask / question |
| *meŋkʰe² | mɛ³³ŋkhɛ⁵⁵ | me³³nkhɯ⁵³ | `menkʰɤ | me³³nkhɯ⁵³ | *kəw | smoke[40] |
| *meŋkʰwo | | | `menkʰo | me³³nkhu⁵³ | | dark, get |
| *ŋkʰæ¹ | nkhɑ⁵⁵ | tʰenkʰæ; khe⁵³ | nkʰjæ | (n)khæ³⁵ | | sell |
| *ŋkʰwo¹ | nkhuaˑ⁵⁵ | khwe⁵⁵ ??? | nkʰo | nkhu³⁵ | | night, evening |
| *ŋkʰwohke² | | | `nkʰo xkɤ | nkhu⁵³kɯ⁵³ | | midnight |
| *ŋkʰwæ² | nkʰuʌˀ; ŋkhua³³ | `qʰwɑ | nkʰwɑ | (n)khuæ⁵³ | | lake |
| *kʰeŋkʰwæ | ŋkhua³³ | | | khe³³nkhuæ⁵³, khɯ³³khuæ⁵³ | | rust |
| *ŋkʰo¹ | | nqʰu | | to³³nkuo⁵³ji³¹ | | hook |
| *ŋkʰo¹ | nkʰuˀ; nkhu⁵⁵ | nqʰo | | khuo³⁵, no³³nkhuo⁵³ | | lock |
| *ŋkʰwo¹ | ko³³htʃɛ⁵⁵ ?? | nqʰv | nqʰo | khu³⁵, khu⁵³dʑi⁵³ | | silk/satin |

Several of the Kl. forms have uvular initials. These (and other Kl. uvulars) will be discussed in section 3.8 below.

The uvular in Mn. 'silk' is the only example of a contrastive uvular in the language; unfortunately, without further comparative data there is not much more to say about it. The Ersu form for 'silk' lacks prenasalization and aspiration.

The TBL form for 'hook' is inconsistent with the phonotactics of Lizu, which disallows unaspirated voiceless stops when they are prenasalized. It is unclear if the "h" for aspiration was skipped or mistranscribed as "u".

Voiced prenasalized:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *sẽŋgæ¹ | sɭ³³ngua⁵⁵ | | seŋgjæ | sɭ³³ngæ⁵³ | | melon / gourd |
| *seŋgra¹ | | | seŋgæˑ | se³³nga⁵³ | | trunk |
| *-ŋgra² | tsu³³ndzɛ⁵⁵ | | `laŋgæˑ | luo³³nga⁵³ | | pestle |
| *leŋgui² | lɛ³³nguaˑ⁵⁵ | | `liŋgwe | le³³ngu⁵³ | | ring |
| *neŋgwo | | | `neŋgo | (vu³⁵) ne³³ngu³¹ | | lower (the head) |
| *ŋgra² | | `nɢˠɑ | | ngaɹ⁵³ | | kill (a person) |
| *ŋgraŋgra¹ | ndzɛ³³ndzɛ⁵⁵ | `nɢˠanɢˠa | ŋgɤŋgæˑ | nga³³nga⁵³ | | shake / shiver |

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[40]The prenasalization on this form may be due to prefixation of the first syllable SKY of the binome **məw-kəw** SMOKE. See e.g. examples from Mpi in Matisoff (1978a:2.42).

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ŋgæ$^1$ | gʌ˥; ngɑ$^{33}$ | `ngæ | ŋgjæ | ngæ$^{35}$ | *m-ka, Mpi nko | door |
| *ŋgi$^1$ | dzɿ˩; ndzɿ$^{33}$ | ngi$^{53}$ | ŋgje | ŋgi$^{35}$ | PLB *g-ra$^2$ ? | buckwheat |
| *ŋgi$^1$ | ndzɿ˩ | | ŋgje | ngi$^{35}$ | | carry load (pack animals) |
| *ŋgje$^2$ | vu$^{33}$ndʑi$^{55}$ | | `ŋgi | ngi$^{35}$ | *m-kum ⋈ *m-kim | pillow |
| *ŋgi | jɑ$^{33}$ndzɿ$^{55}$ | | `deŋgi | | | difficult, hard |
| *deŋgwo$^1$ | ngo$^{55}$ | ngo | deŋgo | de$^{33}$ngu$^{53}$ | *s-g-ruk | pick up |
| *ŋgo$^2$ | dʒɿ˥ ?; ndzu$^{55}$? | | `ŋgolo | guo$^{53}$luo$^{53}$ | | tile |
| *deŋgui$^1$ | dɛ˥ndʒɿ˩ 'change'; ndʒɿ$^{55}$ndʒɿ$^{55}$ | | ŋgweŋgwe, ŋgʉ | ne$^{33}$ngu$^{53}$ngu$^{31}$ | | exchange |
| *ŋgwæ$^1$ | nguɑ$^{55}$ | | ŋgwɑ | nguæ$^{33}$phe$^{53}$ | | pheasant (long-tailed) |
| *ŋge$^2$ | gɛ˩; ngɛ$^{33}$ | | `ŋgɤ | ngɯ$^{35}$ | *d/s-kəw, PQc s/r/n-gəw | nine |

### 3.7.5   Velar nasal

Most of the correspondences are trivial here, but note the rhinoglottophilic [ŋ] ~ [h] variation in Kl. (and possibly the Ersu form for 'bear'). Mn. has palatalized the velar nasal before /-æ/ (and not /-æ$^1$/!), although we can still tell that these were originally velars from the vowel because forms with earlier palatal nasals have a back vowel (ɲɑ—see section 4.13).

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ŋapʰo$^1$ | tʃɑ$^{33}$ŋɑ$^{33}$ 'under'? | | ŋapʰo 'that side' | ŋa$^{33}$phu$^{51}$ | | lower part / lower reaches |
| *ŋæ$^2$ | ŋʌ˥; ŋɑ$^{33}$ | | `jidenɻæ | ji$^{33}$de$^{53}$ŋæ$^{53}$ | | hungry |
| *deŋrɑ$^1$ | ŋuaˀ$^{55}$ | | deŋæˀ | de$^{33}$ŋa$^{53}$ | *s-ŋ(y)a FISH | stinky, fishy-smelling |
| *ŋrɑ$^2$ | ŋʌˀ˩; ŋuaˀ$^{33}$ | ɦiã; ʑ$^{53}$ ? | `ŋæˀ | ŋa$^{53}$ | *l/b-ŋa | five |
| *ŋæ$^1$ | nɻo$^{55}$ | | nɻinɻæ | ne$^{33}$ŋæ$^{53}$ | | skinny, get thin |
| *xui/ŋui$^1$ | həˀ˥ ?; xaˀ$^{55}$ ? | ŋo~ɦio; ŋue$^{33}$mo$^{53}$ | ŋwe, ŋwemo | ŋu$^{33}$mu$^{53}$ | *d/g-wam | bear (n.) |
| *ŋui$^2$ | ŋʌˀ˩; ŋuaˀ$^{33}$ | `ŋu | `ŋwe | ŋu$^{53}$ | *ŋwa | cattle, cow |
| *ŋuijo | | | `ŋwejo | ŋʉ$^{33}$jʉ$^{53}$ | | calf (common) |
| *ŋuimæ | | | `ŋwemæ | ŋu$^{33}$mæ$^{53}$ | | cattle (common, female) |
| *ŋu$^1$ | | `ŋu~`ɦiu; ŋwe$^{55}$ | ŋʉ | ŋu$^{35}$ | *ŋəw | cry, weep |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ŋui¹ | n̥ʌˈꜜ; ŋuaˈ⁵⁵ | ŋu; ŋu⁵³ | əˈŋwe | ŋu³⁵ | *d-ŋul | silver |
| *ŋo¹ | ŋuəꜜ; ŋ̊⁵⁵ | | (de)ŋo | ŋuo³⁵ | | crow (of cocks) |
| *(rwa)ŋwoŋwo¹ | | | æˈŋo, ŋoŋo, æˈŋoŋo | ɣua³³phe⁵³ ŋɯ⁵³ŋɯ⁵³ | | cockscomb |
| *ŋe¹ | ŋɛꜜ | | ŋɯ, ŋɯbɯlɯlɯ | | | kind of turnip (圆根 yuángēn) |

## 3.7.6 Plain stops

Voiceless aspirated:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *kʰje¹ | tɕʰiꜜ; tɕhi⁵⁵ | khe⁵⁵ | (kʰe)kʰje | khe³⁵ | | give |
| *kʰe | tɕʰiꜜ ? | | dʐ̩ ˋkʰɤ | | *kam (≍ *kaːp) | draw water |
| *mekʰa¹ | mɛ⁵⁵khuaˈ⁵⁵ | mə³³kha⁵⁵ 'cloud' | | me³³kha⁵³ | | rainbow |
| *kʰarV¹ | | | kʰaəˈ | kha³⁵əˈ⁵³ | | walnut |
| *lakʰa/lokʰa¹ | | | lakʰa kʰeæˈ 'get hurt' | luo³³khua⁵³əɹ³¹ 'get hurt' | | wound |
| *dekʰra¹ | dɛꜜtsʰ̩ ??; tʃhi⁵⁵ ?? | de³³**kha⁵⁵** | dekʰæˈ | de³³**kha⁵³** | *b-ka | bitter, salty |
| *kʰækʰæ¹ | | | kʰikʰjæ | khæ³³khæ⁵³ | | separate, other |
| *kʰæ | | khɛ⁵⁵ | kʰjæ | khæ⁵³ | Lahu qha < *ka | rice (cooked) |
| *pʰukʰæ² | | | ˋpʰɯkʰjæ | phu⁵³khæ⁵³ | | fortune / luck |
| *kʰwo¹ | kho⁵⁵ | | ˋkʰo | khu³¹ | | dry (clothes) in the sun |
| *kʰwo¹ | kho⁵⁵ | | ˋjotɕa kʰo | | | make the bed |
| *kʰuija | | | ˋ**kʰwe**ja, ˋ**kʰwæ** | khu³³jæ⁵³ | | under |
| *kʰepʰe/ kʰupʰo¹ | **kʰɛɹpʰɛꜜ**; **khe⁵⁵phɛ⁵⁵** | ˋ**kʰvpho** | **kʰɤ**pʰo | **khu³³phu⁵³** | Lahu qhɔ < *kaŋ | inside |
| *kʰui¹ | | khu⁵³ | kʰwe, kʰɤ | ne³³khu⁵³ | | pluck (flowers) |
| *kʰui¹ | | | ʃtintʂʰɤ **kʰwe** | (ti³³nkhæ⁵³) **khu³¹** | | blow (one's nose) |
| *tʰekʰwa¹ | tha³³kha³³ | | kʰekʰa | the³³khua⁵³ | PLB *k-ra²/³ | win |
| *kʰwæ¹ | jʌꜜkʰuʌꜜ; ja³³khua⁵⁵ 'big' | -kʰwæ | dekʰwa | de³³khuæ⁵³ | | grow, grow up |
| *riku/rikʰu¹ | **rgu**ꜜ; ɳ³³**ku⁵⁵** | əɹ³³**khu⁵³** | əˈ**kʰo** | əɹ¹³³**khuo⁵³** | *g-rus | bone[41] |

[41]The Ersu forms have unaspirated initials; in the case of Qŝ. the first syllable appears to have fused onto the second and voiced the initial.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *kʰo | | | -kʰo | (to³³) khuo³¹ | *kwak | bowl |
| *kʰoji | | `kʰoje | | khuo³³ji⁵³ | | key |
| *kʰokʰo¹ | kʰuˋlkʰuˋl; khu⁵⁵ khu⁵⁵ | | dekʰokʰo | khuo³³khuo⁵³ | *kuk | curved / crooked / bent |
| *ŋ(u)kʰwa | nkhua⁵⁵ | | | ŋu⁵⁵khua⁵³ | *kwa ? | hoof |

Voiceless unaspirated:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *(h)kɑrɑ(wɑ)² | ka³³rɑ⁵⁵ | `kɚwæ | `xkɑwɑ ntʂʰɑmæ | kæ⁵⁵ə˞⁵³ | | spider |
| *kwɑ/kɑ² | ɳoˋlkuaˋl; ɳo³³kua³³ | | `ja kɑmu | ja³³ka⁵³ | PLB *ka¹ | all / the whole |
| *sēkæle¹ | si⁵⁵ka³³lɛ⁵⁵ | sə³³kəɹ⁵⁵ ? | | se³³kæ⁵³li³¹ | *s-kaːk | branch / twig |
| *lekrwa² | lɛ³³ kua˞⁵⁵ tʃhu³³ | | `lakwə˞ tsʰʉ (v.) | | | elbow |
| *mukr(w)V¹ | | mu³³kəɹ⁵³ | mʉkwə˞ | mu³³kə˞⁵³ | *r-may ⪥ *r-mey ⪥ *r-mi | tail |
| *(mja)ko² | dɛ³³ku⁵⁵ | | `mjako | miæ³³ku⁵³, no³³kuo⁵³ | | blind |
| *kutsʰje¹ | | ku³³tshi⁵³ | kʉtsʰepə˞ | kuo³³tɕhi⁵³ | | life |
| *kætʃa | | | `kjætɕa | ku³³tʂæ⁵³ | | squirrel |
| *tʰekiʃi¹ | (thɛ⁵⁵)ɬi⁵⁵ ? | thɤ³³tɕhi⁵⁵ɕi³³ | kiɕi | the³³kɯ⁵³ʂɯ⁵³ | | hide (sthg.) |
| *krɑ | -tʂɛˋl; tʂɛ⁵⁵ | | -kæ˞ | (te³³) ka³¹ | | catty ( = 1/2 kilogram) |
| *krɑ² | tʂɛˋl | `qɑ | `kæ˞ | ka˞⁵³ | | scales, steelyard |
| *kape¹ | ka³³pi⁵⁵ | | kapø | ka³³pe⁵³ | | garbage / debris |
| *kɑ² | kʌˋ↓; ka³³phɑ⁵⁵ | | | ka⁵³ba⁵³ | < PLB *ʔ-ga² ? | mute |
| *zikæ | | | `zikjæ | sʅ³³kæ⁵³, mæ³³zʅ⁵³mæ³³kæ³¹ | *ga ⪥ *ʔa | mute, dumb, stupid |
| *kalɑ/kælæ² | no³³mɑ⁵⁵-ka⁵⁵lɛ⁵⁵ | ke³³le⁵³ | kali, kala | mu⁵³tɕu⁵³kæ³³læ³³ | | butterfly |
| *kæ | -kʌ↓; ka⁵⁵ | -kæ | -kjæ | (te³³) kæ³¹ | | classif. long items |
| *kæmbæ¹ | | | kjæmbæ | kæ³³nbæ⁵³ | | tongs (fire) |
| *dekæ² | dʌˋlkʌ↓ (perf.); ka⁵⁵ | | `dekjæ | kæ⁵³ | | hit (a person) |
| *kækæ¹ | ka⁵⁵ka⁵⁵ | | kikjæ | kæ⁵³kæ⁵³ | | fight |
| *kæpælæ | | | kjæpælæ | kæ⁵³pæ⁵³læ³¹ | | forehead |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ku | | | (dzɨ) kʉ 'feed (liquid)' | (dzæ³³n̪ʉ⁵³) ku³¹ | | breastfeed / suckle |
| *ku(liu)¹ | ku⁵⁵ə˞⁵⁵ | kurə | kʉli | ku³³liu⁵³ | <MC ljo 驢 ? | donkey |
| *kwopʰo | | | (`kopʰo) | ku³³phu⁵³ | | this side / here |
| *gu | | | dzɨ gʉ | (dzu³³) ku⁵³ | | cross (a river) |
| *nekwo¹ | | neko | (ne)ko | ne³³ku⁵³ | | put (into a container) |
| *kwo | | | `kopʰæ, `kʰopʰæ | tsha³³ə˞⁵³ku³¹ | | chest |
| *kui¹ | ku⁵⁵ | | `kʉ, `kwe | de³³ku⁵³ | | scoop up (water) / ladle |
| *kwo² | kuiˋ | | `ko | (te⁵³) ku⁵³ | Lahu kù < *gru | shout |
| *nekwo¹ | | `neko | | ne³³ku⁵³ | | shrivel up / wither |
| *kʰekuliu¹ | kʰɛˋkuˌlyoˋ | | dekʉlø, dekʉlølø | khe³³ku⁵³liu⁵³ | | wrap (v.) |
| *kwakwa¹ | ka⁵⁵ka⁵⁵pi⁵⁵ | | `kɣka | kua³³kua⁵³ | | hard |
| *kwali¹ | ka³³ə˞⁵⁵ | | kali | kua³³li⁵³ | *ka | crow |
| | kua⁵⁵ | | kwa | ne³³kua⁵³ | Mand. 刮 guā ? | take off (clothes), peel |
| *kapi² | ka³³psɹ⁵⁵ | | `kapi | kua⁵³pi⁵³ | | lame person |
| *kotsV¹ | ku³³tsɛ⁵⁵ | | kotsa | no³³kuo⁵³tsɹ³¹ | | step on / stamp / tread |
| *kezi¹ | | kɯzɹ | | (te³³) kɯ³³zɯ³¹ | | bucket (of water) |
| *deke¹ | | de³³kɯ⁵³ | dekɣ | de³³kɯ⁵³ | *krak | fear, be afraid |
| *keke | | | kɣkɣ | kɯ⁵³kɯ⁵³ | | big / large |

Mn. 'spider' is irregular in having preaspiration. The middle syllable of Nq. 'hide' mismatches in both place of articulation and aspiration.

Proto-Ersuic *g- underwent different changes in different dialects. First, I list the forms that have [g] in all dialects (or its various palatalized reflexes in Ersu):

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *(ŋ)gætsi¹ | nga⁵⁵tsɹ⁵⁵ | | gjætsɨ | | Mand. 茄子 qiézi | eggplant |
| *gæme¹ | gʌˋmɛˋ; nga³³mɛ⁵⁵ | `gæmi | gjæme | gæ³³me⁵³ | Lahu vɔ̀ʔ-qâ < *ga | clothing / garment |
| *megi² | mɛ³³dzɹ⁵⁵ | `medʑe | `megje | me³³gi³⁵, me⁵³gi⁵³ | *gleːk | thunder |
| *gje² | ŋua˞³³dʑi⁵⁵ 'pen' | -dʑe | degje le | (tshe⁵³n̪u⁵³) khe³³gi⁵³ | | pen in (sheep) |
| *bugi¹ | | | bʉgje | be³³gi⁵³ | | bury |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *gjegje | dʑi⁵⁵dʑi⁵⁵ | | | gi⁵³gi⁵³phu³¹ | | horizontal |
| *gje¹ | dʑi↓; dʑi⁵⁵ | | `gijo | gi³⁵ | | jar (earthen) |
| *gægæ¹ | ga⁵⁵ga⁵⁵ | | gigjæ | gæ³³gæ⁵³ | see SING | play |
| *gæ¹ | gʌ˥ 'song'; ga⁵⁵ | | | gæ³³mu⁵³, giæ³⁵ 'song' | *ga | sing |
| *gætʃu¹ | | | gjætɕy | gæ³³tʂʉ⁵³ | | monkey |
| *gapʰo¹ | | | gapʰo 'top of' | ka³³phu⁵³ | | upper part |
| *dego¹ | gu⁵⁵ | | | do³³guo⁵³ | | twist (hemp fibers) between the palms |
| *gui¹ | dʒ˻˥˩; dʒ˻⁵⁵ | `gv | `gʉ, `gwe | (te³³) gʉ³¹, gu³³sua⁵³ 'send message' | | speech, phrase, words |
| *gu¹ | gu˥; gu⁵⁵ | | `gʉ | gʉ³⁵ | <WT gru | boat |
| *guku¹ | | | `gʉ `kʉ | ngʉ³³kʉ³³sʉ³¹ | | boatman |
| *tʰegew² | thɛ³³gɛ⁵⁵ 'glad' | | `degɤ | the³³gu⁵³ | | happy / excited |

Ersu 'clothing' and 'eggplant' have unexpected prenasalization. Note that 'eggplant' seems to be an early loan from Chinese, borrowed before voiced stops became voiceless.[42]

There is a set of words which seem to descend from *g (as reflected in the Nq. and Ersu forms) whose initials become voiced fricatives in both Mn. and TBL; these have the rhymes **-uo, -ɯ** in TBL.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *dego¹ | gu⁵⁵ | `ʁo; de³³go⁵³ | `ɣo | ɣuo³⁵, ɣuo³³ɣuo⁵³ | | kick |
| *gojo¹ | **gu˥**; **gu⁵⁵phɑ⁵⁵** | **go³³je⁵³** | **ɣo**jo | **ɣuo³³jʉ⁵³** | *yəw/PLB *(k)-rwakᴴ | mouse |
| *dege¹ | gɛ⁵⁵gɛ⁵⁵ | de³³gə⁵³ | `ɣɤ | de³³ɣɯ⁵³ | | lick / lap |
| *ge¹ | gɛ⁵⁵ | | ɣɤ, `ɣɤtse | ɣɯ˼³³z̩⁵³ | *dzəy ? | seed |
| *ɣrɑ/**ge¹** | xa˼⁵⁵ | `ʁɑ; **gɐ³⁵** | ɣɤ | **ɣɯ³⁵**, ɣa³⁵ | *k-rap | needle[43] |

A similar spirantization change with a broader scope, conditioned by all non-low back vowels (including the **-w-** glide—this accounts for 'left over/remain') and also a palatal glide (see the forms for 'enemy' and love')[44], happened in Mn. only:

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[42]'Eggplant' is not found in Old Chinese, so 茄 is not found in Baxter. Tung (1965) reconstructs it as MC **gja**.

[43]In fact there seem to be two similar but distinct roots for 'needle' here. The first, with initial *ɣ, is reflected in Ersu and Kl., and the second, with initial *g, in Nq. and Mn. TBL seems to have both variants.

[44]Although 'enemy' is not transcribed with a medial **-i-** in TBL, there appears to be variation; see the forms for 'sing' and 'song', where 'sing' is literally 'song + do', but the latter is transcribed with **-i-** and the former without.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|------|---------|-----|-----|-----|-------|
| *gæwu | | | `ɣjævʉ | gæ³³wu⁵³ | *gra | enemy (personal) |
| *gæ/gja¹ | gɑ⁵⁵ | | ɣjæ | giæ³¹, giæ³⁵ | *r/N/d/s-ga | like / love |
| *gwEmæ² | gʌˈmʌˈn̠iˈ 'behind'; gɑ³³ma⁵⁵ | `gime; ge³³phi⁵³ | `ɣumæ, `gumæ | ge³³mæ⁵³, guɯ³³mæ⁵³ | *g-raŋ CHEST | back |
| *gwogwo¹ | go⁵⁵go⁵⁵ | gu³³gu⁵³ | `ɣuɣo | gu³³gu⁵³ | | light (weight) |
| *degwo¹ | | | deɣo | de³³gu⁵³ | | rise / get up |
| *gwɑ² | | | `neæˈ | **gua⁵³** | | left over / remain |

For Mn. 'left over / remain', see the discussion under velar fricatives, below.

### 3.7.7 Fricatives and Glides

We now turn our attention to bona fide *fricatives (as opposed to fricatives derived from a *voiced stop). *ɣ is retained as a fricative in TBL and before certain rhymes in Mn. and TBL (where it undergoes a further change into **v-** before **-u**). In Ersu it becomes a retroflex fricative **ʐ-** before certain rhymes.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|------|---------|-----|-----|-----|-------|
| *ɣeniu/ɣoniu¹ | vɛ⁵⁵n̠o⁵⁵ | `ɣɯɲi~`gɯɲi; wo³³nu⁵³ | ɣwen̠i, ɣʉn̠i | ɣuo³³n̠u⁵³ | *ril ⋊ *rul | intestine |
| *ɣo¹ | vuˈ; vu⁵⁵ | wo³⁵ | ɣo | ɣuo³⁵ | *yəw ? | liquor |
| *ɣuini/ ɣuindzA¹ | ʐɭ³³n̠i³³ | | ɣʀndzɑ | ɣɯ³³n̠i⁵³ɣɯ³³ndzæ⁵³ | | relatives |
| *ɣuiɣui | ʐɭˈʐɭˈtsʰʌˈtsʰʌˈ; jɑ³³ʐɭ⁵⁵ | | **ɣʉɣwe** | | *lway ? | easy |
| *ɣwEmo/ æɣwE¹ | xə⁵⁵mo⁵⁵, ə⁵⁵mo⁵⁵ | | `ʀvʉ | æ³³ɣɯ⁵³ | *ryaŋ ? | uncle (mother's brother) |
| *ɣui¹ | ʐɭˈ; ʐɭ⁵⁵ | v; wu³⁵ | (ɣ)we, vʉ | vu³³ji⁵³ 'go buy' | *rey | buy |
| *deɣui¹ | ʐɭˈ; ʐɭ⁵⁵ | `kʰev | `de(ɣ)we, `devʉ | de³³vu⁵³ | *gwa-n | wear (a garment) |

The words for 'uncle' in Mn. and TBL seem to derive from *ɣ-, but the vowels are different: in Mn. it is [-ʉ], conditioning a change of the initial to [v-], whereas the TBL form has an unrounded vowel. It is unclear why the Ersu form has a [x-] initial.

The forms for 'wear' and 'buy' are either completely homophonous or differ only in tone in all dialects. There is variation in the Mn. forms, but it appears that **vʉ** is the result of borrowing from another dialect; compare with `**xwe** 'tooth' below, which differs only in voicing.[45]

There are also forms where it seems only TBL has retained the velar fricative. Most of these have

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[45]The Mn. forms for 'wear' and 'buy' are transcribed with initial [w-], but I suspect I may have mistranscribed them, and that they should have a velar fricative initial, i.e. **ɣwe**, homophonous with the root for 'easy'.

a labiovelar medial glide or the rhyme [-u] in TBL:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *wɑre/ɣɑre¹ | | | wæˑ | ɣa³³əɹ³⁵ | | liquor (yellow rice / millet / Shaoxing) |
| *ɣwoɣwo¹ | vaˑ⁵⁵vaˑ⁵⁵ | | `wuwo | ɣu³³ɣu⁵³ | | help |
| *ɣwebje/ ɣwobje¹ | vɛ³³bi⁵⁵ | | wobi | ɣu³³pi⁵³ | | shoulder |
| *ɣwo¹ | vɛˋ; vɛ⁵⁵ | `wo~`ɣo; we⁵³ | wo | ɣu³⁵ | *pʷak, PLB *wakᴸ | pig |
| *deɣwæ¹ | wɑ⁵⁵ | | dewɑ | de³³ɣuæ⁵³ | *k-wa | full, satiated |

(The [w-] initial in Ersu 'hungry' is unexplained, since we expect [v-].)

This leaves us with forms where TBL has no velar fricative, which I reconstruct with initial *w-:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *diwæ¹ | dʑi⁵⁵vɑ⁵⁵ | | dʑyæˑ | dʑi³³wæ⁵³ | | slow / clumsy |
| *wægæ | vɑ³³gɑ⁵⁵ | | | wæ³³gæ⁵³ | | mat |
| *wæ¹ | | | wæ (tʰɥ) | ɣuæ³⁵ | *wa | snare / trap |
| *wurA/wærA¹ | **vuˋrAˋ**; **vu³³rɑ⁵⁵** | | **wæ, wæə**ˑ | **ɣuæ³³ɦæˑ**³⁵ | | cloth |
| *wæ¹ | | | wæ 'OK!' | ɣuæ³⁵ | | permit / allow |
| *wawɑ¹ | dAˋwuAˋliˋ | wa³³wa⁵⁵ | wawɑ, wawɑlølø | ɣua³³ɣua⁵³ | | circular (planar), round |
| *wilje/wulje² | vi³³li⁵⁵ | wu³³li⁵³ | `vɥli | wu³³li⁵³ | *d-bu | head |
| *riwu¹ | | | əˑvɥ | ɦuɯ³³wu⁵³ | | cave / hole |
| *wutɕʰa | | | `vɥɕa | wu³³tɕhæ⁵³ | | above, on top of |
| *wutɕu | | | `vɥtɕy | wu³³tɕy⁵³ | | point / tip |

It appears that in many cases, TBL [ɣu-] is simply a phonetic variant of **w-**; Chirkova (2008) notes that [w-] in Kl. is "sometimes realized close to [ɣ]", and further notes that "the interplay between w- and ɣ- initials has also been noted in Tosu (Meier, p.c.)". The assignment of 'mat', 'snare/trap', 'cloth', and 'permit/allow' to the **\*w-** initial is based on the rhyme correspondences; see section 4.15.

It also seems plausible that at least of some of these forms reconstructed with initial *ɣ- ultimately come from PTB *r-, since *ɣ- appears in a restricted environment: mostly before back rounded vowels and medial glide -w- (see also section 3.9). For example, PTB **\*rul** > Mn. **ɣwe** 'intestines' parallels PTB *mul > Mn. `**mwe** 'fur' (although not PTB **\*(s-)b-ruːl** > Mn. `**bɚ**).

Compared with the voiced velar fricative, the voiceless velar fricative is much more straightforward, with clear correspondences across all the dialects. Note also the change [x] > [f] / _ [u] except in Nq., which seems to have been immune from this common areal sound change.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *xɑ¹ mu | xɑ⁵⁵ ŋ̊⁵⁵ | `xwæ mu | `xɑxɑ mʉ | xa³⁵ mu³³ | | yawn |
| *xwɑjo¹ | huʌi˥; xuɑi⁵⁵ | xɑ⁵³, xɑ³³jɯ⁵³ | xɑjo | xua³³jʉ⁵³ | | bird, sparrow |
| *(ju/ʑu)xwɑ¹ | zu⁵⁵xuɑi⁵⁵ | | | jy³³xua⁵³ | *hya SWID-DEN | paddy fields |
| | | | xwɑ | the³³xua⁵³ | Mand. 還 huán ? | return (a pen) |
| *xe | | | `dexɤxɤ | khe³³xɯ⁵³ | | cover / hide from view |
| *xexe² | xaˣ⁵⁵xaˣ⁵⁵ ?? | | `xɤxɤ | xɯ⁵³xɯ⁵³ | | lid / cover |
| *xui¹ | ʂɻ̩⁵⁵ma⁵⁵ | `fvme; xu⁵³ | `xwe | fu³⁵ | *swa | tooth |
| *mexui¹ | mɛ⁵⁵ʂu⁵⁵ | | | me³³fu⁵³ | | charcoal |
| *xu¹ | | xu³³tɕhe⁵³ | fʉ | fu³⁵ | *r/g-wa ? | village |
| *xuibu¹ | fu⁵⁵bu⁵⁵ | `fvbv | | fu³³bu⁵³ | *swa-n | onion / scallion |
| *xui¹ | fu⁵⁵ | | | fu³³khuæ⁵³ | *swa-n | garlic |
| *xui | ʂɻ̩³³ʂɻ̩⁵⁵ | | | fu³³fu⁵³ | *s-wa GO | walk |
| *xutʂʰe¹ | fu⁵⁵tʂhɛ⁵⁵ | | | fu³³tʂhɯ⁵³ | *kram | garden (plot) |

## 3.8 Uvulars

Although contrastive uvular series are found in other Qiangic languages, in Lizu and Ersu they are rare. Sūn (1982b) notes that some initial velars are pronounced as uvulars in Ersu, especially in the case of older speakers, but did not find any place where uvulars and velars contrastive. In my own fieldwork in Mianning, I have only found one word with a contrastive uvular (**nqʰo** 'silk'). Chirkova (2008:8) states that Kl. uvular stops are only contrastive before the rhyme [-o], and that all uvulars are derived historically from \*velar + **r** clusters. This appears to be at least partly correct; see section 7.2.1 for the exact Proto-Ersuic environments where Kala uvulars developed.

# 3.9  *r

Most instances of Proto-Ersuic *r- have collapsed into [rə] or [ɚ] in Lizu. Sūn (1982b) and Huáng and Rénzēng (1991) both note variation between [əʴ] and [ʐ̩], which explains some of the various transcriptions seen here. In TBL there also seems to be [əʴ] ~[ɣɯʴ] variation, which I will treat as insignificant here.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ru(bu)/du[1] | ru⁵⁵ | əɹ³³bu⁵³ | `əʴbʉ | əʴ³³bu⁵³, dʉ³⁵ | *g-ruŋ | horn |
| *ru[1] | ru⁵⁵ | | əʴ | ne³³zʉ⁵³, ne³³ɣu⁵³əɹ⁵³ | | shave (the head) |
| *riku/rikʰu[1] | rgu˥; ŋ̍³³ku⁵⁵ | əɹ³³khu⁵³ | əʴkʰo | əʴ³³khuo⁵³ | *g-rus | bone |
| *rAɬæ[1] | ra⁵⁵ra⁵⁵ | | `əʴɬæ | ɣɯʴ³³læ⁵³ | *g-ray GOD/COPULA | soul / spirit |
| *rAne,rAnɑ[1] | ra⁵⁵nɛ⁵⁵ | rənɑ | | əʴ³⁵na⁵³ | | shadow |
| *tɕuru | əʴ³³ tsu³³ ru⁵⁵ | `tɕorə | | tɕye³³ɦæʴ³⁵ | | footprint / track[46] |
| *ri[1] | | rə; ʐ̩³⁵ | əʴmæ | ʐ̩³⁵, ʐ̩³³phæ⁵³ | | road |
| *ri[2] | ŋ̍³³ʐ̩⁵⁵, ŋ̍⁵⁵pha⁵⁵ | rə | `əʴpʰæ | ɣɯʴ³³ɣɯʴ⁵³ | | means / way |
| *(ri)ni[1] | ɲi⁵⁵ | | əʴɲi | əʴ³³ɲi⁵³ | *s-ney | near |
| *(ri)ʂa[1] | (ʂɛ˩ʂɛ˥); (ʂɛ⁵⁵) | (ʂe³³ʂe⁵³) | əʴʂa | əʴ³³ʂa³⁵ | *s-riŋ LONG | far / distant |
| *ri[1] | | re³⁵, rɯ³³me⁵³ | əʴ | ʐ̩³³mæ⁵³ | | fields (wheat etc.) |
| *rikʰwæ[1] | | | əʴkʰwɑ 'cliff' | ɦɯ³³khuæ⁵³ | | rock |
| *riwu[1] | | | əʴvʉ | ɦɯ³³wu⁵³ | | cave / hole |
| *ri[1] | rə˥; ŋ⁵⁵ | `rə; əɹ³⁵ | `zɨ | əɹ³⁵ | *r(y)a | laugh / smile |
| *re[1] | vɛ⁵⁵ ?? | | -əʴ, dʑiæʴ | əʴ³⁵ | *rəy | water / soup |
| *mjare[1] | | | mjaəʴ | miæ³³əʴ⁵³ | | tears ("eye-water") |
| *stiu(d)zære[1] | su⁵⁵za⁵⁵ɣɛ⁵⁵, su⁵⁵za⁵⁵rɛ⁵⁵ | kŋræ | ʃtedzæʴ | | *s-nap + *rəy | snot (liquid) |
| *beri[2] | bɛɹrə˥; bɛ³³ŋ⁵⁵ | `bəɚ; bu³³rə⁵³ | `bəʴ | bɯ³³ɣɯʴ³⁵ | *s-b-ru:l | snake |
| *berA/burA | ʂɛ³³bɛ⁵⁵ra⁵⁵ | bu³³ra⁵⁵ | | bu³³əʴ⁵³ | *g/p-rwak | ant |
| *riu[1] | ro˩; ʐo⁵⁵ʐo⁵⁵ | rə | zɨ | ɣɯʴ³⁵ | *b-rəy | write |
| *-ro | na⁵⁵ro⁵⁵ | | | ɲuo⁵³əʴ⁵³ | | rib |
| *re[1] | rɛ˥; rɛ⁵⁵ | | əʴ | khɯ³³ɣɯʴ⁵⁵ɣɯʴ³¹ | | dry by fire, toast |
| *dere[1] | dɛ⁵⁵rɛ⁵⁵ | | `deəʴ | de³³əɹ³⁵ | | swell (of tissue) |

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[46]The final syllable in 'footprint' may be the same root as the first syllable of 'shadow', but note that the vowels are different in Ersu. The syllable **tɕo** is suspiciously similar to Southwest Mandarin **tɕo**¹¹ 'foot'.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *raʰɑ¹ | rɑ⁵⁵tʰɑ⁵⁵ | | æˑtʰɑ | ə¹³³tʰɑ⁵³ | < Tib. rang 'thag | millstones |

The initial [ʐ̩-] instead of expected [r-] for Ersu 'write' may simply be the result of variation. Sūn (1982b) notes that Ersu **ʐ̩** and **r** are in free variation in some words. Also, notice that Ersu 'means/solution' **ŋ³³ʐ̩⁵⁵** appears to be a reduplicated form, i.e. both syllables reflect the same root; if this is the case this is evidence for [ʐ̩/r-] variation in a single form.

Ersu [rɑ] and its Lizu cognates are quite interesting: Kl. and Nq. retain the [r-], but the Mn. and TBL initials have become [ɣ-]. The Mn. forms underwent a further change: [ɣɑ] > [æˑ]. Thus, the three items 'chicken', 'obtain', and 'remain' all merged in Mn. according to these paths: 'chicken' **\*rwa > ɣwa > ɣa > æˑ**, 'obtain' **\*ra > ɣa > æˑ**, 'remain' **\*gwa > ɣwa > ɣa > æˑ**.[47]

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *rwa¹ | rʌ˥; rɑ⁵⁵ | rwæ; rɑ⁵⁵ | æˑ | ɣua³⁵ | *k-rak | chicken |
| *rʌ | | `ræ | æˑ- | | | yak |
| *rʌ¹ | **rɑ³³** | **firæ̃** | kʰeæˑ | **ɣæˑ³⁵** | PLB *ra³ | obtain, get |
| *rʌ/ɣwʌ | rɑ⁵⁵ | `ɣwæ | | | | shout, yell |
| *gwa² | | `neæˑ | | **gua⁵³** | | left over / remain |

The final item, 'shout', is the only example of a potential correspondence between Ersu **r-** and Kl. **ɣ-**. Since there is no other reason to think that Ersu **r** < **\*ɣ**, or that Kala **ɣ** < **\*r**, the similarity between these two forms may be accidental.

## 3.10 Glottals

The only cognate sets with zero-initial (pronounced as glottal stop) have low vowels.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *æ¹ | ʌ˥; ɑ⁵⁵ | `æ; æ³⁵ | ɑ | æ⁵³, a³³duo⁵³ | | I |
| *ɑntʂʰæ² | ɑ³³ntʂhɑ⁵⁵ | | | a⁵³ntʂhæ⁵³ | | sieve / sifter |

Words with initial [h-] in Lizu are pronounced with nasalized vowels (see Matisoff 1975 for more on the connection between glottality and nasality). It is possible to analyze this synchronically in two ways: (1) [h-] is allophone of [x-] before nasalized rhymes, or (2) vowels are allophonically nasalized after [h-]. The diachronic evidence hints that there may be multiple origins: looking only at Ersuic-internal data, the Nq. form for 'bamboo'[48] has a voiceless nasal initial, pointing to

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[47]Thus, Mn. 'chicken' **æˑ** < PTB **\*rak**, not **\*aːr** as a superficial examination would suggest!

[48]The TBL form for Mn. also has a voiceless nasal initial, but the phonological inventory for the language does not include this segment as a possible initial.

influence from the initial consonant; whereas the TBL form for 'hatch' has the opposite, a nasal rhyme combining with a velar fricative [x-] initial. Looking at possible PTB roots suggests origins in [s-] prefixed *nasal initials, but it is unclear how these s+nasal combinations are different from the ones that yield preaspirated voiceless stops.

Ersu has changed all [h-] initials to [x-] with non-nasal vowels, with the exception of 'smell'.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *lɑhẽ/lahõ | | | `lɑhẽ | la³³hũ⁵³ | | musk |
| | nuᴀˋkʰu˥ ? | | `nɑhõ(hõ) | na³³xuo⁵³xuo³¹, nua³³xo⁵⁵xo⁵³ | *s-nak | dark |
| *t(w)ɑh(w)ã¹ | tuɑ⁵⁵xuɑ⁵⁵ | | tɑhã | ta³³xa⁵³ | *s-r(y)ak 24-HOURS | tonight |
| *(h)æne | ᴀˋnɛ˥ | | `hæ̃ne | hæ³³ne⁵³ | | what |
| *hjẽ¹ | | khe³³hĩ⁵³ | hjẽ | khe³³hĩ³¹ | *r/s-ŋ(y)a | borrow (tools) |
| *tsʰehĩ¹ | tshi⁵⁵xi⁵⁵ | tsʰehẽ | tsʰehĩ | tshe³³hĩ⁵³ | *s-niŋ | this year |
| *hĩ² | xi↓; xi⁵⁵ | `hẽ; m̥i⁵³ | `hĩ | ŋi⁵³ | | bamboo |
| *hjẽmæ¹ | xiˋ, xi˥mᴀˋ; xi⁵⁵ma⁵⁵ | | hjẽmæ | hĩ³³mæ⁵³ | | sister |
| *dehĩ¹ | xiˋ; dɛ³³xi⁵⁵ | | dehĩ | de³³hĩ⁵³ | *s-min ? | ripe, cooked, done |
| *hĩhĩ | xi⁵⁵xi⁵⁵ | | | hĩ⁵³hĩ⁵³la³³la⁵³ | | smooth / glossy / sleek |
| *mehĩ² | mi³³xi⁵⁵ | | | me⁵³hĩ⁵³ | | chin |
| *hã¹ | hᴀ↓; xɑ⁵⁵, xa⁵⁵ | hæ̃ | hã | hiæ̃³¹ | | have, exist (immovable) |
| *hõ¹ | fu⁵⁵tsi⁵⁵ | | | hũ³³tɕu⁵³ | | pepper (hot) / chili |
| *hõ¹ | fu˥; fu⁵⁵ | hũ | hõ | hũ⁵³ | | want / need |
| *hwõ¹ | -ho˥; xo⁵⁵ | | nehõ | ŋuo³³hũ⁵³ | *s-m-raŋ ? | stretch out (the arm) |
| *hwõ | hoˇ | | -hõ | | | speech, language, dialect |
| *hẽhẽ¹ | hĩ⁵⁵ hĩ⁵⁵ | | hẽhẽ | te⁵³hũ̃⁵³hũ̃³¹ | *s-nam ? | smell |
| *dehẽ¹ | hɛ⁵⁵, xɛ⁵⁵ | `dehỹ | | de³³hũ̃⁵³ | cf. Thai hɔ̌:m ? | fragrant (smell) |
| *hẽ¹ | xɛˋ; xə⁵⁵ | firə̃ | hẽ | hũ̃⁵⁵ | *g/s-məw ? | mushroom |
| *hẽ¹ | xɛ⁵⁵ | | `hẽ | (ɣua³³) jɥ⁵³khe³³xŋ̩³¹ | *s/r-go-ŋ ? | hatch / incubate |
| *behẽ/behĩ | | | `behẽ | be³³hĩ⁵³ | | fly (n.) |

# Chapter 4

# Rhymes

Rhymes in Proto-Ersuic are phonotactically quite simple, generally having the shape -(G)V, glide + vowel.[1] The glide can be **-j-**, **-w-**, or **-r-** (which often develops into rhotacization on the vowel); and the vowel can be nasalized, though this only occurs in a small fraction (approximately 2%) of the forms. Some syllabic nasals have developed in Zeluo Ersu, but these appear in only a small handful of forms. Thus, the task of reconstructing the rhymes of Proto-Ersuic mainly involves the reconstruction of the vowel system. Despite (or perhaps because of) this phonotactic simplicity, this task turns out to be quite complex.

The vowels reconstructed below are as follows:

| | | | |
|------|-----|-----|-------|
| i | iu | ui | u |
| je | | wE | wo |
| e | ew | | o |
| (w)æ | | ja | (w)ɑ |

This chart includes all glide + vowel combinations except for **-r-** and nasalized vowels, which are discussed in sections 4.2 and 4.3 below.

## 4.1 Vowel harmony and vowel reduction

### 4.1.1 Low vowel harmony

There is some limited evidence for front-back vowel harmony with the low vowels in Proto-Ersuic. In particular, the vowel in the **\*a-** kinship prefix, **\*ta-** 'today' prefix, and **\*ja-** 'yester-/last' prefix will often match the front/backness of the vowel in the following syllable. This is especially interesting given that there is no contrast between front and back low vowels

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[1]In rare cases I reconstruct two glides, with **-r-** as the first one: **-rj-** or **-rw-**.

after palatals in these languages (e.g. between [jæ] and [jɑ]).[2]

The **\*-a** perfective suffix also shows vowel harmony with the preceding verb root. See section 6.1.3.

Examples of the **\*a-**, **\*ta-**, and **\*ja-** prefixes are given below. Note that reflexes of the rhyme **\*-iu** pattern with front vowels for purposes of vowel harmony.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *æbæ² | ᴀˋbᴀ; a⁵⁵ba⁵⁵ | ˋæpæ | ˋæbæ | æ⁵³bæ⁵³ | | father |
| *æpʰu¹ | | | ɑpʰʉ | æ³³phu⁵³ | *pəw | grandfather |
| *tæniu¹ | tᴀˋȵo˥; ta/tɑ⁵⁵ȵo⁵⁵ | | tæȵi | tæ³³ȵʉ⁵³ | | today |
| *t(w)ɑh(w)ã¹ | tuɑ⁵⁵xuɑ⁵⁵ | | tɑhã | ta³³xa⁵³ | *s-r(y)ak 24-HOURS | tonight |
| *taso¹ | | | taso 'just now' | ta³³suo⁵³ | PLB *C-sok | morning |
| *janiu¹ | jᴀ↓ȵo˥; jɛ⁵⁵ȵo⁵⁵ | ˋjæȵi | jæȵi | jæ⁵³ȵʉ⁵³ | cf. Lahu yàʔ- | yesterday |
| *jahãŋkʰwo¹ | | ˋjæxwæ ? | jɑhãnkʰo | ja³³ha³³nkhu³⁵ | | last night |
| *ja(ji)hĩ¹ | jᴀi↓xi˥; jɛ⁵⁵xi⁵⁵ | ˋjæhĩ | | jæ³³hĩ⁵³ | | last year |

Evidence for vowel height harmony, on the other hand, is difficult to find. One candidate is the 'after next' prefix found in the first syllables of Ersu **ndʑ͡ʐ³³xi⁵⁵** 'year after next' and **ngɛ³³so⁵⁵** 'day after tomorrow', where the vowel in 'year after next' may have been raised **-i**, causing palatalization of the initial consonant from **ŋg-** to **ndʑ-**.

## 4.1.2 Prefixal vowel reduction/assimilation

As noted above (section 1.4), directional prefixes in Ersuic languages have an /**-e**/ vowel. However, transcriptions assigning full tones to these syllables (e.g. TBL **de³³gu⁵³** 'get up') belie the sesquisyllabic nature of verbs carrying these directional prefixes. This becomes apparent when we examine the wordlists, where often the vowel in the prefix assimilates in backness, rounding, and/or height with the following syllable. For example, in TBL, although a majority of forms with the **de-** 'up' prefix are transcribed with the **-e** vowel, there are also forms such as **do³³guo⁵³** 'twist' and **do³³tsu⁵³** 'wear (a hat)'. Similarly, with the other prefixes there are forms such as **kho³³luo⁵³** 'wait', **kho³³nduo⁵³** 'see', **na³³pha⁵³** 'break', **tho³³mo⁵³** 'old', or **ŋo³³tshuo⁵³** 'extract'. The Nq. and Ersu forms also show this kind of variation in the vowel transcriptions of the directional prefixes. Generally this does not cause problems in interpreting the data, but the

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[2]For example, in Mn. the low vowel is usually back or central after palatals, but it can be fronted in cases of vowel harmony, as in **jæȵi** 'yesterday', **dʑæɲ̩y** 'breast', and **ˋɕæȵæ** 'pitiful'. In TBL the situation is the opposite, with the front vowel usually appearing after palatals (see section 4.13), but a back vowel in the forms **ja³³ha³³nkhu³⁵** 'last night' and **ja⁵³ka⁵³** 'child'.

reader should be aware of this phenomenon and not be confused by the range of transcriptions for the limited set of directional prefixes.

A related phenomenon can be found in Mn., where the "half-syllable" of a sesquisyllabic form (often this is a reduplicated syllable) will have a reduced vowel. For example, the full vowel **o** in **tsʰo** 'person' is reduced to **u** in **tsʰumo** 'old man' and **tsʰukʰwa** 'adult'. Some of the forms with reduced first syllables in Mn. are listed below. In the cognate sets presented in this chapter, the vowels in such syllables should not be considered exceptional, but rather the result of a productive process of vowel reduction in sesquisyllabic forms.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *mbro | jʌ˥boˀ; ja$^{33}$nbo$^{55}$ | nbɚnbɚ; bo$^{33}$mbo$^{53}$ | mbzɨmbzo | bo$^{53}$nbo$^{53}$ | *m-raŋ | high / tall |
| *ŋgraŋgra[1] | ndzɛ$^{33}$ndzɛ$^{55}$ | ˋnɢʁanɢʁa | ŋgʁŋgæˈ | nga$^{33}$nga$^{53}$ | | shake / shiver |
| *muimui[1] | maˈ⁵⁵maˈ⁵⁵ | | ˋdemʉmwe | ne$^{33}$mu$^{53}$mu$^{31}$ | *s-miːt | close (the mouth) |
| *ɣuiɣui | ʐ̩˥ʐ̩˥tsʰʌˀtsʰʌˀ; ja$^{33}$ʐ̩$^{55}$ | | ɣʉɣwe | | *lway ? | easy |
| *dzjẽdzjẽ[2] | dzi$^{55}$dzi$^{55}$ | | ˋdzɨdzʁ | dʑe$^{55}$dʑe$^{53}$ | *m-ti-s or *dz(y)im | wet |
| *bjẽbjẽ[1] | | dʑe$^{33}$dʑe$^{53}$, dʑi$^{33}$dʑi$^{53}$ | bzɨbze | bʑe$^{35}$ | *byam | fly (v.) |
| *zæzæ[1] | zʌˀzʌˀ; za$^{55}$za$^{33}$ | | zɨzæ | zæ$^{33}$zæ$^{53}$ | | tender, young (plant) |
| *kʰækʰæ[1] | | | kʰikʰjæ | khæ$^{33}$khæ$^{53}$ | | separate, other |
| *kækæ[1] | ka$^{55}$ka$^{55}$ | | kikjæ | kæ$^{53}$kæ$^{53}$ | | fight |
| *soso[1] | soˌsoˀ; so$^{55}$so$^{55}$ | | suso | suo$^{33}$suo$^{53}$, suo$^{35}$ | | learn, teach |
| *ɣwoɣwo[1] | vaˈ⁵⁵vaˈ⁵⁵ | | ˋwuwo | ɣu$^{33}$ɣu$^{53}$ | | help |

# 4.2 r-colored vowels

We start our in-depth discussion of Proto-Ersuic rhymes with rhymes containing **\*-r-**. The rhymes that can be reconstructed with a medial **-r-** form a subset of the rhymes above:

| ri | riu | (ui) | ru |
|----|-----|------|----|
| re |     |      | ro |
| ræ |     |      | rɑ |

Strictly speaking, the rhyme reconstructed as **\*-ui** might not actually coöccur with **\*-r-**, but it has been included here since it at least develops into rhotic elements in Ersu, and because its distribution with respect to initial consonants (it only appears following bilabials and velars) is similar to the other rhymes in this section.

All the Ersuic languages that have been described have rhotic vowels in their inventories. Rhotic vowels appear to be an areal phenomenon with a geographic distribution reaching, e.g., Harbin (Mandarin) in the northeast, the Qinghai/Gansu area in the northwest, and Naxi-speaking territories in the southwest.[3]

The number of rhotic vowels in Ersuic ranges from one (ɚ) in Chirkova's description of Kala to supposedly five (əɪ ɯɪ oɪ aɪ æɪ) in TBL. However, the transcriptions in TBL are not particularly consistent: 'skin', for example, is variously transcribed as **ngaɪ³³pii⁵³, n-gəɪ³⁵**, and **nga³³pi³¹**; 'road' is **ʐɭ³³phæ⁵³**, but 'one day's journey' (presumably including the morpheme for 'road') is **(te⁵³) ɳu⁵³ ɦɯɪ³³phæ⁵³**. In interpreting the TBL transcriptions below, I will assume that **əɪ, ɯɪ, ɣɯɪ**, and **ɦɯɪ** are all equivalent.

## 4.2.1 \*-ri

| env. | Ersu | Kl. | Nq. | Mn. | TBL |
|------|------|-----|-----|-----|-----|
| P __ | eɪ/aɪ; aɪ | ɚ, ræ | i | əɪ | ɯ(ɪ) |
| K __ | (z̩)ŋ | (z̩)ŋ | əɹ/(z̩)ŋ | (z̩)ɨ | əɪ/(z̩)ŋ |
| # __ | rə; rɭ | rə | əɹ/rə/ʐɭ | əɪ | əɪ/ʐɭ |

There are three sets of forms with r-colored vowels where it seems best to reconstruct some rhyme with a high vowel. For the first set I reconstruct **\*-i**:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|------|---------|-----|-----|-----|-------|
| \*mri¹ | jɑ³³ma¹⁵⁵ | mræ | məɪ | mɯ¹³³mɯ¹³⁵ | | tasty / delicious |
| \*pri | -peɪꜜ; pa¹⁵⁵ | ˋpɚ 'grain'; nu³³pi⁵³ 'peas' | -pəɪ | (te³³) pɯ³¹ | | classif. small round obj. |
| \*mpʰri¹ | suꜜmoꜜnpʰaɪꜜ 'cremate' | | mpʰəɪ | | | burn, singe |
| \*kri¹ | tʃɭꜜ; tʂɭ⁵⁵ | ˋtʂɭ; kəɹ⁵⁵ | ˋtʂɨtsʰe | kəɪ³⁵ | PLB \*ʔgrəy¹ | star |

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[3]Languages outside this area that have rhotic vowels include North American English and Badaga (see Emeneau 1939).

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *kri¹ | tʂɻ⁵⁵ | khə³³kɯɹ⁵³ | `tʂɨ | ne³³tʂɻ⁵³, tʂɻ⁵³ | | bite |
| *dekri | | dɐ³³kəɹ⁵³ | `detʂɨtʂɨ | de³³dʐɻ⁵³ | *m-tsik ? | itch |
| *tʰegri¹ | | the³³dʐɻ⁵³, the³³kɐɹ⁵³ | kʰedʐɨ̞ | the³³dʐɻ⁵³ | *gra | hear |
| *ri¹ | rə˥; ɻ⁵⁵ | `rə; əɹ³⁵ | `zɨ | əɹ³⁵ | *r(y)a | laugh / smile |
| *neri | nɛ˩rə˥; ne⁵⁵ɻ⁵⁵ | | | næɹ⁵³ | | you (pl.) |
| *ri¹ | | rə; ʐɻ³⁵ | əˈmæ | ʐɻ³⁵, ʐɻ³³pʰæ⁵³ | | road |
| *ri² | ɻ³³ʐɻ⁵⁵, ɻ⁵⁵pʰɑ⁵⁵ | rə | `əˈpʰæ | ɣɯɹ³³ɣɯɹ⁵³ | | means / way |
| *ri¹ | | re³⁵, rɯ³³me⁵³ | əɹ | ʐɻ³³mæ⁵³ | | fields (wheat etc.) |
| *beri² | bɛ˩rə˥; bɛ³³ɻ⁵⁵ | `bɚ-ɚ; bu³³rə⁵³ | `bəɹ | bɯ³³ɣɯɹ¹³⁵ | *s-b-ru:l | snake |
| *mjari/meri¹ | miɑ⁵⁵ɻ⁵⁵ | | məɹ | mɯ³³ɦɯɹ¹³⁵ | *r-ma + *ri GLEET | sore / boil |
| *riku/rikʰu¹ | rgu˥; ɻ³³ku⁵⁵ | əɹ³³khu⁵³ | əɹkʰo | əɹ³³khuo⁵³ | *g-rus | bone |

The forms with bilabial initials are placed here somewhat tentatively and require some special notes. The Ersu reflexes mostly have a rhotacized low vowel. The form for 'small round object' is presumed to descend from *pri based on the high front vowel in Nq., and 'tasty' and 'burn/singe' are placed in this set based on its similarity with 'small round object'. Furthermore, *mri 'tasty' forms a minimal pair with *mræ 'arrow' (see below, p. 83).

The form for 'hear' could potentially be reconstructed with the *-iu rhyme (next section) based on the Lizu data (because there is no Ersu form), but it has been placed here since the PTB root is < *-a, not *-əy like the forms in the next section. Similarly, 'road' has no Ersu form, but has been placed here since it seems related to 'means/solution' and possibly 'field', where the Ersu forms point to *-i.

The forms for 'snake' and 'sore (n.)' appear to be original disyllabic forms which have coalesced into monosyllables in Mn. The Qs. Ersu rgu˥ 'bone' also appears to be a fused form, apparently with a metathesized r-.

Note the variation between ʐɻ and ɚ (in 'laugh' and 'road'). TBL describes an almost identical variation between [əɹ ~ʐə] (Huáng and Rénzēng 1991:137).

## 4.2.2 *-riu

| Ersu | Kl. | Nq. | Mn. | TBL |
|---|---|---|---|---|
| ʐo | ʐɻ, rə | əɹ | zɨ̞ | əɹ |

The following set is distinguished from the above set solely by the reflexes in Ersu, where after velars, the forms above have the rhyme -ɻ and the ones below have the rhyme -o. For this set I

reconstruct a diphthong **\*-iu**, with a rounded offglide, to account for the round vowel in Ersu.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *kriu² | tʂo⁵⁵ | `tʂɿ | `tʂɨ | kə˦⁵³ | *krəy, PLB *ʔgrəy¹ | gall bladder |
| *kriu(ju)¹ | tʂo↓; tsɿ⁵⁵tʂo⁵⁵ | | `tʂɨjy | kə˦³³jy⁵³ | | frost |
| *ŋgriupje¹ | **ndzɻ⁵⁵pi⁵⁵** | **ndzɻ; ngəɹ³³phi⁵³** | **`ndzɨpi;** ʃtʏpe-**`ndzɨpi** 'lip' | **nga˦³³pi⁵³,** **n-gə˦³⁵;** ku⁵³pe⁵³ **nga³³pi³¹** 'lip' | PLB *m-k-rəy | skin |
| *riu¹ | ro↓; zo⁵⁵zo⁵⁵ | rə | zɨ | ɣɯ˦³⁵ | *b-rəy | write |

## 4.2.3    **\*-ru**

| env. | Ersu | Kl. | Nq. | Mn. | TBL |
|---|---|---|---|---|---|
| pʰ __ | o | | ʂə | ʂʉ | ʐu |
| b __ | u | o | | ʐʉ | u |
| # __ | ru | - | əɹ | əˡ | əˡ |

For the third high-vowel set I reconstruct **\*-u**. This reconstruction is relatively straightforward for the forms with bilabial stop initials, where the Lizu forms mostly have high back rounded vowels; for the forms with **\*r-** initials, I reconstruct **\*ru** based on the Ersu forms.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *pʰru | | | | ʂæ⁵⁵**phʐu**⁵³ | PLB *ʔ-blu¹ | porcupine |
| *mpʰru¹ | **npho⁵⁵** | **tʂhə³³sɯ⁵³** | **`mpʂʰʉ** | **nphʐɯ³⁵,** **ntʂhʉ³⁵** | *r-kəw | steal |
| *mpʰru¹ | | | ntʂʰʉ | nphʐʉ³⁵ | | steam (v.) |
| *mpʰru | | | **`mpʂʰʉ** | ntʂhʉ³³tɕæ⁵³ | | bamboo steamer |
| *pʰru | | | **`mjɑpʂʰʉ,** **`mjɑtʂʰʉ** | | PLB *p(l/y)uːŋ² (MLBM 62) | face |
| *bru | buˀ; bu³³ | -bo | -bʐʉ | (te³³) bu³¹ | | flock (of sheep) |
| *bru² | dzu³³ ?? | | **`bʐʉ** | | | tendon |
| *(ji)mbru² | **bʐɻˀ** | | **`ɣɑjimbʐʉ** | ji⁵³**nbu⁵³** | *m-bruŋ ≍ *m-bruk; < WT ḥbrug? | dragon |
| *tɕuru | ə˦³³ tsu³³ **ru⁵⁵** | **`tɕorə** | | tɕye³³ɦæ˦³⁵ | | footprint / track |
| *ru¹ | **ru⁵⁵** | | əˡ | ne³³ʐʉ⁵³, ne³³ɣu⁵³əɹ⁵³ | | shave (the head) |
| *ru(bu)/du¹ | **ru⁵⁵** | əɹ³³bu⁵³ | **`əˡbʉ** | ə˦³³bu⁵³, dʉ³⁵ | *g-ruŋ | horn |

Note that in TBL, **\*-r-** has developed into [ʐ] after the voiceless bilabial stops, but has disappeared after the voiced stops.

## 4.2.4　*-re

For mid vowels we can reconstruct a front **\*-e** and a back **\*-o**. First, we look at **\*(-)re**:

| env. | Ersu | Kl. | Nq. | Mn. | TBL |
|---|---|---|---|---|---|
| b __ | əˑ; aˑ | ɚ | e | ʐ̩e | ɯ(ˑ) |
| # __ | rɛ | ræ | - | əˑ | əˑ |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *nebre[1] | bəˑˑȵiˑ; baˑ⁵⁵ȵi⁵³ 'rest' | nebɚ | nebʐ̩e | ŋe³³**bɯ**ˑ⁵³ | | tired, fatigued |
| *mbre[1] | nbaˑ⁵⁵ | se³³mbe⁵³ | | se³³nbɯ⁵³ | | root |
| *re[1] | rɛˑ; rɛ⁵⁵ | | əˑ | khɯ³³ɣɯˑ⁵⁵ɣɯˑ³¹ | | dry by fire, toast |
| *dere[1] | dɛ⁵⁵rɛ⁵⁵ | | ˋdeəˑ | de³³əɹ³⁵ | | swell (of tissue) |
| *mbere[2] | mbɛ³³ **rɛ⁵⁵** | | | na⁵³nbəˑ⁵³ | *ba-y | cheek |
| *re[1] | vɛ⁵⁵ ?? | | -əˑ, dʑiæˑ | əˑ³⁵ | *rəy | water / soup |
| *mjare[1] | | | mjɑəˑ | miæ³³əˑ⁵³ | | tears ("eye-water") |
| *stiu(d)zære[1] | su⁵⁵za⁵⁵ɣɛ⁵⁵, su⁵⁵za⁵⁵**rɛ⁵⁵** | kŋræ | ʃtedzæˑ | | *s-nap + *rəy | snot (liquid) |
| *ware/ɣare[1] | | | wæˑ | ɣa³³əɹ³⁵ | | liquor (yellow rice / millet / Shaoxing) |

The last four examples above are all examples of WATER. E.g. 'tears' = "eye water", 'snot' = "nose water". In the Mn. forms for 'snot' and 'rice wine', it seems that the 'water' component has merged with and rhotacized the preceding syllable (e.g. **dzɑ** + **əˑ** > **dzæˑ**).

The TBL reflex of **\*re** seems to be **-əˑ** (note that the two syllables of 'cheek', as evidenced by Ersu, seem to have coalesced into one).

Mn. also has **-əˑ** except for the one form with a bilabial stop initial, 'tired', which has **-ʐ̩e**.

Ersu has a rhotic vowel in the form for 'tired', and **rɛ** as the usual reflex of **\*re**. Note the variation between **r-** and velar fricative **ɣ-** in the last syllable of 'snot'. More perplexing is the Ersu form **vɛ⁵⁵** 'water/soup', which shows up as part of the compound **ʂŋ⁵⁵vɛ⁵⁵** 'meat soup' in Sūn 1982b:260. The **v-** initial is unexpected here, since Ersu **v-** should correspond with Lizu **w-** or **ɣ(w)-**.

## 4.2.5　*-ro

| env. | Ersu | Kl. | Nq. | Mn. | TBL |
|---|---|---|---|---|---|
| pʰ __ | o | re | - | ʂo | ʐu |
| b __ | o | ɚ | o | ʐ̩o | o(ˑ) |
| # __ | ro | - | - | - | əˑ |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tsipʰrjo/ tsʰipʰrjo² | tsʰ˥˩pʰo˥˩; tsɿ⁵⁵**pho⁵⁵** | | ˋtsʰi**pʰço** | tshe⁵³**phzʮ⁵³** | | age |
| *mpʰrozæ¹ | pho⁵⁵za⁵⁵ 'husband' | pʰrezæ | mpʂʰozæ | nphzɯ³³zæ⁵³ | PL *m-laŋ/plaŋ¹ 'husband' (PL 217) | young lad / chap |
| *debro¹ | | | debʐo gɤ | de³³boɹ⁵³ | PKC *puar | feel bloated (stomach) |
| *m(b)ro² | bo˩; nbo³³ | ˋnbɚ; mbɐ³³qhʌ⁵⁵ | ˋmbʐo | nbo˩³⁵ | *k-m-raŋ | horse |
| *mbro | jʌ˥˩bo˥˩; ja³³nbo⁵⁵ | nbɚnbɚ; bo³³mbo⁵³ | pæmbʐo, mbʐɨmbʐo | bo⁵³nbo⁵³ | *m-raŋ | high / tall |
| *mbro¹ | nbo⁵⁵si⁵⁵ | | | nbo˩³³wu⁵³ | | willow |
| *ado(ri)¹ | | | ɑ**do** (incl.) | a³³**do**˩³⁵ | | we |
| *-ro | na⁵⁵ **ro⁵⁵** | | | n̩uo⁵³ə˩⁵³ | | rib |

In Ersu and Nq., medial **-r-** is lost; in TBL it becomes [z̩] after voiceless initials, a rhotic vowel after voiced initials. TBL 'age' and 'husband' have unexpected high vowels.

The form for 'we (inclusive)' is phonotactically unusual because it appears that an **-r-** medial appears after a dental stop (all the other examples with medial **-r-** have bilabial or velar initials). The form is included here solely based on the rhotic vowel in the TBL form.

### 4.2.6   Indeterminate mid/high after *r

There are also some rhymes, appearing in the second syllables of the Lizu forms below, whose reconstructions at the Proto-Ersuic level (assuming they go back that far) are indeterminate between high and mid vowel because there are no recorded Ersu cognates:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *kʰarV¹ | | | kʰaəɹ | kha³⁵ə˩⁵³ | | walnut |
| *lirV¹ | | | liəɹ | li³³ə˩³⁵ | <MC lij 梨 ? | pear⁴ |
| *mukr(w)V¹ | | mu³³kəɹ⁵³ | mɨkwəɹ | mu³³kə˩⁵³ | *r-may ⪥ *r-mey ⪥ *r-mi | tail |

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⁴A comparison to the Mandarin diminutive suffix **-er** is tempting here, but to my knowledge the local Mandarin forms for 'walnut' and 'pear' (**xe²²tʰau²²** and **li²²tsɿ⁵⁵**) do not have this suffix.

## 4.2.7 Low vowels after *r

It is possible to reconstruct two low vowels, front **\*-æ** and back **\*-ɑ**. There are only a few examples of **\*-ræ**:

| env. | Ersu | Kl. | Nq. | Mn. | TBL |
|------|------|-----|-----|-----|-----|
| P __ | əˑˈ; aˈ | ræ | e | z̩æ | æ(ˈ) |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|------|---------|-----|-----|-----|-------|
| \*præ¹ | paˈ⁵⁵duɑ⁵⁵ | ˋdepræ | depʂæ | pæ⁵³læ⁵³ | | arrive |
| \*debræ¹ | bəˑˈ˥ | ˋdebræ; de³³be⁵³ | bz̩æ | de³³bæˈ⁵³ | \*b(w)ar ⋊ \*p(w)ar | burn |

On the other hand, there are quite a few examples for **\*-rɑ**. These can be distinguished from **\*-ræ** based on (1) the TBL forms, where the vowels above are **æ(ˈ)** while the vowels below are **a(ˈ)**; and (2) the Mn. forms, where after bilabial stops the **-r-** has become a medial fricative above but r-coloring on the vowels below. Note that whereas TBL transcribes r-coloring inconsistently, both Mn. and Ersu reflect **\*-r-** faithfully (with Ersu yielding retroflex affricates after original velar stops).

| env. | Ersu | Kl. | Nq. | Mn. | TBL |
|------|------|-----|-----|-----|-----|
| P __ | əˑˈ; aˈ | ræ | ɐɹ | æˈ | a(ˈ) |
| K __ | zɛ/uaˈ | (ʁ)ɑ | a | æˈ | a(ˈ) |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|------|---------|-----|-----|-----|-------|
| \*pʰrɑ² | | | ˋpʰæˈ, dzæpʰæˈ | pha⁵³ | \*pwaːy | chaff / bran |
| \*brɑ¹ | | | ntsʰabæˈ | tsh̩³³ba⁵³ | | cane / vine |
| \*debrɑ¹ | bəˑˈ˥; dɑ³³ba¹⁵⁵ | de³³bɐɹ⁵³ | debæˈ | de³³ba¹⁵³ | \*bliŋ | full |
| \*brɑ¹ | pz̩˥ ? | ˋbræ | bæˈ, bæʲjo | ba¹³⁵ | | rope / string |
| \*mbrɑ¹ | bəˑˇ˧; nba⁵⁵ | nbɐɹ⁵⁵ | ˋmbæˈ | nba¹³⁵ | | urine |
| \*mbrɑ¹ | bəˑˈ˩ | | mbombæˈ, mbz̩imbz̩æ | de³³nba¹⁵³ | Lahu bù < \*mbwa | loud |
| \*mrɑ¹ | ma¹⁵⁵ | maɹ⁵⁵, mɐɹ³³s̩˥⁵³ | ˋmæˈ | ma¹³⁵ | \*m-la-y | bow / arrow |
| \*dekʰrɑ¹ | dɛˈltsʰ̩ ??; tʃhi⁵⁵ ?? | de³³kha⁵⁵ | dekʰæˈ | de³³kha⁵³ | \*b-ka | bitter, salty |
| \*krɑ | -tʂɛˈ˥; tʂɛ⁵⁵ | | -kæˈ | (te³³) ka³¹ | | catty ( = 1/2 kilogram) |
| \*krɑ² | tʂɛˈ˥ | ˋqɑ | ˋkæˈ | ka¹⁵³ | | scales, steelyard |
| \*htʃiukrɑ² | htʃo³³tʂɛ⁵⁵ | | ˋs̩tʂikæˈ | s̩u³³ka⁵³ | | fart |
| \*jakrɑ | ja⁵⁵dzɛ⁵⁵ | ˋjæqɑ | | ja⁵³ka⁵³ | | child |
| \*ŋgraŋgrɑ¹ | ndzɛ³³ndzɛ⁵⁵ | ˋnɢʁanɢʁɑ | ŋgɤŋgæˈ | nga³³nga⁵³ | | shake / shiver |
| \*seŋgrɑ¹ | | | seŋgæˈ | se³³nga⁵³ | | trunk |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *-ŋgrɑ$^{2}$ | tsu$^{33}$**ndzɛ**$^{55}$ | | ˋlaŋ**gæ**ˈ | luo$^{33}$**nga**$^{53}$ | | pestle |
| *ŋgrɑ$^{2}$ | | ˋnɢˠɑ | | ngaɹ$^{53}$ | | kill (a person) |
| *ɣrɑ/ge$^{1}$ | **xa**ˈ$^{55}$ | ˋʁɑ; geʁ$^{35}$ | ɣˠ | ɣɯ$^{35}$, **ɣa**$^{35}$ | *k-rap | needle[5] |
| *ŋrɑ$^{2}$ | ŋaˈ↓; ŋuaˈ$^{33}$ | ɦiã; ɐ$^{53}$ ? | ˋŋæˈ | ŋa$^{53}$ | *l/b-ŋa | five |
| *deŋrɑ$^{1}$ | ŋua¹$^{55}$ | | deŋæˈ | de$^{33}$ŋa$^{53}$ | *s-ŋ(y)a FISH | stinky, fishy-smelling |

Note that the Kala uvulars above seem to have developed from velar + **r** before the low back vowel.

Ersu 'rope' may not be cognate with the Lizu forms, but the bilabial initial and rhotic element in the rhyme is nevertheless suggestive of some relationship.

The Ersu word for 'bitter/salty' is almost certainly not cognate with the Lizu, nor does it seem to descend from PTB **\*ka**; I have included it for reference. Perhaps it is related to 'salt', though it is not homophonous (**tshɹ**$^{33}$ in Zl. Ersu).

The following forms can be reconstructed with initial **\*r** and a low vowel, but it is unclear if it is a front or a back vowel. If we simply assume the Ersu form reflects the protolanguage, we could assign a front vowel to the final syllable of 'ant' and a back vowel to the most of the remaining forms, but there is not enough data to make any claims with confidence.

| env. | Ersu | Kl. | Nq. | Mn. | TBL |
|---|---|---|---|---|---|
| # __ | rɑ | ræ | ra | æˈ | ə¹ |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *berA/burA | ʂɛ$^{33}$bɛ$^{55}$**ra**$^{55}$ | bu$^{33}$**ra**$^{55}$ | | bu$^{33}$ə¹$^{53}$ | *g/p-rwak | ant |
| *ht(w)arA$^{2}$ | htuɑ$^{33}$**ra**$^{55}$ | | ʃtæˈ | ta$^{53}$ə¹$^{53}$ | *m-liŋ | neck |
| *wurA/wærA$^{1}$ | vu\**ra**ˋ; vu$^{33}$**ra**$^{55}$ | | wæ, wæəˈ | ɣuæ$^{33}$**ɦæ**¹$^{35}$ | | cloth |
| *rAɬæ$^{1}$ | **ra**$^{55}$**ra**$^{55}$ | | ˋə⁴ɬæ | ɣɯ¹$^{33}$læ$^{53}$ | *g-ray GOD/COPULA | soul / spirit |
| *rAne,rAnɑ$^{1}$ | **ra**$^{55}$nɛ$^{55}$ | **rə**nɑ | | ə¹$^{35}$na$^{53}$ | | shadow |
| *rA$^{1}$ | **ra**$^{33}$ | **ɦi**rã | kʰeæˈ | ɣæ¹$^{35}$ | PLB *ra$^{3}$ | obtain, get |
| *lakʰa/lokʰa$^{1}$ | | | lakʰa kʰeæˈ 'get hurt' | luo$^{33}$khua$^{53}$əɹ$^{31}$ 'get hurt' | | wound |
| *rA | | ˋræ | æˈ- | | | yak |

The second syllable of 'guest' and 'elbow' (below) also can be reconstructed with an indeterminate low vowel (but note that the second syllable in TBL 'guest' appears not to be cognate). They are listed separately from the forms above because they do not have **\*r-** initials, unlike the examples above.

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[5]This root has two variants in Proto-Ersuic; see also p. 112.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *wra¹ | kʰɛˀlvə'l; nda⁵⁵va'⁵³ | | `ndæ'wæ' | da³³wu⁵³ | | guest |
| *lekrwa² | lɛ³³ kua'⁵⁵ tʃhu³³ | | `lɑkwə' tsʰʉ (v.) | | | elbow⁶ |

There are also a few forms that look like they might descend from **\*ræ/rɑ**, but in fact do not. These were discussed in section 3.9, but are worth repeating here:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *gwɑ² | | | `neæ' | **gua⁵³** | | left over / remain |
| *rwɑ¹ | rʌˀl; rɑ⁵⁵ | rwæ; rɑ⁵⁵ | æ' | ɣua³⁵ | *k-rak | chicken |

'Remain' is reconstructed as **\*gwɑ**, with a stop initial; and **\*rwɑ** 'chicken' has a **\*-w-** medial.

## 4.2.8   *-ui

| Ersu | Kl. | Nq. | Mn. | TBL |
|---|---|---|---|---|
| zɹ̩/a'/ua' | ɣ | u | we | u |

Finally, we have a set of forms where the Lizu reflexes simply have high back rounded vowels (or diphthongs in Mn.[7]), but the Ersu forms indicate the presence of some rhotic element. For these I tentatively reconstruct **\*-ui** and analyze the rhotacization in Ersu as secondary: rhotacization could have arisen through a pathway such as, e.g., **ui** > **yj** > **øj** > **əɹ/ɻ**, where rounding was reinterpreted as rhoticity.[8] Also note the word for 'Tibetan', which appears to be an old loan from Tibetan **bod** that ended up with this rhyme (perhaps because of the coronal final consonant[9]) and the subsequent regular sound changes in all the daughter languages.

Under this analysis, Mn. is conservative, other Lizu dialects have glide preëmption, and Ersu has gone in another direction with its rhotic-rhyme development. However, notice that there is evidence of some variation between diphthong and r-colored vowel in Mn. in the form for 'feather/body hair'.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *kʰepʰui¹ | | khə³³phu⁵⁵ | pʰwe | khe³³phu⁵³ | cf. Lahu phɛ | tether (a cow) |

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⁶The final syllable in the Mn. form means 'knock/strike'. The final syllable in the Ersu form does not appear to be cognate since it has an alveopalatal, not a dental, initial; it may be related to the final syllable in Lahu **là?꞊mē-*cu*** 'elbow'.

⁷In fact, although these rhymes in Mn. are phonemically transcribed as **/-we/**, there is not much rounding in the glide, so it is phonetically closer to **[-ɥe]** or **[-ɥɪ]** . Combined with aspiration, a form that is phonemically /pʰwe/ would be realized as something like **[pˣe˦]** .

⁸Compare, for example, Cantonese-American speakers who use syllabic **[ɻ]** for phonemic **/œ/**, e.g. 'foot' **/kœ:k³³/** as [kɹ̩k³³].

⁹In Lhasa Tibetan, for example, coronal final consonants caused back rounded vowels to become fronted, so WT **bod** > Lhasa **ˡpʰœ**.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *pʰui¹ | pʰʂ̩˥˩; phʂ̩⁵⁵ | | pʰwehõ (∼ lg.) | phu⁵³ | WT bod | Tibetan |
| *(ji) mui¹ | (kʰA˥)**mə˥**˥ 'sleep'; **ma˧⁵⁵** | | ji**mwe** ŋʉ, ji**mwe** dedz̩ | ji³³**mu⁵³** kɯ³³ | | doze / nod off |
| *mui² | mi˥**mæ˥**; ma˧⁵⁵ | `mv; mu⁵³ | `**mwe**, `**mə˥** | **mu⁵³** | *s-mul | feather, hair (of body) |
| *stiumui² | su⁵⁵ma˧⁵⁵ | | `ʃti**mwe** | ku⁵³**mu⁵³** | | beard / moustache |
| *muimui¹ | **ma˧⁵⁵ma˧⁵⁵** ('close eye') | | jibɑ `de**mʉmwe** | ne³³**mu⁵³mu³¹** | *s-mi:t | close (the mouth) |
| *jimui¹ | | | ji**mwe** 'sweet ∼' | ji³³**mu⁵³** | | buckwheat |
| *kʰui¹ | | | ʃtintʂʰɨ **kʰwe** | (ti³³nkhæ⁵³) **khu³¹** | | blow (one's nose) |
| *kʰuija | | | `**kʰwe**jɑ, `**kʰwæ** | **khu³³**jæ⁵³ | | under |
| *kʰui¹ | | khu⁵³ | kʰwe, kʰʉ | ne³³khu⁵³ | | pluck (flowers) |
| *gui¹ | dʒ̩˥˩; dʒ̩⁵⁵ | `gv | `gʉ, `gwe | (te³³) gu³¹, gu³³sua⁵³ 'send message' | | speech, phrase, words |
| *deŋgui¹ | dɛ˥ndʒ̩˩ 'change'; ndʒ̩⁵⁵ndʒ̩⁵⁵ | | ŋgweŋgwe, ŋgʉ | ne³³ngu⁵³ngu³¹ | | exchange |
| *leŋgui² | lɛ³³**ngua˧⁵⁵** | | `li**ŋgwe** | le³³**ngu⁵³** | | ring[10] |
| *xui/ŋui¹ | hə˥˩ ?; xa˧⁵⁵ ? | ŋo∼ɸio; ŋue³³mo⁵³ | ŋwe, ŋwemo | ŋu³³mu⁵³ | *d/g-wam | bear (n.) |
| *ŋui¹ | n̠ʑA˥˩; ŋua˧⁵⁵ | ŋu; ŋu⁵³ | ə˥ŋwe | ŋu³⁵ | *d-ŋul | silver |
| *ŋui² | ŋA˥˩; ŋua˧³³ | `ŋu | `ŋwe | ŋu⁵³ | *ŋwa | cattle, cow |
| *ŋuimæ | | | `ŋwemæ | ŋu³³mæ⁵³ | | cattle (common, female) |
| *xui¹ | ʂ̩⁵⁵ma⁵⁵ | `fvme; xu⁵³ | `xwe | fu³⁵ | *swa | tooth |
| *xui | ʂ̩³³ʂ̩⁵⁵ | | | fu³³fu⁵³ | *s-wa GO | walk |
| *ɣuiɣui | **ʐ̩˥ʐ̩˥**tsʰA˥tsʰA˥; jɑ³³**ʐ̩⁵⁵** | | **ɣʉɣwe** | | *lway ? | easy |
| *deɣui¹ | ʐ̩˥˩; ʐ̩⁵⁵ | `kʰev | `de(ɣ)we, `devʉ | de³³vu⁵³ | *gwa-n | wear (a garment) |
| *ɣui¹ | ʐ̩˥˩; ʐ̩⁵⁵ | v; wu³⁵ | (ɣ)we, vʉ | vu³³ji⁵³ 'go buy' | *rey | buy |
| *ɣuini/ ɣuindzA¹ | **ʐ̩³³**n̠ʑi³³ | | ɣɤndzɑ | ɣɯ³³n̠ʑi⁵³ɣɯ³³ndzæ⁵³ | | relatives |

Note that the Ersu forms for 'speech/words' and 'exchange' above have alveo-palatalized initials, not retroflexed initials as one might expect from an **-r-** medial. The form for 'ring' is different in

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[10]The **ng** in the Ersu and TBL forms represents [ŋg].

yet another way, since it has a rhotic vowel while maintaining a velar place of articulation for the initial. Perhaps there are multiple proto-rhymes here; or perhaps these alternates are due to variation or dialect borrowing.

Ersu 'bear' has a fricative initial, in contrast to the Lizu nasal initial. In the other Ersu forms with Lizu cognates starting with velar nasals ('silver' and 'cattle'), Zeluo Ersu seems to have some secondary labiovelarization (the **-u-**).

A small number of forms seem to match the correspondences above, except that Ersu has the rhyme **-u**, i.e. with no rhotic element. All of these except for one, the root common to 'garlic' and 'onion', have voiceless unaspirated velar stop initials, and thus are in complementary distribution with the set above (whether this is a plausible conditioning environment is another question entirely). The 'onion/garlic' exception in Ersu is a bit troublesome, since we can't explain it as a loanword from Nuosu (the Nuosu word for 'garlic' is **ka³³si³³**, and 'onion' is **ɣo³³thu³³**; see Mǎ et al. 2008). Note also that the Lizu forms are identical to the Lizu forms above for 'tooth' and 'walk', as are the PTB reconstructions. Perhaps the Ersu forms can be explained as dialect borrowings/variation here as well.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *hkui¹ | **hku⁵⁵** | | **xkwe** 'herd' | zuo³³ŋuo⁵³ ku⁵³ | | herd, put out to pasture |
| *kui¹ | ku⁵⁵ | | `kɨ, `kwe | de³³ku⁵³ | | scoop up (water) / ladle |
| *xui¹ | fu⁵⁵ | | | fu³³khuæ⁵³ | *swa-n | garlic |
| *xuibu¹ | fu⁵⁵bu⁵⁵ | `fvbv | | fu³³bu⁵³ | *swa-n | onion / scallion |

## 4.3   Nasalized vowels

The set of rhymes that can be nasalized is a small subset of the Proto-Ersuic rhyme inventory (**\*-ũ** appears only in loanwords):

| | |
|---|---|
| ĩ | (ũ) |
| jẽ | wõ |
| ẽ | õ |
| | ɑ̃ |

The forms listed below are those that are straightforwardly reconstructible with nasalized rhymes; almost all are reconstructed with initial **\*h-**. Other forms where it may be possible to reconstruct nasalized vowels will be discussed in separate sections below. Note that Ersu has lost nasalization on vowels completely.

As noted in section 3.10 above, it is possible to analyze nasalization as allophonic after initial **h-**, or initial **h-** as an allophone of **x-** before nasal rhymes. However, it is not necessary for our purposes to choose the "best" phonemic analysis; for these forms I will simply reconstruct a nasal final with an **\*h-** initial, leaving open the possibility that the origins of initial **\*h-** and/or nasalized vowels may have nothing to do with **\*x-** at all (see for example the various reflexes for 'bamboo').

There are five distinct roots that can be reconstructed as **\*hĩ**: 'smooth', 'ripe', 'year', 'chin', and 'bamboo':

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| \*hĩhĩ | xi⁵⁵xi⁵⁵ | | | hĩ⁵³hĩ⁵³la³³la⁵³ | | smooth / glossy / sleek |
| \*dehĩ¹ | xi˥˩; dɛ³³xi⁵⁵ | | dehĩ | de³³hĩ⁵³ | \*s-min ? | ripe, cooked, done |
| \*tsʰehĩ¹ | tshi⁵⁵xi⁵⁵ | tsʰehẽ | tsʰehĩ | tshe³³hĩ⁵³ | \*s-niŋ | this year |
| \*ja(ji)hĩ¹ | jʌi↓xi˥˩; jɛ⁵⁵xi⁵⁵ | | `jæhĩ | jæ³³hĩ⁵³ | | last year |
| \*ʂo(ji)hĩ¹ | ʃo⁵⁵i⁵⁵xi⁵⁵ | | `ʂohĩ | ʂu³³hĩ⁵³ | | year before last |
| \*sohĩ¹ | so⁵⁵xi⁵⁵ | | sohĩ | suo⁵³hĩ⁵³ | | next year |
| \*ndʒihĩ² | ndʐɻ³³xi⁵⁵ | | ndʑi hĩ | ndʐɻ⁵³hĩ⁵³ | | year after next |
| \*mehĩ² | mi³³xi⁵⁵ | | | me⁵³hĩ⁵³ | | chin |
| \*hĩ² | xi↓; xi⁵⁵ | `hẽ; m̥i⁵³ | `hĩ | n̥i⁵³ | | bamboo |

'Bamboo' is an interesting case because of the Nq. and TBL forms, which suggest a reconstruction with a voiceless nasal initial. However, voiceless nasals are not in the inventory of any described Ersuic language; TBL does not include any voiceless nasals in the consonant inventory, and Ikeda 2009 is just a wordlist with no phonological analysis. Thus, it is possible that these forms are typographical or transcriptional errors.

The following forms are reconstructed as **\*hjẽ** based on the Mn. forms, which have a vowel distinct from **-ĩ** above.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *hjẽmæ¹ | xiˀl, xiˀlmʌˀl; xi⁵⁵ma⁵⁵ | | hjẽmæ | hĩ³³mæ⁵³ | | sister |
| *hjẽ¹ | | khe³³hĩ⁵³ | hjẽ | khe³³hĩ³¹ | *r/s-ŋ(y)a | borrow (tools) |

The following forms, reconstructed with **\*-ẽ**, have **ẽ/ɤ̃** rhymes in Mn., **ʉ̃/ŋ̩** rhymes in TBL (the **ĩ** and **ũ** rhymes in 'fly' and 'musk' are unexplained), and **ɛ/ə** in Ersu. Ersu 'smell' is unexplained; and the two syllables in Zeluo Ersu 'seven' might be explained as coming from an **\*s-** prefix plus a root like **\*ni(s)**.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *behẽ/behĩ | | | `behẽ | be³³hĩ⁵³ | | fly (n.) |
| *lɑhẽ/lɑhõ | | | `lɑhẽ | la³³hũ⁵³ | | musk |
| *hẽhẽ¹ | hĩ⁵⁵ hĩ⁵⁵ | | hẽhẽ | te⁵³hʉ̃⁵³hʉ̃³¹ | *s-nam ? | smell |
| *dehẽ¹ | hɛ⁵⁵, xɛ⁵⁵ | `dehỹ | | de³³hʉ̃⁵³ | cf. Thai hɔ̌ːm ? | fragrant (smell) |
| *hẽ¹ | xɛˀl; xə⁵⁵ | firə̃ | hẽ | hʉ̃⁵⁵ | *g/s-məw ? | mushroom |
| *hẽ¹ | xɛ⁵⁵ | | `hẽ | (ɣua³³) jʉ⁵³khe³³xŋ̩³¹ | *s/r-go-ŋ ? | hatch / incubate |
| *sini/stẽ² | sĩˀl; ʃ̩⁵⁵n̩⁵⁵ | `tŋ~`kŋ; ki⁵³ | `ʃtɤ̃ | skŋ̩⁵³ | *s-nis | seven |

The forms below are reconstructed with **\*hõ** (or **hwõ** where Ersu has **-o**; see section 4.10 for discussion on **\*-o** vs. **\*-wo**):

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *hõ¹ | fuˀl; fu⁵⁵ | hũ | hõ | hũ⁵³ | | want / need |
| *hõ¹ | fu⁵⁵tsi⁵⁵ | | | hũ³³tɕu⁵³ | | pepper (hot) / chili |
| *hwõ¹ | -hoˀl; xo⁵⁵ | | nehõ | ŋuo³³hũ⁵³ | *s-m-raŋ ? | stretch out (the arm) |
| *hwõ | ho˅ | | -hõ | | | speech, language, dialect |
| | nuʌˀlkʰuˀl ? | | `nɑhõ(hõ) | na³³xuo⁵³xuo³¹, nua³³xo⁵⁵xo⁵³ | *s-nak | dark |

The second syllable of 'dark' does not correspond regularly and may be a loan from Loloish (cf. Lahu **nâʔ-hòʔ** 'pitch dark', Matisoff 1988:752).

There are two forms reconstructible with **\*hɑ̃**:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *t(w)ɑh(w)ɑ̃¹ | tuɑ⁵⁵xuɑ⁵⁵ | | tɑhɑ̃ | ta³³xa⁵³ | *s-r(y)ak 24-HOURS | tonight |
| *hɑ̃¹ | hʌ˅; xɑ⁵⁵, xa⁵⁵ | hæ̃ | hɑ̃ | hiæ̃³¹ | | have, exist (immovable) |

The **-i-** in TBL 'have/exist' is unexplained. The 'night' morpheme in 'tonight' may need to be

reconstructed with a **-w-** glide based on the Ersu form; the lack of nasalization in the TBL form is also unusual.

There is one form with **-ũ**, which may well be a Tibetan loan (cf. WT **stoŋ**):

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *htũ² | tuˋ,tu˩; hpu⁵⁵(htu⁵⁵) | | ˋʃtũ | tu⁵³ | *s-toŋ | thousand; ten cents |

There is also one form with a non-glottal initial reconstructed with the nasalized vowel **\*-ĩ**. As shown in section 3.2.2, **\*di** is expected to develop into **\*dʑi** except in Nq. The following form, with its phonotactically unusual dental stop + high front vowel combination, seems to have escaped this change; thus I reconstruct a nasalized vowel to account for this. Chirkova (2008:9) notes that the nasalization in Kl. properly belongs to the vowel of the first syllable, rather than being associated with the initial of the second syllable as prenasalization, as evidenced by the reduplicated form: **ˋdĩdĩbæbæ** 'very stupid' (not *didimbæmbæ).

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *dĩbæ | | ˋdĩbæ 'stupid' | | di³³nbæ⁵³ | | honest / well-behaved |

Finally, there are some forms where a nasalized vowel seems to have changed an initial palatal glide to a palatal nasal. The following forms are reconstructed as **\*jẽ**, **\*jã**, and **\*jõ**, respectively:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *jẽ¹ | jiˋ; ji⁵⁵ | ɲe; ɲi³³tshɯ⁵³, ɲĭe³⁵ | ɲe | ɲi³⁵ | *k-yim ⋊ *k-yum | house |
| *jã¹ | ja⁵⁵ | | ɲɑ | | | home |
| *jõ¹ | joˋ; jo⁵⁵ | | ɲo | ɲu³⁵ | *yaŋ | sheep |

The forms for 'house' and 'home' certainly look related, but the origin of the low vowel in 'home' is unclear.

## 4.4 *i

The **\*-i** rhyme is exemplified by forms with a variety of developments. After sibilants, I reconstruct **\*-i** where present-day dialects have apical vowels. Ersu has gone further, exhibiting such sound changes as **li > ɚ**, palatalization of velar stops, and development of extrusional fricatives after bilabial stops (**pi > psɹ̩**). This rhyme is to be distinguished from **\*-je**, which develops into **-i** in most dialects (see section 4.7).

| env. | Ersu | Kl. | Nq. | Mn. | TBL |
|---|---|---|---|---|---|
| l __ | ə˞ᴵ | i | i | i | i |
| P __ | zɹ̩ | i | i | i | i |
| d __ | ɹ̩ | - | i | ɨ | i |
| s,ʂ — | ɹ̩ | ɹ̩ | ɹ̩ | ɨ | ɹ̩ |
| ʃ — | ɹ̩ | ɹ̩ | ɹ̩ | i | ɹ̩ |
| K __ | zɹ̩ | i | i | i/je | i |
| (other) | i | i | i | i | i |

First, we look at the forms with lateral initials, where Ersu has undergone a **li > ɚ** change:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| \*li¹ | ə˞ᴵ↓; ə˞ᴵ⁵⁵ | li | li | | \*pla, PLB \*C-la¹ | ashes |
| \*kwɑli¹ | kɑ³³ə˞ᴵ⁵⁵ | | kɑli | kua³³li⁵³ | \*ka | crow |
| \*(rV)li¹ | | | ə˞ᴵli | li³⁵ | | dance (n.) |

Below are forms < **\*-i** after \*palatals. (Note that there is no distinction between **n-** and **ŋ-** before **-i/-j-**, either in the modern dialects or the protolanguage.) Note that in Ersu, \*palatal fricates have mostly become dental fricates (see section 3.4.1), with a consequent change in vowel quality from **[-i]** to **[-ɹ̩]** .

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| \*deni¹ | ȵi↓; ȵi⁵⁵ | ȵi⁵³ | deȵi | de³³ȵi³¹, de³³ȵi⁵³ | \*na-t | sick, ache |
| \*deni¹ | dɛˋȵi˥; ȵi⁵⁵ | ȵi³³tsɯ⁵⁵tsɯ³³ | ˋdeȵi | de³³ȵi⁵³ | \*r-ni | red |
| \*xuini¹ | ʂɹ̩⁵⁵ ȵi⁵⁵ wɑ⁵⁵ zɑ⁵⁵ | | | fu³³ȵi⁵³ | | gum ("tooth-red") |
| \*ni¹ | ȵi˥; ȵi⁵⁵ | ȵi⁵³ | ə˞ᴵȵi | ȵi³⁵ | | gold |
| \*nini¹ | ȵi⁵⁵ȵi⁵⁵ | ȵi³³ȵi⁵³ | ȵiȵi gɤ | ȵu⁵³ȵi⁵³ | | few / little |
| \*neni¹ | | | neȵi | ne³³ȵi⁵³ | | decrease, reduce |
| \*nini | jᴀˋȵiˋȵi˥; ȵi⁵⁵ȵi⁵⁵ | | | ȵi⁵³ȵi⁵³ | \*s-nem | low / short |
| \*(ri)ni¹ | ȵi⁵⁵ | | ə˞ᴵȵi | ə˞ᴵ³³ȵi⁵³ | \*s-ney | near |
| \*ni² | | | ˋkʰeȵi | te⁵³ȵi⁵³ | | be startled/afraid |
| \*breni¹ | ba˞ᴵ⁵⁵ȵi⁵³ | | ˋdebʐeȵi sæ | ŋe³³ȵi⁵³, bɯ³³ȵi⁵³ | \*g-na-s | rest |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *bæni¹ | bʌↄn̠iˈ, bʌˈn̠iˈ; ba³³n̠i⁵⁵, bɐ³³n̠i⁵⁵ | be³³n̠i⁵³ | bæn̠i | bæ³³n̠i⁵³ | *r/g-na | listen |
| *ɣuini/ ɣuindzʌ¹ | ʐʅ³³n̠i³³ | | ɣʏndzɑ | ɣɯ³³n̠i⁵³ɣɯ³³ndzæ⁵³ | | relatives |
| *tɕitæ¹ | tsʅ⁵⁵tɑ⁵⁵ | | ˋtɕitæ | khe³³tɕi⁵³tæ³¹ | | collect, harvest, put away |
| *htɕi¹ | | tɕi³³mi⁵³ | ɕtɕimæ | | *s-tu | vagina |
| *dʑiki¹ | | dʑi̠³³kɯ⁵³ | dʑiki | dʑi̠³³ki⁵³ | *m-ts(y)il | saliva |
| *dʑi¹ | | dʑi | dʑi | dʑi³⁵ | | speak, say |
| *sæmbæ² neɕi | sʌↄnbʌˈ 'feeling, emotion' | | ˋsæmbæ ˋneɕi | sæ⁵³nbæ⁵³ɕi⁵³ | | worry / be anxious |
| *ʑi¹ | ʐʅↄtʌˈ 'chair'; ʐʅ⁵⁵ | | ˋneʑi | ne³³ʑi⁵³ | | sit down |
| *ji¹ | kʰ-iↄ 'enter', ʐʅˈ, jiˈ; ʐʅ⁵⁵, ji⁵⁵ | nə³³ji⁵³ | ji | ji³⁵ | *ʔay | go |
| *jiji¹ | ji⁵⁵ 'child' | | jiji | ji³³ji⁵³ | *z(y)əy ?, cf. Lahu i | small |
| *ji/ʑi¹ | ji⁵⁵ | ʑi | | ne³³ʑi³¹, ne³³ʐæ³¹ | | live / reside |
| *ji¹ | ji⁵⁵ | | ˋji | ʑi³⁵ | Tai *ʔya/ MC 'en 煙? | tobacco / cigarette |
| *ji¹ | jiˈtsʰuˈ | | jitʰo | ji³³mæ⁵³ | < yi? | ladle |
| *jajihĩ² | jɛi³³hi⁵⁵ | | ˋjæjɣ | jæ³³ji⁵³hĩ³¹ | | story |
| *leji¹ | lɛˈjiˈ; li⁵⁵ | le³³ji⁵⁵pu³³ | ˋlejo 'right'? | le³³ji⁵³ | | left (side) |

Note the variation between palatal glide and fricative in 'go', 'live', and 'tobacco'.

In the following set of forms showing **\*-i** after bilabials, note that the Ersu reflex of **\*-i** is an apical vowel after bilabial stops. This is most likely because these syllables went through an intermediate stage with a palatal fricative (*pi > pɕi > psʅ), after which the (originally allophonic) palatals participated in the same palatal > dental change mentioned above (again, see section 3.4.1).

In some cases a form is indeterminate between **\*-i** and **\*-je** because there is no Ersu form[11]; such forms have been placed in this section.

There does not appear to be a distinction between **\*-i/\*-je** after **\*m-**.

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[11]Unfortunately, although it is true that Mn. seems to maintain the **\*-i/\*-je** distinction, I find the distinction rather difficult to hear and am hesitant to rely solely on my own transcriptions of these particular vowels.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *pʰi[1] | **phsʅ⁵⁵** | | **pʰɕi**, `nep**ʰɕi**-æ | ŋe³³**phi**-æ⁵³, ŋe³³**phʑ**-æ⁵³ | | lose / mislay, throw away |
| *lipʰi/læpʰi[1] | | | lipʰɕi | læ³³phi⁵³ 'pot, jar'? | | winnowing tray/basket |
| *dzepi/dzopʰi[1] | dzɛ⁵⁵psʅ⁵⁵ | | dzopʰɕi | | | hoe |
| *mpʰi[2] | pʰsʅ˥; nphsʅ⁵⁵ | phi⁵³ | `mpʰɕi | nphi⁵³, nphʑi⁵³ | *m-pat | vomit, spit |
| *pimæ[1] | pzʅˋmAˋbAˋkAˋ; psʅ⁵⁵ma⁵⁵n̠i⁵⁵za⁵⁵ | | pimæ | pi³³mæ⁵³ | *s-bal | frog, toad |
| *kapi[2] | ka³³psʅ⁵⁵ | | `kapi | kua⁵³pi⁵³ | | lame person |
| *pi[2] | **psʅ⁵⁵** | | `ʃti**pi** | n̠æ⁵³**pi**⁵³ | | chip (the rim) |
| *bi[2] | bzʅ˩; bzʅ³³ | bi³³jə⁵³ | `bi | bi³⁵ | *bya | bee, honey |
| *bi[1] | bzʅ³³bzʅ⁵⁵ | bi³³bi⁵³ | pæbi, `bibi | bi⁵³bi⁵³ | *ba | thin |
| *bibi[1] | | | debibi | de³³bi³³bi³¹ | PKC *ɓuay | busy |
| *mbi[1] | | | mbi | nbi³⁵ | *k-r-pʷat | leech |
| *mbimbi[2] | nbzʅ³³nbzʅ⁵⁵ | | mbimbi | nbi⁵³nbi⁵³ | Lahu pɛ̀ < *bya | divide / share (things) |
| *mbi | mbzʅ˩/˥; nbzʅ⁵⁵ | | `mbi 'step across' | (te³³) nbi³¹ | | step / stride |
| *mi[1] | mi˥; mi⁵⁵ | mi³⁵mi⁵³ | mi | mi³⁵ | *r/s-miŋ | name |
| *mi | mi˥; mi³³ | mi³³jə⁵³ | | mi³⁵ | PLB *myuk[L], *s-myuk[H] | monkey |
| *nemi[1] | mi⁵⁵ | | `nemi | ne³³mi⁵³ | | swallow |
| *mi[1] | mi⁵⁵ | | mi | | PLB *s/ʔ-mi[1] | catch |
| *miso | | | `misʉəˈ | mi³³suo⁵³ | | three days from now |
| *sini/htimi[1] | **sʅ˩n̠iˋ**; **sʅ⁵⁵n̠i⁵⁵** | ʂu³³mbu⁵³ ??? | **ʃtimi** | **ti**⁵³**mi**⁵³ | *s-ni-ŋ | heart |
| *ht(s)ipi[2] | **htsʅ³³psʅ⁵⁵** | **ɕi³³pa⁵³** ??? | `**ʃti** | **ti**⁵³**pi**⁵³ | *s-l(y)a | tongue |
| *stim(b)u[1] | **su˩mbuˋ**; **sʅ⁵⁵nbu⁵⁵** | **kŋræ** 'snot'; **ki³³mɐ⁵³** | `**ʃtimbʉ** | **ki**³³**mu**⁵³ | *s-na | nose |
| *hti(u) 'nose' | | | **ʃtintʂʰɨ** | **ti**³³**nkhæ**⁵³ | | snot |

The Nq. form for 'heart' may be an error, as it bears more resemblance to 'nose' (cf. Mn. `**ʃtimbʉ**).

The following forms are reconstructed with "unusual" initials: the root for 'insect/worm' (in the first two rows) is reconstructed as **\*di**, where the vowel has caused the initial to become an affricate in all the dialects except for Nq. 'Spacious' shows a similar pattern, although there is no Ersu cognate recorded, so it may be homophonous with 'eight', which is reconstructed here (distinct from 'insect') with a complex initial to account for the plain fricative initial in Ersu. (See section 3.2.2 for discussion on all the above forms.) Finally, the initials for 'be' seem irregular (see p. 46), but the rhymes all agree on a **\*-i** reconstruction.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *bedi¹ | bɛ³³**dʐɳ**⁵⁵ | bə³³**di**⁵³ | bø**dʑi** | be³³**dʑi**⁵³ | *bəw, *zril > PLB *di¹ | insect / worm |
| *didi | | | `dʑɨdʑɨ | dʑi³³dʑi⁵³ | | spacious |
| *rdi¹ | zɳˋ; ʐɳ⁵⁵ | | dʑɨ | dʑi³⁵ | *b-r-gyat ⤫ *b-g-ryat | eight |
| *ʐʷi¹ | zɳˋ; zɳ⁵⁵ | | zɨ | ʑi³⁵ | *s-ri(y) | be (copula) |

After dental and retroflex sibilants (including secondary dental sibilants after bilabial stops and *palatal > dental fricates in Ersu, as discussed above), the reflexes of **-i** are apical vowels (-ɿ/-ʅ). Note that in the following forms all the daughter languages have apical vowels, so it might seem than an apical vowel is the obvious sound to reconstruct here; however, for reasons outlined in section 7.1, I am reconstructing all these forms with the rhyme **-i** and treating the apicalization of **-i** as a later development.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *si | sɳˋtʂuaˋ; sɳ⁵⁵ | | `sɨsɨ | | *g-sik | new |
| *si¹ | sɳˋ; sɳ⁵⁵ | ne³³suɯ⁵³ | sɨ | de³³s-æ⁵³ | *g/b-sat | hit, kill |
| *tosi mæni | | | tosi `mæɳi | tuo⁵³sɳ⁵³ mæ³³ɳʉ⁵³ | | no problems, leisurely |
| *zi² | | `zɳ | `zɨ | zɳ⁵³ | *za | son |
| *zi¹ | zɳ⁵⁵ | zɳ | zɨ | zɳ⁵³ | | shoe |
| *zi | -zɳˋ; -zɳ³³ | | -zɨ | -zɳ⁵³ | | ten (bound), -ty |
| *kezi¹ | | kuɯzɳ | | (te³³) kuɯ³³zuɯ³¹ | | bucket (of water) |
| *netsʰi¹ | nɛˋtsʰɳˋ; nɛ⁵⁵tsʰɳ⁵⁵ | nə³³tshɳ⁵³ | `nɤtsʰɨ | ne³³tshɳ⁵³ | | twenty |
| *tsʰi² | tsʰɳ↓; tshɳ³³ | tshɳ⁵³ | `tsʰɨ | tshɳ⁵³ | *tsa | salt |
| *tsʰi¹ | tshɳ⁵⁵ 'shoulder blade' | tshɳ³³tshɳ⁵³ | tsʰɨtsʰɨ | tshɳ³³tshɳ⁵³-ta³³ta³³ | *tsik | joint |
| *mutsi¹ | m̩³³tsɳ⁵⁵ | | mʉtsɨ | mu³³tsɳ⁵³ | | cat |
| *(ŋ)gætsi¹ | ngɑ⁵⁵tsɳ⁵⁵ | | gjætsɨ | | Mand. 茄子 qiézi | eggplant |
| *tsi¹ | tsɳ⁵⁵ | | tsɨ | | *s-dzya | feed |
| *dzi² | dzɳˋ; dzɳ³³ | dzɳ; dzɳ⁵³ | dzɨ | dzɳ⁵³ | *dzya | eat |
| *dzi¹ | dzɳ⁵⁵ | | | de³³dzɳ⁵³ | | give birth to (e.g. piglets) |
| *(d)zi² | jʌˋfiˋ ??; jɑ³³zɳ⁵⁵ ? | | `dzɨdzɨ | dzɳ⁵³dzɳ⁵³ | | wide / broad |
| *myidzi² | xiˋdzɛˋ ?; mi³³dzɳ⁵⁵ | | `ɳidzɨ | mi³³tsɳ⁵³ | | rabbit |
| *ntsʰi¹ | ntshɳ⁵⁵ | | `(de)ntsʰɨ | de³³ntshɳ⁵³ | | choose / pick |
| *ndzi¹ | ndzɳ³³nuɑ⁵⁵ | | ndzɨ | dzɳ³³mu⁵³ | *g-zik | leopard / panther |

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| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ŋeleʂi¹ | | | neleʂɨ 'face downhill' | ŋe³³le⁵³ʂ̩³¹ | | turn around |
| *ʂi² | ʃ̩˥˩; ʂ̩⁵⁵ | | `vʉli ʂɨ, tɕe ʂɨ | ʂ̩⁵³ | *si(y) | comb (v.) |
| *tsjẽʂi¹ | | | tɕiʂɨ | tɕi³³ʂ̩⁵³ | | comb |
| *ʃi² | ʂ̩˥˩; ʂ̩⁵⁵ | ʂ̩⁵³, ɕi³³ | `xɤ | ʂ̩⁵³ | *sya | meat |

After *alveopalatals, **-i** develops into apical vowels except in Mn.:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tʃʰitʃʰi¹ | tʃʰ̩⁵⁵tʃʰ̩⁵⁵ | | tɕʰitɕʰi | ɕæ⁵³tʂʰ̩⁵³ 'move (house)' | *m-kyit | move |
| *tʃʰi | tʃʰ̩˥˩ | (sa³³phu⁵⁵) tʂʰ̩⁵³ | | ne³³tʂʰ̩⁵³ | | cut (meat) |
| *ntʃʰi² | | tʂʰ̩⁵³ | `ntɕʰi | ntʂʰ̩⁵³ | | kill / slaughter (an animal) |
| *ndʒihĩ² | **ndʒ̩³³xi⁵⁵** | | **ndʐi hĩ** | **ndʐ̩⁵³hĩ⁵³** | | year after next |
| *ngeso/ndʒiso¹ | **ngɛ³³so⁵⁵** | | **ndʐisʉə˥** | **ndʐ̩³³suo⁵³** | | day after tomorrow |
| *tʰekiʃi¹ | (thɐ⁵⁵)ɬi⁵⁵ ? | thɐ³³tɕhi⁵⁵ɕi³³ | kiɕi | the³³kɯ⁵³ʂɯ⁵³ | | hide (sthg.) |

The first syllables of 'year after next' and 'day after tomorrow' in Ersu may be allofamically related; perhaps at some earlier stage of the language there was a process of vowel harmony such that the rhyme in the first syllable of 'year after next' assimilated in vowel height to the second syllable, followed by palatalization of the velar initial.

*-i after velars has become -ɻ in Ersu, presumably through an intermediate palatal stage (e.g. *gi > dʑi > dʐɻ). The forms here have been separated from those reconstructed with *-je based solely on the Ersu rhymes for reasons similar to those given for the forms < *bilabials + *-i above; [dʑi/dʐɻ] in Ersu seems easier to distinguish (for a naive fieldworker) than [gi/gje] in Mn. and so is taken to be more reliable.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ŋgi | jɑ³³ndʐ̩⁵⁵ | | `deŋgi | | | difficult, hard |
| *megi² | mɛ³³dʐ̩⁵⁵ | `medʑe | `megje | me³³gi³⁵, me⁵³gi⁵³ | *gle:k | thunder |
| *ŋgi¹ | dʐ̩˩; ndʐ̩³³ | ngi⁵³ | ŋgje | ŋgi³⁵ | PLB *g-ra² ? | buckwheat |
| *bugi¹ | | | bʉgje | be³³gi⁵³ | | bury |
| *ŋgi¹ | ndʐ̩˩ | | ŋgje | ngi³⁵ | | carry load (pack animals) |
| *ɬjeki¹ | ɬi⁵⁵ts̩⁵⁵ | `ɬetɕi | | ɬi³³ki⁵³ | *s-lay ≍ *s-ley | ladder |

The remaining forms in this section show somewhat irregular correspondences. The first syllable

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of 'grandchild' below may have assimilated to the vowel of the second syllable in Nq. and TBL, with Mn. preserving a high front vowel. The first syllable of 'peach' in Ersu appears cognate to the second syllable in Lizu, but the TBL form has an unexpected back rounded vowel. Finally, the first syllable of 'daughter/woman' looks like it should be reconstructed **zi** based on the Mn. and TBL forms, but the Ersu and Kl. forms seem to point rather to **zje**.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *lit$^h$o/lot$^h$o[1] | | lo$^{33}$tho$^{53}$ | lit$^h$o | luo$^{33}$thuo$^{53}$ | *b-ləy | grandchild |
| *jVsi[1] | sɿ$^{55}$jɑ$^{55}$ | | jisɨ | ju$^{33}$su$^{55}$ | | peach |
| *zjeji/zijo[2] | ziˇxiˇ 'woman'; zi$^{33}$ji$^{55}$ | `ʐeje ? | `zɨjo | zʉ$^{33}$ju$^{53}$, zʉ$^{53}$ju$^{53}$ | | daughter, woman |

## 4.5   *iu

| env. | Ersu | Kl. | Nq. | Mn. | TBL |
|------|------|-----|-----|-----|-----|
| pal. __ | o | i | i | i | y |
| l __ | iu/ə˞ | (j)u | u | ø | (i)u/y |
| d __ | u | i | i | i/y | u/i |
| P __ | ɛ | - | u | ø | u |
| (other) | o | e | i | ɨ | u |

**\*-iu** is reconstructed where we have the correspondence of Ersu **-o** : Mn. **-i** : TBL **-u** (assuming TBL **-y/-ɨ** to be allophonic variants of **-u** after palatals).

The phonetic value of **-iu** seems to be preserved as such after **l-** in most cases in TBL, but the high front vowel seems to have been absorbed by palatal initials. Note, however, that there is no distinction posited for the protolanguage between initial dentals and palatals (e.g. **n-** vs. **ɲ-**), so we can reconstruct the following nasal-initial forms as **\*niu**.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|------|---------|-----|-----|-----|-------|
| \*niumæ¹ | n̠o⁵⁵ma⁵⁵ | ˋɲime; ni³³ma⁵⁵ | ˋn̠imæ | n̠i³³me⁵³, n̠i³³mi⁵³ | | sun |
| \*niu | n̠o˩,n̠oˋ; n̠o⁵⁵ | nɯ⁵⁵ | -n̠i | (te⁵³) n̠y⁵³ | \*nəy SUN | day, day's (work) |
| \*tæniu¹ | tʌˋln̠oˋl; ta/ta⁵⁵n̠o⁵⁵ | | tæn̠i | tæ³³n̠ɨ⁵³ | | today |
| \*janiu¹ | jʌ˩n̠oˋl; jɛ⁵⁵n̠o⁵⁵ | ˋjæɲi | jæn̠i | jæ⁵³n̠ɨ⁵³ | cf. Lahu yàʔ- < \*yak | yesterday |
| | | | ten̠i ˋmæɕi | te³³n̠y⁵³mæ³³thæ³¹ | | every day |
| \*niu¹ | n̠oˋltɕʰoˋl; n̠o⁵⁵tɕho⁵⁵ | | | n̠i³⁵ | \*s-ni/u(:)p | west |
| \*niu¹ | n̠o˩ '~ (polite)'; n̠o⁵⁵ | ɲe | n̠i | n̠y³⁵ | \*r-ney-t | have, exist (general/abstract) |
| \*suniu | | | ˋsɨn̠i 'self' | sɨ³⁵n̠y⁵³sɨ³³n̠y⁵³ | | each / respective / individual |
| \*niuniu² | | | ˋn̠yn̠y (ndzomɑ) | n̠ɨ⁵³ | | oneself |
| \*æniu¹ | ɑ⁵⁵n̠o/a⁵⁵ 'mother-in-law' | | ˋæn̠i | æ³³n̠ɨ⁵³ | | aunt |
| \*ɣeniu/ɣoniu¹ | vɛ⁵⁵n̠o⁵⁵ | ˋɣɯɲi~ˋgɯɲi; wo³³nu⁵³ | ɣwen̠i, ɣɨn̠i | ɣuo³³n̠u⁵³ | \*ril ⪤ \*rul | intestine |
| \*niuŋkʰwɑ bedi | n̠o³³nkhuɑ⁵⁵ bɛ⁵⁵dzʐ⁵⁵ | | | n̠i³³nkhuo⁵³ be³³dʑi³¹ | | earthworm |
| \*netɕʰiu/ netɕiu¹ | tɕʰoˋl ?; tɕho⁵⁵? | (ni³³ma⁵⁵) ne³³tɕi⁵⁵ | ˋn̠imæ netɕi-æ | ne³³tɕu⁵³ | \*g(l)im ⪤ \*g(l)um | set (of the sun) |
| \*ʐiu¹ | ʐo⁵⁵ | ʐe | ɣwæ ʐi | ʐu³⁵ | | fall (rain) |
| \*liu | -liuˋl; lio⁵⁵ | | -li | (te⁵⁵) liu⁵³ | \*lam ? | fathom |
| \*ku(liu)¹ | ku⁵⁵ə˞⁵⁵ | kurə | kɨli | ku³³liu⁵³ | <MC ljo 驢 ? | donkey |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *kʰekuliu¹ | kʰɛˋkuˌlyoˈ | | dekɯlø, dekɯlølø | khe³³ku⁵³liu⁵³ | | wrap (v.) |
| *deliu¹ | dɛˋəˈ˥; əˈ⁵⁵ | lju; de³³lu⁵³ | ˋdelø | de³³lɯ⁵³ | *plu | white |
| *liu¹ | əˈ⁵⁵ | ly | lø, lølø | ly³⁵, the³³ly⁵³ | | rob / loot |
| *du(liu)¹ | buˈɬɛˈ; bu⁵⁵ɬɛ⁵⁵ | ˋdv 'plumage'; du³³rɯɹ⁵³ | dølømæ | du³³ly⁵³ | *duŋ | wing |
| *ntsʰołiu¹ | ntsho⁵⁵ło⁵⁵ | łe⁵³ | ˋntsʰɯli | łe³³ | *s-ləy | flea |
| *ntsʰełiu | | | ˋntsʰɨli | tshe³³łe⁵³ | | gift / present |
| *diutsʰe¹ | bu⁵⁵tʂhɛ⁵⁵ | ti⁵⁵tɕhə⁵³ | dʑitʂʰɤ | (te³³)dʐɯ³³tʂhɯ³¹, dʐu⁵³tʂhɯ³¹ | | year |
| *diupʰæ¹ | bu⁵⁵phɑ⁵⁵, ji³³phɑ⁵⁵ | ˋtɕuphæ; di³³pe⁵³ | dʑyphæ 'stomach' | dʑi³³phæ⁵³ | | belly |

Reflexes of forms with initial l- are usually əˈ in Ersu (exceptions are 'fathom' and 'wrap', and perhaps the second syllable in 'wing'); and lø in Mn. (exceptions are 'fathom' and 'donkey'). There are two forms with a voiceless lateral initial ('flea' and 'gift') which have been placed here because of the rounded vowel in Ersu.

The final two forms in the above set ('year' and 'belly') illustrate an initial syllable that may be reconstructible as **\*diu**, with a stop initial (see section 3.2.2).

The following forms show the same vowel correspondence (Ersu **-o** : Mn. **-i** : TBL **-u**) after retroflexes. Note that this is almost the same as the correspondence for **\*-riu** above (section 4.2.2), except that TBL has **-ɻ** above. Notice also that many of the PTB roots in both sections have the rhyme **\*-əy**.

The first three items below have palatal initials in most of the dialects; as discussed on p. 46, these items are reconstructed with palatal initials having a -w- medial glide.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tɕʷhiu² | tʂhoˌ; tʂho⁵⁵ | ˋtɕhe; tɕhi⁵³ | ˋtʂhɨ | tɕhu⁵³ | *d-kʷəy | dog |
| *ɕʷiu¹ | ɕo⁵⁵ | ɕi³³ | bædʑi ʂi | khe³³ɕu⁵³ | *s-kəy | borrow (money) |
| *tʰeɕʷiulɑ | | | ˋ(kʰe)ʂɨlɑ | tho³³ɕuo⁵⁵la³¹ | | slanted / askew |
| *tʰeʂiu¹ | ʂo⁵⁵ | thɯ³³xɯ⁵³ | ˋkʰeʂɨ | the³³ʂu⁵³, thu⁵³ʂu⁵³ | *səy | die, dead |
| *ʂiu¹ | ʂoˋ; ʂo⁵⁵ | ˋʂe; xɯ⁵³ | ˋʂɨ | ʂu³⁵ | *s-hywəy | blood |
| *ʂiu¹ | ʂu⁵⁵ | | ˋʂikʰwakʰwa | de³³ʂɯ⁵³ | | yellow < yi? |
| *z̩iu² | zo⁵; zo³³ | ˋze; tʂɻ⁵³ ??? | ˋzɨ | ʐu³⁵ | *b-ləy | four |
| *z̩iudu² | zo³³bu⁵⁵ | | | ʐu⁵³du⁵³ | | square / rectangular |
| *dz̩iu¹ | | dze | dzɨ | dʐu³³dʐu⁵³ | | have, exist (container) |
| *dʒiu¹ | dʒo⁵⁵ | ˋdʐe; dʐɻ⁵⁵, dʐu³³khu⁵³ 'river' | dʑɨ | (n)dʐu³⁵, dʐu³⁵ | *m-t(w)əy | water, river |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tʃʰiumæ | | | `mozo tʂʰɨmæ | tʂhu³³mæ⁵³ | Lahu mê-chɔ̂-ma < *kyəw | widow |
| *tʃʰiujo² | tʃhɻ³³ji³³ | | `jotʂʰɨjo, jotʂʰɨjo | tʂhu³³ju⁵³ | | orphan |
| *detʃʰiu¹ | tʃho⁵⁵ | | `detʂʰɨ | de³³tʂhu⁵³ | *kyəw | sweet |
| *tʃʰiu² | tsʰoˈmiʌˈ; tʃho⁵⁵mia⁵⁵ | | `tʂʰɨ- | tʂhu⁵³ puɯ⁵³ | | how many |
| *htʃiu² | htʃo³³re⁵⁵, htʃo⁵⁵ | ʂe; tʂɻ⁵³ | `ʂtʂɨ | ʂu³⁵ | *kləy | feces |
| *ntʃʰiu¹ | ntʃho⁵⁵ | tshɻ³³pu⁵³ | ntʂʰɨ | tʂhɻ³⁵ | | thorn / splinter |
| *ntʃʰiu² | ja³³ntʃhɛ⁵⁵ | | `ntʂʰɨ-, kʰentʂʰɑ ? | tʂhu⁵³ntʂhu⁵³ | | fast / quick / early[12] |
| *ʂoniu² | ʃo⁵⁵n̩o⁵⁵n̩o⁵⁵ | | `ʂʉnkʰo `ten̩i | ʂu⁵³n̩ʉ⁵³ | | day before yesterday |

The Ersu form for 'yellow' has an irregular **-u** rhyme; this form may be a loan from Nuosu. Ersu 'orphan' also has an irregular rhyme, but it (and 'widow', which appears to be related) have been included in this set based on the TBL rhymes.

The following three forms have bilabial initials that are tentatively reconstructed with the present rhyme:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *piu¹ | pɛ⁵⁵rɛ⁵⁵ | pu⁵³ | pø | pu³⁵ | *m-blen | pus |
| *biususu¹ | bɛ⁵⁵su⁵⁵su⁵⁵ | | bøsʉsʉ | bu³³sʉ⁵³sʉ³¹ | | bladder |
| *mbiulje² | nbɛ³³li⁵⁵ | mbə⁵⁵ | `mbøli | nbo³³ly⁵³ | | kidney |

Finally, there are a handful of forms that may be best included in this section but are somewhat problematic. 'Ear/spike' does not have the expected **-u** rhyme in TBL; neither do 'letter/book' or 'wok'. If these last two, which have retroflex initials, originally developed from velar + **-r-** clusters, this may explain why they have unrounded rhymes (i.e. they would belong in section 4.2.2), but there is no evidence for this (there are no Nq. forms, and the TBL forms do not record any variants with a velar initial).

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *(n)dʑi(u)² | ndʐo³³ndʐo⁵⁵ ? | | | dʑi⁵³ | cf. Lahu ɔ̀-cɛ̄ < *dzya ? | ear / spike |
| *ndʒiundʑi¹ | dʐoˈndʒɻˈ; ndʐo⁵⁵ndʐɻ⁵⁵ | | ndʑɨdʑi | dʐɯ³³ndzi⁵³, dʐɯ³³ndʑi⁵³ | | letter, book |
| *dʑiu¹ | dʐoˈ; dʐo⁵⁵ | `dʐɻ | `dʑɨ | dʐɯˈ³⁵ | | wok (large, iron) / pan |

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[12]The Ersu form has an unexpected **-ɛ** rhyme.

# 4.6   *u

| env. | Ersu | Kl. | Nq. | Mn. | TBL |
|---|---|---|---|---|---|
| pal. __ | u | - | y | y | y |
| alvpal. __ | u | ɣ | u | y | u |
| (other) | u | u | u | ʉ | u |

Rounding out the high vowels we have **\*-u**. Reconstruction of this rhyme is straightforward; see the footnotes to individual forms for discussion of a small number of exceptions.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *æpʰu[1] | | | ɑpʰʉ | æ³³phu⁵³ | *pəw | grandfather |
| *æpu | ʌ˥pu˩; ɑ³³pu⁵⁵ | | | æ³³pu⁵³ | *pəw | grandfather |
| *mpsʰu[1] | ntshu⁵⁵ | | mpsʰʉ, ntsʰʉ | ntshu⁵³ | | hail |
| *sẽpu[1] | si˥bu˩; si⁵⁵pu⁵⁵ | sepv; sə³³pu⁵³ | sɨpʉ | se³³pu³¹, se³³pu⁵³ | | tree |
| *pu | -pu˩, -bu˩; pu⁵⁵ | -pv | -pʉ | (te³³) pu³¹ | PLB *baŋ[1] | classif. trees/flat obj. |
| *bu[1] | bəʵ˥ 'wild ox buffalo' ? | | bʉkʰwɑ | bu³³khɯ⁵³ | | yak (male)[13] |
| *ru(bu)/du[1] | ru⁵⁵ | əɹ³³**bu⁵³** | `əʵ**bʉ** | əʵ³³**bu⁵³**, **dʉ³⁵** | *g-ruŋ | horn |
| *(d)zibu[1] | zo˥bu˥; zɹ⁵⁵bu⁵⁵ 'stick' | | dzɨbʉ | | | walking stick |
| *bu[1] | bu⁵⁵ | | | ka³³bu⁵³ | *m-bup ROT / SPOTTED / WRITE | multicolored / patterned (cloth) |
| *dzæbu[1] | | | -bʉ, dzæbʉ | dzæ³³bu⁵³ | | straw (rice) |
| *mbu[1] | | | mbʉ 'roast' | ne³³nbu⁵³ | | scald / burn |
| *stim(b)u[1] | su˥**mbu˩**; sɹ⁵⁵**nbu⁵⁵** | kŋræ 'snot'; ki³³mɐ⁵³ | `ʃtim**bʉ** | ki³³**mu⁵³** | *s-na | nose |
| *mu[1] | ŋuə˩; ŋ̍⁵⁵ | `mu | mʉ | mu³⁵ | *mow | do / make[14] |
| *mætʰu | | | `mætʰʉ | ma³³thu⁵³ | | lazy |
| *tupri[1] | | tu³³pi⁵³ | | tu³³pɯ⁵³ | | bean / soybean / pea |
| *tu[1] | | | kʰetʉ | ŋe³³tu⁵³ | | infect |
| *dedulæ[2] | | | `dedʉlæ | te⁵³du⁵³læ³³sæ³¹ | | consult / discuss |
| *du[1] | bu⁵⁵ | | `dʉ | du³⁵ | | plow (n.) |
| *du(liu)[1] | **bu˥ɬɛ˥**; **bu⁵⁵ɬɛ⁵⁵** | `**dv** 'plumage'; **du³³rɯɹ⁵³** | dølømæ | **du³³**ly⁵³ | *duŋ | wing |

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[13]The rhotic vowel in the Qŝ. Ersu form is unexplained.

[14]The Ersu forms point to an apparent sound change of **\*mu** > **ŋ̍** or **ŋu**.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *kʰedu¹ | | | kʰedʉ 'complete' | khe³³du⁵³ | | right / correct |
| *ʐi̯udu² | ʐo³³**bu**⁵⁵ | | | ʐu⁵³**du**⁵³ | | square / rectangular |
| *rdumo² | kʰɛˋ**bu**ꜜ; **bu**³³mo⁵⁵ | | ˋ**ʒdo**mo, ˋ**ʒdʉ**sʉ | **dʉ**⁵³mo⁵³ | *ru | crazy person, lunatic |
| *rdurdu | jʌˋbiꜜ, jʌˋbuꜜ; jɑ³³bi⁵⁵, jɑ³³bu⁵⁵ | dy³³dy⁵³ | ˋ**ʒdʉʒdʉ** | | *t/dow-n, *tuːk | thick[15] |
| *lu | | | ˋdel**ʉ** | khe³³lu³¹ | | dilute / add water |
| *lu | | | ˋl**ʉ** 'mattress; felt' | lu³⁵ | | pad |
| *lol**u**² | ndzɑ³³lo⁵⁵ə̌ꜞ⁵⁵ 'pigeon' | lo³³**lu**⁵³ | | luo³³**lʉ**⁵³ | | dove |
| *tsʰutsʰu¹ | | | tsʰʉ, tsʰʉtsʰʉ | tshʉ³³tshʉ⁵³ | | knock / strike |
| *detsʰu¹ | detsʰv; dɤ³³tshu⁵³ | | detsʰʉ | de³³tshʉ⁵³ | *tsow | fat |
| *tsʰu | | | tsʰipə̌ꜞ | tshu⁵³ | | Sichuan pepper[16] |
| *ntsʰu² | tshu⁵⁵ | bu³³tshu⁵⁵ | ˋntsʰipʰwe, ˋntsʰipʰə̌ꜞ | ntshʉ⁵³ | *tsut | lung |
| *dentsʰu¹ | | tshũ³³ntshu⁵³ | dentsʰʉ | de³³ntshʉ⁵³ | | alive |
| *detsu¹ | | | mbo tsʉ | do³³tsu⁵³ | | wear (a hat) |
| *detsu¹ | tsuꜜ; tsu⁵⁵ | | ˋdetsʉ æ | de³³tsu⁵³ | *tsyow | boil (of water) |
| *detsu¹ | dɛˋtsuꜜ; tsu⁵⁵ | | | de³³tsu⁵³ | | dye |
| *kʰetsu | tsɛ³³tsɛ⁵⁵ | | | khe³³tsu⁵³ | *tsyap or PLB *ʔ-dzakᴸ ? | connect / join[17] |
| *htsu | ɲʌꜞxtʂuˋsuꜜ 'silversmith'; htsu⁵⁵ | -tsv | | | | forge, strike (iron) |
| *ndzu | | | ntʂʰi dendzʉ | (tʂhŋ⁵³) khe⁵³ndzu³¹ | *tsow THORN | pricked (on a thorn) |
| *su¹ | | | (de)sʉ 'stab' | ne³³sʉ⁵³, ŋo³³sʉ⁵³ | | thread (a needle) |
| *kʰesu¹ | kʰɛˋsuꜜ; khɛ⁵⁵su⁵⁵ | | | khe³³su⁵³ | | tight / taut |
| *desu¹ | su⁵⁵ | te³³su⁵³ | bʉtʂa sʉ, bʉtʂa sʉsʉ | te⁵³su⁵³ | PLB *si² | sharpen, whet (a knife) |
| *biususu¹ | bɛ⁵⁵su⁵⁵su⁵⁵ | | bøsʉsʉ | bu³³sʉ⁵³sʉ³¹ | | bladder |

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[15]The Nq. form has an unusual front rounded vowel.

[16]The Mn. forms for 'Sichuan pepper' and 'lungs' have unexplained unrounded vowels.

[17]The Ersu form has a front vowel here making it an unlikely candidate for inclusion in this PEr **-u** rhyme; however, the forms for 'carry with pole' below may show the same correspondence.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *te zu | | | `te zʉ | (te³³) zʉ³¹ | | lifetime |
| *zulje¹ | | zɯ³³li⁵³ | | zʉ³³lʉ⁵³ | | testicle |
| *zu¹ | zuˋ; zu⁵⁵ | | | zʉ³⁵ | | animal fat/oil |
| *dentɕʰu | ntshɛ³³ntshɛ⁵⁵ | | | de³³ntɕhu⁵³ | | carry with pole, lift up |
| *detʂʰu¹ | | | detʂʰʉtʂʰʉ | de³³tʂhu⁵³ | | mix / blend / mingle |
| *tʂʰu² | tʂʰuˋ; tʂhu⁵⁵ | tʂhu⁵³ | `tʂʰʉ | tʂhʉ⁵³ | *d-kruk | six |
| *tʂu¹ | tʂu⁵⁵ | | tʂʉ | tʂʉ⁵³əˈ⁵³ | *s-krul | sweat |
| *letʂu¹ | lɛ³³tʂu⁵⁵ | | lʉtʂʉ | le³³tʂu⁵³ | MC draewk 鐲, Mand. zhuó | bracelet |
| *dedʐu¹ | dʐu⁵⁵ | | dedʐʉ | de³³dʐʉ⁵³ | | dry |
| *nedʐu | | | `nedʐʉ | ne³³dʐʉ⁵³ | | puncture (sthg.) |
| *ʂu | | | `ʂʉ | ʂu³³me⁵³ | | torch |
| *ʂu¹ | | | ʂʉ | ʂu³³su⁵³ | | guard / defend |
| *ŋeʂu¹ | ŋɛ⁵⁵ʂu⁵⁵ | | | ŋe³³ʂu⁵³ | | rescue / save |
| *zu¹ | | | zʉ | zu³⁵ | PLB *s-yəy² | grass |
| *zuzu² | ʐɛˋʐɛˋ ??; zu³³zu⁵⁵ | | `ʐʉzʉ, `pæzʉ | vu⁵³vu⁵³ ?? | | narrow |
| *ʃu¹ | | | fʉ | (ʐɭ³³/ɣɯɹ³³) ʂu⁵³ | | guide, lead (the way) |
| *ʃu² | ʂu³³ | ɕu⁵³ | `fʉpəˈ | ʂu⁵³ | | barley (highland) |
| *ʃu² | ʂu⁵⁵ | | `wæˈ fʉ | khe⁵³ʂu⁵³ | | marry (a woman) |
| *ndʒu | ndʒu³³khuɑ⁵⁵ | | | dʐu³³khæ⁵³ | MC drjoH 箸 | chopsticks |
| *kʰepʰe/ kʰupʰo¹ | **kʰɛˋpʰɛˋ**; **khɛ⁵⁵phɛ⁵⁵** | **`kʰvpho** | **kʰʉpʰo** | **khu³³phu⁵³** | Lahu qhɔ < *kaŋ | inside |
| *ku(liu)¹ | ku⁵⁵əˈ⁵⁵ | kurə | kʉli | ku³³liu⁵³ | <MC ljo 驢 ? | donkey |
| *ku | | | (dzɨ) kʉ 'feed (liquid)' | (dzæ³³n̩ʉ⁵³) ku³¹ | | breastfeed / suckle |
| *gu | | | dzɨ gʉ | (dzu³³) ku⁵³ | | cross (a river) |
| *kʰekuliu¹ | kʰɛˋkuˋlyoˋ | | dekʉlø, dekʉlølø | khe³³ku⁵³liu⁵³ | | wrap (v.) |
| *gu¹ | guˋ; gu⁵⁵ | | `gʉ | gu³⁵ | <WT gru | boat |
| *guku¹ | | | `gʉ `kʉ | ngʉ³³kʉ³³sʉ³¹ | | boatman |
| *gæwu | | | `ɣjævʉ | gæ³³wu⁵³ | *gra | enemy (personal) |
| *wilje/wulje² | vi³³li⁵⁵ | wu³³li⁵³ | `vʉli | wu³³li⁵³ | *d-bu | head[18] |
| *riwu¹ | | | əˈvʉ | ɦɯɹ³³wu⁵³ | | cave / hole |

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[18]The first syllable of 'head' has /**-ʉ**/ in Lizu but **-i** in Ersu.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *niu(mæ)lawu¹ | | | n̠imælɑvʉ | n̠i³³la⁵³wu³¹ | | daytime |
| *mexui¹ | mɛ⁵⁵ʂu⁵⁵ | | | me³³fu⁵³ | | charcoal |
| *xu¹ | | xu³³tɕhe⁵³ | fʉ | fu³⁵ | *r/g-wa ? | village |
| *xutʂʰe¹ | fu⁵⁵tʂhɛ⁵⁵ | | | fu³³tʂhɯ⁵³ | *kram | garden (plot) |
| *ŋu¹ | | `ŋu~`ɦu; ŋwe⁵⁵ | ŋʉ | ŋu³⁵ | *ŋəw | cry, weep |

A number of forms with high front rounded vowels in Lizu can also be reconstructed with **\*-u**, since they all occur after \*palatals. (See p. 46 for discussion on the initials of the last two items.)

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ʐu | | zu⁵³ | | ʐy³⁵ | | plant ash |
| *ʐu¹ | zɻ↓; zɻ⁵⁵ | | `ʐy | ʐy³⁵ | | snow |
| *tɕʰu¹ | | | amjo **tɕʰy**de 'now' | (te³³) **tɕhu³³tɕhu³¹** | | a while |
| *tɕutɕu | tsu`tsu`; tsu⁵⁵tsu⁵⁵ | | | tɕy⁵³tɕy⁵³ | | straight |
| *wutɕu | | | `vʉtɕy | wu³³tɕy⁵³ | | point / tip |
| *letɕu¹ | lɛ`tsu`; lɛ⁵⁵tʃu⁵⁵ kɛ³³ | le³³tɕi⁵⁵pu³³ | `letɕy 'left' | le³³tɕy⁵³ | | right (side) |
| *dʐu¹ | dzu⁵⁵ | dʑy⁵³ | | dʐy³⁵ | *duk ⪥ *tuk | poison |
| *kʰedʑudʐu² | dzu³³dzu⁵⁵ | | `kʰedʑydʑy | khe³³dʑy⁵³dʑy³¹ | | meet / come across |
| *lodʑu¹ | | | lodʑy | luo³³dʑʉ⁵³ | | wall (stone) |
| *zjendʑu/ zindʑu² | zi³³ndzu⁵⁵ | | | zɻ⁵³ndʑʉ⁵³ | | nephew (brother's son) |
| *dʒaniu¹ | n̠o⁵⁵n̠o⁵⁵ | dzæ³³nʉ⁵³ | dzæn̠y | dzæ³³nʉ⁵³ | *nəw | breast, milk |
| *ju¹ | ndzɻ³³ji⁵⁵ 'buckwheat flour' | | jy | dʐɻ³³ji⁵³ | | flour |
| *deju¹ | | | dejy | de³³jʉ⁵³; de³³ju⁵³ | | hot / spicy |
| *ndʑʷundʑʷu¹ | | | ndʑʉndʑʉ | khe³³ndʑy⁵³ndʑy³¹ | | coax / fool |
| *ɕʷu¹ | | | se ʂʉ 'burn wood' | (n̠i³³me⁵³) ɕy³¹ | | catch fire (a house) |

The remaining items below can also be reconstructed with **\*-u**, since they all occur after \*alveopalatals (see section 3.6).

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tʃʰulje¹ | tʃhu⁵⁵li⁵⁵ | `tʂʰv 'earth' | tɕʰyli | tʂhu³³ly⁵³ | | mud |
| *tʃʰu¹ | tʂhu⁵⁵ 'dirty' | nentʂʰu | tɕʰyli 'mud' | tʂhʉ⁵³ | | muddy / turbid |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tʃʰu¹ | tʃhu⁵³ 'open (door)', tʃhŋ⁵⁵ 'open (lid)' | `tʂʰv | | de³³tʂhu⁵³ | | open |
| *gætʃu¹ | | | gjætɕy | gæ³³tʂʉ⁵³ | | monkey |
| *dʒu | | | -dʑy | dʑʉ³⁵ | | hair / down |
| *dʒu¹ | dʒu⁵⁵ | | dʑy '(lower) back' | dʑʉ³⁵ | *gyuk | waist |
| *dʒu² | dʐɻ³³mo⁵⁵ | | | dʐʉ⁵³lʉ⁵³ | | goose (wild)[19] |
| *dʒumæ¹ | dʒu⁵⁵ma⁵⁵ | | | dʑʉ³³mæ⁵³ | | fox |

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[19]Zl. Ersu 'goose' and 'open' both have an unexplained unrounded apical vowel.

## 4.7   *je and *jẽ

As noted above in section 4.4, it can be difficult to tell **\*-i** apart from **\*-je**; Ersu, Kl., and Mn. are the only dialects that preserve the distinction. The rhymes **\*-je** and **\*-e** (see next section) are also notable for their complex interactions with dental and palatal fricate initials.

| env. | Ersu | Kl. | Nq. | Mn. | TBL |
|------|------|-----|-----|-----|-----|
| (T)s __ | i | - | i | e | i |
| (T)s __N | i | e/i | i | e/ɤ | e |
| (other) | i | je | i | je | i |

First, we look at forms with bilabial and alveopalatal initials that are reconstructed with the **\*-je** rhyme, distinct from the **\*-i** rhyme above. The **\*-je** rhyme is generally preserved in Kl. and Mn., while in Ersu **\*-je** became **-i** after bilabials, taking over the vowel slot vacated by **\*-i**, which became an apical vowel (e.g. **bzɹ³³** 'bee' < **\*bi**).

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|------|---------|-----|-----|-----|-------|
| *pjembje | piˋnpiˋ; pi⁵⁵ mbi⁵⁵ | pi³³nbi⁵³ | | pi⁵³nbi⁵³ | | knee |
| *bje¹ | jʌˋbiˋ | | pæbi | bi³³bi⁵³ | | coarse, rough, wide (in diameter) |
| *ɣwebje/ ɣwobje¹ | vɛ³³bi⁵⁵ | | wobi | ɣu³³pi⁵³ | | shoulder |
| *bje | bi⁵⁵ | ˋbje | labje | (te⁵³) bi⁵³ | | heap (e.g. of dung) |
| *mbje¹ | biˋ; nbi⁵⁵ | mbe⁵³ | mbivʉ | nbi³⁵ | | hill / mountain |
| *mpʰje¹ | mphi⁵⁵ | ˋpʰje | ˋmpʰjeka | (n)phi³⁵ | *s-pʷal ? | ice |
| *dempʰje¹ | npʰiˋ; nphi⁵⁵ | dɤ³³phi⁵³ | dempʰje | dɤ³³nphi⁵³ | | cold (weather, water) |
| *mbje | nbi³³ʂa⁵⁵ | mbi³⁵, mbi³³mbi⁵³ | | nbi³³ʂuæ⁵³ʂuæ³¹ | | cool (pleasantly) |
| *hpje² | | ˋpje; pi⁵³, pẽ⁵³ | ˋhpje | pi⁵³ | *s-man | medicine |
| *ʃje¹ | ʂɛ⁵⁵ | ˋʂe; ʂɯ⁵³ | xje | ʂɯ⁵³ | *syam | iron |
| *ʒje¹ | ʐɹˋ; zɛ⁵⁵ | | ɣiɣje 'climb' | ʐɹ³³ʐɹ⁵³ | | crawl (of insects) |

The **\*-je** rhyme has palatalized \*velar initials in Ersu and Kl. See p. 95 above for forms reconstructed with **\*-i**, where Ersu again maintains the distinction by apicalizing **\*-i** (e.g. **-dzɹ** 'thunder' < **\*\*-dʑi** < **\*-gi**) but not **\*-je**.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|------|---------|-----|-----|-----|-------|
| *kʰje¹ | tɕʰiˋ; tɕhi⁵⁵ | khe⁵⁵ | (kʰe)kʰje | khe³⁵ | | give |
| *meŋkʰje | mɛ⁵⁵ntɕhi⁵⁵ | ˋmentɕʰe | | te⁵³me⁵³nkhi³¹ | | ask / question |
| *gje² | ŋuaˋ³³dʑi⁵⁵ 'pen' | -dʑe | degje le | (tshe⁵³ɲu⁵³) khe³³gi⁵³ | | pen in (sheep) |
| *gjegje | dʑi⁵⁵dʑi⁵⁵ | | | gi⁵³gi⁵³phu³¹ | | horizontal |
| *gje¹ | dʑiˋ; dʑi⁵⁵ | | ˋgijo | gi³⁵ | | jar (earthen) |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ŋgje² | vu³³ndʐi⁵⁵ | | `ŋgi | ngi³⁵ | *m-kum ⪥ *m-kim | pillow |

Forms with lateral initials have more complex developments. Below, I assume that forms with Ersu **li** descend from **\*lje** (since **\*li** > **əˈ**. However, it seems that only the first item, 'good', maintains the **-je** rhyme in Kl. and Mn. Most of the **li** syllables in the remaining forms appear to be some sort of noun suffix. In TBL this suffix seems to have developed a rounded vowel, perhaps under the influence of the preceding syllable (in 'kidney', 'testicle', and 'mud'); however this is not the case for 'head' or 'dust'. Conversely, in Mn., it is the first syllable (in 'kidney' and 'testicle') that seems to have undergone fronting, e.g. 'mud' **\*tʃʰuli > tɕʰyli**.[20]

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *lje¹ | jʌˋliˇ; jɑ³³li⁵⁵ | lje | lje | li³³li⁵³ | *l(y)ak | good |
| *ljelje¹ | pu⁵⁵li⁵⁵li⁵⁵ | ta³³li⁵³ | tɑli, tɑlili | ta³³li⁵⁵li³¹ | | circular (spherical) |
| *wilje/wulje² | vi³³li⁵⁵ | wu³³li⁵³ | `vʉli | wu³³li⁵³ | *d-bu | head |
| *ndʒelje¹ | ndʒɛ⁵⁵**li**⁵⁵ | | `ndʑiʃte gʁ, `neʃti gʁ | dʑɯ³³**li**⁵³ | | believe / trust |
| *pʰulje¹ | | | pʰele, pʰʉli | phu³³li⁵³ | | dust |
| *mbiulje² | nbɛ³³**li**⁵⁵ | mbə⁵⁵ | `mbø**li** | nbo³³**ly**⁵³ | | kidney |
| *zulje¹ | | zɯ³³**li**⁵³ | | zʉ³³**lʉ**⁵³ | | testicle |
| *tʃʰulje¹ | tʃhu⁵⁵**li**⁵⁵ | `tʂʰv 'earth' | tɕʰy**li** | tʂhʉ³³**ly**⁵³ | | mud |
| *sjelje | si⁵⁵li⁵⁵ | | | | *d/s-ləy | bow (weapon) |
| *nelje/neɬje¹ | li⁵⁵ | | neɬe, neɬʁ | ne³³ɬi³¹ | *s/m-grəy | melt, dissolve |
| *ɬjeki¹ | **ɬi**⁵⁵tsɻ⁵⁵ | `ɬetɕi | | **ɬi**³³ki⁵³ | *s-lay ⪥ *s-ley | ladder |
| *ɬje¹ | phɛ⁵⁵**ɬi**⁵⁵ | | | ne³³**ɬi**⁵³**ɬi**³¹ | | winnow |

Forms with dental and palatal fricate initials seem to require reconstructing two rhymes, both here and for the rhyme **\*-e** (next section); I tentatively reconstruct a nasal vs. oral vowel in these cases (this is suggested by the nasal finals in many of the corresponding PTB roots). A near-minimal set illustrating the different combinations of initial consonant, nasality, and rhyme are presented below:

| rhyme | init. | nas/or | PEr | Ersu | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|---|---|
| *-je | *(t)s | oral | *tsʰje | tsʰi⁵⁵ | -tsʰe | -tɕʰi⁵³ | | thin |
| | | nasal | *tsjẽ | tsi⁵⁵ | tɕe | tɕe³¹ | *tsam | hair |
| | | oral ~ nasal | *sje/sjẽ | si⁵⁵ | `ɕe | ɕi⁵³/ɕe³⁵ | *sum | three |
| *-e | *tɕ | ? | *tɕe | tsɛ⁵⁵ | tɕe | tɕe⁵³ | *s-dim | cloud |
| | *ts | oral | *tsʰe | tsʰɛ³³ | `tsʰɨ | -tshe⁵³ | *tsəy | wash |
| | | nasal²¹ | *tsʰẽ | tshi⁵⁵ | tsʰe | tshe³⁵ | *tsit | goat |

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[20]Cf. the "umlaut" change in Old High German affecting such forms as 'mouse (pl.)' **mus-i** > **mys(-i)**.

[21]Many Mn. forms with this correspondence actually have the rhyme **-ʁ**; see p. 110.

There are quite a few examples of correspondences of the 'thin' and 'cloud' type. The other examples are not particularly numerous, but the fact that they are "basic" and/or "stable" roots in Tibeto-Burman encourages us to try to find some regularity in their histories rather than waving them aside as exceptions. The forms supporting the correspondences reconstructed with **\*-je** are given below:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|------|---------|-----|-----|-----|-------|
| *tsʰjetsʰje[1] | tsʰiˋltsʰiˋ; tshi⁵⁵tshi⁵⁵ | | pætsʰe | tɕhi³³tɕhi⁵³ | | thin (in diameter) / fine |
| *kutsʰje[1] | | ku³³tshi⁵³ | kʉtsʰepəˈ | kuo³³tɕhi⁵³ | | life |
| *ʂatsʰje | ʂɑ³³tshi⁵⁵ | | (ʂɑtɑ) | fu⁵³tɕhi⁵³ | | broom |
| *tsʰje[1] | | | tsʰe 'throw down' | ŋe³³tɕhæɹ⁵³ | | throw / hurl / toss |
| *tetsje | | | -tʌtse | (ne³³) te⁵³tɕi³¹ | | mace (=0.1 tael) |

Nasal **\*-jẽ**:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|------|---------|-----|-----|-----|-------|
| *sjẽ[2] | siˋ; si⁵⁵ | si⁵³ | ˋɕe | ɕi⁵³, ɕe³⁵ | *g-sum | three |
| *tsjẽ[1] | tsi⁵⁵ | tsi⁵³ | tɕe, tsɤ | tɕe³¹ | *tsam | hair |
| *zjẽ[1] | zi⁵⁵ | | zɤ | ʑe³⁵ | *zum ⪥ *zuŋ | use |
| *pjẽ | | tɕi⁵⁵ | ˋpse | pʑe³⁵ | *b-ləy, PLB *p-re | run |
| *bjẽbjẽ[1] | | dʑe³³dʑe⁵³, dʑi³³dʑi⁵³ | bzɨbze | bʑe³⁵ | *byam | fly (v.) |
| *dzjẽ[1] | dzi⁵⁵ | | dze | dʑe³⁵ | *m-dzam | bridge |
| *dzjẽ | | | ˋdzɨjo | dʑe³⁵ | | sickle |
| *dzjẽdzjẽ[2] | dzi⁵⁵dzi⁵⁵ | | ˋdzɨdzɤ | dʑe⁵⁵dʑe⁵³ | *dz(y)im | wet |
| *dzjẽdzjẽ | | | ˋdzɨdzɤ | dʑe³³dʑe⁵³ | *dz(y)im | raw / uncooked |

The two forms below are placed here because they do not quite fit under **\*-i**. As discussed on p. 24, these forms have a *retroflex initial or medial, but have developed palatals in Mn., presumably under the influence of the rhyme. However, we cannot reconstruct **\*-i** here because we would expect **\*dzɨ > dzɨ** and **\*pʰri > pʰʂɨ**; thus, I reconstruct **\*-je** for these two items.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|------|---------|-----|-----|-----|-------|
| *bædzje[1] | ba⁵⁵dzɛ⁵⁵ | ba³³dʐ̩⁵⁵ | bædʑi | bæ³³dʐ̩⁵³ | | money |
| *tsjẽpʰrje[1] | tsiˋpʰʂ̩ˋ; tsi⁵⁵phʂ̩⁵⁵ | | tɕe pʰɕipʰɕi | tɕe³³phzu⁵³ | *pran/t | braid / plait |

TBL 'braid' has an unexpected rounded vowel.

## 4.8  *e and *ẽ

Forms reconstructed with **\*-e** show a wide variety of mid-vowel reflexes.

| env. | Ersu | Kl. | Nq. | Mn. | TBL |
|------|------|-----|-----|-----|-----|
| P __ | ɛ | e | e | ø, e | e |
| m, T | ɛ | e | ə | e/ɤ | e |
| (T)s __ | ɛ | e | ʅ | e | e |
| (T)s __N | i | e | e | e/ɤ | e |
| (T)ɕ __ | ɛ | e | e/i/u | e | e/i |
| R __ | ɛ | e | ə | ɤ | ɯ |
| K __ | ɛ | ɯ | ɯ | ɤ | ɯ |

I will start with **\*-e** after bilabial stops. In most dialects the reflex is **-e** (**-ɛ** in Ersu); in Mn. it seems to be **-ø** in many cases, perhaps under the influence of the bilabial initial. Similarly, the last two items (with lateral initials) below, 'thumb' and 'daughter-in-law' (a tonal minimal pair in Mn.) seem to have secondarily rounded vowels in Mn.; the first syllable of 'thumb' is most likely < **\*le** 'hand' (cf. **lepʰe** 'hand', **lepʰɕɑ** 'palm').

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|------|---------|-----|-----|-----|-------|
| *ɬæpʰe¹ | ɬʌ 'month'; ɬɑ⁵⁵**phɛ**⁵⁵ | `**ɬæphe**; ɬe⁵⁵ | `**ɬæpʰø** | ɬæ³³**phe**⁵³ | *s/g-la | moon |
| *kɑpe¹ | kɑ³³**pi**⁵⁵ | | kɑ**pø** | kɑ³³**pe**⁵³ | | garbage / debris |
| *bedi¹ | **bɛ**³³dzʅ⁵⁵ | **bə**³³di⁵³ | **bø**dzɨ | **be**³³dʑi⁵³ | *bəw, *zril > PLB *di¹ | insect / worm |
| *bebe¹ | bɛ⁵⁵bɛ⁵⁵ | `bebe | bøpø, bøbø | be³³be⁵³ | | crawl, climb |
| *stiupe¹ | | ku³³pe⁵⁵ | ʃtɤpe | ku³³pe⁵³ | | mouth |
| *belæ¹ | | | belæ | be³³læ⁵³ | | work / labor |
| *khempʰe | pʰiˀ | khɤ³³nphe⁵³ | `mpʰe | khe³³nphe⁵³ | *s-pʷak | hide oneself[22] |
| *lemæ¹ | **lɛ³³** ma⁵⁵ | | **lømæ** | **le³³mæ**⁵³ | | thumb |
| *lemæ | | | `**lømæ** | **le³³mæ**⁵³ | | daughter-in-law |

After **\*m-**, and dental non-fricates, we get Ersu **-ɛ** and Lizu **-e** (sometimes **-ə** in Nq.):

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|------|---------|-----|-----|-----|-------|
| *me¹ | | | me | me³⁵ | <WT mar ? | butter |
| *me¹ | mɛˇ; mɛ⁵⁵ | mə⁵³, sa³³mə⁵³ | `me | me³⁵ | *mey | fire |
| *tʰeme² | tʰɛˇmɛˀnuʌˇ; the³³mɛ⁵⁵ | thə³³mə⁵³ | `kʰeme | the³³me⁵³ | *ma-t | forget |
| *meli/mele² | mɛ⁵⁵ə˞⁵⁵ | melje; mə⁵⁵ | `mele | me⁵⁵le⁵³ | *g-ləy | wind[23] |

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[22]Ersu 'hide' has an unexpected **-i** rhyme.

[23]The second syllable in 'wind' and 'ground' poses some problems. In both Ersu and Mn., the forms for 'wind' and 'ground' are very similar to each other, but whereas in Mn. they form a tonal minimal pair, in Ersu the forms differ in tone and rhyme as well. We expect Ersu ə˞ < **\*li**, and **li** < **\*lje**; however, Mn., which is expected to preserve

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *melje | mɛ³³li⁵⁵ | | mele | | *m-ley ≽ *m-ləy | earth, ground |
| *gæme¹ | gʌ˩mɛ˩; nga³³mɛ⁵⁵ | `gæmi | gjæme | gæ³³me⁵³ | Lahu vɔ̀ʔ-qâ < *ga | clothing / garment |
| *tʰe¹ | tʰɛ˩; tʰe⁵⁵ | `tʰe | tʰe | tʰe⁵³ | | s/he |
| *te¹ | tɛ˩; tɛ⁵⁵ | `te; tə⁵³ | `te | te³¹ | | one |
| *dede¹ | | də³³də⁵³ | | de³³de⁵³ | | heavy |
| *mende | mɛ³³ndɛ⁵⁵ | nde | | me³³de⁵³ | | clear (weather) / sunny |
| *ne/no² | nɛ˩; nɛ⁵⁵ | `ne | `no, ne | ne⁵³ | *naŋ | you |
| *ne¹ | nɛ˩; nɛ⁵⁵ | ne; nə⁵³ | ne, næ | ne³⁵ | *g/s-nis | two |
| *nene | ja³³nɛ⁵⁵ | | | nɯ⁵³nɯ⁵³ | *s-nak | deep |
| *le(pje) | | le⁵³ | | le³³pi⁵³ | *g-lak | hand |
| *lepʰew¹ | lɛ³³pʰɛ⁵⁵ | le³³pʰu⁵³ 'arm' | lepʰe | le³³pʰu⁵³ 'arm' | | hand |
| *lesẽ | lɛ³³su⁵⁵ | le³³se⁵⁵ | | le³³se⁵³ | | finger |

In a handful of forms, Mn. has an unrounded **-ɤ** rhyme instead; my consultants suggest that there is variation between the rhymes **-e** and **-ɤ**.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *de¹ | dɛ⁵⁵ | de³⁵ | dɤ | de³¹ | *dak | weave / knit |
| *ntʰe¹ | | `tʰentʰe | nentʰɤ 'stumble, fall' | ntʰe³⁵ | | jump |
| *hte¹ | xtɕi˩ ?? | | ʃtɤ | de³³te⁵³ | | hold (a pen) |
| *le¹ | lɛ⁵⁵ | le | | | PLB *ʔ-li¹ | old |
| *tʰele¹ | | | lɤ | tʰe³³le⁵³ | *g-lwat | release / set free |
| *li/le¹ | ə˧⁵⁵ | | `mele lɤ | me³³le⁵³læ³³ ? | | blow (wind)[24] |

As discussed on page 106, the following set with dental fricate initials is reconstructed with non-nasal **\*-e**:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *se² | sɛ˩; sɛ⁵⁵ | | `sⁱbwe | se⁵³ | *su | who |
| *rdose¹ | do⁵⁵sɛ⁵⁵ ja⁵⁵dzɛ⁵⁵ 'pupil' | do³³sɯ⁵⁵ | ʒdo, ʒdosɨ 'eyeball' | nduo³³se⁵³ | | eye |

both **\*li** and **\*lje**, has **le** instead, and Kl. (which should also preserve **\*lje**) has **-lje** as the second syllable of 'wind' where we might expect **-li** based on the Ersu form.

[24]The rhymes for this root do not quite match up, but perhaps there is a root with an **l-** initial (remember Ersu **ə˧** < **\*li**).

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *sēse[1] | si⁵⁵sɛ⁵⁵ | tʂʅ³³ʂʅ⁵³ 'persimmon' | | se³³ʂʅ⁵³ | *sey | fruit[25] |
| *sēkæle[1] | si⁵⁵kɑ³³lɛ⁵⁵ | sə³³kəɹ⁵⁵ ? | | se³³kæ⁵³li³¹ | *s-kaːk | branch / twig |
| *ndze[1] | dɛˋndzʌ√ (perf.); ndzɛ⁵⁵ | | ndzɨ | dze⁵³ | *dzyi | ride (a horse) |
| *ntsʰe[2] | ntsʰɛ√; ntshɛ⁵⁵ | | ˋnentsʰɨ | ntshe⁵³ | *m-tsak DRIP | leak |
| *tsʰe[2] | tsʰɛˋ; tshɛ³³ | nentsʰe, ˋtsʰe; ne³³tshɯ⁵³ | ˋtsʰɨ | ne³³tshe⁵³ | PLB *tsəy[2] | wash (clothes) |
| *detsʰe[2] | tshɛ⁵⁵ | ˋtsʰe; də³³tshɯ⁵⁵ | ˋdetsʰɨ; tsʰɨ | tshe⁵³ | PLB *ʔ-dzəy[2] | cough |
| *tse[2] | tsɛ⁵⁵ | | ˋtsɨ | tse⁵³ | | hemp |
| *tse | | | ˋtsɨ | tse³³tɕe⁵³ji³¹ | | welcome, receive s.b. |

This set, on the other hand, is reconstructed with **\*-ẽ** (note the variation in Mn. between **-e** and **-ɤ**):

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tsʰẽ[1] | tshi⁵⁵ | | tsʰe | tshe³⁵ | *tsiːt | goat |
| *tsẽ | | | tsɤ | tse⁵³ | *dzyut ? | pull up (weeds) |
| *tsẽ | | | tsɤ 'rip, tear' | the⁵³tse⁵³ | | snap (thread) |
| *dzẽ[1] | | | dzɨdzɤ, dzɤ | dze³⁵ | *ts(y)ap | chop / hew |
| *dzẽ | dzi√ | | dzɤ | | | enough |
| *ndzẽ[1] | ndzi⁵⁵ | | | ndze³⁵ | *N-dzyam | wedge |
| *sẽ[1] | | se⁵³ | se | se³⁵ | *r-sak | air, breath, steam |
| *sẽ[1] | si⁵⁵ | ˋse; se⁵⁵ | se | se³⁵ | *siŋ ≿ *sik | wood / log |
| *zẽ[1] | zi⁵⁵ | | zəˑ, zʉəˑ | ne³³ze⁵³ | | press (with palm or finger) |

The following forms with *palatal initials complete the developments outlined in the table on page 106:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tɕʰetɕʰe[1] | tsʰɛˋtsʰɛˋ; tshɛ⁵⁵tshɛ⁵⁵ | tɕhe³³tɕhi⁵³ | tɕʰetɕʰe | tɕhe⁵³tɕhe⁵³ | *ts(y)i/əy/ay | ten |
| *tɕʰe[1] | tsʰɛˋ; tshɛ⁵⁵ | ˋtɕʰe; tɕhu⁵³ | tɕʰe | tɕhi⁵³ | | drink |
| *pætɕe[1] | | | pætɕe | ne³³pæ⁵³tɕi³¹ | | cut (paper, cloth) |
| *tɕe[1] | tsɛˋ; tsɛ⁵⁵ | tɕe | tɕe, tsɤ | tɕe⁵³ | *s-dim | cloud, fog |

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[25]The second syllables of 'eyeball' and 'fruit' appear to be the same root, namely < PTB **sey** FRUIT / ROUND OBJECT, but the TBL form has an aberrant apical vowel in 'fruit' where we expect **se** (presumably the first syllable is not < **sey**, but rather < PTB **sing** ≿ **sik** TREE).

After retroflexes, *-e yields Ersu -ɛ, Mn. -ɤ, and TBL -ɯ. Note the exceptions with -o in Ersu ('shoot', 'sound'). The last item below, 'gnaw/nibble', has an *alveopalatal initial (section 3.6.2), the only example of this initial occurring with either of the rhymes *-e or *-je. The Ersu and Nq. forms point to a high front vowel, but the Mn. and TBL forms are consistent with the vowels in this set.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ʂe[1] | sɛi˥; ʂ̩⁵⁵ji⁵⁵ | `ʂe; ʂe⁵³ | | ʂe³⁵ | *sram | otter[26] |
| *detʂʰe | | | `detʂʰɤ | (tʂʰ̩⁵³) de³³mæ⁵³**tʂʰ̩⁵³** chɛ < 'tasteless' | cf. Lahu *kyim/kyum | flavorful |
| *tʂʰe[1] | tʂho⁵⁵ | (maɹ³³) tʂhɯ⁵³ | tʂʰɤ | (me³³ndæ⁵³) tʂhɯ⁵³ | | shoot, fire a shot |
| *tʂʰe[1] | tʂʰo˥; tʂho⁵⁵ | | tʂʰɤ 'voice' | tʂhɯ³⁵ | cf. Lahu khɔ̂ < *kraŋ | sound |
| *tʂʰe | | | tʂʰɨtʂʰɤ 'wall off' | tʂhɯ⁵³dzɨ⁵³ | *kram | fence (bamboo / twig) |
| *diutʂʰe[1] | bu⁵⁵**tʂhɛ⁵⁵** | ti⁵⁵**tɕhə⁵³** | dʑitʂʰɤ | (te³³)dzɨ³³**tʂhɯ³¹**, dzɨ⁵³**tʂhɯ³¹** | | year[27] |
| *ntʂʰe[1] | | | -ntʂʰɤ | (te³³) ntʂhɯ³¹ | | handful (of rice) |
| *ntʂʰe | | | ntʂʰɤ 'pull out' ??? | te⁵³ntʂhɯ⁵³ | | grab / seize / catch |
| *dʐe[1] | dzɛ⁵⁵ | | dzɤ | ŋe³³dʐu⁵³dʐu³¹ / dʐɯ³¹ | *kriːt | grind |
| *dʐe | -dzɛ, -dzi; dzɛ⁵⁵ | -dze | -dzɤ | (te⁵³)dzɯ⁵³ | *dzum ⚹ *tsum | pair |
| *ndʐe[2] | dɛ˥dzʌ√ (perf.); ndzɛ³³ | ndzɯ³³ndzɯ⁵³ | `ndzɤ | ndzɯ⁵³ndzɯ⁵³ | | sew (up) |
| *ntʃʰi/ntʃʰe[1] | ntɕhi⁵⁵ | tʂhi⁵³ | (ə˞kʰo) ntʂʰɤ | tʂhɯ³⁵ | | gnaw / nibble |

After velars we get Ersu -ɛ and a back unrounded vowel in Lizu. This is consistent with Chirkova's (2008) synchronic analysis of Kl. where [ɯ] is the allophone of /e/ after velars.

Note the Ersu forms for 'draw water' and 'foot/leg', where the initials seem to have undergone unexpected palatalization.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *kʰe | tɕhi˥ ? | | dʐ̩ `kʰɤ | | *kam (⚹ *kaːp) | draw water |
| *meŋkʰe[2] | mɛ³³ŋkhɛ⁵⁵ | me³³nkhɯ⁵³ | `menkʰɤ | me³³nkhɯ⁵³ | *kəw | smoke |
| *hke[1] | hkɛ⁵⁵ | pẽ³³nbi⁵⁵khɯ³³ | dexkɤ, koxkɤ | pi⁵³nbī⁵³ khe³³kɯ⁵³ | | kneel |

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[26]The Nq. and TBL forms do not quite fit here because they have a front -e rather than a back vowel. Perhaps this is because the initial is a fricative, rather than an affricate like the other forms in this set.

[27]Note the irregular palatal initial in the Nq. form.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *hke¹ | kɛˀ; hkɛ⁵⁵ | ˋkɯ | xkɤ 'hawk' | kɯ³³nua⁵³ | | eagle / hawk |
| *hke | hkɛ⁵⁵ | -kɯ | -xkɤ | ne³³kɯ⁵³ 'break, snap' | | half |
| *deke¹ | | de³³kɯ⁵³ | dekɤ | de³³kɯ⁵³ | *krak | fear, be afraid |
| *keke | | | kɤkɤ | kɯ⁵³kɯ⁵³ | | big / large |
| *dege¹ | gɛ⁵⁵gɛ⁵⁵ | dɐ³³gə⁵³ | ˋɣɤ | de³³ɣɯ⁵³ | | lick / lap |
| *ge¹ | gɛ⁵⁵ | | ɣɤ, ˋɣɤtse | ɣɯ³³z̩⁵³ | *dzəy ? | seed |
| *ɣra/**ge¹** | xaˡ⁵⁵ | ˋʁa; **ge³⁵** | ɣɤ | **ɣɯ³⁵**, ɣa³⁵ | *k-rap | needle[28] |
| *ŋge² | gɛ↓; ngɛ³³ | | ˋŋgɤ | ngɯ³⁵ | *d/s-kəw, PQc s/r/n-gəw | nine |
| *li**ŋgje**/le**ŋge²** | ə³³**ndʑi⁵⁵**, ə³³**ndʑi⁵⁵** | | ˋle**ŋgɤ** | | | foot, leg |
| *ŋe¹ | ŋɛˀ | | ŋɯ, ŋɯbʉlʉlʉ | | | kind of turnip (圆根 yuángēn) |
| *xe | | | ˋdexɤxɤ | khe³³xɯ⁵³ | | cover / hide from view |
| *xexe² | xaˡ⁵⁵xaˡ⁵⁵ ?? | | ˋxɤxɤ | xɯ⁵³xɯ⁵³ | | lid / cover |

Finally, there are a couple of forms with mid front vowels in Ersu but high vowels in Mn. These have been tentatively placed in this section.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *htje | htɛ⁵⁵ | | ˋʃti | | *r-tsyəy | count |
| *batʂi/batʂe | ba³³tʂɛ⁵⁵ | | batʂɨ | | | basket (for straining) |

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[28]This root has two variants in Proto-Ersuic; see also p. 84.

# 4.9  *ew and *wE

The lexical items in this section are look like they should be < *-e based on Ersu and Mn., but in many cases have -u rhymes in Nq. and TBL. I tentatively reconstruct *-ew in these cases. Below are forms with *retroflex, *palatal, or *alveopalatal initials:

| Ersu | Kl. | Nq. | Mn. | TBL |
|------|-----|-----|-----|-----|
| ɛ | - | u | ɤ | u |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|-------|---------|-----|-----|-----|-------|
| *putɕʷew/ gutɕʷew | | | ˋdepʉʈʂɤ 'flip over' | the³³gu⁵³tɕu³¹ | | turn (a corner) |
| *dʐʷew¹ | dʐyiˋ; dʐo⁵⁵lɑ⁵⁵ | | dʐɤ læ | dʐu³³læ⁵³ | | return, go back |
| *htʂew | | | ʂtʂɤ | ʂu⁵³ | | dare |
| *mæntʂʰew | | | ˋɤʉmæ ˋmæntʂʰɤ | mæ³³ntʂhʉ⁵³ | | pregnant |
| *dendʐew¹ | | | dendʐɤ | de³³ndʐu⁵³ | | slippery (road) |
| *ndʒew | | | ndʐɤ | de⁵³ndʐu⁵³ | *kyiːn | weigh (v.) |
| *tʃew¹ | tʃo⁵⁵ | tʂu⁵³ | ˋtʂɤ | khe³³tʂu⁵³ | *s-glak ✕ *klak | cook / boil |
| *detʃew¹ | tʃɛ⁵⁵ | dɐ³³tʂu⁵⁵ | detʂɤ | de³³tʂu⁵³ | *s-kyuːr ✕ *s-kwyaːr | sour |
| *htʃew¹ | htʃɛ⁵⁵ | | ʂtʂɤ | khe³³tʂu⁵³ ?? | | catch / grab / hold |
| *ntʃʰew¹ | ntʂʰɛˋ; ntʃhɛ⁵⁵ | tɕhə³³pi⁵³, tɕhə⁵³ ?? | ntʂʰɤ | (n)tʂhu⁵³ | | rice (uncooked) |
| *ʂewmæ¹ | ʂɛ³³ | ʂe³³mi⁵³ | ʂɤmæ, ʂɤ | ʂu³³mæ⁵³ | *s-r(y)ik, *s-row NIT | louse |
| | ʂɛ³³tsɛ³³ | | | ʂu³³pe⁵³tshe³¹ | | nit |
| *mbuʂew | | bu³³ʂu⁵⁵ | ˋdembʉʂɤ | nbu³³ʂu⁵³ | | shy / bashful |
| *tʰegew² | thɛ³³gɛ⁵⁵ 'glad' | | ˋdegɤ | the³³gu⁵³ | | happy / excited |

Note that Ersu 'return/go back' and 'cook/boil' have back rounded vowels, not -ɛ like the rest of the forms.

There are also a handful of *bilabial and *dental fricate initials that may have this rhyme as well. Note that Ersu 'other' and 'friend' (apparently the same root) have a round vowel.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|-------|---------|-----|-----|-----|-------|
| *lepʰew¹ | lɛ³³phɛ⁵⁵ | le³³phu⁵³ 'arm' | lepʰe | le³³phu⁵³ 'arm' | | hand |
| *lipʰew¹ | rəˋpʰɛˋ; əˊⁱ⁵⁵phɛ⁵⁵ | li³³phu⁵³ | | li³³phiæ⁵³ | | foot[29] |

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[29]The second syllable in the TBL form seems unrelated to the Ersu and Nq. forms, but may mean 'flat object'; cf. **lepʰɕɑ** 'palm', **se³³phʐæ⁵³** 'leaf', and perhaps **tʂhu³³phiæ⁵³** 'thigh'.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ntsʰew | | (dʑe³³nu⁵⁵) tshe³³ | ntsʰʏ 'milk; squeeze' | ntshʉ⁵³ | *m-dzu/ip SUCK | squeeze (for milk) |
| *ndzew[1] | ndʑo⁵⁵ji⁵⁵ | | ndze | ndzu³³ji⁵³ | | other person(s) |
| *ndzew[1] | ndʑo⁵⁵ndʑo⁵⁵ | | ndzʏ | ndzu³⁵ | | friend |
| *ndzewbjẽ[2] | | | `ndzɨbze | ndzʉ⁵³bʑe⁵³ | | friend / amiable |
| *me/mo | | `me | | muo³⁵ | *r-məw | sky |

Finally, there are a number of forms with apparently almost the opposite correspondence, where Mn. has a round vowel **-u** where the other varieties have a front or low vowel. There are very few of these, but they include such basic items as 'back' and 'uncle'. For these items I have thrown my hands up in the air and assigned them a **\*-wE** reconstruction (with a capital "E" to indicate its indeterminate nature), but hopefully more data or investigation will yield a more satisfying solution.

| Ersu | Kl. | Nq. | Mn. | TBL |
|---|---|---|---|---|
| ɛ | i | u/i/e | u | e |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *pwEpwE[2] | pɛ³³pɛ⁵⁵ | (gə³³mo⁵⁵) pu³³ | `pʉtɑ 'patch (v.)' | pe⁵³pe⁵³ | *pʷa, PLB *ba¹ ? | patch (clothing) |
| *pwEki/pwEtɕi | | | `pʉki | the³³pe⁵³tɕi³¹ | | send/dispatch (a person) |
| *mwEdzæ[1] | | | mʉdzæ | me³³dzæ⁵³ | | barley |
| *gwEmæ[2] | gʌ˥mʌ˥ɲ̩i˥ 'behind'; ga³³ma⁵⁵ | `gime; ge³³phi⁵³ | `ɣumæ, `gumæ | ge³³mæ⁵³, gɯ³³mæ⁵³ | *g-raŋ CHEST | back |
| *ɣwEmo/ æɣwE[1] | xə⁵⁵mo⁵⁵, ə⁵⁵mo⁵⁵ | | `ɣvʉ | æ³³ɣɯ⁵³ | *ryaŋ ? | uncle (mother's brother) |

## 4.10   *o

Two kinds of "o" are reconstructed for Proto-Ersuic, a plain **\*-o** (this section) and **\*-wo**, with a labiovelar glide (next section). The distinction is based on the TBL transcriptions, where **\*-wo** is assigned to lexical items with bilabial and velar initials where Mn. has an **-o** rhyme but TBL has **-u**. The reconstruction of **\*-wo** makes the set of back vowels somewhat symmetric with the front vowels, since the rhyme reconstructed as **\*-je** has merged with **\*-i** in TBL, just as **\*wo** has merged with **\*-u**. However, this similarity is rather superficial, since the evidence for **\*-je** (as a rhyme distinct from **\*-i**) is found in Ersu, Kl., and Mn., whereas the evidence for **\*-wo** (as a rhyme distinct from **\*-o**, not **\*-u**!) is found only in TBL (and perhaps Kl., in the form of uvulars—see p. 119, below).

Complicating this reconstruction is the fact that the TBL reflex of **\*-o** is usually **-uo** (but **-o** after bilabials and **-u** after palatals and alveopalatals); and the fact that Huáng and Rénzēng (1991) claim that there is a contrast of **-o** vs. **-uo** after bilabials (but nowhere else), although this contrast does not show up in any of the supporting forms here (thus, it has been ignored for the purposes of reconstructing Proto-Ersuic).

| env. | Ersu | Kl. | Nq. | Mn. | TBL |
|------|------|-----|-----|-----|-----|
| P __ | o | o | o | o | o |
| pal. __ | o | o | o | o | u |
| K __ | u | o | o | o | uo |
| (other) | o | o | o | o | uo |

Below are forms with \*bilabial initials. Note that Ersu 'escape' and 'hat' have unexpected **-u** (but notice the variation between **-o** and **-u** in Qŝ. 'have'); Ersu 'soldier' does not have a back vowel and is perhaps a Tibetan loan (WT **dmag mi**).

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|------|---------|-----|-----|-----|-------|
| *tʰepʰo¹ | | tha³³**pʰo**⁵³ | kʰe**pʰo** | tha³³**pʰ**-a⁵³ 'die out' | | extinguish, put out fire |
| *pʰo¹ | phu⁵⁵ | pho³³ji⁵³ | ˋnepʰo-ɑ | pho³⁵ | *ploŋ ? | run away / escape |
| *bo¹ | boˋ 'have livestock', buˋ 'have N (be age N)'; bo⁵⁵ | bo | bo | bo³¹ | | have, exist (money) |
| *mbo¹ | buˋ; nbu³³ | nbo | mbo, mbojo | nbo³⁵, nbo⁵³ju⁵³ | | hat |
| *nembo | | | ˋnembo | ne³³nbo⁵³ | *m-baŋ | deaf |
| *nɑmbo² | nɑ³³nbo⁵⁵ | | ˋæˡ nɑ mbo | nɑ³³nbo³⁵ | *m-baŋ | deaf person |
| *tʰemo/momo¹ | moˋmoˋ; mo⁵⁵mo⁵⁵ | thɤ³³mo⁵³ | kʰemo-ɑ | tho³³mo⁵³ | *maŋ | old / elderly |
| *mɑmo | mʌ˩**mo**ˋ 'mom' | **mæmo** | mɑmo 'wife' | ma⁵³**mo**⁵³ | | old lady |
| *tsʰomo | | ˋtsʰ**omo** | tsʰu**mo** | tshuo⁵³**mo**⁵³ | | old man |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *djemo[1] | dʑi⁵⁵**mo⁵⁵** | | | dʑe³³**mo⁵³** | | rich |
| *ndzomo² | ndzo³³**mo⁵⁵** | | | ndzuo⁵³**mu⁵³** | PLB *m-dzəw² | official (government) |
| *lamo | la⁵⁵**mo⁵⁵** | | | la⁵³**mu⁵³** | | stutterer |
| *mo[1] | | `mo | əˑmo | mo³⁵ | <MC muH 墓 ? | tomb |
| *mo | mɛ⁵⁵ | `mo | `mo | | *d-mak | soldier, army |

In the forms below (all with *dental initials except for the last two items), some Ersu forms again prove problematic. Some of the forms with initial **\*l-** are **lo** in Ersu ('wait', 'tael', 'mirror', penultimate syllable of 'dove'), but others have become **əˑ** ('stone', 'maggot', 'bark'). Also, 'extract' and 'light a fire' have the rhyme **-u**, and 'hoe' has the rhyme **-ɛ**.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *mboto | | `nbuto | | nbo³³tuo⁵³ | PL *taŋ³ (PL 257) | knife |
| *litʰo/lotʰo[1] | | lo³³**tho⁵³** | litʰo | luo³³**thuo⁵³** | *b-ləy | grandchild |
| *ntʰontʰo[1] | | | ntʰo, ntʰon-tʰo | nthuo³³nthuo⁵³ | PLB *tok TSR #15 | peck at (of a chicken) |
| *kʰendo[1] | ndo⁵⁵ | thɐ̃³³ndo⁵³ | kʰendo | kho³³nduo⁵³ | | see |
| *ndojo[1] | | | ndojo | nduo³³jʉ⁵³ | | calf (yak) |
| *hto | | `to; khɐ³³htsho⁵³ | ʃto | tuo⁵³ | | watch, look |
| *kʰelo[1] | lo⁵⁵ | khelo | `lo | kho³³luo⁵³ | *l(y)aŋ | wait |
| *lo | -loˋ; lo⁵⁵ | | -lo | (to³³) luo³¹ | <MC ljangX 兩 ? | tael (=50 grams) |
| *mjalo[1] | mia⁵⁵lo⁵⁵ | | `mjalo | mi³³luo⁵³ | | mirror |
| *lolu² | ndza³³**lo⁵⁵**əˑ⁵⁵ 'pigeon' | **lo³³**lu⁵³ | | **luo³³**lʉ⁵³ | | dove |
| *lo | | | loxo | dʐuo³³luo⁵³ku³¹ | | ditch / gully ("water-ditch"?) |
| *lo[1] | əˑ˥kʰuΛˋ; əˑ⁵⁵khua⁵⁵ | | **lo**mæ | **luo³³**mæ⁵³ | *r-lung *k-luk | stone |
| *lo(bwo)[1] | əˑ˥kʰuΛˋ; əˑ⁵⁵khua⁵⁵ | **lo³³**pu⁵³, **lo³³**bu⁵³ | | **luo³³**bo⁵³, **luo⁵³**bu⁵³ | *r-lung, *k-luk | stone, rock |
| *bulo | bɛ³³əˑ⁵⁵ | | bʉ**lo** | | *s-luk/ŋ | maggot |
| *lolo/lulu[1] | əˑ⁵⁵ | `**lulu** | lʉlʉ | **luo³⁵** | *s-loŋ | bark (of dog) |
| *nopri[1] | | nu³³pi⁵³ | nopəˑ 'soy-bean' | | *s-nuk BEAN | beans/peas |
| *tsʰo | ntʃho⁵⁵ ??? | | | me³³tshuo⁵³ | | dawn (the day) |
| *tsʰo[1] | tsʰuˋ | | netsʰo | ŋo³³tshuo⁵³ | | extract / take out |
| *tsʰo[1] | tsho⁵⁵phaˑ⁵⁵ 'young man' | tsho⁵³, tɕho⁵³ ? | tsʰo | tshuo⁵³ | PLB *tsaŋ¹ | human being, person |

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| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tsʰomo | | `tsʰomo | tsʰumo | tshuo⁵³mo⁵³ | | old man |
| *tsumu/tsumo² | tsu³³ŋ⁵⁵ | | `tsʉmo | tsuo⁵³mo⁵³ | *tsum ? | mortar |
| *ntsʰo¹ | ntshu⁵⁵ | | dentsʰo | kho³³ntshuo⁵³ | | light (a fire, a light) |
| *tso | tso˥xto˥ | | ə˞li tso | li³³tsuo⁵³ | | dance |
| *dzepi/dzopʰi¹ | dzɛ⁵⁵psɿ⁵⁵ | | dzopʰɕi | | | hoe |
| *tʰendzo | | | jo kʰendzo 'spoil-child' | tho⁵³ndzuo⁵³ | | accustomed to, in the habit of |
| *ndzomo² | ndzo³³mo⁵⁵ | | | ndzuo⁵³mu⁵³ | PLB *m-dzəw² | official (government) |
| *soso¹ | so↓so˥; so⁵⁵so⁵⁵ | | suso | suo³³suo⁵³, suo³⁵ | | learn, teach |
| *tɑso¹ | | | taso 'just now' | ta³³suo⁵³ | PLB *C-sok | morning |
| *somwoŋkʰwo | | | sʉmonkʰo | suo⁵³mu⁵³nkhu³¹ | | tomorrow night / evening |
| *soniu² | so˥n̪o˥; so⁵⁵n̪o⁵⁵ | `soɲi | `sʉə˞ | suo⁵³n̪ʉ⁵³ | | tomorrow |
| *zo¹ | zo⁵⁵; khɛ³³zo⁵⁵ | | zo, kʰezo-ɑ | (ndʐu³⁵) zuo⁵³ | | owe/lose (money), suffer (illness); hit (a target) |
| *(n)tʂʰo¹ | ntʂho⁵⁵ntʂho⁵⁵ | dɐ³³tʂho⁵³ | tʂʰitʂʰo | | *m-krak, PLB *m-prakᴴ | scratch |
| *htʂomo² | ʂo⁵⁵mo⁵⁵ | | `ʂtʂomo | ʂɿ⁵³mu⁵³ | *kraŋ | strength (physical) |

TBL 'strength' has an unexplained unrounded vowel.

Forms with *palatal and *alveopalatal initials/medials are listed below (remember that there is no contrast between **-uo** and **-o** in TBL). Included at the end are some examples of the diminutive suffix, which seems to descend from **\*jo** in Lizu but **\*ji** in Ersu.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *mpʰjo | jʌ˥ntɕʰo˥; ja³³ntɕho⁵⁵ | | mpʰɕo | phiu⁵³nphiu⁵³ | | beautiful |
| *pʰjo | | | -pʰɕo | (te³³) phiu³¹ | | bolt (of cloth) |
| *pʰjo | -tɕʰo˥ | -tɕʰo | -pʰɕo | phʐuo⁵³ | <WT phyogs | direction / orientation |
| *mpʰjo² | ntɕho³³/⁵⁵ | | mpʰɕo 'slap' | te⁵³nphʑu³³nphʑu³¹ | | strike (the table) |
| *mpʰrjo¹ | ntshɛ⁵⁵ | | mpʰɕo (xko) | ntshuo⁵³ | | measles |
| *pjo | | | `pɕowɑ, `pɕowə˞ 'agate' | pʑu³³wu⁵³, ptɕu³³wu⁵³ | | coral |
| *netɕʰo¹ | | ne³³tɕhu⁵³ | tɕʰo, tɕʰitɕʰo | ne³³tɕhu⁵³ | | cut up (vegetable) |
| *tɕʰopu² | | | `tɕʰopʉ | tɕhu⁵³pu⁵³ | *taŋ | pine |
| *ntɕʰo | ntshɿ⁵⁵pi⁵⁵ | | `kʰentɕʰo | | | choke |

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *rwatço¹ | tsɛ⁵⁵ | rɐ³³tçu⁵³ | æˑtço | ɣua³³tçu⁵³ | *dz(y)u | egg |
| *tço¹ | | | æˑtço (ne)tço | tçu³⁵ | | lay (eggs) |
| *tço¹ | tçoˈ 'twist, coil' | | (ˋnkʰwe) pʉtço | de³³tçu⁵³tçu³¹ | | wind (thread onto a keel) |
| *metço | | | ˋmetço | mi³³tçu⁵³ | | flower |
| *tʰedʑo¹ | dʑo⁵⁵ | | | the³³dʑu⁵³ | PLB *C-cakᴸ | push / shove |
| *nedʑo | | | nedʑo 'collapse' | ne⁵³dʑu⁵³sʉ³¹ | | topple / tear down (a wall) |
| *ndʑo¹ | ndzɛ⁵⁵ | ndʑu | ndʑo | ne³³ndʑu⁵³ | | soak / steep |
| *deʃo | | | ˋdʑɨ ˋdexo | de³³ʂu⁵³ | PLB *C-sipᴸ | thirsty |
| *ʃoʃo¹ | ʂoˈʂoˈlʌˈlʌˈ; ʂo⁵⁵ʂo⁵⁵ | ˋdeʂu | ˋxuxo | ʂu³³ʂu⁵³ | *syaŋ | clean |
| *ʂo¹ | ʂo⁵⁵ | | | hĩ³³ʂu⁵³ | | dew |
| *mentʃʰo² | mɛˈntʃʰɛˈ; mɛ³³ntʃhɛ⁵⁵ | ˋmentʂʰo | | | *r-may ⋊ *r-mey ⋊ *r-mi | tail |
| *netʃʰo¹ | | | netçʰo | ne³³tʂhu⁵³ | | pull down (a house), untie |
| *netʃʰiu¹ | tʃho⁵⁵ | | | ne³³tʂhu⁵³ | | rot |
| *(xwajo)ntʃʰo¹ | xuai⁵⁵ntʂhɛ⁵⁵ | | xajo ntçʰo | xua³³ntʂhʉ⁵³ | *kʷəy ? *(t)si/up? | nest (bird) |
| *nedʑo¹ | | | nedʑo | ne³³dʑu⁵³ | | collapse / fall down |
| *dʑo¹ | dzoˈ; dʑo⁵⁵ | dzʉ | dʑo | dʑu⁵³ | *m-dzyaŋ | have, exist (animate) |
| *ndʑo¹ | ndʑo⁵⁵ | ndzʉ | ndʑo | | | know how to, be capable of |
| *ndʑo² | ndʑo³³khua³³dzɿ³³ʂɛ⁵⁵ | | ˋndʑowa, ˋndʑowæˑ | ndʑu⁵⁵dzɿ⁵⁵ | | noon |
| *njonjo² | ȵoˈȵoˈ; ȵo³³ȵo⁵⁵ | nu³³nu⁵³ ?? | | ȵu⁵³ȵu⁵³ | *now | soft |
| *ʑo¹ | | | mele ʑo, me ʑo | me³³ʑu⁵³ | | quake (earth) |
| *tʰejo | | | ˋɣo ˋkʰejo | the³³ju⁵³ | | drunk, be |
| *kʰejo | jiˈtʌˈ 'bed' ? | khə³³jə⁵⁵ | ˋkʰejo | khe³³ju⁵³ | (*s-yip ⋊) *s-yup | sleep, lie down |
| *tʃʰiujo² | tʃhɿ³³ji³³ | | ˋjotʂʰɨjo, jotʂʰɨjo | tʂhu³³ju⁵³ | | orphan |
| *mbo¹ | buˈ; nbu³³ | nbo | mbo, mbojo | nbo³⁵, nbo⁵³ju⁵³ | | hat |
| *ndojo¹ | | | ndojo | nduo³³jʉ⁵³ | | calf (yak) |
| *zjeji/zijo² | ziˈxiˈ 'woman'; zi³³ji⁵⁵ | ˋʑeje ? | ˋzijo | zʉ³³ju⁵³, zʉ⁵³ju⁵³ | | daughter, woman |

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| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *gojo¹ | guˋ; gu⁵⁵phɑ⁵⁵ | go³³**je**⁵³ | ɣo**jo** | ɣuo³³**jʉ**⁵³ | *yəw/PLB *(k)-rwakᴴ | mouse |
| *xwɑjo¹ | huʌiˋ; xuɑi⁵⁵ | xɑ⁵³, xɑ³³**jɯ**⁵³ | xɑ**jo** | xua³³**jʉ**⁵³ | | bird, sparrow |
| *ŋuijo | | | `ŋwe**jo** | ŋʉ³³**jʉ**⁵³ | | calf (common) |

After velars, **\*-o** yields **-uo** in TBL and **-u** in Ersu. Intriguingly, the **\*-o/\*-wo** distinction, which has been set up on the basis of the TBL rhymes, seems to be corroborated by the Kl. forms, which for the most part have developed uvulars from unaspirated velars before **\*-o**, but not before **\*-wo** (see next section).

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *kʰo | | | -kʰo | (to³³) khuo³¹ | *kwak | bowl |
| *kʰoji | | `kʰoje | | khuo³³ji⁵³ | | key |
| *kʰokʰo¹ | kʰuˋkʰuˋ; khu⁵⁵ khu⁵⁵ | | dekʰokʰo | khuo³³khuo⁵³ | *kuk | curved / crooked / bent |
| *riku/rikʰu¹ | **rgu**ˋ; ŋ³³**ku**⁵⁵ | əɹ³³**khu**⁵³ | əɹ**kʰo** | ə·ɹ³³**khuo**⁵³ | *g-rus | bone |
| *(mja)ko² | dɛ³³**ku**⁵⁵ | | `mjɑ**ko** | miæ³³**ku**⁵³, no³³**kuo**⁵³ | | blind |
| *kotsV¹ | ku³³tsɛ⁵⁵ | | kotsɑ | no³³kuo⁵³tsɻ³¹ | | step on / stamp / tread |
| *kutsʰje¹ | | ku³³tshi⁵³ | kʉtsʰepəɹ | kuo³³tɕhi⁵³ | | life |
| *ŋkʰo¹ | | nqʰu | | to³³nkuo⁵³ji³¹ | | hook |
| *ŋkʰo¹ | nkʰuˋ; nkhu⁵⁵ | nqʰo | | khuo³⁵, no³³nkhuo⁵³ | | lock |
| *hko¹ | xkuˋ 'hatch' | | xko | ŋo³³kuo⁵³læ³¹ | | appear, come out |
| *hko¹ | pɛ⁵⁵hku⁵⁵ | `qoqo | xko | | *g/kuŋ, *kor | hole |
| *ŋgo² | dʒɻˋ ?; ndzu⁵⁵? | | `ŋgolo | guo⁵³luo⁵³ | | tile |
| *dego¹ | gu⁵⁵ | | | do³³guo⁵³ | | twist (hemp fibers) between the palms |
| *gojo¹ | **gu**ˋ; **gu**⁵⁵phɑ⁵⁵ | **go**³³je⁵³ | ɣ**o**jo | ɣ**uo**³³jʉ⁵³ | *yəw/PLB *(k)-rwakᴴ | mouse |
| *dego¹ | gu⁵⁵ | `ʁo; dɐ³³go⁵³ | `ɣo | ɣuo³⁵, ɣuo³³ɣuo⁵³ | | kick |
| *goɬæ² | gu³³ɬɑ⁵⁵ | | `xolæ | guo³³ɬa⁵³ | *m/s-la:y | middle |
| *ŋo¹ | ŋuəˋ; ń⁵⁵ | | (de)ŋo | ŋuo³⁵ | | crow (of cocks) |
| *ɣo¹ | vuˋ; vu⁵⁵ | wo³⁵ | ɣo | ɣuo³⁵ | *yəw ? | liquor |
| *ɣeniu/ɣoniu¹ | vɛ⁵⁵n̩o⁵⁵ | `ɣɯɲi~`gɯɲi; wo³³nu⁵³ | ɣweɳi, ɣʉɳi | ɣuo³³n̩u⁵³ | *ril ≍ *rul | intestine |
| *ɬæwo | | | ɬæwo | ɬæ⁵³ɣuo⁵³ | | temple |

## 4.11  *wo

As discussed in the previous section, all the forms reconstructed with **\*-wo** are mostly forms with
\*bilabial and \*velar initials where Mn. **-o** corresponds to TBL **-u**.

| env. | Ersu | Kl. | Nq. | Mn. | TBL |
|------|------|-----|-----|-----|-----|
| P __ | o | - | u | o | u |
| K __ | o | o | u | o | u |

Bilabial initials are listed below. Note the front vowel in Ersu 'side, direction', and a variant with
a low vowel in Ersu and Nq. for 'blow'.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|------|---------|-----|-----|-----|-------|
| *pʰwo | -pʰɛ⁵⁵ | | -pʰo | -phu | Lahu phɔ̂ < *paŋ | side, direction |
| *pʰwo | | | -pʰo | (te³³) phu³¹ | | classif. one of pair (hand, eye) |
| *ŋepʰwo¹ | phu⁵⁵ | | | ŋe³³phu⁵³ | *m-pup | flip over, reverse |
| *mpʰwompʰwo | | | mpʰo gɤ, mpʰompʰo | (n)phu⁵³nphu⁵³ | | industrious / hardworking |
| *lo(bwo)¹ | ə˧kʰuʌ˩; ə˧⁵⁵khuɑ⁵⁵ | lo³³pu⁵³, lo³³bu⁵³ | | luo³³bo⁵³, luo⁵³bu⁵³ | *r-lung, *k-luk | stone, rock |
| *hpwo² | hpo⁵⁵ | | `hpo | pu⁵³ | | incense (bark of cypress? tree) |
| *debwo¹ | | | (ji) debo | (ji³⁵)de⁵³pu³¹ | | want (to go) |
| *mbwo² | nbo³³ntsho⁵⁵ | | `mbo | nbu⁵³ '100,000' | WT ḥbum '100,000' | ten thousand |
| *mbwo | | nbə⁵³ | `mbo | nbu³⁵, nbo³⁵ | | dig / scoop out / excavate |
| *demwo¹ | ma˧⁵⁵ ? | dɐ³³mɑ⁵³ ? | mo | te⁵³mu⁵³ | *s-mut | blow (away) |
| *htṣomo² | ṣo⁵⁵mo⁵⁵ | | `ʂtʂomo | ʂ̩⁵³mu⁵³ | *kraŋ | strength (physical) |

There are a few sporadic forms apparently fitting this correspondence (i.e., TBL has **-u**) that do
not have bilabial or velar initials. These aberrant forms are listed below. Since high back rounded
vowels exist in a very small acoustic space, they are easily confusable, and these aberrant forms
are possibly the result of transcriptional errors.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|------|---------|-----|-----|-----|-------|
| *nwo¹ | n̥o˩; n̥o⁵⁵ ?? | no³³pa⁵³ | ə˧no | nu⁵³ | *s-nuk | brains |
| *lwo | | (mbe³³) lo⁵³ | | (nbi³³) lu⁵³ | | climb (a mountain) |
| *tsʰwo¹ | | | tsʰw-ɑ | ma³³tshu⁵³ 'forbid' | | allow |

With the velar initials, the Ersu forms again show some irregularities. 'Inside', 'pig', 'shoulder'

and 'intestine' have front vowels; 'night/evening' and 'help' have low r-colored vowels; and 'throat', 'shout', and 'thing' have -u rhymes.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *kʰwo¹ | kho⁵⁵ | | ˋkʰo | khu³¹ | | dry (clothes) in the sun |
| *kʰwo¹ | kho⁵⁵ | | ˋjotɕa kʰo | | | make the bed |
| *meŋkʰwo | | | ˋmenkʰo | me³³nkhu⁵³ | | dark, get |
| *ŋkʰwo¹ | nkhuaˈ⁵⁵ | khwe⁵⁵ ??? | nkʰo | nkhu³⁵ | | night, evening |
| *ŋkʰwohke² | | | ˋnkʰo xkɣ | nkhu⁵³kɯ⁵³ | | midnight |
| *ŋkʰwo¹ | ko³³htʃɛ⁵⁵ ?? | nqʰv | nqʰo | khu³⁵, khu⁵³dʑi⁵³ | | silk/satin |
| *jahãŋkʰwo¹ | | ˋjæxwæ ? | jahãnkʰo | ja³³ha³³nkhu³⁵ | | last night |
| *hkwohkwosu¹ | | | xkoxkosɥ | ku³³ku³³sɥ³¹ | | beggar |
| *myihkwo¹ | mi⁵⁵hku⁵⁵ | | ˋɲipwe-kota | mi³³ku⁵³ | *mit, *l-ko(k) | throat |
| *kwopʰo | | | (ˋkopʰo) | ku³³phu⁵³ | | this side / here |
| *nekwo¹ | | neko | (ne)ko | ne³³ku⁵³ | | put (into a container) |
| *kwo | | | ˋkopʰæ, ˋkʰopʰæ | tsha³³əˈ⁵³ku³¹ | | chest |
| *kwo² | kuiˋ | | ˋko | (te⁵³) ku⁵³ | Lahu kù < *gru | shout[30] |
| *nekwo¹ | | ˋneko | | ne³³ku⁵³ | | shrivel up / wither |
| *neŋgwo | | | ˋneŋgo | (vu³⁵) ne³³ngu³¹ | | lower (the head) |
| *deŋgwo¹ | ngo⁵⁵ | ngo | deŋgo | de³³ngu⁵³ | *s-g-ruk | pick up |
| *(pʰe)ŋgwo² | ngɑ³³ngu⁵⁵ | | ˋpʰoŋgo | phe³³ngu⁵³ | | thing, tool |
| *tsexwo¹ | tsɑ³³xɑ⁵⁵ | | tsixo | tse³³hu⁵³ | | pheasant (short-tailed) |
| *gwogwo¹ | go⁵⁵go⁵⁵ | gu³³gu⁵³ | ˋɣuɣo | gu³³gu⁵³ | | light (weight) |
| *degwo¹ | | | deɣo | de³³gu⁵³ | | rise / get up |
| *ɣwoɣwo¹ | vaˈ⁵⁵vaˈ⁵⁵ | | ˋwuwo | ɣu³³ɣu⁵³ | | help |
| *ɣwo¹ | vɛˋ; vɛ⁵⁵ | ˋwo~ˋɣo; we⁵³ | wo | ɣu³⁵ | *pʷak, PLB *wakᴸ | pig |
| *ɣwebje/ ɣwobje¹ | vɛ³³bi⁵⁵ | | wobi | ɣu³³pi⁵³ | | shoulder |
| *(rwa)ŋwoŋwo¹ | | | æˈŋo, ŋoŋo, æˈŋoŋo | ɣua³³phe⁵³ ŋɯ⁵³ŋɯ⁵³ | | cockscomb |

TBL 'cockscomb' has an unrounded vowel.

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[30]The Ersu form may be composed of **ku** 'shout' + **ji** 'go'.

## 4.12 *æ

Proto-Ersuic is reconstructed with both front and back low vowels. This is based on a front/back contrast that is quite consistently maintained in Lizu but mostly lost in Ersu.

| Ersu | Kl. | Nq. | Mn. | TBL |
|------|-----|-----|-----|-----|
| ɑ | æ | æ | æ | æ |

When looking at the Ersu forms, the reader should keep in mind the differences in transcription used by each source (see Ch. 1): Qŝ. (the one with the IPA tone letters) transcribes front/back using **æ/ɑ**; Zl. (Sūn Hóngkāi's data, uses numbers for tones below) uses **a/ɑ**. The visually oriented may find this chart helpful as a reminder:

|  | front | back |
|--|-------|------|
| Qŝ. Ersu | æ | ɑ |
| Zl. Ersu | a | ɑ |

Inspecting the forms below for those transcribed with **-æ/-a**, we find that Ersu by and large uses the low back vowel. There are only seven forms below where Lizu has **-æ** and Ersu also has a front vowel, and three of these ('father', 'wheat', and 'clothing') are transcribed differently by the two different sources. Thus, it seems safe to conclude that Ersu has essentially merged these two vowels.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|------|---------|-----|-----|-----|-------|
| *pʰælæ¹ | pʰɑˋlɛˋ | | (ne)pʰælæ | phæ³³læ⁵³ | | used / old |
| *pʰæ¹ | -pʰɑ | | pʰæ | phæ³⁵ | | can, be able |
| *diupʰæ¹ | bu⁵⁵**phɑ**⁵⁵, ji³³**pha**⁵⁵ | ˋtɕup**ʰæ**; di³³pe⁵³ | dʑypʰæ 'stomach' | dʑi³³**phæ**⁵³ | | belly |
| *mopʰæ¹ | muˋ; m̥⁵⁵pha⁵⁵ | | mopʰæ | | | brother |
| *mopæ² | mo³³pa⁵⁵ | | | mo⁵³pæ⁵³ | *s-mak | son-in-law[31] |
| *dībæ | | ˋdībæ 'stupid' | | di³³nbæ⁵³ | | honest / well-behaved |
| *æbæ² | ɑˋbɑ; a⁵⁵ba⁵⁵ | ˋæpæ | ˋæbæ | æ⁵³bæ⁵³ | | father[32] |
| *debæ¹ | ba⁵⁵ | | debæ | de³³bæ⁵³ | *ba ? | carry on the back |
| *rbæ | rbæˋ | | ˋəˑmbæ | | | kind, type |
| *mumbæ¹ | | mu³³nba⁵³ | | mu³³nbæ⁵³ mu³¹ | | hunt |
| | htɕi³³nba⁵⁵su⁵⁵ | | | pi⁵³nbæ⁵³mu³³sɯ³³ | | doctor |
| *tʰæ¹ | thɑ⁵⁵ | ˋtʰæ | ˋtʰæ | thæ³³ | *ta | neg. imp. |
| *tɕitæ¹ | tsʅ⁵⁵**tɑ**⁵⁵ | | ˋtɕitæ | khe³³tɕi⁵³**tæ**³¹ | | collect, harvest, put away |

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[31]Note the front vowel in the second syllable of the Ersu form.

[32]Note the front vowel in the Ersu forms for this and the next three items.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *htæ[1] | thua⁵⁵ ?? | | ʃtæ | tæ⁵³ | | mule[33] |
| *hto/htæ | -xtoˋ; hto⁵⁵ | | ˋʃtæ, ˋʃtʁʃtæ | | PQc *N/s-tsak | jump[34] |
| *læ[1] | lʌˋ | | =læ | læ³⁵ | | and |
| *læ[1] | lʌ↓; la⁵⁵ | | læ | læ³¹, læ³⁵ | *la-y | come |
| *læ | | | -læ 'pint, 1/10 peck' | (te³³) læ³¹, læ³⁵ | | liter, container (measuring, 1-liter-volume) |
| *belæ[1] | | | belæ | be³³læ⁵³ | | work / labor |
| *læ[1] | lʌˋ; la⁵⁵ | | læpʰæ, læ | læ³³phæ⁵³ | PLB *k-la[2] | tiger |
| *dedulæ[2] | | | ˋdedɯlæ | te⁵³du⁵³læ³³sæ³¹ | | consult / discuss |
| *łæpʰe[1] | łʌ 'month'; ła⁵⁵phɛ⁵⁵ | ˋłæphe; łe⁵⁵ | ˋłæpʰø | łæ³³phe⁵³ | *s/g-la | moon |
| *łæ | łʌ↓; ła³³ | | łæ | *m-hla / WT lha | | spirit, deity |
| *rʌłæ[1] | ra⁵⁵ra⁵⁵ | | ˋəⁿłæ | ɣɯˈ³³læ⁵³ | *g-ray GOD/COPULA | soul / spirit |
| *tʰetsʰæ[1] | | | kʰetsʰæ | the³³tshæ⁵³ | | finish |
| *tsʰæ[2] | tsha⁵⁵ | tshe³³tshe⁵⁵ | ˋdetsʰæ | tshæ⁵³tshæ⁵³ | *tsa-t | hot |
| *ntsʰæ[1] | ntsha⁵⁵ | | ntsʰæ | | | make, fix, repair |
| *ntsʰæ | ntsha⁵⁵ | | | ntshæ⁵³ | | mark / sign / boundary line |
| *kʰentsʰæ | kha³³ntsha⁵⁵ | | | khe³³ntshæ⁵³ | | remember |
| *dzæ[1] | dzʌ↓; dza⁵⁵ | | dzæ- | dzæ³⁵ | | rice (paddy), seedling (rice) |
| *dzæ | tɛˋdzʌˋ | | -dzæ | (te³³)dzæ⁵³ | | meal |
| *mwEdzæ[1] | | | mɯdzæ | me³³dzæ⁵³ | | barley |
| *ndzæ[1] | ndza⁵⁵ | | ndzæ | ndzæ⁵³ | | stir-fry |
| *desæ[1] | | | sæ | de³³sæ⁵³ | | wear (a bracelet) |
| *sæ[1] | sa⁵⁵ | | (tali) desæ | khe³³sæ⁵³xæ³¹ | | bear (fruit) |
| *zæzæmu[1] | za⁵⁵za⁵⁵ŋ⁵⁵ | | æziɀæ mɯ | æ³³zæ⁵³mu³¹ | | careful / cautious |
| *zæzæ[1] | zʌˋzʌˋ 'young'; za⁵⁵za³³ | | ziɀæ | zæ³³zæ⁵³ | | tender, young (plant) |
| *-zæzæ[2] | | | ˋjoziɀæ | ja⁵³ka⁵³zæ³³zæ³¹ | | baby |
| *jizæ[1] | i³³za⁵⁵ | ji³³ze⁵⁵ | jozæ 'husband' | ji³³zæ³¹ 'man' | | son |
| *nikʰæ[2] | | | ˋȵikʰjæ | ȵi⁵³khæ⁵³ | | when |

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[33]It would be nice if the Ersu form for 'mule' was **htɑ⁵⁵, which would correspond perfectly with the Lizu forms. Perhaps the **th** is a transposition error, but the **-u-** medial is unexplained.

[34]The Ersu and Mn. rhymes do not match here.

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| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tʂʰæ¹ | tʂʰA˥; tʂhɑ⁵⁵ | | tʂʰæ | tʂhæ⁵³ | | ghost / spirit |
| *nedʐæ¹ | nɑ⁵⁵dʐɑ⁵⁵ | nedʐæ | `nedʐæ | ne³³dʐæ³⁵, ne³³dʐæ⁵³ | *k/gla-k/y/t | drop / fall |
| *(n)tʃʰæ | ntʃhɑ⁵⁵ | | | tʂhæ⁵³ | | skirt |
| *tʃæ¹ | tʂA; tʃɑ⁵⁵ | de³³tʂe⁵³ | | tʂæ³¹, ŋe³³tʂæ⁵³ | | chase after, drive out / expel |
| *htʃæ/ʂæ¹ | xtʃA˥; htʃɑ⁵⁵ | | `ʂiʂæ | ʂ̩³³ʂæ⁵³ | PLB *x-ra¹ ? | search, look for |
| *ʃæ¹ | ʂA˥; ʂɑ⁵⁵ | ʂɑ⁵⁵ | xjæ | ʂæ⁵³ | | wheat[35] |
| *ʃæ | | | (de)xjæ, xæ˩ | (dʐu⁵³) ʂæ⁵³ji³¹ | | fetch / draw (water) |
| *kʰækʰæ¹ | | | kʰikʰjæ | khæ³³khæ⁵³ | | separate, other |
| *kʰæ | | khɛ⁵⁵ | kʰjæ | khæ⁵³ | Lahu qha < *ka | rice (cooked) |
| *tsukʰæ | | | `tsʉkʰjæ | tsu³³khæ⁵³ | | stove (cooking) / range (kitchen) |
| *pʰukʰæ² | | | `pʰʉkʰjæ | phu⁵³khæ⁵³ | | fortune / luck |
| *ŋkʰæ¹ | nkhɑ⁵⁵ | tʰenkʰæ; khe⁵³ | nkʰjæ | (n)khæ³⁵ | | sell |
| *kæ | -kA↓; kɑ⁵⁵ | -kæ | -kjæ | (te³³) kæ³¹ | | classif. long items |
| *sēkæle¹ | si⁵⁵kɑ³³lɛ⁵⁵ | sə³³kəɹ⁵⁵ ? | | se³³kæ⁵³li³¹ | *s-ka:k | branch / twig |
| *kæmbæ¹ | | | kjæmbæ | kæ³³nbæ⁵³ | | tongs (fire)[36] |
| *dekæ² | dA˥kA↓ (perf.); kɑ⁵⁵ | | `dekjæ | kæ⁵³ | | hit (a person) |
| *kækæ¹ | kɑ⁵⁵kɑ⁵⁵ | | kikjæ | kæ⁵³kæ⁵³ | | fight |
| *zikæ | | | `zikjæ | ʂ̩³³kæ⁵³, mæ³³z̩⁵³mæ³³kæ³¹ | *ga ⋇ *ʔa | mute, dumb, stupid |
| *kæpælæ | | | kjæpælæ | kæ⁵³pæ⁵³læ³¹ | | forehead |
| *gæme¹ | gA˥mɛ˥; nga³³mɛ⁵⁵ | `gæmi | gjæme | gæ³³me⁵³ | Lahu vɔ̀ʔ-qâ < *ga | clothing / garment[37] |
| *gægæ¹ | ga⁵⁵ga⁵⁵ | | gigjæ | gæ³³gæ⁵³ | see SING | play |
| *gæ¹ | gA˥ 'song'; ga⁵⁵ | | | gæ³³mu⁵³, giæ³⁵ 'song' | *ga | sing |
| *gæ/gja¹ | ga⁵⁵ | | ɣjæ | giæ³¹, giæ³⁵ | *r/N/d/s-ga | like / love |
| *wægæ | vɑ³³gɑ⁵⁵ | | | wæ³³gæ⁵³ | | mat |
| *sēŋgæ¹ | s̩³³nguɑ⁵⁵ | | seŋgjæ | s̩³³ngæ⁵³ | | melon / gourd[38] |

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[35]Note the front vowel in one of the Ersu forms.

[36]Interestingly, Mn. also has the form `kæ⁺ɳi, a loan from Nuosu ꉬꅪ ka³⁴ɳe³³. The Mn. form has somehow acquired r-coloring on the vowel of the first syllable.

[37]Note the front vowel in one of the Ersu forms.

[38]The -ʉ- medial in Ersu is unexplained.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ŋgæ¹ | gaˋ; ngɑ³³ | ˋngæ | ŋgjæ | ngæ³⁵ | *m-ka, Mpi nko | door |
| *pwondzoŋgæ² | | | ˋpondzoŋgjæ | pu⁵³dzʮ⁵³**ngæ³¹** | | window |
| *ŋæ² | ŋaˋ; ŋɑ³³ | | ˋjiden̩æ | ji³³de⁵³ŋæ⁵³ | | hungry |
| *ŋæ¹ | n̩o⁵⁵ | | n̩in̩æ | ne³³ŋæ⁵³ | | skinny, get thin[39] |
| *çaŋæ² | | | ˋçæn̩æ | çæ⁵³ŋæ⁵³ | | pitiable / pitiful |
| *antʂʰæ² | a³³ntʂha⁵⁵ | | | a⁵³ntʂhæ⁵³ | | sieve / sifter |
| *(h)æne | aˋnɛˋ | | ˋhæne | hæ³³ne⁵³ | | what |

The following are miscellaneous exceptional forms where Mn. has a front vowel but TBL has a back vowel.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ntʂʰæntʂʰæ² | jaˋ**ntʂʰɛˋ**; jɛ³³**ntʂhɛ⁵⁵** | | **ntʂʰintʂʰæ, ntʂʰæ gɤ** | **tʂha⁵³ntʂha⁵³** | | clever |
| *goɬæ² | gu³³**ɬa⁵⁵** | | ˋxolæ | guo³³**ɬa⁵³** | *m/s-laːy | middle |
| *dzæpʰæ¹ | dza⁵⁵pha⁵⁵ | | ˋdzæpʰæ | dza³³pha⁵³ | | pillar / column |
| *æmæ¹ | aˋmaˌ,aˋmaˋ; a⁵⁵ma⁵⁵ | ˋæmæ | æmæ | a³³ma⁵³ | *ma | mother |

Ersu 'clever' has **-ɛ** where Lizu has a low vowel.

There are other miscellaneous forms where Mn. has a back vowel but TBL has a front vowel:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *nɑ- | | | nɑmi | næ⁵³pu⁵³ | | host / master |
| *dzæpu¹ | | | **dzɑpʉ** | **dzæ³³pu⁵³** | | food |
| *æpʰu¹ | | | **ɑpʰʉ** | **æ³³phu⁵³** | *pəw | grandfather |
| *ɣuini/ ɣuindzA¹ | ʐʯ³³n̩i³³ | | **ɣɤndzɑ** | ɣɯ³³n̩i⁵³ɣɯ³³**ndzæ⁵³** | | relatives |
| *sɑ-² | | | ˋsaʐi | sæ⁵³ | | earth, ground |
| *ʂæpʰo/ʂopʰo¹ | ʂoˋ**pʰɛˋ**; ʂo⁵⁵**phɛ⁵⁵** | | ʂɑpʰo | ʂæ³³phu⁵³ | | front |
| *kalɑ/kælæ² | no³³mɑ⁵⁵-ka⁵⁵lɛ⁵⁵ | ke³³le⁵³ | kali, kalɑ | mu⁵³tçu⁵³kæ³³læ³³ | | butterfly |
| *æ¹ | aˋ; ɑ⁵⁵ | ˋæ; æ³⁵ | ɑ | æ⁵³, a³³duo⁵³ | | I |

Some of these ( 'food', 'grandfather', 'front') may be explained as back vowel harmony in Mn.

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[39]The Ersu form has an **-o** final.

## 4.13 *ja

| env. | Ersu | Kl. | Nq. | Mn. | TBL |
|---|---|---|---|---|---|
| pal. __ | ɑ | æ | ə | ɑ | æ |

After *palatals and *alveopalatals, there is no contrast between low front and low back vowels. Thus, I use a plain **-a** symbol (i.e., not **æ** or **ɑ**) for the low vowel in this environment.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *pʰja | -tsʰʌˀ; tshɑ⁵⁵ | | -pʰça | (te³³) phʐæ³¹ | | classif. garments |
| *lepʰja¹ | | le³³ tɕhə⁵³ | lepʰça | | | palm |
| *sẽpʰja¹ | si⁵⁵tshɑ⁵⁵ | sæ³³tɕhe⁵³ | sipʰça | se³³phʐæ⁵³ | *r-pak | leaf |
| *-pʰja | | li³³tɕhə⁵³ | `tsʰipʰça | tʂhu³³phiæ⁵³ | | thigh |
| *pʰja | | `pçæ | | ŋe³³phʐæ⁵³ | *py(w)ak | sweep |
| *pʰjapʰja¹ | | de³³tɕhɯ⁵⁵tɕhɯ³³ | | ne³³phiæ⁵³phiæ³¹ | | wipe (the table) |
| *pʰja² mu | | | `pʰça mu | phʐæ⁵³/(n)phiæ⁵³ mu⁵³ | | kowtow, make obeisance to |
| *pja¹ | tsɑ⁵⁵ | pʐæ | pça | de³³pʐæ⁵³ | | hang |
| *pja¹ | | depʐæ | | pʐæ³⁵ | | catch (in mouth) |
| *mbroʐa | nbo⁵⁵za⁵⁵ | | `mbʐoʐa | | | saddle |
| *amja/amjo/æmi | | | amjo, amja | æ⁵³mi⁵³ | | now |
| *mja¹ | miɑ⁵⁵ | | mja | miæ³³ku⁵³ 'blind' | *s-mik ⋊ *s-myak | eye |
| *mja² | miʌˀ; vu³³miɑ⁵⁵ | | `mjapʂʉ, `mjatʂʰʉ | miæ³⁵ | cf. EYE | face |
| *mje/mja | ja³³mi⁵⁵ | mjemje | mimja | miæ⁵³miæ⁵³ | *mra, PLB *C-mya² | many / much[40] |
| *ʐa¹ | za⁵⁵tshɛ⁵⁵ | | ʐa | ʐæ³³tʂhʅ⁵³ | *s-la | pants / trousers |
| *ʐa¹ | zʌˀ; za⁵⁵ | ȵ³³ ʐɛ⁵³ | ʐa | (te³³) ʐæ⁵³ | *b-r-gya | hundred |
| *tɕʰa¹ | tɕho⁵⁵ | | -ça | tɕhæ³¹ | | on (the wall)[41] |
| *wutɕʰa | | | `vʉça | wu³³tɕhæ⁵³ | | above, on top of |
| *detça¹ | da³³tsɑ⁵⁵ | də³³tɕɯ⁵³ | dentɕʰa ?? | de³³tɕæ⁵³ | | wake up |
| *(d)ʐapu | | | `ʐapʉ 'rich man' | dʐæ³³pu⁵³ | | leader / chieftain / headman (Mand. 'tǔsī') |
| *kʰendʐa¹ | dzʌˀ; ndza⁵⁵ | khe³³ndʐɯ⁵⁵ | kʰendʐa | khe³³ndʐæ⁵³ | *g-r(y)ap | stand |
| *ndʐindʐa² | ndzʅ³³ndza⁵⁵ | | `ndʐindʐa | ndʐi³³ndʐæ⁵³, te⁵³ntɕi⁵³ntɕæ⁵³ | | think / idea / opinion |

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[40]The Ersu and Kl. forms seem to descend from **-je** rather than **-ja**.

[41]The Ersu form has **-o** instead of **-ɑ**.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *janiu$^1$ | jʌ↓ɳ̩oꜜ; jɛ$^{55}$ɳ̩o$^{55}$ | `jæɲi | jæɲi | jæ$^{53}$ɳ̩u$^{53}$ | cf. Lahu yà?- < *yak | yesterday |
| *æja$^1$ | | | æjɑ | æ$^{33}$jæ$^{53}$ | PLB *ʔ-wyik$^L$ | elder brother/sibling |
| *kʰuija | | | `kʰwejɑ, `kʰwæ | khu$^{33}$jæ$^{53}$ | | under |
| *legija$^1$ | | | ligjæjɑ, ligijɑ | le$^{33}$gi$^{53}$jæ$^{31}$ | | armpit |
| *jakrɑ | jɑ$^{55}$dzɛ$^{55}$ | `jæqɑ | | ja$^{53}$ka$^{53}$ | | child |
| *njapʰo/ njopʰo$^1$ | ɳ̩oↄpʰɛꜜ; ɳ̩o$^{55}$phɛ$^{55}$ | ɲopʰo | `ɳ̩apʰo 'back, behind' | ɳ̩æ$^{33}$phu$^{53}$ | | outside[42] |
| *ŋenja$^1$ | ŋa$^{33}$ɳ̩ɑ$^{55}$ | | kʰeɳ̩iɳ̩ɑ | t/ŋe$^{33}$ɳ̩æ$^{53}$ɳ̩æ$^5$ | | dodge, make way, retreat |
| *tʃʰatʃʰa$^1$ | tʂʰʌↄtʂʰʌↄ; tʃha$^{55}$tʃha$^{55}$ | tʂʰætʂʰæ | `tɕʰatɕʰa | tʂhæ$^{33}$tʂhæ$^{53}$ | | magpie |
| *kætʃa | | | `kjætɕa | ku$^{33}$tʂæ$^{53}$ | | squirrel |
| *sundʐa$^2$ | suɑ$^{33}$ndʐɑ$^{55}$ | | `sũdʑa | (suo$^{53}$)ndʑæ$^{53}$, su$^{53}$ndʑæ$^{53}$ | Mand. 算账 suànzhàng ? | count (numbers), calculate |
| *dʐa$^1$ | | dʑɑ | dʑɑ | dʑæ$^{35}$ | WT ja | tea |

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[42]The Ersu and Kl. forms point to an **-o** rhyme.

## 4.14 *ɑ

| Ersu | Kl. | Nq. | Mn. | TBL |
|------|-----|-----|-----|-----|
| ɑ | ɑ | a | ɑ | a |

Forms reconstructed with a low back vowel are listed below:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|------|---------|-----|-----|-----|-------|
| *pʰɑ | -pʰʌ˥ | | -pʰɑ | | | classif. sheet/small object |
| *nepʰɑ¹ | pʰʌ˩; pʰɑ⁵⁵ | | nepʰɑ | na³³pha⁵³ | | break open, broken |
| *pɑ | pʌ˥; pɑ⁵⁵ | | -pɑ | (te³³) pa³¹ | | peck, unit of dry measure for grain (=1 decaliter) |
| *bɑ² | dʌ˥bæ˥; ba³³wɑ⁵⁵ | | `debɑlo | ba³³laŋ⁵³laŋ³¹ | PLB *m-ba³ | bright[43] |
| *jimɑ¹ | ji⁵⁵mɑ⁵⁵ | nejemɑ; je³³mɐ⁵⁵ | (ne)jimɑ | ji³³ma⁵³, ʑi³⁵ma⁵³ | *yip + *mak | dream |
| *ratʰɑ¹ | ra⁵⁵tʰɑ⁵⁵ | | æˑtʰɑ | ə¹³³tha⁵³ | < Tib. rang 'thag | millstones |
| *tɑ¹ | | | detɑ 'accurate' | ta³³ma⁵³ | | true |
| *taso¹ | | | taso 'just now' | ta³³suo⁵³ | PLB *C-sok | morning |
| *tɑ | tʌ˩ (perf.) | | `netɑ | də³³ta⁵³ 'open (an umbrella)' | | close |
| *dadɑ² | | | pædɑ, `dedɑ | da⁵³da⁵³ | | short |
| *htɑhtɑ² | hta³³hta⁵⁵ | ta³³tsha⁵³ ?? | `ʃtɤʃtɑ | na³³ta⁵³ta³³ | | chew |
| *na | | | əˑnɑ | na⁵⁵na⁵³tʂhu³³tʂhu⁵³ | | stable, steady |
| *na² | na⁵⁵ku⁵⁵ | na³³pu⁵⁵ | `æˑnɑpi | na⁵³pi⁵³ | *r/g-na | ear |
| *ninɑ¹ | ɲo˥- ??; ɲi⁵⁵nua⁵⁵ | `jena | `ɲinɑ | ɲi³³na⁵³, ji³³na⁵³ | *nyey/*na-w | younger sibling |
| *rAne,rAnɑ¹ | ra⁵⁵**nɛ**⁵⁵ | rənɑ | | ə¹³⁵**na**⁵³ | | shadow[44] |
| *sẽlɑ¹ | | | selɑ | se³³la⁵³ | | forest |
| *lɑ² | lʌ˩; la³³phɛ⁵⁵; la³³ma⁵⁵ | | `lɑ | la³³mæ⁵³, la³³nphæ⁵³ | WT glaba 'musk deer' | deer (river) |
| *lɑ¹ | lʌ˥ 'plant (v.)'; lɑ⁵⁵ | | lɑ | la³⁵ | | plow / till (v.) |
| *lɑ¹ | lʌ˥; lɑ⁵⁵ | | lɑ | la³⁵ | | dung, manure |
| *tʰeɕʷiulɑ | | | `(kʰe)ʂilɑ | tho³³ɕuo⁵⁵**la**³¹ | | slanted / askew |
| *niu(mæ)lawu¹ | | | ɲimælɑvɨ | ɲi³³**la**⁵³wu³¹ | | daytime |

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[43]This is most likely a relatively recent borrowing from Nuosu; note the front vowel in Ersu, and the unusual nasal-final rhyme in the reduplicated syllables in TBL.

[44]The second syllable of Ersu 'shadow' has a mid front vowel.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *lamo | la⁵⁵mo⁵⁵ | | | la⁵³mu⁵³ | | stutterer |
| *lala¹ | la⁵⁵la⁵⁵ | ˋlælæ | deɬa, deɬɤɬa | la³³la⁵³ | | roll |
| *ɬa¹ | | | deɬa, deɬɤɬa | ɬa³³hũ⁵³ | | roll, turn (cause to) |
| *ɬa¹ | ɬa⁵⁵ | | ɬa | ɬa⁵³, ɬa⁵⁵ | *gliŋ | flute |
| *kʰetsʰa¹ | | | kʰetsʰa | khe³³tsha⁵³ | | block (the wind) |
| *butsʰa¹ | vu⁵⁵tshua⁵⁵ | ˋnbutsʰæ | butsʰa | bu³³tsha⁵³ | *r-pʷa | axe⁴⁵ |
| *ntsʰa¹ | ntsha⁵⁵ | tsha³⁵ | ntsʰa | tsha³⁵ | *m-sin | liver |
| *dentsʰa¹ | ntsha⁵⁵ | ˋdentsʰæ | ntsʰintsʰa | ntsha³⁵, de³³ntsha⁵³ | Lahu šɛ < *sin | pull / drag / lead (a cow) along |
| *tsa¹ | tsa⁵⁵ | khe³³tsa⁵³le³¹ | tsitsa, tsa | khe³³tsa⁵³le³¹ | | tie up, bind |
| *ledzi/letsa² | lɛ³³dʐɻ⁵⁵ | ˋledʐɻ; le³³tsa⁵³ | ˋlidza 'claw' | le³³tsa⁵³ | *m-tsyen | nail⁴⁶ |
| *dzidzi/dzadza | ɬdʐɻ⁵⁵ dʐɻ⁵⁵ | ˋledʐɻ; dza³³dza⁵³ | ˋlidza | dza³³dza³³ | *m-tsyen | claw / talon |
| *adzje/adza¹ | ᴀˋdziˋ; a⁵⁵dzi⁵⁵ | | adza | a³³dza⁵³ | | we (dual)⁴⁷ |
| *nedzje/nedza¹ | nɛˋdziˋ | | nedza | ne³³dza⁵³ | | you two |
| *(n)dza¹ ? | dzᴀˋ; ndza⁵⁵ | ndza | dza | dzaŋ³⁵ | | drum |
| *ndza² | dzᴀˇ; ndza⁵⁵ | ˋndza | ˋndza | dʑæ⁵³, dza³³ | | Chinese (Han) |
| *ndza¹ | ndza⁵⁵ | | ˋbi ndza | ndza³⁵ | | sting (of wasps) |
| *ntʂʰa | | | ntʂʰa 'play inst.' | ntʂha⁵³ | | blow (the trumpet) |
| *(ri)ʂa¹ | (ʂɛˇ|ʂɛˇ); (ʂɛ⁵⁵) | (ʂɐ³³ʂɐ⁵³) | əˈʂa | əˈ³³ʂa³⁵ | *s-riŋ LONG | far / distant⁴⁸ |
| *ʂa | ʂɛˇ|ʂɛˇ; ja³³ʂɛ⁵⁵ | ʂa³³ʂa⁵³, ʂɐ³³ʂɐ⁵³ 'far' | pæʂa, ʂiʂa | ʂa⁵³ʂa⁵³ | *s-riŋ | long |
| *ʂa | | | ʂa | *sywar SCATTER | pour (water) |
| *batʂa/butʂa | pᴀˋtʂᴀˋ; ba³³tʃa⁵⁵ | | butʂa | | | knife |
| *mekʰa¹ | mɛ⁵⁵khuaˈ⁵⁵ | mə³³kha⁵⁵ 'cloud' | | me³³kha⁵³ | | rainbow⁴⁹ |
| *tsʰekʰa¹ | tshɛ⁵⁵ka⁵⁵ | | tsʰikʰa | (n)tshɻ⁵³kha⁵³ | *ka:k | sputum, phlegm |
| *kape¹ | ka³³pi⁵⁵ | | kapø | ka³³pe⁵³ | | garbage / debris |
| *(h)kara(wa)² | ka³³ra⁵⁵ | ˋkɚwæ | ˋxkawa ntʂʰamæ | kæ⁵⁵əˈ⁵³ | | spider⁵⁰ |

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⁴⁵The medial glide in the Ersu form is unexplained.

⁴⁶The Ersu and Kl. forms for 'nail' and 'claw' point to a variant with the rhyme **-i**.

⁴⁷The Ersu form seems to descend from **-je**.

⁴⁸Not the **-ɛ** rhyme in Ersu in 'far' and 'long' (clearly from the same root) instead of expected **-ᴀ/ɑ**.

⁴⁹The medial glide and rhotic vowel in the Ersu form are unexplained.

⁵⁰The first syllable of the Kl. form appears to have fused the two syllables apparent in the Ersu and TBL forms.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ka² | kaꜜ; ka³³pʰa⁵⁵ | | | ka⁵³ba⁵³ | < PLB *ʔ-ga² ? | mute |
| *kwa/ka² | ȵoˈkuʌꜜ; ȵo³³kua³³ | | `ja kamu | ja³³ka⁵³ | PLB *ka¹ | all / the whole[51] |
| *gapʰo¹ | | | gapʰo 'top of' | ka³³pʰu⁵³ | | upper part |
| *xa¹ mu | xa⁵⁵ ŋ̍⁵⁵ | `xwæ mu | `xaxa mʉ | xa³⁵ mu³³ | | yawn |
| *ŋapʰo¹ | tʃa³³ŋa³³ 'under'? | | ŋapʰo 'that side' | ŋa³³pʰu⁵¹ | | lower part / lower reaches |
| *ado(ri)¹ | | | ado (incl.) | a³³doˑ³⁵ | | we |

Finally there are a few exceptional forms where Mn. **-a** has a similar-looking form with a high vowel in TBL:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *kotsV¹ | ku³³**tsɛ**⁵⁵ | | ko**tsa** | no³³kuo⁵³**tsɻ̩**³¹ | | step on / stamp / tread |
| *tʂʰa/tʂʰi² | | | `tʂʰa ??? | tʂʰŋ̍⁵³ | | bed |

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[51]The medial glide in the Ersu form is unexplained.

## 4.15  *wæ and *wɑ

Both of the low vowels can coöccur with the **-w-** medial glide. As noted on p. 4.12, Ersu has merged the two low Mn. has undergone a mini-chain shift where **\*-wɑ > -ɑ** (see below), followed chronologically by **\*-wæ > -wɑ**. I present the forms reconstructed with the front-vowel diphthong **\*-wæ** below:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *dʒwæ | dzuɑ⁵⁵ | | -dʑɑ ? | (te³³) dʐuæ³¹ | *m-twa | span (thumb to finger) |
| *kʰwæ¹ | jᴀˋkʰuᴀˋ; ja³³khuɑ⁵⁵ 'big' | -kʰwæ | dekʰwa | de³³khuæ⁵³ | | grow, grow up |
| *pʰekʰwæ¹ | pʰɛ⁵⁵**khuɑ⁵⁵** | | pʰʉkʰwa | phe³¹**khuæ⁵³** | *pəw PRICE | expensive |
| *tsʰokʰwæ | | | tsʰukʰwa | tshuo⁵³**khuæ⁵³** | | adult |
| *ŋkʰwæ² | nkʰuᴀˋ; ŋkhuɑ³³ | ˋqʰwɑ | nkʰwa | (n)khuæ⁵³ | | lake |
| *kʰeŋkʰwæ | ŋkhuɑ³³ | | | khe³³nkhuæ⁵³, khɯ³³khuæ⁵³ | | rust |
| *ŋgwæ¹ | nguɑ⁵⁵ | | ŋgwa | nguæ³³phe⁵³ | | pheasant (long-tailed) |
| *deɣwæ¹ | wɑ⁵⁵ | | dewɑ | de³³ɣuæ⁵³ | *k-wa | full, satiated |
| *rikʰwæ¹ | | | əˀkʰwa 'cliff' | fiɯˀ³³khuæ⁵³ | | rock |

The **\*-wæ > \*-wɑ** change in Mn. was suppressed if the initial consonant was retroflex, or if there was no initial consonant (the voiced velar fricative in TBL is deemed secondary).

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tʂʰwæ | | | ˋtʂʰwæ 'water tank' | tʂhuæ³³ɦiæˀ³⁵- dʐu³³gu⁵³ | | vat / jar |
| *ʐwæʐwæ | | | ʐʉʐwæ | te⁵³ʐuæ⁵³ʐuæ³¹ | | rinse (the mouth) |
| *wurA/wærA¹ | **vuˋrᴀˋ**; **vu³³rɑ⁵⁵** | | **wæ, wæə¹** | ɣuæ³³ɦiæˀ³⁵ | | cloth |
| *wæ¹ | | | wæ (tʰʉ) | ɣuæ³⁵ | *wa | snare / trap |
| *wæ¹ | | | wæ 'OK!' | ɣuæ³⁵ | | permit / allow |
| *diwæ¹ | dʑi⁵⁵**vɑ⁵⁵** | | dʑyæˀ | dʑi³³**wæ⁵³** | | slow / clumsy |
| *rgwæ¹ | guɑ³³ | ngwæ; ɣue⁵³ | ɣwæ | ɣuæ³⁵ | *r/g-wa | rain |
| *rA/ɣwA | rɑ⁵⁵ | ˋɣwæ | | | | shout, yell |

The very unusual form 'rain' is reconstructed as **\*rgwæ**, with a retroflex prefix to account for the Mn. vowel. See p. 62 for discussion on the initials.

See p. 73 for discussion on 'shout'.

The following items illustrate Mn. medial **-w-** disappearing when followed by **\*ɑ**. Note that Ersu

'have/exist' and most of the Ersu forms with initial velars (exceptions are 'hoof', 'cucumber', 'bird', and 'paddy fields') have also lost the medial glide.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tʰwɑ¹ | | | tʰɑ | thua³⁵ | | fit, can hold |
| *ntʰwɑ¹ | jʌˋntʰuʌˋ; nthuɑ⁵⁵ | thɑ̃³³nthʌ⁵³ | ntʰɑ gɤ | thua⁵³nthua⁵³ | PLB *takᴴ | sharp, pointed |
| *ntʰwɑ | ntʰoˋ; nthuɑ⁵⁵ | | -ntʰɑ | (te⁵⁵) nthua⁵³ | | drop (of oil)⁵² |
| *detwɑ¹ | tuɑ⁵⁵ | | `detɤta | de³³tua⁵³ | | hug / embrace |
| *dwɑ¹ | duʌ√; ŋɛ⁵⁵duɑ⁵⁵ 'pass by' | dæ | dɑ | dua³⁵, ŋe³³dua³⁵ | | go / leave (past) |
| *denwɑ¹ | dʌˋnuʌˋ; nuɑ⁵⁵ | deɐ³³neɐ⁵³ | denɑ | de³³nua⁵³ | *s-nak | black |
| *ṣinwɑ | ʂŋ³³nuɑ⁵⁵ | | | ʂŋ³³nua⁵³ | | mole |
| *tsʰwɑ | | | -tsʰɑ | (te³³) tshua⁵³ | | classif. rooms |
| *tswɑ | | | `tsɑ | ne³³tsua⁵³ | | filter / strain |
| *swɑ¹ | | | sɑ | sua³⁵, gu³³sua⁵³ | | send (a message) |
| *tʃwɑpu¹ | | | tʂapʉ | tʂua³³pu⁵³ | *kyak | navel |
| *dʐwɑ | dʐɑ³³le⁵⁵ | | | dʐua⁵³le⁵³ | | put in order / arrange |
| *dʒwɑ¹ | dʒʌˋ; dʒɑ⁵⁵ | dʐuæ | dʐɑ | dʐua³¹ | | have, exist (movable) |
| *ṣwɑ | | `ʂwɑ | | ʂua³³nphʐi⁵³ | | mosquito (relatively small) |
| *tʰekʰwɑ¹ | thɑ³³khɑ³³ | | kʰekʰɑ | the³³khua⁵³ | PLB *k-ra²/³ | win |
| *ŋ(u)kʰwɑ | nkhuɑ⁵⁵ | | | ŋu⁵⁵khua⁵³ | *kwa ? | hoof |
| *tɕukʰwɑ² | tsŋ³³khuɑ⁵⁵ | | | tɕu⁵³khua⁵³ | | cucumber⁵³ |
| *lakʰɑ/lokʰɑ¹ | | | lakʰɑ kʰeæˑ 'get hurt' | luo³³khua⁵³əɹ³¹ 'get hurt' | | wound |
| *dexwɑ/ dehkwɑ¹ | dɑ³³xɑ⁵⁵ | | dexkɑ | de³³xuæ⁵³, de³³xua⁵³ | | open |
| *hkwɑ | hkɑ⁵⁵dʐu⁵⁵ 'lean (meat)' | qwɑ | | | | skinny |
| *kwɑkwɑ¹ | kɑ⁵⁵kɑ⁵⁵pi⁵⁵ | | `kɤkɑ | kua³³kua⁵³ | | hard |
| *kwɑli¹ | kɑ³³əˑɹ⁵⁵ | | kɑli | kua³³li⁵³ | *ka | crow |
| *kɑpi² | kɑ³³pʂŋ⁵⁵ | | `kɑpi | kua⁵³pi⁵³ | | lame person |
| *xwɑjo¹ | huʌiˋ; xuɑi⁵⁵ | xɑ⁵³, xɑ³³jɯ⁵³ | xɑjo | xua³³jʉ⁵³ | | bird, sparrow |

⁵²Note the variation between **-o** and **-uɑ** in the Ersu forms.

⁵³The second syllable of 'cucumber' may simply mean 'big'. Cf. Ersu **jɑ³³khuɑ⁵⁵** 'big', TBL **de³³khuæ⁵³** 'grow up'.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *(xwɑjo)ntʃʰo¹ | xuɑi⁵⁵ntʂʰɛ⁵⁵ | | xɑjo ntɕʰo | xua³³ntʂhʉ⁵³ | *kʷəy ?<br>*(t)si/up? | nest (bird) |
| *(ju/ʐu)xwɑ¹ | zu⁵⁵xuɑi⁵⁵ | | | jy³³xua⁵³ | *hya SWID-<br>DEN | paddy fields |

The following forms have **wɑ** in both TBL and Mn. The relevant syllables in 'gruel' and 'circle' probably have zero-initials and thus are exempt from the change. 'Take off/peel' and 'return' may be borrowings from Chinese (cf. Mandarin **guā** 'scrape, shave' and **huán** 'return'). The final two forms underwent changes in Mn. resulting in **æˑ**; these changes will be explained in detail below.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *tsʰawɑ¹ | | | tsʰawɑ | tsha³³wa⁵³ | | gruel / porridge |
| *wawɑ¹ | dʌˈwuʌˈliˈ | wa³³wa⁵⁵ | wawɑ,<br>wawaløló | ɣua³³ɣua⁵³ | | circular (planar),<br>round |
| | kuɑ⁵⁵ | | kwɑ | ne³³kua⁵³ | Mand. 刮<br>guā ? | take off (clothes),<br>peel |
| | | | xwɑ | the³³xua⁵³ | Mand. 還<br>huán ? | return (a pen) |
| *gwɑ² | | | ˋneæˑ | gua⁵³ | | left over / remain |
| *rwɑ¹ | rʌˈ; rɑ⁵⁵ | rwæ; rɑ⁵⁵ | æˑ | ɣua³⁵ | *k-rak | chicken |

Since the developments in Mn. are the most drastic, sound changes in Mn. relating to the developments of **\*wæ** and **\*wɑ** are presented below, along with some roots illustrating these changes. (Two hypothetical forms are also given to show what developments we would expect if these roots are later discovered and reconstructed.)

The relative ordering of these sound changes is crucial, and the letters and numbers identifying each change attempt to indicate this. Change #2/c must follow change #1 since #1 feeds #2/c. #A must precede #B because #B removes **-w-** medials that #A looks for (i.e. they are in counterbleeding order). #B must precede #C since they form a chain shift (i.e. they are in counterfeeding order). #C must precede #D since #D removes an initial consonant that is relevant to #C (counterbleeding order). Finally, #2/c must follow #B since #B feeds #2/c.

| | CHICKEN<br>*rwA | OBTAIN<br>*rA | REMAIN<br>*gwɑ | -<br>**gwæ | -<br>**ɣwɑ | FULL<br>*ɣwæ | RAIN<br>*rgwæ |
|---|---|---|---|---|---|---|---|
| 1. rw > ɣ | ɣA | - | - | - | - | - | - |
| A. g > ɣ / __ {w,u,o,ɣ,j}⁵⁴ | - | - | ɣwɑ | ɣwæ | - | - | rɣwæ |
| B. wɑ > ɑ / C __ | - | - | ɣɑ | - | ɣɑ | - | - |
| C. wæ > wɑ/ C[-retro] __ | - | - | - | ɣwɑ | - | ɣwɑ | - |
| D. ɣ > ∅ / __ wA | - | - | - | wɑ | - | wɑ | - |
| 2/c. {ɣA, rA} > æˑ | æˑ | æˑ | æˑ | - | æˑ | - | - |
| (output) | æˑ | æˑ | æˑ | wɑ | æˑ | wɑ | ɣwæ |

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⁵⁴See p. 68 for a list of forms affected by this rule.

Since this table of sound changes may seem overly mechanical, it is important to note that this is not merely a set of ordered rules, but a relative chronology of (hypothesized) real sound changes. Although it is difficult to determine the time depth of Proto-Ersuic (see note 30, p. 48 for some discussion on this topic), we can at least figure out the order in which some of these changes occurred.

## 4.16   Summary

The table on the next page lists all the rhymes from this chapter along the top with the various places of articulation reconstructed in the previous chapter along the side to illustrate which initials and rhymes can occur with each other.

Checkmarks are given for initial-rhyme combinations where the reconstructions seem fairly sound. In some cases (dental stops in combination with **-i** and **-iu**), only one or two specific initials can combine with the rhyme, and those are explicitly listed instead.

Question marks are used where the assignment of certain forms to the rhyme is tentative. The reader should consult the relevant sections for details, but a brief summary is provided here. For **\*-iu**, a small number of forms with bilabial stop initials and voiceless lateral initials have somewhat aberrant vowel correspondences and thus have been marked as tentative. The **tʃ** + **e** combination refers to a single form ('gnaw/nibble'), again with unusual vowel correspondences. The rhyme **\*-ew** as well has only a handful of unusual forms with bilabial and dental-fricate initials, and the **\*-wE** rhyme is itself a tentative reconstruction. Finally, there are three forms with dental initials (**n-, l-, tsʰ-**) placed under **\*-wo** simply because the TBL transcriptions have a **-u** rhyme, but these transcriptions may be errors, and the forms may ultimately belong under **\*-o**.

The nasalized rhymes from section 4.3 do not have their own columns; rather, since most of these forms begin with **\*h-**, checkmarks have been placed at the intersections of **\*h-** with the rhymes' non-nasal counterparts. This leaves five forms unaccounted for in the table: **htẽ** 'seven', **htũ** 'thousand', **\*jẽ** 'house', **\*jã** 'home', and **\*jõ** 'sheep'.

Among other things, this table allows us to quickly see which rhymes are "good" rhymes that can coöccur with many different initials vs. ones that have more restricted distributions, and also which rhymes are contrastive vs. those where the distinction might potentially be collapsed. For example, comparing **\*o** with **\*wo**, we see that **\*wo** only occurs after bilabials and velars, and perhaps it can merged with **\*o** (e.g. if we discover that the TBL data, which the distinction rests on, is transcribing phonetic details that are not phonemically contrastive). Likewise, we can see that there is apparently no front/back distinction for low vowels after palatals and alveopalatals, nor after initial **\*r-**.

Figure 4.1: Coöccurrence of Proto-Ersuic *initials and *rhymes

| | ri | riu | re/o/u | ræ | rɑ | ui | i | iu | u | je | jẽ | e | ẽ | ew | wE | o | wo | æ | ja | a | wæ | wɑ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ? | ✓ | ✓ | | ✓ | | ? | ? | ✓ | ✓ | ✓ | | ✓ | | ✓ |
| T | | | | | | | d-, ht- | d- | ✓ | | | ✓ | | | ? | ✓ | ? | ✓ | | ✓ | | ✓ |
| TS | | | | | | | ✓ | | ✓ | | ✓ | ✓ | ✓ | ? | | ✓ | ? | ✓ | | ✓ | | |
| l | | | | | | | ✓ | | ✓ | ✓ | | ✓ | | | | ✓ | | ✓ | | ✓ | | |
| ɬ | | | | | | | ✓ | | | ✓ | | ✓ | | | | ✓ | | ✓ | | ✓ | | |
| Tɕ | | | | | | | ✓ | ✓ | ✓ | ✓ | | | | | | | | | ✓ | | | |
| Tʃ | ✓ | ✓ | | | | | ✓ | ? | ✓ | | | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ |
| Tʂ | | | | | | | ✓ | ✓ | ✓ | | | ? | | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ |
| K | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | | ? | ✓ | ✓ | | | ✓ | | ✓ |
| h | ✓ | ✓ | ✓ | ✓ | | | ✓ | | | ✓ | | ✓ | | | | ✓ | | | | | | |
| ∅ | | | | | | | | | | | | ✓ | | | | ✓ | | | | | ✓ | ✓ |

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# Chapter 5

# Tones

Proto-Ersuic is reconstructed with two tones, with the correspondences as follows:

| PEr | Ersu | Lizu | number of forms |
|-----|------|------|------------------|
| *1 | H | L | 504 |
| *2 | L | H | 141 |

Synchronic high tones in Ersu seem to correspond with low tones in Lizu, and vice versa. Items reconstructed with *Tone 1 are over three times more numerous than those reconstructed with *Tone 2. (The counting method is detailed below.) Since the phonetic values of the tones in Ersu vs. Lizu are opposite, the tones are reconstructed simply as *1 and *2, with *1 being more common.

Unfortunately, it is difficult to find perfect tonal minimal pairs at the Proto-Ersuic level. Some possible candidates are listed below. The best example is 'joint'/'salt', where the tones agree all the way across, although many of the forms for 'joint' are disyllabic. Next, 'Shoe'/'son' is a good minimal pair for Mn. and Kl., but there is no Ersu cognate for 'son', and TBL 'shoe' has a high tone. The Ersu forms for 'bear' have aberrant initials, and the Kl. form for 'bear' has an aberrant rhyme, even though the tones are unproblematic. Finally, there is 'hat'/'ten thousand', where the reconstructed rhymes are slightly different, and for 'hat' the Zl. form and the disyllabic TBL form have aberrant tones.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|-----|------|---------|-----|-----|-----|-------|
| *tsʰi$^1$ | tshɻ$^{55}$ 'shoulder blade' | tshɻ$^{33}$tshɻ$^{53}$ | tsʰitsʰɨ | tshɻ$^{33}$tshɻ$^{53}$-ta$^{33}$ta$^{33}$ | *tsik | joint |
| *tsʰi$^2$ | tsʰɻ↓; tshɻ$^{33}$ | tshɻ$^{53}$ | `tsʰɨ | tshɻ$^{53}$ | *tsa | salt |
| *zi$^1$ | zɻ$^{55}$ | zɻ | zɨ | zɻ$^{53}$ | | shoe |
| *zi$^2$ | | `zɻ | `zɨ | zɻ$^{53}$ | *za | son |
| *xui/ŋui$^1$ | hə˞˧˩ ʔ; xa˞$^{55}$ ? | ŋo~ɦo; ŋue$^{33}$mo$^{53}$ | ŋwe, ŋwemo | ŋu$^{33}$mu$^{53}$ | *d/g-wam | bear (n.) |
| *ŋui$^2$ | ŋʌ˧˩↓; ŋua˞$^{33}$ | `ŋu | `ŋwe | ŋu$^{53}$ | *ŋwa | cattle, cow |

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| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|------|------|---------|-----|-----|-----|-------|
| *mbo[1] | buʼ; nbu$^{33}$ | nbo | mbo, mbojo | nbo$^{35}$, nbo$^{53}$ju$^{53}$ | | hat |
| *mbwo[2] | nbo$^{33}$ntsho$^{55}$ | | ˋmbo | nbu$^{53}$ '100,000' | WT ḥbum '100,000' | ten thousand |

The origin of these two tones is unclear. Both tones occur with a wide variety of initials/rhymes, manners of articulation, and vowel qualities. Prefixes, either at the PTB level or at a hypothetical Pre-Proto-Ersuic level (such as a causative **\*s-** prefix accounting for pairs such as Mn. **dzɨ** 'eat'/**tsɨ** 'feed') also do not seem to affect the tonal categories.

Most descriptions of Ersu and Lizu agree (at least implicitly) that there are two synchronic lexical tones. Chirkova's (2008) analysis of Kl. and my own analysis of Mn. agree on an unmarked low tone and a marked high tone. As discussed in chapter 1 (p. 10), TBL transcribes four surface syllable-tones, but these can be analyzed as two word-tones, corresponding exactly with the two tones of Kl. and Mn. Ikeda (2009) provides no phonological analysis and simply uses the tone transcriptions used in TBL.

On the Ersu side, Sūn (1982b) gives exactly two tones for Zl.: high level and mid level, with mid level often realized as mid rising and high level often realized as high falling (due to the "effects of intonation"); these tonal values are exactly the same as in Lizu, except that the tone categories are reversed (as we shall see below). Qŝ. is described as having five tones, but as explained on p. 12 (and somewhat similar to the TBL case), these appear to be surface transcriptions of syllable-tones where there are in fact only two lexical word-tones.

To count the number of cognate sets belonging to each tone category, the following procedure was used: Zl., Mn., and TBL were chosen as the three most reliable/largest sources to use as a basis of comparison. Cognate sets were categorized based on whether (1) the tones matched across all languages for which data was available, (2) two of the three languages from the "major" sources agreed on the tone category, or (3) there were only two languages with cognates and the tones did not match each other. Some items were excluded because they consisted of a form from a single language (included for comparison with a PTB root), or because the tones were indeterminate. Often, this was because they were adjectives with the **jɑ-** prefix in Ersu, which forces a low tone in Ersu; similarly, the **mæ-** negative prefix in Mn. forces a high tone. The number of items in each category are presented below:

| | *Tone 1 | *Tone 2 |
|------|---------|---------|
| Agree - all (2/2 or 3/3) | 355 | 60 |
| Agree - 2/3 | 149 | 81 |
| Subtotal for "Agree": | 504 | 141 |
| Mismatch | 143 | |
| Total: | 788 | |

Note that the "Agree - all" category consists of items where (1) the three "major" sources agree on the tone; (2) only two of the "major" sources have data, and those two agree on the tone; or

(3) only one of the "major" sources have data for that set, but the tone is corroborated by the "minor" sources.

It is striking that of the 788 items where there is enough data to make tonal comparisons, almost half (355/788, or 45%) have tones that agree on *Tone 1 across the three major sources. However, the small number of items that agree on *Tone 2 (60/788—less than 8%), and the large number of mismatching tonal transcriptions (approximately 18%), are a cause for concern. One possibility is that there were no contrastive tones in Proto-Ersuic, and that there was a default intonational or prosodic melody that developed into high tone in Ersu and low tone in Lizu when contrastive tones eventually did develop separately in Ersu vs. Lizu. If this was the case, we might expect that in cases where two out of three languages (Zl., Mn., and TBL) agree on the tone, the odd one out would be Ersu; that is, Mn. Lizu and TBL Lizu might retain an original low tone (i.e., those categorized as Tone 1) where Ersu innovated a second tone on those forms, or the opposite scenario might have occurred where Ersu has Tone 1 but Lizu developed Tone 2. However, this does not appear to be the case. Below are the numbers of cognate sets where Ersu, Mn., or TBL is the odd language out within the "Agree - 2/3" category above. Mn. has an unusually high number of high tones where the other languages have Tone 1 and an unusually low number of low tones where the other languages have Tone 2:

|  | Ersu | Mn. | TBL | Total |
|---|---|---|---|---|
| Disagree - *Tone 1 | 35 | 76 | 38 | 149 |
| Disagree - *Tone 2 | 35 | 9 | 37 | 81 |

Furthermore, there does not appear to be any conditioning environment to determine which forms in individual languages have aberrant tones.

Another possibility is that there were indeed two tones in Proto-Ersuic, but unreliable transcriptions and a poor understanding of the tonal systems of Ersuic languages prevents us from assigning tones to many lexical items with certainty.

Problems with the reliability of field transcriptions cannot be taken lightly. Older wordlists—even going back to Baber (1882), which makes sporadic attempts to transcribe tone using Mandarin tone categories—are based on the model of Sinitic languages where every syllable carries a contrastive tone. This theoretical assumption pervades every aspect of elicitation, analysis, and presentation of the data, and when applied to languages like Lizu and Ersu can obscure the data or even make it impossible to find the right generalizations. For example, in Mianning Lizu (and probably all of Ersuic), classifiers cannot appear by themselves—usually a numeral precedes it (without a numeral, it must be attached to a noun and acts as an indefinite marker).[1] However, in wordlists, classifiers are typically listed by themselves with no numeral (as they are for Zl. Ersu), or listed with the numeral 'one' in parentheses (as they are for TBL), with an attached tone, assumed by the transcriber to be lexically specified by the classifier itself. Below are all the cognate classifiers across Ersuic:

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[1]Conversely, numerals typically only appear when attached to classifiers; when counting, a "default" classifier is used (in Mn., it is **-pəˈ**, the classifier for small round objects).

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *pri | -peˈˠˌ; paˈ⁵⁵ | `pɚ 'grain'; nu³³pi⁵³ 'peas' | -pəˈ | (te³³) pɯ³¹ | | classif. small round obj. |
| *pʰɑ | -pʰʌˌ | | -pʰɑ | | | classif. sheet/small object |
| *kæ | -kʌ↓; kɑ⁵⁵ | -kæ | -kjæ | (te³³) kæ³¹ | | classif. long items |
| *pu | -puˌ, -buˌ; pu⁵⁵ | -pv | -pʉ | (te³³) pu³¹ | PLB *baŋ¹ | classif. trees/flat obj. |
| *dʐe | -dʐɛ, -dzi; dʐɛ⁵⁵ | -dʐe | -dzɣ | (te⁵³)dzɯ⁵³ | *dzum ⪦ *tsum | pair |
| *pʰwo | | | -pʰo | (te³³) phu³¹ | | classif. one of pair (hand, eye) |
| *pʰja | -tsʰʌˌ; tsʰɑ⁵⁵ | | -pʰɕa | (te³³) phʐæ³¹ | | classif. garments |
| *pʰjo | | | -pʰɕo | (te³³) phiu³¹ | | bolt (of cloth) |
| *tsʰwa | | | -tsʰa | (te³³) tshua⁵³ | | classif. rooms |
| *bru | buˌ; bu³³ | -bo | -bʐʉ | (te³³) bu³¹ | | flock (of sheep) |
| *hke | hkɛ⁵⁵ | -kɯ | -xkɣ | ne³³kɯ⁵³ 'break, snap' | | half |
| *dʒwæ | dzua⁵⁵ | | -dʐa ? | (te³³) dzʉæ³¹ | *m-twa | span (thumb to finger) |
| *liu | -liuˌ; lio⁵⁵ | | -li | (te⁵⁵) liu⁵³ | *lam ? | fathom |
| *mbi | mbzɹ↓/ˌ; nbzɹ⁵⁵ | | `mbi 'step across' | (te³³) nbi³¹ | | step / stride |
| *kʰo | | | -kʰo | (to³³) khuo³¹ | *kwak | bowl |
| *ntʰwa | ntʰoˌ; nthua⁵⁵ | | -ntʰa | (te⁵⁵) nthua⁵³ | | drop (of oil) |
| *bje | bi⁵⁵ | `bje | labje | (te⁵³) bi⁵³ | | heap (e.g. of dung) |
| *krɑ | -tʂɛˌ; tʂɛ⁵⁵ | | -kæˈ | (te³³) ka³¹ | | catty (=1/2 kilogram) |
| *lo | -loˌ; lo⁵⁵ | | -lo | (to³³) luo³¹ | <MC ljangX 兩 ? | tael (=50 grams) |
| *tetsje | | | -tʌtse | (ne³³) te⁵³tɕi³¹ | | measure of weight (=0.1 tael) |
| *læ | | | -læ 'pint, 1/10 peck' | (te³³) læ³¹, læ³⁵ | | liter, container (measuring, 1-liter-volume) |
| *pɑ | pʌˌ; pɑ⁵⁵ | | -pɑ | (te³³) pa³¹ | | unit of dry measure for grain (=1 decaliter), peck |
| *dzæ | tɛˌdzʌˌ | | -dzæ | (te³³)dzæ⁵³ | | meal |
| *niu | ȵoↄ,ȵoˌ; ȵo⁵⁵ | nɯ⁵⁵ | -ȵi | (te⁵³) ȵy⁵³ | *nəy SUN | day, day's (work) |

Notice that almost all the classifiers in Zl. and TBL have exactly the same tone! In fact, the surface tone on the classifier is completely predictable because the tone of numeral-classifier combination is dependent on the first syllable, the numeral. The practice of transcribing a tone on every syllable misses this generalization; furthermore, it is misleading because there will invariably be one or two classifiers that happen to be transcribed with a tone different from all the rest (for whatever reason, whether it be intonation-induced or simply an error), and the reader of the wordlist will be led to believe this difference is significant.

A second example has to do with lexical items that have tones which are obscured by various prefixes. We already noted above that the adjective prefix (**jɑ-** in Ersu and **pæ-** in Mn.) overrides the tone of the following syllable; however, adjectives without the prefix (often in a reduplicated form) have their own underlying tones. Other prefixes that override the following morphemes' tones include the negative (**`mæ**), negative imperative (**`tʰæ**), and interrogative (**`æ**) prefixes. Taking syllables out of their context and assuming that their surface tones are their underlying tones is easy to do while wearing syllable-tone–colored glasses, but it makes the tonal analysis difficult or impossible.

We have mentioned above two relatively simple examples of tone interacting with morphology; more complex is the interaction between tone and intonation in running speech, which to date has not been analyzed in any Ersuic language. These phenomena are merely the tip of the iceberg; without a thorough understanding of the phonology of Ersuic languages, our data will, unfortunately, remain messy.

For the time being, then, it seems best to tentatively reconstruct two tones (ultimately of uncertain origin) for Proto-Ersuic, with *Tone 1 accounting for a large portion of the reconstructed vocabulary, and *Tone 2 a much smaller portion. The remaining lexical items will have to wait for more work to be done before they can be assigned a tone.

# Chapter 6

# Morphosyntax

The lexical and grammatical similarities of Lizu, Ersu, and Tosu were noted by Sūn (1982b:241). This chapter presents a compilation of morphosyntactic features that appear to be reconstructible to the protolanguage. The importance of morphology for determining genetic relationships between languages has been noted by many, but I will quote Goddard (1975:250), who explains it thus:

> Proving a genetic relationship between two languages is a matter of showing that they share similarities which can only be accounted for by the assumption that the languages have descended from a common ancestor. There are, logically, two stages in such a demonstration. It is necessary to show not only that the resemblances are so numerous and detailed as to exclude the possibility of chance as an explanation but also that they are so tightly woven into the basic fabric of the languages that they cannot be explained simply as borrowings.... [T]he kinds of similarities which are most valuable for showing genetic relationship are those which involve details of the morphological structures of the languages. If one finds in two languages what is essentially the same system, with the same internal structure, embedded in their grammers, then it is likely that the criteria for proof can be met. Similarities between lexical items are much less satisfactory, since individual words are readily borrowed and since each comparison must stand alone and does not have the added impact which it would gain from being part of a system of similarities.

## 6.1 Verbs

### 6.1.1 Directional Prefixes

The Ersuic languages are notable for their use of directional prefixes on almost all verbs (indeed, directional prefixes are a defining feature of the Qiangic languages; see Sūn 2001). Five directional prefixes are reconstructed for Proto-Ersuic:

| | PEr | TBL | Kl | Nq | Mn | Zl | Qŝ | num. of forms |
|---|---|---|---|---|---|---|---|---|
| up | *de- | de- | de- | də- | de- | dɛ- | dɛ- | 70 |
| down | *ne- | ne- | ne- | nə- | ne- | nɛ- | nɛ- | 40 |
| inward/upstream | *kʰe- | khe- | khe- | khə- | khe- | khɛ- | khɛ- | 30 |
| outward/downstream | *ŋe- | ŋe- | | ? | | ŋɛ- | ŋɛ- | 10 |
| away | *tʰe- | the- | the- | thə- | | (thɛ-) | (thɛ-) | 20 |

TBL and both Ersu dialects (Zl. and Qŝ.) have preserved all five of these prefixes. The grammatical sketches for Zl. and Qŝ. do not list **thɛ-** as one of the directional prefixes, but it is clear from the data and/or the other parts of the sketches that it is indeed part of the paradigm. For example, Liú (1983) includes it under a list of unpredictable verbal prefixes required for imperatives; similarly, data from Zl. includes four forms with the 'away' suffix: **thɛ³³gɛ⁵⁵** 'happy/glad', **thɑ³³khɑ³³** 'win', **(thɛ⁵⁵)ɬi⁵⁵** 'hide (smtg.)', and **thɛ³³mɛ⁵⁵** 'forget'.[1]

In Kl. and Mn., **ŋe-** 'outward/downstream' has been replaced by **ne-** 'down'. This is apparent when we look at items that have data from both Mn. and TBL; where TBL has **ŋe³³buɯ˞⁵³** 'tired', **ŋe³³le⁵³ʂɻ̩³¹** 'turn around [face downhill]', **ŋe³³phi-æ⁵³** 'lose, throw away', **ŋo³³tshuo⁵³** 'extract/take out', and **ŋuo³³hũ⁵³** 'stretch out (the arm)',[2] Mn. has the **ne-** prefix instead.[3] In the Kl. data set, there is only one cognate to these TBL forms (Kl. **nebɚ** 'tired'), and it also has a **ne-** prefix. There are no cognates in the data from Nq., so it is unknown if Nq. retains the **\*ŋe-** prefix.

Mn. has a gone a step further, merging **tʰe-** with **kʰe-**.

The "number of forms" listed in the table above is the approximate number of reconstructed lexical items (rounded to the nearest ten) with each prefix. Not surprisingly, the prefixes most likely to be lost (or overlooked in grammatical sketches!) are the ones that are least common.

## 6.1.2 Mood Prefixes

Three prefixes, **\*æ-** 'interrogative', **\*mæ-** 'negative', and **\*tʰæ-** 'negative imperative'[4] are reconstructed for Proto-Ersuic. These show up before the verb root and after the directional prefix (i.e. the order is DIR-MOD-VERB), if there is one. The prefixes show up in all daughter languages, and two of them descend from PTB roots: **\*ma** NEGATIVE and **\*da ≷ \*ta** NEG. IMPERATIVE. Note, however, that these grammatical morphemes seem to have been exempt from the PTB **\*-a** > PEr **\*-i** brightening change.

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[1]The prototypical meanings of these prefixes is indeed directional, since they attach productively to verbs like 'go', 'jump', 'carry', or 'push'. It is also curious that there is a separate 'away' (meaning 'towards the other party') prefix but no 'towards (yourself)' prefix separate from the 'inward' prefix. Huáng and Rénzēng (1991:144) do not give examples of this prefix with 'go', but they do give examples such as **the⁵⁵pe⁵³tɕi³¹** 'send (someone)', **the⁵⁵le⁵³** 'release', **the⁵⁵ka⁵³** 'splash water', **the⁵⁵pu⁵³** 'change, become', and **the⁵⁵ly⁵³** 'rob'.

[2]Note the assimilation of the vowel in the prefix to that of the root in these TBL forms.

[3]There is one exception: TBL **ŋe³³tu⁵³** and Mn. **kʰetʉ** 'infect'.

[4]For lack of a better term, I have called this set of three prefixes "modal prefixes".

### 6.1.3 Aspectual Suffixes

Of the various verb suffixes reported in the different sources (such as causative, experiential, completive, etc.), only two seem to common to all dialects. These can be reconstructed as (1) **\*-A** 'perfective aspect' (completed action) and (2) **\*-ge** 'imperfective aspect'. Based on more recent data from Kl. and Mn., it may also be possible to reconstruct an egophoric/non-egophoric[5] distinction for the imperfective, with **\*bo** the egophoric form and **\*-ge** the non-egophoric form.

#### Perfective \*-A

The perfective aspect marker **\*-A** is tightly bound to the verb that it attaches to, exhibiting vowel harmony and other assimilatory effects. In Mn., for example, the **-A** suffix takes on the front- or backness of the vowel of the verb root. Often it may seem to be swallowed up as part of the main syllable of the verb, so that **deŋo-ɑ** 'crowed' and **deŋʉ-ɑ** 'cried' both sound like [deŋwɑ], though my consultant assures me that they are different. Verbs like `**kʰeʂɨ-æ** 'died' sound like [kʰeʂæ], and one has to pay close attention to notice that the fricative (or rather, the apical vowel after the fricative) is held just slightly longer in [ʂɨ-æ] vs. [ʂæ]. In fact, Sūn (1982b:253) reports than in Zl. Ersu, the suffix is completely incorporated into the main syllable, with an accompanying change in tone. For example, the perfective form of 'eat' is composed of /$dzɻ^{33}$ + A/ yielding **$dzɑ^{35}$**.

| verb | verb + ɑ | gloss |
|------|----------|-------|
| $dzi^{55}$ | $dzia^{35}$ | cut (grass) |
| $ntʂhu^{55}$ | $ntʂhua^{35}$ | steam |
| $tʃo^{55}$ | $tʃua^{35}$ | cook |
| $tʂɛ^{55}$ | $tʂa^{35}$ | weigh |
| $dzɻ^{33}$ | $dza^{35}$ | eat |
| $kua^{55}$ | $kua^{35}$ | take off (clothes) |

#### Imperfective \*-ge (Non-egophoric)

Reflexes of **\*-ge** are labeled differently by different sources. Chirkova (2008:28) describes **ge** as "indicating both the progressive and the inchoative aspect". In my own work in progress on Mn., I have analyzed **gɤ** as imperfective, since the perfective/imperfective distinction is more basic. Sūn (1982b:252) categorizes **$ge^{55}$** as a marker of immediate future (*jiāngxíngtǐ* 将行体), with a different (and, interestingly enough, morphologically more complex!) form **$ge^{55}sɛ^{55}$** marking the progressive (*jìnxíngtǐ* 进行体).[6]

Chirkova (2008:37) notes that similar markers with velar initials "implying intent on the part of the speaker and referring to events soon to take place" are also found in Queyu (**rguə**) and

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[5]An *egophoric* form means that "the speech act partipant in charge of the assertion is involved in the event" (Creissels 2008). The egophoric/non-egophoric distinction is sometimes referred to a conjunct/disjunct distinction; see Tournadre (2008) for arguments against using these terms for Tibetic languages.

[6]It is unclear what the *$sɛ^{55}$* in **$ge^{55}sɛ^{55}$** contributes to the meaning.

Shixing (**g3**),[7] and that this, along with genitive **ji** and locative **ke**, "shared among the languages of Sìchuān are expected to be retention from their common ancestors or evidence of a shared substratum, just like the expression of topography-based spatial deixis or elaborate inventories of existential verbs, all pervasively present in the languages of the region."

**Imperfective \*-bo (Egophoric)**

Both Kl. and Mn. have **bo** as the egophoric version of **ge**. Since older descriptions of Lizu and Ersu were based on wordlists and sentence-lists which probably did not elicit sentences of the type that would contain this particular suffix,[8] it is entirely possible that **\*-bo** should also be reconstructed for Proto-Ersuic.

## 6.1.4   Suppletive Paradigm for 'Go'

It is clear that in addition to **\*ji** 'go', we must also reconstruct **\*duɑ** 'go (perfective)':

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| \*ji¹ | kʰ-i˩ 'enter', ʐ̩˥˩, ji˩; ʐ̩⁵⁵, ji⁵⁵ | nə³³ji⁵³ | **ji** | **ji³⁵** | \*ʔay | go |
| \*dwɑ¹ | duʌ˩; ŋɛ⁵⁵duɑ⁵⁵ 'pass by' | dæ | dɑ | dua³⁵, ŋɛ³³dua³⁵ | | go / leave (past) |

This suppletive paradigm, reminiscent of English "go/went", is rather unusual. The perfective form may well descend from an earlier combination of a full verb that looked something like **\*du** or **\*do** plus the perfective marker **\*-A**.

The perfective form of 'go' may require a further split into egophoric and non-egophoric, as in Mn., where **dɑ** is 'go (perf. non-ego.)', and **pʰi(-æ)** is 'go (perf. ego.)'. A table illustrating the different combinations of 'go', egophoricity, and perfective/imperfective in Mianning Lizu is provided below for clarity:

|  | ego. | non-ego. |
|---|---|---|
| imp. suffix | -bo | -gɯ |
| 'go' imp. | ji bo | ji gɯ |
| 'go' pfv. | pʰi(-æ) | dɑ |

This paradigm, with both an imperfective/perfective split and a further egophoric/non-egophoric split within the perfective category is so unusual and so specific (these forms do not have any

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[7]Interestingly, the fact that these are described as "implying intent" point to some egophoric value for this marker, rather than non-egophoric as I have analyzed it here.

[8]Chirkova (2008:38) notes that in Huáng and Rénzēng (1991) and Sūn (1982b), "all quoted sentences in both sources are in the third person," and that "it is unclear what marker is used in egophoric utterances in these varieties and, more generally, whether these varieties distinguish between egophoric and other person utterances at all."

obvious synchronic relationship to other items in the lexicon) that it seems unlikely to be a recent innovation; rather, this egophoric perfective form of 'go' may be original to Proto-Ersuic, but not yet described for Ersuic languages other than Mn.

## 6.1.5   Causative/Simplex Pairs

Unlike the above verbal morphology which can be reconstructed for Proto-Ersuic proper, the causative/simplex alternations like those shown below may be a vestige of an earlier causative prefix, ultimately going back to the PTB causative **\*s-** prefix, or a voicing alternation, also going back to the PTB stage (see LaPolla 2003).

Below is a list of verb pairs[9] that have initial consonant manner alternations and whose meanings seem compatible with an ancient causative/simplex or intransitive/transitive alternation, although the pairs 'cool/cold' and 'see/look at' are not, strictly speaking, simplex/causative. The causative forms for 'eat' and 'wear' may have had original **\*s-** prefixes, which caused the initial of the causative alternant to be unvoiced, and also suppressing aspiration in the case of 'feed'. The forms for 'break' and 'scatter', on the other hand, seem to descend from a simple voicing alternation.

| language(s) | simplex | | causative | |
|---|---|---|---|---|
| Mn. | dzɨ | 'eat' | tsɨ | 'feed' |
| Mn. | de(ɣ)we | 'wear' | dexwe | 'dress smn.' |
| Mn. | -mbzo̞ | 'tall' | hõ | 'stretch out'[10] |
| Zl. | bɑ$^{55}$ | 'break' | phɑ$^{55}$ | 'break (caus.)' |
| Zl. | bɛ$^{33}$dʒɑ$^{55}$ | 'scattered' | phɛ$^{33}$tʃhɑ$^{55}$ | 'scatter (caus.), untie' |
| TBL | ne$^{33}$ku$^{53}$ | 'shrivel up, wither' | khu$^{31}$ | 'dry smtg. in the sun' |
| Zl. | hpu$^{55}$ | 'change' | phu$^{55}$ | 'change (caus.)' |
| TBL | mbi$^{33}$mbi$^{53}$ | 'pleasantly cool' | de$^{33}$nphi$^{53}$ | 'cold' |
| Mn. | khendo | 'see' | ʃto | 'look at' |
| TBL/Mn. | la$^{33}$la$^{53}$ | 'roll' | deɬɑ, deɬɣɬɑ | 'roll' |
| Zl./TBL | li$^{55}$ | 'melt' | ne$^{33}$ɬi$^{31}$ | 'melt' |

The last two items above, both with lateral initials, have a voiced variant in one language but a voiceless one in another; these may originally have come from simplex/causative pairs, with different languages choosing one or the other variant.

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[9]The verb pairs from Zl. Ersu are taken directly from Sūn 1982b:253; all other pairs have been compiled separately from the wordlists.

[10]This pair requires an explanation, since it is a bit of a leap both phonologically and semantically. The root for 'tall' is PTB **\*m-raŋ**, yielding Mn. **mbzo̞** through regular developments. Adding an **\*s-** prefix would yield a form like **\*s-m-raŋ**; cf. the Burmese forms **mraŋ¹** 'be high' and **hmraŋ¹** 'raise', as pointed out by Jacques and Michaud (2011:472). The phonological leap here is the idea that complex clusters with **\*s** like PTB **\*smr-** may have developed into Proto-Ersuic **\*h** (see section 8.2.12). The semantic leap involves positing a semantic change from 'raise' to 'stretch/extend'.

## 6.1.6 Verbs of Existence

Proto-Ersuic can be reconstructed with at least five verbs of existence. The sixth verb (for 'have/exist (container)') is not attested in Ersu.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *dʐo¹ | dzoꜜ; dʐo⁵⁵ | dʐu | dʑo | dʐu⁵³ | *m-dzyaŋ | have, exist (animate) |
| *hã¹ | hʌꜜ; xɑ⁵⁵, xa⁵⁵ | hæ̃ | hã | hiæ̃³¹ | | have, exist (immovable) |
| *dʒwɑ¹ | dʒʌꜜ; dʒɑ⁵⁵ | dʑuæ | dʑɑ | dʑua³¹ | | have, exist (movable) |
| *niu¹ | ɲɤoꜜ '~ (polite)'; ɲɤo⁵⁵ | ɲe | ɲi | ɲy³⁵ | *r-ney-t | have, exist (general/abstract) |
| *bo¹ | boꜜ 'have livestock', buꜜ 'have N (be age N)'; bo⁵⁵ | bo | bo | bo³¹ | | have, exist (money) |
| *dʑiu¹ | | dʑe | dʑɨ | dʑu³³dʑu⁵³ | | have, exist (container) |

# 6.2 Nouns

## 6.2.1 Genitive *ji

The genitive marker **ji**, used to link two noun phrases, is found in all dialects across Ersuic and thus is straightforwardly reconstructed as ***ji**. Chirkova (2008:37) notes that this marker is also found in Shixing and Queyu.

## 6.2.2 Noun Particles

### Object marker *wA

An object marker[11] can also be found across Ersuic: Mn. **wɑ**, Kl. **æ/ɑ/wæ**, TBL **wæ**, Zl. **vɑ**, Qŝ. **vʌꜜ, vʌꜜkʌꜜ**. Chirkova (2008:22) describes this marker in Kl. as signaling "animate (primarily human) arguments of the verb (except for agent)". Sūn (1982b:258) calls Ersu **vɑ⁵⁵** an "affected object" marker (受动助词 *shòudòng zhùcí*) that usually attaches to indirect objects (but sometimes direct objects).

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[11]The term "non-agent marker" or even "animate non-agent marker" is probably a more accurate but less mellifluous term.

**Locative marker \*ke**

A locative particle can also be reconstructed, with perfect cognates found in Kl. (**ke**) and Ersu (**kɛ**). Mn. has a locative particle with a velar initial but a low vowel (**kjæ**).

## 6.2.3 Personal Pronouns

Only the basic roots for the personal pronouns can be reconstructed with any amount of certainty for Proto-Ersuic: first person **\*A**, with an indeterminate low vowel, second person **\*ne** or **\*no**, with an indeterminate mid vowel, and third person **\*tʰe**. The personal pronoun paradigms for Mn., TBL, and Zl. are given below:[12]

|      | PEr      | Mn.        | TBL                                  | Zl.                                      |
|------|----------|------------|--------------------------------------|------------------------------------------|
| 1sg  | \*A      | ɑ          | æ$^{53}$                             | ɑ$^{55}$                                 |
| 1du  |          | ɑdzɑ       | a$^{33}$dza$^{53}$                   | ɑ$^{55}$dzi$^{55}$                       |
| 1pl  |          | ɑdi, ɑdo[13] | a$^{33}$doɹ$^{35}$                 | ɑ$^{55}$ɽ$^{55}$                         |
| 2sg  | \*ne/\*no | no,ne      | ne$^{53}$                            | nɛ$^{55}$                                |
| 2du  |          | nedzɑ      | ne$^{33}$dza$^{53}$                  | nɛ$^{55}$dzi$^{55}$                      |
| 2pl  |          | nidi       | nuo$^{33}$doɹ$^{35}$                | nɛ$^{55}$ɽ$^{55}$                        |
| 3sg  | \*tʰe    | tʰe, tʰo-[14] | the$^{53}$                        | thɛ$^{55}$                               |
| 3du  |          | tʰedzɑ     | the$^{33}$dza$^{53}$                 | thɛ$^{55}$dzi$^{55}$                     |
| 3pl  |          | tʰidi      | the$^{33}$doɹ$^{35}$                | thɛ$^{55}$ɽ$^{55}$                       |

Each language seems to have chosen its own set of dual and plural suffixes. The Mn. and TBL dual suffixes are the same, but the Ersu suffix has a different vowel. The plural suffixes are even more different: Mn. and TBL seem to share the **-do(ɹ)** suffix, but the Mn. form is the first person plural inclusive form; and perhaps the **ɹ** in TBL is related to the Ersu suffix **ɽ**.

The second person morpheme has a variant with a back vowel in Mn. and TBL. In TBL this may be due to vowel harmony with the suffix, but in Mn. the form **no** can by used by itself, without any suffix. This is in contrast with Mn. **tʰo-**, which can only be used with the object marker **wɑ**. Perhaps the basic form for the second person pronoun was originally **\*no**, ultimately < PTB **\*naŋ**, with the expected development of PTB **\*-aŋ** > PEr **\*-o**.

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[12]Like most languages of the region, the "dual" forms listed below are probably not true, obligatory duals, but simply mean "us two", "you two", etc. Nonetheless I have copied over the usual categories as presented in published grammatical sketches for these languages.

[13]**ɑdi** is exclusive 'we', **ɑdo** is inclusive.

[14]The **tʰo** variant only shows up before the object marker **wɑ**: **tʰowɑ**. Second person **no** also shows up before the suffix **wɑ**, but it can also be used without it.

# 6.3 Numerals and Classifiers

Numerals for Proto-Ersuic are collected in the following table:

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *te$^1$ | tɛˋ; tɛ$^{55}$ | ˋte; tə$^{53}$ | ˋte | te$^{31}$ | | one |
| *ne$^1$ | nɛˋ; nɛ$^{55}$ | ne; nə$^{53}$ | ne, næ | ne$^{35}$ | *g/s-nis | two |
| *sjẽ$^2$ | siˋ; si$^{55}$ | si$^{53}$ | ˋɕe | ɕi$^{53}$, ɕe$^{35}$ | *g-sum | three |
| *ʑ̢u$^2$ | ʐoˎ; ʐo$^{33}$ | ˋʑe; tʂɻ$^{53}$ ??? | ˋʑɨ | ʑu$^{35}$ | *b-ləy | four |
| *ŋrɑ$^2$ | ŋAˎ; ŋuaˈ$^{33}$ | fiã; ɐ$^{53}$ ? | ˋŋæˈ | ŋa$^{53}$ | *l/b-ŋa | five |
| *tʂʰu$^2$ | tʂʰuˋ; tʂhu$^{55}$ | tʂhu$^{53}$ | ˋtʂʰʉ | tʂhʉ$^{53}$ | *d-kruk | six |
| *sini/stẽ$^2$ | sĩˋ; ʃ$^{55}$n̩$^{55}$ | ˋtŋ~ˋkŋ; ki$^{53}$ | ˋʃtr̃ | skŋ́$^{53}$ | *s-nis | seven |
| *rdi$^1$ | ʐ̩ˋ; ʒ̩$^{55}$ | | dzɨ | dʑi$^{35}$ | *b-r-gyat ⪤ *b-g-ryat | eight |
| *ŋge$^2$ | gɛˎ; ngɛ$^{33}$ | | ˋŋgɤ | ngɯ$^{35}$ | *d/s-kəw, PQc s/r/n-gəw | nine |
| *tɕʰetɕʰe$^1$ | tshɛˋtshɛˋ; tshɛ$^{55}$tshɛ$^{55}$ | tɕhe$^{33}$tɕhi$^{53}$ | tɕʰetɕʰe | tɕhe$^{53}$tɕhe$^{53}$ | *ts(y)i/əy/ay | ten |
| *tshetɕi | tshɛˋtsɻˋ; tshɛ$^{55}$tsɻ$^{55}$ | | ˋtshetɕi | tshe$^{53}$tɕi$^{53}$ | | eleven |
| *tshene | tshɛˋnɛˋ; tshɛ$^{55}$nɛ$^{55}$ | | tshenæ, tshene | tshe$^{53}$n̢e$^{53}$ | | twelve |
| *tshesɑ/tshesjẽ | tshɛ$^{55}$sɑ$^{55}$ | | ˋtsheɕe | tshe$^{53}$sa$^{53}$ | | thirteen |
| *tsheʑ̢u | tshɛ$^{55}$ʐo$^{33}$ | | ˋtsheʑɨ | tshe$^{53}$ʑu$^{33}$ | | fourteen |
| *tsheŋra | tshɛ$^{55}$ŋuaˈ$^{33}$ | | ˋtsheŋæˈ | tshe$^{53}$ŋa$^{53}$ | | fifteen |
| *tshetʂʰu | tshɛ$^{55}$tʂhu$^{55}$ | | ˋtshetʂʰʉ | tshe$^{53}$tʂhu$^{53}$ | | sixteen |
| *tshesini/htẽ | tshɛ$^{55}$ʃ$^{55}$n̩$^{55}$ | | ˋtsheʃtr̃ | tshe$^{53}$skŋ́$^{53}$ | | seventeen |
| *tsherdi | tshɛ$^{55}$ʒ̩$^{55}$ | | ˋtshedzɨ | tshe$^{53}$dʑi$^{35}$ | | eighteen |
| *tsheŋge | tshɛ$^{55}$ngɛ$^{33}$ | | ˋtsheŋgɤ | tshe$^{53}$ngɯ$^{35}$ | | nineteen |
| *netsʰi$^1$ | nɛˋtsʰɻˋ; nɛ$^{55}$tshɻ$^{55}$ | nə$^{33}$tshɻ$^{53}$ | ˋnɤtsʰi | ne$^{33}$tshŋ$^{53}$ | | twenty |
| *satsʰi | sAˋtsʰɻˋ; sa$^{55}$tshɻ$^{55}$ | | satsʰɨ | sa$^{33}$tshŋ$^{53}$ | | thirty |
| *zi | -zɻˋ; -zɻ$^{33}$ | | -zɨ | -zɻ$^{53}$ | | ten (bound), -ty |
| *ʑ̢uzi | ʐoˎzɻˋ; ʐo$^{33}$zɻ$^{33}$ | | ˋʑɨzi | ʑu$^{33}$zɻ$^{53}$ | | forty |
| *ŋrazi | ŋuaˈ$^{33}$zɻ$^{33}$ | | ˋŋæˈzi | ŋa$^{33}$zɻ$^{53}$ | | fifty |
| *tʂʰuzi | tʂʰuˋzɻˋ; tʂhu$^{55}$zɻ$^{33}$ | | tʂʰuzɨ, ˋtʂʰuzɨ | | | sixty |
| *sini/htẽzi | ʃ$^{55}$n̩$^{55}$zɻ$^{33}$ | | ʃtr̃zɨ, ˋʃtr̃zɨ | | | seventy |
| *rdizi | ʒ̩$^{55}$zɻ$^{33}$ | | dzizɨ | | | eighty |
| *ŋgezi | ngɛ$^{33}$zɻ$^{33}$ | | ˋŋgɤzɨ | | | ninety |

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| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *ʐa¹ | ʐʌˀ˥; za⁵⁵ | ɐ³³ ʐɛ⁵³ | ʐɑ | (te³³) ʐæ⁵³ | *b-r-gya | hundred |
| *htũ² | tuˀ˥,tu↓; hpu⁵⁵(htu⁵⁵) | | `ʃtũ | tu⁵³ | *s-toŋ | thousand; ten cents |
| *mbwo² | n̥bo³³ntsho⁵⁵ | | `mbo | nbu⁵³ '100,000' | WT ḥbum '100,000' | ten thousand |

Of note with the numerals is that the morpheme for 'ten' in the forms for 'twenty' and 'thirty' have an aspirated affricate initial **tsʰ-**, while 'forty' to 'ninety' use one with an initial **z-**. This peculiarity is the same for all described languages of Ersuic.

A list of classifiers reconstructible for Proto-Ersuic can be found on p. 139.

# Chapter 7

# Sound Changes and Subgrouping

A list of the sound changes for each language is presented below. There are only a few changes that turn out to be useful for subgrouping; these will be discussed as well.

For conciseness, the following abbreviations are used in the formulas for the sound changes below:

| | |
|---|---|
| A | any low vowel (æ and ɑ) |
| C | any consonant, including prenasalized and preaspirated consonants |
| F | all labiodental fricatives (f and v) |
| HC | all preaspirated stops |
| NC | all prenasalized stops |
| P/T/K | all bilabial/dental/velar stops, including prenasalized and preaspirated stops but not including nasals |
| Q | all uvular stops, including prenasalized and preaspirated stops but not including nasals |
| R | all retroflexes |
| S | all non-palatal sibilant (i.e. dental, alveopalatal, and retroflex) fricates, including prenasalized and preaspirated affricates (s, ʃ, ʂ, etc.) |
| Tɕ/Tʃ/Tʂ | all palatal/alveopalatal/retroflex affricates, including prenasalized and preaspirated affricates |
| (T)ɕ/(T)s/(T)ʃ/(T)ʂ | all palatal/dental/alveopalatal/retroflex fricates, including prenasalized and preaspirated affricates |
| V | any vowel |
| X | all velar fricatives (x and ɣ) |

For clarity, the front and back low vowels in Ersu will be represented as **æ** and **ɑ**, respectively, rather than using the potentially confusing notation specific to the individual sources for Zl. and Qŝ.

## 7.1 Ersu

The Zl. and Qŝ. varieties of Ersu are largely similar, with many of the differences between the two sources due to typographical errors and/or disagreements in transcription. Some retroflexes in one source are transcribed as alveopalatals in the other and vice versa, for example.[1]

A number of sound changes are postulated for Ersu, including six sets of ordered sound changes.

The first set has to do with **\*r** and its developments. First, the **\*-ui** rhyme became rhotic; then the **\*-ri** rhyme (including those from original **\*-ui**) apicalized to [rɻ]; then velar + **r** combinations became retroflexes before the apical vowel ɻ; and finally some of the remaining **\*r** medials induced r-coloring on the vowel. The **\*-iu** rhyme generally developed into **-o**, but only after it conditioned the velar retroflexion change. The change of **\*ɣ- > v-** affected those instances of **\*ɣ-** not affected by the retroflexion change.

Example: **\*xui¹** 'tooth' > **xri** > **xrɻ** > **ʂɻ⁵⁵**.

| | sound change | comments |
|---|---|---|
| 1. | ui > ri | "spontaneous" rhotacization[2] |
| 2. | i > ɻ / {S, r} __ | apicalization (also see below) |
| 3. | [Kr, xr, ɣr] > [Tʂ, ʂ, z] / __ ɻ | retroflexion |
| 4. | rɻ, re, rA > aɻ / C __ | r-coloring of unrounded vowels[3] |
| | ru, ro > o / C __ | r-deletion next to rounded vowels |
| | ɻu > o | other changes with \*iu |
| | ɣ > v | (see next set for more on this change) |

Note that the apicalization change is placed in this sequence to make the retroflexion change phonetically plausible. In other words, it would be possible to omit the apicalization change and have the environment for the retroflexion change simply be the high vowel [i]; however, while a change of [kri] > [tʂi] seems unlikely, a change from [krz̩] to [tʂz̩] seems quite natural. The ordering of the apicalization change here (for Ersu) and in the following sections (for the various Lizu dialects) is motivated by these arguments for phonetic naturalness.

The apicalization change also interacts with various palatalization changes, which are discussed below.

The very last sound change above of **\*ɣ- > v-** was itself preceded by other sound changes. This series of machinations is set up solely to account for the form **\*ɣwɑ¹** 'hungry' > Ersu **wɑ⁵⁵** using the ɣ-deletion rule, with the other two changes ordered so they do not affect it.

---

[1]Substantive differences are minimal, and consist of the following: (1) where Zl. has **aɻ**, Qŝ. almost always has **əɻ** (the one exception is 'cremate'); and (2) where Zl. has the syllable **ri** Qŝ. usually has **rə**.

[2]See section 4.2.8.

[3]The term "r-coloring" may bring to mind the *erhua* phenomenon in e.g. Beijing Mandarin, where an "r" suffix is attached to various words, often as a diminutive. However, in this case, r-coloring refers the transmutation of a consonantal /r/ into a rhotic quality on an adjacent vowel.

| | |
|---|---|
| 1.  w > v / # __ | initial w > v |
| 2.  ɣ > ∅ / __ wA | ɣ-deletion |
| 3.  ɣ > v | ɣ > v |

The next set of changes revolves around the depalatalization of all palatal fricates (except before **-o**). First, a number of changes created palatals where there were none before. After the depalatalization change, original **\*-i** became apical after certain sibilant fricates, and a second round of palatalization occurred to velar initials. The final raising of **\*-je** and **\*-ẽ** to **-i** had to occur after the apicalization change (since these new **-i** rhymes do not get apicalized).[4]

Examples: (1) **\*mpʰi²** 'throw up, vomit' > **mpʰɕi** (extrusional ɕ) > **mpʰsi** (depalatalization) > **nphsʅ⁵⁵** (apicalization). (2) **\*pʰja** 'leaf/flat object' > **tɕʰa** (P-j fusion) > **tsʰɑ⁵⁵** (depalatalization). (3) **\*mbje¹** 'hill/mountain' > **nbi⁵⁵** (je-raising).

| | |
|---|---|
| 1.  ∅ > ɕ / P __ i | extrusional ɕ |
|    Pj > Tɕ / __ {A, o} | P-j fusion |
|    j > ʑ / # __ i | high front glide frication (optional) |
|    K > Tɕ/ __ i | palatalization #1 |
| 2.  (T)ɕ > (T)s / except before -o | depalatalization |
| 3.  i > ʅ / {S, r} __ | apicalization |
|    K > Tɕ / __ je | palatalization #2 |
| 4.  je, jẽ > i | je-raising |
|    ẽ > i | ẽ > i |

In the following pair of sound changes, **\*-wɑ** lost its medial glide before the two low vowels merged in Ersu.

Examples: (1) **\*kʰwɑ¹** 'win' > **khɑ³³** (glide deletion). (2) **\*kʰwæ¹** 'big' > **khuɑ⁵⁵** (\*A merger).

| | |
|---|---|
| 1.  wɑ > ɑ / K __ | *-w- glide deletion |
| 2.  æ > ɑ | *A merger |

The change of dental stops to bilabials occurred before both the **\*-u** and **\*-iu** rhymes, so it is ordered before the palatalization of dental stops before **i**.

Examples: (1) **\*diutʂʰe¹** 'year' > **bu⁵⁵tʂhɛ⁵⁵** (*du* to *bu*). (2) **\*diwæ¹** 'slow' > **dʑi⁵⁵vɑ⁵⁵** (palatalization).

| | |
|---|---|
| 1.  T(i) > P / __ u # | **du** to **bu** |
| 2.  d > dʑ / __ i | palatalization |

---

[4]As written, the "je-raising" change must follow "palatalization #2", since **\*-je** provides the environment for the palatalization change, but it is possible to get the reverse order by changing the environment for the palatalization change to **-i**, so that je-raising feeds palatalization.

The areal *xu > fu* change was preceded by a mini-chain shift of the high back vowels of *wo → o → u*.

Example: *ɣo¹ 'liquor' > ɣu > vu⁵⁵.

| 1. o > u / K __<br>2. wo > o<br>   X > F / __ u | |
|---|---|
| | xu > fu |

The remaining changes are unordered. For the sake of thoroughness, some sound changes which only apply to one or two forms are included in this list and similar lists in the sections below. Although many of them are the same across multiple dialects, the changes themselves are not particularly unusual and should not present complications with respect to subgrouping.

| h̃V > xV<br>li, liu, lu, lo > ə˞˦<br>[ʃ, ʒ] > [ʂ, ʐ]<br><br>[rd, rg] > [d, g]<br>mps > nts<br>my > m<br>rw > r<br>ɕʷ > ɕ<br>ew, e, wE > ɛ<br>je > ɛ / R __<br>iu > ɛ / P __ | denasalization<br>li > ə˞ (but with various exceptions!)<br>merger of alveopalatal fricatives into<br>   retroflexes (also with sundry exceptions)<br>prefixal r-deletion<br>(for 'hail')<br>(for 'throat', 'rabbit')<br>(for 'chicken') |

The *li/liu/lu/lo > ə˞* change appears rather unwieldy, and in fact it probably happened in multiple stages, perhaps first with high front vowels (compare with Mandarin **ér** < MC **nyi**). As discussed below (under *Subgrouping*), there are some Ersu dialects where PEr ***lo** did not change to [ə˞], but ***li** apparently did. Thus, the *lo > ə˞* change may be relatively recent; at the very least it can be chronologically ordered after the importation of the Tibetan loanword **lo** 'year', which shows up in Qingshu Ersu in terms such as **lʌˀlə˞ˀ˥** 'year of the tiger'.[5]

## 7.2   Lizu

Three sound changes are shared by all the Lizu varieties and can be considered shared innovations for purposes of subgrouping:

| j > ɲ̥ / __ Ṽ<br>e > ɯ / [velar] __<br>riu > ri | palatal glide to nasal before nasal rhyme<br>***-e** becomes back vowel after all velars<br>merger of ***-riu** into ***-ri** |

---

[5]This Tibetan loanword exists alongside the two native morphemes for 'year', the free/countable form **bu⁵⁵tʂhɛ⁵⁵** and the bound form **-xi⁵⁵**.

Examples (from Mianning Lizu): (1) *jõ¹ 'sheep' > n̥o. (2) *hke¹ 'eagle / hawk' > xkɤ.
(3) *riu¹ 'write' > z̩ɨ; ri¹ 'laugh' > `z̩ɨ.

## 7.2.1  Kala Lizu

The development of contrastive uvulars is a particularly interesting feature of Kl. Lizu. There
appear to be two sources: first, velar + **r** clusters before the vowel **-ɑ**. The fronting of **rɑ** to **ræ**
must occur after this change (otherwise the back vowel environment is lost). (See p. 83 for the
forms affected by this change.)

Example: ŋgraŋgrɑ¹ 'shake/shiver' > `nɢˤanɢˤɑ.

| 1. Kr > Q / __ ɑ | uvulars from Krɑ[6] |
| 2. rɑ > ræ / C __ | merger of **-rɑ** into **-ræ** |

The second source of uvulars is simply velars before certain rhymes. Notably, the rhyme **\*-o** (but
not **\*-wo**!) conditions the change of velars to uvulars, leading to minimal pairs like ᴴ**qoqo** 'hole'
< *hko vs. **neko** 'put, place' < **\*nekwo**. (Compare pp. 119 and 121.)

Example: *ŋkʰwæ² > `qʰwɑ.

| 1. g > ɣ / __ o | spirantization |
| 2. [K,ɣ] > [Q,ʁ] / __ {o, wA} | uvulars from Ko/Kwa |
| 3. wæ > wɑ / Q __ | vowel backing after uvular (for 'lake') |

Chirkova (2008:8) hypothesizes that all uvulars are derived historically from *velar + **r** clusters.
We have shown here that this is true at least for rhymes with the vowel **\*-ɑ**. While it is possible
that it is also true for rhymes with the vowel **\*-o**, there is little or no evidence for this internal to
Ersuic. However, note the form `**qoqo** 'hole' < PEr **\*hko¹**, which is assigned to PTB allofam
**\*kor** HOLE with an **\*-r** final consonant (see p. 183).

The development of some uvulars from velar + **r** clusters is interesting in the Tibeto-Burman
context because in Lahu, the opposite change occured: e.g. all **\*k** > **q** *except* when medial **-r-** (or
**-y-** or **-w-**) suppressed this change (see Matisoff 2003:72).

Like all other Ersuic languages, Kl. Lizu has apical vowels after dental and retroflex sibilants. The
apicalization change happened before retroflexion, and the changes affecting the **\*-ri** rhyme after.

Example: *kri¹ 'star' > `tʂ̩.

| 1. i > ɻ̩ / S __ | apicalization |
| 2. Kr > Tʂ / __ ɻ̩ | retroflexion |
| 3. rɻ̩ > ɚ / P __, rɻ̩ > ræ / m __; *then* ri > rə | various changes to **\*-ri** |

---

[6][nɢˤ] can be considered the phonetic realization of underlying /nɢ-/ (< *ŋgr-), but the fricative component is
apparently quite salient; Chirkova (2008:8) notes that [nɢˤ] is "strongly affricated". This feature can be interpreted
as a retention of Proto-Ersuic **\*-r-**.

The **iu > e** change after retroflexes is ordered after the alveopalatal merger.

Example: **\*htʃiu²** 'feces' > **ʂe**.

| 1.  T(ʃ) > T(ʂ) | merger of alveopalatals into retroflexes |
|---|---|
| 2.  iu > e / R __ | iu > e |

The remaining sound changes are unordered with respect to the others.

| HC > C | depreaspiration |
|---|---|
| st > k | |
| NC[-vc,-vel] > C / # __ | deprenasalization (does not apply intervo- |
| | calically) |
| rg > ŋg | |
| ŋ > ɦ | rhinoglottophilia (optional) |
| K > Tɕ / __ {i, je} | palatalization |
| X > F / __ u | xu > fu |
| ro, re > ɚ / C[-asp] __ | |
| ru > o > C __; *then* ru > rə | |
| ui > u | |
| my > m | |
| ɕʷ > ɕ | |
| ẽ, wE > e | |
| wo > o | |
| iu > y / l __ | (optional) |
| iu > i / ɲ __ | |
| iu > e / ʑ __ | (for 'fall (rain)') |
| d > tɕ / __ iu | (for 'belly') |

## 7.2.2   Naiqu Lizu

The first set of changes presented here for Nq. Lizu revolve around the apicalization change. **\*-iu** merged with **\*-i** in most cases, after which **\*-i** became an apical vowel after non-palatal sibilants. The raising of **\*-je** to **-i** happened afterwards, since these rhymes did not undergo apicalization.

The change of **ʂ̩** to **xɯ** (in the Nq. forms **xɯ⁵³** 'blood' and **thɯ³³xɯ⁵³** 'die') occurred before the alveopalatal merger, since the ʂ̩ > xɯ change only applied to Proto-Ersuic \*retroflexes, not \*alveopalatals.

Example: **\*ʂiu¹** 'blood' > **ʂi** > **ʂ̩** > **xɯ⁵³**.

| 1.  iu > i (*but* iu > u / l __) | |
|---|---|
| 2.  i > ɻ̩ / S __ | apicalization |
| 3.  je, jẽ > i | je-raising |
|    ʂ̩ > xɯ | ʂ̩ > xɯ |
| 4.  (T)ʃ > (T)ʂ | merger of alveopalatals into retroflexes |

Changes involving **\*r** are presented below. In many cases, medial **-r-** disappeared, but not before it had an effect on certain initials.

Examples: (1) **\*mpʰru¹** 'steal' > **tʂhə³³**. (2) **\*kri¹** 'star' > **kəɹ⁵⁵**. (3) **\*mbro** 'high/tall' > **bo³³mbo⁵³**.

| | |
|---|---|
| 1.  pʰr > tʂʰ<br>    ri > əˡ / {K, #} __<br>    rɑ > ɐɹ / C __<br>2.  r > ∅ / C __ | pʰ-r fusion<br>(except 'road' ʐɻ³⁵ and variant for 'hear') |

The remaining sound changes are unordered with respect to the others.

| | |
|---|---|
| Pj > Tɕ / __ {A, ẽ}<br>A > ə / palatal __<br>HC > C<br>st > k<br>NC[-vc] > C / # __<br><br>rd > d<br>rg > ɣ<br>ru > əˡ / # __<br>my > m<br>ɕʷ > ɕ<br>ui, ew > u<br>e > ə / {m, T} __<br>e > ɿ / (t)s __<br>ẽ > ɐ<br>wE > e<br>wo > o<br>rw > r | P-j fusion<br><br>depreaspiration<br><br>deprenasalization (does not apply intervo-<br>    calically) |

## 7.2.3 Mianning Lizu

In Mn. Lizu, the apicalization change was preceded by the split of *alveopalatals into palatals and retroflexes, conditioned by the rhyme. The alveopalatal split was sensitive to the distinction between the **\*-iu** and **\*-i** rhymes, so these rhymes merged after the split.

The u-fronting change must be ordered after the development of the palatals from *alveopalatals.

The retroflexion change is ordered after the apicalization change (see the section above on Ersu sound changes for the rationale behind this).

Examples: (1) **\*htʃiu²** 'feces' > **htʂiu** (alveopalatal split) > **htʂi** (iu/i merger) > **ˋʂtʂɨ** (apicalization). (2) **\*tʃʰu-** 'mud' > **tɕʰu-** (alveopalatal split) > **tɕʰy-** (u-fronting).

| 1. Tʃ > Tɕ / __ {i, u, o, A} #;<br>  *then* Tʃ > Tʂ | alveopalatal affricate split |
|---|---|
| 2. iu > i *or* ø / l __; iu > ø / P __;<br>  *then* iu > i | iu merger into i except after bilabials and<br>  laterals |
| 3. i > ɨ / S __<br>  u > y / [palatal] __ | apicalization<br>  u-fronting |
| 4. Kr > Tʂ / __ ɨ | retroflexion |

The following set of sound changes with somewhat complex relative chronologies is discussed on p. 133.

| 1. | rw > ɣ | rw > ɣ (for 'chicken') |
|---|---|---|
| A. | g > ɣ / __ {w,u,o,ɤ,j} | spirantization |
| B. | wɑ > ɑ / C __ | *-w- glide deletion |
| C. | wæ > wɑ/ C[-retro] __ | *wæ-backing |
| D. | ɣ > Ø / __ wA | ɣ-deletion |
| 2/c. | {ɣA, rA} > æˤ | rhotacization of ɣA and rA |

The areal sound change of **xu** > **fu** was preceded by the change of the alveopalatal retroflex to a velar place of articulation. This change is essentially the same as the change of ʃ > x in 16th century Spanish,[7] which was triggered by having three sibilant fricatives ([ʂ, s, ʃ]) that were too acoustically similar. In the case of Mianning Lizu, it seems the crowding in the acoustic space containing four sibilant fricatives ([s, ɕ, ʃ, ʂ]) was eased by changing ʃ > x.

| 1. [ʃ, ʒ] > [x, ɣ] | ʃ > x |
|---|---|
| 2. X > F / __ u | xu > fu |

It is also interesting to note the interaction between the ʃ > x change and the apicalization change. The apicalization change must have happened first, giving us *ʃi 'meat' > ʃ̩, followed by ʃ̩ > xɯ. This is clearer if we replace the shorthand symbol **-̩**, which stands for something like "a syllabic fricative at the same place of articulation as the preceding consonant", with an explicit IPA symbol: [ʃʒ̍ > xɣ̍]. If we tried the opposite order, we would get *ʃi > xi, with no reason for **xi** to turn into **xɯ**.

The depalatalization change below is posited to account for the forms ˋ**pse** 'run' < ***pjẽ** and **bzɨbze** 'fly (v.)' < **bjẽbjẽ**[1]; the change follows the emergence of palatal fricatives from the fortition of original palatal glides. Note that the fortition rule ends up affecting the nasal rhyme **-jẽ** in 'run' and 'fly', but not the non-nasal rhyme **-je** (e.g. in **bje** 'pile'). This solution is admittedly somewhat ad-hoc—compare with the P-j fusion rule from Ersu above (Pj > Tɕ / __ {A, o}), where the environment is more natural-looking. Unfortunately, 'run' and 'fly', with a salient palatal fricative component,[8] are problematic precisely because they differ from forms like

---

[7]For example, 'people' *gente* [xente] < [ʃente]. The [ʃ] arose from devoicing of an earlier [ʒ], which in turn was palatalized from a voiced stop ([g] before the front vowel [e], as suggested by the orthography).

[8]E.g. 'run': Nq. **tɕi⁵⁵**, Mn. ˋ**pse**, TBL **pʐe³⁵**. Cognates for 'run' and 'fly' are not found in the wordlists for Ersu; the Ersu form for 'run' is **li⁵⁵gɑ⁵⁵**, and 'fly (v.)' is **guaˤ⁵⁵**.

'pile', where the rhyme is **-je** but where the palatal glide is pronounced with no frication. The present solution analyzes these forms as having *palatal glides that became fricatives in their specific nasal-rhyme environments.

Example: ***pja¹*** 'hang' > **pɕɑ**.

| | |
|---|---|
| 1.  j > ɕ/ʑ / P __{A, o, ẽ} | high front glide fortition[9] |
| 2.  [ɕ, ʑ] > [s, z] / P __ ẽ | depalatalization (for 'run' and 'fly (v.)') |

The next two sound changes are also set up to account for the Mn. reflexes of ***-je/jẽ***. The first change accounts for the palatalization of the initials in 'three' (***sjẽ > `ɕe***) and 'hair' (***tsjẽ > tɕe***). The second accounts for all the other forms with ***-je/jẽ*** finals following *dental affricate initials, where Mn. has no trace of the palatal glide (see p. 106).

| | |
|---|---|
| 1.  [s, ts] > [ɕ, tɕ] / __ jẽ | palatalization (for 'three' and 'hair') |
| 2.  je, jẽ > e / T(s) __ | j-glide deletion |

The final set of ordered sound changes have to do with the development of the ***-e*** rhyme, where the rhymes ***-ẽ*** and ***-ew*** both merged into ***-e*** before ***-e*** developed further.

Example: ***sẽ¹*** 'wood' > **se ~ sɤ**.

| | |
|---|---|
| 1.  ẽ, ew > e | merger of ẽ and ew into e |
| 2.  e > ɤ / R __ | e-backing after retroflexes |
|     e > ɤ / {T, s} __ | e~ɤ variation (optional) |

The remaining changes are unordered with respect to the others.

| | |
|---|---|
| ri > ɚ¹ / {P, #} __ | (except 'laugh' `ʐɨ and 'write' ʐɨ) |
| re, ru > ɚ¹ / # __ | |
| r > ʐ | r > ʐ |
| ɬ > l / V[-reduced] __ V | |
| ɕʷ > ʂ | |
| my > n̠ | |
| Ø > j / [velar] __ æ; *then* ŋj > n̠ | |
| d > dʑ / __ i | (except 'insect') |
| rg > ɣ | |
| ui > we | |
| wE > u | |
| wo > o | |
| rje > i e > ø / {P __, __ m} | |
| e > ɨ / (t)s __ | |
| Pr > Tʂ | P-r fusion (optional) |
| mps > nts | (optional) |

---

[9]The choice of **ɕ** or **ʑ** depends on the voicing of the initial consonant: ***pʰjo > pʰɕo***, and ***bjo > bʑo***.

## 7.2.4 Lǔsū/Kala Lizu (TBL)

In TBL, *-r- deleted after non-aspirated initials and became a fricative after aspirated pʰ. The remaining r's induced r-coloring on the vowel, which was sometimes lost. In other words, instances of Proto-Ersuic *r, which are solidly reconstructed based on consistent transcriptions in Mn. Lizu and Ersu, are sometimes retained as r-coloring and sometimes lost in TBL.

The existence of some retroflex initials descending from earlier velar + r clusters is assumed to be due to a retroflexion change of Kr > Tʂ which happened before the r-coloring, while the clusters still existed. The apicalization change feeds the retroflexion change.

| | |
|---|---|
| 1.  i > ɿ / S __ | apicalization |
| 2.  r > Ø / C[-asp] __ V[+hi] | r-deletion |
|      r > z̩ / pʰ __ | r-frication after aspirated p |
|      Kr > Tʂ / __ ɿ | retroflexion (optional) |
| 3.  rV > Vˀ / C __ | r-coloring |
| 4.  Vˀ > V | r-color deletion (optional) |

The following changes have to do with u-fronting after palatals. It appears that u>y after palatals (just as in Mn.), but that the rhyme -u which came from *-iu did not undergo fronting.

Example: (1) *ʐu¹ 'snow' > ʑy³⁵ (u-fronting). (2) *ʐiu¹ 'fall (rain)' > ʐu³⁵ (no u-fronting).

| | |
|---|---|
| 1.  u > y / [palatal] __ | u-fronting |
| 2.  iu > u / except after l- | iu>u |

The remaining changes are unordered.

| | |
|---|---|
| T(ʃ) > T(ʂ) | merger of alveopalatals into retroflexes |
| X > F / __ u | xu > fu |
| (Ts) > (T)ɕ / __ j | palatalization |
| HC > C | depreaspiration |
| st > k | |
| g > ɣ / __ {uo, ɯ} | spirantization |
| w > ɣw / # __ | ɣ-deletion |
| mps > nts | |
| my > m | |
| ɕʷ > ɕ | |
| ui > u | |
| je > i | |
| jẽ > je | |
| ẽ > e | |
| e > ɯ / R __ | |
| ew > u | |
| wE > e | |

| | |
|---|---|
| o > uo / [dental, velar] __ | |
| o > u / [palatal, alveopalatal] __ | |
| wo > u | |
| d > dʑ / __ i | (except 'year') |
| rd > (n)d | (for 'eyeball') |
| rg > ɣ | (for 'rain') |
| pʰr *or* pʰz̢ > tʂʰ | P-r fusion (optional) |
| iu > y / l __ | (optional) |

## 7.3   Subgrouping

As noted above, the unusual change of *j > ȵ / __ Ṽ*, along with the less unusual change of *e > ɯ / [velar]* __ and the *riu > ri* merger, are shared innovations setting Lizu apart from Ersu as a subgroup. This brings up two questions: first, are there common innovations setting apart Ersu as a subgroup? Second, can we find an internal family tree structure for Lizu?

### 7.3.1   Ersu as a subgroup

For Ersu, we must look outside of Zl. and Qŝ. Ersu, since the two are virtually identical in terms of sound changes. Thus, we turn to Baber (1882), which contains a short wordlist from a variety of Ersu spoken in present-day Hanyuan. The wordlist contains approximately 200 words, and although the transcriptions are certainly not up to modern-day standards (for example, they do not seem to distinguish among palatals, alveopalatals, and retroflexes), they nevertheless provide some useful information.

First, we must establish that the language described by Baber is not, in fact, Lizu. It should be sufficient to note that it did not undergo the *j > ȵ* change ('sheep' is "Yo") or the *riu > ri* merger ('skin' is "ndjro-pi").[10]

On the other hand, many of the features that seem like good candidates for distinguishing Ersu from Lizu are not, in fact, found in Baber. For example, the unusual *du > bu* change did not occur, since it has "Du-ge" (not "Bu-ge") for 'plow'. Similarly, the raising of *je > i* did not occur, since 'good' is "Ya-lie" (not "Ya-li").

Other features are ambiguous. For example, the depalatalization change did not occur in 'cloud' and 'hundred', which are "Djie" and "Ta-jia", respectively; had the palatals become dentals, we would expect something like "Dze" and "Ta-za". On the other hand, 'pants/trousers' (which should be homophonous with 'hundred') is recorded as 'Za-tsa'.

---

[10]The third sound change, *e > ɯ / [velar]* __, also seems not to apply, since 'nine' is "Ngo" and not "Ngu̦" (Baber uses a "u" with a dot underneath to indicate an unrounded vowel and/or apical), although the expected vowel here would be "e" < Proto-Ersuic *ŋge.

The change of *li/liu/lu/lo* > *ə́* which happened in Zl. and Qŝ. Ersu also seems to have limited scope in Baber's wordlist. Although 'wind' is "Mur", apparently < PEr **meli**, 'stone' is "Lo-k'wa", and the autonym is "Lo-ssụ". Liú (1983) notes that there are also some present-day dialects of Ersu where the autonym is **loˈsuˈ**; these dialects must not have undergone a *lo* > *ə́* change.

We are left, then, with lexical and morphological peculiarities. Baber's wordlist is not particularly long, but we can note that 'seven' and 'eight' are transcribed as "Shụn" and "Jih", with fricative initials like Zl. and Qŝ. Ersu, and unlike the stop and affricate initials in Lizu. Baber also has a long list of adjectives carrying the **jɑ-** ("Ya-") prefix,[11] as seen in Zl. and Qŝ. Ersu. This is quite possibly an innovation in Ersu: in Kl. and Mn. Lizu, the **jæ-** prefix is a comparative prefix attached to adjectives and means 'more X' (e.g. **lje** 'good', **`jæ-lje** 'better'. The comparative meaning may be original, and the use as a generic adjective prefix may be the result of semantic bleaching.

## 7.3.2 Internal structure of Lizu

There are not many sound changes that can be used to set apart two or three of the Lizu dialects. Changes which might be used as a basis for subgrouping, such as the *xu* > *fu* change (which happened in all dialects except Nq.) or the complete merger of alveopalatals into retroflexes (which happened in all dialects except Mn.) are often preceded by language-specific sound changes, so they cannot be shared innovations. Other changes are not unusual enough to assume that they could only have happened once.

One possibility is to use the deaspiration change (*HC* > *C*) and the related development of a subset of preaspirated **t-** > **k-** (*st* > *k*) as shared innovations for grouping Kl., TBL, and Nq. These changes are not preceded by language-specific sound changes, and the *st* > *k* change is unusual enough to be used a criterion for subgrouping.

## 7.3.3 Tosu

Unfortunately, very little modern data has been published on Tosu. Sūn Hóngkāi has listed a total of forty lexical items from his own fieldwork on Tosu in Nishida and Sūn (1990:17) (thirty items) and Sūn (1982b:242) (ten additional items). Based on these items—specifically the form for 'sheep', which is **jo³⁵**—we can conclude that Tosu has not undergone the *j* > *ɲ* change characteristic of Lizu.

The 18th century *Sino-Xenic Vocabularies* included a volume on Tosu, with lexical items transcribed in Tibetan and Chinese scripts. (Nishida 1973 examines this volume in depth.) Although the transcriptions are undoubtedly problematic, a list of antonymic adjectives is provided in Nishida (1973:172), where it is clear that adjectives in Tosu are not given with a **jɑ-** prefix, as is characteristic of Ersu.

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[11]These include 'good', 'high', 'low', 'long', 'short', 'thick' 'thin', 'fast', 'big', 'handsome', 'clever', and 'rich'.

Thus, Tosu is placed in its own branch under Proto-Ersuic. This analysis is preliminary due to the lack of reliable data, but it nevertheless seems likely given the distinctiveness of the Tosu lexical items that have been published, along with the geographic location of Tosu from both Lizu and Ersu.

### 7.3.4 Summary

The family tree for Ersuic is presented below.

Lizu is characterized by a set of three changes: (1) **j** > **ɲ** before nasal rhymes, (2) the merger of the **\*-riu** and **\*-ri** rhymes, and (3) the change of the rhyme **\*-e** to a back unrounded vowel after velars.

The set of languages labeled as "Central Lizu" is characterized by a loss of preaspiration on initial consonants, and by the development of a **k-** initial from a subset of the preaspirated dental stops.

Tosu forms the second branch of Ersuic.

Ersu is characterized by the development of the **jɑ-** adjective prefix.

The areal of changes of apicalization[12] and *xu* > *fu* are included in this tree, along with some of the changes, in chronological order.

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[12]For an overview of apicalization in the Sino-Tibetan context, see Baron (1974).
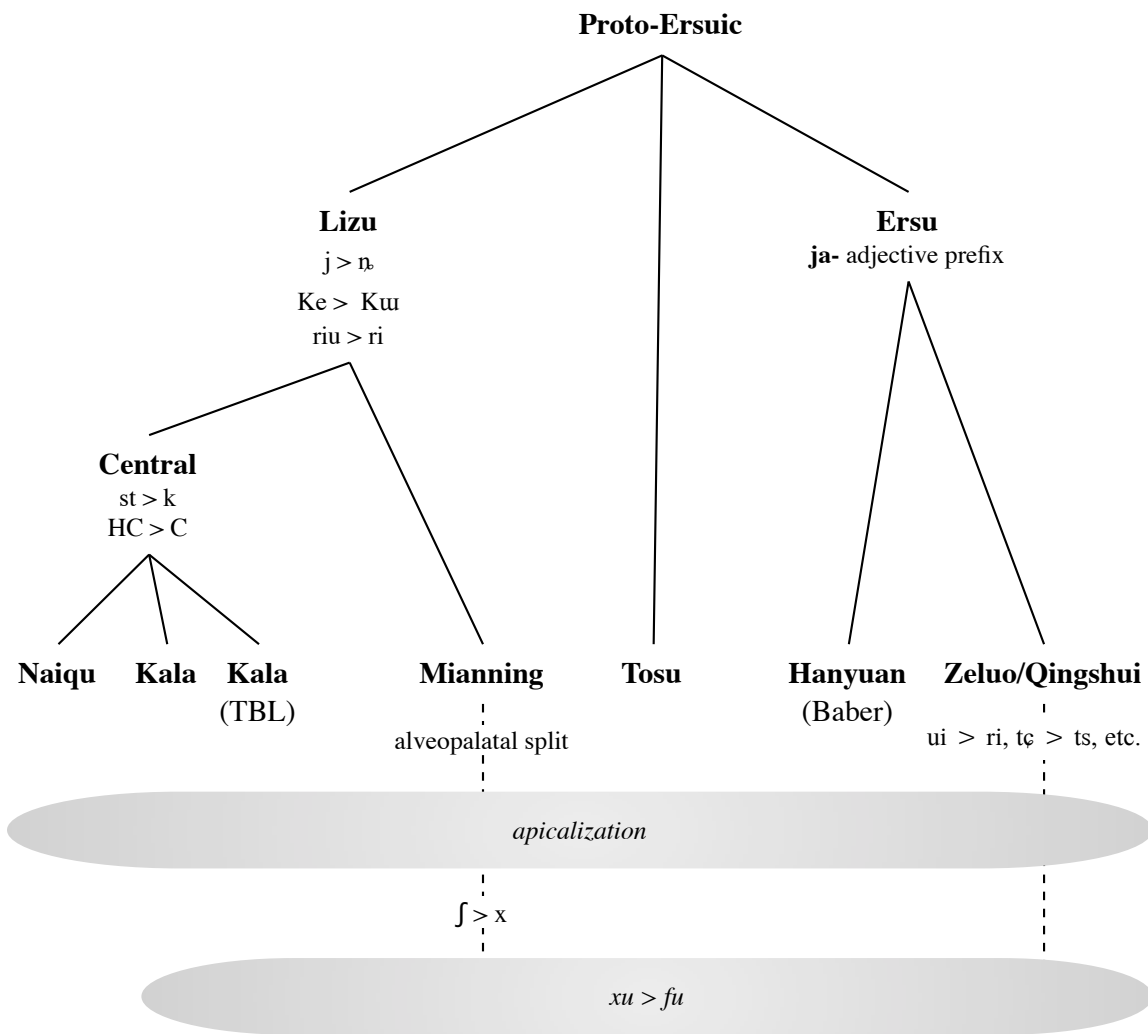
Figure 7.1: Ersuic family tree

# Chapter 8

# From PTB to Proto-Ersuic

Developments from Proto–Tibeto-Burman to Proto-Ersuic are presented below. Regular developments from PTB rhymes, initials, and prefixes are highlighted, but notable exceptions and a number of more speculative connections are provided as well.

The PTB roots chosen for the cognate sets here come mainly from two sources: Many of the roots are a subset of the ones found in Matisoff (1999). Most of them can also be found in Matisoff (2003) ("HPTB") and Matisoff (2008) ("TBRS"). In all, over 300 potential PTB roots for Proto-Ersuic reconstructions are identified below (extra-Ersuic cognates have been used if the root has not been reconstructed to the PTB level). Detailed reconstructions for all roots below can be found in Matisoff (2003) unless otherwise noted.

## 8.1   Rhymes

### 8.1.1   *-a-

Developments of rhymes containing **-a-** are as follows:

**\*-(y)a > \*-i**

There are many solid examples of **\*-a > \*-i**, the best attested rhyme in PTB. This brightening is characteristic of the Qiangic languages (Matisoff 1999).

Note that **\*-a** > **\*-i** represents a merger with **\*-i**, which remains **\*-i** (see below).

| PTB | PEr | gloss |
|-----|-----|-------|
| *ba | *bi[1] | thin |
| *bya | *bi[2] | bee, honey |

| PTB | PEr | gloss |
|---|---|---|
| Lahu pɛ̀ < PLB *bya | *mbimbi² | divide / share (things) |
| *tsa | *tsʰi² | salt |
| *dzya | *dzi² | eat |
| cf. Lahu ɔ̀-cɛ̄ < PLB *dzya ? | *(n)dʑi(u)² | ear / spike[1] |
| *za | *zi² | son |
| *na-t | *deni¹ | sick, ache |
| *r/g-na | *bæni¹ | listen |
| *g-na-s | *breni¹ | rest |
| *s-na | *stim(b)u¹ | nose |
| *nyey/*na-w | *ninɑ¹ | younger sibling |
| *s-l(y)a | *ht(s)ipi² | tongue |
| *pla, PLB *C-la¹ | *li¹ | ashes |
| *r(y)a | *ri¹ | laugh / smile |
| *sya-n | *ʃi² | meat |
| *gra | *tʰegri¹ | hear |
| PLB *g-ra² ? | *ŋgi¹ | buckwheat² |

## *-al, *-at > *-i

Similarly, **\*-al** and **\*-at** are exemplified by the following roots, which have undergone brightening as well:

| PTB | PEr | gloss |
|---|---|---|
| *s-bal | *pimæ¹ | frog, toad |
| *m-pat | *mpʰi² | vomit, spit |
| *k-r-pʷat | *mbi¹ | leech |
| *g/b-sat | *si¹ | hit, kill |
| *b-r-gyat ≍ *b-g-ryat | *rdi¹ | eight |

---

[1]If the Lahu and Ersuic forms are cognate, the initial is a problem here (compare with the immediately preceding form 'eat', with a regular PEr **\*dz-** initial).

[2]This form is placed here tentatively, since velar initials are expected to inhibit brightening.

**\*-an > \*-je**

The rhyme **\*-an** also brightened, but only to **\*-je**, not all the way to **\*-i**.

| PTB | PEr | gloss |
|---|---|---|
| \*s-man | \*hpje² | medicine |
| \*pran/t | \*tsjẽ**pʰrje**¹ | braid / plait |

**Exceptions to brightening**

Regular exceptions to this brightening tendency have roots with a velar initial, where for some forms **\*-a > -æ**, others have developed an **\*-r-** medial, and still others seem to have developed **\*-w-** medials:

| PTB | PEr | gloss |
|---|---|---|
| PLB \*ʔ-ga² | \*zi**kæ** | dumb, stupid |
| \*ga | \*g**æ**¹ | sing |
| \*r/N/d/s-ga | \*g**æ**/gja¹ | like / love |
| \*gra | \*g**æ**wu | enemy (personal) |
| \*m-ka, Mpi nko | \*ŋg**æ**¹ | door |
| Lahu qha < PLB \*ka | \*kʰ**æ** | rice (cooked) |
| Lahu vɤʔ-qâ < PLB \*ga | \***gæ**me¹ | clothing / garment |
| \*b-ka | \*dekʰra¹ | bitter, salty |
| \*l/b-ŋa | \*ŋra² | five |
| \*s-ŋ(y)a FISH | \*deŋra¹ | stinky, fishy-smelling |
| \*ka | \*kwɑli¹ | crow |
| PLB \*ka¹ | \*kwɑ/kɑ² | all / the whole |
| PLB \*k-ra²/³ | \*tʰekʰ**wɑ**¹ | win |
| \*hya SWIDDEN | \*(ju/ʐu)x**wɑ**¹ | paddy fields |

Based on the forms below, laterals may appear to be exceptions as well, but the forms for 'tongue' and 'ashes' (above), both with lateral initials, seem to demonstrate that laterals do not suppress brightening. Rather, the form for 'moon' may have escaped the brightening change due to the velar prefix. If this is the case, then both the **\*s-** and **\*g-** prefixes affected the development of this root, the former creating a voiceless lateral and the latter suppressing brightening of the vowel. The forms for 'tiger' and 'spirit' are likely loans from Loloish and Tibetan, respectively.

| PTB | PEr | gloss |
|---|---|---|
| *s/g-la | *ɬæpʰe[1] | moon[3] |
| < PLB *k-la[2] | *læ[1] | tiger |
| *m-hla / WT lha | *ɬæ | spirit, deity |

There is another group of exceptions consisting of grammatical particles:

| PTB | PEr | gloss |
|---|---|---|
| *ma-y | *mæ | neg. |
| *ta | *tʰæ[1] | neg. imp. |

Another pair of apparent exceptions are the following, where the initials have palatalized (although note that the PTB root for HUNDRED does have a velar in it):

| PTB | PEr | gloss |
|---|---|---|
| *s-la | *ʐa[1] | pants / trousers |
| *b-r-gya | *ʐa[1] | hundred |

There remain sundry exceptions, where the sound changes discussed above are expected but do not occur:

| PTB | PEr | gloss |
|---|---|---|
| *r/g-na | *nɑ[2] | ear |
| *ma | *æmæ[1] | mother |
| *tsa-t | *tsʰæ[2] | hot |
| *ba ? | *debæ[1] | carry on the back |
| *mra, PLB *C-mya[2] | *mje/mja | many / much |
| PLB *x-ra[1] ? | *htʃæ/ʂæ[1] | search, look for |
| PLB *ra[3] | *rA[1] | get / obtain |

The **\*g-** prefix in EAR may have prevented brightening. Presumably this is the same root as LISTEN (above); perhaps the former had the **\*g-** prefix and the latter did not.

MOTHER may be explained as a linguistic universal/nursery word; Matisoff (2004:#68) notes that "no modern Qiangic language shows raising or fronting with this root."

HOT has also been noted to be an exception to the brightening rule across Qiangic. Matisoff (2004:#69) suggests that this may be due to a suffixal **-t**; however, in the case of Proto-Ersuic, if such an explanation is to be appealed to, such a suffix must be kept separate from other roots ending in **-t**, which as shown above have regular reflexes in **-i**.

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[3]This is a common binome in TB (the second element is a masculine suffix). For extra-Qiangic forms, cf. WT **zla-ba** and Lahu **ha-pa**.

Finally, some more speculative forms have **\*-e** or **\*-je** rhymes.

| PTB | PEr | gloss |
|---|---|---|
| *ma-t | *tʰeme² | forget |
| *r-ma | *mjari/**me**ri¹ | sore / boil |
| *ba-y | ***mbe**re² | cheek |
| *r/s-ŋ(y)a | *hjẽ¹ | borrow (tools) |

## *-wa, *-wal > *-ui/*-u

After velars (either velars original to PTB, or velars apparently descended from PTB **\*s-**), it seems that **\*-wa** > **\*-ui**. This change can also be viewed as a brightening change.

| PTB | PEr | gloss |
|---|---|---|
| *swa | *xui¹ | tooth |
| *s-wa GO | *xui | walk |
| *swa-n | *xui¹ | garlic |
| *gwa-n | *deɣui¹ | wear (a garment) |
| *lway ? | *ɣuiɣui | easy |
| *ŋwa | *ŋui² | cattle, cow |
| *r/g-wa ? | *xu¹ | village⁴ |

There are also cases where the nuclear vowel remains low. Note that TRAP and FULL have PTB **\*w-** as their initial consonants, rather than as medial glides. The form for 'hoof' does not follow the pattern of plain velar initials above and may be a loan.

| PTB | PEr | gloss |
|---|---|---|
| *wa (see LITB) | *wæ¹ | snare / trap |
| *k-wa | *deɣ**wæ¹** | full, satiated |
| *r/g-wa | *rg**wæ¹** | rain |
| *m-twa | *dʒwæ | span |
| *kwa ? | *ŋ(u)kʰ**wɑ** | hoof |

Examples of **\*-wa** after labials are not particularly satisfying, with one form (AXE) showing perhaps **\*-wa** > **\*-u** and another candidate (PATCH) with **\*-wa** > **-\*-wE** (PEr **\*-we** is reconstructed where Mn. has **-u** and other dialects have **-e**; see p. 114). A possible cognate to Lahu **bù** has **\*-r-** in Proto-Ersuic.

---

⁴Note that the rhyme for 'village' is **\*-u**, not **\*-ui**; and the origin of the PEr **\*x-** initial is mysterious.

| PTB | PEr | gloss |
|---|---|---|
| *r-pʷa | ***bu**tsʰɑ¹ | axe |
| *pʷa, PLB *ba¹ ? | ***pwEpwE²** | patch (clothing) |
| Lahu bù < PLB *mbwa | *mbrɑ¹ | loud |

Finally, we have some lone forms demonstrating perhaps **\*-wal** > **\*-je** or **\*-wat** > **e**.

| PTB | PEr | gloss |
|---|---|---|
| *g-lwat | *tʰe**le**¹ | release / set free |
| *s-pʷal | *mpʰje¹ | ice |

## \*-am > -jẽ

The rhyme **\*-am** > **\*-je** (**\*-e** after PEr retroflexes and perhaps velars, based on the form for 'draw water'). Note that a trace of the **\*-m** final consonant is retained as nasalization after certain initials (see p. 106).

| PTB | PEr | gloss |
|---|---|---|
| *byam | ***bjẽbjẽ¹** | fly (v.) |
| *tsam | *tsjẽ¹ | hair |
| *m-dzam | *dzjẽ¹ | bridge |
| *N-dzyam | *ndzẽ¹ | wedge |
| *syam | *ʃje¹ | iron |
| *sram | *ʂe¹ | otter |
| *kram | *tʂʰe | fence (bamboo / twig) |
| *kram | *xutʂʰe¹ | garden (plot) |
| *kam (⋝ *kaːp) | *kʰe | draw water |

Forms with other possible developments are listed below. BEAR suggests **\*-wam** > **\*-ui**, similar to **\*-wa** > **\*-ui** above. FATHOM is more speculative.

| PTB | PEr | gloss |
|---|---|---|
| *d/g-wam | *xui/ŋui¹ | bear[5] |
| *lam ? | *liu | fathom |

---

[5]HPTB does not list an allofam with **g-**, but see Matisoff (1999) for other Qiangic forms which support this prefix.

**\*-aŋ > -o**

There are many good examples of **\*-aŋ** > **-o**:

| PTB | PEr | gloss |
|---|---|---|
| PL \*m-laŋ/plaŋ[1] 'husband' (PL 217) | **\*mpʰroz**æ[1] | young lad / chap |
| \*k-m-raŋ | \*m(b)ro[2] | horse |
| \*m-raŋ | \*mbro | high / tall[6] |
| \*naŋ | \*ne/no[2] | you |
| \*kraŋ | **\*htʂomo**[2] | strength (physical) |
| \*taŋ | **\*tɕʰopu**[2] | pine |
| \*syaŋ | **\*ʃoʃo**[1] | clean |
| \*m-dzyaŋ | \*dʒo[1] | have, exist (animate) |
| PL \*taŋ[3] (PL 257) | \*mbo**to** | knife |
| \*l(y)aŋ | \*kʰe**lo**[1] | wait |
| MC ljangX ? | \*lo | tael (=50 grams)[7] |
| PLB \*tsaŋ[1] | \*tsʰo[1] | human being, person |
| \*m-baŋ | \*ne**mbo** | deaf |
| \*maŋ | \*tʰe**mo/momo**[1] | old / elderly |
| \*yaŋ | \*jõ[1] | sheep |
| \*s-m-raŋ ? | \*hwõ[1] | stretch out (the arm) |
| Lahu phɔ̂ < PLB \*paŋ | \*pʰwo | side, direction |
| cf. Lahu khɔ̂ < PLB \*kraŋ | \*tʂʰe[1] | sound[8] |

Some plausible exceptions have **\*-wE** or **\*-u** instead:

| PTB | PEr | gloss |
|---|---|---|
| \*g-raŋ | \*gwEmæ[2] | back |
| \*ryaŋ ? | \*ɣwEmo/ æɣwE[1] | uncle (mother's brother) |
| PLB \*baŋ[1] | \*pu | classif. trees/flat obj.[9] |

[6]Benedict (1972:143, n. 139) suggests that HORSE may be related to HIGH, i.e. "the high one", similar to Indonesian **\*ad'ar/an** 'the learned one'.

[7]The "X" is Baxter's notation for Middle Chinese Rising (*Shǎng*) tone.

[8]The Proto-Ersuic form is reconstructed with **\*-e** because of the Lizu forms, but Ersu has an exceptional **-o** rhyme. See p. 111.

[9]This root is not in HPTB, but note the similar forms and identical morphological structure for the words for

| PTB | PEr | gloss |
|---|---|---|
| Lahu qhɔ < | *kʰepʰe/ | inside |
| PLB *kaŋ | kʰupʰo[1] | |

## *-ak > *-wɑ/*-e/*-a/*-o

It is difficult to figure out the regular reflex of **\*-ak**. Some forms have PEr **\*-wɑ**:

| PTB | PEr | gloss |
|---|---|---|
| PLB *tak[H] | *ntʰwɑ[1] | sharp, pointed |
| *s-nak | *denwɑ[1] | black |
| *kyak | *tʃwɑpu[1] | navel[10] |
| *k-rak | *rwɑ[1] | chicken |

Others have PEr **\*-e**:

| PTB | PEr | gloss |
|---|---|---|
| *s-pʷak | *khempʰe | hide oneself |
| *dak | *de[1] | weave / knit |
| *g-lak | *le(pje) | hand |
| *l(y)ak | *lje[1] | good |
| *s-nak | *nene | deep[11] |
| *r-sak | *sẽ[1] | air, breath, steam[12] |
| *m-tsak DRIP | *ntsʰe[2] | leak |
| *krak | *deke[1] | fear, be afraid |

It is interesting to note that the **\*-wɑ** set above includes items where PTB **\*-ak** > Naxi **-a**: BLACK, CHICKEN/FOWL, and SHARP; while the **\*-e** set includes items where PTB **\*-ak** > Naxi **-ɔ**: BREATH, HIDE, WEAVE (see Matisoff 1991:97).

An interesting form is GOOD, which does not have **-ja**, but **-je**. Assuming a palatal medial, and a parallel development to PTB **\*myak** EYE > PEr **\*mja**, we might expect **\*lja** as reflex of **\*lyak**. However, there are no examples of such a syllable in any of the modern languages; **-ja** does not seem to occur after laterals. Thus, perhaps there was a change from **lja** > **lje**.

Other forms have low vowels:

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'tree' in e.g. WB **sac-paŋ**, Mn. **sɨpu**, where the first element < PTB **\*sik ≍ \*siŋ**; and also in 'one (+ clf.)': WB **tə paŋ**, Mn. `**tepu**.

[10]HPTB has the PLB form **\*ʔ-kyak[H]**; see Matisoff (2008) for a more general discussion of this root.

[11]Even though this root is undoubtedly the same as BLACK (see Matisoff 1972 #142 and #157), there seems to have been a divergence in Qiangic.

[12]The nasal vowel in the Proto-Ersuic form is reconstructed to account for the vowel correspondences. See p. 106.

| PTB | PEr | gloss |
|---|---|---|
| *yip + **mak** | *jimɑ[1] | dream[13] |
| *r-pak | *sẽ**pʰja**[1] | leaf |
| *py(w)ak | *pʰja | sweep |
| *s-mik ≍ *s-myak | *mja[1] | eye |
| PQc *N/s-tsak | *hto/htæ | jump[14] |
| *kaːk | *tsʰekʰɑ[1] | sputum, phlegm |
| *s-kaːk | *sẽ**kæ**le[1] | branch / twig |
| *s-r(y)ak 24-HOURS | *t(w)ɑ**h(w)ã**[1] | tonight |
| cf. Lahu yà?- < PLB *yak | ***ja**niu[1] | yesterday |

Still others have PEr **\*-o**:

| PTB | PEr | gloss |
|---|---|---|
| *s-mak | ***mo**pæ[2] | son-in-law |
| *d-mak | *mo | soldier, army |
| PLB *C-cak[L] | *tʰe**dʐo**[1] | push / shove[15] |
| *m-krak, PLB *m-prak[H] | *(n)tʂʰo[1] | scratch |

Some more speculative forms have PEr rhymes with **\*-u** or **\*-ew**.

| PTB | PEr | gloss |
|---|---|---|
| *tsyap or PLB *?-dzak[L] ? | *kʰetsu | connect / join |
| *s-glak ≍ *klak | *tʃew[1] | cook / boil[16] |

**\*-wak > \*-o**

Finally, the forms for PIG, MOUSE, and BOWL are examples of **\*-wak > \*-o**.

| PTB | PEr | gloss |
|---|---|---|
| *pʷak, PLB *wak[L] | *ɣwo[1] | pig |

---

[13]The relevant allofam here is **\*mak**, not **\*maŋ**, because **\*-aŋ > o** (see above). This is interesting because the **\*mak** variant has so far only been attested in Lolo-Burmese.

[14]See Matisoff (1999) for this reconstruction.

[15]See Matisoff (1972) #33 for this root.

[16]A comparison perhaps may be made instead to MC **tsyoX** 煮.

| PTB | PEr | gloss |
|---|---|---|
| *yəw/PLB *(k)-rwak[H] | ***go**jo[1] | mouse |
| *kwak | *kʰo | bowl[17] |
| *g/p-rwak | *be**rA**/bu**rA** | ant |

## *-ap

There are too few examples to establish a general pattern for **\*-ap**. CHOP and NEEDLE have mid vowels, while STAND may have retained a low vowel after a palatalized initial (perhaps dissimilatory; compare with PANTS and HUNDRED above, which have palatal initials and escaped brightening). The root for SNOT has been included here as well, but the first syllable may simply be NOSE (PEr *__sti__m(b)u[1]*).

| PTB | PEr | gloss |
|---|---|---|
| *ts(y)ap | *dzẽ[1] | chop / hew |
| *k-rap | *ɣrɑ/ge[1] | needle |
| *g-r(y)ap | *kʰendʑa[1] | stand |
| **\*s-nap** + *rəy | *__stiu__(d)zære[1] | snot (liquid) |

## *-ar

BURN and BLOATED are the two best forms with likely PTB roots having the rhyme **\*-ar**. The vowels are different, but perhaps this is because BURN descended from an allofam with no **\*-w-** medial, while the rounded medial in BLOATED led to a different vowel development (i.e. **\*-war** > **\*-ro**).

| PTB | PEr | gloss |
|---|---|---|
| *b(w)ar ⋊⋉ *p(w)ar | *debræ[1] | burn |
| PKC *puar | *debro[1] | feel bloated (stomach) |
| *sywar SCAT-TER | ʂɑ | pour (water) |
| WT mar ? | *me[1] | butter |

PEr **\*si** 'new', with potentially two PTB roots **\*g-sik** and **\*g-sar**, has been placed under the **\*-ik** rhyme below, although (BURN and STOMACH aside) it is interesting to think of **\*-ar** brightening to **-i** just like **\*-a, \*-al, \*-at**.

---

[17]Note that Mn. has two forms for 'bowl': the classifier **-kʰo**, and the free form **kʰwælæ**. Compare with TBL **-khuo³¹** 'bowl (classif.)' and **khuo³³la⁵³** 'bowl', both with **khuo**. Perhaps Mn. **kʰwæ** is a loan (cf. PNa **\*kʰwa**, Prinmi **kʰwǎ**).

**\*-ay**

The forms listed here for **\*-ay** show no clear pattern, with BUSY and GO suggesting brightening, and the remaining forms with low vowels.

| PTB | PEr | gloss |
|---|---|---|
| PKC *ɓuay | *bibi[1] | busy |
| *ʔay | *ji[1] | go |
| *la-y | *læ[1] | come |
| *m/s-laːy | *gołæ[2] | middle |
| *g-ray GOD/COPULA | *rAłæ[1] | soul / spirit |
| *k/gla-k/y/t | *ne**dʑæ**[1] | drop / fall |
| *pwaːy | *pʰrɑ[2] | chaff / bran |
| *m-la-y | *mrɑ[1] | bow / arrow |

## 8.1.2 Front vowels: \*-i-, \*-əy, \*-e-

**\*-i(l) > \*-i**

All these forms show **-i(l) < \*-i**.

| PTB | PEr | gloss |
|---|---|---|
| *s-ri(y) | *ʐʷi[1] | be (copula) |
| *s-ni-ŋ | ***sini/hti**mi[1] | heart |
| PLB *s/ʔ-mi[1] | *mi[1] | catch |
| *r-ni | *de**ni**[1] | red |
| *ri GLEET | *mja**ri**/me**ri**[1] | sore / boil |
| *si(y) | ʂi[2] | comb (v.) |
| *m-ts(y)il | ***dʑ**i ki[1] | saliva |

However, there are some exceptional forms:

| PTB | PEr | gloss |
|---|---|---|
| *dzyi | *ndze[1] | ride (a horse) |
| PLB *si[2] | *desu[1] | sharpen, whet (a knife) |

## *-əy > *-iu/-e

In many cases, **\*-əy** > **\*-iu**.

| PTB | PEr | gloss |
|---|---|---|
| *krəy, PLB *ʔgrəy[1] | *kriu[2] | gall bladder |
| PLB *m-k-rəy | **\*ŋgriu**pje[1] | skin |
| *b-rəy | *riu[1] | write |
| *səy | *tʰe**ʂiu**[1] | die, dead |
| *b-ləy | *ẓiu[2] | four |
| *kləy | *htʃiu[2] | feces |
| *m-t(w)əy | *dʒiu[1] | water, river |
| *s-kəy | *çʷiu[1] | borrow (money) |
| *nəy SUN | *niu | day, day's (work) |
| *s-ləy | *ntsʰo**łiu**[1] | flea |

The two examples of **\*-wəy**, BLOOD and DOG, both show the same correspondences as **\*-əy**.

| PTB | PEr | gloss |
|---|---|---|
| *s-hywəy | *ṣiu[1] | blood |
| *d-kʷəy | *tɕʷʰiu[2] | dog |

The remaining items mostly have PEr **\*-i**, **\*-e**, or **\*-je**.

| PTB | PEr | gloss |
|---|---|---|
| **-i** | | |
| PLB *ʔgrəy[1] | *kri[1] | star |
| *z(y)əy ?, cf. Lahu i | **\*jiji**[1] | small |
| *b-ləy | **\*li**tʰo/lotʰo[1] | grandchild |
| *g-ləy | *me**li**/me**le**[2] | wind[18] |
| **-e** | | |
| PLB *tsəy[2] | *tsʰe[2] | wash (clothes) |
| PLB *ʔ-dzəy[2] | *de**tsʰe**[2] | cough |
| *rəy | *re[1] | water / soup |
| *r-tsyəy | *hte | count |
| PLB *ʔ-li[1] | *le[1] | old[19] |

---

[18]The first element in this forms is SKY (PTB **\*r-məw** > PEr **\*me/mo**). Cf. also the first element of PEr **meŋkʰe²** SMOKE. For similar collocations in a Lolo-Burmese language, cf. Lahu **mû-hɔ** 'wind', **mû-qhɔ̂** 'smoke', both perfect cognates to the forms given here.

| PTB | PEr | gloss |
|---|---|---|
| **-je** | | |
| *m-ley ≍ *m-ləy | *me**lje** | earth, ground |
| *d/s-ləy | *sje**lje** | bow (weapon) |
| *s/m-grəy | *ne**lje**/ne**łje**[1] | melt, dissolve |
| *b-ləy > PLB *p-re | *pjẽ | run |
| *ts(y)i/əy/ay | *t**ɕʰ**et**ɕʰ**e[1] | ten |
| **-o** | | |
| *kʷəy ? *(t)si/up? | *(xwɑjo)**ntʃʰo**[1] | nest (bird) |

## *-ey

Forms for **\*-ey** show a wide variety of high and mid vowel reflexes:

| PTB | PEr | gloss |
|---|---|---|
| *s-ney | *(ri)**ni**[1] | near |
| *r-ney-t | *niu[1] | have, exist (general/abstract) |
| *mey | *me[1] | fire |
| *sey | *sẽ**se**[1] | fruit |
| *r-may ≍ *r-mey ≍ *r-mi | *me**ntʃʰo[2] | tail |
| *r-may ≍ *r-mey ≍ *r-mi | *mu**kr(w)V[1] | tail |
| *s-lay ≍ *s-ley | *ł**je**ki[1] | ladder |
| *b-rey | *ɣui[1] | buy |

## *-iŋ, *-in, *-en > -ɑ

In this section, the best looking roots are probably LONG, FULL, and LIVER (below), which show **\*-iŋ, \*-in** > **-ɑ**. First, I present the **\*-iŋ** roots:

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[19] See Bradley (1979:#537B) for this reconstruction, where the only supporting forms are found in Mpi and Akha. This root and six others all reconstructed as **\*ləy** with various prefixes (BOAT, BOW/SLING, FOUR, GRAND-CHILD, HEAVY, and WIND—see Matisoff 2003:192) are interesting because their unusual but regular development into Lahu **hɔ**.

| PTB | PEr | gloss |
|---|---|---|
| *s-riŋ | *ʂɑ | long |
| *bliŋ | *de**brɑ**[1] | full |
| *gliŋ | *ɬɑ[1] | flute |
| *siŋ ⋉ *sik | *sẽ[1] | wood / log[20] |
| *s-niŋ | *tsʰe**hĩ**[1] | this year |

More speculative are the following, where NECK may belong in this set if it had an **\*s-** prefix. NAME, usually a solid TB root, does not show the same **-a** reflex as the other forms.

| PTB | PEr | gloss |
|---|---|---|
| *m-liŋ | *ht(w)ɑrA[2] | neck |
| *r/s-miŋ | *mi[1] | name |

LIVER and PULL/DRAG are good roots here for **\*-in**; WEIGH is more speculative.

| PTB | PEr | gloss |
|---|---|---|
| *m-sin | *ntsʰɑ[1] | liver |
| Lahu šɛ < PLB<br>  *sin | *dentsʰɑ[1] | pull / drag / lead (a<br>  cow) along |
| *kyiːn | *ndʒew | weigh (v.) |

Finally, for **\*-en**, CLAW fits the pattern of **\*-in, \*-iŋ** > **-ɑ**, whereas PUS does not.

| PTB | PEr | gloss |
|---|---|---|
| *m-tsyen | *dzidzi/dzɑdzɑ[1] | claw / talon |
| *m-blen | *piu[1] | pus |


**\*-im > \*-jẽ**

Cf. the identical outcome in **\*-am** > **\*-jẽ** above. SET (OF THE SUN) is the only exception here.

| PTB | PEr | gloss |
|---|---|---|
| *s-dim | *tɕe[1] | cloud, fog |
| *k-yim ⋉<br>  *k-yum | *jẽ[1] | house |
| *m-kum ⋉<br>  *m-kim | *ŋgje[2] | pillow |
| *dz(y)im | **\*dzjẽdzjẽ** | raw / uncooked |

---

[20]Unlike DREAM above, the relevant allofam here seems to be the one with a nasal final, since **\*sik** would develop into ʂ̩ (see below).

| PTB | PEr | gloss |
|---|---|---|
| *g(l)im ⋊<br>   *g(l)um | *netɕʰiu/<br>   netɕiu[1] | set (of the sun) |
| cf. Lahu chɛ<br>   < PLB<br>   *kyim/kyum | *detʂʰe | flavorful |
| cf. Lahu phɛ<br>   < PLB<br>   *pim/pum | *kʰepʰui[1] | tether (a cow) |

## *-em

A single form for **-em** has PEr **-i**:

| PTB | PEr | gloss |
|---|---|---|
| *s-nem | *nini | low / short |

## *-ik, *-eːk > *-i

The best examples of **-ik** have sibilant initials. ELDER SIBLING and ITCH are more speculative.

| PTB | PEr | gloss |
|---|---|---|
| *g-sik | *si | new |
| *tsik | *tsʰi[1] | joint |
| *g-zik | *ndzi[1] | leopard / panther |
| PLB *ʔ-wyik[L] | *æja[1] | elder brother/sibling |
| *m-tsik ? | *dekri | itch |

The one form for **-eːk** also shows a development into PEr **-i**:

| PTB | PEr | gloss |
|---|---|---|
| *gleːk | *megi[2] | thunder |

## *-iːt

Most of the forms listed here have front vowels in Proto-Ersuic.

| PTB | PEr | gloss |
|---|---|---|
| *mit, *l-ko(k) | *myihkwo[1] | throat |
| *m-kyit | *tʃʰitʃʰi[1] | move |

| PTB | PEr | gloss |
|------|------|-------|
| *kriːt | *dʐe[1] | grind |
| *tsiːt | *tsʰẽ[1] | goat[21] |
| *s-miːt | **muimui**[1] | close (the mouth) |

## *-ip

The form for WEST is placed here instead of under **\*-up**. However, the assignment of this PTB root is tentative; note the seemingly homophonous Proto-Ersuic root for 'sun' **\*niu**. THIRSTY and SUCK are also included here tentatively.

| PTB | PEr | gloss |
|------|------|-------|
| *s-ni/u(ː)p | *niu[1] | west[22] |
| PLB *C-sip[L] | *deʃo | thirsty |
| *m-dzu/ip<br>  SUCK | *ntsʰew | squeeze (for milk) |

## *-is

There are not enough examples of the rare rhyme **\*-is** to figure out regular sound changes.

| PTB | PEr | gloss |
|------|------|-------|
| *g/s-nis | *ne[1] | two |
| *s-nis | **sini/htẽ**[2] | seven |

## 8.1.3   Back vowels: *-u-, *-əw, *-o

**\*-u**

In general, PTB **\*-u** seems to yield PEr **\*-u**:

| PTB | PEr | gloss |
|------|------|-------|
| *d-bu | **wil**je/**wu**lje[2] | head |
| *ru | **rdu**mo[2] | crazy person, lunatic |
| PLB *ʔ-blu[1] | *pʰru | porcupine |
| <WT gru | *gu[1] | boat / ship |

---

[21]See p. 106 for details on the Proto-Ersuic reconstruction of this root.

[22]This root is glossed 'sink/submerge' in HPTB.

Some forms are not quite so neat, however:

| PTB | PEr | gloss |
|---|---|---|
| *plu | *deliu[1] | white |
| *su | *se[2] | who |
| *s-tu | *htɕi[1] | vagina |
| *dz(y)u | *rwatɕo[1] | egg |
| Lahu kù < PLB *gru | *kwo[2] | shout |

**\*-əw**

The development of **\*-əw** seems rather complex. In NINE and SMOKE, both with velar initials, we get **\*-e**; the first syllables of EXPENSIVE and INSECT also have **\*-e**. in CRY/WEEP, which has a velar nasal inital, we get **\*-u**. SWEET and BREAST HAVE **\*-iu**; note that the vowel development here is identical to that for the rhyme **\*-əy**, above. CRY/WEEP, STEAL, and GRANDFATHER have **\*-u** Some more speculative forms have other vowels in Proto-Ersuic.

| PTB | PEr | gloss |
|---|---|---|
| **-e** | | |
| *d/s-kəw, PQc s/r/n-gəw | *ŋge[2] | nine |
| *kəw | *meŋkʰe[2] | smoke |
| *pəw PRICE | *pʰekʰwæ[1] | expensive |
| *bəw, *zril > PLB *di[1] | *bedi[1] | insect / worm |
| *r-məw | *me/mo | sky |
| **-iu** | | |
| *kyəw | *detʃʰiu[1] | sweet |
| Lahu mê-chô-ma < PLB *kyəw | *tʃʰiumæ | widow |
| *nəw | *dʒaniu[1] | breast, milk |
| **-u** | | |
| *ŋəw | *ŋu[1] | cry, weep |
| *r-kəw | *mpʰru[1] | steal |
| *pəw | *æpʰu[1] | grandfather |
| *pəw | *æpu | grandfather |
| **-o, -ẽ** | | |
| PLB *m-dzəw[2] | *ndzomo[2] | official (government) |

| PTB | PEr | gloss |
|---|---|---|
| *yəw ? | *ɣo$^1$ | liquor |
| *g/s-məw ? | *hẽ$^1$ | mushroom |

LIQUOR (**ɣo$^1$**) and MOUSE (**go$^1$**) are almost homophonous in Proto-Ersuic, so it is possible that both descend from **yəw** (with, of course, a prefix on one or both forms to differentiate them). However, a separate root for MOUSE, PTB **r-wak** (cf. PLB **k-rwak$^H$**, with a velar stop prefix), would also be consistent with the **-o** final; thus, MOUSE has been placed under **-ak** above.

**-ow > *-u**

Most forms here show **-ow** > **-u**, with LOUSE and SOFT the exceptions:

| PTB | PEr | gloss |
|---|---|---|
| *tsow | *detsʰu$^1$ | fat |
| *tsyow | *detsu$^1$ | boil |
| *tsow THORN | *ndzu | pricked (on a thorn) |
| *mow | *mu$^1$ | do / make |
| *t/dow-n, *tuːk | **rdurdu** | thick |
| *s-r(y)ik, *s-row NIT | *ʂewmæ$^1$ | louse |
| *now | **njonjo$^2$** | soft |

For PEr 'louse', **s-row** NIT seems the best fit here, since we expect PTB **-ik** > PEr **-i**. PTB **sar** is less likely still (see PTB **-ar** above).

**-ur > *-ew**

The one example of **-ur** indicates **-ur** > **-ew**.

| PTB | PEr | gloss |
|---|---|---|
| *s-kyuːr ⪤ *s-kwyaːr | *detʃew$^1$ | sour |

**-ul > *-ui**

For the two forms following nasals, **-ul** > **-ui** (cf. **-wa** > **-ui** above), whereas the form for SWEAT has **-u**. The form for SNAKE has perhaps developed into a sesquisyllabic form, with the first "half" syllable coming from the **b-** prefix.

| PTB | PEr | gloss |
|-----|-----|-------|
| *s-mul | *mui² | feather, hair (of body) |
| *d-ŋul | *ŋui¹ | silver |
| *s-krul | *tʂu¹ | sweat |
| *s-b-ruːl | *beri² | snake |
| *ril � *rul | *ɣeniu/ɣoniu¹ | intestine |

INTESTINE has been placed here, rather than with the alternate root (PTB **\*wu**), because the mid vowel reflex in Proto-Ersuic seems more likely to come from **\*-ul** than from **\*-u** (cf. the forms under **\*-u** above).

## \*-um

**\*-um** has quite similar developments to **\*-im** and **\*-am** above. This may reflect **\*-im ⋈ \*-um** variation in the proto-language. This variation is discussed in HPTB pp. 270–276, where SET (OF THE SUN), PILLOW, and HOUSE are among the examples; I have placed these three roots in the **\*-im** section, above. The roots included in this section are not known to exhibit **\*-im ⋈ \*-um** variation at the PTB level.

| PTB | PEr | gloss |
|-----|-----|-------|
| *g-sum | *sjẽ² | three |
| *lum | *-lje | round object |
| *zum ⋈ *zuŋ | *zẽ¹ | use |
| *dzum ⋈ *tsum | *dʐe | pair |
| *tsum ? | *tsumu/tsumo² | mortar |

Since MORTAR does not have a rhyme with a mid front vowel, its inclusion here is speculative; perhaps it is a loanword.

## \*-uŋ > \*-u, \*-or > \*-o

The forms below demonstrate **\*-uŋ** > **\*-u**:

| PTB | PEr | gloss |
|-----|-----|-------|
| *duŋ | **\*du**(liu)¹ | wing |
| *g-ruŋ | **\*ru**(bu)/du¹ | horn |
| PLB *p(l/y)uːŋ² (MLBM 62) | *pʰru | face |
| *m-bruŋ ⋈ *m-bruk; < WT ḥbrug? | *mbru² | dragon |

**\*-or > \*-o**

Since HOLE does not fit the pattern of **\*-uŋ** > **\*-u**, it seems better to assign it to PTB **\*kor** instead.

| PTB | PEr | gloss |
|---|---|---|
| \*g/kuŋ, \*kor | \*hko[1] | hole |

**\*-oŋ**

There are not many examples of reflexes of PTB \*mid vowels. The forms here (except for HATCH, which is speculative) show either PEr **\*-o** or **\*-u**, although 'thousand' may be a loan from Tibetan (cf. WT **stoŋ**).

| PTB | PEr | gloss |
|---|---|---|
| \*s-loŋ | \*lolo/lulu[1] | bark (of dog) |
| \*ploŋ ? | \*pʰo[1] | escape / run away |
| \*s-toŋ | \*htũ[2] | thousand |
| \*s/r-go-ŋ ? | \*hẽ[1] | hatch / incubate |

**\*-uk > \*-(w)o/\*-u**

We now turn our attention to the stop finals, where we find many convincing examples of **\*-uk** > **\*-o**. SIX and WAIST show **\*-uk** > **\*-u** after retroflex/alveopalatal affricates.

| PTB | PEr | gloss |
|---|---|---|
| \*r-lung, \*k-luk | \*lo[1] | stone |
| \*s-luk/ŋ | \*bu**lo** | maggot |
| \*s-nuk BEAN | \***no**pri[1] | garden peas |
| \*s-nuk | \*nwo[1] | brains |
| \*s-g-ruk | \*de**ŋgwo**[1] | pick up |
| \*kuk | \***kʰokʰo**[1] | curved / crooked / bent |
| \*gyuk | \*dʒu[1] | waist |
| \*d-kruk | \*tʂʰu[2] | six |

I have put STONE and MAGGOT in this set because of the **\*-o** rhymes in Proto-Ersuic. Also note that for MAGGOT the **\*luŋ** allofam is attested only in Mizo, whereas the **\*luk** allofam is found throughout Lolo-Burmese.

MONKEY and POISON look like they have reflexes that belong in this set, but seem to have

irregular developments: POISON has an unexplained palatal initial, and MONKEY has an unexplained front vowel.

| PTB | PEr | gloss |
|---|---|---|
| *duk ≽ *tuk | *dʑu[1] | poison |
| PLB *myuk[L], *s-myuk[H] | *mi | monkey |

## *-ok > *-o

The development of ***-ok** > ***-o** here seems identical to ***-uk**.

| PTB | PEr | gloss |
|---|---|---|
| PLB *C-sok | *tɑso[1] | morning |
| PLB *tok TSR #15 | *ntʰontʰo[1] | peck at (of a chicken) |
| *mit, *l-ko(k) | *myihkwo[1] | throat |

FEAR (**\*k/grok ≽ \*k/grak**) has been placed under the **\*-ak** allofam, above.

## *-ut

For the sparsely attested **\*-ut** rhyme, two good-looking examples are LUNG with PEr **\*-u** and BLOW with PEr **\*-wo**.

| PTB | PEr | gloss |
|---|---|---|
| *tsut | *ntsʰu[2] | lung |
| *s-mut | *demwo[1] | blow (away) |

## *-up

All the Proto-Ersuic forms that might descend from PTB **\*-up** have different rhymes. The following forms have been listed in order of plausibility.

| PTB | PEr | gloss |
|---|---|---|
| (*s-yip ≽) *s-yup | *kʰejo | sleep, lie down |
| *m-pup | *ŋepʰwo[1] | flip over, reverse |
| *m-bup ROT / SPOTTED / WRITE | *bu[1] | multicolored / patterned (cloth) |

Interestingly, it may be the case that both allofams for SLEEP can be found in Proto-Ersuic; note the first syllable of **jimɑ¹** 'dream', probably from **\*yip**.

**\*-us**

There is one form for this rhyme, suggesting **\*-us** > **\*-u**.

| PTB | PEr | gloss |
|---|---|---|
| \*g-rus | \*ri**ku**/rik**ʰu**¹ | bone |

<div align="center">∗ ∗ ∗</div>

A summary of these rhyme developments, along with a chart of consonant and prefix developments, is given in section 8.3.

## 8.2   Consonants

### 8.2.1   Voiced stops

PTB \*voiced stops develop rather straightforwardly: **\*b** > **\*b, \*d** > **\*d, \*g** > **\*g**. (Consonant + glide clusters will be discussed below.)

| PTB | PEr | gloss |
|---|---|---|
| **b** | | |
| \*bya | \*bi² | bee, honey |
| \*ba | \*bi¹ | thin |
| \*ba ? | \*debæ¹ | carry on the back |
| \*byam | \*bjẽbjẽ¹ | fly (v.) |
| \*b(w)ar ⪤ | \*debræ¹ | burn |
|   \*p(w)ar | | |
| PKC \*puar | \*debro¹ | feel bloated (stomach) |
| PKC \*ɓuay | \*bibi¹ | busy |
| \*bəw, \*zril | \***be**di¹ | insect / worm |
|   > PLB \*di¹ | | |
| \*m-bup ROT / | \*bu¹ | multicolored / patterned |
|   SPOTTED / | |   (cloth) |
|   WRITE | | |
| \*s-b-ruːl | \*beri² | snake |
| **d** | | |
| \*dak | \*de¹ | weave / knit |

| PTB | PEr | gloss |
|---|---|---|
| *bəw, *zril > PLB *di[1] | *be**di**[1] | insect / worm |
| *duk ⪥ *tuk | *dʑu[1] | poison |
| *duŋ | *du(liu)[1] | wing |
| *t/dow-n, *tuːk | **rdurdu** | thick |
| **g** | | |
| *ga | *gæ[1] | sing |
| *r/N/d/s-ga | *gæ/gja[1] | like / love |
| *r/g-wa | *rgwæ[1] | rain[23] |
| **g + C** | | |
| *gra | *gæwu | enemy (personal) |
| <WT gru | *gu[1] | boat / ship |
| *gleːk | *megi[2] | thunder |
| *s-g-ruk | *de**ŋgwo**[1] | pick up |
| *g-raŋ | ***gwE**mæ[2] | back |
| *gyuk | *dʒu[1] | waist |
| *k/gla-k/y/t | *ne**dʑæ**[1] | drop / fall |
| *b-r-gyat ⪥ *b-g-ryat | *rdi[1] | eight[24] |
| **gw** | | |
| *gwa-n | *deɣui[1] | wear (a garment) |

Note that PTB ***gwa** > PEr ***ɣui** in WEAR.

The following forms have voiceless initials, but it is unclear why this is so (possibly an earlier ***s-** prefix unattested elsewhere in TB). Interestingly, the first two forms have **bl-** clusters, though it is hard to see why such a cluster would devoice.

| PTB | PEr | gloss |
|---|---|---|
| *m-blen | *piu[1] | pus |
| *b-ləy, PLB *p-re | *pjẽ | run[25] |
| PLB *baŋ[1] | *pu | classif. trees/flat obj. |
| *g-rus | *ri**ku**/rik**ʰu**[1] | bone |
| *g(l)im ⪥ *g(l)um | *netɕʰiu/ netɕiu[1] | set (of the sun) |

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[23]See p. 62 for discussion of this root, which is reconstructed with an ***r-** prefix in Proto-Ersuic.

[24]The Proto-Ersuic reconstruction here is tentative; see section 3.3.5 for details.

[25]PLB supports a reconstruction with ***r**; the reconstruction with ***l** is based on various Chin forms (see Matisoff 2003:190, note n and VanBik 2003:#1251).

Next, we look at prenasalized stops. In this and in the sets below, I include both PTB roots with a nasal prefix and forms that exhibit prenasalization in the modern languages, which presumably reflect nasal prefixes at some stage between PTB and Proto-Ersuic.

| PTB | PEr | gloss |
|---|---|---|
| *m-baŋ | *ne**mbo** | deaf, be |
| *m-bruŋ ⪥ *m-bruk; <WT ḥbrug? | *mbru$^2$ | dragon |
| *ba-y | *mbere$^2$ | cheek |
| *d/s-kəw, PQc s/r/n-gəw | *ŋge$^2$ | nine |

Roots with an **\*s-** prefix have become voiceless unaspirated; furthermore, the prefix has disappeared:

| PTB | PEr | gloss |
|---|---|---|
| *s-bal | *pimæ$^1$ | frog, toad |
| *s-dim | *tɕe$^1$ | cloud, fog |
| PLB *ʔ-ga$^2$ | *zikæ | dumb, stupid |
| *s-glak ⪥ *klak | *tʃew$^1$ | cook / boil |

The remaining roots suggest such sound changes as **\*d-b- > w-**, **\*s/r-g- > x-**, and **\*gr-, gl- > ɬ-**.

| PTB | PEr | gloss |
|---|---|---|
| *d-bu | *wilje/wulje$^2$ | head |
| *s/r-go-ŋ ? | *hẽ$^1$ | hatch / incubate |
| *gliŋ | *ɬɑ$^1$ | flute |
| *s/m-grəy | *nelje/neɬje$^1$ | melt, dissolve |

## 8.2.2 Voiceless stops

For the most part, the *voiceless stops become voiceless aspirated.

| PTB | PEr | gloss |
|---|---|---|
| **p** | | |
| *r-pak | *sẽpʰja$^1$ | leaf |
| *py(w)ak | *pʰja | sweep |
| *pwaːy | *pʰrɑ$^2$ | chaff / bran |
| *pran/t | *tsjẽpʰrje$^1$ | braid / plait |

| PTB | PEr | gloss |
|---|---|---|
| *pəw | *æpʰu$^1$ | grandfather |
| *pəw | *æpu | grandfather |
| *pəw PRICE | *pʰekʰwæ$^1$ | expensive |
| *m-pup | *ŋepʰwo$^1$ | flip over, reverse |
| *pʷa, PLB *ba$^1$ ? | *pwEpwE$^2$ | patch (clothing) |
| **t** | | |
| *ta | *tʰæ$^1$ | neg. imp. |
| *taŋ | *tɕʰopu$^2$ | pine |
| **k** | | |
| *b-ka | *dekʰra$^1$ | bitter, salty |
| *kaːk | *tsʰekʰɑ$^1$ | sputum, phlegm |
| PLB *k-ra$^2$/$^3$ | *tʰekʰwɑ$^1$ | win |
| *kam (≽ *kaːp) | *kʰe | draw water |
| *kuk | *kʰokʰo$^1$ | curved / crooked / bent |
| *kwak | *kʰo | bowl |
| *kwak | *kʰwælæ/kʰolɑ$^1$ | bowl |
| *kwa ? | *ŋ(u)kʰwɑ | hoof |
| **k + C** | | |
| *kram | *tʂʰe | fence (bamboo / twig) |
| *kram | *xutʂʰe$^1$ | garden (plot) |
| *d-kruk | *tʂʰu$^2$ | six |
| *kyəw | *detʃʰiu$^1$ | sweet |
| *m-kyit | *tʃʰitʃʰi$^1$ | move |

A smaller number have unaspirated initials. As with the exceptional examples above (voiceless initials from PTB voiced initials), this may be due to an earlier **\*s-** prefix that has not been generally reconstructed for PTB. GRIND, NEEDLE, and MOUSE have even more exceptional voiced initials.

| PTB | PEr | gloss |
|---|---|---|
| *pʷa, PLB *ba$^1$ ? | *pwEpwE$^2$ | patch (clothing) |
| *ka | *kwɑli$^1$ | crow |
| PLB *ka$^1$ | *kwɑ/kɑ$^2$ | all / the whole |
| *krak | *deke$^1$ | fear, be afraid |
| *kyak | *tʃwɑpu$^1$ | navel |
| *kriːt | *dʑe$^1$ | grind |

| PTB | PEr | gloss |
|-----|-----|-------|
| *k-rap | *ɣrɑ/ge[1] | needle |
| *yəw/PLB<br>  *(k)-rwak[H] | ***go**jo[1] | mouse |

The prenasalized forms in this set are not as neat as for the voiced initials. In some forms, the prenasalization has disappeared, leaving only voicing as a trace; other forms are prenasalized, but it seems unpredictable whether they are voiced or voiceless aspirated.

Interestingly, in several cases prenasalization seems to arise from the **\*r-** prefix, a phenomenon also seen in Jingpho (Matisoff 2003:129).

| PTB | PEr | gloss |
|-----|-----|-------|
| *r-pʷa | ***bu**tsʰɑ[1] | axe |
| *m-t(w)əy | *dʒiu[1] | water, river |
| *m-twa | *dʒwæ | span |
| *kʷəy ?<br>  *(t)si/up? | *(xwɑjo)**ntʃʰo**[1] | nest (bird) |
| *m-ts(y)il | *dʑiki[1] | saliva |
| *m-pat | *mpʰi[2] | vomit, spit |
| *k-r-pʷat | *mbi[1] | leech |
| *s-pʷal | *mpʰje[1] | ice |
| *s-pʷak | *khe**mpʰe** | hide oneself |
| PLB *tak[H] | *ntʰwɑ[1] | sharp, pointed |
| PLB *tok TSR<br>  #15 | *ntʰontʰo[1] | peck at (of a chicken) |
| *kyiːn | *ndʒew | weigh (v.) |
| *kəw | *meŋkʰe[2] | smoke |
| *m-ka, Mpi nko | *ŋgæ[1] | door |
| *m-kum ⋈<br>  *m-kim | *ŋgje[2] | pillow |
| PLB *m-k-rəy | *ŋgriupje[1] | skin |
| *r-kəw | *mpʰru[1] | steal[26] |

Just as for the voiceless stops above, prefixal **\*s-** suppresses aspiration. In this set, the prefix seems to remain in several cases.

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[26]The prenasalization and the rhyme for this form are plausible developments, but the change of **\*r-k-** > **mpr-** does not seem very likely on the whole. Also note the form 'smoke' above, with a similar PTB root and a much more plausible development into Proto-Ersuic.

| PTB | PEr | gloss |
| --- | --- | --- |
| *s-toŋ | *htũ² | thousand; ten cents |
| *r-tsyəy | *hte | count |
| *s-tu | *htɕi¹ | vagina |
| PQc *N/s-tsak | *hto/htæ | jump |
| *g/kuŋ, *kor | *hko¹ | hole |
| *s-kaːk | *sẽkæle¹ | branch / twig[27] |
| *kləy | *htʃiu² | feces |
| *s-kyuːr ≍ *s-kwyaːr | *detʃew¹ | sour |
| *krəy, PLB *ʔgrəy¹ | *kriu² | gall bladder[28] |
| *s-krul | *tʂu¹ | sweat |
| *kraŋ | *htʂomo² | strength (physical) |
| *s-glak ≍ *klak | *tʃew¹ | cook / boil |

Some bilabial stops with **-l-** medials have unique developments. In ESCAPE, the lateral disappears; this contrasts with WHITE and ASHES, where the **p** has disappeared. In other forms, the **\*-l-** medial seems to have turned into **-r-**.

| PTB | PEr | gloss |
| --- | --- | --- |
| *ploŋ ? | *pʰo¹ | escape / run away |
| *plu | *deliu¹ | white |
| *pla, PLB *C-la¹ | *li¹ | ashes |
| *bliŋ | *de**bra**¹ | full |
| PLB *p(l/y)uːŋ² (MLBM 62) | *pʰru | face |
| PL *m-laŋ/plaŋ¹ 'husband' (PL 217) | *mpʰrozæ¹ | young lad / chap |
| *m-la-y | *mrɑ¹ | bow / arrow[29] |
| *b-ləy, PLB *p-re | *pjẽ | run |

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[27]The **\*s-** prefix here may ultimately be from PTB **\*siŋ** ≍ **\*sik** TREE.

[28]Matisoff (p.c.) notes that contra Matisoff (1988:339), the PLB reconstruction should be **\*ʔgrəy¹**, since Lahu has a plain initial + mid tone (**kɨ**), while WB has an aspirate (**khre**). This is noted in Matisoff (2003:436) under 'bile/gall', although the PLB reconstruction is not listed in the index.

[29]This PTB form exhibits proto-variation between lateral and dental stop initial: **\*m-la** ≍ **\*m-da**.

## 8.2.3   Retroflex consonants

So far, we have focused mainly on voicing and aspiration. We now make a brief digression to talk about place of articulation.

Retroflexes in Proto-Ersuic come mostly from two sources: velar + **\*-r-** clusters, and **\*sr-** clusters. In this section, we will discuss examples with velar initials (**\*sr-** clusters will be discussed under *Fricatives*, below).

Note that before the Proto-Ersuic rhymes **\*-i** and **\*-iu**, velars are preserved:

| PTB | PEr | gloss |
|---|---|---|
| *gra | *tʰegri¹ | hear |
| PLB *ʔgrəy¹ | *kri¹ | star |
| *krəy, PLB *ʔgrəy¹ | *kriu² | gall bladder |
| PLB *m-k-rəy | *ŋgriupje¹ | skin |

Everywhere else these clusters have became retroflexes—or at least, none of the modern dialects have any evidence that these initials were once velar. It is possible that at the Proto-Ersuic stage, all of these clusters were still velar + **-r-**, and that the *Kr > Tʂ* retroflexion change happened much later but swept across all varieties of Ersuic, obscuring the original clusters. As explained in section 7.1, the apicalization change (which turned *ri > ɳ [rʐ̩]*) had to precede the retroflexion change. If the output of the apicalization went on to lose its frication (i.e. *ɳ > ɚ*), the original velar + **-r-** cluster would be effectively dissolved, having been replaced by velar + rhotic vowel, and thereby escaping the retroflexion change. This explains why a high vowel environment (**\*-i** and **\*-iu**) would preserve these original velars, rather than palatalizing them.

| PTB | PEr | gloss |
|---|---|---|
| *kriːt | *dʐe¹ | grind |
| *s-krul | *tʂu¹ | sweat |
| *kraŋ | *htʂomo² | strength (physical) |
| *kram | *tʂʰe | fence (bamboo / twig) |
| *m-krak, PLB *m-prakᴴ | *(n)tʂʰo¹ | scratch |
| *kram | *xutʂʰe¹ | garden (plot) |
| *kriːt | *dʐe¹ | grind |
| *d-kruk | *tʂʰu² | six |
| *s-krul | *tʂu¹ | sweat |

However, note that there are some roots where a PTB **\*-r-** medial seems to have disappeared completely:

| PTB | PEr | gloss |
|---|---|---|
| *gra | *gæwu | enemy (personal) |
| <WT gru | *gu[1] | boat / ship |
| PLB *g-ra[2] ? | *ŋgi[1] | buckwheat |
| *s-g-ruk | *deŋgwo[1] | pick up |
| *g-raŋ | **gwEmæ**[2] | back |
| *g-rus | *rik**u**/rik**ʰu**[1] | bone[30] |
| PLB *k-ra[2]/[3] | *tʰekʰwɑ[1] | win |
| *krak | *deke[1] | fear, be afraid |
| *k-rap | *ge[1] | needle |

Two more examples of Proto-Ersuic retroflexes are listed below. FOUR derives from PTB **b-l-** (but compare with the homophonous RUN above, which gives PEr **pjẽ**).

| PTB | PEr | gloss |
|---|---|---|
| *b-ləy | *z̩iu[2] | four |
| *s-hywəy | *ʂiu[1] | blood |

Note that the reconstruction of PEr **riu** WRITE as opposed to **z̩iu** FOUR (i.e. a distinction between **r-** and **z̩-** in Proto-Ersuic) is based partly on the TBL rhyme contrast (and partly on the Qŝ. and Kl. initials). It is nice to see that the PTB roots are also consistent with this distinction.

| PEr | Ersu | Kl./Nq. | Mn. | TBL | PTB | gloss |
|---|---|---|---|---|---|---|
| *riu[1] | ro↓; z̩o⁵⁵z̩o⁵⁵ | rə | z̩ɨ | ɣɯ¹³⁵ | *b-rəy | write |
| *z̩iu[2] | z̩o↓; z̩o³³ | `z̩e | `z̩ɨ | z̩u³⁵ | *b-ləy | four |

## 8.2.4 Alveopalatal affricates and PTB velar clusters

Proto-Ersuic alveopalatal affricates generally descend from PTB velar + **-y-** or velar + **-l-** clusters:[31]

| PTB | PEr | gloss |
|---|---|---|
| *kyəw | *detʃʰiu[1] | sweet |
| *s-kyuːr ⪤ *s-kwyaːr | *detʃew[1] | sour |

---

[30]In this case the **-r-** might not have disappeared but metathesized.

[31]Note that the last two forms, NAVEL and WEIGH, could be reconstructed with either a retroflex or alveopalatal initial in Proto-Ersuic, since there are no supporting forms from Ersu for these two roots. With the rhymes **-wɑ** and **-ew**, an alveopalatal vs. retroflex reconstruction can only be determined by a cognate in Ersu, which maintains the distinction (see section 3.6.2). These two roots have been reconstructed with alveopalatal initials because they fit the pattern of the first four roots in this set.

| PTB | PEr | gloss |
|---|---|---|
| *m-kyit | *tʃʰitʃʰi¹ | move |
| *gyuk | *dʒu¹ | waist |
| *kləy | *htʃiu² | feces |
| *s-glak ≍ *klak | *tʃew¹ | cook / boil |
| *kyak | *tʃwɑpu¹ | navel |
| *kyiːn | *ndʒew | weigh (v.) |

PTB **tw-** clusters also seem to yield PEr *alveopalatals, as shown in WATER and SPAN. The alveopalatal HAVE/EXIST seems have developed from a PTB palatal, but most PTB palatal affricates have merged with dental affricates (see below). The form for NEST is more speculative.

| PTB | PEr | gloss |
|---|---|---|
| *m-t(w)əy | *dʒiu¹ | water, river |
| *m-twa | *dʒwæ | span |
| *m-dzyaŋ | *dʒo¹ | have, exist (animate) |
| *kʷəy ? *(t)si/up? | *(xwɑjo)**ntʃʰo**¹ | nest (bird) |

The remaining forms are exceptions of various sorts. DROP/FALL has a **gl-** cluster but seems to develop into a PEr retroflex, rather than alveopalatal. FLUTE has a **gl-** cluster but has a voiceless lateral initial in Ersuic; this is similar to MELT, which has a **gr-** cluster but has a PEr voiceless lateral instead of the expected retroflex.

| PTB | PEr | gloss |
|---|---|---|
| *k/gla-k/y/t | *ne**dʐæ**¹ | drop / fall |
| *gliŋ | *ɬɑ¹ | flute |
| *s/m-grəy | *ne**lje**/ne**ɬje**¹ | melt, dissolve |

## 8.2.5  Dental affricates: ts, dz

Just as for the stops, the *voiceless affricates have voiceless aspirated reflexes, and the *voiced affricates have voiced reflexes.

| PTB | PEr | gloss |
|---|---|---|
| **ts** | | |
| *tsa | *tsʰi² | salt |
| PLB *tsaŋ¹ | *tsʰo¹ | human being, person |
| PLB *tsəy² | *tsʰe² | wash (clothes) |
| *tsiːt | *tsʰẽ¹ | goat |

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| PTB | PEr | gloss |
|---|---|---|
| *tsik | *tsʰi¹ | joint |
| *tsow | *detsʰu¹ | fat |
| *tsa-t | *tsʰæ² | hot |
| **dz** | | |
| *m-dzam | *dzjẽ¹ | bridge |
| *dz(y)im | *dzjẽdzjẽ | raw / uncooked |

The prenasalized forms have unpredictable voicing and aspiration, just like for the stops.

| PTB | PEr | gloss |
|---|---|---|
| PLB *m-dzəw² | *ndzomo² | official (government) |
| *m-dzu/ip SUCK | *ntsʰew | squeeze (for milk) |
| *m-tsak DRIP | *ntsʰe² | leak |
| *tsut | *ntsʰu² | lung |
| *tsow THORN | *ndzu | pricked (on a thorn) |

Some forms exhibit various irregularities in their initials. HAIR and MORTAR are unaspirated, while COUGH and CHOP have the opposite voicing from what is expected. Finally, PAIR has an unexpected retroflex initial.

| PTB | PEr | gloss |
|---|---|---|
| *tsam | *tsjẽ¹ | hair |
| *tsum ? | *tsumu/tsumo² | mortar |
| PLB *ʔ-dzəy² | *detsʰe² | cough |
| *ts(y)ap | *dzẽ¹ | chop / hew |
| *dzum ≍ *tsum | *dʐe | pair |

## 8.2.6 Palatal affricates: tsy, dzy

PTB palatal affricates have mostly merged with the dentals. The lack of aspiration on CONNECT may be due to a PTB **\*s-** prefix (cf. the glottal stop prefix in Lolo-Burmese), but there is no external evidence for a PTB **\*s-** prefix in BOIL.

| PTB | PEr | gloss |
|---|---|---|
| **plain** | | |
| *dzya | *dzi² | eat |
| *tsyap or PLB *ʔ-dzakᴸ ? | *kʰetsu | connect / join |

| PTB | PEr | gloss |
|---|---|---|
| *tsyow | *detsu[1] | boil |
| **prenasalized** | | |
| *dzyi | *ndze[1] | ride (a horse) |
| *N-dzyam | *ndzẽ[1] | wedge |
| *m-tsyen | *ledzi/letsɑ[2] | nail |

A few forms with PTB *palatals have palatal or (in the case of HAVE/EXIST) alveopalatal initials in Proto-Ersuic.

| PTB | PEr | gloss |
|---|---|---|
| *ts(y)i/əy/ay | *tɕʰetɕʰe[1] | ten |
| *dz(y)u | *rwatɕo[1] | egg |
| *m-dzyaŋ | *dʒo[1] | have, exist (animate) |

## 8.2.7 Secondary palatals

There are several sources of palatal affricates in Proto-Ersuic. A couple of forms seem to involve PTB *palatal affricates, but as we shall see below, PTB palatal affricates merged with dental affricates in Proto-Ersuic. For SALIVA, at least, the palatal probably emerged due to the influence of the high front vowel following the initial consonant, just as in CLOUD and SET (OF SUN).[32]

| PTB | PEr | gloss |
|---|---|---|
| *m-ts(y)il | ***dʑ**iki[1] | saliva |
| PLB *C-cak[L] | *tʰe**dʑo**[1] | push / shove |
| *s-dim | *tɕe[1] | cloud, fog |
| *g(l)im ⪦ *g(l)um | *ne**tɕʰiu**/ ne**tɕiu**[1] | set (of the sun) |

Some complex clusters with PTB **-y-** medials also become palatals. The sound changes involved here would look something like **\*r-gy-** > **ʑ-** and **\*g-ry** > **/dʑ-**.

| PTB | PEr | gloss |
|---|---|---|
| *b-r-gya | ***ʑ**a[1] | hundred |
| *g-r(y)ap | *kʰe**ndʑa**[1] | stand |

The emergence of palatals in the following forms is more mysterious. In DOG it may have to do with the combination of the high vowel rhyme **\*-əy** with the labiovelarized initial consonant.

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[32]It is interesting to note that coronals are palatalized in this environment, but not velars. See, e.g., the forms on p. 177 from PTB **-im**. A comparison may be made to Japanese, which has palatalized **\*ti** > [tʃi], but not **\*ki**.

| PTB | PEr | gloss |
|---|---|---|
| *d-kʷəy | *tɕʷʰiu² | dog |
| *s-kəy | *ɕʷiu¹ | borrow (money) |
| *s-la | *ʑa¹ | pants / trousers |

Finally, there remain several cases of seemingly unconditioned, sporadic palatalization:

| PTB | PEr | gloss |
|---|---|---|
| *taŋ | ***tɕʰo**pu² | pine |
| *r-pak | *sẽ**pʰja**¹ | leaf |
| *s-tu | *htɕi¹ | vagina |
| *duk ⪢ *tuk | *dʑu¹ | poison |
| *r/N/d/s-ga | *gæ/gja¹ | like / love |

## 8.2.8 Fricatives

| PTB | PEr | gloss |
|---|---|---|
| **s** | | |
| *g/b-sat | *si¹ | hit, kill |
| *r-sak | *sẽ¹ | air, breath, steam |
| *səy | *tʰeʂiu¹ | die, dead[33] |
| *si(y) | ʂi² | comb (v.) |
| *sey | *sẽ**se**¹ | fruit |
| *g-sik | *si | new |
| *siŋ ⪢ *sik | *sẽ¹ | wood / log |
| PLB *C-sipᴸ | *deʃo | thirsty[34] |
| PLB *si² | *desu¹ | sharpen, whet (a knife) |
| *su | *se² | who |
| PLB *C-sok | *tɑso¹ | morning |
| *g-sum | *sjẽ² | three |
| **z** | | |
| *za | *zi² | son |
| *zum ⪢ *zuŋ | *zẽ¹ | use |

---

[33]Note the unexpected retroflex initial here and in the next item, 'comb (v.)'.

[34]The alveopalatal initial here is unexplained.

In addition to the expected **s-** and **z-** reflexes above, we also find PTB **\*sy-** > PEr **\*ʃ** and PTB **\*swa** > PEr **\*xui**.

| PTB | PEr | gloss |
|---|---|---|
| **sy** | | |
| \*sya-n | \*ʃi$^2$ | meat |
| \*syam | \*ʃje$^1$ | iron |
| \*syaŋ | \*ʃoʃo$^1$ | clean |
| **sw** | | |
| \*swa-n | \*xui$^1$ | garlic |
| \*swa | \*xui$^1$ | tooth |
| \*s-wa GO | \*xui | walk |

The prenasalized fricatives have developed into prenasalized affricates. An excrescent consonant is also found in the word for HORSE, where a **b** is inserted between **m** and **r**.[35] There is a phonetic explanation for this change: to go from a nasal stop to a (non-nasal) fricative, the velum must be raised simultaneously with the oral release into the fricative. If the velic gesture is early, causing the nasal passage to be prematurely blocked off, the effect is to create a stop consonant followed by a fricated release—in other words, an affricate.

| PTB | PEr | gloss |
|---|---|---|
| \*g-zik | \*ndzi$^1$ | leopard / panther |
| \*m-sin | \*ntsʰɑ$^1$ | liver |

## 8.2.9 Glides

Moving on to the sonorants, we find that **\*w-** remains **w-** in Proto-Ersuic, sometimes acquiring a voiced velar fricative in front of it. VILLAGE, with a voiceless fricative initial, is an exception.

| PTB | PEr | gloss |
|---|---|---|
| \*k-wa | \*deɣwæ$^1$ | full, satiated |
| \*wa (see LITB) | \*wæ$^1$ | snare / trap |
| \*pʷak, PLB \*wak$^L$ | \*ɣwo$^1$ | pig |
| \*r/g-wa ? | \*xu$^1$ | village |

The palatal glide remains a palatal glide in Proto-Ersuic, with the exception of LIQUOR.

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[35]Textbook examples of excrescent consonants between nasal and oral stops include the **b** in *chamber* (cf. *camera*, from the same Latin root), and the **d** in *thunder* < OE **thunrian**.

| PTB | PEr | gloss |
|---|---|---|
| *yaŋ | *jõ¹ | sheep |
| *k-yim ⋊ *k-yum | *jẽ¹ | house |
| *yip + *mak | *jimɑ¹ | dream |
| (*s-yip ⋊) *s-yup | *kʰejo | sleep, lie down |
| *z(y)əy ?, cf. Lahu i | *jiji¹ | small |
| *yəw ? | *ɣo¹ | liquor |

## 8.2.10   Liquids

There are three different reflexes of **\*sl-** clusters below. Most common is the voiceless lateral. Another possibility is for the lateral to become an obstruent, forming a **\*ht-** cluster; we will see this phenomenon again with the nasals, below. Finally, the form for PANTS seems to show **\*s-l-** > **ʐ.** We can try to explain this as a difference between prefixal vs. root **s-**. However, this can only account for two of the three reflexes, and we must endeavor to look elsewhere to explain the third.

| PTB | PEr | gloss |
|---|---|---|
| **l>l** | | |
| *l(y)aŋ | *kʰelo¹ | wait |
| *g-lak | *le(pje) | hand |
| *l(y)ak | *lje¹ | good |
| *g-lwat | *tʰele¹ | release / set free |
| *lam ? | *liu | fathom |
| *k-la | *læ¹ | tiger |
| *la-y | *læ¹ | come |
| *d/s-ləy | *sjelje | bow (weapon) |
| *m-ley ⋊ *m-ləy | *melje | earth, ground |
| *b-ləy | *litʰo/lotʰo¹ | grandchild |
| *g-ləy | *meli/mele² | wind |
| PLB *ʔ-li¹ | *le¹ | old |
| *s-loŋ | *lolo/lulu¹ | bark (of dog) |
| *s-luk/ŋ | *bulo | maggot |
| *r-lung, *k-luk | *lo¹ | stone |
| *lum | *-lje | round object |
| **sl > ɬ** | | |
| *s/g-la | *ɬæpʰe¹ | moon |

| PTB | PEr | gloss |
|---|---|---|
| *m/s-laːy | *goɬæ² | middle |
| *s-ləy | *ntsʰoɬiu¹ | flea |
| *s-lay ≍ *s-ley | *ɬjeki¹ | ladder |
| *m-hla / WT lha | *ɬæ | spirit, deity |
| **sl > ht** | | |
| *s-l(y)a | *ht(s)ipi² | tongue |
| *m-liŋ | *ht(w)ɑrA² | neck[36] |
| **other** | | |
| *s-la | *ʐa¹ | pants / trousers |
| *lway ? | *ɣuiɣui | easy |

EASY has a lateral initial in PTB, but the **\*-w-** medial seems to have taken over.

PTB **\*r** remains as PEr **\*r** in general. Note the excrescent **-b-** in HORSE and HIGH/TALL, which has shown up between the **\*r** and its nasal prefix (see the discussion on excrescent consonants under Fricatives, above).

| PTB | PEr | gloss |
|---|---|---|
| **r** | | |
| *r(y)a | *ri¹ | laugh / smile |
| *k-rak | *rwɑ¹ | chicken |
| *g/p-rwak | *berA/burA | ant |
| PLB *ra³ | *rA¹ | get / obtain |
| *g-ray GOD/COPULA | *rAɬæ¹ | soul / spirit |
| *b-rəy | *riu¹ | write |
| *rəy | *re¹ | water / soup |
| *g-ruŋ | *ru(bu)/du¹ | horn |
| *g-rus | *riku/rikʰu¹ | bone |
| **mr** | | |
| *k-m-raŋ | *m(b)ro² | horse |
| *m-raŋ | *mbro | high / tall |

Some forms appear to have developed PEr **\*ɣ-** from PTB **\*r-**.

| PTB | PEr | gloss |
|---|---|---|
| *ryaŋ ? | *ɣwEmo/ æɣwE¹ | uncle <mother's brother> |

---

[36]This form fits here assuming an **\*s-** prefix: **\*s-liŋ > \*htɑ**, with the **\*sl-** cluster obstruentizing.

| PTB | PEr | gloss |
|---|---|---|
| *b-rey | *ɣui[1] | buy |
| *ril ≍ *rul | *ɣeniu/ɣoniu[1] | intestine |

BE and CRAZY seem to have some irregular developments in their initials:

| PTB | PEr | gloss |
|---|---|---|
| *s-ri(y) | *ʐʷi[1] | be (copula) |
| *ru | *rdumo[2] | crazy person, lunatic |

**sr-** clusters uniformly yield **ʂ-**.

| PTB | PEr | gloss |
|---|---|---|
| *s-riŋ | *ʂɑ | long |
| *sram | *ʂe[1] | otter |
| *s-r(y)ik, *s-row | *ʂewmæ[1] | louse |
| PLB *x-ra[1] ? | *htʃæ/ʂæ[1] | search, look for |
| *sywar SCAT-TER | ʂɑ | pour (water) |

## 8.2.11  Nasals

The nasals are for the most part very straightforward:

| PTB | PEr | gloss |
|---|---|---|
| **m** | | |
| *ma | *æmæ[1] | mother |
| *ma-t | *tʰeme[2] | forget |
| *r-ma | *mjari/**me**ri[1] | sore / boil |
| *mra, PLB *C-mya[2] | *mje/mja | many / much |
| *d-mak | *mo | soldier, army |
| *s-mak | *mopæ[2] | son-in-law |
| *maŋ | *tʰemo/momo[1] | old / elderly |
| *ma-y | *mæ | neg. |
| PLB *s/ʔ-mi[1] | *mi[1] | catch |
| *mey | *me[1] | fire |
| *r/s-miŋ | *mi[1] | name |
| *mit, *l-ko(k) | *myihkwo[1] | throat |

| PTB | PEr | gloss |
|---|---|---|
| *s-miːt | *muimui[1] | close (the mouth) |
| *s-mik ⪰ *s-myak | *mja[1] | eye |
| *r-məw | *me/mo | sky |
| *mow | *mu[1] | do / make |
| *s-mul | *mui[2] | feather, hair (of body) |
| *s-mut | *demwo[1] | blow (away) |
| PLB *myuk[L], *s-myuk[H] | *mi | monkey |

**n**

| | | |
|---|---|---|
| *na-t | *deni[1] | sick, ache |
| *g-na-s | *breni[1] | rest |
| *r/g-na | *bæni[1] | listen |
| *r/g-na | *nɑ[2] | ear |
| *nyey/*na-w | ***ni**nɑ[1] | younger sibling |
| *s-nak | *denwɑ[1] | black |
| *s-nak | *nene | deep |
| *naŋ | *ne/no[2] | you |
| *r-ni | *deni[1] | red |
| *nəy SUN | *niu | day, day's (work) |
| *r-ney-t | *niu[1] | have, exist (general/abstract) |
| *s-ney | *(ri)ni[1] | near |
| *s-nem | *nini | low / short |
| *s-ni/u(ː)p | *niu[1] | west |
| *g/s-nis | *ne[1] | two |
| *nəw | *dʒaɳu[1] | breast, milk |
| *now | *njonjo[2] | soft |
| *s-nuk BEAN | *nopri[1] | garden peas |
| *s-nuk | *nwo[1] | brains |

**ŋ**

| | | |
|---|---|---|
| *l/b-ŋa | *ŋra[2] | five |
| *s-ŋ(y)a FISH | *deŋra[1] | stinky, fishy-smelling |
| *ŋəw | *ŋu[1] | cry, weep |
| *d-ŋul | *ŋui[1] | silver |
| *ŋwa | *ŋui[2] | cattle, cow |

| PTB | PEr | gloss |
|---|---|---|
| *d/g-wam | *xui/ŋui[1] | bear |

It is unclear where the nasal initial in BEAR comes from (the nasal initial is found only in Lizu, not Ersu). Perhaps initial *w- became a velar nasal *ŋ- under the influence of a nasalized rhyme (i.e. *wam > **wuĩ > *ŋui), much like the palatal glide *j- became *ɲ- in Lizu before nasalized vowels (see p. 49).

*s-prefixed nasals denasalize to fricative + stop clusters. This obstruentization also occurred in Kanauri (see Matisoff 2003:103 and Benedict 1972:105). Note that there are no *sŋ- initials that have developed into k-, for reasons unknown.

| PTB | PEr | gloss |
|---|---|---|
| *s-man | *hpje[2] | medicine |
| *s-na | *stim(b)u[1] | nose |
| *s-nap + *rəy | *stiu(d)zære[1] | snot (liquid) |
| *s-nis | *sini/htẽ[2] | seven |
| *s-ni-ŋ | *sini/htimi[1] | heart |

## 8.2.12   Glottals

Most of the forms in this section are of a more speculative nature. As discussed in sections 3.10 and 4.3, Proto-Ersuic *h automatically come with *nasalized vowels. The origin of these nasalized vowels is unclear; some possible PTB roots are offered below. In some cases it seems that these *h + Ṽ combinations are the result of roots with *s-prefixed nasal initials, but these must be kept separate from *s-prefixed nasal initials that become preaspirated stops (above). Compare, for example, HEART *s-ni-ŋ (above) with the root for YEAR (below), where the former has a Proto-Ersuic form *hti, but the latter is PEr *hĩ.

| PTB | PEr | gloss |
|---|---|---|
| *s-niŋ YEAR | *tsʰehĩ[1] | this year |
| *r/s-ŋ(y)a | *hjẽ[1] | borrow (tools) |
| *g/s-məw ? | *hẽ[1] | mushroom |
| *s-m-raŋ ? | *hwõ[1] | stretch out (the arm) |
| *s-r(y)ak 24-HOURS | *t(w)ɑh(w)ã[1] | tonight |
| *hya SWIDDEN | *(ju/ʐu)xwɑ[1] | paddy fields |

## 8.3 Summary of Sound Changes

The regular developments of PTB rhymes into Proto-Ersuic are summarized below:

|        | *a        | *i    | *e | *u        | *o  |
|--------|-----------|-------|----|-----------|-----|
| **open** | i       | i     |    | u         |     |
| *-y    | æ/i       | iu/e  | i  |           |     |
| *-w    |           |       |    | e/iu/u/o  | u   |
| *-l    | i         |       |    | ui        |     |
| *-r    | ræ/ro     |       |    | ew        |     |
| *-m    | jẽ        | jẽ    | i  | jẽ        |     |
| *-n    | je        | ɑ     | ɑ  |           |     |
| *-ŋ    | o         | ɑ     |    | u         | o/u |
| *-p    | e/ɑ       | o?    |    | o/u?      |     |
| *-t    | i         | i/e   |    | u/wo      |     |
| *-k    | e/wɑ/a/o  | i     | i  | (w)o/u    | o   |
| *-s    |           | e?    |    | u         |     |

Table 1: Proto-Ersuic reflexes of PTB rhymes

The presence of the medial glides /**y**/ and /**w**/ do not seem to affect rhyme developments very much.

Regular consonant developments are summarized in Table 2, with prefixal elements (none, **s-** prefix, or nasal prefix) as columns, and individual consonants or consonant clusters as rows.

|       | *plain | *s- | *N- |
|-------|--------|-----|-----|
| *p    | pʰ     |     | (m)b/mpʰ |
| *t    | tʰ     | ht  | ntʰ |
| *k    | kʰ     | hk  | ŋg, ŋkʰ |
| *b    | b      | p   | mb  |
| *d    | d      | t   |     |
| *g    | g      | k   | ŋg  |
| *kr       | tʂʰ | htʂ | ntʂʰ |
| *ky, *kl  | tʃʰ | tʃ  | ndʒ |
| *tw       |     |     | dʒ  |
| *s      | s   |     | ntsʰ |
| *z      | z   |     | ndz |
| *sy     | ʃ   |     |     |
| *sw     | x   |     |     |
| *sr     | ʂ   |     |     |
| *ts(y)  | tsʰ | ht  | dz/ntsʰ |
| *dz(y)  | dz  |     | ndz |
| *w   | (ɣ)w |          |     |
| *y   | j    |          |     |
| *r   | r    | (= *sr-) | mbr |
| *l   | l    | ɬ/ht     |     |
| *m   | m   | hp |     |
| *n   | n   | ht |     |
| *ŋ   | ŋ   |    |     |

Table 2: Proto-Ersuic reflexes of PTB initial consonants and prefixes

# Chapter 9

# Ersuic, Qiangic, and PTB

With a reconstruction of Proto-Ersuic in hand, we can now turn our attention to the larger issues of subgrouping in Tibeto-Burman and the place of Ersuic within Tibeto-Burman. In this chapter I will provide an overview of various subgrouping hypotheses as they apply to Ersuic and discuss the evidence provided by the present reconstruction in light of these hypotheses.

There is no consensus on where to place Ersuic on the TB family tree, and there likely will not be until full-scale reconstruction is done on all the languages that are potentially closely related to Ersuic. This is because the genetic affiliation of languages in this region can often be obscured by contact phenomena such as lexical borrowing and areal sound changes. Because of this lack of meso-level reconstructions, the analysis provided here is necessarily tentative.

There are three major branches/subgroups of Tibeto-Burman involved in this discussion: (1) Lolo-Burmese, a very well-established branch of TB (see Matisoff 2003, Bradley 1979, etc.);[1] (2) Naish, consisting of Naxi, Na, and Laze, reconstructed by Jacques and Michaud (2011), and generally believed to be closely related to Lolo-Burmese; and (3) Qiangic, a proposed branch of TB that has generated considerable debate. In section 9.1, I will discuss the scholarly views on which languages belong in Qiangic. For the set of languages that most scholars agree belong to Qiangic, I use the term "core Qiangic". In addition to "core Qiangic", there is rGyalrongic, a widely accepted grouping whose wider genetic affiliation is still in question; and three languages (Ersu, Namuyi, and Shixing) under the label of "Southern Qiangic" that, as the name implies, is usually considered to be part of Qiangic, but may align more closely with Naish. Adding another layer of complexity is the question of whether Qiangic and Lolo-Burmese–Naxi should form a larger "Burmo-Qiangic" branch of TB, and if so, where Qiangic would fit in the Lolo-Burmese–Naxi complex. Data from Proto-Ersuic that is relevant to this hypothesis is presented in section 9.2. Finally, section 9.3 offers some speculations as to what Proto-Ersuic may tell us about these subgrouping questions.

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[1]Bradley favors the term "Ngwi" instead of "Loloish", as seen in Figure 9.4.

# 9.1 What is Qiangic?

Most people who have worked on the internal structure of Tibeto-Burman agree that there are a set of languages, all spoken in present-day southwest China, which seem to comprise a major branch of TB. The term "Qiangic" for this branch comes from Sūn (1962).[2] Within Qiangic are a dozen or so languages. Figure 9.1 shows the geographic distribution of the languages in question. Readers interested in the specific counties where these languages are spoken should refer to Tables 9.2 and 9.3 (data from Sūn 2001).

Names for Qiangic languages are especially plentiful, partly because of the existence of language and place names in both Chinese and Tibetan, partly because of dialectal variations, and partly because of the relative infancy of the field. Table 9.1 lists the names of the languages as used in this dissertation, along with examples of autonyms (which, again, will vary by dialect) and alternate names which are used in the literature. This list is, unfortunately, not exhaustive.

| Language | Autonyms | Alternate names in the literature |
|---|---|---|
| Northern Qiang | rma, ẓma | 羌 Qiāng, Ch'iang |
| Southern Qiang | ma | |
| rGyalrong | kəru, kərə | 嘉戎 Jiāróng, Gyarong |
| Lavrung | ? | 拉鳥戎 Lāwūróng |
| Ergong | stɛ wu va | 尔龚 Ěrgōng, 道孚 Dàofú, Stau, Horpa |
| Choyo | tɕo$^{55}$yo$^{55}$ | 郤隅 Quèyú, 却域 Quèyù, formerly mistakenly identified as 扎巴 Zhábā |
| nDrapa | ndʐa$^{33}$pa$^{53}$ | 扎巴 Zhábā, 扎坝 Zhábà |
| Guiqiong | gu$^{33}$tɕʰɔ̃$^{55}$ | 贵琼 Guìqióng |
| Minyak | mə$^{33}$ɲæ$^{53}$, mu$^{55}$ɲa$^{55}$ | 木雅 Mùyǎ, Mu-nya, Mi-nyag |
| Ersu | ə$^{ɹ55}$su$^{55}$ | 尔苏 Ěrsū, Eastern Ěrsū |
| Tosu | do$^{55}$ɕu$^{55}$ | 多续 Duōxù, Central Ěrsū |
| Lizu | li$^{55}$zu$^{55}$, lə$^{55}$zu$^{55}$ | 吕苏 Lǚsū, Western Ěrsū |
| Namuyi | næ$^{55}$mu$^{33}$zɿ$^{31}$, na$^{53}$mʑi$^{53}$ | 纳木依 Nàmùyī, 纳木义 Nàmùyì, 纳木兹 Nàmùzī |
| Shixing | ʂɿ$^{55}$hĩ$^{55}$ | 史興 Shǐxīng, Shuhi |
| Prinmi | pʰzɿ̃$^{55}$mi$^{55}$ | 普米 Pǔmǐ, Prmi[3] |

Table 9.1: Alternate language names

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[2]As Sūn (2001) notes, Thomas (1948) was the first person to propose a separate "Hsifan" subgroup in TB, pointing out non-Tibetan lexical items found in wordlists. Sūn (1962) and later articles attempt to establish Qiangic more rigorously, though as Chirkova (2009) points out, Qiangic originally included only Qiang, Prinmi, and Minyak, with other languages added later as more was discovered about them.

Speakers of Qiangic languages were originally grouped into a catch-all category of "Western Barbarians" (西番 *Xīfān* or *Hsifan*), which in older Chinese texts (dating back to the Táng period) referred to various peoples on the Gānsù border, and in the early twentieth century was sometimes used to refer to certain non-Tibetan groups who lived in the border area between Tibet and China. For a detailed discussion of the term *Hsifan* and its various senses, see Thomas (1948).

[3]"Prmi" is not a typo! This spelling is used in Harrell (2001).
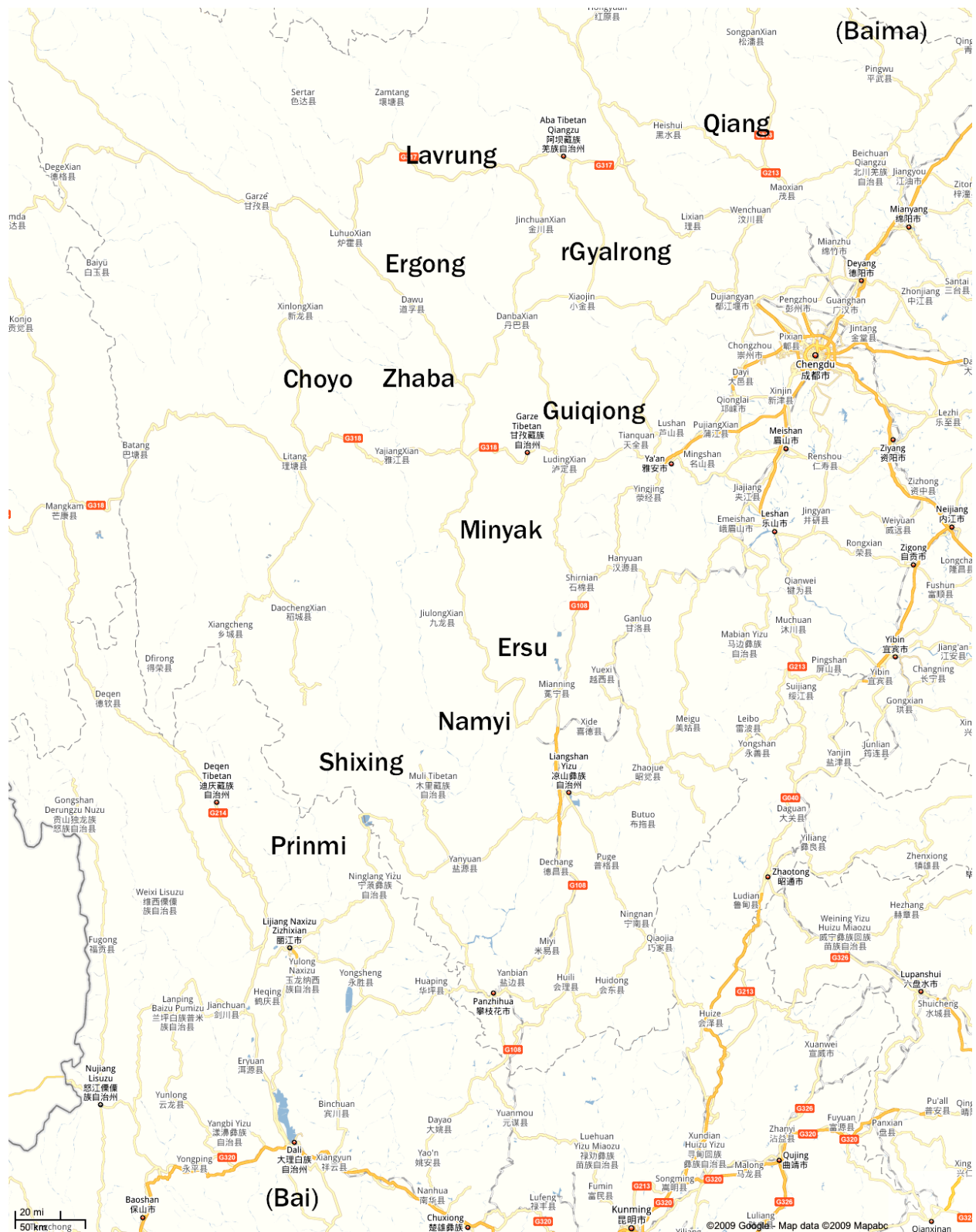
Figure 9.1: Map of Qiangic-speaking areas

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| | County | Chinese | Tibetan | Languages |
|---|---|---|---|---|
| Ngawa | Barkam | 马尔康 Mǎ'ěrkāng | འབར་ཁམས་ | rGyalrong, Lavrung, Ergong |
| | Heishui | 黑水 Hēishuǐ | ཁྲོ་ཆུ་ | Qiang |
| | Jinchuan | 金川 Jīnchuān | ཆུ་ཆེན་ | rGyalrong, Lavrung, Ergong |
| | Li | 理 Lǐ | | Qiang, rGyalrong |
| | Mao | 茂 Mào | | Qiang |
| | Songpan | 松潘 Sōngpān | ཟུང་ཆུ་ | Qiang |
| | Wenchuan | 汶川 Wènchuān | | Qiang, rGyalrong |
| | Xiaojin | 小金 Xiǎojīn | བཙན་ལྷ་ | rGyalrong |
| | Zamtang | 壤塘 Rǎngtáng | འཛམ་ཐང་ | rGyalrong, Lavrung, Ergong |
| Garzê | Danba | 丹巴 Dānbā | རོང་བྲག | rGyalrong, Ergong |
| | Dawu | 道孚 Dàofú | རྟའུ་ | rGyalrong, Ergong, Choyo, nDrapa |
| | Jiulong | 九龙 Jiǔlóng | བརྒྱད་ཟུར་ | Minyak, Ersu, Namuyi, Prinmi |
| | Kangding | 康定 Kāngdìng | དར་མདོ་ | Guiqiong, Minyak |
| | Litang | 理塘 Lǐtáng | ལི་ཐང་ | Choyo |
| | Luhuo | 炉霍 Lúhuò | བྲག་འགོ་ | rGyalrong, Ergong |
| | Xinlong | 新龙 Xīnlóng | ཉག་རོང་ | Ergong, Choyo |
| | Yajiang | 雅江 Yǎjiāng | ཉག་ཆུ་ | Choyo, nDrapa |
| Yǎ'ān | Baoxing | 宝兴 Bǎoxīng | | rGyalrong |
| | Hanyuan | 汉源 Hànyuán | | Ersu |
| | Shimian | 石棉 Shímián | | Minyak, Ersu |
| Liángshān | Ganluo | 甘洛 Gānluò | | Ersu |
| | Mianning | 冕宁 Miǎnníng | | Ersu, Namuyi |
| | Muli | 木里 Mùlǐ | སྨི་ལི་ | Ersu, Namuyi, Shixing, Prinmi |
| | Xichang City | 西昌市 Xīchāng | | Namuyi |
| | Yanyuan | 盐源 Yányuán | | Namuyi, Prinmi |
| | Yuexi | 越西 Yuèxī | | Ersu |
| Lìjiāng | Yulong | 玉龍 Yùlóng | | Prinmi |
| | Ninglang | 宁蒗 Nínglàng | | Prinmi |
| | Yongsheng | 永胜 Yǒngshèng | | Prinmi |
| Nùjiàng | Lanping | 兰坪 Lánpíng | | Prinmi |
| Líncāng | Yun | 云 Yún | | Prinmi |

Table 9.2: Counties with Qiangic speakers

| Language | Speakers | Location |
|---|---|---|
| Qiang | 130,000 | Ngawa: Mao, Li, Wenchuan, Heishui, Songpan |
| rGyalrong | 95,000 | Ngawa: Barkam, Li, Wenchuan, Xiaojin, Jinchuan, Zamtang; Garzê: Danba, Dawu, Luhuo; Ya'an: Baoxing |
| Lavrung | 10,000 | Ngawa: Jinchuan, Zamtang, Barkam |
| Ergong | 40,000 | Garzê: Danba, Dawu, Luhuo, Xinlong; Ngawa: Jinchuan, Zamtang, Barkam |
| Choyo | 15,000 | Garzê: Litang, Xinlong, Yajiang, Dawu |
| nDrapa | 7,000 | Garzê: Dawu, Yajiang |
| Guiqiong | 7,000 | 鱼通 Yútōng District of Kangding |
| Minyak | 15,000 | Kangding, Jiulong, Shimian |
| Ersu | 20,000 | Liangshan: Ganluo, Yuexi, Mianning, Muli; Garzê: Jiulong; Ya'an: Shimian, Hanyuan |
| Namuyi | 5,000 | Liangshan: Mianning, Muli, Xichang, Yanyuan; Garzê: Jiulong |
| Shixing | 2,000 | 水洛 Shuǐluò Township in Muli |
| Prinmi | 35,000 | Yunnan: Lanping, Ninglang, Yulong (formerly Lijiang), Yongsheng, Yun[4]; Sichuan: Muli, Yanyuan, Jiulong |

Table 9.3: Number of speakers and geographic distribution by language

## 9.1.1  "Core" Qiangic

All scholars agree that at least Qiang, Prinmi, and Minyak are closely related. For example, Sūn Hóngkāi places these languages in a "Qiang" group under Northern Qiangic (see Figure 9.2).[5] Thurgood (2003) agrees, saying that putting Qiang and Prinmi in the same subgroup is "easily and fully substantiated by careful examination of cognate sets. The inclusion of Muya [= Minyak] in this group… is also strongly supported by the cognate sets, but Sūn's rationale for the inclusion of… Tangut is not, as yet, clear to me." As for the remaining languages (except for rGyalrongic, which he places in a separate Rung branch—this will be discussed below) Thurgood says that "an inspection of the vocabulary suggests these are also part of this subgroup," but that "the definitive subgrouping evidence remains to be presented" (2003:17).

Jacques and Michaud (2011) expand Qiangic to include not only Qiang, Prinmi, and Minyak, but also Tangut, rGyalrongic, and Choyo, stating that all these languages "can be shown to have an extensive amount of uniquely shared vocabulary (there remain doubts concerning Zhaba [= nDrapa]".[6] See Figure 9.3.

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[4]Yun County is outside the bounds of the map, about 50 km south of Dàlǐ.

[5]All translations from Chinese sources into English, including Figure 9.2, are mine.

[6]Actually they only include Choyo (= Queyu) in their Figure 2 family tree, not in the text itself, but I assume this was simply an accidental omission in the text. nDrapa (= Zhaba) is also included under Qiangic in their family tree, but with a question mark to show that "there remain doubts" about it.
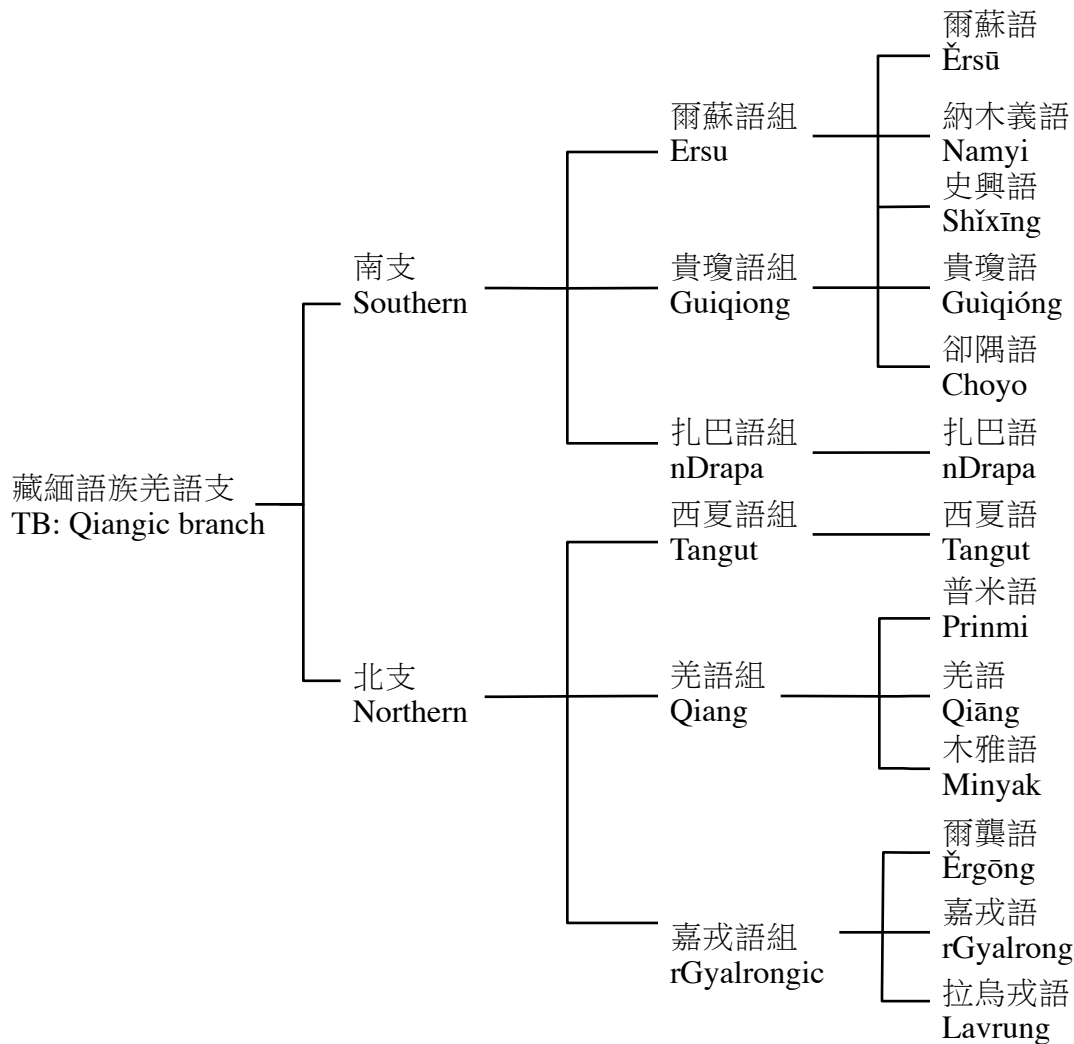
Figure 9.2: Subgrouping of Qiangic from Sūn (2001)

### 9.1.2 rGyalrongic

A rGyalrongic subgroup is widely accepted, but there is disagreement on whether it belongs to Qiangic or not. Matisoff (2004:328) states:

> It is already clear that rGyalrong (= Gyarung = Jiarong) and Ergong (= Daofu = Stau) belong together in a separate subgroup of this family. They have preserved PTB prefixes and thus have especially complicated systems of initial consonants, and also preserve final consonants better than the other languages.[7] Yet their systems of directional prefixes seem to indicate that they belong somewhere in the Qiangic group.

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[7]However, Sūn (2001:166) points out that many final consonants in rGyalrong are found not in the native vocabulary but in loans from Tibetan.

See also Sūn (2004) for details on placing rGyalrong, Ergong, and Lavrung in a separate subgroup in Qiangic.

Unlike Sūn and Matisoff, LaPolla (2003) places rGyalrong[8] in a separate Rung branch of TB, along with T'rung, Rawang, Kiranti, Kham, and West Himalayan (Kinauri-Almora). (Thurgood 2003:16 speculates that Magar and Chepang may also belong in this group.) This is based on "clearly cognate complex person marking systems, and all but rGyalrong have a *-si* reflexive/middle marking suffix on the verb." LaPolla gives the evidence as follows (Table 9.4):

|  | 1sg | 1pl | 2pl | dual | refl/middle |
|---|---|---|---|---|---|
| Proto-rGyalrong | *-ŋ | *-i | *-ñ | *-tsh |  |
| Proto-Dulong-Rawang | *-ŋ | *-i | *-n | *-si | *-si |
| Proto-Kiranti | *-ŋ | *-i | *-ni | *-ci | *-nsi |
| Proto-W. Himalayan | *-g/ŋ | *-ni | *-ni | *-si | *-si |

Table 9.4: Cognate person-marking systems in Rung (reproduced from LaPolla 2003:30)

Thurgood notes that Qiangic languages "are often assumed to subgroup with the rGyalrong languages, but the rGyalrong languages subgroup more strongly with the rest of the Rung group. … On the other [hand], an examination of cognate sets suggest a special relationship, but one that is not yet clear." LaPolla suggests that the "similarities rGyalrong shares with Qiangic may simply be areal influence."

Jacques and Michaud (2011) swing the pendulum back the other way again, arguing as follows:

> LaPolla's proposed grouping is based on the hypothesis that the morphology found across these languages is a common innovation.... However, the comparison of Rgyalrong to Kiranti reveals very little common vocabulary: a careful examination of Boyd Michailovsky's unpublished Kiranti etymological dictionary brought out less than 150 potential cognates, which are too widespread within the Sino-Tibetan family to be convincing instances of shared innovation. If Rgyalrong and Kiranti were closely related in the Sino-Tibetan family tree, one would expect more cognate vocabulary, including some lexical innovations.

### 9.1.3   "Southern Qiangic"

If the reader has been following along and using Figure 9.2 as a checklist, there should now be three languages left on the list: Ersu (by which Sūn 2001 means Lizu, Tosu, and Ersu), Namuyi, and Shixing. Sūn (2001) groups these under a larger "Ersu" subgroup under Southern Qiangic.[9] Their inclusion in Qiangic as a whole is based mostly on typological features, such as the existence of directional prefixes and complex initial consonant inventories. Matisoff (2004:329)

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[8] To confuse matters, LaPolla, unlike Sūn and Thurgood, does not put Daofu (=Ergong) and Lavrung under rGyalrongic, but merely lists them under the Qiangic group.

[9] I am not sure whether the line connecting the Ersu and Guiqiong groups is supposed to represent some sort of linguistic affinity or if it is merely a typographical error.

Sino-Tibetan
- Lolo-Burmese
  - Loloish
    - **Lahu**
    - **Lisu**
    - *etc.*
  - Burmish
    - **Burmese**
    - *etc.*
- other primary branches
- Burmo-Qiangic
  - Rgyalrongic
    - Rgyal-rongish
      - Situ
      - **Japhug**
      - Tshobdun
      - Zbu
    - Lavrung
      - Thurjechenmo
      - Ndzorogs
    - Horpa
      - Rtau
      - Stodsde
  - Na-Qiangic (25)
    - Qiangic (17)
      - Qiang
        - Northern Qiang
        - Southern Qiang
      - Muya
        - Northern Muya
        - Southern Muya
      - Queyu
      - Zhaba ?
      - Pumi
        - Northern Pumi
        - Southern Pumi
      - Tangut
      - Ersuish
        - Ersu
        - Lizu
        - Tosu
    - Naic (5)
      - Namuyi
      - Shixing
      - **Naxi**
      - Naish
        - **Na/Mosuo**
        - **Laze**
- Bodic (including Tibetan)
- Sinitic (Chinese)

Figure 9.3: Subgrouping of Burmo-Qiangic from Jacques and Michaud (2011)

also notes that there is a strong tendency for PTB **\*-a** to undergo a "brightening" change to **-i** in Tangut and modern Qiangic languages (including Ersuic, Namuyi, and Shixing) and suggests that this can be taken as a characteristic innovation for Qiangic languages.

Chirkova (2008:38) looks at the question of whether Lizu and Shixing have an especially close historical relationship based on the morphosyntactic evidence, and so far has not found evidence in favor of such a subgrouping, noting that Shixing is "strikingly distinct [from Lizu] in all its linguistic sub-systems", including noun markers, verb particles, and verbs of existence which do not appear to be cognate.

If we look instead at lexical similarities, the results are also unclear. The following table lists the results of comparisons, based on 1500-word lists of core vocabulary, of Zeluo Ersu with other Qiangic languages (along with Yi and Tibetan thrown in for comparison) in descending order of percentage of apparent cognate vocabulary, as presented in Sūn (1983b).

| Language | % Cognate |
|---|---|
| Namuyi | 31.0 |
| Prinmi | 27.8 |
| Qiang | 26.1 |
| Guiqiong | 24.0 |
| Shixing | 21.3 |
| Choyo[10] | 21.0 |
| Minyak | 20.5 |
| Ergong | 20.1 |
| rGyalrong | 17.5 |
| Yi | 16.6 |
| Tibetan | 11.9 |

On one hand, Namuyi seems to have the most vocabulary in common with Ersu; on the other, the next two languages on the list are Prinmi and Qiang, both solidly in the "core Qiangic" category.

Jacques and Michaud (2011) express the opinion that the evidence for the inclusion of Ersu/Tosu/Lizu in Qiangic (as defined in Figure 9.3) is weak, preferring instead to tentatively place Ersuic[11] by itself in a larger "Na-Qiangic" branch. On the other hand, they consider Shixing and possibly Namuyi to be closely related to Naish (i.e. Naxi/Na/Laze).

Bradley (2008) lists specific lexical items suggesting that Namuyi and Naxi/Na are most closely related, followed by Shixing. Bradley's family tree (see Figure 9.4) includes Ersu as the next branch out after Shixing, but it is unclear if he is making an explicit claim about Ersu. His arguments regarding Namuyi and Shixing are as follows (the following is reproduced from Bradley 2008):

... shared cognate lexical material:

1) general Tibeto-Burman                      'silver' /ŋu$^{55}$/ < *d-ŋul
2) Eastern Tibeto-Burman (Qiangic plus Burmic)  'year' /k$^{h}$uə$^{ɩ55}$/ < *kok
3) Qiangic                                    'urine' /mbɛ$^{33}$/ < *s-mbi
4) Southern Qiangic                           'winnow' /mp$^{h}$i$^{55}$/ < *(m)phi
5) Na/Naxi/Namuyi/Shixing                     'barley' /mu$^{55}$ dzɭ$^{55}$/ < *mu dzi
6) Na/Naxi/Namuyi                             'look at' /ly$^{35}$/ < *ly

Namuyi LACKS specific Burmic or Ngwi (Yi Branch, Loloish) innovations:
1) lexical items                              'buckwheat' *ŋga$^{2}$
2) lexical fields                             birth order names
3) semantic innovations in cognate lexicon    'silver' > Ø, 'white' > 'silver'
4) phonological                               development of Tone 3
5) morphological                              extentive grammaticalisation

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[10] A.k.a. Queyu. Mistakenly referred to as Zhaba in Sūn (1983a,b).

[11] Jacques and Michaud actually call it "Ersuish", using the "-ish" suffix to indicate that it is lower-level grouping like "Naish", rather than a higher-level grouping like "Qiangic" or "Naic".
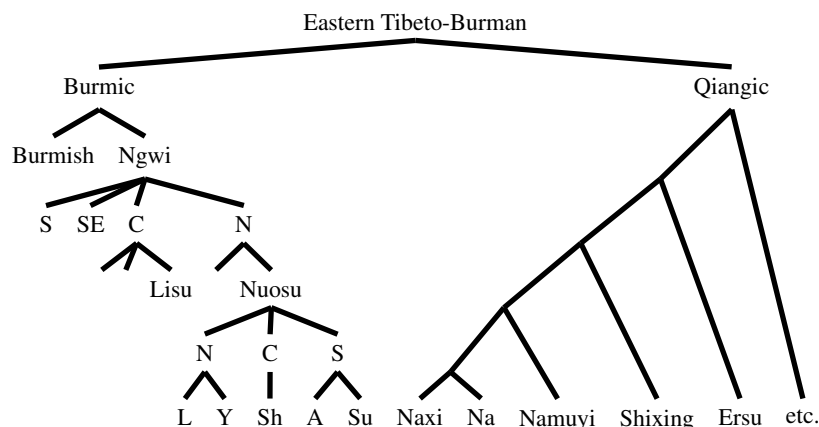
Figure 9.4: Subgrouping of "Eastern Tibeto-Burman" from Bradley (2008)

To summarize, Ersuic, Namuyi, and Shixing are typologically similar to Qiangic, but in terms of lexicon, at least Namuyi and Shixing appear to be more closely related to Naish.

## 9.2   Ersuic, Naish, Lolo-Burmese, and Qiangic

The short list of cognate lexical material provided by Bradley (2008) for analyzing Namuyi is a convenient jumping-off point for analyzing Ersuic. In fact, we can check off items (1)-(5):

1. PEr *ŋui¹ 'silver'

2. PEr *diuʈʂʰe¹ 'year' (the retroflex initial could descend from a *kr- cluster; note the rhotic vowel in Namuyi form kʰuəˑ¹⁵⁵)

3. PEr *mbrɑ¹ 'urine'

4. Zeluo Ersu *phɛ⁵⁵ɬi⁵⁵ 'winnow'[12]

5. PEr *mwEdzæ¹ 'barley' (the second syllable of 'barley' has the wrong vowel, but at least the first syllable looks like the same root).

Regular sound correspondences have not been worked on, of course, but Ersuic could plausibly group all the way down with Shixing, closer to Naish than to "core" Qiangic. The last item for 'look at' is not found in Ersuic: the Proto-Ersuic form is *hto 'watch/look'. (On the other hand, PEr *kʰendo¹ 'see' seems to have a Proto-Naish cognate, listed below.)

There are also some good-looking roots in Proto-Ersuic (and sometimes Proto-Naish) that otherwise are found only in Lolo-Burmese. If Ersuic is ultimately classified as Qiangic, this may

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[12]This is probably circular logic, since Bradley most likely bases his Southern Qiangic isogloss for *(m)phi on exactly this Ersu form (I could not find a corresponding form in Shixing). Cf. also some lookalike forms: Atsi pja̰ŋ²¹, Nusu (Bijiang) pia̰³⁵, etc.

lend support to the idea of a Burmo-Qiangic branch, where Lolo-Burmese and Qiangic are closer to each other than to other Tibeto-Burman subgroups. In the table below, Proto-Naish reconstructions from Jacques and Michaud (2011) are provided where available:

| PNa | PEr | PLB | gloss |
|---|---|---|---|
| *kri | *kri[1] | *ʔgrəy[1] | star |
| *ri | **ŋgriu**pje[1] | *m-k-rəy | skin |
| | *zikæ | *ʔ-ga[2] | dumb, stupid |
| *rtsʰi | *tsʰe[2] | *tsəy[2] | wash |
| (*rtsU) | *detsʰe[2] | *ʔ-dzəy[2] | cough |
| (*bu) | *be**di**[1] | *di[1] | insect / worm |
| *so | ***so**niu[2] | *C-sok MORNING | tomorrow |
| | *ntʰontʰo[1] | *tok TSR #15 | peck at |
| | *pʰru | *ʔ-blu[1] | porcupine |
| | *tsʰo[1] | *tsaŋ[1] | human being[13] |
| *tʰaC₁ | *ntʰwɑ[1] | *tak[H] | sharp |
| | *mi[1] | *s/ʔ-mi[1] | catch |

Additionally, there are some forms from Lahu that have not been reconstructed for Lolo-Burmese but have potential cognates in Ersuic. These forms are listed below, along with the most likely PLB reconstruction(s) to compare with Proto-Ersuic.

| Lahu | PLB | PEr | gloss |
|---|---|---|---|
| pὲ | *bya | **mbimbi**[2] | divide / share (things) |
| ɔ̀-cɛ̄ | *dzya ? | *(n)dʑi(u)[2] | ear / spike |
| qha | *ka | *kʰæ | rice (cooked) |
| vὰʔ-qâ | *ga | **gæ**me[1] | clothing / garment |
| bù | *mbwa | *mbrɑ[1] | loud |
| phɔ̂ | *paŋ | *pʰwo | side, direction |
| khɔ̂ | *kraŋ | *tʂʰe[1] | sound |
| qhɔ | *kaŋ | *kʰepʰe/ kʰupʰo[1] | inside |
| yὰʔ- 'today' | *yak | **ja**niu[1] | yesterday |
| šɛ | *sin | *dentsʰɑ[1] | pull / drag / lead (a cow) along |
| chɛ | *kyim/kyum | *detʂʰe | flavorful |
| phɛ | *pim/pum | *kʰepʰui[1] | tether (a cow) |
| kù | *gru | *kwo[2] | shout |
| mê-chɔ̂-ma | *kyəw | **tʃʰiu**mæ | widow |

In addition to those items above that are shared across Naish, Ersuic, and Lolo-Burmese, there are also some lexical items specific to Ersuic and Naish (and sometimes Shixing and Namuyi as well), but these are not (to my knowledge) found in Lolo-Burmese or "core" Qiangic:

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[13]Note, however, that Bradley (2008) identifies Namuyi **tsʰo³³** 'person' as a loan from Nuosu **tsʰo³³**. In the case of Ersuic, since the regular reflex of PTB *-**aŋ** is PEr *-**o**, it not possible to tell if this form is descended from PTB or borrowed from Nuosu just by inspecting the form.

| PNa | PEr | gloss | |
|---|---|---|---|
| *laC$_1$taC$_1$ | *t$^h$eç$^w$iula | slanted | (Shixing *lɛ³³dʑyɛ³³dʑyɛ⁵⁵*) |
| *ndaC$_2$ | *k$^h$endo¹ | see | (Namuyi **ndo⁵³**, Shixing **dɤ̃³³**) |
| *saC$_2$ 'study' | *soso | learn, teach | (Namuyi **so³³so⁵⁵**) |

Other unique features include the fact that 'water' and 'sweet' are minimal pairs in both PNa and PEr; and the presence of a rhotic element in the form for 'die' (PEr *ʂ for the most part developed from earlier *sr- clusters):

| PNa | PEr | gloss | PTB |
|---|---|---|---|
| *gi | *dʒiu¹ | water | *m-t(w)əy |
| *k$^h$i | *detʃ$^h$iu¹ | sweet | *kyəw |
| *rsi | *t$^h$eʂiu¹ | die, dead | *səy |

See also p. 171, where some potential correspondences between Naxi and Proto-Ersuic in the development of the PTB *-ak rhyme are noted.

With respect to nasal vs. non-nasal final consonant variation in the roots DREAM and TREE/WOOD, Naish and Ersuic agree at least on TREE/WOOD, choosing PTB *siŋ (unlike Lolo-Burmese, but like the rest of TB). (The reconstructed forms are PNa *siN and PEr *sɛ̃¹ 'wood'.) On the other hand, Ersuic *jima¹ descends from PTB *mak (just like Lolo-Burmese and unlike the rest of TB). Unfortunately, Jacques and Michaud (2011) do not reconstruct a form for 'dream' but it would be interesting to see which variant the Naish root points to.

It is also worth mentioning that Jacques and Michaud (2011), in their Appendix 1, p. 4, reconstruct PNa *ki 'cloud' as one of six probable Naish-only lexical innovations. They also point out the lookalike form **tɕe³⁵** in Lizu, stating that that "more research is needed to determine whether or not this could be an external cognate." I am happy to report that Proto-Ersuic *tɕe¹ most likely descends from PTB *s-dim and is not related to PNa *ki, since initial velars were retained as such in Proto-Ersuic (see p. 177 and various roots reconstructed with velar + -i on p. 95).

On the Qiangic side of things, Ikeda (2007) proposes a set of six unique lexical innovations for Qiangic, including Ersuic as part of Qiangic (with "Lǔsū" as the representative language). These items are shown in Table 9.6. (The line for 'year' looks messy because there are apparently two roots involved; this which will be explained below.)

Ikeda's definition of Qiangic is exactly that of Sūn (2001), and the goal of his paper was simply to find lexical items that were not found in other major branches of Tibeto-Burman. In fact, all of the items except for 'sharpen' can not only be found in the languages Ikeda considers Qiangic, but in Naish as well. Compare with the following Proto-Naish forms: 'kidney' *Smbu,[14] 'urine' *mbi, 'pus' *priN, 'forget' *mi[15], and 'year' *Cba and *k$^h$u.

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[14] Also compare Naxi **mbɯˍlyˍ** with Ersu **nbɛ³³li⁵⁵**, with the same suffix < PTB *lum ROUND OBJECT.

[15] Jacques and Michaud actually list 'forget' as a possible Burmese-Qiangic innovation.

| | Qiāng (Máwō) | rGy. | Minyak | Prinmi (Jiǔlóng) | Guìqióng | Lǚsū | Nàmùyì | nDrapa | Shǐxīng | Tibetan |
|---|---|---|---|---|---|---|---|---|---|---|
| kidney | ʂpu lu | tɯm | pɐ$^{55}$lɐ$^{53}$ | pu$^{11}$lɯ̃$^{55}$ | dɔ$^{35}$tʂɑ$^{53}$ | nbo$^{33}$ly$^{53}$ | fu$^{33}$ly$^{35}$ | vʌ$^{33}$le$^{55}$ | bɘ$^{55}$hi$^{33}$ | mkhal ma |
| urine | bi | rmbi | bi$^{24}$ | bẽ$^{35}$ | ɛ$^{55}$ʃ̩$^{55}$ | nba$^{135}$ | mbɛ$^{33}$ | zʌ$^{13}$ | phu$^{33}$læ$^{55}$ | gcin |
| pus | spə sɑ | spɯ | pə̩$^{24}$ | pu$^{55}$ | pu$^{53}$ | pu$^{35}$ | mbɛ$^{35}$ | fʌ$^{13}$ | bã$^{55}$ | rnag |
| sharpen | es | fse | to$^{55}$si̩$^{33}$ | khɯ$^{11}$sy$^{55}$ | ʂ̩$^{55}$ | te$^{53}$su$^{53}$ | ʂ̩$^{35}$ | ɘ$^{55}$ʂ̩$^{33}$ʂ̩$^{33}$ | suʒ$^{53}$ | rdar |
| forget | rmə | jmɯt | the$^{55}$mə$^{53}$ | a$^{11}$mã$^{11}$ | ʂo$^{33}$mu$^{55}$tɑ$^{33}$ | the$^{33}$me$^{53}$ | ɲi$^{33}$pa$^{53}$ | tə$^{55}$me$^{55}$ | lʒ$^{55}$ma$^{55}$ | brjed |
| year | pə | pa | kui$^{53}$ | ko$^{35}$ | ŋɔ$^{53}$ | dʐu$^{53}$tʂhɯ$^{31}$ | kuɘ$^{155}$ | wo$^{55}$ | khu$^{53}$/bɘ | lo |

From Chirkova (2009), adapted from Ikeda (2007:12-13). rGyalrong (Japhug) data is from Jacques (2004). Shǐxīng data is Chirkova's. Chirkova also provides Tibetan for comparison.

Table 9.6: Ikeda's proposed lexical innovations

For 'year', Jacques and Michaud point out "the suppletion found for the noun 'year', with a labial-initial root (Proto-Tangut *C-pja) in 'this year, next year, last year' and a different root (Proto-Tangut *kjuk) with numerals.... In Lolo-Burmese languages, only the root related to Tangut *kjuk is found." In Proto-Ersuic there are also two roots for 'year': **-hĩ** '(this/next/last) year' and **\*diutʂʰe¹** 'year (with numerals)', with the second syllable in **\*diutʂʰe¹** possibly descending from a velar + **-r-** cluster and thus potentially related to the velar-initial root found in Naish, Qiangic, and Lolo-Burmese; however the form **\*-hĩ** cannot be related to a bilabial-initial root. Ikeda (2007:7) points out the potential cognate to PEr **\*-hĩ** in Namuyi **ji³¹ ~ ɲi³¹** and relates it to PTB **\*s-niŋ** YEAR.

Another peculiarity with 'year' is the morpheme for 'this' in 'this year', where Qiang, rGyalrongic, Choyo, Minyak, and Prinmi have one root, but nDrapa, Guiqiong, Ersuic, Namuyi, and Shixing have another. Ikeda reconstructs these two roots as **\*pə-** and **\*tshe-**, respectively. The latter form can again be found in Naish: Naxi **ʈʂhu˧be˧**, Na **tshi.i**⁽ᴹ⁾, Laze **tshu˧vie˧**.

## 9.3 Beyond Ersuic

The lexical comparisons above are certainly suggestive, and given such apparent lexical innovations it seems worthwhile to entertain the possibility that "Southern Qiangic" (Ersuic, Namuyi, and Shixing) may be closer to Naish than to "core" Qiangic. If this is the case, then it is not surprising that this "Naic" subgroup (pulling "Southern Qiangic" into the Naish fold, so to speak) shares similarities with Lolo-Burmese. If, on the other hand, "Southern Qiangic" and "core" Qiangic can be shown to have a close relationship (this will have to wait for a reconstruction of Proto–"core"-Qiangic), then the similarities between Proto-Ersuic and Proto–Lolo-Burmese may indeed point to a Burmo-Qiangic connection.

The possibility of "Southern Qiangic" being more closely related to Naish than to "core" Qiangic highlights the problem of defining Qiangic mainly by the existence of directional verb prefixes, which is problematic if it is not possible to show that these prefixes are actually cognate. LaPolla (2003) notes that although all the Qiangic languages exhibit this feature, "the actual forms of the systems in different languages do not all correspond in any clear way." It may well be the case that the development of directional prefixes was spread through language contact.

Using the "brightening" change of PTB **\*-a** > **-i** as a shared innovation to define Qiangic is more promising, but ideally we would also be able to use other phonological, lexical, and morphological innovations to define the subgroup. It is interesting to note that brightening has also occurred in many forms in Naish (see Lidz 2010:143 and Jacques and Michaud 2011), although Jacques and Michaud generally reconstruct rhymes descending from PTB **\*-a** with Proto-Naish **\*-a** (distinct from rhymes from PTB **\*-i**), whereas for Proto-Ersuic I have reconstructed **\*-i** < PTB **\*-a, \*-i**.

Ultimately, we will only be able to conclusively answer questions about subgrouping with detailed meso-level comparative work. Hopefully in the not-too-distant future we will be able to move from making educated guesses about Qiangic and Naic to building solid reconstructions.

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# Appendix A

# Additional Sources

The following supplementary data is provided here for the convenience of the reader. Translations from Chinese to English have been provided where necessary.

## A.1 Lizu

The following items are from Nishida and Sūn (1990:15), from a variety of Lizu spoken somewhere in Muli County (Sūn does not specify the exact location). Sūn also provides the Chinese character transliterations from the Sino-Xenic Vocabularies, Volume 5 (《川五》).

| gloss | | form | translit. | | gloss | | form | translit. |
|---|---|---|---|---|---|---|---|---|
| belly | 肚 | ji⁵⁵phɛ⁵⁵ | 也怕 | | horse | 馬 | mbzə̩⁵³ | 卜 |
| bone | 骨 | ə̩¹³³qo⁵⁵ | 勒骨 | | lungs | 肺 | ntshu⁵³ | 初 |
| chest | 胸 | ə̩¹⁵⁵kho⁵⁵ | 勒庫 | | monkey | 猴 | mi⁵⁵dzɻ⁵⁵ | 迷自 |
| cloud | 雪 | ji⁵⁵ | 衣 | | moon | 月 | ɬɛ³³phe⁵⁵ | 納魄 |
| cloud | 雲 | tɕe³⁵ | 借 | | one | 一 | te⁵⁵ | 得 |
| ear | 耳 | na⁵⁵pi⁵⁵ | 乃比 | | rain | 雨 | ŋguɛ⁵⁵(ʐu⁵⁵) | 掛 |
| earth | 地 | me³³li⁵⁵ | 梅利 | | sheep | 羊 | n̻o³⁵ | 藥 |
| eye | 眼 | ndo³³sɻ⁵³ | 奪索 | | smoke | 煙 | me⁵⁵ŋkhɯ⁵³ | 悶客 |
| fire | 火 | me⁵³ | 麥 | | star | 星 | me⁵⁵tʂɻ³⁵ | 墨治 |
| fish | 魚 | y⁵⁵ | 魚 | | stone | 石 | lo³³bo⁵⁵ | 勒布 |
| foot | 脚 | dzɻ³³dzɻ³³ | 知之 | | ten | 十 | tshe⁵⁵tɕhi⁵⁵ | 擇且 |
| frost | 霜 | tʂɻ³⁵ | 掣 | | thunder | 雷 | me⁵⁵dʑi⁵⁵ | 墨這 |
| hair | 髮 | tɕi⁵³ | 接 | | tooth | 齒 | fu³³mɛ⁵⁵ | 胡麻 |
| hand | 手 | le³³pho⁵⁵ | 勒迫 | | water | 水 | dzʉ³⁵ | 者 |
| head | 頭 | ɣu³³li⁵⁵ | 物利 | | wind | 風 | me⁵⁵li⁵⁵ | 墨利 |

## A.2 Tosu

The following items are compiled from Nishida and Sūn (1990:17) and Sūn (1982b:242). The field location is given as "Mianning Town, Wǔsù" (冕宁城关伍宿). Sūn also provides the Chinese character transliterations from the Sino-Xenic Vocabularies, Volume 8 (《川八》).

| gloss | | form | translit. | gloss | | form | translit. |
|---|---|---|---|---|---|---|---|
| arrive | 到 | $pa^{55}la^{55}$ | 摆大 | moon | 月 | $ȵe^{33}ma^{55}$ | 良麻 |
| belly | 肚 | $do^{55}p^ha^{55}$ | 度怕 | nose | 鼻 | $ȵa^{33}ku^{55}$ | 啞孤 |
| bone | 骨 | $jo^{55}ku^{55}$ | 玉古 | one | 一 | $tɕi^{33}$ | 幾 |
| cloud | 雲 | $tɕa^{13}$ | 甲 | rain | 雨 | $wa^{55}dʐu^{33}$ | 凹鞠 |
| earth | 地 | $da^{55}$ | 大 | s/he | 他 | $the^{55}$ | 特 |
| eye | 眼 | $mi^{55}sɭ^{33}$ | 迷思 | see | 看见 | $do^{55}$ | 躲 |
| fire | 火 | $mi^{33}$ | 祕 | sheep | 羊 | $jo^{35}$ | 喲 |
| fish | 魚 | $ju^{55}$ | 淤 | skinny | 瘦 | $qa^{55}$ | 呷 |
| foot | 脚 | $gu^{55}du^{33}$ | 穀獨 | smoke | 煙 | $me^{55}ŋkhɯ^{53}$ | 麥卡 |
| gold | 金子 | $ȵi^{55}$ | 你 | snow | 雪 | $je^{33}$ | 噎 |
| hail | 雹 | $ts^hu^{13}$ | 族 | star | 星 | $ki^{13}$ | 庚 |
| hair | 髮 | $tsa^{13}$ | 雜 | stone | 石 | $nio^{55}bu^{33}$ | 路補 |
| hand | 手 | $lo^{33}ko^{55}$ | 鑼鍋 | tael | 一两 | $tɕi^{55}lo^{55}$ | 计诺 |
| have/exist | 在 | $dʐo^{55}$ | 觉 | ten | 十 | $tɕ^hi^{55}$ | 齊 |
| head | 頭 | $ʁu^{55}dʐo^{33}$ | 務鞠 | thunder | 雷 | $me^{33}dʑi^{33}$ | 墨吉 |
| horse | 馬 | $mo^{33}$ | 摸 | tooth | 齒 | $ɕe^{55}ma^{33}$ | 謝馬 |
| iron | 铁 | $ʂa^{55}$ | 沙 | water | 水 | $vu^{33}$ | 威 |
| liver | 肝 | $ɕe^{55}p^hu^{33}$ | 謝哺 | wear | 穿 | $ve^{31}$ | 歪 |
| lungs | 肺 | $ts^he^{33}p^hu^{33}$ | 擇哺 | wind | 風 | $me^{33}li^{55}$ | 墨利 |
| monkey | 猴 | $mi^{33}$ | 密 | write | 写 | $zɭ^{55}zɭ^{55}$ | 认 |

# Appendix B

# Index by Gloss

|  | gloss | PEr | pages |
|---|---|---|---|
| (1) | a while | *tɕʰu¹ | 44, 103 |
| (2) | above, on top of | *wutɕʰa | 70, 126 |
| (3) | accustomed to, in the habit of | *tʰendzo | 40, 117 |
| (4) | adult | *tsʰokʰwæ | 37, 131 |
| (5) | age | *tsipʰrjo/ tsʰipʰrjo² | 24, 37, 82 |
| (6) | air, breath, steam | *sẽ¹ | 41, 110, 171, 196 |
| (7) | alive | *dentsʰu¹ | 40, 101 |
| (8) | all / the whole | *kwɑ/kɑ² | 66, 130, 166, 188 |
| (9) | allow | *tsʰwo¹ | 38, 120 |
| (10) | and | *læ¹ | 34, 123 |
| (11) | animal fat/oil | *zu¹ | 42, 102 |
| (12) | ant | *berA/burA | 20, 72, 84, 173, 199 |
| (13) | appear, come out | *hko¹ | 62, 119 |
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| (343) | hit, kill | *si¹ | 41, 94, 165, 196 |
| (344) | hoe | *dzepi/ dzopʰi¹ | 19, 39, 93, 117 |
| (345) | hold (a pen) | *hte¹ | 32, 109 |
| (346) | hole | *hko¹ | 62, 119, 183, 190 |
| (347) | home | *jã¹ | 49, 90 |
| (348) | honest / well-behaved | *dĭbæ | 30, 90, 122 |
| (349) | hoof | *ŋ(u)kʰwɑ | 66, 132, 168, 188 |
| (350) | hook | *ŋkʰo¹ | 63, 119 |
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| (352) | horn | *ru(bu)/du¹ | 72, 80, 100, 182, 199 |
| (353) | horse | *m(b)ro² | 23, 26, 82, 170, 199 |
| (354) | host / master | *nɑ- | 33, 125 |
| (355) | hot | *tsʰæ² | 37, 123, 167, 194 |

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| (357) | house | *jẽ¹ | 49, 90, 177, 198 |
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| (359) | hug / embrace | *detwɑ¹ | 29, 132 |
| (360) | human being, person | *tsʰo¹ | 37, 116, 170, 193, 215 |
| (361) | hundred | *ʐa¹ | 46, 126, 149, 167, 195 |
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| (363) | hunt | *mumbæ¹ | 25, 28, 122 |
| (364) | I | *æ¹ | 73, 125 |
| (365) | ice | *mpʰje¹ | 24, 105, 169, 189 |
| (366) | incense (bark of cypress? tree) | *hpwo² | 26, 120 |
| (367) | industrious / hardworking | *mpʰwompʰwo | 24, 120 |
| (368) | infect | *tu¹ | 29, 100 |
| (369) | insect / worm | *bedi¹ | 20, 30, 94, 108, 180, 185, 186, 215 |
| (370) | inside | *kʰepʰe/ kʰupʰo¹ | 65, 102, 171, 215 |
| (371) | intestine | *ɣeniu/ ɣoniu¹ | 50, 69, 97, 119, 182, 200 |
| (372) | iron | *ʃje¹ | 56, 105, 169, 197 |
| (373) | itch | *dekri | 60, 79, 178 |
| (374) | jar (earthen) | *gje¹ | 61, 68, 105 |
| (375) | joint | *tsʰi¹ | 37, 94, 136, 178, 194 |
| (376) | jump | *hto/htæ | 32, 123, 172, 190 |
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| (378) | kick | *dego¹ | 68, 119 |
| (379) | kidney | *mbiulje² | 25, 34, 99, 106 |
| (380) | kill (a person) | *ŋgrɑ² | 63, 84 |
| (381) | kill / slaughter (an animal) | *ntʃʰi² | 58, 95 |
| (382) | kind, type | *rbæ | 25, 122 |
| (383) | knee | *pjembje | 19, 25, 105 |
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| (385) | knife | *bɑtʂa/butʂa | 21, 52, 129 |
| (386) | knock / strike | *tsʰutsʰu¹ | 37, 101 |
| (387) | know how to, be capable of | *ndʒo¹ | 59, 118 |
| (388) | kowtow, make obeisance to | *pʰja² mu | 22, 126 |
| (389) | ladder | *ɬjeki¹ | 36, 95, 106, 176, 199 |
| (390) | ladle | *ji¹ | 47, 92 |
| (391) | lake | *ŋkʰwæ² | 63, 131 |
| (392) | lame person | *kɑpi² | 67, 93, 132 |
| (393) | last night | *jahãŋkʰwo¹ | 47, 76, 121 |
| (394) | last year | *ja(ji)hĩ¹ | 47, 76, 88 |

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| (398) | leader / chieftain / headman (Mand. 'tŭsī') | *(d)ʑapu | 45, 126 |
| (399) | leaf | *sẽpʰja¹ | 22, 126, 172, 187, 196 |
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| (403) | left (side) | *leji¹ | 34, 48, 92 |
| (404) | left over / remain | *gwɑ² | 69, 73, 85, 133 |
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| (406) | letter, book | *ndʒiundʑi¹ | 57, 99 |
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| (408) | lid / cover | *xexe² | 71, 112 |
| (409) | life | *kutsʰje¹ | 43, 66, 107, 119 |
| (410) | lifetime | *te zu | 42, 102 |
| (411) | light (a fire, a light) | *ntsʰo¹ | 40, 117 |
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| (413) | like / love | *gæ/gja¹ | 69, 124, 166, 186, 196 |
| (414) | liquor | *ɣo¹ | 69, 119, 181, 198 |
| (415) | liquor (yellow rice / millet / Shaoxing) | *wɑre/ɣɑre¹ | 70, 81 |
| (416) | listen | *bæni¹ | 20, 49, 92, 165, 201 |
| (417) | liter, container (measuring, 1-liter-volume) | *læ | 34, 123, 139 |
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| (420) | lock | *ŋkʰo¹ | 63, 119 |
| (421) | long | *ʂɑ | 54, 129, 177, 200 |
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| (423) | loud | *mbrɑ¹ | 24, 25, 83, 169, 215 |
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| (425) | low / short | *nini | 49, 91, 178, 201 |
| (426) | lower (the head) | *neŋgwo | 63, 121 |
| (427) | lower part / lower reaches | *ŋɑpʰo¹ | 64, 130 |
| (428) | lung | *ntsʰu² | 40, 101, 184, 194 |
| (429) | mace ( = 0.1 tael) | *tetsje | 43, 107, 139 |
| (430) | maggot | *bulo | 20, 35, 116, 183, 198 |
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| (432) | make the bed | *kʰwo¹ | 65, 121 |
| (433) | make, fix, repair | *ntsʰæ¹ | 39, 123 |

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| (436) | marry (a woman) | *ʃu² | 56, 102 |
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| (442) | medicine | *hpje² | 26, 105, 166, 202 |
| (443) | meet / come across | *kʰedʐudʐu² | 45, 103 |
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| (445) | melt, dissolve | *nelje/nełje¹ | 36, 106, 176, 187, 193 |
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| (454) | moon | *łæpʰe¹ | 36, 108, 123, 167, 198 |
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| (458) | mother | *æmæ¹ | 27, 125, 167, 200 |
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| (460) | mouth | *stiupe¹ | 32, 108 |
| (461) | move | *tʃʰitʃʰi¹ | 58, 95, 178, 188, 193 |
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| (463) | muddy / turbid | *tʃʰu¹ | 58, 103 |
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| (465) | multicolored / patterned (cloth) | *bu¹ | 20, 100, 184, 185 |
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| (469) | mute, dumb, stupid | *zikæ | 42, 66, 124, 166, 187, 215 |
| (470) | nail | *ledzi/letsɑ² | 35, 38, 129, 195 |
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| (485) | no problems, leisurely | *tosi mæni | 30, 94 |
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| (514) | peck, unit of dry measure for grain (=1 decaliter) | *pɑ | 19, 128, 139 |
| (515) | pen in (sheep) | *ɡje² | 61, 67, 105 |
| (516) | pepper (hot) / chili | *hõ¹ | 74, 89 |
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| (539) | pull / drag / lead (a cow) along | *dentsʰɑ¹ | 40, 129, 177, 215 |
| (540) | pull down (a house), untie | *netʃʰo¹ | 59, 118 |
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| (544) | push / shove | *tʰedʐo¹ | 45, 118, 172, 195 |
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| (659)  | spider                       | *(h)kɑra(wɑ)²    | 66, 129                         |
| (660)  | spirit, deity                | *ɬæ              | 36, 123, 167, 199               |
| (661)  | sputum, phlegm               | *tsʰekʰɑ¹        | 38, 129, 172, 188               |
| (662)  | square / rectangular         | *ʐʲudu²          | 30, 55, 98, 101                 |
| (663)  | squeeze (for milk)           | *ntsʰew          | 40, 114, 179, 194               |
| (664)  | squirrel                     | *kætʃa           | 59, 66, 127                     |
| (665)  | stable, steady               | *nɑ              | 33, 128                         |
| (666)  | stand                        | *kʰendʑa¹        | 45, 126, 173, 195               |
| (667)  | star                         | *kri¹            | 60, 78, 175, 191, 215           |
| (668)  | be startled/afraid           | *ni²             | 49, 91                          |
| (669)  | steal                        | *mpʰru¹          | 23, 25, 80, 180, 189            |
| (670)  | steam (v.)                   | *mpʰru¹          | 23, 24, 80                      |
| (671)  | step / stride                | *mbi             | 25, 93, 139                     |

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| (672) | step on / stamp / tread | *kotsV¹ | 67, 119, 130 |
| (673) | sting (of wasps) | *ndzɑ¹ | 40, 129 |
| (674) | stinky, fishy-smelling | *deŋrɑ¹ | 64, 84, 166, 201 |
| (675) | stir-fry | *ndzæ¹ | 40, 123 |
| (676) | stone | *lo¹ | 35, 116, 183, 198 |
| (677) | stone, rock | *lo(bwo)¹ | 20, 35, 116, 120 |
| (678) | story | *jajihĩ² | 47, 92 |
| (679) | stove (cooking) / range (kitchen) | *tsukʰæ | 38, 124 |
| (680) | straight | *tɕutɕu | 45, 103 |
| (681) | straw (rice) | *dzæbu¹ | 39, 100 |
| (682) | strength (physical) | *htʂomo² | 53, 117, 120, 170, 190, 191 |
| (683) | stretch out (the arm) | *hwõ¹ | 74, 89, 170, 202 |
| (684) | strike (the table) | *mpʰjo² | 21, 25, 117 |
| (685) | stutterer | *lɑmo | 34, 116, 129 |
| (686) | sun | *niumæ¹ | 49, 97 |
| (687) | swallow | *nemi¹ | 27, 93 |
| (688) | sweat | *tʂu¹ | 52, 102, 182, 190, 191, 191 |
| (689) | sweep | *pʰja | 22, 126, 172, 187 |
| (690) | sweet | *detʃʰiu¹ | 57, 99, 180, 188, 192, 216 |
| (691) | swell (of tissue) | *dere¹ | 72, 81 |
| (692) | tael (= 50 grams) | *lo | 35, 116, 139, 170 |
| (693) | tail | *mukr(w)V¹ | 28, 66, 82, 176 |
| (694) | take off (clothes), peel | - | 67, 133 |
| (695) | tasty / delicious | *mri¹ | 28, 78 |
| (696) | tea | *dʒa¹ | 59, 127 |
| (697) | tears ("eye-water") | *mjare¹ | 27, 72, 81 |
| (698) | temple | *ɬæwo | 36, 119 |
| (699) | ten | *tɕʰetɕʰe¹ | 44, 110, 148, 176, 195 |
| (700) | ten (bound), -ty | *zi | 42, 94, 148 |
| (701) | ten thousand | *mbwo² | 26, 120, 137, 149 |
| (702) | tender, young (plant) | *zæzæ¹ | 42, 77, 123 |
| (703) | tendon | *bru² | 23, 80 |
| (704) | testicle | *zulje¹ | 42, 102, 106 |
| (705) | tether (a cow) | *kʰepʰui¹ | 19, 85, 178, 215 |
| (706) | thick | *rdurdu | 33, 101, 181, 186 |
| (707) | thigh | *-pʰja | 22, 126 |
| (708) | thin | *bi¹ | 20, 93, 164, 185 |
| (709) | thin (in diameter) / fine | *tsʰjetsʰje¹ | 43, 107 |
| (710) | thing, tool | *(pʰe)ŋgwo² | 18, 121 |
| (711) | think / idea / opinion | *ndʑindʑa² | 45, 126 |
| (712) | thirsty | *deʃo | 56, 118, 179, 196 |

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| (713) | this side / here | *kwopʰo | 67, 121 |
| (714) | this year | *tsʰehĩ¹ | 37, 74, 88, 177, 202 |
| (715) | thorn / splinter | *ntʃʰiu¹ | 57, 99 |
| (716) | thousand; ten cents | *htũ² | 32, 90, 149, 183, 190 |
| (717) | thread (a needle) | *su¹ | 41, 101 |
| (718) | three | *sjẽ² | 43, 107, 148, 182, 196 |
| (719) | three days from now | *miso | 27, 93 |
| (720) | throat | *myihkwo¹ | 28, 121, 178, 184, 200 |
| (721) | throw / hurl / toss | *tsʰje¹ | 43, 107 |
| (722) | thumb | *lemæ¹ | 34, 108 |
| (723) | thunder | *megi² | 61, 67, 95, 178, 186 |
| (724) | Tibetan | *pʰui¹ | 19, 86 |
| (725) | tie up, bind | *tsɑ¹ | 38, 129 |
| (726) | tiger | *læ¹ | 34, 123, 167, 198 |
| (727) | tight / taut | *kʰesu¹ | 41, 101 |
| (728) | tile | *ŋgo² | 61, 64, 119 |
| (729) | tired, fatigued | *nebre¹ | 23, 81 |
| (730) | tobacco / cigarette | *ji¹ | 48, 92 |
| (731) | today | *tæniu¹ | 29, 76, 97 |
| (732) | tomb | *mo¹ | 27, 116 |
| (733) | tomorrow | *soniu² | 42, 117 |
| (734) | tomorrow night / evening | *somwoŋkʰwo | 42, 117 |
| (735) | tongs (fire) | *kæmbæ¹ | 66, 124 |
| (736) | tongue | *ht(s)ipi² | 32, 93, 165, 199 |
| (737) | tonight | *t(w)ɑh(w)ã¹ | 29, 74, 76, 89, 172, 202 |
| (738) | tooth | *xui¹ | 61, 71, 86, 168, 197 |
| (739) | topple / tear down (a wall) | *nedʑo | 45, 118 |
| (740) | torch | *ʂu | 54, 102 |
| (741) | tree | *sẽpu¹ | 19, 100 |
| (742) | true | *tɑ¹ | 29, 128 |
| (743) | trunk | *seŋgrɑ¹ | 63, 83 |
| (744) | turn (a corner) | *putɕʷew/ gutɕʷew | 47, 113 |
| (745) | turn around | *ŋeleʂi¹ | 35, 95 |
| (746) | kind of turnip (圆根 yuángēn) | *ŋẽ¹ | 65, 112 |
| (747) | twenty | *netsʰi¹ | 37, 94, 148 |
| (748) | twist (hemp fibers) between the palms | *dego¹ | 68, 119 |
| (749) | two | *ne¹ | 33, 109, 148, 179, 201 |
| (750) | uncle (mother's brother) | *ɣwEmo/ æɣwE¹ | 69, 114, 170, 199 |

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| (751)  | under                | *kʰuija                      | 65, 86, 127                  |
| (752)  | upper part           | *gɑpʰo¹                      | 68, 130                      |
| (753)  | urine                | *mbrɑ¹                       | 24, 25, 83                   |
| (754)  | use                  | *zjẽ¹                        | 43, 107, 182, 196            |
| (755)  | used / old           | *pʰælæ¹                      | 18, 34, 122                  |
| (756)  | vagina               | *htɕi¹                       | 46, 92, 180, 190, 196        |
| (757)  | vat / jar            | *tʂʰwæ                       | 52, 131                      |
| (758)  | village              | *xu¹                         | 71, 103, 168, 197            |
| (759)  | vomit, spit          | *mpʰi²                       | 18, 24, 93, 165, 189         |
| (760)  | waist                | *dʒu¹                        | 58, 104, 183, 186, 193       |
| (761)  | wait                 | *kʰelo¹                      | 35, 116, 170, 198            |
| (762)  | wake up              | *detɕa¹                      | 44, 126                      |
| (763)  | walk                 | *xui                         | 61, 71, 86, 168, 197         |
| (764)  | walking stick        | *(d)zibu¹                    | 39, 100                      |
| (765)  | wall (stone)         | *lodʐu¹                      | 35, 45, 103                  |
| (766)  | walnut               | *kʰɑrV¹                      | 65, 82                       |
| (767)  | want (to go)         | *debwo¹                      | 20, 120                      |
| (768)  | want / need          | *hõ¹                         | 74, 89                       |
| (769)  | wash (clothes)       | *tsʰe²                       | 37, 110, 175, 193, 215       |
| (770)  | watch, look          | *hto                         | 32, 116                      |
| (771)  | water / soup         | *re¹                         | 72, 81, 175, 199             |
| (772)  | water, river         | *dʒiu¹                       | 57, 98, 175, 189, 193, 216   |
| (773)  | we                   | *ɑdo(ri)¹                    | 30, 82, 130                  |
| (774)  | we (dual)            | *ɑdzje/adzɑ¹                 | 39, 129                      |
| (775)  | wear (a bracelet)    | *desæ¹                       | 41, 123                      |
| (776)  | wear (a garment)     | *deɣui¹                      | 61, 69, 86, 168, 186         |
| (777)  | wear (a hat)         | *detsu¹                      | 38, 101                      |
| (778)  | weave / knit         | *de¹                         | 30, 109, 171, 185            |
| (779)  | wedge                | *ndzẽ¹                       | 40, 110, 169, 195            |
| (780)  | weigh (v.)           | *ndʒew                       | 57, 113, 177, 189, 193       |
| (781)  | welcome, receive s.b.| *tse                         | 38, 110                      |
| (782)  | west                 | *niu¹                        | 49, 97, 179, 201             |
| (783)  | wet                  | *dzjẽdzjẽ²                   | 43, 77, 107                  |
| (784)  | what                 | *(h)æne                      | 74, 125                      |
| (785)  | wheat                | *ʃæ¹                         | 56, 124                      |
| (786)  | when                 | *nikʰæ²                      | 50, 123                      |
| (787)  | white                | *deliu¹                      | 36, 98, 180, 190             |
| (788)  | who                  | *se²                         | 41, 109, 180, 196            |
| (789)  | wide / broad         | *(d)zi²                      | 39, 94                       |
| (790)  | widow                | *tʃʰiumæ                     | 57, 99, 180, 215             |
| (791)  | willow               | *mbro¹                       | 26, 82                       |
| (792)  | win                  | *tʰekʰwɑ¹                    | 65, 132, 166, 188, 192       |

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| (793) | wind | **\*meli/mele²** | 27, 35, 108, 175, 198 |
| (794) | wind (thread onto a keel) | **\*tɕo¹** | 45, 118 |
| (795) | window | **\*pwondʐoŋgæ²** | 19, 125 |
| (796) | wing | **\*du(liu)¹** | 30, 98, 100, 182, 186 |
| (797) | winnow | **\*ɬje¹** | 36, 106 |
| (798) | winnowing tray/basket | **\*lipʰi/læpʰi¹** | 18, 93 |
| (799) | wipe (the table) | **\*pʰjapʰja¹** | 22, 126 |
| (800) | wok (large, iron) / pan | **\*dʑiu¹** | 53, 99 |
| (801) | wood / log | **\*sẽ¹** | 41, 110, 177, 196 |
| (802) | work / labor | **\*belæ¹** | 20, 34, 108, 123 |
| (803) | worry / be anxious | **\*sæmbæ² neɕi** | 46, 92 |
| (804) | wound | **\*lɑkʰɑ/lokʰɑ¹** | 35, 65, 84, 132 |
| (805) | wrap (v.) | **\*kʰekuliu¹** | 67, 98, 102 |
| (806) | write | **\*riu¹** | 72, 80, 175, 192, 199 |
| (807) | yak | **\*rA** | 73, 84 |
| (808) | yak (male) | **\*bu¹** | 20, 100 |
| (809) | yawn | **\*xɑ¹ mu** | 71, 130 |
| (810) | year | **\*diutʂʰe¹** | 31, 98, 111 |
| (811) | year after next | **\*ndʒihĩ²** | 58, 88, 95 |
| (812) | year before last | **\*ʂo(ji)hĩ¹** | 54, 88 |
| (813) | yellow < yi? | **\*ʂiu¹** | 54, 98 |
| (814) | yesterday | **\*janiu¹** | 47, 76, 97, 127, 172, 215 |
| (815) | you | **\*ne/no²** | 33, 109, 170, 201 |
| (816) | you (pl.) | **\*neri** | 33, 79 |
| (817) | you two | **\*nedzje/ nedzɑ¹** | 38, 129 |
| (818) | young lad / chap | **\*mpʰrozæ¹** | 23, 24, 42, 82, 170, 190 |
| (819) | younger sibling | **\*ninɑ¹** | 49, 128, 165, 201 |