Proto-Ersuic

by

Dominic Yu

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Professor Johanna Nichols

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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 *vɔkɬuɻ* 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

First, I would like to thank James A. Matisoff, who introduced me to the exciting world of Tibeto-Burman linguistics at the 2001 LSA Institute at Santa Barbara, offered me employment at the Sino-Tibetan Etymological Dictionary and Thesaurus (STEDT), and took me under his wing.

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Special thanks go to Liberty Lidz, who not only gave me copious comments on every draft, but asked exactly the right questions to clarify my analyses and make this a better dissertation.

This dissertation would not have been possible without my language consultants in Mianning: Wu Jinyou 伍金友 and Wang Xingxiu 王兴秀. They took me in as one of their own and taught me their language, and their kindness went far beyond the buckwheat pancakes and butter tea that they went out of their way to make for me. I also appreciated the assistance and friendship of Wu Jianlu, Dagye, Dorje, Wang Zhi, Zhang Cili, and all my Lizu friends and "relatives".

My fieldwork would not have been possible without all the people who helped to get me there (and away!). I thank Professors Sun Hongkai and Yang Guangrong for getting me set up in Mianning; Adeh DeSandies for welcoming me into his high-tech fold every time I came by his neck of the woods; Margit Zwemer for providing me with a home away from home in Hong Kong; Ross Perlin and Jessica Angelson for letting me set up a temporary base in Kunming when I needed it most; and Picus Ding for accompanying me in the "final stretch" and taking me along to see the "Kowloon" of Sichuan.

I am also grateful for all my colleagues working in the same area of the world: Katia Chirkova, Kristin Meier, Takumi Ikeda, Alexis Michaud, and Guillaumes Jacques, whose correspondences have only enriched my own work. Thanks also to all the wonderful people I have met at the ICSTLL's (International Conference on Sino-Tibetan Languages and Linguistics) and the HLS's (Himalayan Languages Symposium), too many to name.

I would like to thank my colleagues and friends at STEDT, past and present, for providing a vibrant and stimulating intellectual and culinary environment during my time at Berkeley: J. B. Lowe, Zev Handel, Ju Namkung, Richard Cook, Kenneth VanBik, Nina Keefer, Allegra Giovine, Brenden Arakaki, Charmaine Wong, David Solnit, Daniel Bruhn, Chundra Cathcart,

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]

[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** > ꭓ 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 (རྟོག་སུ tog-su), and 多續 *Duōxù* is the Chinese-script transcription. Sūn (1982b) records the autonym as **do˥ʂu˥**.

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 **lo˥su˥** (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

[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 [əˤ^{33}su^{55}], rather than the Ersu of Shimian, Ganluo, etc., whose autonym is [əˤ^{55}su^{55}].

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

[5] *Nuosu* is pronounced [nɔ^{33}su^{33}]. (The spelling "-uo" is Nuosu pinyin for [-ɔ].)

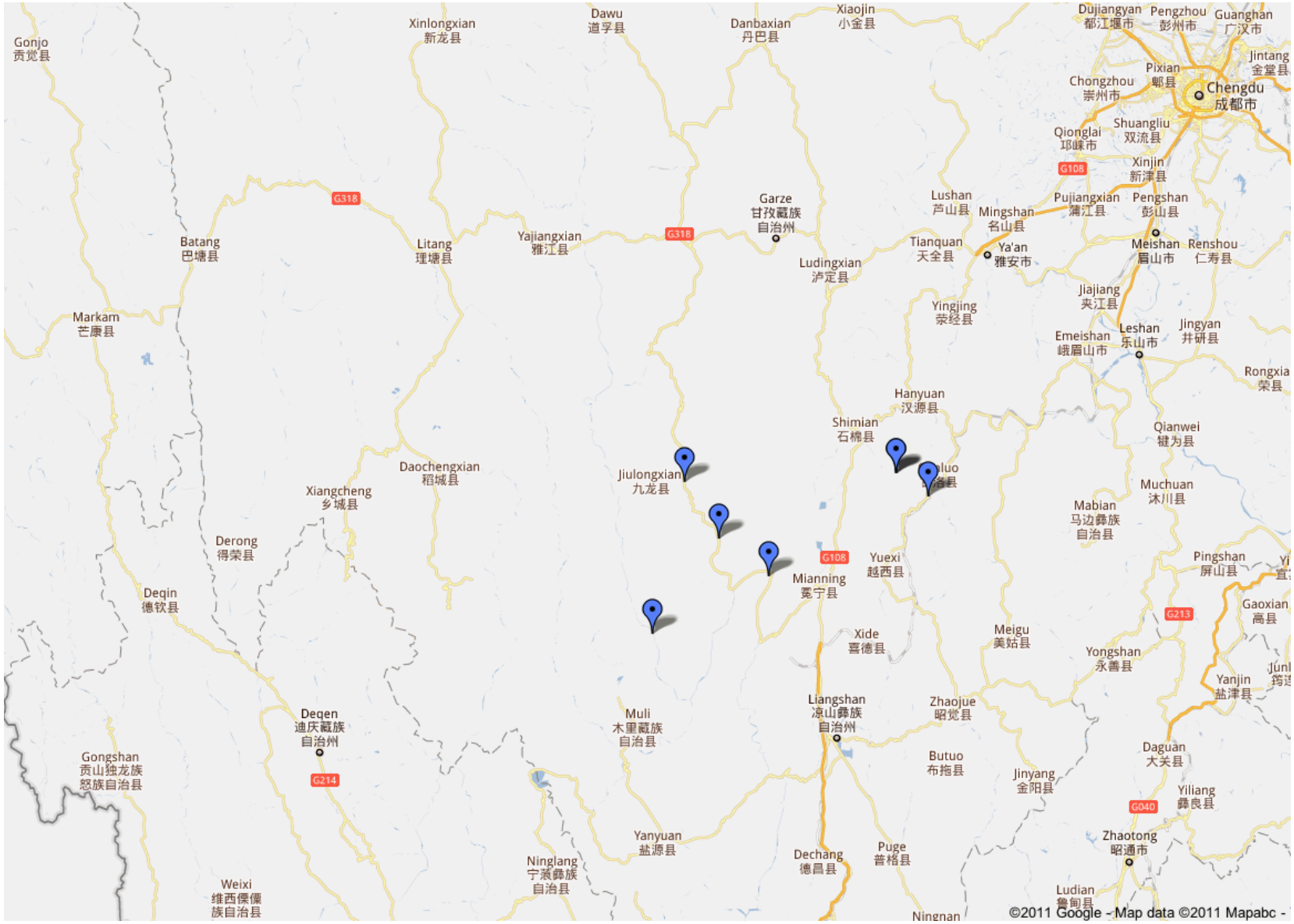


Figure 1.1: Map of Southwest China (Chengdu at top right, Burma at bottom left)

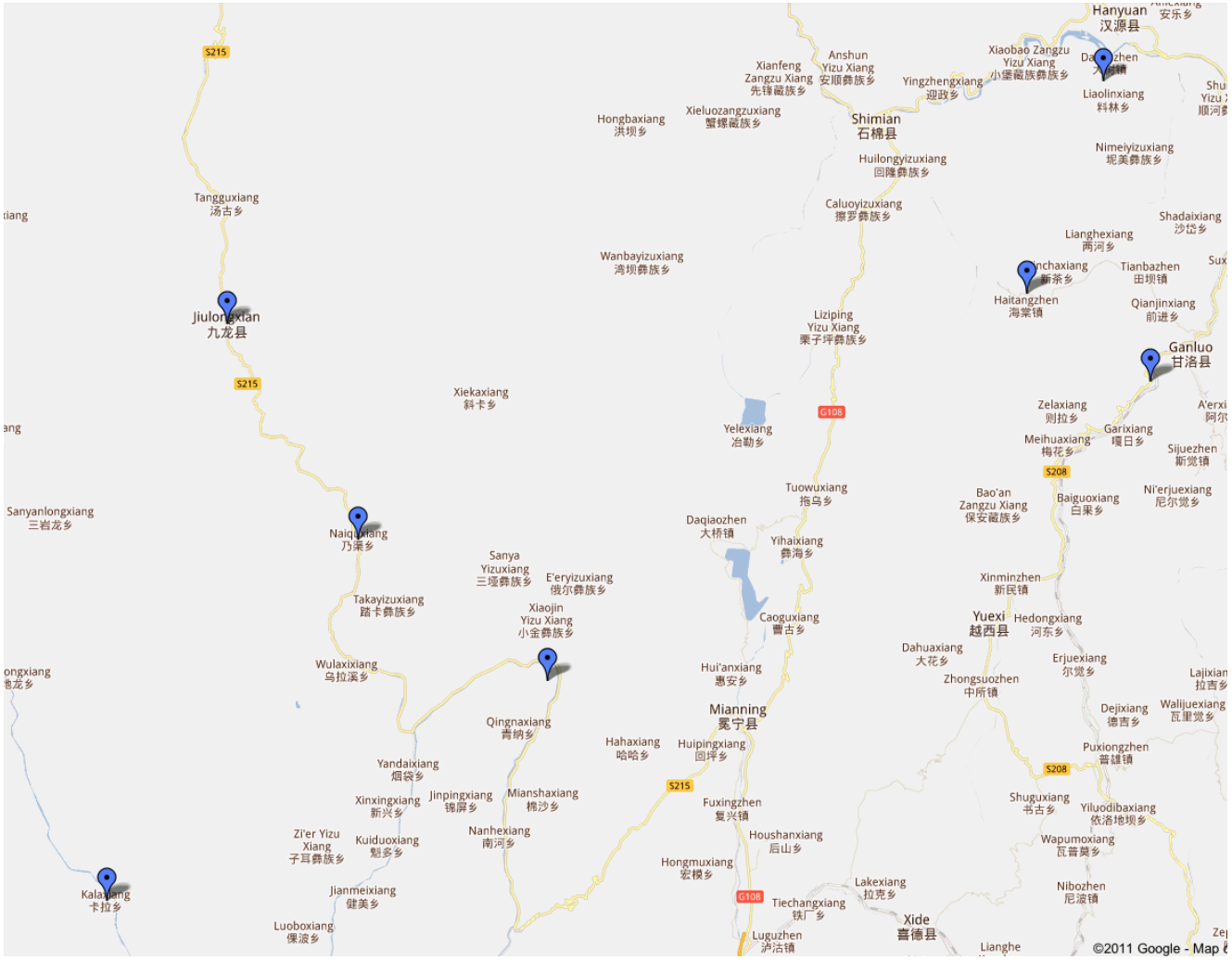


Figure 1.2: Map of Ersuic-speaking area. Center, Mianning Town (Tosu speakers). To the west, various Lizu-speaking locations (listed from north to south): Jiulong Town (=Gura), Naiqu, Lagusa (in He'ai Township, Mianning County), and Kala (in Muli County). To the east, some Ersu-speaking locations: Hanyuan, Qingshui (Haitang District), and Zeluo (Yutian District).

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.

[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 p^h mb mp^h	d t t^h nd nt^h			g k k^h ŋg $ŋk^h$	
affricate		dz ts ts^h ndz nts^h	ʣ̑ tɕ $tɕ^h$ ndʣ̑ $ntɕ^h$	ʣ̢ tʂ $tʂ^h$ ndʣ̢ $ntʂ^h$		
nasal	m	n	ɳ̑		ŋ	
approximant	w	l ɬ	j			
fricative	f v	s z	ɕ ʑ̑	ʂ ʐ̢	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.

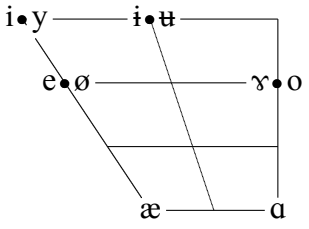
Notice that prenasalized consonants only come in two varieties: voiced and voiceless aspirated.

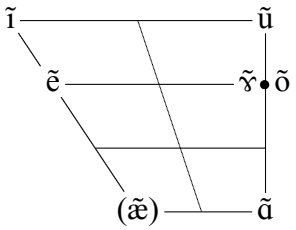
All of the consonant clusters in the last row above, with the exception of **ʒd-**, consist of a voiceless fricative followed by a voiceless unaspirated stop. The fricative can only be of one type, and thus is predictable based on the stop. For this reason one can think of these as pre-aspirated stops. 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 [çpje[55]] (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)bʐ̢-, pʂ-, (m)p^hʂ-**/, palatal clusters /**(m)bʑ̑-, pɕ-, (m)p^hɕ-**/ (which are phonologically bilabial + high front glides or vowels /**-j-, -i**/), and dental fricative clusters /**bz-, ps-, mps^h-**/ (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, **-ə˞** and **-æ˞**, 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 [-ɿ, -ʅ]) 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. [ɣ̟] with lip rounding), and with lip vibration after dental stops (i.e. [ʙ̪]). After dental fricates, **-ʉ** is like [-ɥ] (the rounded counterpart of [-ɿ]).

-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 **`hæ̃ne ~ `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 p^h nb np^h	d t t^h nd nt^h			g k k^h ng nk^h	q q^h $nɢ^ʁ$ nq^h	
affricate		dz ts ts^h ndz nts^h	dʐ tʂ $tʂ^h$ ndʐ $ntʂ^h$	dʑ tɕ $tɕ^h$ ndʑ $ntɕ^h$			
nasal	m	n		ɲ	ŋ		
approximant	w	r l ɬ		j			
fricative	f	s z	ʂ ʐ	ɕ ʑ	x ɣ	ʁ	h ɦ

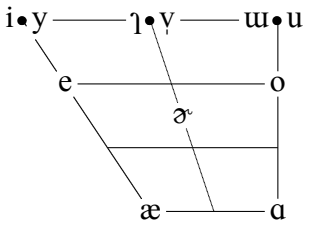
In addition, Kala has clusters transcribed as **/bʑ-, pʑ, p^hʑ- ~ pɕ-, br-, pr-, p^hr- ~ pʂ-/**. These correspond to (and indeed are probably phonetically similar or identical to) the Mianning clusters **/bʑ-, pɕ-, p^hɕ-, bʐ-, pʂ-, p^hʂ-/** described above, which phonologically derive from medials **/-j-, -r-/**.

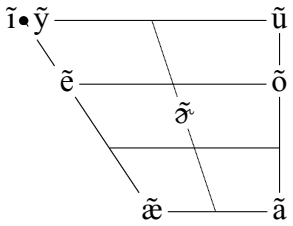
The Kala clusters **/mr-, ɦr-/**, on the other hand, are not found in Mianning.

Note that for Kala, as well as Lǔsū 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:

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





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].

-ʏ 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.

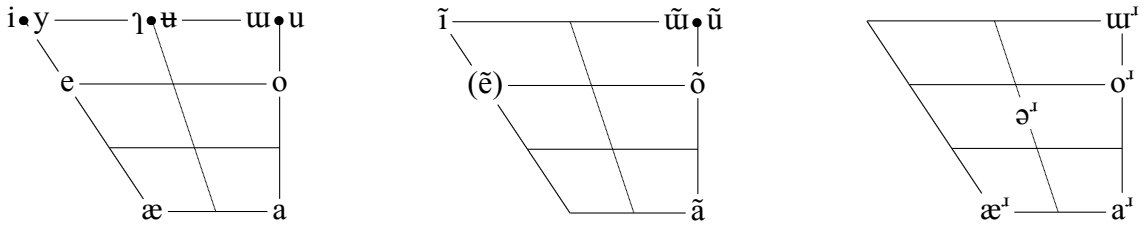
Transcriptions for Lǔsū and Ersu are unmodified from their sources. The consonants of Lǔsū are as follows:

	bilabial	dental	retroflex	palatal	velar	glottal
stop	b p ph nb nph	d t th nd nth			g k kh ng nkh	
affricate		dz ts tsh ndz ntsh	dz̡ ts̡ tsh̡ ndz̡ ntsh̡	dʑ tɕ tɕh ndʑ		
nasal	m	n		ȵ	ŋ	
approximant	w	l ɬ		j		
fricative	f v	s z	s̡ z̡	ɕ ʑ	x ɣ	h ɦ
clusters	bʑ pʑ phʑ	ptsh	nbz̡ (n)phz̡		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, ʏ**/). 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 *shụthdhru*, 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.



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 [ɣ̩], and after dental stops as [ʁ̩].

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

[**ə˞**] 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.

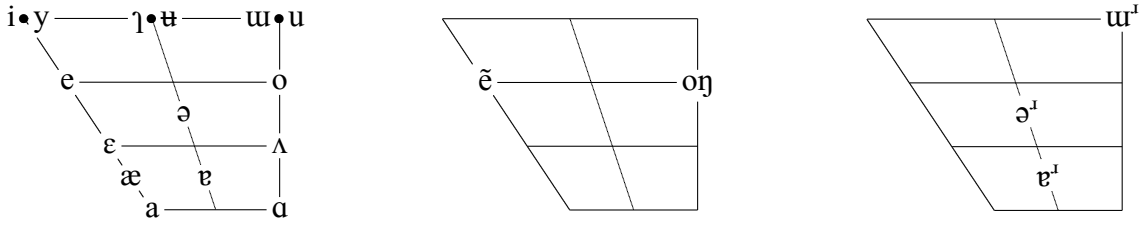
1.3.4 Naiqu Lizu

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 p^{h} mb mp^{h}	d t t^{h} nd			g k k^{h} ng nk^{h}	q^{h}	
affricate		dz ts ts^{h} ndz nts^{h}	dʑ tɕ tɕ^{h} ndʑ	dʐ tʂ tʂ^{h} ndʐ			
nasal	m m̥	n	ȵ		ŋ		
approximant	w	r l ɬ	j				
fricative		s z	ɕ ʑ	ʂ ʐ	x ɣ		[h]
clusters		hts^{h}	htɕ				

Note that some of these consonants only appear once in Ikeda's 200-item list. For example, the uvular initial appears only in **mbɐ^{33}qhʌ^{55}** '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 nb nph	d t th nd nth				g k kh ng nkh	
affricate		dz ts tsh ndz ntsh	dʐ tʂ tʂh ndʐ ntʂh	dʒ tʃ tʃh ndʒ ntʃ	dʑ tɕ tɕh 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 bz ps phs nbz nphs	ht hts	htʂ bzʐ pʂ phʂ nbzʐ nphʂ	htʃ	htɕ	hk	

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

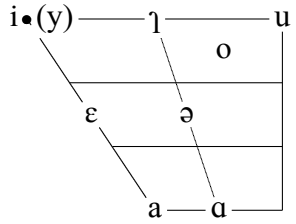
The dental fricates and the alveopalatal fricates are in variation when followed by **-u**.

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

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

Syllabic **ŋ̍** 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, **aᶦ** and **əᶦ**.

Diphthongs are /**iɛ, iɑ, io, iã, iɑ̃, ui, uɛ, ua ~ ɔ, uaᶦ, 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 [**ʙ̥**]); after velars, it is pronounced close to **[ɣ̥]** ; after other consonants it is close to **[ʁ̥]** .

In connected speech, the vowels in the syllables **mu**, **ŋu**, and **n̩i** 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					khua^{ɪ}-	
downhill/right					ŋua^{ɪ}-	
backwards/returning					ɳu-	

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 **t^{h}e-** prefix to cover that space, and Mianning uses **k^{h}e-** 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

$$(P)\quad (C)\quad (G_1)\quad (G_2)\quad V\quad (N)$$

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 (**fi-** 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^{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 p^h mb mph hp	d t t^h nd nth ht rd				g k k^h ŋg ŋk^h hk rg	
affricate		dz ts tsh ndz ntsh hts	dz̡ ts̡ tsh̡ ndz̡ nts̡h hts̡	dʒ tʃ tʃh ndʒ ntʃ htʃ	dʑ tɕ tɕh ndʑ ntɕh htɕ		
nasal	m	n				ŋ	
approximant	w	l ɬ	r		j		
fricative		s z	s̡ z̡	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 མ- (**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

[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 **æ^{33}phu^{53} ~ æ^{33}pu^{53}** 'grandfather' are allofams in a single language showing variation in the aspiration of the initial consonants. Mn. **ɬʏɬɑ** and TBL **la^{33}la^{53}** '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
*p^{h}i^{1}	**phsɿ^{55}**		**p^{h}ɕi**, `ne**p^{h}ɕi**-æ	ŋe^{33}**phi**-æ^{53}, ŋe^{33}**phʑ**-æ^{53}		lose / mislay, throw away
*mp^{h}i^{2}	p^{h}sɿ˥; nphsɿ^{55}	phi^{53}	`mp^{h}ɕi	nphi^{53}, nphʑi^{53}	*m-pat	vomit, spit
*lip^{h}i/læp^{h}i^{1}			lip^{h}ɕi	læ^{33}phi^{53} ‘pot, jar’?		winnowing tray/basket
*p^{h}ælæ^{1}	p^{h}ʌ˩lɛ˩		(ne)p^{h}ælæ	phæ^{33}læ^{53}		used / old
*p^{h}æ^{1}	-p^{h}ʌ		p^{h}æ	phæ^{35}		can, be able
*p^{h}ɑ	-p^{h}ʌ˩		-p^{h}ɑ			classif. sheet/small object
*nep^{h}ɑ^{1}	p^{h}ʌ↓; phɑ^{55}		nep^{h}ɑ	na^{33}pha^{53}		break open, broken
*p^{h}wo	-phɛ^{55}		-p^{h}o	-phu	Lahu phɔ̂ < *paŋ	side, direction[4]
*p^{h}wo			-p^{h}o	(te^{33}) phu^{31}		classif. one of pair (hand, eye)
*t^{h}ep^{h}o^{1}		tha^{33}**pho^{53}**	k^{h}e**p^{h}o**	tha^{33}**ph**-a^{53} ‘die out’		extinguish, put out fire
*p^{h}o^{1}	phu^{55}	pho^{33}ji^{53}	`nep^{h}o-ɑ	pho^{35}	*ploŋ ?	run away / escape[5]
*(p^{h}e)ŋgwo^{2}	ngɑ^{33}ngu^{55}		`p^{h}oŋgo	phe^{33}ngu^{53}		thing, tool
*p^{h}ulje^{1}			p^{h}ele, p^{h}ʉli	phu^{33}li^{53}		dust
*lep^{h}ew^{1}	lɛ^{33}phɛ^{55}	le^{33}phu^{53} ‘arm’	lep^{h}e	le^{33}phu^{53} ‘arm’		hand
*p^{h}ek^{h}wæ^{1}	phɛ^{55}khuɑ^{55}		p^{h}ʉk^{h}wɑ	phe^{31}khuæ^{53}	*pəw PRICE	expensive[6]

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

[4]Cf. the Mn. forms **`ɳɑp$^{h}$o** ‘back, behind’, **ʂɑp$^{h}$o** ‘front’, **k$^{h}$ʉp$^{h}$o** ‘inside’, **`kop^{h}o** ‘this side, here’, **gɑp^{h}o** ‘on top of, up there’, **jɑp^{h}o** ‘below, down there’, **ŋɑp^{h}o** ‘that side, across the way, downstream’. The classifier for ‘one of a pair’ is clearly the same morpheme. Note that PL ***pa^{2}** (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 **ts^{h}uk^{h}wɑ** ‘adult’ and **dek^{h}wɑ** ‘grow (up)’. Perhaps this syl-

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*pʰui¹	pʰʂʅ˩; phʂʅ⁵⁵		pʰwehõ (~ lg.)	phu⁵³	WT bod	Tibetan
*kʰepʰui¹		khə³³phu⁵⁵	pʰwe	khe³³phu⁵³	cf. Lahu phɛ	tether (a cow)
*pʰukʰæ²			ˋpʰʉkʰjæ	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	pʌ˩; pɑ⁵⁵		-pɑ	(te³³) pa³¹		peck, unit of dry measure for grain (=1 decaliter)
*pætɕe¹			pætɕe	ne³³pæ⁵³tɕi³¹		cut (paper, cloth)
*pwEpwE²	pɛ³³pɛ⁵⁵	(gə³³mo⁵⁵) pu³³	ˋpʉtɑ 'patch (v.)'	pe⁵³pe⁵³	*pʷa, PLB *ba¹ ?	patch (clothing)
*pwEki/pwEtɕi			ˋpʉki	the³³pe⁵³tɕi³¹		send/dispatch (a person)
*pi²	**pʂʅ⁵⁵**		ˋʃti**pi**	ɳæ⁵³**pi⁵³**		chip (the rim)
*pimæ¹	pzʅ˩mʌ˩bʌ˩kʌ˩; pʂʅ⁵⁵ma⁵⁵ɳi⁵⁵zɑ⁵⁵		pimæ	pi³³mæ⁵³	*s-bal	frog, toad
*dzepi/dzopʰi¹	dzɛ⁵⁵pʂʅ⁵⁵		dzopʰɕi			hoe
*pjembje	pi˩npi˩; pi⁵⁵mbi⁵⁵	pi³³nbi⁵³		pi⁵³nbi⁵³		knee
*sẽpu¹	si˥bu˩; si⁵⁵pu⁵⁵	sepv; sə³³pu⁵³	sɨpʉ	se³³pu³¹, se³³pu⁵³		tree
*æpu	ʌ˩pu˩; ɑ³³pu⁵⁵			æ³³pu⁵³	*pəw	grandfather
*pu	-pu˩, -bu˩; pu⁵⁵	-pv	-pʉ	(te³³) pu³¹	PLB *baŋ¹	classif. trees/flat obj.
*piu¹	pɛ⁵⁵rɛ⁵⁵	pu⁵³	pø	pu³⁵	*m-blen	pus
*pwondzo̱ŋgæ²			ˋpondzo̱ŋgjæ	pu⁵³dzũ̱⁵³ngæ³¹		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 **se³³*kæ⁵³*li³¹**, 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
*bɑ[2]	dʌ˩bæ˩; ba[33]wɑ[55]		`debɑlo	ba[33]laŋ[53]laŋ[31]	PLB *m-ba[3]	bright[7]
*batʂi/batʂe	bɑ[33]tʂɛ[55]		bɑtʂi			basket (for straining)
*æbæ[2]	ʌ˩bʌ; a[55]ba[55]	`æpæ	`æbæ	æ[53]bæ[53]		father
*bædʑje[1]	ba[55]dʑɛ[55]	ba[33]dʐ̩[55]	bædʑi	bæ[33]dʐ̩[53]		money[8]
*bæni[1]	bʌ˩˧n̥i˩, bʌ˩n̥i˩; ba[33]n̥i[55], bɐ[33]n̥i[55]	be[33]n̥i[53]	bæn̥i	bæ[33]n̥i[53]	*r/g-na	listen
*debæ[1]	ba[55]		debæ	de[33]bæ[53]	*ba ?	carry on the back
*bebe[1]	bɛ[55]bɛ[55]	`bebe	bøpø, bøbø	be[33]be[53]		crawl, climb
*bedi[1]	bɛ[33]dzɻ[55]	bə[33]di[53]	bødzi	be[33]dʑi[53]	*bəw, *zril > PLB *di[1]	insect / worm
*bugi[1]			bʉgje	be[33]gi[53]		bury
*behẽ/behĩ			`behẽ	be[33]hĩ[53]		fly (n.)
*belæ[1]			belæ	be[33]læ[53]		work / labor
*bibi[1]			debibi	de[33]bi[33]bi[31]	PKC *ɓuay	busy
*bje[1]	jʌ˧˩bi˧˩		pæbi	bi[33]bi[53]		coarse, rough, wide (in diameter)
*bi[2]	bzɻ˩; bzɻ[33]	bi[33]jə[53]	`bi	bi[35]	*bya	bee, honey
*bje	bi[55]	`bje	lɑbje	(te[53]) bi[53]		heap (e.g. of dung)
*bi[1]	bzɻ[33]bzɻ[55]	bi[33]bi[53]	pæbi, `bibi	bi[53]bi[53]	*ba	thin
*bo[1]	bo˩ ‘have livestock’, bu˩ ‘have N (be age N)’; bo[55]	bo	bo	bo[31]		have, exist (money)
*debwo[1]			(ji) debo	(ji[35])de[53]pu[31]		want (to go)
*lo(bwo)[1]	ər˥˩kʰuʌ˩; ər[55]khuɑ[55]	lo[33]**pu[53]**, lo[33]**bu[53]**		luo[33]**bo[53]**, luo[53]**bu[53]**	*r-lung, *k-luk	stone, rock
*berA/burA	ʂɛ[33]bɛ[55]ra[55]	bu[33]ra[55]		bu[33]ər[53]	*g/p-rwak	ant
*bulo	bɛ[33]ər[55]		bʉlo		*s-luk/ŋ	maggot
*bu[1]	bər˥ ‘wild ox buffalo’ ?		bʉkʰwɑ	bu[33]khɯ[53]		yak (male)
*bu[1]	bu[55]			ka[33]bu[53]	*m-bup ROT / SPOTTED / WRITE	multicolored / patterned (cloth)

[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]	bɛ[55]su[55]su[55]		bøsʉsʉ	bu[33]sʉ[53]sʉ[31]		bladder
*butsʰɑ[1]	vu[55]tshuɑ[55]	`nbutsʰæ	bʉtsʰɑ	bu[33]tsha[53]	*r-pʷa	axe
*bɑtʂɑ/butʂɑ	pʌ˩tʂʌ˩; ba[33]tʃɑ[55]		bʉtʂɑ			knife
*beri[2]	bɛ˨˩rə˩; bɛ[33]ɾɻ[55]	`bəə; bu[33]rə[53]	`bəˑ	bɯ[33]ɣɯˑ[35]	*s-b-ru:l	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	jʌ˩ntɕʰo˩; jɑ[33]ntɕho[55]		mpʰɕo	phiu[53]nphiu[53]		beautiful
*pʰjo			-pʰɕo	(te[33]) phiu[31]		bolt (of cloth)
*pʰjo	-tɕʰo˩	-tɕʰo	-pʰɕo	phʑuo[53]	< WT phyogs	direction / orientation
*mpʰjo[2]	ntɕho[33/55]		mpʰɕo ‘slap’	te[53]nphʑu[33]nphʑu[31]		strike (the table)
*pjo			`pɕowɑ, `pɕowəˑ ‘agate’	pʑu[33]wu[53], ptɕu[33]wu[53]		coral
*pʰja	-tsʰʌ˩; tshɑ[55]		-pʰɕɑ	(te[33]) phʑæ[31]		classif. garments
*lepʰja[1]		le[33] tɕhə[53]	lepʰɕɑ			palm

[9]However, note that there *is* a Mn. form **`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
*sɛ̃p^{h}ja^{1}	si^{55}tshɑ^{55}	sæ^{33}tɕhe^{53}	sɨp^{h}ɕɑ	se^{33}phʑæ^{53}	*r-pak	leaf
*-p^{h}ja		li^{33}tɕhə^{53}	`ts^{h}ɨp^{h}ɕɑ	tʂhu^{33}phiæ^{53}		thigh
*p^{h}ja		`pɕæ		ŋe^{33}phʑæ^{53}	*py(w)ak	sweep
*p^{h}jap^{h}ja^{1}		dɐ^{33}tɕhɯ^{55}tɕhɯ^{33}		ne^{33}phiæ^{53}phiæ^{31}		wipe (the table)
*p^{h}ja^{2} mu			`p^{h}ɕɑ mʉ	phʑæ^{53}/(n)phiæ^{53} mu^{53}		kowtow, make obeisance to
*pja^{1}	tsɑ^{55}	pʑæ	pɕɑ	de^{33}pʑæ^{53}		hang
*pja^{1}		depʑæ		pʑæ^{35}		catch (in mouth)
*pjɛ̃		tɕi^{55}	`pse	pʑe^{35}	*b-ləy, PLB *p-re	run
*bjɛ̃bjɛ̃^{1}		dʑe^{33}dʑe^{53}, dʑi^{33}dʑi^{53}	bzɨbze	bʑe^{35}	*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) **ɕho?^{53}**).

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

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. **nphzɻɯ^{35}** ‘steal’ varies with **nphtʂɯ^{35}**. 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’ **p^{h}rezæ** with Nq. ‘steal’ **tʂhə^{33}sɯ^{53}**), 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 [ə^{ɹ}] and [æ^{ɹ}], 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 **ku^{53}pe^{53} nga^{33}pi^{31}**, where the second element means ‘skin’

and is transcribed elsewhere as **nga^{ɹ33}pi^{53}** or **n-gə^{ɹ35}**. Similarly, some of the forms where Mn. has the rhyme [-æ^{ɹ}] 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 > [-ɚ], 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
*p^{h}ru				**ʂæ^{55}phʐu^{53}**	PLB *ʔ-blu[1]	porcupine
*mp^{h}rozæ[1]	pho^{55}zɑ^{55} 'husband'	p^{h}rezæ	mpʂ^{h}ozæ	nphʐɯ^{33}zæ^{53}	PL *m-laŋ/plaŋ[1] 'husband' (PL 217)	young lad / chap
*mp^{h}ru[1]	**npho^{55}**	**tʂhə^{33}**sɯ^{53}	**`mpʂ^{h}ʉ**	**nphʐɯ^{35}, ntʂhʉ^{35}**	*r-kəw	steal
*mp^{h}ru[1]			ntʂ^{h}ʉ	nphʐʉ^{35}		steam (v.)
*mp^{h}ru			`mpʂ^{h}ʉ	ntʂhʉ^{33}tɕæ^{53}		bamboo steamer
*p^{h}ru			**`mjɑpʂ$^{h}$ʉ, `mjɑtʂ^{h}ʉ**		PLB *p(l/y)uːŋ[2] (MLBM 62)	face[10]
*præ[1]	**pa^{ɹ55}**duɑ^{55}	`de**præ**	de**pʂæ**	**pæ^{53}**læ^{53}		arrive
*debræ[1]	**bə^{ɹ}**ˊ	`de**bræ**; dɐ^{33}**be^{53}**	**bʐæ**	de^{33}**bæ^{ɹ53}**	*b(w)ar ⨯ *p(w)ar	burn
*mbro	jʌˊbo^{ˊ}; jɑ^{33}nbo^{55}	nbɚnbɚ; bo^{33}mbo^{53}	pæmbʐo, mbʐ̩mbʐo	bo^{53}nbo^{53}	*m-raŋ	high / tall
*debro[1]			debʐo gʏ	de^{33}boɹ^{53}	PKC *puar	feel bloated (stomach)
*bru[2]	dʐu^{33} ??		`bʐʉ			tendon
*bru	buˊ; bu^{33}	-bo	-bʐʉ	(te^{33}) bu^{31}		flock (of sheep)
*(ji)mbru[2]	**bʐ̩**ˊ		`ɣɑji**mbʐʉ**	ji^{53}**nbu^{53}**	*m-bruŋ ⨯ *m-bruk; <WT ḥbrug?	dragon
*nebre[1]	**bə^{ɹ}**ˊn̥i^{ˊ}; **ba^{ɹ55}**n̥i^{53} 'rest'	ne**bɚ**	ne**bʐe**	ŋe^{33}**bɯ^{ɹ53}**		tired, fatigued
*m(b)ro[2]	boˌ; nbo^{33}	`nbɚ; mbɐ^{33}qhʌ^{55}	`mbʐo	nbo^{ɹ35}	*k-m-raŋ	horse
*pri	-pe^{ɹ}ˊ; pa^{ɹ55}	`pɚ 'grain'; nu^{33}pi^{53} 'peas'	-pə^{ɹ}	(te^{33}) pɯ^{31}		classif. small round obj.
*p^{h}rɑ[2]			`p^{h}æ^{ɹ}, dzæp^{h}æ^{ɹ}	pha^{53}	*pwaːy	chaff / bran
*brɑ[1]	pʐ̩ˊ ?	`bræ	bæ^{ɹ}, bæ^{ɹ}jo	ba^{ɹ35}		rope / string
*brɑ[1]			nts^{h}ɑbæ^{ɹ}	tshŋ^{33}ba^{53}		cane / vine
*debrɑ[1]	bə^{ɹ}ˊ; dɑ^{33}ba^{ɹ55}	dɐ^{33}bɐɹ^{53}	debæ^{ɹ}	de^{33}ba^{ɹ53}	*bliŋ	full

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

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*mbrɑ[1]	bəˤ˥; nbaˤ[55]	nbɐɹ[55]	`mbæˤ	nbaˤ[35]		urine
*mbrɑ[1]	bəˤ˩		mbombæˤ, mbʐimbʐæ	de[33]nbaˤ[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
*tsipʰrjo/ tsʰipʰrjo[2]	tsʰɭ˥**pʰo**˥; tsɻ[55]**pho[55]**		`tsʰi**pʰɕo**	tshe[53]**phʐʉ[53]**		age
*mpʰrjo[1]	ntshɛ[55]		mpʰɕo (xko)	ntʂhuo[53]		measles
*tsjẽpʰrje[1]	tsi˥pʰʂɻ˥; tsi[55]phʂɻ[55]		tɕe pʰɕipʰɕi	tɕe[33]phʐu[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
*khempʰe	pʰi˥	khɐ[33]nphe[53]	`mpʰe	khe[33]nphe[53]	*s-pʷak	hide oneself
*dempʰje[1]	npʰi˥; nphi[55]	dɐ[33]phi[53]	dempʰje	de[33]nphi[53]		cold (weather, water)
*mpʰje[1]	mphi[55]	`pʰje	`mpʰjekɑ	(n)phi[35]	*s-pʷal ?	ice
*mpʰi[2]	pʰʂɻ˥; nphsɻ[55]	phi[53]	`mpʰɕi	nphi[53], nphʐi[53]	*m-pat	vomit, spit
*mpʰjo	jʌ˥ntɕʰo˥; jɑ[33]ntɕho[55]		mpʰɕo	phiu[53]nphiu[53]		beautiful
*mpʰwompʰwo			mpʰo gɤ, mpʰompʰo	(n)phu[53]nphu[53]		industrious / hardworking
*mpʰru[1]			ntʂʰʉ	nphʐʉ[35]		steam (v.)
*mpʰru			`mpʂʰʉ	ntʂhu[33]tɕæ[53]		bamboo steamer
*mpʰrozæ[1]	pho[55]zɑ[55] ‘husband’	pʰrezæ	mpʂʰozæ	nphʐɯ[33]zæ[53]	PL *m-laŋ/plaŋ[1] ‘husband’ (PL 217)	young lad / chap

[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]phaˤ[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
*mpʰru[1]	**npho[55]**	**tʂhə[33]**sɯ[53]	**`mpʂʰʉ**	**nphzɻu[35]**, **ntʂhʉ[35]**	*r-kəw	steal
*mpʰjo[2]	ntɕho[33]/[55]		mpʰɕo ‘slap’	te[53]nphʑu[33]nphʑu[31]		strike (the table)
*mpʰrjo[1]	ntshɛ[55]		mpʰɕo (xko)	ntʂhuo[53]		measles
*mpʰri[1]	suˀmoˀnpʰaɹˀ ‘cremate’		mpʰəɹ			burn, singe
*mpsʰu[1]	ntshu[55]		mpsʰʉ, ntsʰʉ	ntshʉ[53]		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) **te[55]ptshae[55]** ‘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
*mumbæ[1]		mu[33]nba[53]		mu[33]nbæ[53] mu[31]		hunt
	htɕi[33]nba[55]su[55]			pi[53]nbæ[53]mu[33]sʉ[33]		doctor
*rbæ	rbæˀ		`əɹmbæ			kind, type
*mbrɑ[1]	bəɹˬ; nbaɹ[55]	nbɐɹ[55]	`mbæɹ	nbaɹ[35]		urine
*mbrɑ[1]	bəɹ˩		mbombæɹ, mbzɻimbzɻæ	de[33]nbaɹ[53]	Lahu bù < *mbwa	loud[12]
*mbere[2]	mbɛ[33] rɛ[55]			na[53]nbəɹ[53]	*ba-y	cheek
*mbje	nbi[33]ʂɑ[55]	mbi[35], mbi[33]mbi[53]		nbi[33]ʂuæ[53]ʂuæ[31]		cool (pleasantly)
*mbje[1]	bi˩; nbi[55]	mbe[53]	mbivʉ	nbi[35]		hill / mountain
*pjembje	piˀnpiˀ; pi[55] mbi[55]	pi[33]nbi[53]		pi[53]nbi[53]		knee
*mbi	mbzɻˬ/ˀ; nbzɻ[55]		`mbi ‘step across’	(te[33]) nbi[31]		step / stride
*mbi[1]			mbi	nbi[35]	*k-r-pʷat	leech
*mbimbi[2]	nbzɻ[33]nbzɻ[55]		mbimbi	nbi[53]nbi[53]	Lahu pɛ̀ < *bya	divide / share (things)
*mbiulje[2]	nbɛ[33]li[55]	mbə[55]	`mbøli	nbo[33]ly[53]		kidney
*mboto		`nbuto		nbo[33]tuo[53]	PL *taŋ[3] (PL 257)	knife
*mbro	jʌˀboˀ; jɑ[33]nbo[55]	nbəɾnbə; bo[33]mbo[53]	pæmbzo, mbzɻimbzo	bo[53]nbo[53]	*m-raŋ	high / tall
*mbo[1]	buˀ; nbu[33]	nbo	mbo, mbojo	nbo[35], nbo[53]ju[53]		hat
*nembo			`nembo	ne[33]nbo[53]	*m-baŋ	deaf
*nɑmbo[2]	nɑ[33]nbo[55]		`æɹ nɑ mbo	na[33]nbo[35]	*m-baŋ	deaf person

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

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*m(b)ro^{2}	bo↓; nbo^{33}	`nbɚ; mbɐ^{33}qhʌ^{55}	`mbʐo	nbo^{ɹ35}	*k-m-raŋ	horse
*mbroʑa	nbo^{55}zɑ^{55}		`mbʐoʑɑ			saddle
*mbro^{1}	nbo^{55}si^{55}			nbo^{ɹ33}wu^{53}		willow
*mbwo^{2}	nbo^{33}ntsho^{55}		`mbo	nbu^{53} ‘100,000’	WT ḥbum ‘100,000’	ten thousand
*mbwo		nbə^{53}	`mbo	nbu^{35}, nbo^{35}		dig / scoop out / excavate
*mbu^{1}			mbʉ ‘roast’	ne^{33}nbu^{53}		scald / burn
*mbuʂew		bu^{33}ʂu^{55}	`dembʉʂɤ	nbu^{33}ʂu^{53}		shy / bashful
*(ji)mbru^{2}	**bʐ˩˧**		`ɣɑji**mbʐʉ**	ji^{53}**nbu^{53}**	*m-bruŋ ⪤ *m-bruk; < WT ḥbrug?	dragon
*mbre^{1}	nbaɹ^{55}	se^{33}mbe^{53}		se^{33}nbɯ^{53}		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
*hpje^{2}		`pje; pi^{53}, pẽ^{53}	`hpje	pi^{53}	*s-man	medicine
	htɕi^{33}nba^{55}su^{55}			pi^{53}nbæ^{53}mu^{33}sʉ^{33}		doctor
*hpwo^{2}	hpo^{55}		`hpo	pu^{53}		incense (bark of cypress? tree)

The nasalization in Nq. ‘medicine’ is unexplained.

The Ersu form **n̥i^{55}htɕi^{55}** 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 **htɕi^{55}** 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 [n̩]. 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
*æmæ[1]	ᴀ˩mᴀ˨,ᴀ˩mᴀ˩; a[55]ma[55]	`æmæ	æmæ	a[33]ma[53]	*ma	mother
*mæt^{h}u			`mæt^{h}ʉ	ma[33]thu[53]		lazy
*mɑmo	mᴀ˨mo˩ ‘mom’	mæmo	mɑmo ‘wife’	ma[53]mo[53]		old lady
*mrɑ[1]	ma^{ɹ}[55]	maɹ[55], mɐɹ[33]ʂʅ[53]	`mæ^{ɹ}	ma^{ɹ}[35]	*m-la-y	bow / arrow
*me[1]			me	me[35]	< WT mar ?	butter
*me[1]	mɛ˥; mɛ[55]	mə[53], sa[33]mə[53]	`me	me[35]	*mey	fire
*t^{h}eme[2]	t^{h}ɛ˨mɛ˩nuᴀ˧; thɛ[33]mɛ[55]	thə[33]mə[53]	`k^{h}eme	the[33]me[53]	*ma-t	forget
*mwEdzæ[1]			mʉdzæ	me[33]dzæ[53]		barley
*meli/mele[2]	mɛ[55]ə^{ɹ}[55]	melje; mə[55]	`mele	me[55]le[53]	*g-ləy	wind[13]
*melje	mɛ[33]li[55]		mele		*m-ley ⪤ *m-ləy	earth, ground
*mjalo[1]	miɑ[55]lo[55]		`mjɑlo	mi[33]luo[53]		mirror
*miso			`misʉə^{ɹ}	mi[33]suo[53]		three days from now
*metɕo			`metɕo	mi[33]tɕu[53]		flower[14]
*mi	mi˥; mi[33]	mi[33]jə[53]		mi[35]	PLB *myuk^{L}, *s-myuk^{H}	monkey
*mi[1]	mi˧; mi[55]	mi[35]mi[53]	mi	mi[35]	*r/s-miŋ	name
*mi[1]	mi[55]		mi		PLB *s/ʔ-mi[1]	catch
*nemi[1]	mi[55]		`nemi	ne[33]mi[53]		swallow
*ɑmja/ɑmjo/æmi			ɑmjo, ɑmjɑ	æ[53]mi[53]		now
*mja[1]	miɑ[55]		mjɑ	miæ[33]ku[53] ‘blind’	*s-mik ⪤ *s-myak	eye
*mjare[1]			mjɑə^{ɹ}	miæ[33]ə^{ɹ}[53]		tears ("eye-water")
*mja[2]	miᴀ˩; vu[33]miɑ[55]		`mjɑpʂ$^{h}$ʉ, `mjɑtʂ^{h}ʉ	miæ[35]	cf. EYE	face
*mje/mja	jɑ[33]mi[55]	mjemje	mimjɑ	miæ[53]miæ[53]	*mra, PLB *C-mya[2]	many / much
*mo[1]		`mo	ə^{ɹ}mo	mo[35]	< MC muH 墓 ?	tomb[15]
*mo	mɛ[55]	`mo	`mo		*d-mak	soldier, army
*t^{h}emo/momo[1]	mo˩mo˩; mo[55]mo[55]	thɐ[33]mo[53]	k^{h}emo-ɑ	tho[33]mo[53]	*maŋ	old / elderly
*mopæ[2]	mo[33]pa[55]			mo[53]pæ[53]	*s-mak	son-in-law

[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 **mi[33]tuo[53]**.

[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
*mop^{h}æ^{1}	mu˥; m̥^{55}pha^{55}		mop^{h}æ			brother
*mentʃ^{h}o^{2}	mɛ˧ntʃ^{h}ɛ˥; mɛ^{33}ntʃhɛ^{55}	`mentʂ^{h}o			*r-may ⧓ *r-mey ⧓ *r-mi	tail
*mukr(w)V^{1}		mu^{33}kəɹ^{53}	mʉkwəˤ	mu^{33}kəˤ^{53}	*r-may ⧓ *r-mey ⧓ *r-mi	tail
*mumbæ^{1}		mu^{33}nba^{53}		mu^{33}nbæ^{53} mu^{31}		hunt
*mutsi^{1}	m̥^{33}tsʅ^{55}		mʉtsɨ	mu^{33}tsʅ^{53}		cat
*mu^{1}	ŋuə˥; ŋ̊^{55}	`mu	mʉ	mu^{35}	*mow	do / make
*tsumu/tsumo^{2}	tsu^{33}ŋ̊^{55}		`tsʉmo	tsuo^{53}mo^{53}	*tsum ?	mortar
*mui^{2}	mi˥mæˤ; maˤ^{55}	`mv; mu^{53}	`mwe, `məˤ	mu^{53}	*s-mul	feather, hair (of body)
*muimui^{1}	maˤ^{55}maˤ^{55} (’close eye’)		jibɑ `demʉmwe	ne^{33}mu^{53}mu^{31}	*s-miːt	close (the mouth)
*demwo^{1}	maˤ^{55} ?	dɐ^{33}mɑ^{53} ?	mo	te^{53}mu^{53}	*s-mut	blow (away)
*me/mo		`me		muo^{35}	*r-məw	sky
*mjari/meri^{1}	miɑ^{55}rʅ^{55}		məˤ	mɯ^{33}ɦɯˤ^{35}	*r-ma + *ri GLEET	sore / boil
*mri^{1}	jɑ^{33}maˤ^{55}	mræ	məˤ	mɯˤ^{33}mɯˤ^{35}		tasty / delicious

There are two items where [m-] corresponds with [ŋ̊-] 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) **ŋ̊i^{55}pa^{53}** ‘throat’; and also WB **jun^{2}** ‘rabbit’.

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*myihkwo^{1}	mi^{55}hku^{55}		`ŋ̊ipwe-kotɑ	mi^{33}ku^{53}	*mit, *l-ko(k)	throat
*myidzi^{2}	xi˥dzɛ˥ ?; mi^{33}dzʅ^{55}		`ŋ̊idzɨ	mi^{33}tsʅ^{53}		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						
*lit^{h}o/lot^{h}o^{1}		lo^{33}**tho^{53}**	li**t^{h}o**	luo^{33}**thuo^{53}**	*b-ləy	grandchild
*mæt^{h}u			`mæt^{h}ʉ	ma^{33}thu^{53}		lazy
*t^{h}wɑ^{1}			t^{h}ɑ	thua^{35}		fit, can hold
*t^{h}æ^{1}	thɑ^{55}	`t^{h}æ	`t^{h}æ	thæ^{33}	*ta	neg. imp.
*t^{h}e^{1}	t^{h}ɛˋ; thɛ^{55}	`t^{h}e	t^{h}e	the^{53}		s/he
Voiceless unaspirated						
*ljelje^{1}	pu^{55}li^{55}li^{55}	ta^{33}li^{53}	tɑli, tɑlili	ta^{33}li^{55}li^{31}		circular (spherical)
*tɑ^{1}			detɑ 'accu-rate'	ta^{33}ma^{53}		true
*tæniu^{1}	tʌˋn̥oˋ; ta/tɑ^{55}n̥o^{55}		tæn̥i	tæ^{33}n̥ʉ^{53}		today[17]
*tɑso^{1}			tɑso 'just now'	ta^{33}suo^{53}	PLB *C-sok	morning
*t(w)ɑh(w)ɑ̃^{1}	tuɑ^{55}xuɑ^{55}		tɑhɑ̃	ta^{33}xa^{53}	*s-r(y)ak 24-HOURS	tonight
*tɑ	tʌˇ (perf.)		`netɑ	də^{33}ta^{53} 'open (an umbrella)'		close
*te^{1}	tɛˋ; tɛ^{55}	`te; tə^{53}	`te	te^{31}		one
*tupri^{1}		tu^{33}pi^{53}		tu^{33}pɯ^{53}		bean / soybean / pea
*tu^{1}			k^{h}etʉ	ŋe^{33}tu^{53}		infect
*detwɑ^{1}	tuɑ^{55}		`detɤtɑ	de^{33}tua^{53}		hug / embrace

[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 `mæɳi	tuo^{53}sɻ^{53} mæ^{33}ɳ̟ʉ^{53}		no problems, leisurely
*mboto		`nbuto		nbo^{33}tuo^{53}	PL *taŋ^{3} (PL 257)	knife
Voiced						
*dɑdɑ^{2}			pædɑ, `dedɑ	da^{53}da^{53}		short
*de^{1}	dɛ^{55}	de^{35}	dɤ	de^{31}	*dak	weave / knit
*dede^{1}		də^{33}də^{53}		de^{33}de^{53}		heavy
*dĩbæ		`dĩbæ ‘stupid’		di^{33}nbæ^{53}		honest / well-behaved
*du(liu)^{1}	**bu˥ɬɛ˥**; **bu^{55}**ɬɛ^{55}	**`dv** ‘plumage’; **du^{33}**rɯɹ^{53}	**dølømæ**	**du^{33}**ly^{53}	*duŋ	wing
*dedulæ^{2}			`dedʉlæ	te^{53}du^{53}læ^{33}sæ^{31}		consult / discuss
*du^{1}	bu^{55}		`dʉ	du^{35}		plow (n.)
*k^{h}edu^{1}			k^{h}edʉ ‘complete’	khe^{33}du^{53}		right / correct
*ʐi̱udu^{2}	ʐo^{33}**bu^{55}**			ʐu^{53}**du^{53}**		square / rectangular
*dwɑ^{1}	duʌ˩; ŋɛ^{55}duɑ^{55} ‘pass by’	dæ	dɑ	dua^{35}, ŋe^{33}dua^{35}		go / leave (past)
*ɑdo(ri)^{1}			ɑdo (incl.)	a^{33}do^{ɹ35}		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 fricates”), 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
*djemo^{1}	dʑi^{55}mo^{55}			dʑe^{33}mo^{53}		rich[18]
*diwæ^{1}	dʑi^{55}vɑ^{55}		dʑyæ^{ɹ}	dʑi^{33}wæ^{53}		slow / clumsy
*bedi^{1}	bɛ^{33}**dzɻ^{55}**	bə^{33}**di^{53}**	bø**dzɨ**	be^{33}**dʑi^{53}**	*bəw, *zril > PLB *di^{1}	insect / worm
*didi			`dzɨdzɨ	dʑi^{33}dʑi^{53}		spacious

[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 **ndzo^{33}mo^{55}**, TBL **ndzuo^{53}mu^{53}** ‘official’; and TBL **tshuo^{53}mo^{53}** ‘old man’.

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*rdi[1]	zɿˋ; ʒɿ[55]		dzɨ	dʑi[35]	*b-r-gyat ⪤ *b-g-ryat	eight
*diupʰæ[1]	**bu[55]**phɑ[55], ji[33]phɑ[55]	`**tɕu**pʰæ; **di[33]**pe[53]	**dʑy**pʰæ ‘stomach’	**dʑi[33]**phæ[53]		belly
*diutʂʰe[1]	**bu[55]**tʂhɛ[55]	**ti[55]**tɕhə[53]	**dʑi**tʂʰɤ	(te[33])**dʑɯ[33]**tʂhɯ[31], **dʑu[53]**tʂhɯ[31]		year

The vowel in Mn. ‘slow’ may be rounded due to coarticulation with the original [w] of the following syllable (i.e. ***dʑiwæ[ɪ] > ****dʑywæ[ɪ] > **dʑyæ[ɪ]**).

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
*ntʰe[1]		`thentʰe	nentʰɤ ‘stumble, fall’	nthe[35]		jump
*ntʰwɑ[1]	jʌˋntʰuʌˋ; nthuɑ[55]	thɑ̃[33]nthʌ[53]	ntʰɑ gɤ	thua[53]nthua[53]	PLB *takᴴ	sharp, pointed
*ntʰwɑ	ntʰoˋ; nthuɑ[55]		-ntʰɑ	(te[55]) nthua[53]		drop (of oil)
*ntʰontʰo[1]			ntʰo, ntʰon-tʰo	nthuo[33]nthuo[53]	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
*wra[1]	kʰɛˊvəɹˊ; nda[55]vaɹ[53]		`ndæɹwæɹ	da[33]wu[53]		guest
*mende	mɛ[33]ndɛ[55]	nde		me[33]de[53]		clear (weather) / sunny
*kʰendo[1]	ndo[55]	thɛ̃[33]ndo[53]	kʰendo	kho[33]nduo[53]		see
*ndojo[1]			ndojo	nduo[33]jɯ[53]		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)ɑrA^{2}	htuɑ^{33}rɑ^{55}		ʃtæ^{ɪ}	ta^{53}ə^{ɪ53}	*m-liŋ	neck
*htɑhtɑ^{2}	htɑ^{33}htɑ^{55}	ta^{33}tsha^{53} ??	`ʃtɤʃtɑ	na^{33}ta^{53}ta^{33}		chew
*hto/htæ	-xto˩; hto^{55}		`ʃtæ, `ʃtɤʃtæ		PQc *N/s-tsak	jump
*hte^{1}	xtɕi˥ ??		ʃtɤ	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˩**; **sɻ^{55}ɲi^{55}**	ʂu^{33}mbu^{53} ???	**ʃti**mi	**ti^{53}**mi^{53}	*s-ni-ŋ	heart
*hti(u) ‘nose’			**ʃti**ntʂ^{h}**i**	**ti^{33}**nkhæ^{53}		snot
*hto		`to; khɐ^{33}htsho^{53}	ʃto	tuo^{53}		watch, look
*htũ^{2}	tu˩˧,tu˨˩; 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}ɳ^{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 **skŋ^{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}	ʃtɤpe	ku^{33}pe^{53}		mouth
*stiumui^{2}	su^{55}ma^{ɪ55}		`ʃtimwe	ku^{53}mu^{53}		beard / moustache
*sini/stẽ^{2}	sɻ̃˩; ʃɻ^{55}ɳ^{55}	`tŋ~`kŋ; ki^{53}	`ʃtɤ̃	skŋ^{53}	*s-nis	seven
*stim(b)u^{1}	**su˧˩**mbu˩; **sɻ^{55}**nbu^{55}	**kŋ**ræ ‘snot’; **ki^{33}**mɐ^{53}	**`ʃti**mbʉ	**ki^{33}**mu^{53}	*s-na	nose
*stiu(d)zære^{1}	su^{55}zɑ^{55}ɣɛ^{55}, su^{55}zɑ^{55}rɛ^{55}	kŋræ	ʃtedzæ^{ɪ}		*s-nap + *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] jɑ[55]dzɐ̞[55] 'pupil'	do[33]sɯ[55]	ʒdo, ʒdosɨ 'eyeball'	nduo[33]se[53]		eye[19]
*rdumo[2]	kʰɛ˩**bu**˩; **bu**[33]mo[55]		`**ʒdo**mo, `**ʒdʉ**sʉ	**dʉ**[53]mo[53]	*ru	crazy person, lunatic
*rdurdu	jʌ˧˩bi˧˩, jʌ˩˧bu˩˧; jɑ[33]bi[55], jɑ[33]bu[55]	dy[33]dy[53]	`ʒdʉʒdʉ		*t/dow-n, *tuːk	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
*nɑ[2]	nɑ[55]ku[55]	na[33]pu[55]	`æˈnɑpi	na[53]pi[53]	*r/g-na	ear
*nɑ-			nɑmi	næ[53]pu[53]		host / master
*ne/no[2]	nɛ˩; nɛ[55]	`ne	`no, ne	ne[53]	*naŋ	you
*neri	nɛ˩rə˩; nɛ[55]rɻ[55]			næˈ[53]		you (pl.)
*ne[1]	nɛ˩; nɛ[55]	ne; nə[53]	ne, næ	ne[35]	*g/s-nis	two
*nwo[1]	ɳo˩; ɳo[55] ??	no[33]pa[53]	əˈno	nu[53]	*s-nuk	brains
*denwɑ[1]	dʌ˩nuʌ˩; nuɑ[55]	dɐ[33]nɐ[53]	denɑ	de[33]nua[53]	*s-nak	black[20]
*nene	jɑ[33]nɛ[55]			nɯ[53]nɯ[53]	*s-nak	deep
*nopri[1]		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.

[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 > [əˤ], though there are some exceptional forms: ‘wait’, ‘tael’, ‘mirror’, and the penultimate syllable of ‘dove’ descend from ***lo**, but do not become **əˤ** in Ersu.

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*sjelje	si^{55}li^{55}				*d/s-ləy	bow (weapon)
*ljelje^{1}	pu^{55}li^{55}li^{55}	ta^{33}li^{53}	tɑli, tɑlili	ta^{33}li^{55}li^{31}		circular (spherical)
*melje	mɛ^{33}li^{55}		mele		*m-ley ⪤ *m-ləy	earth, ground
*mbiulje^{2}	nbɛ^{33}li^{55}	mbə^{55}	`mbøli	nbo^{33}ly^{53}		kidney
*sẽlɑ^{1}			selɑ	se^{33}la^{53}		forest
*lɑ^{2}	lʌ↓; lɑ^{33}phɛ^{55}; lɑ^{33}ma^{55}		`lɑ	la^{33}mæ^{53}, la^{33}nphæ^{53}	WT glaba ‘musk deer’	deer (river)
*lɑ^{1}	lʌ˥ ‘plant (v.)’; lɑ^{55}		lɑ	la^{35}		plow / till (v.)
*lɑ^{1}	lʌ˥; lɑ^{55}		lɑ	la^{35}		dung, manure
*lɑmo	lɑ^{55}mo^{55}			la^{53}mu^{53}		stutterer
*læ^{1}	lʌ˥		=læ	læ^{35}		and
*læ^{1}	lʌ↓; lɑ^{55}		læ	læ^{31}, læ^{35}	*la-y	come
*belæ^{1}			belæ	be^{33}læ^{53}		work / labor
*læ			-læ ‘pint, 1/10 peck’	(te^{33}) læ^{31}, læ^{35}		liter, container (measuring, 1-liter-volume)
*læ^{1}	lʌ˥; lɑ^{55}		læp^{h}æ, læ	læ^{33}phæ^{53}	PLB *k-la^{2}	tiger
*p^{h}ælæ^{1}	p^{h}ʌ˥lɛ˥		(ne)p^{h}ælæ	phæ^{33}læ^{53}		used / old
*p^{h}ulje^{1}			p^{h}ele, p^{h}ʉli	phu^{33}li^{53}		dust
*lekrwa^{2}	lɛ^{33} kuaˤ^{55} tʃhu^{33}		`lɑkwəˤ ts^{h}ʉ (v.)			elbow
*le(pje)		le^{53}		le^{33}pi^{53}	*g-lak	hand
*lep^{h}ew^{1}	lɛ^{33}phɛ^{55}	le^{33}phu^{53} ‘arm’	lep^{h}e	le^{33}phu^{53} ‘arm’		hand
*legija^{1}			ligjæjɑ, ligijɑ	le^{33}gi^{53}jæ^{31}		armpit
*leji^{1}	lɛ˥ji˥; li^{55}	le^{33}ji^{55}pu^{33}	`lejo ‘right’?	le^{33}ji^{53}		left (side)
*letɕu^{1}	lɛ˥tsu˥; lɛ^{55} tʃu^{55} kɛ^{33}	le^{33}tɕi^{55}pu^{33}	`letɕy ‘left’	le^{33}tɕy^{53}		right (side)
*lemæ			`lømæ	le^{33}mæ^{53}		daughter-in-law
*lemæ^{1}	lɛ^{33} ma^{55}		lømæ	le^{33}mæ^{53}		thumb
*lesẽ	lɛ^{33}su^{55}	le^{33}se^{55}		le^{33}se^{53}		finger

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*ledzi/letsɑ^{2}	lɛ^{33}dzɻ^{55}	`ledzɻ; le^{33}tsa^{53}	`lidzɑ ‘claw’	le^{33}tsa^{53}	*m-tsyen	nail
*letʂu^{1}	lɛ^{33}tʂu^{55}		lʉtʂʉ	le^{33}tʂu^{53}	MC draewk 鐲, Mand. zhuó	bracelet
*leŋgui^{2}	lɛ^{33}ŋgua^{ɪ55}		`liŋgwe	le^{33}ngu^{53}		ring
*tʰele^{1}			lɤ	the^{33}le^{53}	*g-lwat	release / set free
*ŋeleʂi^{1}			neleʂɨ ‘face downhill’	ŋe^{33}le^{53}ʂɻ^{31}		turn around
*le^{1}	lɛ^{55}	le			PLB *ʔ-li^{1}	old
*lirV^{1}			liə^{ɪ}	li^{33}ə^{ɪ35}	＜MC lij 梨 ?	pear
*lje^{1}	jʌ˩li˩; jɑ^{33}li^{55}	lje	lje	li^{33}li^{53}	*l(y)ak	good
*(rV)li^{1}			ə^{ɪ}li	li^{35}		dance (n.)
*liu	-liu˥; lio^{55}		-li	(te^{55}) liu^{53}	*lam ?	fathom
*lu			`delʉ	khe^{33}lu^{31}		dilute / add water
*lu			`lʉ ‘mattress; felt’	lu^{35}		pad
*lwo		(mbe^{33}) lo^{53}		(nbi^{33}) lu^{53}		climb (a mountain)
*kʰelo^{1}	lo^{55}	khelo	`lo	kho^{33}luo^{53}	*l(y)aŋ	wait
*lo	-lo˥; lo^{55}		-lo	(to^{33}) luo^{31}	＜MC ljangX 兩 ?	tael (＝50 grams)
*lo			loxo	dʐuo^{33}luo^{53}ku^{31}		ditch / gully ("water-ditch"?)
*lɑkʰɑ/lokʰɑ^{1}			lɑkʰɑ kʰeæ^{ɪ} ‘get hurt’	luo^{33}khua^{53}əɹ^{31} ‘get hurt’		wound
*-ŋgrɑ^{2}	tsu^{33}ndʐɛ^{55}		`laŋgæ^{ɪ}	luo^{33}nga^{53}		pestle
*lo^{1}	**ə$^{ɪ˥}$**lkʰuʌ˥; **ə^{ɪ55}**khuɑ^{55}		**lo**mæ	**luo^{33}**mæ^{53}	*r-lung *k-luk	stone
*lo(bwo)^{1}	**ə$^{ɪ˥}$**lkʰuʌ˥; **ə^{ɪ55}**khuɑ^{55}	**lo^{33}**pu^{53}, **lo^{33}**bu^{53}		**luo^{33}**bo^{53}, **luo^{53}**bu^{53}	*r-lung, *k-luk	stone, rock
*lodʐu^{1}			lodʐy	luo^{33}dʐʉ^{53}		wall (stone)
*litʰo/lotʰo^{1}		**lo^{33}**tho^{53}	**lit**ʰo	**luo^{33}**thuo^{53}	*b-ləy	grandchild
lolu^{2}	ndzɑ^{33}**lo^{55}ə^{ɪ55}** ‘pigeon’	**lo^{33}lu^{53}**		**luo^{33}lʉ^{53}**		dove
*lolo/lulu^{1}	**ə^{ɪ55}**	**`lulu**	**lʉlʉ**	**luo^{35}**	*s-loŋ	bark (of dog)
*liu^{1}	**ə^{ɪ55}**	**ly**	**lø**, **lølø**	**ly^{35}**, the^{33}**ly^{53}**		rob / loot
*meli/mele^{2}	mɛ^{55}**ə^{ɪ55}**	me**lje**; mə^{55}	`me**le**	me^{55}**le^{53}**	*g-ləy	wind
*bulo	bɛ^{33}**ə^{ɪ55}**		b**ʉlo**		*s-luk/ŋ	maggot
*li/le^{1}	**ə^{ɪ55}**		`mele **lɤ**	me^{33}le^{53}**læ^{33}** ?		blow (wind)

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*lip^{h}ew^{1}	rə˩p^{h}ɛ˩; ə^{ɹ55}phɛ^{55}	li^{33}phu^{53}		li^{33}phiæ^{53}		foot
*li**ŋgje**/le**ŋge**^{2}	ə^{33}**ndʑi**^{55}, ə^{33}**ndʑi**^{55}		`le**ŋgɤ**			foot, leg
*li^{1}	ə^{ɹ}↓; ə^{ɹ55}	li	li		*pla, PLB *C-la^{1}	ashes^{21}
*deliu^{1}	dɛ˩**ə^{ɹ}**˥; **ə^{ɹ55}**	**lju**; dɐ^{33}**lu**^{53}	`de**lø**	de^{33}**lʉ**^{53}	*plu	white
*ku(liu)^{1}	ku^{55}ə^{ɹ55}	kurə	k**ʉ**li	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
*goɬæ^{2}	gu^{33}**ɬɑ**^{55}		`xo**læ**	guo^{33}**ɬa**^{53}	*m/s-laːy	middle
*lɑlɑ^{1}	lɑ^{55}lɑ^{55}	`lælæ	deɬɑ, deɬɤɬɑ	la^{33}la^{53}		roll
*ɬɑ^{1}			deɬɑ, deɬɤɬɑ	ɬa^{33}hũ^{53}		roll, turn (cause to)
*ɬɑ^{1}	ɬɑ^{55}		ɬɑ	ɬa^{53}, ɬa^{55}	*gliŋ	flute
*ɬæp^{h}e^{1}	ɬᴀ 'month'; ɬɑ^{55}phɛ^{55}	`ɬæphe; ɬe^{55}	`ɬæp^{h}ø	ɬæ^{33}phe^{53}	*s/g-la	moon
*ɬæwo			ɬæwo	ɬæ^{53}ɣuo^{53}		temple
*nts^{h}oɬiu^{1}	ntsho^{55}**ɬo**^{55}	**ɬe**^{53}	`nts^{h}**ʉli**	**ɬe**^{33}	*s-ləy	flea
*nts^{h}eɬiu			`nts^{h}i**li**	tshe^{33}**ɬe**^{53}		gift / present
*nelje/neɬje^{1}	li^{55}		neɬe, neɬɤ	ne^{33}ɬi^{31}	*s/m-grəy	melt, dissolve
*ɬjeki^{1}	ɬi^{55}tsʅ^{55}	`ɬetɕi		ɬi^{33}ki^{53}	*s-lay ⨯ *s-ley	ladder
*ɬje^{1}	phɛ^{55}ɬi^{55}			ne^{33}ɬi^{53}ɬi^{31}		winnow
*ɬæ	ɬᴀ↓; ɬɑ^{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).

[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	ntʃho^{55} ???			me^{33}tshuo^{53}		dawn (the day)
*tsʰɑwɑ^{1}			tsʰɑwɑ	tsha^{33}wa^{53}		gruel / porridge
*kʰetsʰɑ^{1}			kʰetsʰɑ	khe^{33}tsha^{53}		block (the wind)
*butsʰɑ^{1}	vu^{55}tshuɑ^{55}	`nbutsʰæ	bʉtsʰɑ	bu^{33}tsha^{53}	*r-pʷa	axe
*tʰetsʰæ^{1}			kʰetsʰæ	the^{33}tshæ^{53}		finish
*tsʰæ^{2}	tshɑ^{55}	tshe^{33}tshe^{55}	`detsʰæ	tshæ^{53}tshæ^{53}	*tsa-t	hot
*tsʰehĩ^{1}	tshi^{55}xi^{55}	tsʰehẽ	tsʰehĩ	tshe^{33}hĩ^{53}	*s-niŋ	this year
*tsʰẽ^{1}	tshi^{55}		tsʰe	tshe^{35}	*tsiːt	goat
*detsʰe^{2}	tshɛ^{55}	`tsʰe; də^{33}tshɯ^{55}	`detsʰi; tsʰɨ	tshe^{53}	PLB *ʔ-dzəy^{2}	cough
*tsʰe^{2}	tsʰɛ˩; tshɛ^{33}	nentsʰe, `tsʰe; ne^{33}tshɯ^{53}	`tsʰɨ	ne^{33}tshe^{53}	PLB *tsəy^{2}	wash (clothes)
*tsipʰrjo/ tsʰipʰrjo^{2}	tsʰɻ˩pʰo˩; tsɻ^{55}pho^{55}		`tsʰɨpʰɕo	tshe^{53}phzɻ^{53}		age
*tsʰi^{1}	tshɻ^{55} ‘shoulder blade’	tshɻ^{33}tshɻ^{53}	tsʰɨtsʰɨ	tshɻ^{33}tshɻ^{53}-ta^{33}ta^{33}	*tsik	joint
*tsʰi^{2}	tsʰɻ↓; tshɻ^{33}	tshɻ^{53}	`tsʰɨ	tshɻ^{53}	*tsa	salt
*netsʰi^{1}	nɛ˩tsʰɻ˩; nɛ^{55}tshɻ^{55}	nə^{33}tshɻ^{53}	`nɤtsʰɨ	ne^{33}tshɻ^{53}		twenty[23]
*tsʰutsʰu^{1}			tsʰʉ, tsʰʉt-sʰʉ	tshu^{33}tshu^{53}		knock / strike
*detsʰu^{1}		detsʰv; dɐ^{33}tshu^{53}	detsʰʉ	de^{33}tshu^{53}	*tsow	fat
*tsʰu			tsʰɨpəˤ	tshu^{53}		Sichuan pepper
*tsʰwɑ			-tsʰɑ	(te^{33}) tshua^{53}		classif. rooms
*tsʰo^{1}	tsʰu˩		netsʰo	ŋo^{33}tshuo^{53}		extract / take out
*tsʰo^{1}	tsho^{55}phaˤ^{55} ‘young man’	tsho^{53}, tɕho^{53} ?	tsʰo	tshuo^{53}	PLB *tsaŋ^{1}	human being, person
*tsʰokʰwæ			tsʰukʰwɑ	tshuo^{53}khuæ^{53}		adult

[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
*ts^{h}omo		`ts^{h}omo	ts^{h}umo	tshuo^{53}mo^{53}		old man[24]
*ts^{h}wo^{1}			ts^{h}w-ɑ	ma^{33}tshu^{53} ‘forbid’		allow
*ts^{h}ek^{h}ɑ^{1}	tshɛ^{55}kɑ^{55}		ts^{h}ɨk^{h}ɑ	(n)tshŋ^{53}kha^{53}	*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˩		ə^{ɾ}li tso	li^{33}tsuo^{53}		dance
*mutsi^{1}	m̩^{33}tsŋ^{55}		mʉtsɨ	mu^{33}tsŋ^{53}		cat
*tsɑ^{1}	tsɑ^{55}	khe^{33}tsa^{53}le^{31}	tsɨtsɑ, tsɑ	khe^{33}tsa^{53}le^{31}		tie up, bind
*tsexwo^{1}	tsɑ^{33}xɑ^{55}		tsɨxo	tse^{33}hu^{53}		pheasant (short-tailed)
*tse			`tsɨ	tse^{33}tɕe^{53}ji^{31}		welcome, receive s.b.
*tse^{2}	tsɛ^{55}		`tsɨ	tse^{53}		hemp
*tsẽ			tsɤ	tse^{53}	*dzyut ?	pull up (weeds)
*tsẽ			tsɤ ‘rip, tear’	the^{53}tse^{53}		snap (thread)
*detsu^{1}			mbo tsʉ	do^{33}tsu^{53}		wear (a hat)
*tsuk^{h}æ			`tsʉk^{h}jæ	tsu^{33}khæ^{53}		stove (cooking) / range (kitchen)
*detsu^{1}	tsu˩; tsu^{55}		`detsʉ æ	de^{33}tsʉ^{53}	*tsyow	boil (of water)
*k^{h}etsu	tsɛ^{33}tsɛ^{55}			khe^{33}tsu^{53}	*tsyap or PLB *ʔ-dzak^{L} ?	connect / join
*detsu^{1}	dɛ˩tsu˩; tsu^{55}			de^{33}tsu^{53}		dye
*tswɑ			`tsɑ	ne^{33}tsua^{53}		filter / strain
*tsumu/tsumo^{2}	tsu^{33}ŋ^{55}		`tsʉmo	tsuo^{53}mo^{53}	*tsum ?	mortar
*tsi^{1}	tsŋ^{55}		tsɨ		*s-dzya	feed

Voiced:

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*ledzi/letsɑ^{2}	lɛ^{33}dzŋ^{55}	`ledzŋ; le^{33}tsa^{53}	`lidzɑ ‘claw’	le^{33}tsa^{53}	*m-tsyen	nail
*dzidzi/dzɑdzɑ	ɬdzŋ^{55} dzŋ^{55}	`ledzŋ; dza^{33}dza^{53}	`lidzɑ	dza^{33}dza^{33}	*m-tsyen	claw / talon
*dzæp^{h}æ^{1}	dza^{55}pha^{55}		`dzæp^{h}æ	dza^{33}pha^{53}		pillar / column
*nedzje/nedzɑ^{1}	nɛ˩dzi˩		nedzɑ	ne^{33}dza^{53}		you two

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

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*dzæbu[1]			-bʉ, dzæbʉ	dzæ[33]bu[53]		straw (rice)
*dzæpu[1]			dzɑpʉ	dzæ[33]pu[53]		food
*dzæ[1]	dzᴀ↓; dzɑ[55]		dzæ-	dzæ[35]		rice (paddy), seedling (rice)[25]
*dzæ	tɛ˩dzᴀ˩		-dzæ	(te[33])dzæ[53]		meal
*dzẽ[1]			dzɨdzɤ, dzɤ	dze[35]	*ts(y)ap	chop / hew
*dzẽ	dzi↓		dzɤ			enough
*dzi[1]	dzɻ[55]			de[33]dzɻ[53]		give birth to (e.g. piglets)
*dzi[2]	dzɻ˩; dzɻ[33]	dzɻ; dzɻ[53]	dzɨ	dzɻ[53]	*dzya	eat
*(d)zi[2]	jᴀ˩fi˩ ??; jɑ[33]zɻ[55] ?		`dzɨdzɨ	dzɻ[53]dzɻ[53]		wide / broad
*(d)zibu[1]	zo˧bu˥; zɻ[55]bu[55] ‘stick’		dzɨbʉ			walking stick
*dzepi/dzopʰi[1]	dzɛ[55]psɻ[55]		dzopʰɕi			hoe
*(n)dzɑ[1] ?	dzᴀ˥; ndzɑ[55]	ndzɑ	dzɑ	dzaŋ[35]		drum
*ɑdzje/adzɑ[1]	ᴀ˩dzi˩; ɑ[55]dzi[55]		ɑdzɑ	a[33]dza[53]		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
*ntsʰæ[1]	ntshɑ[55]		ntsʰæ			make, fix, repair
*ntsʰɑ[1]	ntshɑ[55]	tsha[35]	ntsʰɑ	tsha[35]	*m-sin	liver

[25]Unlike 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
*dentsʰɑ^{1}	ntshɑ^{55}	`dentsʰæ	ntsʰɨntsʰɑ	ntsha^{35}, de^{33}ntsha^{53}	Lahu šɛ < *sin	pull / drag / lead (a cow) along[26]
*brɑ^{1}			ntsʰɑbæʴ	tshʅ^{33}ba^{53}		cane / vine
*ntsʰæ	ntshɑ^{55}			ntshæ^{53}		mark / sign / boundary line
*kʰentsʰæ	khɑ^{33}ntshɑ^{55}			khe^{33}ntshæ^{53}		remember
*ntsʰeɬiu			`ntsʰɨli	tshe^{33}ɬe^{53}		gift / present
*ntsʰe^{2}	ntsʰɛ↓; ntshɛ^{55}	`nentsʰɨ		ntshe^{53}	*m-tsak DRIP	leak
*ntsʰi^{1}	ntshʅ^{55}		`(de)ntsʰɨ	de^{33}ntshʅ^{53}		choose / pick
*dentsʰu^{1}		tshũ^{33}ntshu^{53}	dentsʰʉ	de^{33}ntshʉ^{53}		alive
*ntsʰu^{2}	tshu^{55}	bu^{33}tshu^{55}	`ntsʰɨpʰwe, `ntsʰɨpʰəʴ	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
*ndzɑ^{2}	dzᴀ˦˧; ndzɑ^{55}	`ndzɑ	`ndzɑ	dʑæ^{53}, dza^{33}		Chinese (Han)
*ndzɑ^{1}	ndzɑ^{55}		`bi ndzɑ	ndza^{35}		sting (of wasps)
*ndzæ^{1}	ndzɑ^{55}		ndzæ	ndzæ^{53}		stir-fry
*ndzẽ^{1}	ndzi^{55}			ndze^{35}	*N-dzyam	wedge
*ndze^{1}	dɛ˥˧ndzᴀ˧˥˧ (perf.); ndzɛ^{55}		ndzɨ	dze^{53}	*dzyi	ride (a horse)
*ndzi^{1}	ndzʅ^{33}nuɑ^{55}		ndzɨ	dzʅ^{33}mu^{53}	*g-zik	leopard / panther
*ndzu			ntʂʰɨ dendzʉ	(tʂhʅ^{53}) khe^{53}ndzu^{31}	*tsow THORN	pricked (on a thorn)
*ndzew^{1}	ndʑo^{55}ndʑo^{55}		ndzɤ	ndzu^{35}		friend
*ndzewbjẽ^{2}			`ndzɨbze	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)

[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	n̥ʌ˞˥xtʂu˥˩su˥ ‘silver-smith’; htsu^{55}	-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	lɛ^{33}su^{55}	le^{33}se^{55}		le^{33}se^{53}		finger
*sɑ-[2]			\`sɑʑ̥i	sæ^{53}		earth, ground
*desæ[1]			sæ	de^{33}sæ^{53}		wear (a bracelet)
*sæ[1]	sɑ^{55}		(tɑli) desæ	khe^{33}sæ^{53}xæ^{31}		bear (fruit)
*sẽ[1]		se^{53}	se	se^{35}	*r-sak	air, breath, steam
*sẽ[1]	si^{55}	\`se; se^{55}	se	se^{35}	*siŋ ≭ *sik	wood / log
*sẽse[1]	si^{55}**sɛ^{55}**	tʂhʅ^{33}**sɿ^{53}** ‘persimmon’		se^{33}**sɿ^{53}**	*sey	fruit
*se[2]	sɛ˥˩; sɛ^{55}		\`sɿbwe	se^{53}	*su	who
*si	sɿ˥˩tʂuʌ˥˩; sɿ^{55}		\`sɨsɨ		*g-sik	new
*si[1]	sɿ˥˩; sɿ^{55}	nɐ^{33}sɯ^{53}	sɨ	de^{33}s-æ^{53}	*g/b-sat	hit, kill
*suniu			\`sʉn̥i ‘self’	sʉ^{35}n̥y^{53}sʉ^{33}n̥y^{53}		each / respective / individual
*su[1]			(de)sʉ ‘stab’	ne^{33}sʉ^{53}, ŋo^{33}sʉ^{53}		thread (a needle)
*biususu[1]	bɛ^{55}su^{55}su^{55}		bøsʉsʉ	bu^{33}sʉ^{53}sʉ^{31}		bladder
*kʰesu[1]	kʰɛ˥su˥˩; khɛ^{55}su^{55}			khe^{33}su^{53}		tight / taut
*desu[1]	su^{55}	te^{33}su^{53}	bʉtʂɑ sʉ, bʉtʂɑ sʉsʉ	te^{53}su^{53}	PLB *si^{2}	sharpen, whet (a knife)

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*soso[1]	so˨˩so˥; so[55]so[55]		suso	suo[33]suo[53], suo[35]		learn, teach
*tɑso[1]			tɑso ‘just now’	ta[33]suo[53]	PLB *C-sok	morning[27]
*sohĩ[1]	so[55]xi[55]		sohĩ	suo[53]hĩ[53]		next year
*somwoŋk[h]wo			sʉmonk[h]o	suo[53]mu[53]nkhu[31]		tomorrow night / evening
*soniu[2]	so˥nɻo˥; so[55]nɻo[55]	`soɲi	`sʉəˤ	suo[53]ɳʉ[53]		tomorrow
*swɑ[1]			sɑ	sua[35], gu[33]sua[53]		send (a message)

Voiced:

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*zæzæmu[1]	zɑ[55]zɑ[55]ŋ[55]		æzɨzæ mʉ	æ[33]zæ[53]mu[31]		careful / cautious
*zæzæ[1]	zA˥zA˥ ‘young’; zɑ[55]zɑ[33]		zɨzæ	zæ[33]zæ[53]		tender, young (plant)
*-zæzæ[2]			`jozɨzæ	ja[53]ka[53]zæ[33]zæ[31]		baby
*mp[h]rozæ[1]	pho[55]zɑ[55] ‘husband’	p[h]rezæ	mpʂ[h]ozæ	nphzɻu[33]zæ[53]	PL *m-laŋ/plaŋ[1] ‘husband’ (PL 217)	young lad / chap
*zẽ[1]	zi[55]		zəˤ, zʉəˤ	ne[33]ze[53]		press (with palm or finger)
*zi[1]	zɿ[55]	zɿ	zɨ	zɿ[53]		shoe
*zi[2]		`zɿ	`zɨ	zɿ[53]	*za	son
*zi	-zɿ˥; -zɿ[33]		-zɨ	-zɿ[53]		ten (bound), -ty
*zikæ			`zikjæ	sɿ[33]kæ[53], mæ[33]zɿ[53]mæ[33]kæ[31]	*ga ⨯ *ʔa	mute, dumb, stupid
*te zu			`te zʉ	(te[33]) zʉ[31]		lifetime
*zjeji/zijo[2]	**zi**˩xi˩ ‘woman’; **zi**[33]ji[55]	`**ʑe**je ?	`**zɨ**jo	**zʉ**[33]ju[53], **zʉ**[53]ju[53]		daughter, woman
*zulje[1]		zɯ[33]li[53]		zʉ[33]lʉ[53]		testicle
*zu[1]	zu˥; zu[55]			zʉ[35]		animal fat/oil
*zo[1]	zo[55]; khɛ[33]zo[55]		zo, k[h]ezo-ɑ	(ndzɻu[35]) zuo[53]		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
*kutsʰje[1]		ku[33]tshi[53]	kʉtsʰepəˈ	kuo[33]tɕhi[53]		life
*tsʰje[1]			tsʰe ‘throw down’	ŋe[33]tɕhæɹ[53]		throw / hurl / toss
*tsʰjetsʰje[1]	tsʰiˀtsʰiˀ; tshi[55]tshi[55]		pætsʰe	tɕhi[33]tɕhi[53]		thin (in diameter) / fine
*ʂɑtsʰje	ʂɑ[33]tshi[55]		(ʂɑtɑ)	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]ʂʅ[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]	siˀ; 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]ʂʅ[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 **tsi^{55}**, Nq. **tsi^{53}**, TBL **tɕe^{31}**; whereas 'cloud' would have followed the route PTB ***s-dim*** > PErsuic ***tɕe*** > Ersu **tsɛ^{55}** and TBL **tɕe^{53}**.[29]

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

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
Voiceless aspirated						
*tɕ^{h}a^{1}	tɕho^{55}		-ɕɑ	tɕhæ^{31}		on (the wall)
*tɕ^{h}etɕ^{h}e^{1}	ts^{h}ɛ˩ts^{h}ɛ˩; tshɛ^{55}tshɛ^{55}	tɕhe^{33}tɕhi^{53}	tɕ^{h}etɕ^{h}e	tɕhe^{53}tɕhe^{53}	*ts(y)i/əy/ay	ten
*tɕ^{h}e^{1}	ts^{h}ɛ˩; tshɛ^{55}	`tɕ^{h}e; tɕhu^{53}	tɕ^{h}e	tɕhi^{53}		drink
*tɕ^{h}u^{1}			ɑmjo **tɕ^{h}y**de 'now'	(te^{33}) **tɕhu^{33}tɕhu^{31}**		a while
*netɕ^{h}o^{1}		ne^{33}tɕhu^{53}	tɕ^{h}o, tɕ^{h}itɕ^{h}o	ne^{33}tɕhu^{53}		cut up (vegetable)
*tɕ^{h}opu^{2}			`tɕ^{h}opʉ	tɕhu^{53}pu^{53}	*taŋ	pine
Voiceless unaspirated						
*detɕa^{1}	da^{33}tsɑ^{55}	də^{33}tɕɯ^{53}	dentɕ^{h}ɑ ??	de^{33}tɕæ^{53}		wake up
*letɕu^{1}	lɛ˩tsu˩; lɛ^{55} tʃu^{55} kɛ^{33}	le^{33}tɕi^{55}pu^{33}	`letɕy 'left'	le^{33}tɕy^{53}		right (side)
*pætɕe^{1}			pætɕe	ne^{33}pæ^{53}tɕi^{31}		cut (paper, cloth)

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

[29]Unfortunately the Nq. form for 'cloud', **mə^{33}khɑ^{55}**, is not cognate and thus is of no diagnostic value here.

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*tɕe[1]	tsɛ˩; tsɛ[55]	tɕe	tɕe, tsɤ	tɕe[53]	*s-dim	cloud, fog
*tɕitæ[1]	**tsɻ[55]**tɑ[55]		**`tɕi**tæ	khe[33]**tɕi[53]**tæ[31]		collect, harvest, put away
*rwatɕo[1]	tsɛ[55]	rɐ[33]tɕu[53]	æˈtɕo	ɣua[33]tɕu[53]	*dz(y)u	egg
*tɕo[1]			æˈtɕo (ne)tɕo	tɕu[35]		lay (eggs)
*netɕʰiu/ netɕiu[1]	**tɕʰo**˩ ?; **tɕho[55]**?	(ni[33]ma[55]) ne[33]**tɕi[55]**	`n̥imæ **netɕi**-æ	ne[33]**tɕu[53]**	*g(l)im ⩙ *g(l)um	set (of the sun)
*tɕukʰwɑ[2]	tsɻ[33]khuɑ[55]			tɕu[53]khua[53]		cucumber
*tɕo[1]	tɕo˩ ‘twist, coil’		(`nkʰwe) pʉtɕo	de[33]tɕu[53]tɕu[31]		wind (thread onto a keel)
*tɕuru	əˈ[33] tsu[33] **ru[55]**	`tɕo**rə**		tɕye[33]**ɦiæˈ[35]**		footprint / track
*tɕutɕu	tsu˩tsu˩; tsu[55]tsu[55]			tɕy[53]tɕy[53]		straight
Voiced						
*(d)ʑapu			`ʑɑpʉ ‘rich man’	dʑæ[33]pu[53]		leader / chieftain / headman (Mand. ‘tǔsī’)
*tʰedʑo[1]	dʑo[55]			the[33]dʑu[53]	PLB *C-cakᴸ	push / shove
*lodʑu[1]			lodʑy	luo[33]dʑʉ[53]		wall (stone)
*dʑiki[1]		dʑi̱[33]kɯ[53]	dʑiki	dʑi[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]sʉ[31]		topple / tear down (a wall)
*dʑu[1]	dzu[55]	dʑy[53]		dʑy[35]	*duk ⩙ *tuk	poison
*kʰedʑudʑu[2]	dzu[33]dzu[55]		`kʰedʑydʑy	khe[33]dʑy[53]dʑy[31]		meet / come across
Prenasalized (voiceless)						
*dentɕʰu	ntshɛ[33]ntshɛ[55]			de[33]ntɕhu[53]		carry with pole, lift up
*ntɕʰo	ntshɻ[55]pi[55]		`kʰentɕʰo			choke
Prenasalized (voiced)						
*kʰendʑa[1]	dzʌ˩; ndzɑ[55]	khe[33]ndʑɯ[55]	kʰendʑɑ	khe[33]ndʑæ[53]	*g-r(y)ap	stand
*ndʑindʑa[2]	ndzɻ[33]ndzɑ[55]		`ndʑindʑɑ	ndʑi[33]ndʑæ[53], te[53]ntɕi[53]ntɕæ[53]		think / idea / opinion
*ndʒo[1]	ndzɛ[55]	ndʐu	ndʑo	ne[33]ndʑu[53]		soak / steep
*zjendʑu/ zindʑu[2]	zi[33]ndzu[55]			zɻ[53]ndʑʉ[53]		nephew (brother’s son)

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
Preaspirated						
*htɕi[1]		tɕi[33]mi[53]	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
*ɕaŋæ[2]			`ɕæɳæ	ɕæ[53]ŋæ[53]		pitiable / pitiful
*sæmbæ[2] neɕi	sA˩nbA˥ ‘feeling, emotion’		`sæmbæ `neɕi	sæ[53]nbæ[53]**ɕi[53]**		worry / be anxious

and a voiced fricative:

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*ʑo[1]			mele ʑo, me ʑo	me[33]ʑu[53]		quake (earth)
*ʑa[1]	zɑ[55]tshɛ[55]		ʑɑ	ʑæ[33]tshŋ[53]	*s-la	pants / trousers
*ʑa[1]	zA˥; zɑ[55]	ɐ[33] ʑɛ[53]	ʑɑ	(te[33]) ʑæ[53]	*b-r-gya	hundred
*ʑi[1]	**zŋ**˧tA˥ ‘chair’; **zŋ[55]**		`ne**ʑi**	ne[33]**ʑi[53]**		sit down
*ʑiu[1]	ʑo[55]	ʑe	ɣwæ ʑi	ʑu[35]		fall (rain)
*ʑu		zu[53]		ʑy[35]		plant ash
*ʑu[1]	zŋ˩; zŋ[55]		`ʑy	ʑy[35]		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
*ɕ[w]iu[1]	ɕo[55]	ɕi[33]	bædʑi ʂɨ	khe[33]ɕu[53]	*s-kəy	borrow (money)
*t[h]eɕ[w]iulɑ			`(k[h]e)ʂɨlɑ	tho[33]ɕuo[55]la[31]		slanted / askew
*ɕ[w]u[1]			se ʂʉ ‘burn wood’	(ɳi[33]me[53]) ɕy[31]		catch fire (a house)

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*ʑʷi[1]	zɻ̩; zɻ[55]		ʑi̱	ʑi[35]	*s-ri(y)	be (copula)
*ndʑʷundʑʷu[1]			ndzu̱ndzu̱	khe[33]ndʑy[53]ndʑy[31]		coax / fool
*tɕʷʰiu[2]	tʂʰo↓; tʂho[55]	`tɕʰe; tɕhi[53]	`tʂʰi̱	tɕhu[53]	*d-kʷəy	dog
*putɕʷew/ gutɕʷew			`depu̱tʂɤ 'flip over'	the[33]gu[53]**tɕu[31]**		turn (a corner)
*dʑʷew[1]	dʑyi˥; dʑo[55]la[55]		dzɣ læ	dʑu[33]læ[53]		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
*æja[1]			æjɑ	æ[33]jæ[53]	PLB *ʔ-wyik[L]	elder brother/sibling
*jakrɑ	**jɑ[55]**dzɛ[55]	`**j**æqɑ		**ja[53]**ka[53]		child
*janiu[1]	jʌ↓n̥o˥; jɛ[55]n̥o[55]	`jæɲi	jæn̥i	jæ[53]n̥u[53]	cf. Lahu yàʔ- < *yak	yesterday
*jahãŋkʰwo[1]		`jæxwæ ʔ	jɑhɑ̃nkʰo	ja[33]ha[33]nkhu[35]		last night
*ja(ji)hĩ[1]	jʌi↓xi˥; jɛ[55]xi[55]		`jæhĩ	jæ[33]hĩ[53]		last year
*jajihĩ[2]	jɛi[33]hi[55]		`jæjy	jæ[33]ji[53]hĩ[31]		story
*jiji[1]	ji[55] 'child'		jiji	ji[33]ji[53]	*z(y)əy ?, cf. Lahu i	small
*jimɑ[1]	ji[55]mɑ[55]	nejemɑ; jɐ[33]mɐ[55]	(ne)jimɑ	ji[33]ma[53], ʑi[35]ma[53]	*yip + *mak	dream
*ji[1]	ji˥ts[h]u˥		jit[h]o	ji[33]mæ[53]	< yi?	ladle
*jimui[1]			jimwe 'sweet ~'	ji[33]mu[53]		buckwheat
*(ji) mui[1]	(k[h]ʌ˥)məˑ˥ 'sleep'; maˑ[55]		**ji**mwe ŋʉ, **ji**mwe dedzi̱	**ji[33]**mu[53] kɯ[33]		doze / nod off
*(ji)mbru[2]	bzɻ̩˥		`ɣɑ**ji**mbzu̱	**ji[53]**nbu[53]	*m-bruŋ ⩙ *m-bruk; < WT ḥbrug?	dragon

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*ju[1]	ndzɻ[33]ji[55] ‘buckwheat flour’		jy	dzɻ[33]ji[53]		flour
*jVsi[1]	sɻ[55]**jɑ[55]**		**ji**sɨ	**ju[33]**su[55]		peach
*leji[1]	lɛ˩**ji**˥; **li**[55]	le[33]**ji[55]**pu[33]	`lejo ‘right’?	le[33]**ji[53]**		left (side)
*jizæ[1]	i[33]zɑ[55]	ji[33]ze[55]	jozæ ‘husband’	ji[33]zæ[31] ‘man’		son
*tʰejo			`ɣo `kʰejo	the[33]ju[53]		drunk, be
*kʰejo	ji˥tʌ˩ ‘bed’ ?	khə[33]jə[55]	`kʰejo	khe[33]ju[53]	(*s-yip ⪤) *s-yup	sleep, lie down
*deju[1]			dejy	de[33]jʉ[53]; de[33]ju[53]		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 > zɻ (this is a regular change that applied to all palatal fricates, as discussed above). Note that Ersu has both variants, **zɻ**˩ and **ji**˥, for ‘go’.

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*ji[1]	kʰ-**i**˩ ‘enter’, **zɻ**˩, **ji**˥; **zɻ[55]**, **ji[55]**	nə[33]**ji[53]**	**ji**	**ji[35]**	*ʔay	go
*(ju/ʑu)xwɑ[1]	zu[55]xuɑi[55]			jy[33]xua[53]	*hya SWID-DEN	paddy fields
	zɻ[55]mi[55]		`**ji**me		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 **i[55]** ‘sleep, live’).

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*ji[1]	ji[55]		`ji	ʑi[35]	Tai *ʔya/ MC ’en 煙?	tobacco / cigarette
*ji/ʑi[1]	**ji[55]**	**ʑi**		ne[33]**ʑi[31]**, ne[33]**ʑæ**[31]		live / reside

[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
*jẽ[1]	jiˀ; ji[55]	ɲe; ɲi[33]tshɯ[53], ɲĭe[35]	ɲe	ɲi[35]	*k-yim ⩕ *k-yum	house
*jã[1]	ja[55]		ɲɑ			home
*jõ[1]	joˀ; jo[55]		ɲo	ɲu[35]	*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
*njap^{h}o/ njop^{h}o[1]	**ɲo**ˀp^{h}ɛˀ; **ɲo[55]**phɛ[55]	**ɲop^{h}o**	**`ɲɑp^{h}o** ‘back, behind’	**ɲæ[33]**phu[53]		outside
*ŋenja[1]	ŋɑ[33]**ɲɑ[55]**		k^{h}e**ɲiɲɑ**	t/ŋe[33]**ɲæ[53]ɲæ[5]**		dodge, make way, retreat
*deni[1]	ɲiˌ; ɲi[55]	ɲi[53]	deɲi	de[33]ɲi[31], de[33]ɲi[53]	*na-t	sick, ache
*deni[1]	dɛˀɲiˀ; ɲi[55]	ɲi[33]tsɯ[55]tsɯ[33]	`deɲi	de[33]ɲi[53]	*r-ni	red
*ni[1]	ɲiˀ; ɲi[55]	ɲi[53]	əˈɲi	ɲi[35]		gold[31]
*(ri)ni[1]	ɲi[55]		əˈɲi	əˈ[33]ɲi[53]	*s-ney	near
*nini	jʌˀɲiˀɲiˀ; ɲi[55]ɲi[55]			ɲi[53]ɲi[53]	*s-nem	low / short
*xuini[1]	ʂʅ[55] ɲi[55] wɑ[55] zɑ[55]			fu[33]ɲi[53]		gum ("tooth-red")[32]
*ni[2]			`k^{h}eɲi	te[53]ɲi[53]		be startled/afraid
*niu(mæ)lɑwu[1]			ɲimælɑvɯ	ɲi[33]la[53]wu[31]		daytime
*niumæ[1]	ɲo[55]ma[55]	`ɲime; ni[33]ma[55]	`ɲimæ	ɲi[33]me[53], ɲi[33]mi[53]		sun
*ninɑ[1]	ɲoˀ- ??; ɲi[55]nuɑ[55]	`jena	`ɲinɑ	ɲi[33]na[53], ji[33]na[53]	*nyey/*na-w	younger sibling
*niuŋk^{h}wɑ bedi	**ɲo[33]**nkhuɑ[55] bɛ[55]dzʅ[55]			**ɲi[33]**nkhuo[53] be[33]dʑi[31]		earthworm
*niu[1]	ɲoˀtɕ^{h}oˀ; ɲo[55]tɕho[55]			ɲi[35]	*s-ni/u(ː)p	west
*neni[1]			neɲi	ne[33]ɲi[53]		decrease, reduce
*bæni[1]	bʌˌɲiˀ, bʌˀɲiˀ; ba[33]ɲi[55], bɐ[33]ɲi[55]	be[33]ɲi[53]	bæɲi	bæ[33]ɲi[53]	*r/g-na	listen
*breni[1]	bəˈ[55]ɲi[53]		`debzʅeɲi sæ	ŋe[33]ɲi[53], bɯ[33]ɲi[53]	*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
*nik^{h}æ^{2}			`ɳik^{h}jæ	ɳi^{53}khæ^{53}		when
*niu	ɳo↓,ɳo˥˩; ɳo^{55}	nɯ^{55}	-ɳi	(te^{53}) ɳy^{53}	*nəy SUN	day, day's (work)
			teɳi `mæɕi	te^{33}ɳy^{53}mæ^{33}thæ^{31}		every day
*niu^{1}	ɳo↓ '~ (polite)'; ɳo^{55}	ɲe	ɳi	ɳy^{35}	*r-ney-t	have, exist (general/abstract)
*niuniu^{2}			`ɳyɳy (ndzomɑ)	ɳʉ^{53}		oneself
*nini^{1}	ɳi^{55}ɳi^{55}	ɳi^{33}ɳi^{53}	ɳiɳi gɤ	ɳu^{53}ɳi^{53}		few / little
*njonjo^{2}	ɳo↓ɳo˥˩; ɳo^{33}ɳo^{55}	nu^{33}nu^{53} ??		ɳu^{53}ɳu^{53}	*now	soft
*ɣeniu/ɣoniu^{1}	vɛ^{55}ɳo^{55}	`ɣɯɲi~`gɯɲi; wo^{33}nu^{53}	ɣweɳi, ɣʉɳi	ɣuo^{33}ɳu^{53}	*ril ⩵ *rul	intestine
*æniu^{1}	ɑ^{55}ɳo/a^{55} 'mother-in-law'		`æɳi	æ^{33}ɳʉ^{53}		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
*tʂʰu[2]	tʂʰu˩; tʂhu[55]	tʂhu[53]	`tʂʰʉ	tʂhʉ[53]	*d-kruk	six
*detʃʰiu[1]	tʃho[55]		`detʂʰɨ	de[33]tʂhu[53]	*kyəw	sweet
*dzɻe[1]	dzɻɛ[55]		dzɻɤ	ŋe[33]dzɻu[53]dzɻu[31] / dzɻɯ[31]	*kriːt	grind
*detʃew[1]	tʃɛ[55]	dɐ[33]tʂu[55]	detʂɤ	de[33]tʂu[53]	*s-kyuːr ⪤ *s-kwyaːr	sour
*dzɻiu[1]	dzɻo˩; dzɻo[55]	`dzɻ	`dzɻɨ	dzɻɯ[ɪ35]		wok (large, iron) / pan
*ndʒiundzɻi[1]	**dzɻo**˩ndʒl˩; **ndʒo[55]**ndzl[55]		**ndzɻɨ**dzɻi	**dzɻɯ[33]**ndzi[53], **dzɻɯ[33]**ndzɻi[53]		letter, book
*tʂʰæ[1]	tʂʰA˩; tʂhɑ[55]		tʂʰæ	tʂhæ[53]		ghost / spirit
*(n)tʃʰæ	ntʃhɑ[55]			tʂhæ[53]		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]

[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’ **ɕã[33]tʃɑ̃[55]**, cf. Standard Mandarin *xiànzhǎng*, where the second syllable is retroflex, is borrowed with an alveopalatal initial; on the other hand, the first syllable of **tʂə̃[33]fu[55]** ‘government’ (Standard Mandarin *zhèngfǔ*) is borrowed with a retroflex initial.

Retroflex Affricates

Voiceless aspirated:

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*tʂʰæ¹	tʂʰʌˀ; tʂhɑ⁵⁵		tʂʰæ	tʂhæ⁵³		ghost / spirit
*tʂʰɑ/tʂʰi²			`tʂʰɑ ???	tʂhŋ⁵³		bed
*detʂʰe			`de**tʂʰɤ**	(tshŋ⁵³) de³³mæ⁵³**tʂhŋ⁵³** ‘tasteless’	cf. Lahu chɛ < *kyim/kyum	flavorful
*(n)tʂʰo¹	ntʂho⁵⁵ntʂho⁵⁵	dɐ³³tʂho⁵³	tʂʰɨtʂʰo		*m-krak, PLB *m-prakᴴ	scratch
*detʂʰu¹			detʂʰʉtʂʰʉ	de³³tʂhu⁵³		mix / blend / mingle
*tʂʰu²	tʂʰuˀ; tʂhu⁵⁵	tʂhu⁵³	`tʂʰʉ	tʂhʉ⁵³	*d-kruk	six
*tʂʰwæ			`tʂʰwæ ‘water tank’	tʂhuæ³³ɦiæˠ³⁵-dʐu³³gu⁵³		vat / jar
*tʂʰe¹	tʂho⁵⁵	(maɹ³³) tʂhɯ⁵³	tʂʰɤ	(me³³ndæ⁵³) tʂhɯ⁵³		shoot, fire a shot
*tʂʰe¹	tʂʰoˀ; tʂho⁵⁵		tʂʰɤ ‘voice’	tʂhɯ³⁵	cf. Lahu khô < *kraŋ	sound
*tʂʰe			tʂʰɨtʂʰɤ ‘wall off’	tʂhɯ⁵³dzʉ⁵³	*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	tʂu⁵³ɚˠ⁵³	*s-krul	sweat
*bɑtʂɑ/butʂɑ	pʌˀtʂʌˀ; ba³³tʃɑ⁵⁵		bʉtʂɑ			knife

Voiced:

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

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*dʐe	-dʐɛ, -dzi; dʐɛ^{55}	-dʐe	-dʐɤ	(te^{53})dʐɯ^{53}	*dzum ⪤ *tsum	pair
*dʐiu^{1}	dʐo˩; dʐo^{55}	`dʐɳ	`dʐɨ	dʐuʳ^{35}		wok (large, iron) / pan
*dʐwɑ		dʐa^{33}le^{55}		dʐua^{53}le^{53}		put in order / arrange
*bædzje^{1}	ba^{55}dʐɛ^{55}	ba^{33}dʐɳ^{55}	bædʑi	bæ^{33}dʐɳ^{53}		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			`ɣɯmæ `mæn**tʂʰɤ**	mæ^{33}**ntʂhɯ^{53}**		pregnant
*ntʂʰɑ			ntʂʰɑ ‘play inst.’	ntʂha^{53}		blow (the trumpet)
*ntʂʰæntʂʰæ^{2}	jʌ˩**ntʂʰɛ**˩; jɛ^{33}**ntʂhɛ^{55}**		**ntʂʰintʂʰæ**, **ntʂʰæ** gɤ	**tʂha^{53}ntʂha^{53}**		clever
*ntʂʰe^{1}			-ntʂʰɤ	(te^{33}) ntʂhɯ^{31}		handful (of rice)
*ntʂʰe			ntʂʰɤ ‘pull out’ ???	te^{53}ntʂhɯ^{53}		grab / seize / catch

Prenasalized (voiced):

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*dendzʐew^{1}			dendzʐɤ	de^{33}ndzɻu^{53}		slippery (road)
*ndzʐe^{2}	dɛ˩dzʐʌ˧ (perf.); ndzɛ^{33}	ndzɻɯ^{33}ndzɻɯ^{53}	`ndzʐɤ	ndzɻɯ^{53}ndzɻɯ^{53}		sew (up)

Preaspirated:

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*htʂomo^{2}	**ʂo^{55}**mo^{55}		**`ʂtʂo**mo	**ʂɿ^{53}**mu^{53}	*kraŋ	strength (physical)[34]
*htʂew			ʂtʂɤ	ʂu^{53}		dare

[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 [ʂɻ] > [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
*mbuʂew		bu^{33}ʂu^{55}	`dembʉʂɤ	nbu^{33}ʂu^{53}		shy / bashful
*ʂɑ			ʂɑ		*sywar SCATTER	pour (water)[35]
*ʂɑ	ʂɛ˥ʂɛ˥; jɑ^{33}ʂɛ^{55}	ʂa^{33}ʂa^{53}, ʂɐ^{33}ʂɐ^{53} 'far'	pæʂɑ, ʂiʂɑ	ʂa^{53}ʂa^{53}	*s-riŋ	long
*htʃæ/ʂæ^{1}	xtʃʌ˩; htʃɑ^{55}		`ʂiʂæ	ʂɿ^{33}ʂæ^{53}	PLB *x-ra^{1} ?	search, look for
*ʂæp^{h}o/ʂop^{h}o^{1}	ʂo˩p^{h}ɛ˩; ʂo^{55}phɛ^{55}		ʂɑp^{h}o	ʂæ^{33}phu^{53}		front
*ʂe^{1}	sɛi˩; ʂɿ^{55}ji^{55}	`ʂe; ʂe^{53}		ʂe^{35}	*sram	otter
*ʂinwɑ	ʂɿ^{33}nuɑ^{55}			ʂɿ^{33}nua^{53}		mole
*ʂi^{2}	ʃɿ˩; ʂɿ^{55}		`vʉli ʂi, tɕe ʂi	ʂɿ^{53}	*si(y)	comb (v.)
*ʂewmæ^{1}	ʂɛ^{33}	ʂe^{33}mi^{53}	ʂɤmæ, ʂɤ	ʂu^{33}mæ^{53}	*s-r(y)ik, *s-row NIT	louse
	ʂɛ^{33}tsɛ^{33}			ʂu^{33}pe^{53}tshe^{31}		nit
*ʂu			`ʂʉ	ʂu^{33}me^{53}		torch
*ʂu^{1}			ʂʉ	ʂu^{33}su^{53}		guard / defend
*ʂiu^{1}	ʂo˥; ʂo^{55}	`ʂe; xɯ^{53}	`ʂi	ʂu^{35}	*s-hywəy	blood
*tʰeʂiu^{1}	ʂo^{55}	thɯ^{33}xɯ^{53}	`kʰeʂi	the^{33}ʂu^{53}, thu^{53}ʂu^{53}	*səy	die, dead
*ʂo^{1}	ʂo^{55}			hĩ^{33}ʂu^{53}		dew
*ŋeʂu^{1}	ŋɛ^{55}ʂu^{55}			ŋe^{33}ʂu^{53}		rescue / save
*ʂiu^{1}	ʂu^{55}		`ʂikʰwɑkʰwɑ	de^{33}ʂʉ^{53}		yellow < yi?
*ʂwɑ		`ʂwɑ		ʂua^{33}nphʑi^{53}		mosquito (relatively small)
*ʂo(ji)hĩ^{1}	ʃo^{55}i^{55}xi^{55}		`ʂohĩ	ʂu^{33}hĩ^{53}		year before last
*ʂoniu^{2}	**ʃo^{55}**ɳo^{55}ɳo^{55}		`**ʂʉ**nkʰo `teɳi	**ʂu^{53}**ɳu^{53}		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

[35]The TBL form for 'pour' is **ne^{33}*qɑ*^{53}sʉ^{31}** (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 **ʂ-**; however, **q-** may simply be an allophonic variant of **k-**, since Huáng and Rénzēng (1991:144) cite the form **the^{55}ka^{53}** '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
*ʐi^{2}	ʐo↓; ʐo^{33}	`ʐe; tʂʅ^{53} ???	`ʐɨ	ʐu^{35}	*b-ləy	four
*ʐu^{1}			ʐʉ	ʐu^{35}	PLB *s-yəy^{2}	grass
*ʐiudu^{2}	**ʐo^{33}**bu^{55}			**ʐu^{53}**du^{53}		square / rectangular
*ʐwæʐwæ			ʐʉʐwæ	te^{53}ʐuæ^{53}ʐuæ^{31}		rinse (the mouth)
*ʐuʐu^{2}	ʑɛ↓ʑɛ↓ ??; ʐu^{33}ʐu^{55}		`ʐʉʐʉ, `pæʐʉ	vu^{53}vu^{53} ??		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 [ʂɳ] > [xɯ] change mentioned above for the retroflex fricatives, giving us a relative chronology: in Nq. [ʂɳ] > [xɯ] before [ʃɲ] > [ʂɳ].

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
*ʃæ[1]	ʂA˩; ʂa[55]	ʂa[55]	xjæ	ʂæ[53]		wheat
*ʃæ			(de)xjæ, xæ˞	(dʐu[53]) ʂæ[53]ji[31]		fetch / draw (water)
*ʃi[2]	ʂɿ˩; ʂɿ[55]	ʂɿ[53], ɕi[33]	`xɤ	ʂɿ[53]	*sya	meat
*deʃo			`dʐ̩ `dexo	de[33]ʂu[53]	PLB *C-sip[L]	thirsty
*ʃoʃo[1]	ʂo˩ʂo˩lA˩lA˩; ʂo[55]ʂo[55]	`deʂu	`xuxo	ʂu[33]ʂu[53]	*syaŋ	clean
*ʃje[1]	ʂɛ[55]	`ʂe; ʂɯ[53]	xje	ʂɯ[53]	*syam	iron
*ʃu[1]			fʉ	(ʐɻ[33]/ɣɯɹ[33]) ʂu[53]		guide, lead (the way)
*ʃu[2]	ʂu[33]	ɕu[53]	`fʉpə˞	ʂu[53]		barley (highland)
*ʃu[2]	ʂu[55]		`wæ˞ fʉ	khe[53]ʂu[53]		marry (a woman)
*ʒje[1]	ʐɻ˩; ʐɛ[55]		ɣiɣje 'climb'	ʐɻ[33]ʐɻ[53]		crawl (of insects)
*tʰekiʃi[1]	(thɛ[55])ɬi[55] ?	thɐ[33]tɕhi[55]ɕi[33]	kiɕi	the[33]kɯ[53]ʂɯ[53]		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	**tʃhɳ³³**ji³³		`jo**tʂʰi**jo, jo**tʂʰi**jo	**tʂhu³³**ju⁵³		orphan
*tʃʰiumæ			`mozo **tʂʰi**mæ	**tʂhu³³**mæ⁵³	Lahu mê-chô-ma < *kyəw	widow
*netʃʰiu¹	tʃho⁵⁵			ne³³tʂhu⁵³		rot
*detʃʰiu¹	tʃho⁵⁵		`detʂʰi	de³³tʂhu⁵³	*kyəw	sweet
*tʃʰiu²	tsʰoˈmiAˈ; tʃho⁵⁵mia⁵⁵		`tʂʰi-	tʂhu⁵³ pɯ⁵³		how many
*tʃæ¹	tʂA; tʃɑ⁵⁵	dɐ³³tʂe⁵³		tʂæ³¹, ŋe³³tʂæ⁵³		chase after, drive out / expel
*tʃew¹	tʃo⁵⁵	tʂu⁵³	`tʂɤ	khe³³tʂu⁵³	*s-glak ⪤ *klak	cook / boil
*detʃew¹	tʃɛ⁵⁵	dɐ³³tʂu⁵⁵	detʂɤ	de³³tʂu⁵³	*s-kyuːr ⪤ *s-kwyaːr	sour
*ndʒew			ndzɻɤ	de⁵³ndzɻu⁵³	*kyiːn	weigh (v.)
*dʒiu¹	dʒo⁵⁵	`dzɻe; dzɻ⁵⁵, dzɻu³³khu⁵³ ‘river’	dzɻi	(n)dzɻu³⁵, dzɻu³⁵	*m-t(w)əy	water, river
*dʒwɑ¹	dʒAˈ; dʒɑ⁵⁵	dzɻuæ	dzɻɑ	dzɻua³¹		have, exist (movable)
*tʃwɑpu¹			tʂɑpʉ	tʂua³³pu⁵³	*kyak	navel

Prenasalized (both voiceless and voiced):

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*ntʃʰiu¹	ntʃho⁵⁵	tshɳ³³pu⁵³	ntʂʰi	tʂhɳ³⁵		thorn / splinter
*ntʃʰew¹	ntʂʰɛˈ; ntʃhɛ⁵⁵	tɕhə³³pi⁵³, tɕhə⁵³ ??	ntʂʰɤ	(n)tʂhu⁵³		rice (uncooked)
*ntʃʰi/ntʃʰe¹	ntɕhi⁵⁵	tʂhi⁵³	(əᴶkʰo) ntʂʰɤ	tʂhɯ³⁵		gnaw / nibble
*ntʃʰiu²	jɑ³³**ntʃhɛ⁵⁵**		**`ntʂʰi-**, kʰe**ntʂʰɑ** ?	**tʂhu⁵³ntʂhu⁵³**		fast / quick / early
*ndʒelje¹	ndʒɛ⁵⁵li⁵⁵		`ndzɻʃte gɤ, `neʃti gɤ	dzɻɯ³³li⁵³		believe / trust
*ndʒiundʑi¹	**dzɻo**ˈndʒɭˈ; **ndʒo⁵⁵**ndzɻ⁵⁵		**ndzɻi**dʑi	**dzɻɯ³³**ndzi⁵³, **dzɻɯ³³**ndʑi⁵³		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; tʂɭ⁵³	`ʂtʂi	ʂu³⁵	*kləy	feces
*htʃiukrɑ²	htʃo³³**tʂɛ⁵⁵**		`ʂtʂi**kæᴶ**	ʂu³³**ka⁵³**		fart

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*htʃew[1]	htʃɛ[55]		ʂtʂɤ	khe[33]tʂu[53] ??		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 **-ɿ**; **-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	tʃʰɿ˩	(sa[33]phu[55]) tʂhɻ[53]		ne[33]tʂhɻ[53]		cut (meat)
*tʃʰitʃʰi[1]	tʃhɻ[55]tʃhɻ[55]		tɕʰitɕʰi	ɕæ[53]tʂhɻ[53] ‘move (house)’	*m-kyit	move
*ntʃʰi[2]		tʂhɻ[53]	`ntɕʰi	ntʂhɻ[53]		kill / slaughter (an animal)
*ngeso/ndʒiso[1]	**ngɛ[33]**so[55]		**ndʑi**sʉəˈ	**ndʐɻ[33]**suo[53]		day after tomorrow
*ndʒihĩ[2]	**ndʒɻ[33]**xi[55]		**ndʑi** hĩ	**ndʐɻ[53]**hĩ[53]		year after next
*tʃʰu[1]	tʃhu[53] ‘open (door)’, tʃhɻ[55] ‘open (lid)’	`tʂʰv		de[33]tʂhu[53]		open
*tʃʰulje[1]	tʃhu[55]li[55]	`tʂʰv ‘earth’	tɕʰyli	tʂhʉ[33]ly[53]		mud
*tʃʰu[1]	tʂhu[55] ‘dirty’	nentʂʰu	tɕʰyli ‘mud’	tʂhʉ[53]		muddy / turbid
*gætʃu[1]			gjætɕy	gæ[33]tʂʉ[53]		monkey
*dʒu			-dʑy	dʐʉ[35]		hair / down[38]
*dʒu[1]	dʒu[55]		dʑy ‘(lower) back’	dʐʉ[35]	*gyuk	waist
*dʒu[2]	dʐɻ[33]mo[55]			dʐʉ[53]lʉ[53]		goose (wild)
*dʒumæ[1]	dʒu[55]ma[55]			dʐʉ[33]mæ[53]		fox
*ndʒu	ndʒu[33]khuɑ[55]			dʐu[33]khæ[53]	MC drjoH 箸	chopsticks[39]

[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. **dʑæɲy** ‘breast’ is due to vowel harmony. Cf. **`ɕæɲæ** ‘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, **jɨ́ ~ cɨ́ ~ yɨ́ < *(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	xua³³ntʂhʉ⁵³	*kʷəy ? *(t)si/up?	nest (bird)
*mentʃʰo²	mɛˈntʃʰɛˋ; mɛ³³ntʃhɛ⁵⁵	`mentʂʰo			*r-may ⧑ *r-mey ⧑ *r-mi	tail
*nedʒo¹			nedʑo	ne³³dʐu⁵³		collapse / fall down
*dʒo¹	dzoˋ; dʒo⁵⁵	dʐu	dʑo	dʐu⁵³	*m-dzyaŋ	have, exist (animate)
*ndʒo¹	ndʒo⁵⁵	ndʐu	ndʑo			know how to, be capable of
*ndʒo²	ndʒo³³khuɑ³³ dzɳ³³ʂɛ⁵⁵		`ndʑowɑ, `ndʑowæˈ	ndʐu⁵⁵dzɳ⁵⁵		noon
*tʃʰatʃʰa¹	tʂʰʌˋtʂʰʌˋ; tʃhɑ⁵⁵tʃhɑ⁵⁵	tʂʰætʂʰæ	`tɕʰɑtɕʰɑ	tʂhæ³³tʂhæ⁵³		magpie
*kætʃa			`kjætɕɑ	ku³³tʂæ⁵³		squirrel
*(n)tʃʰæ	ntʃhɑ⁵⁵			tʂhæ⁵³		skirt
*dʒaniu¹	ɳo⁵⁵ɳo⁵⁵	dʐæ³³nʉ⁵³	dʑæɳy	dʐæ³³nʉ⁵³	*nəw	breast, milk
*dʒa¹		dʐɑ	dʑɑ	dʐæ³⁵	WT ja	tea
*sundʒa²	suɑ³³ndʐɑ⁵⁵		`sũdʑɑ	(suo⁵³) ndʐæ⁵³, su⁵³ndʐæ⁵³	Mand. 算账 suànzhàng ?	count (numbers), calculate
*dʒwæ	dzuɑ⁵⁵		-dʑɑ ?	(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˩; tsʅ^{55}tʂo^{55}		\`tʂɨjy	kəʴ^{33}jy^{53}		frost
*kri[1]	tʃʅ˧˥; tʂʅ^{55}	\`tʂʅ; kəɹ^{55}	\`tʂɨtsʰe	kəʴ^{35}	PLB *ʔgrəy[1]	star
*kriu[2]	tʂo^{55}	\`tʂʅ	\`tʂɨ	kəʴ^{53}	*krəy, PLB *ʔgrəy[1]	gall bladder
*dekri		dɐ^{33}kəɹ^{53}	\`detʂɨtʂɨ	de^{33}dʐʅ^{53}	*m-tsik ?	itch
*kri[1]	tʂʅ^{55}	khə^{33}kɯɹ^{53}	\`tʂɨ	ne^{33}tʂʅ^{53}, tʂʅ^{53}		bite
*tʰegri[1]		the^{33}**dʐʅ**^{53}, thɐ^{33}**kɐɹ**^{53}	kʰe**dʐɨ**	the^{33}**dʐʅ**^{53}	*gra	hear
*ŋgriupje[1]	**ndʐo**^{55}pi^{55}	**ndʐʅ**; **ngəɹ**^{33}phi^{53}	\`**ndʐɨ**pi; ʃtɤpe-\`**ndʐɨ**pi 'lip'	**nga**ʴ^{33}pi^{53}, **n-gə**ʴ^{35}; ku^{53}pe^{53} **nga**^{33}pi^{31} '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	-tʂɛ˩; tʂɛ^{55}		-kæ^{ɪ}	(te^{33}) ka^{31}		catty (=1/2 kilogram)
*-ŋgrɑ^{2}	tsu^{33}**ndzɻɛ^{55}**		`laŋgæ^{ɪ}	luo^{33}**nga^{53}**		pestle
*ŋgrɑŋgrɑ^{1}	ndzɻɛ^{33}ndzɻɛ^{55}	`nɢ^{ʁ}ɑnɢ^{ʁ}ɑ	ŋgɤŋgæ^{ɪ}	nga^{33}nga^{53}		shake / shiver
*ŋgo^{2}	dʒɭ˩ ?; ndzɻu^{55}?		`ŋgolo	guo^{53}luo^{53}		tile
*gui^{1}	dʒɭ˩; dʒɭ^{55}	`gv	`gʉ, `gwe	(te^{33}) gʉ^{31}, gu^{33}sua^{53} ‘send message’		speech, phrase, words
*deŋgui^{1}	dɛ˧˩ndʒɭ˩ ‘change’; ndʒɭ^{55}ndʒɭ^{55}		ŋgweŋgwe, ŋgʉ	ne^{33}ngu^{53}ngu^{31}		exchange
*ɣuini/ ɣuindzA^{1}	**ʐɻ^{33}ɲi^{33}**		**ɣɤ**ndzɑ	**ɣɯ^{33}ɲi^{53}ɣɯ^{33}**ndzæ^{53}		relatives
*ɣuiɣui	**ʐɻ˥ʐɻ˩**ts^{h}ᴀ˩ts^{h}ᴀ˩; jɑ^{33}**ʐɻ^{55}**		**ɣʉɣwe**		*lway ?	easy
*ɣui^{1}	ʐɻ˥; ʐɻ^{55}	v; wu^{35}	(ɣ)we, vʉ	vu^{33}ji^{53} ‘go buy’	*rey	buy
*deɣui^{1}	ʐɻ˩; ʐɻ^{55}	`k^{h}ev	`de(ɣ)we, `devʉ	de^{33}vu^{53}	*gwa-n	wear (a garment)
*xui^{1}	ʂɿ^{55}ma^{55}	`fvme; xu^{53}	`xwe	fu^{35}	*swa	tooth
*xui	ʂɿ^{33}ʂɿ^{55}			fu^{33}fu^{53}	*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
*k^{h}je^{1}	tɕ^{h}i˥; tɕhi^{55}	khe^{55}	(k^{h}e)k^{h}je	khe^{35}		give
*meŋk^{h}je	mɛ^{55}ntɕhi^{55}	`mentɕ^{h}e		te^{53}me^{53}nkhi^{31}		ask / question
*gje^{2}	ŋua^{ɪ33}dʑi^{55} ‘pen’	-dʑe	degje le	(tshe^{53}ɲu^{53}) khe^{33}gi^{53}		pen in (sheep)
*gjegje	dʑi^{55}dʑi^{55}			gi^{53}gi^{53}phu^{31}		horizontal
*gje^{1}	dʑi˩; dʑi^{55}		`gijo	gi^{35}		jar (earthen)
*ŋgje^{2}	vu^{33}ndʑi^{55}		`ŋgi	ngi^{35}	*m-kum ⨯ *m-kim	pillow
*ŋgi^{1}	dzɿ˩; ndzɿ^{33}	ngi^{53}	ŋgje	ŋgi^{35}	PLB *g-ra^{2} ?	buckwheat
*ŋgi	jɑ^{33}ndzɿ^{55}		`deŋgi			difficult, hard
*megi^{2}	mɛ^{33}dzɿ^{55}	`medʑe	`megje	me^{33}gi^{35}, me^{53}gi^{53}	*gleːk	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
*hko[1]	xkuˀ ‘hatch’		xko	ŋo[33]kuo[53]læ[31]		appear, come out
*hke[1]	hkɛ[55]	pẽ[33]nbi[55]khɯ[33]	dexkɤ, koxkɤ	pi[53]nbĩ[53] khe[33]kɯ[53]		kneel
*hke[1]	kɛˀ; hkɛ[55]	`kɯ	xkɤ ‘hawk’	kɯ[33]nua[53]		eagle / hawk
*hke	hkɛ[55]	-kɯ	-xkɤ	ne[33]kɯ[53] ‘break, snap’		half
*hkui[1]	**hku[55]**		**xkwe** ‘herd’	zuo[33]ŋuo[53] **ku[53]**		herd, put out to pasture
*hkwohkwosu[1]			xkoxkosʉ	ku[33]ku[33]sʉ[31]		beggar
*hko[1]	pɛ[55]hku[55]	`qoqo	xko		*g/kuŋ, *kor	hole
*dexwɑ/ dehkwɑ[1]	dɑ[33]xɑ[55]		dexkɑ	de[33]xuæ[53], de[33]xua[53]		open
*hkwɑ	hkɑ[55]dʐu[55] ‘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
*rgwæ[1]	guɑ[33]	ngwæ; ɣue[53]	ɣwæ	ɣuæ[35]	*r/g-wa	rain

3.7.4 Prenasalized Stops

Voiceless prenasalized:

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*meŋkʰje	mɛ^{55}ntɕhi^{55}	`mentɕʰe		te^{53}me^{53}nkhi^{31}		ask / question
*meŋkʰe^{2}	mɛ^{33}ŋkhɛ^{55}	me^{33}nkhɯ^{53}	`menkʰɤ	me^{33}nkhɯ^{53}	*kəw	smoke[40]
*meŋkʰwo			`menkʰo	me^{33}nkhu^{53}		dark, get
*ŋkʰæ^{1}	nkhɑ^{55}	tʰenkʰæ; khe^{53}	nkʰjæ	(n)khæ^{35}		sell
*ŋkʰwo^{1}	nkhuaˈ^{55}	khwe^{55} ???	nkʰo	nkhu^{35}		night, evening
*ŋkʰwohke^{2}			`nkʰo xkɤ	nkhu^{53}kɯ^{53}		midnight
*ŋkʰwæ^{2}	nkʰuʌˀ; ŋkhuɑ^{33}	`qʰwɑ	nkʰwɑ	(n)khuæ^{53}		lake
*kʰeŋkʰwæ	ŋkhuɑ^{33}			khe^{33}nkhuæ^{53}, khɯ^{33}khuæ^{53}		rust
*ŋkʰo^{1}		nqʰu		to^{33}nkuo^{53}ji^{31}		hook
*ŋkʰo^{1}	nkʰuˀ; nkhu^{55}	nqʰo		khuo^{35}, no^{33}nkhuo^{53}		lock
*ŋkʰwo^{1}	ko^{33}htʃɛ^{55} ??	nqʰv	nqʰo	khu^{35}, khu^{53}dʑi^{53}		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
*sẽŋgæ^{1}	sɻ^{33}nguɑ^{55}		seŋgjæ	sɻ^{33}ngæ^{53}		melon / gourd
*seŋgrɑ^{1}			seŋgæˈ	se^{33}nga^{53}		trunk
*-ŋgrɑ^{2}	tsu^{33}**ndʑɛ^{55}**		`lɑ**ŋgæˈ**	luo^{33}**nga^{53}**		pestle
*leŋgui^{2}	lɛ^{33}**ngua^{55}**		`li**ŋgwe**	le^{33}**ngu^{53}**		ring
*neŋgwo			`neŋgo	(vu^{35}) ne^{33}ngu^{31}		lower (the head)
*ŋgrɑ^{2}		`nɢʶɑ		ŋgaɹ^{53}		kill (a person)
*ŋgrɑŋgrɑ^{1}	ndʑɛ^{33}ndʑɛ^{55}	`nɢʶɑnɢʶɑ	ŋgɤŋgæˈ	nga^{33}nga^{53}		shake / shiver

[40]The prenasalization on this form may be due to prefixization 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]	dzɻ˨˩; ndzɻ[33]	ngi[53]	ŋgje	ŋgi[35]	PLB *g-ra[2] ?	buckwheat
*ŋgi[1]	ndzɻ˨˩		ŋgje	ngi[35]		carry load (pack animals)
*ŋgje[2]	vu[33]ndʑi[55]		`ŋgi	ngi[35]	*m-kum ⨯ *m-kim	pillow
*ŋgi	jɑ[33]ndzɻ[55]		`deŋgi			difficult, hard
*deŋgwo[1]	ngo[55]	ngo	deŋgo	de[33]ngu[53]	*s-g-ruk	pick up
*ŋgo[2]	dʒl˥˩ ?; ndʐu[55]?		`ŋgolo	guo[53]luo[53]		tile
*deŋgui[1]	dɛ˥˩ndʒl˨˩ ‘change’; ndʒl[55]ndʒl[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 /-æˤ/!), although we can still tell that these were originally velars from the vowel because forms with earlier palatal nasals have a back vowel (ɳɑ—see section 4.13).

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*ŋɑpʰo[1]	tʃɑ[33]ŋɑ[33] ‘under’?		ŋɑpʰo ‘that side’	ŋa[33]phu[51]		lower part / lower reaches
*ŋæ[2]	ŋʌ˥˩; ŋɑ[33]		`jideɳæ	ji[33]de[53]ŋæ[53]		hungry
*deŋrɑ[1]	ŋuaˤ[55]		deŋæˤ	de[33]ŋa[53]	*s-ŋ(y)a FISH	stinky, fishy-smelling
*ŋrɑ[2]	ŋʌˤ˨˩; ŋuaˤ[33]	ɦɑ̃; ɐ[53] ?	`ŋæˤ	ŋa[53]	*l/b-ŋa	five
*ŋæ[1]	ɳo[55]		ɳiɳæ	ne[33]ŋæ[53]		skinny, get thin
*xui/ŋui[1]	həˤ˥˩ ?; xaˤ[55] ?	ŋo~ɦo; ŋue[33]mo[53]	ŋwe, ŋwemo	ŋu[33]mu[53]	*d/g-wam	bear (n.)
*ŋui[2]	ŋʌˤ˨˩; ŋuaˤ[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~`ɦu; ŋwe[55]	ŋʉ	ŋu[35]	*ŋəw	cry, weep

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*ŋui^{1}	ɳ̊ʌ^{ɹ}˥; ŋua^{ɹ55}	ŋu; ŋu^{53}	ə^{ɹ}ŋwe	ŋu^{35}	*d-ŋul	silver
*ŋo^{1}	ŋuə˦; ŋ̍^{55}		(de)ŋo	ŋuo^{35}		crow (of cocks)
*(rwa)ŋwoŋwo^{1}			æ^{ɹ}ŋo, ŋoŋo, æ^{ɹ}ŋoŋo	ɣua^{33}phe^{53} ŋɯ^{53}ŋɯ^{53}		cockscomb
*ŋe^{1}	ŋɛ˦		ŋɯ, ŋɯbʉlʉlʉ			kind of turnip (圆根 yuángēn)

3.7.6 Plain stops

Voiceless aspirated:

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*kʰje^{1}	tɕʰi˥; tɕhi^{55}	khe^{55}	(kʰe)kʰje	khe^{35}		give
*kʰe	tɕʰi˦ ?		dʐɿ `kʰɤ		*kam (≭ *kaːp)	draw water
*mekʰɑ^{1}	mɛ^{55}khua^{ɹ55}	mə^{33}khɑ^{55} 'cloud'		me^{33}kha^{53}		rainbow
*kʰɑrV^{1}			kʰɑə^{ɹ}	kha^{35}ə^{ɹ53}		walnut
*lɑkʰɑ/lokʰɑ^{1}			lɑkʰɑ kʰeæ^{ɹ} 'get hurt'	luo^{33}khua^{53}əɹ^{31} 'get hurt'		wound
*dekʰra^{1}	dɛ˦tsʰɿ ??; tʃhi^{55} ??	dɐ^{33}**kha^{55}**	de**kʰæ^{ɹ}**	de^{33}**kha^{53}**	*b-ka	bitter, salty
*kʰækʰæ^{1}			kʰikʰjæ	khæ^{33}khæ^{53}		separate, other
*kʰæ		khɛ^{55}	kʰjæ	khæ^{53}	Lahu qha < *ka	rice (cooked)
*pʰukʰæ^{2}			`pʰʉkʰjæ	phu^{53}khæ^{53}		fortune / luck
*kʰwo^{1}	kho^{55}		`kʰo	khu^{31}		dry (clothes) in the sun
*kʰwo^{1}	kho^{55}		`jotɕɑ kʰo			make the bed
*kʰuija			**`kʰwe**jɑ, **`kʰw**æ	**khu^{33}**jæ^{53}		under
*kʰepʰe/ kʰupʰo^{1}	**kʰɛ**˨pʰɛ˦; **khɛ^{55}**phɛ^{55}	**`kʰv**pho	**kʰʉ**pʰo	**khu^{33}**phu^{53}	Lahu qhɔ < *kaŋ	inside
*kʰui^{1}		khu^{53}	kʰwe, kʰʉ	ne^{33}khu^{53}		pluck (flowers)
*kʰui^{1}			ʃtintʂʰɨ **kʰwe**	(ti^{33}nkhæ^{53}) **khu^{31}**		blow (one's nose)
*tʰekʰwɑ^{1}	thɑ^{33}khɑ^{33}		kʰekʰɑ	the^{33}khua^{53}	PLB *k-ra^{2}/^{3}	win
*kʰwæ^{1}	jʌ˦kʰuʌ˦; jɑ^{33}khuɑ^{55} 'big'	-kʰwæ	dekʰwɑ	de^{33}khuæ^{53}		grow, grow up
*riku/rikʰu^{1}	r**gu**˥; rʅ^{33}**ku^{55}**	əɹ^{33}**khu^{53}**	ə^{ɹ}**kʰo**	ə^{ɹ33}**khuo^{53}**	*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	(to^{33}) khuo^{31}	*kwak	bowl
*kʰoji		`kʰoje		khuo^{33}ji^{53}		key
*kʰokʰo^{1}	kʰu˩˧kʰu˩; khu^{55} khu^{55}		dekʰokʰo	khuo^{33}khuo^{53}	*kuk	curved / crooked / bent
*ŋ(u)kʰwɑ	nkhuɑ^{55}			ŋu^{55}khua^{53}	*kwa ?	hoof

Voiceless unaspirated:

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*(h)kɑra(wɑ)^{2}	kɑ^{33}rɑ^{55}	`kɚwæ	`xkɑwɑ ntʂʰɑmæ	kæ^{55}ɚ^{53}		spider
*kwɑ/kɑ^{2}	ɳo˩˧kuA˩; ɳo^{33}kuɑ^{33}		`jɑ kɑmu	ja^{33}ka^{53}	PLB *ka^{1}	all / the whole
*sēkæle^{1}	si^{55}**kɑ^{33}**lɛ^{55}	sə^{33}**kəɹ^{55}** ?		se^{33}**kæ^{53}**li^{31}	*s-ka:k	branch / twig
*lekrwa^{2}	lɛ^{33} kuaɹ^{55} tʃhu^{33}		`lɑkwəɹ tsʰʉ (v.)			elbow
*mukr(w)V^{1}		mu^{33}kəɹ^{53}	mʉkwəɹ	mu^{33}kəɹ^{53}	*r-may ⩙ *r-mey ⩙ *r-mi	tail
*(mja)ko^{2}	dɛ^{33}**ku^{55}**		`mjɑ**ko**	miæ^{33}**ku^{53}**, no^{33}**kuo^{53}**		blind
*kutsʰje^{1}		ku^{33}tshi^{53}	kʉtsʰepəɹ	kuo^{33}tɕhi^{53}		life
*kætʃa			`kjætɕɑ	ku^{33}tʂæ^{53}		squirrel
*tʰekiʃi^{1}	(thɛ^{55})ɬi^{55} ?	thɐ^{33}tɕhi^{55}ɕi^{33}	kiɕi	the^{33}kɯ^{53}ʂɯ^{53}		hide (sthg.)
*krɑ	-tʂɛ˩; tʂɛ^{55}		-kæɹ	(te^{33}) ka^{31}		catty (=1/2 kilogram)
*krɑ^{2}	tʂɛ˩	`qɑ	`kæɹ	kaɹ^{53}		scales, steelyard
*kɑpe^{1}	kɑ^{33}pi^{55}		kɑpø	ka^{33}pe^{53}		garbage / debris
*kɑ^{2}	kA↓; kɑ^{33}phɑ^{55}			ka^{53}ba^{53}	< PLB *ʔ-ga^{2} ?	mute
*zikæ			`zikjæ	sɻ^{33}kæ^{53}, mæ^{33}zɻ^{53}mæ^{33}kæ^{31}	*ga ⩙ *ʔa	mute, dumb, stupid
*kɑlɑ/kælæ^{2}	no^{33}mɑ^{55}-kɑ^{55}lɛ^{55}	ke^{33}le^{53}	kɑli, kɑlɑ	mu^{53}tɕu^{53}kæ^{33}læ^{33}		butterfly
*kæ	-kA↓; kɑ^{55}	-kæ	-kjæ	(te^{33}) kæ^{31}		classif. long items
*kæmbæ^{1}			kjæmbæ	kæ^{33}nbæ^{53}		tongs (fire)
*dekæ^{2}	dA˩˧kA↓ (perf.); kɑ^{55}		`dekjæ	kæ^{53}		hit (a person)
*kækæ^{1}	kɑ^{55}kɑ^{55}		kikjæ	kæ^{53}kæ^{53}		fight
*kæpælæ			kjæpælæ	kæ^{53}pæ^{53}læ^{31}		forehead

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*ku			(dʑi) kʉ ‘feed (liquid)’	(dʑæ^{33}ȵʉ^{53}) ku^{31}		breastfeed / suckle
*ku(liu)^{1}	ku^{55}ə^{ɹ55}	kurə	kʉli	ku^{33}liu^{53}	<MC ljo 驢 ?	donkey
*kwop^{h}o			(`kop^{h}o)	ku^{33}phu^{53}		this side / here
*gu			dʑi gʉ	(dʑu^{33}) ku^{53}		cross (a river)
*nekwo^{1}		neko	(ne)ko	ne^{33}ku^{53}		put (into a container)
*kwo			`kop$^{h}$æ, `k^{h}op^{h}æ	tsha^{33}ə^{ɹ53}ku^{31}		chest
*kui^{1}	ku^{55}		`kʉ, `kwe	de^{33}ku^{53}		scoop up (water) / ladle
*kwo^{2}	kui˥		`ko	(te^{53}) ku^{53}	Lahu kù < *gru	shout
*nekwo^{1}		`neko		ne^{33}ku^{53}		shrivel up / wither
*k^{h}ekuliu^{1}	k^{h}ɛ˧ku˩lyo˥		dekʉløˌ dekʉløløˌ	khe^{33}ku^{53}liu^{53}		wrap (v.)
*kwɑkwɑ^{1}	kɑ^{55}kɑ^{55}pi^{55}		`kɤkɑ	kua^{33}kua^{53}		hard
*kwɑli^{1}	kɑ^{33}ə^{ɹ55}		kɑli	kua^{33}li^{53}	*ka	crow
	kuɑ^{55}		kwɑ	ne^{33}kua^{53}	Mand. 刮 guā ?	take off (clothes), peel
*kɑpi^{2}	kɑ^{33}psɻ^{55}		`kɑpi	kua^{53}pi^{53}		lame person
*kotsV^{1}	ku^{33}tsɛ^{55}		kotsɑ	no^{33}kuo^{53}tsɻ^{31}		step on / stamp / tread
*kezi^{1}		kɯzɻ		(te^{33}) kɯ^{33}zɯ^{31}		bucket (of water)
*deke^{1}		de^{33}kɯ^{53}	dekɤ	de^{33}kɯ^{53}	*krak	fear, be afraid
*keke			kɤkɤ	kɯ^{53}kɯ^{53}		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)gætsi^{1}	ngɑ^{55}tsɻ^{55}		gjætsɨ		Mand. 茄子 qiézi	eggplant
*gæme^{1}	gʌ˥mɛ˥; nga^{33}mɛ^{55}	`gæmi	gjæme	gæ^{33}me^{53}	Lahu vəʔ-qâ < *ga	clothing / garment
*megi^{2}	mɛ^{33}dzɻ^{55}	`medʑe	`megje	me^{33}gi^{35}, me^{53}gi^{53}	*gleːk	thunder
*gje^{2}	ŋua^{ɹ33}dʑi^{55} ‘pen’	-dʑe	degje le	(tshe^{53}ȵu^{53}) khe^{33}gi^{53}		pen in (sheep)
*bugi^{1}			bʉgje	be^{33}gi^{53}		bury

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*gjegje	dʑi^{55}dʑi^{55}			gi^{53}gi^{53}phu^{31}		horizontal
*gje^{1}	dʑi↓; dʑi^{55}		`gijo	gi^{35}		jar (earthen)
*gægæ^{1}	ga^{55}ga^{55}		gigjæ	gæ^{33}gæ^{53}	see SING	play
*gæ^{1}	gʌ˥ ‘song’; gɑ^{55}			gæ^{33}mu^{53}, giæ^{35} ‘song’	*ga	sing
*gætʃu^{1}			gjætɕy	gæ^{33}tʂʉ^{53}		monkey
*gɑp^{h}o^{1}			gɑp^{h}o ‘top of’	ka^{33}phu^{53}		upper part
*dego^{1}	gu^{55}			do^{33}guo^{53}		twist (hemp fibers) between the palms
*gui^{1}	dʒl˩; dʒl^{55}	`gv	`gʉ, `gwe	(te^{33}) gʉ^{31}, gu^{33}sua^{53} ‘send message’		speech, phrase, words
*gu^{1}	gu˩; gu^{55}		`gʉ	gʉ^{35}	<WT gru	boat
*guku^{1}			`gʉ `kʉ	ngʉ^{33}kʉ^{33}sʉ^{31}		boatman
*t^{h}egew^{2}	thɛ^{33}gɛ^{55} ‘glad’		`degɤ	the^{33}gu^{53}		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
*dego^{1}	gu^{55}	`ʁo; dɐ^{33}go^{53}	`ɣo	ɣuo^{35}, ɣuo^{33}ɣuo^{53}		kick
*gojo^{1}	**gu˩**; **gu^{55}**phɑ^{55}	**go^{33}**je^{53}	**ɣo**jo	**ɣuo^{33}**jʉ^{53}	*yəw/PLB *(k)-rwak^{H}	mouse
*dege^{1}	gɛ^{55}gɛ^{55}	dɐ^{33}gə^{53}	`ɣɤ	de^{33}ɣɯ^{53}		lick / lap
*ge^{1}	gɛ^{55}		ɣɤ, `ɣɤtse	ɣɯ^{ɪ33}zl^{53}	*dzəy ?	seed
*ɣrɑ/**ge^{1}**	xa^{ɪ55}	`ʁɑ; **gɐ^{35}**	**ɣɤ**	**ɣɯ^{35}**, ɣa^{35}	*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:

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

[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	gæ^{33}wu^{53}	*gra	enemy (personal)
*gæ/gja[1]	gɑ^{55}		ɣjæ	giæ^{31}, giæ^{35}	*r/N/d/s-ga	like / love
*gwEmæ[2]	gA˩mA˩ȵi˥ 'behind'; ga^{33}ma^{55}	`gime; ge^{33}phi^{53}	`ɣumæ, `gumæ	ge^{33}mæ^{53}, gɯ^{33}mæ^{53}	*g-raŋ CHEST	back
*gwogwo[1]	go^{55}go^{55}	gu^{33}gu^{53}	`ɣuɣo	gu^{33}gu^{53}		light (weight)
*degwo[1]			deɣo	de^{33}gu^{53}		rise / get up
*gwɑ[2]			`neæ^{ɪ}	**gua^{53}**		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/ɣoniu[1]	vɛ^{55}ȵo^{55}	`ɣɯɲi~`gɯɲi; wo^{33}nu^{53}	ɣweȵi, ɣʉȵi	ɣuo^{33}ȵu^{53}	*ril ≥ *rul	intestine
*ɣo[1]	vu˥; vu^{55}	wo^{35}	ɣo	ɣuo^{35}	*yəw ?	liquor
*ɣuini/ ɣuindzA[1]	**ʐɻ^{33}ȵi^{33}**		**ɣɤ**ndzɑ	**ɣɯ^{33}ȵi^{53}ɣɯ^{33}**ndzæ^{53}		relatives
*ɣuiɣui	**ʐɻ˥ʐɻ˩**ts^{h}A˩ts^{h}A˥; jɑ^{33}**ʐɻ^{55}**		**ɣʉɣwe**		*lway ?	easy
***ɣwE**mo/ æ**ɣwE**[1]	**xə^{55}**mo^{55}, **ə^{55}**mo^{55}		**`ɤvʉ**	æ^{33}**ɣɯ^{53}**	*ryaŋ ?	uncle (mother's brother)
*ɣui[1]	ʐɻ˥; ʐɻ^{55}	v; wu^{35}	(ɣ)we, vʉ	vu^{33}ji^{53} 'go buy'	*rey	buy
*deɣui[1]	ʐɻ˩; ʐɻ^{55}	`k^{h}ev	`de(ɣ)we, `devʉ	de^{33}vu^{53}	*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

[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/ɣɑre[1]			wæᴵ	ɣa[33]əɹ[35]		liquor (yellow rice / millet / Shaoxing)
*ɣwoɣwo[1]	vaᴵ[55]vaᴵ[55]		`wuwo	ɣu[33]ɣu[53]		help
*ɣwebje/ ɣwobje[1]	vɛ[33]bi[55]		wobi	ɣu[33]pi[53]		shoulder
*ɣwo[1]	vɛ˩; vɛ[55]	`wo~`ɣo; we[53]	wo	ɣu[35]	*p[w]ak, PLB *wak[L]	pig
*deɣwæ[1]	wɑ[55]		dewɑ	de[33]ɣuæ[53]	*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
*diwæ[1]	dʑi[55]vɑ[55]		dʑyæᴵ	dʑi[33]wæ[53]		slow / clumsy
*wægæ	vɑ[33]gɑ[55]			wæ[33]gæ[53]		mat
*wæ[1]			wæ (tʰʉ)	ɣuæ[35]	*wa	snare / trap
*wurA/wærA[1]	**vu**˩rA˩; **vu[33]**rɑ[55]		**wæ**, **wæ**ᴵ	**ɣuæ[33]**ɦiæᴵ[35]		cloth
*wæ[1]			wæ ‘OK!’	ɣuæ[35]		permit / allow
*wɑwɑ[1]	dA˩wuA˩li˩	wa[33]wa[55]	wɑwɑ, wɑwɑløløˑ	ɣua[33]ɣua[53]		circular (planar), round
*wilje/wulje[2]	vi[33]li[55]	wu[33]li[53]	`vʉli	wu[33]li[53]	*d-bu	head
*riwu[1]			əᴵvʉ	ɦɯᴵ[33]wu[53]		cave / hole
*wutɕʰa			`vʉɕɑ	wu[33]tɕhæ[53]		above, on top of
*wutɕu			`vʉtɕy	wu[33]tɕy[53]		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
*xɑ[1] mu	xɑ[55] ŋ̍[55]	`xwæ mu	`xɑxɑ mʉ	xa[35] mu[33]		yawn
*xwɑjo[1]	huʌi˥; xuɑi[55]	xɑ[53], xɑ[33]jɯ[53]	xɑjo	xua[33]jʉ[53]		bird, sparrow
*(ju/ʑu)xwɑ[1]	zu[55]xuɑi[55]			jy[33]xua[53]	*hya SWIDDEN	paddy fields
			xwɑ	the[33]xua[53]	Mand. 還 huán ?	return (a pen)
*xe			`dexɤxɤ	khe[33]xɯ[53]		cover / hide from view
*xexe[2]	xaɹ[55]xaɹ[55] ??		`xɤxɤ	xɯ[53]xɯ[53]		lid / cover
*xui[1]	ʂl[55]ma[55]	`fvme; xu[53]	`xwe	fu[35]	*swa	tooth
*mexui[1]	mɛ[55]ʂu[55]			me[33]fu[53]		charcoal
*xu[1]		xu[33]tɕhe[53]	fʉ	fu[35]	*r/g-wa ?	village
*xuibu[1]	fu[55]bu[55]	`fvbv		fu[33]bu[53]	*swa-n	onion / scallion
*xui[1]	fu[55]			fu[33]khuæ[53]	*swa-n	garlic
*xui	ʂl[33]ʂl[55]			fu[33]fu[53]	*s-wa GO	walk
*xutʂʰe[1]	fu[55]tʂhɛ[55]			fu[33]tʂhɯ[53]	*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 [zɻ], 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]	**ru[55]**	**əɹ[33]**bu[53]	**`əɹ**bʉ	**əɹ[33]**bu[53], dʉ[35]	*g-ruŋ	horn
*ru[1]	**ru[55]**		**əɹ**	ne[33]**zɻʉ[53]**, ne[33]**ɣu[53]əɹ[53]**		shave (the head)
***r**iku/**r**ik[h]u[1]	rguˀ; **rŋ[33]**ku[55]	**əɹ[33]**khu[53]	**əɹ**k[h]o	**əɹ[33]**khuo[53]	*g-rus	bone
*rAɬæ[1]	**rɑ[55]rɑ[55]**		**`əɹ**ɬæ	**ɣɯɹ[33]**læ[53]	*g-ray GOD/COPULA	soul / spirit
*rAne,rAnɑ[1]	**rɑ[55]**nɛ[55]	**r**ənɑ		**əɹ[35]**na[53]		shadow
*tɕuru	əɹ[33] tsu[33] **ru[55]**	**`tɕorə**		tɕye[33]**ɦæɹ[35]**		footprint / track[46]
*ri[1]		**rə**; **zɻ[35]**	**əɹ**mæ	**zɻ[35]**, **zɻ[33]**phæ[53]		road
*ri[2]	**rŋ[33]zɻ[55]**, **rŋ[55]**phɑ[55]	**rə**	**`əɹ**p[h]æ	**ɣɯɹ[33]ɣɯɹ[53]**		means / way
*(ri)ni[1]	ɳi[55]		**əɹ**ɳi	əɹ[33]ɳi[53]	*s-ney	near
*(ri)ʂɑ[1]	(ʂɛˬʂɛˬ); (ʂɛ[55])	(ʂɐ[33]ʂɐ[53])	**əɹ**ʂɑ	əɹ[33]ʂa[35]	*s-riŋ LONG	far / distant
*ri[1]		re[35], rɯ[33]me[53]	**əɹ**	zɻ[33]mæ[53]		fields (wheat etc.)
*rik[h]wæ[1]			**əɹ**k[h]wɑ ‘cliff’	ɦɯɹ[33]khuæ[53]		rock
*riwu[1]			**əɹ**vʉ	ɦɯɹ[33]wu[53]		cave / hole
*ri[1]	rəˬ; rŋ[55]	`rə; əɹ[35]	**`z̩i̯**	əɹ[35]	*r(y)a	laugh / smile
*re[1]	**vɛ[55]** ??		**-əɹ**, **dz̩i̯æɹ**	**əɹ[35]**	*rəy	water / soup
*mjare[1]			mjɑəɹ	miæ[33]əɹ[53]		tears ("eye-water")
*stiu(d)zære[1]	su[55]zɑ[55]ɣɛ[55], su[55]zɑ[55]rɛ[55]	kŋræ	ʃtedzæɹ		*s-nap + *rəy	snot (liquid)
*beri[2]	bɛˬrəˬ; bɛ[33]rŋ[55]	`b**ə**ə; bu[33]rə[53]	**`b**əɹ	bɯ[33]ɣɯɹ[35]	*s-b-ruːl	snake
*berA/burA	ʂɛ[33]bɛ[55]ra[55]	bu[33]ra[55]		bu[33]əɹ[53]	*g/p-rwak	ant
*riu[1]	roˬ; z̩o[55]z̩o[55]	rə	z̩i̯	ɣɯɹ[35]	*b-rəy	write
*-ro	nɑ[55] **ro[55]**			ɳuo[53]**əɹ[53]**		rib
*re[1]	rɛˬ; rɛ[55]		**əɹ**	khɯ[33]ɣɯɹ[55]ɣɯɹ[31]		dry by fire, toast
*dere[1]	dɛ[55]rɛ[55]		**`d**eəɹ	de[33]əɹ[35]		swell (of tissue)

[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
*rat^{h}ɑ^{1}	rɑ^{55}thɑ^{55}		æ^{ɪ}t^{h}ɑ	ə^{ɪ33}tha^{53}	< Tib. rang 'thag	millstones

The initial [z̩-] instead of expected [r-] for Ersu 'write' may simply be the result of variation. Sūn (1982b) notes that Ersu **z̩** and **r** are in free variation in some words. Also, notice that Ersu 'means/solution' **rɳ^{33}z̩ɳ^{55}** appears to be a reduplicated form, i.e. both syllables reflect the same root; if this is the case this is evidence for [z̩/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] > [æ^{ɪ}]. Thus, the three items 'chicken', 'obtain', and 'remain' all merged in Mn. according to these paths: 'chicken' ***rwa** > **ɣwa** > **ɣa** > **æ^{ɪ}**, 'obtain' ***ra** > **ɣa** > **æ^{ɪ}**, 'remain' ***gwa** > **ɣwa** > **ɣa** > **æ^{ɪ}**.[47]

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*rwɑ^{1}	rʌ˥; rɑ^{55}	rwæ; rɑ^{55}	æ^{ɪ}	ɣua^{35}	*k-rak	chicken
*rA		`ræ	æ^{ɪ}-			yak
*rA^{1}	**rɑ^{33}**	**ɦrə̃**	k^{h}e**æ^{ɪ}**	**ɣæ^{ɪ35}**	PLB *ra^{3}	obtain, get
*rA/ɣwA	rɑ^{55}	`ɣwæ				shout, yell
*gwɑ^{2}			`ne**æ^{ɪ}**	**gua^{53}**		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
*æ^{1}	ʌ˩; ɑ^{55}	`æ; æ^{35}	ɑ	æ^{53}, a^{33}duo^{53}		I
*ɑntʂ^{h}æ^{2}	ɑ^{33}ntʂhɑ^{55}			a^{53}ntʂhæ^{53}		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

[47]Thus, Mn. 'chicken' **æ^{ɪ}** < 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	la^{33}hũ^{53}		musk
	nuA˩k^{h}u˥ ?		`nɑhõ(hõ)	na^{33}xuo^{53}xuo^{31}, nua^{33}xo^{55}xo^{53}	*s-nak	dark
*t(w)ɑh(w)ã^{1}	tuɑ^{55}xuɑ^{55}		tɑhɑ̃	ta^{33}xa^{53}	*s-r(y)ak 24-HOURS	tonight
*(h)æne	A˩nɛ˩		`hæ̃ne	hæ^{33}ne^{53}		what
*hjẽ^{1}		khe^{33}hĩ^{53}	hjẽ	khe^{33}hĩ^{31}	*r/s-ŋ(y)a	borrow (tools)
*ts^{h}ehĩ^{1}	tshi^{55}xi^{55}	ts^{h}ehẽ	ts^{h}ehĩ	tshe^{33}hĩ^{53}	*s-niŋ	this year
*hĩ^{2}	xi↓; xi^{55}	`hẽ; m̥i^{53}	`hĩ	n̥i^{53}		bamboo
*hjẽmæ^{1}	xi˩, xi˥mA˩; xi^{55}ma^{55}		hjẽmæ	hĩ^{33}mæ^{53}		sister
*dehĩ^{1}	xi˩; dɛ^{33}xi^{55}		dehĩ	de^{33}hĩ^{53}	*s-min ?	ripe, cooked, done
*hĩhĩ	xi^{55}xi^{55}			hĩ^{53}hĩ^{53}la^{33}la^{53}		smooth / glossy / sleek
*mehĩ^{2}	mi^{33}xi^{55}			me^{53}hĩ^{53}		chin
*hã^{1}	hA↓; xɑ^{55}, xa^{55}	hæ̃	hɑ̃	hiæ̃^{31}		have, exist (immovable)
*hõ^{1}	fu^{55}tsi^{55}			hũ^{33}tɕu^{53}		pepper (hot) / chili
*hõ^{1}	fu˥; fu^{55}	hũ	hõ	hũ^{53}		want / need
*hwõ^{1}	-ho˩; xo^{55}		nehõ	ŋuo^{33}hũ^{53}	*s-m-raŋ ?	stretch out (the arm)
*hwõ	ho˧		-hõ			speech, language, dialect
*hẽhẽ^{1}	hĩ^{55} hĩ^{55}		hẽhẽ	te^{53}hɯ̃^{53}hɯ̃^{31}	*s-nam ?	smell
*dehẽ^{1}	hɛ^{55}, xɛ^{55}	`dehỹ		de^{33}hɯ̃^{53}	cf. Thai hɔ̌ːm ?	fragrant (smell)
*hẽ^{1}	xɛ˩; xə^{55}	ɦrə̃	hẽ	hɯ̃^{55}	*g/s-məw ?	mushroom
*hẽ^{1}	xɛ^{55}		`hẽ	(ɣua^{33}) jʉ^{53}khe^{33}xŋ̩^{31}	*s/r-go-ŋ ?	hatch / incubate
*behẽ/behĩ			`behẽ	be^{33}hĩ^{53}		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

[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
*æbæ^{2}	ʌ˥˩bʌ; a^{55}ba^{55}	`æpæ	`æbæ	æ^{53}bæ^{53}		father
*æp^{h}u^{1}			ɑp^{h}ʉ	æ^{33}phu^{53}	*pəw	grandfather
*tæniu^{1}	tʌ˥˩n̥o˥; ta/tɑ^{55}n̥o^{55}		tæn̥i	tæ^{33}n̥ʉ^{53}		today
*t(w)ɑh(w)ã^{1}	tuɑ^{55}xuɑ^{55}		tɑhɑ̃	ta^{33}xa^{53}	*s-r(y)ak 24-HOURS	tonight
*tɑso^{1}			tɑso 'just now'	ta^{33}suo^{53}	PLB *C-sok	morning
*janiu^{1}	jʌ˩˧n̥o˥; jɛ^{55}n̥o^{55}	`jæɲi	jæn̥i	jæ^{53}n̥ʉ^{53}	cf. Lahu yàʔ-	yesterday
*jahãŋk^{h}wo^{1}		`jæxwæ ?	jɑhɑ̃nk^{h}o	ja^{33}ha^{33}nkhu^{35}		last night
*ja(ji)hĩ^{1}	jʌi˩˧xi˥; jɛ^{55}xi^{55}		`jæhĩ	jæ^{33}hĩ^{53}		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 ***ndʒŋ^{33}*xi^{55}** 'year after next' and ***ngɛ^{33}*so^{55}** 'day after tomorrow', where the vowel in 'year after next' may have been raised **-i**, causing palatalization of the initial consonant from **ŋg-** to **ndʒ-**.

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 **de^{33}gu^{53}** '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 **do^{33}guo^{53}** 'twist' and **do^{33}tsu^{53}** 'wear (a hat)'. Similarly, with the other prefixes there are forms such as **kho^{33}luo^{53}** 'wait', **kho^{33}nduo^{53}** 'see', **na^{33}pha^{53}** 'break', **tho^{33}mo^{53}** 'old', or **ŋo^{33}tshuo^{53}** '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

[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 **jæn̥i** 'yesterday', **dʑæn̥y** 'breast', and **`ɕæn̥æ** '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 **ja^{33}ha^{33}nkhu^{35}** 'last night' and **ja^{53}ka^{53}** '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 **ts^{h}o** 'person' is reduced to **u** in **ts^{h}umo** 'old man' and **ts^{h}uk^{h}wɑ** '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˩bo˩; jɑ^{33}nbo^{55}	nbɚnbɚ; bo^{33}mbo^{53}	mbzɻmbzo	bo^{53}nbo^{53}	*m-raŋ	high / tall
*ŋgrɑŋgrɑ[1]	ndzɛ^{33}ndzɛ^{55}	`nɢᵚɑnɢᵚɑ	ŋgɤŋgæˠ	nga^{33}nga^{53}		shake / shiver
*muimui[1]	maˠ^{55}maˠ^{55}		`demʉmwe	ne^{33}mu^{53}mu^{31}	*s-miːt	close (the mouth)
*ɣuiɣui	zɻ˥zɻ˩ts^{h}ʌ˩ts^{h}ʌ˥; jɑ^{33}zɻ^{55}		ɣʉɣwe		*lway ?	easy
*dzjẽdzjẽ[2]	dzi^{55}dzi^{55}		`dzɨdzɤ	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]	zʌ˩zʌ˥; zɑ^{55}zɑ^{33}		zɨzæ	zæ^{33}zæ^{53}		tender, young (plant)
*k^{h}æk^{h}æ[1]			k^{h}ik^{h}jæ	khæ^{33}khæ^{53}		separate, other
*kækæ[1]	kɑ^{55}kɑ^{55}		kikjæ	kæ^{53}kæ^{53}		fight
*soso[1]	so˨so˩; so^{55}so^{55}		suso	suo^{33}suo^{53}, suo^{35}		learn, teach
*ɣwoɣwo[1]	vaˠ^{55}vaˠ^{55}		`wuwo	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 (**əˤ ɯˤ oˤ aˤ æˤ**) in TBL. However, the transcriptions in TBL are not particularly consistent: 'skin', for example, is variously transcribed as **ngaʴ³³pi⁵³, n-gəʴ³⁵**, and **nga³³pi³¹**; 'road' is **zɻ³³phæ⁵³**, but 'one day's journey' (presumably including the morpheme for 'road') is **(te⁵³) ȵu⁵³ ɦɯʴ³³phæ⁵³**. In interpreting the TBL transcriptions below, I will assume that **əʴ, ɯʴ, ɣɯʴ**, and **ɦɯʴ** are all equivalent.

4.2.1 *-ri

env.	Ersu	Kl.	Nq.	Mn.	TBL
P __	eʴ/aʴ; aʴ	ɚ˞, ræ	i	əʴ	ɯ(ʴ)
K __	(z)ɿ	(z)ɿ	əɹ/(z)ɿ	(z)ɨ	əʴ/(z)ɿ
# __	rə; rɿ	rə	əɹ/rə/zɻ	əʴ	əʴ/zɻ

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	jɑ³³maʴ⁵⁵	mræ	məʴ	muʴ³³muʴ³⁵		tasty / delicious
*pri	-peʴ˥; paʴ⁵⁵	`pɚ˞ 'grain'; nu³³pi⁵³ 'peas'	-pəʴ	(te³³) puʴ³¹		classif. small round obj.
*mpʰri¹	su˧˥mo˧˥npʰaʴ˥ 'cremate'		mpʰəʴ			burn, singe
*kri¹	tʃɻ˥; tʂɻ⁵⁵	`tʂɻ; kəɹ⁵⁵	`tʂɨtsʰe	kəʴ³⁵	PLB *ʔgrəy¹	star

[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
*kri[1]	tʂ̩[55]	khə[33]kɯɹ[53]	`tʂi	ne[33]tʂ̩[53], tʂ̩[53]		bite
*dekri		dɐ[33]kəɹ[53]	`detʂitʂi	de[33]dʐ̩[53]	*m-tsik ?	itch
*tʰegri[1]		the[33]**dʐ̩**[53], thɐ[33]**kɐɹ**[53]	kʰe**dʐ̧**	the[33]**dʐ̩**[53]	*gra	hear
*ri[1]	rə˥; ɾ̩[55]	`rə; əɹ[35]	`ʐ̧	əɹ[35]	*r(y)a	laugh / smile
*neri	nɛ`˥**rə˥**; nɛ[55]**ɾ̩**[55]			næ**ɹ**[53]		you (pl.)
*ri[1]		**rə**; **ʐ̩**[35]	**ə**ˈmæ	**ʐ̩**[35], **ʐ̩**[33]phæ[53]		road
*ri[2]	**ɾ̩**[33]**ʐ̩**[55], **ɾ̩**[55]phɑ[55]	**rə**	`**ə**ˈpʰæ	**ɣɯɹ**[33]**ɣɯɹ**[53]		means / way
*ri[1]		re[35], rɯ[33]me[53]	əˈ	ʐ̩[33]mæ[53]		fields (wheat etc.)
*beri[2]	bɛ˩**rə˥**; bɛ[33]**ɾ̩**[55]	`b**ɚɚ**; bu[33]**rə**[53]	`b**ə**ˈ	bɯ[33]**ɣɯɹ**[35]	*s-b-ruːl	snake
*mjari/meri[1]	miɑ[55]**ɾ̩**[55]		m**ə**ˈ	mɯ[33]**ɦɯɹ**[35]	*r-ma + *ri GLEET	sore / boil
*riku/rikʰu[1]	**r**gu˥; **ɾ̩**[33]ku[55]	**əɹ**[33]khu[53]	**ə**ˈkʰo	**ə**ˈ[33]khuo[53]	*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 **ʐ̩** and **ɚ** (in 'laugh' and 'road'). TBL describes an almost identical variation between **[əˈ ~ʐ̧ə]** (Huáng and Rénzēng 1991:137).

4.2.2 *-riu

Ersu	Kl.	Nq.	Mn.	TBL
ʐ̧o	ʐ̩, rə	əˈ	ʐ̧	əˈ

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
*kriu[2]	tʂo[55]	`tʂl	`tʂɨ	kəɹ[53]	*krəy, PLB *ʔgrəy[1]	gall bladder
*kriu(ju)[1]	tʂo↓; tsl[55]tʂo[55]		`tʂɨjy	kəɹ[33]jy[53]		frost
*ŋgriupje[1]	**ndzo[55]**pi[55]	**ndzɻ**; **ngəɹ[33]**phi[53]	**`ndzɻ**pi; ʃtɤpe-**`ndzɻ**pi 'lip'	**ngaɹ[33]**pi[53], **n-gəɹ[35]**; ku[53]pe[53] **nga[33]**pi[31] 'lip'	PLB *m-k-rəy	skin
*riu[1]	ro↓; zo[55]zo[55]	rə	zɻ	ɣɯɹ[35]	*b-rəy	write

4.2.3 *-ru

env.	Ersu	Kl.	Nq.	Mn.	TBL
p[h] __	o		ʂə	ʂʉ	zu
b __	u	o		zʉ	u
# __	ru	-	əɹ	əɹ	əɹ

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
*p[h]ru				ʂæ[55]**phzu[53]**	PLB *ʔ-blu[1]	porcupine
*mp[h]ru[1]	**npho[55]**	**tʂhə[33]**sɯ[53]	**`mpʂ[h]ʉ**	**nphzuɯ[35]**, **ntʂhʉ[35]**	*r-kəw	steal
*mp[h]ru[1]			ntʂ[h]ʉ	nphzu[35]		steam (v.)
*mp[h]ru			`mpʂ[h]ʉ	ntʂhu[33]tɕæ[53]		bamboo steamer
*p[h]ru			`mjɑ**pʂ[h]ʉ**, `mjɑ**tʂ[h]ʉ**		PLB *p(l/y)uːŋ[2] (MLBM 62)	face
*bru	buˈl; bu[33]	-bo	-bzu	(te[33]) bu[31]		flock (of sheep)
*bru[2]	dzu[33] ??		`bzu			tendon
*(ji)mbru[2]	**bzɻ**ˈl		`ɣɑji**mbzu**	ji[53]**nbu[53]**	*m-bruŋ ⪤ *m-bruk; <WT ḥbrug?	dragon
*tɕuru	əɹ[33] tsu[33] **ru[55]**	`tɕo**rə**		tɕye[33]**fiæɹ[35]**		footprint / track
*ru[1]	**ru[55]**		**əɹ**	ne[33]**zu[53]**, ne[33]**ɣu[53]əɹ[53]**		shave (the head)
*ru(bu)/du[1]	**ru[55]**	**əɹ[33]**bu[53]	`əɹbʉ	**əɹ[33]**bu[53], dʉ[35]	*g-ruŋ	horn

Note that in TBL, ***-r-** has developed into [**z**ɻ] 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 __	əʴ; aʴ	ɚ	e	ʐe	ɯ(ʴ)
# __	rɛ	ræ	-	əʴ	əʴ

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*nebre^{1}	**bəʴ**˥n̥i˩; **baʴ**^{55}n̥i^{53} ‘rest’	ne**bɚ**	ne**bʐe**	ŋe^{33}**bɯʴ**^{53}		tired, fatigued
*mbre^{1}	nbaʴ^{55}	se^{33}mbe^{53}		se^{33}nbɯ^{53}		root
*re^{1}	rɛ˩; rɛ^{55}		əʴ	khɯ^{33}ɣɯʴ^{55}ɣɯʴ^{31}		dry by fire, toast
*dere^{1}	dɛ^{55}rɛ^{55}		`deəʴ	de^{33}əɹ^{35}		swell (of tissue)
*mbere^{2}	mbɛ^{33} **rɛ**^{55}			na^{53}nb**əʴ**^{53}	*ba-y	cheek
*re^{1}	**vɛ**^{55} ??		**-əʴ**, dʐ**ɨæʴ**	**əʴ**^{35}	*rəy	water / soup
*mjare^{1}			mjɑ**əʴ**	miæ^{33}**əʴ**^{53}		tears ("eye-water")
*stiu(d)zære^{1}	su^{55}zɑ^{55}**ɣɛ**^{55}, su^{55}zɑ^{55}**rɛ**^{55}	kŋræ	ʃtedz**æʴ**		*s-nap + *rəy	snot (liquid)
*wɑre/ɣɑre^{1}			w**æʴ**	ɣa^{33}**əɹ**^{35}		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 + əʴ > dzæʴ**).

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

Mn. also has **-əʴ** except for the one form with a bilabial stop initial, ‘tired’, which has **-ʐe**.

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 **vɛ**^{55} ‘water/soup’, which shows up as part of the compound **ʂʅ**^{55}**vɛ**^{55} ‘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
p^{h} __	o	re	-	ʂo	ʐu
b __	o	ɚ	o	ʐo	o(ʴ)
# __	ro	-	-	-	əʴ

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*tsipʰrjo/ tsʰipʰrjo^{2}	tsʰɿ˥**pʰo**˥; tsɿ^{55}**pho^{55}**		`tsʰɨ**pʰɕo**	tshe^{53}**phzʉ^{53}**		age
*mpʰrozæ^{1}	pho^{55}zɑ^{55} ‘husband’	pʰrezæ	mpʂʰozæ	nphzɯ^{33}zæ^{53}	PL *m-laŋ/plaŋ^{1} ‘husband’ (PL 217)	young lad / chap
*debro^{1}			debzo gɤ	de^{33}boɹ^{53}	PKC *puar	feel bloated (stomach)
*m(b)ro^{2}	bo˩; nbo^{33}	`nbɚ; mbɐ^{33}qhʌ^{55}	`mbzo	nboɹ^{35}	*k-m-raŋ	horse
*mbro	jʌ˥bo˥; jɑ^{33}nbo^{55}	nbɚnbɚ; bo^{33}mbo^{53}	pæmbzo, mbzɨmbzo	bo^{53}nbo^{53}	*m-raŋ	high / tall
*mbro^{1}	nbo^{55}si^{55}			nboɹ^{33}wu^{53}		willow
*ɑdo(ri)^{1}			ɑ**do** (incl.)	a^{33}**doɹ^{35}**		we
*-ro	nɑ^{55} **ro^{55}**			n̥uo^{53}**əɹ^{53}**		rib

In Ersu and Nq., medial **-r-** is lost; in TBL it becomes [z̨] 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
*kʰɑrV^{1}			kʰɑ**əɹ**	kha^{35}**əɹ^{53}**		walnut
*lirV^{1}			li**əɹ**	li^{33}**əɹ^{35}**	< MC lij 梨 ?	pear[4]
*mukr(w)V^{1}		mu^{33}kəɹ^{53}	mʉkwəɹ	mu^{33}kəɹ^{53}	*r-may ⪤ *r-mey ⪤ *r-mi	tail

[4] A comparison to the Mandarin diminutive suffix **-er** is tempting here, but to my knowledge the local Mandarin forms for ‘walnut’ and ‘pear’ (**xe^{22}tʰau^{22}** and **li^{22}tsɿ^{55}**) 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 __	əᶦ; aᶦ	ræ	e	ʐæ	æ(ᶦ)

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*præ[1]	**paᶦ[55]**duɑ[55]	`de**præ**	de**pʂæ**	**pæ[53]**læ[53]		arrive
*debræ[1]	**bəᶦ˥**	`de**bræ**; dɐ[33]**be[53]**	**bʐæ**	de[33]**bæᶦ[53]**	*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(ᶦ)** while the vowels below are **a(ᶦ)**; 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 __	əᶦ; aᶦ	ræ	ɐɹ	æᶦ	a(ᶦ)
K __	ʐɛ/uaᶦ	(ʁ)ɑ	a	æᶦ	a(ᶦ)

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*pʰrɑ[2]			`pʰæᶦ, dzæpʰæᶦ	pha[53]	*pwaːy	chaff / bran
*brɑ[1]			ntsʰɑbæᶦ	tshɳ[33]ba[53]		cane / vine
*debrɑ[1]	bəᶦ˥; dɑ[33]baᶦ[55]	dɐ[33]bɐɹ[53]	debæᶦ	de[33]baᶦ[53]	*bliŋ	full
*brɑ[1]	pʐ˩˥ ?	`bræ	bæᶦ, bæʲjo	baᶦ[35]		rope / string
*mbrɑ[1]	bəᶦ˧˥; nbaᶦ[55]	nbɐɹ[55]	`mbæᶦ	nbaᶦ[35]		urine
*mbrɑ[1]	bəᶦ˩		mbombæᶦ, mbʐimbʐæ	de[33]nbaᶦ[53]	Lahu bù < *mbwa	loud
*mrɑ[1]	maᶦ[55]	maɹ[55], mɐɹ[33]ʂɻ[53]	`mæᶦ	maᶦ[35]	*m-la-y	bow / arrow
*dekʰra[1]	dɛ˥tsʰɻ ??; tʃhi[55] ??	dɐ[33]**khaˢ[55]**	de**kʰæᶦ**	de[33]**kha[53]**	*b-ka	bitter, salty
*krɑ	-tʂɛ˥; tʂɛ[55]		-kæᶦ	(te[33]) ka[31]		catty (=1/2 kilogram)
*krɑ[2]	tʂɛ˥	`qɑ	`kæᶦ	kaᶦ[53]		scales, steelyard
*htʃiukrɑ[2]	htʃo[33]**tʂɛ[55]**		`ʂtʂ**ikæᶦ**	ʂu[33]**ka[53]**		fart
*jakrɑ	jɑ[55]**dzʐ[55]**	`jæ**qɑ**		ja[53]**ka[53]**		child
*ŋgrɑŋgrɑ[1]	ndzʐ[33]ndzʐ[55]	`nɢᵏɑnɢᵏɑ	ŋgɤŋgæᶦ	nga[33]nga[53]		shake / shiver
*seŋgrɑ[1]			seŋgæᶦ	se[33]nga[53]		trunk

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*-ŋgrɑ^{2}	tsu^{33}**ndʐɛ^{55}**		`laŋgæ^{ɪ}	luo^{33}**nga^{53}**		pestle
*ŋgrɑ^{2}		`nɢ^{ʁ}ɑ		ŋgaɹ^{53}		kill (a person)
***ɣrɑ**/ge^{1}	**xa^{ɪ55}**	**`ʁɑ**; gɐ^{35}	ɣʏ	ɣɯ^{35}, **ɣa^{35}**	*k-rap	needle[5]
*ŋrɑ^{2}	ŋA^{ɪ}↓; ŋua^{ɪ33}	ɦɑ̃; ɐ^{53} ?	`ŋæ^{ɪ}	ŋa^{53}	*l/b-ŋa	five
*deŋrɑ^{1}	ŋua^{ɪ55}		deŋæ^{ɪ}	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 (**tshŋ^{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	æ^{ɪ}	ə^{ɪ}

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*berA/burA	ʂɛ^{33}bɛ^{55}**ra^{55}**	bu^{33}**ra^{55}**		bu^{33}**ə^{ɪ53}**	*g/p-rwak	ant
*ht(w)ɑrA^{2}	htuɑ^{33}**rɑ^{55}**		ʃtæ^{ɪ}	ta^{53}**ə^{ɪ53}**	*m-liŋ	neck
*wurA/wærA^{1}	vu↿**rʌ**↾; vu^{33}**rɑ^{55}**		wæ, wə**æ^{ɪ}**	ɣuæ^{33}**ɦæ^{ɪ35}**		cloth
*rAɬæ^{1}	**rɑ^{55}rɑ^{55}**		`ə^{ɪ}ɬæ	**ɣɯ^{ɪ33}**læ^{53}	*g-ray GOD/COPULA	soul / spirit
*rAne,rAnɑ^{1}	**rɑ^{55}**nɛ^{55}	**rə**nɑ		**ə^{ɪ35}**na^{53}		shadow
*rA^{1}	**rɑ^{33}**	**ɦirə̃**	k^{h}e**æ^{ɪ}**	**ɣæ^{ɪ35}**	PLB *ra^{3}	obtain, get
*lɑk^{h}ɑ/lok^{h}ɑ^{1}			lɑk^{h}ɑ k^{h}e**æ^{ɪ}** ‘get hurt’	luo^{33}khua^{53}**ə^{ɹ31}** ‘get hurt’		wound
*rA		`ræ	æ^{ɪ}-			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.

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

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*wra[1]	kʰɛ˥**vəˤ**˩; nda[55]**vaˤ[53]**		`ndæˤ**wæˤ**	da[33]wu[53]		guest
*le**krwa**[2]	lɛ[33] **kuaˤ[55]** tʃhu[33]		`lɑ**kwəˤ** tsʰʉ (v.)			elbow[6]

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
*gwɑ[2]			`neæˤ	**gua[53]**		left over / remain
*rwɑ[1]	rʌ˥; rɑ[55]	rwæ; rɑ[55]	æˤ	ɣua[35]	*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
zɻ/aˤ/uaˤ	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
*kʰepʰui[1]		khə[33]phu[55]	pʰwe	khe[33]phu[53]	cf. Lahu phɛ	tether (a cow)

[6]The 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 **làʔ˧mē-*cu*** 'elbow'.

[7]In 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 **[-ɯe]** or **[-ɯɪ]** . Combined with aspiration, a form that is phonemically **/pʰwe/** would be realized as something like **[pˣeˀ]** .

[8]Compare, for example, Cantonese-American speakers who use syllabic **[ɻ]** for phonemic **/œ/**, e.g. 'foot' **/kœːk[33]/** as [kɻk[33]].

[9]In 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
*pʰui[1]	pʰʂl̩˩; phʂl̩[55]		pʰwehõ (~ lg.)	phu[53]	WT bod	Tibetan
*(ji) mui[1]	(kʰA˩)**məˑ˥** ‘sleep’; **maˑ[55]**		ji**mwe** ŋʉ, ji**mwe** dedzɻ̩	ji[33]**mu[53]** kɯ[33]		doze / nod off
*mui[2]	mi˥mæˑ; maˑ[55]	`mv; mu[53]	`mwe, `məˑ	mu[53]	*s-mul	feather, hair (of body)
*stiumui[2]	su[55]maˑ[55]		`ʃtimwe	ku[53]mu[53]		beard / moustache
*muimui[1]	**maˑ[55]maˑ[55]** (’close eye’)		jibɑ `de**mʉmwe**	ne[33]**mu[53]mu[31]**	*s-miːt	close (the mouth)
*jimui[1]			jimwe ‘sweet ~’	ji[33]mu[53]		buckwheat
*kʰui[1]			ʃtintʂʰ**ɨ kʰwe**	(ti[33]nkhæ[53]) **khu[31]**		blow (one’s nose)
*kʰuija			`**kʰwe**jɑ, `**kʰwæ**	**khu[33]**jæ[53]		under
*kʰui[1]		khu[53]	kʰwe, kʰʉ	ne[33]khu[53]		pluck (flowers)
*gui[1]	dʒl̩˩; dʒl̩[55]	`gv	`gʉ, `gwe	(te[33]) gʉ[31], gu[33]sua[53] ‘send message’		speech, phrase, words
*deŋgui[1]	dɛ˧˩ndʒl̩˨˩ ‘change’; ndʒl̩[55]ndʒl̩[55]		ŋgweŋgwe, ŋgʉ	ne[33]ngu[53]ngu[31]		exchange
*leŋgui[2]	lɛ[33]**ngua[55]**		`li**ŋgwe**	le[33]**ngu[53]**		ring[10]
*xui/ŋui[1]	həˑ˩ ?; xaˑ[55] ?	ŋo~ɦo; ŋue[33]mo[53]	ŋwe, ŋwemo	ŋu[33]mu[53]	*d/g-wam	bear (n.)
*ŋui[1]	ŋ̍Aˑ˥; ŋuaˑ[55]	ŋu; ŋu[53]	əˑŋwe	ŋu[35]	*d-ŋul	silver
*ŋui[2]	ŋAˑ˨˩; ŋuaˑ[33]	`ŋu	`ŋwe	ŋu[53]	*ŋwa	cattle, cow
*ŋuimæ			`ŋwemæ	ŋu[33]mæ[53]		cattle (common, female)
*xui[1]	ʂl̩[55]ma[55]	`fvme; xu[53]	`xwe	fu[35]	*swa	tooth
*xui	ʂl̩[33]ʂl̩[55]			fu[33]fu[53]	*s-wa GO	walk
*ɣuiɣui	**ʐɻ̩˥ʐɻ̩**˩tsʰA˩tsʰA˩; jɑ[33]**ʐɻ̩[55]**		**ɣʉɣwe**		*lway ?	easy
*deɣui[1]	ʐɻ̩˩; ʐɻ̩[55]	`kʰev	`de(ɣ)we, `devʉ	de[33]vu[53]	*gwa-n	wear (a garment)
*ɣui[1]	ʐɻ̩˥; ʐɻ̩[55]	v; wu[35]	(ɣ)we, vʉ	vu[33]ji[53] ‘go buy’	*rey	buy
*ɣuini/ ɣuindzA[1]	**ʐɻ̩[33]n̍i[33]**		**ɣɤ**ndzɑ	**ɣɯ[33]**n̍i[53]**ɣɯ[33]**ndzæ[53]		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

[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 **ka^{33}si^{33}**, and 'onion' is **ɣo^{33}thu^{33}**; 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
*hkui^{1}	**hku^{55}**		**xkwe** 'herd'	zuo^{33}ŋuo^{53} **ku^{53}**		herd, put out to pasture
*kui^{1}	ku^{55}		`kʉ, `kwe	de^{33}ku^{53}		scoop up (water) / ladle
*xui^{1}	fu^{55}			fu^{33}khuæ^{53}	*swa-n	garlic
*xuibu^{1}	fu^{55}bu^{55}	`fvbv		fu^{33}bu^{53}	*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	xi^{55}xi^{55}			hĩ^{53}hĩ^{53}la^{33}la^{53}		smooth / glossy / sleek
*dehĩ^{1}	xi˥; dɛ^{33}xi^{55}		dehĩ	de^{33}hĩ^{53}	*s-min ?	ripe, cooked, done
*ts^{h}ehĩ^{1}	tshi^{55}xi^{55}	ts^{h}ehẽ	ts^{h}ehĩ	tshe^{33}hĩ^{53}	*s-niŋ	this year
*ja(ji)hĩ^{1}	jʌi↓xi˥; jɛ^{55}xi^{55}		`jæhĩ	jæ^{33}hĩ^{53}		last year
*ʂo(ji)hĩ^{1}	ʃo^{55}i^{55}xi^{55}		`ʂohĩ	ʂu^{33}hĩ^{53}		year before last
*sohĩ^{1}	so^{55}xi^{55}		sohĩ	suo^{53}hĩ^{53}		next year
*ndʒihĩ^{2}	ndʒ˩^{33}xi^{55}		ndʑi hĩ	ndʐ^{53}hĩ^{53}		year after next
*mehĩ^{2}	mi^{33}xi^{55}			me^{53}hĩ^{53}		chin
*hĩ^{2}	xi↓; xi^{55}	`hẽ; m̥i^{53}	`hĩ	n̥i^{53}		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
*hjẽmæ[1]	xi˩, xi˩mA˩; xi[55]ma[55]		hjẽmæ	hĩ[33]mæ[53]		sister
*hjẽ[1]		khe[33]hĩ[53]	hjẽ	khe[33]hĩ[31]	*r/s-ŋ(y)a	borrow (tools)

The following forms, reconstructed with ***-ẽ**, have **ẽ/ɤ̃** rhymes in Mn., **ɯ̃/ŋ̍** 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	be[33]hĩ[53]		fly (n.)
*lɑhẽ/lahõ			`lɑhẽ	la[33]hũ[53]		musk
*hẽhẽ[1]	hĩ[55] hĩ[55]		hẽhẽ	te[53]hɯ̃[53]hɯ̃[31]	*s-nam ?	smell
*dehẽ[1]	hɛ[55], xɛ[55]	`dehỹ		de[33]hũ[53]	cf. Thai hɔ̌ːm ?	fragrant (smell)
*hẽ[1]	xɛ˩; xə[55]	ɦrə̃	hẽ	hɯ̃[55]	*g/s-məw ?	mushroom
*hẽ[1]	xɛ[55]		`hẽ	(ɣua[33]) ju[53]khe[33]xŋ̍[31]	*s/r-go-ŋ ?	hatch / incubate
*sini/stẽ[2]	sɿ̃˩; ʃɿ[55]ṇ[55]	`tŋ~`kŋ; ki[53]	`ʃtɤ̃	skŋ̍[53]	*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
*hõ[1]	fu˥; fu[55]	hũ	hõ	hũ[53]		want / need
*hõ[1]	fu[55]tsi[55]			hũ[33]tɕu[53]		pepper (hot) / chili
*hwõ[1]	-ho˩; xo[55]		nehõ	ŋuo[33]hũ[53]	*s-m-raŋ ?	stretch out (the arm)
*hwõ	ho˧		-hõ			speech, language, dialect
	nuA˩k[h]u˥ ?		`nɑhõ(hõ)	na[33]xuo[53]xuo[31], nua[33]xo[55]xo[53]	*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)ɑ̃[1]	tuɑ[55]xuɑ[55]		tɑhɑ̃	ta[33]xa[53]	*s-r(y)ak 24-HOURS	tonight
*hɑ̃[1]	hA↓; xɑ[55], xa[55]	hæ̃	hɑ̃	hiæ̃[31]		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
*htũ[2]	tu˩˧,tu↓; hpu[55](htu[55])		`ʃtũ	tu[53]	*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: **`dĩdĩbæbæ** 'very stupid' (not *didimbæmbæ).

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*dĩbæ		`dĩbæ 'stupid'		di[33]nbæ[53]		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
*jẽ[1]	ji˥; ji[55]	ȵe; ȵi[33]tshɯ[53], ȵĭe[35]	ȵe	ȵi[35]	*k-yim ⩕ *k-yum	house
*jã[1]	ja[55]		ȵɑ			home
*jõ[1]	jo˩˧; jo[55]		ȵo	ȵu[35]	*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** > **psʅ**). 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 __	əˤ	i	i	i	i
P __	zʅ	i	i	i	i
d __	ʅ	-	i	~~ɨ~~	i
s,ʂ __	ʅ	ʅ	ʅ	~~ɨ~~	ʅ
ʃ __	ʅ	ʅ	ʅ	i	ʅ
K __	zʅ	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
*li[1]	əˤ↓; əˤ[55]	li	li		*pla, PLB *C-la[1]	ashes
*kwɑli[1]	kɑ[33]əˤ[55]		kɑli	kua[33]li[53]	*ka	crow
*(rV)li[1]			əˤli	li[35]		dance (n.)

Below are forms < ***-i** after *palatals. (Note that there is no distinction between **n-** and **ȵ-** 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 **[-ʅ]** .

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*deni[1]	ȵi↓; ȵi[55]	ȵi[53]	deȵi	de[33]ȵi[31], de[33]ȵi[53]	*na-t	sick, ache
*deni[1]	dɛ˩ȵi˥; ȵi[55]	ȵi[33]tsɯ[55]tsɯ[33]	`deȵi	de[33]ȵi[53]	*r-ni	red
*xuini[1]	ʂʅ[55] ȵi[55] wɑ[55] zɑ[55]			fu[33]ȵi[53]		gum ("tooth-red")
*ni[1]	ȵi˥; ȵi[55]	ȵi[53]	əˤȵi	ȵi[35]		gold
*nini[1]	ȵi[55]ȵi[55]	ȵi[33]ȵi[53]	ȵiȵi gɤ˞	ȵu[53]ȵi[53]		few / little
*neni[1]			neȵi	ne[33]ȵi[53]		decrease, reduce
*nini	jʌ˩ȵi˩ȵi˥; ȵi[55]ȵi[55]			ȵi[53]ȵi[53]	*s-nem	low / short
*(ri)ni[1]	ȵi[55]		əˤȵi	əˤ[33]ȵi[53]	*s-ney	near
*ni[2]			`kʰeȵi	te[53]ȵi[53]		be startled/afraid
*breni[1]	baˤ[55]ȵi[53]		`debʐeȵi sæ	ŋe[33]ȵi[53], bɯ[33]ȵi[53]	*g-na-s	rest

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*bæni^{1}	bʌ˨n̥i˥, bʌ˥n̥i˥; ba^{33}n̥i^{55}, bɐ^{33}n̥i^{55}	be^{33}n̥i^{53}	bæn̥i	bæ^{33}n̥i^{53}	*r/g-na	listen
*ɣuini/ ɣuindzA^{1}	ʐʅ^{33}**n̥i**^{33}		ɣɤndzɑ	ɣɯ^{33}**n̥i**^{53}ɣɯ^{33}ndzæ^{53}		relatives
*tɕitæ^{1}	**tsʅ**^{55}tɑ^{55}		`**tɕi**tæ	khe^{33}**tɕi**^{53}tæ^{31}		collect, harvest, put away
*htɕi^{1}		tɕi^{33}mi^{53}	ɕtɕimæ		*s-tu	vagina
*dʑiki^{1}		dʑi̱^{33}kɯ^{53}	dʑiki	dʑi^{33}ki^{53}	*m-ts(y)il	saliva
*dʑi^{1}		dʑi	dʑi	dʑi^{35}		speak, say
*sæmbæ^{2} neɕi	sʌ˨nbʌ˥ 'feeling, emotion'		`sæmbæ `ne**ɕi**	sæ^{53}nbæ^{53}**ɕi**^{53}		worry / be anxious
*ʑi^{1}	**zʅ**˦tʌ˥ 'chair'; **zʅ**^{55}		`ne**ʑi**	ne^{33}**ʑi**^{53}		sit down
*ji^{1}	kʰ-**i**˨ 'enter', **zʅ**˥, **ji**˥; **zʅ**^{55}, **ji**^{55}	nə^{33}**ji**^{53}	**ji**	**ji**^{35}	*ʔay	go
*jiji^{1}	ji^{55} 'child'		jiji	ji^{33}ji^{53}	*z(y)əy ?, cf. Lahu i	small
*ji/ʑi^{1}	**ji**^{55}	**ʑi**		ne^{33}**ʑi**^{31}, ne^{33}**ʑæ**^{31}		live / reside
*ji^{1}	ji^{55}		`ji	ʑi^{35}	Tai *ʔya/ MC 'en 煙?	tobacco / cigarette
*ji^{1}	ji˥tsʰu˥		jitʰo	ji^{33}mæ^{53}	<yi?	ladle
*jajihĩ^{2}	jɛ**i**^{33}hi^{55}		`jæ**jy**	jæ^{33}**ji**^{53}hĩ^{31}		story
*leji^{1}	lɛ˥**ji**˥; **li**^{55}	le^{33}**ji**^{55}pu^{33}	`lejo 'right'?	le^{33}**ji**^{53}		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-**.

[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
*p^{h}i^{1}	**phsɿ^{55}**		**p^{h}ɕi**, `ne**p^{h}ɕi**-æ	ŋe^{33}**phi**-æ^{53}, ŋe^{33}**phʑ**-æ^{53}		lose / mislay, throw away
*lip^{h}i/læp^{h}i^{1}			lip^{h}ɕi	læ^{33}phi^{53} ‘pot, jar’?		winnowing tray/basket
*dzepi/dzop^{h}i^{1}	dzɛ^{55}psɿ^{55}		dzop^{h}ɕi			hoe
*mp^{h}i^{2}	p^{h}sɿ˥; nphsɿ^{55}	phi^{53}	`mp^{h}ɕi	nphi^{53}, nphʑi^{53}	*m-pat	vomit, spit
*pimæ^{1}	pzɿ˩˥mA˩˥bA˩˥kA˩˥; psɿ^{55}ma^{55}ȵi^{55}zɑ^{55}		pimæ	pi^{33}mæ^{53}	*s-bal	frog, toad
*kɑpi^{2}	kɑ^{33}psɿ^{55}		`kɑpi	kua^{53}pi^{53}		lame person
*pi^{2}	**psɿ^{55}**		`ʃti**pi**	ȵæ^{53}**pi^{53}**		chip (the rim)
*bi^{2}	bzɿ↓; bzɿ^{33}	bi^{33}jə^{53}	`bi	bi^{35}	*bya	bee, honey
*bi^{1}	bzɿ^{33}bzɿ^{55}	bi^{33}bi^{53}	pæbi, `bibi	bi^{53}bi^{53}	*ba	thin
*bibi^{1}			debibi	de^{33}bi^{33}bi^{31}	PKC *ɓuay	busy
*mbi^{1}			mbi	nbi^{35}	*k-r-p^{w}at	leech
*mbimbi^{2}	nbzɿ^{33}nbzɿ^{55}		mbimbi	nbi^{53}nbi^{53}	Lahu pɛ̀ < *bya	divide / share (things)
*mbi	mbzɿ˩/˥; nbzɿ^{55}		`mbi ‘step across’	(te^{33}) nbi^{31}		step / stride
*mi^{1}	mi˥; mi^{55}	mi^{35}mi^{53}	mi	mi^{35}	*r/s-miŋ	name
*mi	mi˥; mi^{33}	mi^{33}jə^{53}		mi^{35}	PLB *myuk^{L}, *s-myuk^{H}	monkey
*nemi^{1}	mi^{55}		`nemi	ne^{33}mi^{53}		swallow
*mi^{1}	mi^{55}		mi		PLB *s/ʔ-mi^{1}	catch
*miso			`misʉə^{ɪ}	mi^{33}suo^{53}		three days from now
*sini/htimi^{1}	**sɿ↓ȵi˥**; **sɿ^{55}ȵi^{55}**	ʂu^{33}mbu^{53} ???	**ʃti**mi	**ti^{53}**mi^{53}	*s-ni-ŋ	heart
*ht(s)ipi^{2}	**htsɿ^{33}**psɿ^{55}	**ɕi^{33}**pa^{53} ???	**`ʃti**	**ti^{53}**pi^{53}	*s-l(y)a	tongue
*stim(b)u^{1}	**su**˩˥mbu˥; **sɿ^{55}**nbu^{55}	**kŋ**ræ ‘snot’; **ki^{33}**mɐ^{53}	**`ʃti**mbʉ	**ki^{33}**mu^{53}	*s-na	nose
*hti(u) ‘nose’			**ʃti**ntʂ^{h}ɨ	**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
*bedi^{1}	bɛ^{33}**dzɻ^{55}**	bə^{33}**di^{53}**	bø**dzɨ**	be^{33}**dʑi^{53}**	*bəw, *zril > PLB *di^{1}	insect / worm
*didi			`dzɨdzɨ	dʑi^{33}dʑi^{53}		spacious
*rdi^{1}	zɻ`; ʒl^{55}		dzɨ	dʑi^{35}	*b-r-gyat ⪤ *b-g-ryat	eight
*ʑ^{w}i^{1}	zɻ`; zɻ^{55}		zʲɨ	ʑi^{35}	*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 (**-ɻ/-ɿ**). 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	sɻ`tʂuʌ`; sɻ^{55}		`sɨsɨ		*g-sik	new
*si^{1}	sɻ`; sɻ^{55}	nɐ^{33}sɯ^{53}	sɨ	de^{33}s-æ^{53}	*g/b-sat	hit, kill
*tosi mæni			tosɨ `mæn̥i	tuo^{53}sɻ^{53} mæ^{33}n̥ʉ^{53}		no problems, leisurely
*zi^{2}		`zɻ	`zɨ	zɻ^{53}	*za	son
*zi^{1}	zɻ^{55}	zɻ	zɨ	zɻ^{53}		shoe
*zi	-zɻ`; -zɻ^{33}		-zɨ	-zɻ^{53}		ten (bound), -ty
*kezi^{1}		kɯzɻ		(te^{33}) kɯ^{33}zɯ^{31}		bucket (of water)
*nets^{h}i^{1}	nɛ`ts$^{h}$ɻ`; nɛ^{55}tsɦɻ^{55}	nə^{33}tsɦɻ^{53}	`nɤts^{h}ɨ	ne^{33}tsɦɻ^{53}		twenty
*ts^{h}i^{2}	ts^{h}ɻ↓; tsɦɻ^{33}	tsɦɻ^{53}	`ts^{h}ɨ	tsɦɻ^{53}	*tsa	salt
*ts^{h}i^{1}	tsɦɻ^{55} ‘shoulder blade’	tsɦɻ^{33}tsɦɻ^{53}	ts^{h}ɨts^{h}ɨ	tsɦɻ^{33}tsɦɻ^{53}-ta^{33}ta^{33}	*tsik	joint
*mutsi^{1}	m̥^{33}tsɻ^{55}		mʉtsɨ	mu^{33}tsɻ^{53}		cat
*(ŋ)gætsi^{1}	ngɑ^{55}tsɻ^{55}		gjætsɨ		Mand. 茄子 qiézi	eggplant
*tsi^{1}	tsɻ^{55}		tsɨ		*s-dzya	feed
*dzi^{2}	dzɻ`; dzɻ^{33}	dzɻ; dzɻ^{53}	dzɨ	dzɻ^{53}	*dzya	eat
*dzi^{1}	dzɻ^{55}			de^{33}dzɻ^{53}		give birth to (e.g. piglets)
*(d)zi^{2}	jʌ`fi` ??; jɑ^{33}zɻ^{55} ?		`dzɨdzɨ	dzɻ^{53}dzɻ^{53}		wide / broad
*myidzi^{2}	xi`dzɛ` ?; mi^{33}dzɻ^{55}		`n̥ɨdzɨ	mi^{33}tsɻ^{53}		rabbit
*nts^{h}i^{1}	ntsɦɻ^{55}		`(de)nts^{h}ɨ	de^{33}ntsɦɻ^{53}		choose / pick
*ndzi^{1}	ndzɻ^{33}nuɑ^{55}		ndzɨ	dzɻ^{33}mu^{53}	*g-zik	leopard / panther

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*ŋeleʂi^{1}			neleʂ**ɨ** 'face downhill'	ŋe^{33}le^{53}**ʂɿ^{31}**		turn around
*ʂi^{2}	ʃɿ˥; ʂɿ^{55}		`vʉli ʂɨ, tɕe ʂɨ	ʂɿ^{53}	*si(y)	comb (v.)
*tsjẽʂi^{1}			tɕiʂɨ	tɕi^{33}ʂɿ^{53}		comb
*ʃi^{2}	ʂɿ˥; ʂɿ^{55}	ʂʅ^{53}, ɕi^{33}	`xɤ	ʂɿ^{53}	*sya	meat

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

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*tʃʰitʃʰi^{1}	tʃhʅ^{55}tʃhʅ^{55}		tɕʰitɕʰi	ɕæ^{53}tʂhʅ^{53} 'move (house)'	*m-kyit	move
*tʃʰi	tʃʰʅ˥	(sa^{33}phu^{55}) tʂhʅ^{53}		ne^{33}tʂhʅ^{53}		cut (meat)
*ntʃʰi^{2}		tʂhʅ^{53}	`ntɕʰi	ntʂhʅ^{53}		kill / slaughter (an animal)
*ndʒihĩ^{2}	**ndʒɿ**^{33}xi^{55}		**ndʑi** hĩ	**ndʐʅ**^{53}hĩ^{53}		year after next
*ngeso/ndʒiso^{1}	**ngɛ**^{33}so^{55}		**ndʑi**sʉəʳ	**ndʐʅ**^{33}suo^{53}		day after tomorrow
*tʰekiʃi^{1}	(thɛ^{55})ɬi^{55} ?	thɐ^{33}tɕhi^{55}**ɕi^{33}**	ki**ɕi**	the^{33}kɯ^{53}**ʂɯ^{53}**		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 **-ɿ** in Ersu, presumably through an intermediate palatal stage (e.g. *gi > dʑi > dzɿ). 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/dzɿ] 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	jɑ^{33}ndzɿ^{55}		`deŋgi			difficult, hard
*megi^{2}	mɛ^{33}dzɿ^{55}	`medʑe	`megje	me^{33}gi^{35}, me^{53}gi^{53}	*gleːk	thunder
*ŋgi^{1}	dzɿ˨; ndzɿ^{33}	ngi^{53}	ŋgje	ŋgi^{35}	PLB *g-ra^{2} ?	buckwheat
*bugi^{1}			bʉgje	be^{33}gi^{53}		bury
*ŋgi^{1}	ndzɿ˨		ŋgje	ngi^{35}		carry load (pack animals)
*ɬjeki^{1}	ɬi^{55}**tsɿ^{55}**	`ɬe**tɕi**		ɬi^{33}**ki^{53}**	*s-lay ⋈ *s-ley	ladder

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

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}	**li**t^{h}o	**luo^{33}**thuo^{53}	*b-ləy	grandchild
*jVsi^{1}	**sɿ^{55}**jɑ^{55}		ji**sɨ**	ju^{33}**su^{55}**		peach
*zjeji/zijo^{2}	**zi**ꓶxiꓶ ‘woman’; **zi^{33}**ji^{55}	**`ʑe**je ?	**`zɨ**jo	**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/əᶦ	(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/-ʉ** 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. **ȵ-**), so we can reconstruct the following nasal-initial forms as ***niu**.

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*niumæ[1]	ȵo^{55}ma^{55}	`ȷime; ni^{33}ma^{55}	`ȵimæ	ȵi^{33}me^{53}, ȵi^{33}mi^{53}		sun
*niu	ȵo˩,ȵo˥; ȵo^{55}	nɯ^{55}	-ȵi	(te^{53}) ȵy^{53}	*nəy SUN	day, day's (work)
*tæniu[1]	tʌ˥ȵo˥; ta/tɑ^{55}ȵo^{55}		tæȵi	tæ^{33}ȵʉ^{53}		today
*janiu[1]	jʌ˩ȵo˥; jɛ^{55}ȵo^{55}	`jæȵi	jæȵi	jæ^{53}ȵʉ^{53}	cf. Lahu yàʔ- < *yak	yesterday
			teȵi `mæɕi	te^{33}ȵy^{53}mæ^{33}thæ^{31}		every day
*niu[1]	ȵo˥tɕʰo˥; ȵo^{55}tɕho^{55}			ȵi^{35}	*s-ni/u(ː)p	west
*niu[1]	ȵo˩ '~ (polite)'; ȵo^{55}	ȷe	ȵi	ȵy^{35}	*r-ney-t	have, exist (general/abstract)
*suniu			`sʉȵi 'self'	sʉ^{35}ȵy^{53}sʉ^{33}ȵy^{53}		each / respective / individual
*niuniu[2]			`ȵyȵy (ndzomɑ)	ȵʉ^{53}		oneself
*æniu[1]	ɑ^{55}ȵo/a^{55} 'mother-in-law'		`æȵi	æ^{33}ȵʉ^{53}		aunt
*ɣeniu/ɣoniu[1]	vɛ^{55}**ȵo^{55}**	`ɣɯ**ȷi**~`gɯ**ȷi**; wo^{33}**nu^{53}**	ɣweȵ**i**, ɣʉȵ**i**	ɣuo^{33}**ȵu^{53}**	*ril ⩙ *rul	intestine
*niuŋk^{h}wɑ bedi	**ȵo^{33}**nkhuɑ^{55} bɛ^{55}dzɻ^{55}			**ȵi^{33}**nkhuo^{53} be^{33}dʑi^{31}		earthworm
*netɕ^{h}iu/ netɕiu[1]	**tɕ^{h}o**˥ ?; **tɕho^{55}**?	(ni^{33}ma^{55}) ne^{33}**tɕi^{55}**	`ȵimæ net**ɕi**-æ	ne^{33}**tɕu^{53}**	*g(l)im ⩙ *g(l)um	set (of the sun)
*ʑiu[1]	ʑo^{55}	ʑe	ɣwæ ʑi	ʑu^{35}		fall (rain)
*liu	-liu˥; lio^{55}		-li	(te^{55}) liu^{53}	*lam ?	fathom
*ku(liu)[1]	ku^{55}əᶦ^{55}	kurə	k**ɨli**	ku^{33}**liu^{53}**	<MC ljo 驢 ?	donkey

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*kʰekuliu^{1}	kʰɛ˧˥ku˧˩**lyo**˥˧		dekʉ**lø**, dekʉ**lølø**	khe^{33}ku^{53}**liu**^{53}		wrap (v.)
*deliu^{1}	dɛ˥˧**əʴ**˥; **əʴ**^{55}	**lju**; dɐ^{33}**lu**^{53}	\`de**lø**	de^{33}**lʉ**^{53}	*plu	white
*liu^{1}	**əʴ**^{55}	**ly**	**lø**, **lølø**	**ly**^{35}, the^{33}**ly**^{53}		rob / loot
*du(liu)^{1}	bu˥ɬɛ˥; bu^{55}ɬɛ^{55}	\`dv ‘plumage’; du^{33}rɯɹ^{53}	dø**lø**mæ	du^{33}**ly**^{53}	*duŋ	wing
*ntsʰoɬiu^{1}	ntsho^{55}**ɬo**^{55}	**ɬe**^{53}	\`ntsʰ**ʉli**	**ɬe**^{33}	*s-ləy	flea
*ntsʰeɬiu			\`ntsʰ**ɨli**	tshe^{33}**ɬe**^{53}		gift / present
*diutʂʰe^{1}	**bu**^{55}tʂhɛ^{55}	**ti**^{55}tɕhə^{53}	**dƶi**tʂʰɤ	(te^{33})**dʐʉ**^{33}tʂhɯ^{31}, **dʐu**^{53}tʂhɯ^{31}		year
*diupʰæ^{1}	**bu**^{55}phɑ^{55}, ji^{33}phɑ^{55}	\`**tɕu**pʰæ; **di**^{33}pe^{53}	**dƶy**pʰæ ‘stomach’	**dƶi**^{33}phæ^{53}		belly

Reflexes of forms with initial **l-** are usually **əʴ** 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 **-ʅ** 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
*tɕʷʰiu^{2}	tʂʰo˧˩; tʂho^{55}	\`tɕʰe; tɕhi^{53}	\`tʂʰɨ	tɕhu^{53}	*d-kʷəy	dog
*ɕʷiu^{1}	ɕo^{55}	ɕi^{33}	bædƶi ʂɨ	khe^{33}ɕu^{53}	*s-kəy	borrow (money)
*tʰeɕʷiulɑ			\`(kʰe)ʂɨlɑ	tho^{33}ɕuo^{55}la^{31}		slanted / askew
*tʰeʂiu^{1}	ʂo^{55}	thɯ^{33}xɯ^{53}	\`kʰeʂɨ	the^{33}ʂu^{53}, thu^{53}ʂu^{53}	*səy	die, dead
*ʂiu^{1}	ʂo˧˥; ʂo^{55}	\`ʂe; xɯ^{53}	\`ʂɨ	ʂu^{35}	*s-hywəy	blood
*ʂiu^{1}	ʂu^{55}		\`ʂɨkʰwɑkʰwɑ	de^{33}ʂʉ^{53}		yellow <yi?
*ʐiu^{2}	ʐo˧˩; ʐo^{33}	\`ʐe; tʂʅ^{53} ???	\`ʐɨ	ʐu^{35}	*b-ləy	four
*ʐiudu^{2}	**ʐo**^{33}bu^{55}			**ʐu**^{53}du^{53}		square / rectangular
*dʐiu^{1}		dʐe	dʐɨ	dʐu^{33}dʐu^{53}		have, exist (container)
*dʒiu^{1}	dʒo^{55}	\`dʐe; dʐʅ^{55}, dʐu^{33}khu^{53} ‘river’	dʐɨ	(n)dʐu^{35}, dʐu^{35}	*m-t(w)əy	water, river

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*tʃʰiumæ			`mozo **tʂʰɨ**mæ	**tʂhu**^{33}mæ^{53}	Lahu mê-chɔ̂-ma < *kyəw	widow
*tʃʰiujo^{2}	**tʃhɳ**^{33}ji^{33}		`jo**tʂʰɨ**jo, jo**tʂʰɨ**jo	**tʂhu**^{33}ju^{53}		orphan
*detʃʰiu^{1}	tʃho^{55}		`detʂʰi	de^{33}tʂhu^{53}	*kyəw	sweet
*tʃʰiu^{2}	tsʰoꜜmiAꜛ; tʃho^{55}mia^{55}		`tʂʰi-	tʂhu^{53} pɯ^{53}		how many
*htʃiu^{2}	htʃo^{33}re^{55}, htʃo^{55}	ʂe; tʂʅ^{53}	`ʂtʂɨ	ʂu^{35}	*kləy	feces
*ntʃʰiu^{1}	ntʃho^{55}	tshɳ^{33}pu^{53}	ntʂʰi	tʂhɳ^{35}		thorn / splinter
*ntʃʰiu^{2}	jɑ^{33}**ntʃhɛ**^{55}		`**ntʂʰɨ**-, kʰe**ntʂʰɑ** ?	**tʂhu**^{53}**ntʂhu**^{53}		fast / quick / early[12]
*ʂoniu^{2}	**ʃo**^{55}ɳo^{55}ɳo^{55}		`**ʂʉ**nkʰo `teɳi	**ʂu**^{53}ɳu^{53}		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
*piu^{1}	pɛ^{55}rɛ^{55}	pu^{53}	pø	pu^{35}	*m-blen	pus
*biususu^{1}	bɛ^{55}su^{55}su^{55}		bøsʉsʉ	bu^{33}sʉ^{53}sʉ^{31}		bladder
*mbiulje^{2}	nbɛ^{33}li^{55}	mbə^{55}	`mbøli	nbo^{33}ly^{53}		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}	ndʑo^{33}ndʑo^{55} ?			dʑi^{53}	cf. Lahu ɔ̀-cɛ̄ < *dzya ?	ear / spike
*ndʒiundʑi^{1}	**dʐo**꜖ndʒ꜖; **ndʒo**^{55}ndzɭ^{55}		**ndʑi**dʑi	**dʐɯ**^{33}ndzi^{53}, **dʐɯ**^{33}ndʑi^{53}		letter, book
*dʑiu^{1}	dʐo꜖; dʐo^{55}	`dʐɻ	`dʑɨ	dʐɯ^{ɪ35}		wok (large, iron) / pan

[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	ʮ	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
*æp^{h}u^{1}			ɑp^{h}~~ʉ~~	æ^{33}phu^{53}	*pəw	grandfather
*æpu	ʌ˩pu˩; ɑ^{33}pu^{55}			æ^{33}pu^{53}	*pəw	grandfather
*mps^{h}u^{1}	ntshu^{55}		mps^{h}~~ʉ~~, nts^{h}~~ʉ~~	ntshʉ^{53}		hail
*sẽpu^{1}	si˥bu˩; si^{55}pu^{55}	sepv; sə^{33}pu^{53}	~~sipʉ~~	se^{33}pu^{31}, se^{33}pu^{53}		tree
*pu	-pu˩, -bu˩; pu^{55}	-pv	-p~~ʉ~~	(te^{33}) pu^{31}	PLB *baŋ^{1}	classif. trees/flat obj.
*bu^{1}	bəɹ˥ ‘wild ox buffalo’ ?		b~~ʉ~~k^{h}wɑ	bu^{33}khɯ^{53}		yak (male)[13]
*ru(bu)/du^{1}	ru^{55}	əɹ^{33}**bu^{53}**	`əɹ**b~~ʉ~~**	əɹ^{33}**bu^{53}**, **d~~ʉ~~^{35}**	*g-ruŋ	horn
*(d)zibu^{1}	zo˧bu˥; zɻ^{55}bu^{55} ‘stick’		dzi**b~~ʉ~~**			walking stick
*bu^{1}	bu^{55}			ka^{33}bu^{53}	*m-bup ROT / SPOTTED / WRITE	multicolored / patterned (cloth)
*dzæbu^{1}			-b~~ʉ~~, dzæb~~ʉ~~	dzæ^{33}bu^{53}		straw (rice)
*mbu^{1}			mb~~ʉ~~ ‘roast’	ne^{33}nbu^{53}		scald / burn
*stim(b)u^{1}	su˧**mbu**˩; sɻ^{55}**nbu^{55}**	kŋræ ‘snot’; ki^{33}**mɐ^{53}**	`ʃti**mb~~ʉ~~**	ki^{33}**mu^{53}**	*s-na	nose
*mu^{1}	ŋuə˩; ŋ̇^{55}	`mu	m~~ʉ~~	mu^{35}	*mow	do / make[14]
*mæt^{h}u			`mæt^{h}~~ʉ~~	ma^{33}thu^{53}		lazy
*tupri^{1}		tu^{33}pi^{53}		tu^{33}pɯ^{53}		bean / soybean / pea
*tu^{1}			k^{h}et~~ʉ~~	ŋe^{33}tu^{53}		infect
*dedulæ^{2}			`ded~~ʉ~~læ	te^{53}du^{53}læ^{33}sæ^{31}		consult / discuss
*du^{1}	bu^{55}		`d~~ʉ~~	du^{35}		plow (n.)
*du(liu)^{1}	**bu**˥ɬɛ˥; **bu^{55}**ɬɛ^{55}	**`dv** ‘plumage’; **du^{33}**rɯɹ^{53}	**dølømæ**	**du^{33}**ly^{53}	*duŋ	wing

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

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

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*k^{h}edu^{1}			k^{h}ed**ʉ** ‘complete’	khe^{33}du^{53}		right / correct
*ʐi̱udu^{2}	ʐo^{33}**bu^{55}**			ʐu^{53}**du^{53}**		square / rectangular
*rdumo^{2}	k^{h}ɛ˥**bu**↓; **bu^{33}**mo^{55}		**`ʒdo**mo, **`ʒd~~ʉ~~s~~ʉ~~**	**d~~ʉ~~^{53}**mo^{53}	*ru	crazy person, lunatic
*rdurdu	jʌ˧˩bi˧, jʌ˥˩bu˥; jɑ^{33}bi^{55}, jɑ^{33}bu^{55}	dy^{33}dy^{53}	`ʒdʉʒdʉ		*t/dow-n, *tuːk	thick[15]
*lu			`del~~ʉ~~	khe^{33}lu^{31}		dilute / add water
*lu			`l~~ʉ~~ ‘mattress; felt’	lu^{35}		pad
*lo**lu**^{2}	ndzɑ^{33}lo^{55}**ə^{ɹ55}** ‘pigeon’	lo^{33}**lu^{53}**		luo^{33}**l~~ʉ~~^{53}**		dove
*ts^{h}uts^{h}u^{1}			ts^{h}~~ʉ~~, ts^{h}~~ʉ~~ts^{h}~~ʉ~~	tshu^{33}tsh~~ʉ~~^{53}		knock / strike
*dets^{h}u^{1}		dets^{h}v; dɐ^{33}tshu^{53}	dets^{h}~~ʉ~~	de^{33}tsh~~ʉ~~^{53}	*tsow	fat
*ts^{h}u			ts^{h}i̱pə^{ɹ}	tshu^{53}		Sichuan pepper[16]
*nts^{h}u^{2}	tshu^{55}	bu^{33}tshu^{55}	`nts$^{h}$i̱p$^{h}$we, `nts^{h}i̱p^{h}ə^{ɹ}	ntsh~~ʉ~~^{53}	*tsut	lung
*dents^{h}u^{1}		tshũ^{33}ntshu^{53}	dents^{h}~~ʉ~~	de^{33}ntsh~~ʉ~~^{53}		alive
*detsu^{1}			mbo ts~~ʉ~~	do^{33}tsu^{53}		wear (a hat)
*detsu^{1}	tsu˥; tsu^{55}		`dets~~ʉ~~ æ	de^{33}ts~~ʉ~~^{53}	*tsyow	boil (of water)
*detsu^{1}	dɛ˥˩tsu˥; tsu^{55}			de^{33}tsu^{53}		dye
*k^{h}etsu	tsɛ^{33}tsɛ^{55}			khe^{33}tsu^{53}	*tsyap or PLB *ʔ-dzak^{L} ?	connect / join[17]
*htsu	ɳʌ^{ɹ}˥xtʂu˥˩su˥ ‘silversmith’; htsu^{55}	-tsv				forge, strike (iron)
*ndzu			nʈʂ^{h}i̱ dendz~~ʉ~~	(tʂhɳ^{53}) khe^{53}ndzu^{31}	*tsow THORN	pricked (on a thorn)
*su^{1}			(de)s~~ʉ~~ ‘stab’	ne^{33}s~~ʉ~~^{53}, ŋo^{33}s~~ʉ~~^{53}		thread (a needle)
*k^{h}esu^{1}	k^{h}ɛ˥su˥; khɛ^{55}su^{55}			khe^{33}su^{53}		tight / taut
*desu^{1}	su^{55}	te^{33}su^{53}	b~~ʉ~~tʂɑ s~~ʉ~~, b~~ʉ~~tʂɑ s~~ʉsʉ~~	te^{53}su^{53}	PLB *si^{2}	sharpen, whet (a knife)
*biususu^{1}	bɛ^{55}su^{55}su^{55}		bøs~~ʉsʉ~~	bu^{33}s~~ʉ~~^{53}s~~ʉ~~^{31}		bladder

[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	(te^{33}) zʉ^{31}		lifetime
*zulje^{1}		zɯ^{33}li^{53}		zʉ^{33}lʉ^{53}		testicle
*zu^{1}	zu˩; zu^{55}			zʉ^{35}		animal fat/oil
*dentɕ^{h}u	ntshɛ^{33}ntshɛ^{55}			de^{33}ntɕhu^{53}		carry with pole, lift up
*detʂ^{h}u^{1}			detʂ^{h}ʉtʂ^{h}ʉ	de^{33}tʂhu^{53}		mix / blend / mingle
*tʂ^{h}u^{2}	tʂ^{h}u˩; tʂhu^{55}	tʂhu^{53}	`tʂ^{h}ʉ	tʂhʉ^{53}	*d-kruk	six
*tʂu^{1}	tʂu^{55}		tʂʉ	tʂu^{53}ə^{ɹ53}	*s-krul	sweat
*letʂu^{1}	lɛ^{33}tʂu^{55}		lʉtʂʉ	le^{33}tʂu^{53}	MC draewk 鐲, Mand. zhuó	bracelet
*dedʐu^{1}	dʐu^{55}		dedʐʉ	de^{33}dʐʉ^{53}		dry
*nedʐu			`nedʐʉ	ne^{33}dʐʉ^{53}		puncture (sthg.)
*ʂu			`ʂʉ	ʂu^{33}me^{53}		torch
*ʂu^{1}			ʂʉ	ʂu^{33}su^{53}		guard / defend
*ŋeʂu^{1}	ŋɛ^{55}ʂu^{55}			ŋe^{33}ʂu^{53}		rescue / save
*ʐu^{1}			ʐʉ	ʐu^{35}	PLB *s-yəy^{2}	grass
*ʐuʐu^{2}	ʑɛ˩ʑɛ˩ ??; ʐu^{33}ʐu^{55}		`ʐʉʐʉ, `pæʐʉ	vu^{53}vu^{53} ??		narrow
*ʃu^{1}			fʉ	(ʐɻ^{33}/ɣɯɹ^{33}) ʂu^{53}		guide, lead (the way)
*ʃu^{2}	ʂu^{33}	ɕu^{53}	`fʉpə^{ɹ}	ʂu^{53}		barley (highland)
*ʃu^{2}	ʂu^{55}		`wæ^{ɹ} fʉ	khe^{53}ʂu^{53}		marry (a woman)
*ndʒu	ndʒu^{33}khuɑ^{55}			dʐu^{33}khæ^{53}	MC drjoH 箸	chopsticks
*k^{h}ep^{h}e/ k^{h}up^{h}o^{1}	**k^{h}ɛ˩**p^{h}ɛ˥; **khɛ^{55}**phɛ^{55}	**`k^{h}v**pho	**k^{h}ʉ**p^{h}o	**khu^{33}**phu^{53}	Lahu qhɔ < *kaŋ	inside
*ku(liu)^{1}	ku^{55}ə^{ɹ55}	kurə	kʉli	ku^{33}liu^{53}	<MC ljo 驢 ?	donkey
*ku			(dʐi) kʉ ‘feed (liquid)’	(dʐæ^{33}ɳʉ^{53}) ku^{31}		breastfeed / suckle
*gu			dʐi gʉ	(dʐu^{33}) ku^{53}		cross (a river)
*k^{h}ekuliu^{1}	k^{h}ɛ˧ku˩lyo˥		dekʉlø, dekʉløløø	khe^{33}ku^{53}liu^{53}		wrap (v.)
*gu^{1}	gu˥; gu^{55}		`gʉ	gʉ^{35}	<WT gru	boat
*guku^{1}			`gʉ `kʉ	ngʉ^{33}kʉ^{33}sʉ^{31}		boatman
*gæwu			`ɣjævʉ	gæ^{33}wu^{53}	*gra	enemy (personal)
*wilje/wulje^{2}	vi^{33}li^{55}	wu^{33}li^{53}	`vʉli	wu^{33}li^{53}	*d-bu	head[18]
*riwu^{1}			ə^{ɹ}vʉ	ɦɯ^{ɹ33}wu^{53}		cave / hole

[18]The first syllable of ‘head’ has /**-u**/ in Lizu but **-i** in Ersu.

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*niu(mæ)lɑwu[1]			ɳimælɑvʉ	ɳi[33]la[53]wu[31]		daytime
*mexui[1]	mɛ[55]ʂu[55]			me[33]fu[53]		charcoal
*xu[1]		xu[33]tɕhe[53]	fʉ	fu[35]	*r/g-wa ?	village
*xutʂʰe[1]	fu[55]tʂhɛ[55]			fu[33]tʂhɯ[53]	*kram	garden (plot)
*ŋu[1]		`ŋu~`ɦu; ŋwe[55]	ŋʉ	ŋu[35]	*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
*ʑu		zu[53]		ʑy[35]		plant ash
*ʑu[1]	zɻ̩; zɻ[55]		`ʑy	ʑy[35]		snow
*tɕʰu[1]			ɑmjo **tɕʰy**de ‘now’	(te[33]) **tɕhu[33]tɕhu[31]**		a while
*tɕutɕu	tsu˩tsu˩; tsu[55]tsu[55]			tɕy[53]tɕy[53]		straight
*wutɕu			`vʉtɕy	wu[33]tɕy[53]		point / tip
*letɕu[1]	lɛ˩tsu˩; lɛ[55] tʃu[55] kɛ[33]	le[33]tɕi[55]pu[33]	`letɕy ‘left’	le[33]tɕy[53]		right (side)
*dʑu[1]	dzu[55]	dʑy[53]		dʑy[35]	*duk ⨯ *tuk	poison
*kʰedʑudʑu[2]	dzu[33]dzu[55]		`kʰedʑydʑy	khe[33]dʑy[53]dʑy[31]		meet / come across
*lodʑu[1]			lodʑy	luo[33]dʑʉ[53]		wall (stone)
*zjendʑu/ zindʑu[2]	zi[33]ndzu[55]			zɻ[53]ndʑʉ[53]		nephew (brother’s son)
*dʒaniu[1]	ɳo[55]ɳo[55]	dzɻæ[33]nʉ[53]	dʑɻæɳy	dzɻæ[33]nʉ[53]	*nəw	breast, milk
*ju[1]	ndzɻ[33]ji[55] ‘buckwheat flour’		jy	dzɻ̩[33]ji[53]		flour
*deju[1]			dejy	de[33]jʉ[53]; de[33]ju[53]		hot / spicy
*ndʑʷundʑʷu[1]			ndzɻndzɻʉ	khe[33]ndʑy[53]ndʑy[31]		coax / fool
*ɕʷu[1]			se ʂʉ ‘burn wood’	(ɳi[33]me[53]) ɕy[31]		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
*tʃʰulje[1]	tʃhu[55]li[55]	`tʂʰv ‘earth’	tɕʰyli	tʂhʉ[33]ly[53]		mud
*tʃʰu[1]	tʂhu[55] ‘dirty’	nentʂʰu	tɕʰyli ‘mud’	tʂhʉ[53]		muddy / turbid

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*tʃʰu[1]	tʃhu[53] ‘open (door)’, tʃhɳ[55] ‘open (lid)’	`tʂʰv		de[33]tʂhu[53]		open
*gætʃu[1]			gjætɕy	gæ[33]tʂʉ[53]		monkey
*dʒu			-dʑy	dʐʉ[35]		hair / down
*dʒu[1]	dʒu[55]		dʑy ‘(lower) back’	dʐʉ[35]	*gyuk	waist
*dʒu[2]	dʐ̩[33]mo[55]			dʐʉ[53]lʉ[53]		goose (wild)[19]
*dʒumæ[1]	dʒu[55]ma[55]			dʐʉ[33]mæ[53]		fox

[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. **bzɿ^{33}** 'bee' < ***bi**).

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*pjembje	piˀnpiˀ; pi^{55} mbi^{55}	pi^{33}nbi^{53}		pi^{53}nbi^{53}		knee
*bje[1]	jʌˀbiˀ		pæbi	bi^{33}bi^{53}		coarse, rough, wide (in diameter)
*ɣwebje/ ɣwobje[1]	vɛ^{33}bi^{55}		wobi	ɣu^{33}pi^{53}		shoulder
*bje	bi^{55}	`bje	lɑbje	(te^{53}) bi^{53}		heap (e.g. of dung)
*mbje[1]	biˬ; nbi^{55}	mbe^{53}	mbivʉ	nbi^{35}		hill / mountain
*mp^{h}je[1]	mphi^{55}	`p^{h}je	`mp^{h}jekɑ	(n)phi^{35}	*s-p^{w}al ?	ice
*demp^{h}je[1]	np^{h}iˀ; nphi^{55}	dɐ^{33}phi^{53}	demp^{h}je	de^{33}nphi^{53}		cold (weather, water)
*mbje	nbi^{33}ʂɑ^{55}	mbi^{35}, mbi^{33}mbi^{53}		nbi^{33}ʂuæ^{53}ʂuæ^{31}		cool (pleasantly)
*hpje[2]		`pje; pi^{53}, pẽ^{53}	`hpje	pi^{53}	*s-man	medicine
*ʃje[1]	ʂɛ^{55}	`ʂe; ʂɯ^{53}	xje	ʂɯ^{53}	*syam	iron
*ʒje[1]	zɻˀ; zɛ^{55}		ɣiɣje 'climb'	zɻ^{33}zɻ^{53}		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. **-dzɿ** 'thunder' < ****-dʑi** < ***-gi**) but not ***-je***.

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*k^{h}je[1]	tɕ^{h}iˀ; tɕhi^{55}	khe^{55}	(k^{h}e)k^{h}je	khe^{35}		give
*meŋk^{h}je	mɛ^{55}ntɕhi^{55}	`mentɕ^{h}e		te^{53}me^{53}nkhi^{31}		ask / question
*gje[2]	ŋuaˈ^{33}dʑi^{55} 'pen'	-dʑe	degje le	(tshe^{53}ɳu^{53}) khe^{33}gi^{53}		pen in (sheep)
*gjegje	dʑi^{55}dʑi^{55}			gi^{53}gi^{53}phu^{31}		horizontal
*gje[1]	dʑiˬ; dʑi^{55}		`gijo	gi^{35}		jar (earthen)

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*ŋgje[2]	vu[33]ndʑi[55]		`ŋgi	ngi[35]	*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** > **əʴ**. 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
*lje[1]	jʌ˥li˥; jɑ[33]li[55]	lje	lje	li[33]li[53]	*l(y)ak	good
*ljelje[1]	pu[55]li[55]li[55]	ta[33]li[53]	tɑli, tɑlili	ta[33]li[55]li[31]		circular (spherical)
*wilje/wulje[2]	vi[33]li[55]	wu[33]li[53]	`vʉli	wu[33]li[53]	*d-bu	head
*ndʒelje[1]	ndʒɛ[55]**li[55]**		`ndzɻʃte gɤ, `neʃti gɤ	dzɯ[33]**li[53]**		believe / trust
*pʰulje[1]			pʰele, pʰʉli	phu[33]li[53]		dust
*mbiulje[2]	nbɛ[33]**li[55]**	mbə[55]	`mbø**li**	nbo[33]**ly[53]**		kidney
*zulje[1]		zɯ[33]**li[53]**		zʉ[33]**lʉ[53]**		testicle
*tʃʰulje[1]	tʃhu[55]**li[55]**	`tʂʰv 'earth'	tɕʰy**li**	tʂhʉ[33]**ly[53]**		mud
*sjelje	si[55]li[55]				*d/s-ləy	bow (weapon)
*nelje/neɬje[1]	li[55]		neɬe, neɬɤ	ne[33]ɬi[31]	*s/m-grəy	melt, dissolve
*ɬjeki[1]	**ɬi[55]**tsɿ[55]	**`ɬe**tɕi		**ɬi[33]**ki[53]	*s-lay ≋ *s-ley	ladder
*ɬje[1]	phɛ[55]ɬi[55]			ne[33]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	tsʰi[55]	-tsʰe	-tɕʰi[53]		thin
		nasal	*tsjẽ	tsi[55]	tɕe	tɕe[31]	*tsam	hair
		oral ~ nasal	*sje/sjẽ	si[55]	`ɕe	ɕi[53]/ɕe[35]	*sum	three
*-e	*tɕ	?	*tɕe	tsɛ[55]	tɕe	tɕe[53]	*s-dim	cloud
	*ts	oral	*tsʰe	tsʰɛ[33]	`tsʰɨ	-tshe[53]	*tsəy	wash
		nasal[21]	*tsʰẽ	tshi[55]	tsʰe	tshe[35]	*tsit	goat

[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 **-ɤ**; 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]	tsʰi˩tsʰi˩; tshi[55]tshi[55]		pætsʰe	tɕhi[33]tɕhi[53]		thin (in diameter) / fine
*kutsʰje[1]		ku[33]tshi[53]	kʉtsʰepəˑ	kuo[33]tɕhi[53]		life
*ʂɑtsʰje	ʂɑ[33]tshi[55]		(ʂɑtɑ)	fu[53]tɕhi[53]		broom
*tsʰje[1]			tsʰe ‘throw down’	ŋe[33]tɕhæɹ[53]		throw / hurl / toss
*tetsje			-tʌtse	(ne[33]) te[53]tɕi[31]		mace (=0.1 tael)

Nasal ***-jẽ**:

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*sjẽ[2]	si˩; si[55]	si[53]	`ɕe	ɕi[53], ɕe[35]	*g-sum	three
*tsjẽ[1]	tsi[55]	tsi[53]	tɕe, tsɤ	tɕe[31]	*tsam	hair
*zjẽ[1]	zi[55]		zɤ	ʑe[35]	*zum ⨯ *zuŋ	use
*pjẽ		tɕi[55]	`pse	pʑe[35]	*b-ləy, PLB *p-re	run
*bjẽbjẽ[1]		dʑe[33]dʑe[53], dʑi[33]dʑi[53]	bzɨbze	bʑe[35]	*byam	fly (v.)
*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

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 ***dzi̱** > **dzi̱** and ***pʰri** > **pʰʂi**; thus, I reconstruct ***-je** for these two items.

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*bædzje[1]	bɑ[55]dzɛ[55]	bɑ[33]dzɻ[55]	bædʑi	bæ[33]dzɻ[53]		money
*tsjẽpʰrje[1]	tsi˩pʰʂɿ˩; tsi[55]phʂɿ[55]		tɕe pʰɕipʰɕi	tɕe[33]phzɻu[53]	*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	ɻ	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. **lep^{h}e** 'hand', **lep^{h}ɕɑ** 'palm').

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*łæp^{h}e^{1}	ɬᴀ 'month'; ɬɑ^{55}**phɛ^{55}**	`łæ**phe**; ɬe^{55}	`łæ**p^{h}ø**	ɬæ^{33}**phe^{53}**	*s/g-la	moon
*kɑpe^{1}	kɑ^{33}**pi^{55}**		kɑ**pø**	ka^{33}**pe^{53}**		garbage / debris
*bedi^{1}	**bɛ^{33}**dzɻ^{55}	**bə^{33}**di^{53}	**bø**dzɨ	**be^{33}**dʑi^{53}	*bəw, *zril > PLB *di^{1}	insect / worm
*bebe^{1}	bɛ^{55}bɛ^{55}	`bebe	bøpø, bøbø	be^{33}be^{53}		crawl, climb
*stiupe^{1}		ku^{33}pe^{55}	ʃtɤpe	ku^{33}pe^{53}		mouth
*belæ^{1}			belæ	be^{33}læ^{53}		work / labor
*khemp^{h}e	p^{h}iʔ	khɐ^{33}nphe^{53}	`mp^{h}e	khe^{33}nphe^{53}	*s-p^{w}ak	hide oneself[22]
*lemæ^{1}	**lɛ^{33}** ma^{55}		**lø**mæ	**le^{33}**mæ^{53}		thumb
*lemæ			**`lø**mæ	**le^{33}**mæ^{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
*me^{1}			me	me^{35}	<WT mar ?	butter
*me^{1}	mɛ˩; mɛ^{55}	mə^{53}, sa^{33}mə^{53}	`me	me^{35}	*mey	fire
*t^{h}eme^{2}	t^{h}ɛ˩mɛ˥nuᴀ˩; thɛ^{33}mɛ^{55}	thə^{33}mə^{53}	`k^{h}eme	the^{33}me^{53}	*ma-t	forget
*meli/mele^{2}	mɛ^{55}ə^{ɪ55}	melje; mə^{55}	`mele	me^{55}le^{53}	*g-ləy	wind[23]

[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 **əᴵ** < ***li**, and **li** < ***lje**; however, Mn., which is expected to preserve

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*melje	mɛ^{33}li^{55}		mele		*m-ley ≋ *m-ləy	earth, ground
*gæme^{1}	gʌ˩**mɛ˩**; nga^{33}**mɛ^{55}**	`gæ**mi**	gjæ**me**	gæ^{33}**me^{53}**	Lahu vɛ̀ʔ-qâ < *ga	clothing / garment
*t^{h}e^{1}	t^{h}ɛ˩; thɛ^{55}	`t^{h}e	t^{h}e	the^{53}		s/he
*te^{1}	tɛ˩; tɛ^{55}	`te; tə^{53}	`te	te^{31}		one
*dede^{1}		də^{33}də^{53}		de^{33}de^{53}		heavy
*mende	mɛ^{33}ndɛ^{55}	nde		me^{33}de^{53}		clear (weather) / sunny
*ne/no^{2}	nɛ˩; nɛ^{55}	`ne	`no, ne	ne^{53}	*naŋ	you
*ne^{1}	nɛ˩; nɛ^{55}	ne; nə^{53}	ne, næ	ne^{35}	*g/s-nis	two
*nene	jɑ^{33}nɛ^{55}			nɯ^{53}nɯ^{53}	*s-nak	deep
*le(pje)		le^{53}		le^{33}pi^{53}	*g-lak	hand
*lep^{h}ew^{1}	lɛ^{33}phɛ^{55}	le^{33}phu^{53} ‘arm’	lep^{h}e	le^{33}phu^{53} ‘arm’		hand
*lesẽ	**lɛ^{33}**su^{55}	**le^{33}**se^{55}		**le^{33}**se^{53}		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
*de^{1}	dɛ^{55}	de^{35}	dɤ	de^{31}	*dak	weave / knit
*nt^{h}e^{1}		`thent^{h}e	nent^{h}ɤ ‘stumble, fall’	nthe^{35}		jump
*hte^{1}	xtɕi˥ ??		ʃtɤ	de^{33}te^{53}		hold (a pen)
*le^{1}	lɛ^{55}	le			PLB *ʔ-li^{1}	old
*t^{h}ele^{1}			lɤ	the^{33}le^{53}	*g-lwat	release / set free
*li/le^{1}	**ə^{ɪ55}**		`mele **lɤ**	me^{33}le^{53}**læ^{33}** ?		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
*se^{2}	sɛ˩; sɛ^{55}		`ʂbwe	se^{53}	*su	who
*rdose^{1}	do^{55}**sɛ^{55}** jɑ^{55}dzɛ^{55} ‘pupil’	do^{33}**sɯ^{55}**	ʒdo, ʒdo**si** ‘eyeball’	nduo^{33}**se^{53}**		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^{ɪ}** < ***li**).

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*sẽse^{1}	si^{55}**sɛ^{55}**	tʂhʮ^{33}**sʮ^{53}** ‘persimmon’		se^{33}**sʮ^{53}**	*sey	fruit[25]
*sẽkæle^{1}	si^{55}**kɑ^{33}**lɛ^{55}	sə^{33}**kəɹ^{55}** ?		se^{33}**kæ^{53}**li^{31}	*s-kaːk	branch / twig
*ndze^{1}	dɛ˩ndzᴀ˧ (perf.); ndzɛ^{55}		ndzɨ	dze^{53}	*dzyi	ride (a horse)
*nts^{h}e^{2}	nts^{h}ɛ˩; ntshɛ^{55}		ˋnents^{h}ɨ	ntshe^{53}	*m-tsak DRIP	leak
*ts^{h}e^{2}	ts^{h}ɛ˥; tshɛ^{33}	nents^{h}e, ˋts^{h}e; ne^{33}tshɯ^{53}	ˋts^{h}ɨ	ne^{33}tshe^{53}	PLB *tsəy^{2}	wash (clothes)
*dets^{h}e^{2}	tshɛ^{55}	ˋts^{h}e; də^{33}tshɯ^{55}	ˋdets^{h}ɨ; ts^{h}ɨ	tshe^{53}	PLB *ʔ-dzəy^{2}	cough
*tse^{2}	tsɛ^{55}		ˋtsɨ	tse^{53}		hemp
*tse			ˋtsɨ	tse^{33}tɕe^{53}ji^{31}		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
*ts^{h}ẽ^{1}	tshi^{55}		ts^{h}e	tshe^{35}	*tsiːt	goat
*tsẽ			tsɤ	tse^{53}	*dzyut ?	pull up (weeds)
*tsẽ			tsɤ ‘rip, tear’	the^{53}tse^{53}		snap (thread)
*dzẽ^{1}			dzɨdzɤ, dzɤ	dze^{35}	*ts(y)ap	chop / hew
*dzẽ	dzi˩		dzɤ			enough
*ndzẽ^{1}	ndzi^{55}			ndze^{35}	*N-dzyam	wedge
*sẽ^{1}		se^{53}	se	se^{35}	*r-sak	air, breath, steam
*sẽ^{1}	si^{55}	ˋse; se^{55}	se	se^{35}	*siŋ ⩙ *sik	wood / log
*zẽ^{1}	zi^{55}		zəˑ, zʉəˑ	ne^{33}ze^{53}		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
*tɕ^{h}etɕ^{h}e^{1}	ts^{h}ɛ˥ts^{h}ɛ˥; tshɛ^{55}tshɛ^{55}	tɕhe^{33}tɕhi^{53}	tɕ^{h}etɕ^{h}e	tɕhe^{53}tɕhe^{53}	*ts(y)i/əy/ay	ten
*tɕ^{h}e^{1}	ts^{h}ɛ˥; tshɛ^{55}	ˋtɕ^{h}e; tɕhu^{53}	tɕ^{h}e	tɕhi^{53}		drink
*pætɕe^{1}			pætɕe	ne^{33}pæ^{53}tɕi^{31}		cut (paper, cloth)
*tɕe^{1}	tsɛ˥; tsɛ^{55}	tɕe	tɕe, tsɤ	tɕe^{53}	*s-dim	cloud, fog

[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˥; ʂ^{55}ji^{55}	`ʂe; ʂe^{53}		ʂe^{35}	*sram	otter[26]
*detʂ^{h}e			`de**tʂ^{h}ɤ**	(tshɿ^{53}) de^{33}mæ^{53}**tʂhɿ^{53}** 'tasteless'	cf. Lahu chɛ < *kyim/kyum	flavorful
*tʂ^{h}e^{1}	tʂho^{55}	(maɹ^{33}) tʂhɯ^{53}	tʂ^{h}ɤ	(me^{33}ndæ^{53}) tʂhɯ^{53}		shoot, fire a shot
*tʂ^{h}e^{1}	tʂ^{h}o˥; tʂho^{55}		tʂ^{h}ɤ 'voice'	tʂhɯ^{35}	cf. Lahu khɔ̂ < *kraŋ	sound
*tʂ^{h}e			tʂ^{h}ɨtʂ^{h}ɤ 'wall off'	tʂhɯ^{53}dzʉ^{53}	*kram	fence (bamboo / twig)
*diutʂ^{h}e^{1}	bu^{55}**tʂhɛ^{55}**	ti^{55}**tɕhə^{53}**	dʑi**tʂ^{h}ɤ**	(te^{33})dzɻʉ^{33}**tʂhɯ^{31}**, dzɻu^{53}**tʂhɯ^{31}**		year[27]
*ntʂ^{h}e^{1}			-ntʂ^{h}ɤ	(te^{33}) ntʂhɯ^{31}		handful (of rice)
*ntʂ^{h}e			ntʂ^{h}ɤ 'pull out' ???	te^{53}ntʂhɯ^{53}		grab / seize / catch
*dzɻe^{1}	dzɻɛ^{55}		dzɻɤ	ŋe^{33}dzu^{53}dzu^{31} / dzɻɯ^{31}	*kriːt	grind
*dzɻe	-dzɻɛ, -dzi; dzɻɛ^{55}	-dzɻe	-dzɻɤ	(te^{53})dzɻɯ^{53}	*dzum ≋ *tsum	pair
*ndzɻe^{2}	dɛ˩dzɻʌ˨ (perf.); ndzɻɛ^{33}	ndzɻɯ^{33}ndzɻɯ^{53}	`ndzɻɤ	ndzɻɯ^{53}ndzɻɯ^{53}		sew (up)
*ntʃ^{h}i/ntʃ^{h}e^{1}	ntɕhi^{55}	tʂhi^{53}	(əˈk^{h}o) ntʂ^{h}ɤ	tʂhɯ^{35}		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
*k^{h}e	tɕ^{h}i˥ ?		dzɻ `k^{h}ɤ		*kam (≋ *kaːp)	draw water
*meŋk^{h}e^{2}	mɛ^{33}ŋkhɛ^{55}	me^{33}nkhɯ^{53}	`menk^{h}ɤ	me^{33}nkhɯ^{53}	*kəw	smoke
*hke^{1}	hkɛ^{55}	pɛ̃^{33}nbi^{55}khɯ^{33}	dexkɤ, koxkɤ	pi^{53}nbĩ^{53} khe^{33}kɯ^{53}		kneel

[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
*hke[1]	kɛ˥; hkɛ[55]	`kɯ	xkɤ ‘hawk’	kɯ[33]nua[53]		eagle / hawk
*hke	hkɛ[55]	-kɯ	-xkɤ	ne[33]kɯ[53] ‘break, snap’		half
*deke[1]		de[33]kɯ[53]	dekɤ	de[33]kɯ[53]	*krak	fear, be afraid
*keke			kɤkɤ	kɯ[53]kɯ[53]		big / large
*dɐge[1]	gɛ[55]gɛ[55]	dɐ[33]gə[53]	`ɣɤ	de[33]ɣɯ[53]		lick / lap
*ge[1]	gɛ[55]		ɣɤ, `ɣɤtse	ɣɯ[ɪ33]zɭ[53]	*dzəy ?	seed
*ɣrɑ/**ge[1]**	xa[ɪ55]	`ʁɑ; **gɐ[35]**	**ɣɤ**	**ɣɯ[35]**, ɣa[35]	*k-rap	needle[28]
*ŋge[2]	gɛ˩; ngɛ[33]		`ŋgɤ	ngɯ[35]	*d/s-kəw, PQc s/r/n-gəw	nine
*li**ŋgje**/le**ŋge**[2]	ə[33]**ndʑi[55]**, ə[33]**ndʑi[55]**		`le**ŋgɤ**			foot, leg
*ŋe[1]	ŋɛ˥		ŋɯ, ŋɯbʉlʉlʉ			kind of turnip (圆根 yuángēn)
*xe			`dexɤxɤ	khe[33]xɯ[53]		cover / hide from view
*xexe[2]	xa[ɪ55]xa[ɪ55] ??		`xɤxɤ	xɯ[53]xɯ[53]		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	htɛ[55]		`ʃti		*r-tsyəy	count
*batʂi/batʂe	bɑ[33]tʂɛ[55]		bɑtʂɨ			basket (for straining)

[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			`depʉtʂɤ 'flip over'	the^{33}gu^{53}**tɕu^{31}**		turn (a corner)
*dʑʷew[1]	dʑyi˥; dʑo^{55}la^{55}		dʐɤ læ	dʑu^{33}læ^{53}		return, go back
*htʂew			ʂtʂɤ	ʂu^{53}		dare
*mæntʂʰew			`ɣʉmæ `mæn**tʂʰɤ**	mæ^{33}**ntʂhʉ^{53}**		pregnant
*dendzʐew[1]			dendzʐɤ	de^{33}ndzʐu^{53}		slippery (road)
*ndʒew			ndzʐɤ	de^{53}ndzʐu^{53}	*kyi:n	weigh (v.)
*tʃew[1]	tʃo^{55}	tʂu^{53}	`tʂɤ	khe^{33}tʂu^{53}	*s-glak ⪤ *klak	cook / boil
*detʃew[1]	tʃɛ^{55}	dɐ^{33}tʂu^{55}	detʂɤ	de^{33}tʂu^{53}	*s-kyu:r ⪤ *s-kwya:r	sour
*htʃew[1]	htʃɛ^{55}		ʂtʂɤ	khe^{33}tʂu^{53} ??		catch / grab / hold
*ntʃʰew[1]	ntʂʰɛ˥; ntʃhɛ^{55}	tɕhə^{33}pi^{53}, tɕhə^{53} ??	ntʂʰɤ	(n)tʂhu^{53}		rice (uncooked)
*ʂewmæ[1]	ʂɛ^{33}	ʂe^{33}mi^{53}	ʂɤmæ, ʂɤ	ʂu^{33}mæ^{53}	*s-r(y)ik, *s-row NIT	louse
	ʂɛ^{33}tsɛ^{33}			ʂu^{33}pe^{53}tshe^{31}		nit
*mbuʂew		bu^{33}**ʂu^{55}**	`dembʉʂɤ	nbu^{33}**ʂu^{53}**		shy / bashful
*tʰegew[2]	thɛ^{33}gɛ^{55} 'glad'		`degɤ	the^{33}gu^{53}		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
*lepʰew[1]	lɛ^{33}**phɛ^{55}**	le^{33}**phu^{53}** 'arm'	lep**ʰe**	le^{33}**phu^{53}** 'arm'		hand
*lipʰew[1]	rə˥**pʰɛ˥**; ə^{ɪ55}**phɛ^{55}**	li^{33}**phu^{53}**		li^{33}phiæ^{53}		foot[29]

[29]The second syllable in the TBL form seems unrelated to the Ersu and Nq. forms, but may mean 'flat object'; cf. **lepʰɕɑ** 'palm', **se^{33}phʐæ^{53}** 'leaf', and perhaps **tʂhu^{33}phiæ^{53}** 'thigh'.

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*nts^{h}ew		(dʐe^{33}nu^{55}) tshe^{33}	nts^{h}ɤ ‘milk; squeeze’	ntshʉ^{53}	*m-dzu/ip SUCK	squeeze (for milk)
*ndzew^{1}	ndʑo^{55}ji^{55}		ndze	ndzu^{33}ji^{53}		other person(s)
*ndzew^{1}	ndʑo^{55}ndʑo^{55}		ndzɤ	ndzu^{35}		friend
*ndzewbjẽ^{2}			`ndzɨbze	ndzʉ^{53}bʑe^{53}		friend / amiable
*me/mo		`me		muo^{35}	*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}	pɛ^{33}pɛ^{55}	(gə^{33}mo^{55}) pu^{33}	`pʉtɑ ‘patch (v.)’	pe^{53}pe^{53}	*p^{w}a, PLB *ba^{1} ?	patch (clothing)
*pwEki/pwEtɕi			`pʉki	the^{33}pe^{53}tɕi^{31}		send/dispatch (a person)
*mwEdzæ^{1}			mʉdzæ	me^{33}dzæ^{53}		barley
*gwEmæ^{2}	gʌˈmʌˈŋiˈ ‘behind’; ga^{33}ma^{55}	`gime; ge^{33}phi^{53}	`ɣumæ, `gumæ	ge^{33}mæ^{53}, gɯ^{33}mæ^{53}	*g-raŋ CHEST	back
***ɣwE**mo/ æɣ**wE**^{1}	**xə**^{55}mo^{55}, **ə**^{55}mo^{55}		`ɤvʉ	æ^{33}**ɣɯ**^{53}	*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**phoˀ⁵³**	kʰe**pʰo**	tha³³**ph**-a⁵³ 'die out'		extinguish, put out fire
*pʰo¹	phu⁵⁵	pho³³ji⁵³	`nepʰo-ɑ	pho³⁵	*ploŋ ?	run away / escape
*bo¹	boˀ 'have livestock', buˀ 'have N (be age N)'; bo⁵⁵	bo	bo	bo³¹		have, exist (money)
*mbo¹	buˀ; nbu³³	nbo	mbo, mbojo	nbo³⁵, nbo⁵³ju⁵³		hat
*nembo			`nembo	ne³³nbo⁵³	*m-baŋ	deaf
*nɑmbo²	nɑ³³nbo⁵⁵		`æˤ nɑ mbo	na³³nbo³⁵	*m-baŋ	deaf person
*tʰemo/momo¹	moˀmoˀ; mo⁵⁵mo⁵⁵	thɐ³³mo⁵³	kʰemo-ɑ	tho³³mo⁵³	*maŋ	old / elderly
*mɑmo	mʌ↓**moˀ** 'mom'	mæ**mo**	mɑ**mo** 'wife'	ma⁵³**moˀ⁵³**		old lady
*tsʰomo		`tsʰo**mo**	tsʰu**mo**	tshuo⁵³**moˀ⁵³**		old man

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*djemo[1]	dʑi[55]**mo[55]**			dʑe[33]**mo[53]**		rich
*ndzomo[2]	ndzo[33]**mo[55]**			ndzuo[53]**mu[53]**	PLB *m-dzəw[2]	official (government)
*lɑmo	lɑ[55]**mo[55]**			la[53]**mu[53]**		stutterer
*mo[1]		`mo	əʴmo	mo[35]	<MC muH 墓 ?	tomb
*mo	mɛ[55]	`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 **əʴ** (‘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		nbo[33]tuo[53]	PL *taŋ[3] (PL 257)	knife
*lit^{h}o/lot^{h}o[1]		lo[33]**tho[53]**	li**t^{h}o**	luo[33]**thuo[53]**	*b-ləy	grandchild
*nt^{h}ont^{h}o[1]			nt^{h}o, nt^{h}on-t^{h}o	nthuo[33]nthuo[53]	PLB *tok TSR #15	peck at (of a chicken)
*k^{h}endo[1]	ndo[55]	thɛ̃[33]ndo[53]	k^{h}endo	kho[33]nduo[53]		see
*ndojo[1]			ndojo	nduo[33]jʉ[53]		calf (yak)
*hto		`to; khɐ[33]htsho[53]	ʃto	tuo[53]		watch, look
*k^{h}elo[1]	lo[55]	khelo	`lo	kho[33]luo[53]	*l(y)aŋ	wait
*lo	-loˈ; lo[55]		-lo	(to[33]) luo[31]	<MC ljangX 兩 ?	tael (=50 grams)
*mjalo[1]	miɑ[55]lo[55]		`mjɑlo	mi[33]luo[53]		mirror
*lolu[2]	ndzɑ[33]**lo[55]**əʴ[55] ‘pigeon’	**lo[33]**lu[53]		**luo[33]**lʉ[53]		dove
*lo			loxo	dʐuo[33]luo[53]ku[31]		ditch / gully ("water-ditch"?)
*lo[1]	**əʴ**ˀk^{h}uAˈ; **əʴ[55]**khuɑ[55]		**lo**mæ	**luo[33]**mæ[53]	*r-lung *k-luk	stone
*lo(bwo)[1]	**əʴ**ˀk^{h}uAˈ; **əʴ[55]**khuɑ[55]	**lo[33]**pu[53], **lo[33]**bu[53]		**luo[33]**bo[53], **luo[53]**bu[53]	*r-lung, *k-luk	stone, rock
*bulo	bɛ[33]**əʴ[55]**		b**ʉlo**		*s-luk/ŋ	maggot
*lolo/lulu[1]	**əʴ[55]**	**`lulu**	**lʉlʉ**	**luo[35]**	*s-loŋ	bark (of dog)
*nopri[1]		nu[33]pi[53]	nopəʴ ‘soy-bean’		*s-nuk BEAN	beans/peas
*ts^{h}o	ntʃho[55] ???			me[33]tshuo[53]		dawn (the day)
*ts^{h}o[1]	ts^{h}uˈ		netss^{h}o	ŋo[33]tshuo[53]		extract / take out
*ts^{h}o[1]	tsho[55]phaʴ[55] ‘young man’	tsho[53], tɕho[53] ?	ts^{h}o	tshuo[53]	PLB *tsaŋ[1]	human being, person

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*ts^{h}omo		`ts^{h}omo	ts^{h}umo	tshuo^{53}mo^{53}		old man
*tsumu/tsumo^{2}	tsu^{33}ŋ^{55}		`tsʉmo	tsuo^{53}mo^{53}	*tsum ?	mortar
*nts^{h}o^{1}	ntshu^{55}		dents^{h}o	kho^{33}ntshuo^{53}		light (a fire, a light)
*tso	tso˥xto˥		ə^{ɹ}li tso	li^{33}tsuo^{53}		dance
*dzepi/dzop^{h}i^{1}	dzɛ^{55}psɳ^{55}		dzop^{h}ɕi			hoe
*t^{h}endzo			jo k^{h}endzo ‘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)
*soso^{1}	so˩so˥; so^{55}so^{55}		suso	suo^{33}suo^{53}, suo^{35}		learn, teach
*tɑso^{1}			tɑso ‘just now’	ta^{33}suo^{53}	PLB *C-sok	morning
*somwoŋk^{h}wo			sʉmonk^{h}o	suo^{53}mu^{53}nkhu^{31}		tomorrow night / evening
*soniu^{2}	so˥ɳo˥; so^{55}ɳo^{55}	`soɲi	`sʉə^{ɹ}	suo^{53}ŋʉ^{53}		tomorrow
*zo^{1}	zo^{55}; khɛ^{33}zo^{55}		zo, k^{h}ezo-ɑ	(ndzu^{35}) zuo^{53}		owe/lose (money), suffer (illness); hit (a target)
*(n)tʂ^{h}o^{1}	ntʂho^{55}ntʂho^{55}	dɐ^{33}tʂho^{53}	tʂ^{h}ɨtʂ^{h}o		*m-krak, PLB *m-prak^{H}	scratch
*htʂomo^{2}	**ʂo^{55}**mo^{55}		`**ʂtʂo**mo	**ʂɿ^{53}**mu^{53}	*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
*mp^{h}jo	jʌ˥ntɕ^{h}o˥; jɑ^{33}ntɕho^{55}		mp^{h}ɕo	phiu^{53}nphiu^{53}		beautiful
*p^{h}jo			-p^{h}ɕo	(te^{33}) phiu^{31}		bolt (of cloth)
*p^{h}jo	-tɕ^{h}o˥	-tɕ^{h}o	-p^{h}ɕo	phʑuo^{53}	<WT phyogs	direction / orientation
*mp^{h}jo^{2}	ntɕho^{33}/^{55}		mp^{h}ɕo ‘slap’	te^{53}nphʑu^{33}nphʑu^{31}		strike (the table)
*mp^{h}rjo^{1}	ntshɛ^{55}		mp^{h}ɕo (xko)	ntʂhuo^{53}		measles
*pjo			`pɕowɑ, `pɕowə^{ɹ} ‘agate’	pʑu^{33}wu^{53}, ptɕu^{33}wu^{53}		coral
*netɕ^{h}o^{1}		ne^{33}tɕhu^{53}	tɕ^{h}o, tɕ^{h}itɕ^{h}o	ne^{33}tɕhu^{53}		cut up (vegetable)
*tɕ^{h}opu^{2}			`tɕ^{h}opʉ	tɕhu^{53}pu^{53}	*taŋ	pine
*ntɕ^{h}o	ntshɳ^{55}pi^{55}		`k^{h}entɕ^{h}o			choke

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*rwatɕo^{1}	tsɛ^{55}	rɐ^{33}tɕu^{53}	æˀtɕo	ɣua^{33}tɕu^{53}	*dz(y)u	egg
*tɕo^{1}			æˀtɕo (ne)tɕo	tɕu^{35}		lay (eggs)
*tɕo^{1}	tɕo˥ ‘twist, coil’		(`nk^{h}we) pʉtɕo	de^{33}tɕu^{53}tɕu^{31}		wind (thread onto a keel)
*metɕo			`metɕo	mi^{33}tɕu^{53}		flower
*t^{h}edʑo^{1}	dʑo^{55}			the^{33}dʑu^{53}	PLB *C-cak^{L}	push / shove
*nedʑo			nedʑo ‘collapse’	ne^{53}dʑu^{53}sʉ^{31}		topple / tear down (a wall)
*ndʒo^{1}	ndzɛ^{55}	ndʐu	ndʑo	ne^{33}ndʑu^{53}		soak / steep
*deʃo			`dʐi `dexo	de^{33}ʂu^{53}	PLB *C-sip^{L}	thirsty
*ʃoʃo^{1}	ʂo˥ʂo˥lʌ˥lʌ˥; ʂo^{55}ʂo^{55}	`deʂu	`xuxo	ʂu^{33}ʂu^{53}	*syaŋ	clean
*ʂo^{1}	ʂo^{55}			hĩ^{33}ʂu^{53}		dew
*mentʃ^{h}o^{2}	mɛ˦ntʃ^{h}ɛ˥; mɛ^{33}ntʃhɛ^{55}	`mentʂ^{h}o			*r-may ⪤ *r-mey ⪤ *r-mi	tail
*netʃ^{h}o^{1}			netɕ^{h}o	ne^{33}tʂhu^{53}		pull down (a house), untie
*netʃ^{h}iu^{1}	tʃho^{55}			ne^{33}tʂhu^{53}		rot
*(xwɑjo)ntʃ^{h}o^{1}	xuɑi^{55}ntʂhɛ^{55}		xɑjo ntɕ^{h}o	xua^{33}ntʂhʉ^{53}	*k^{w}əy ? *(t)si/up?	nest (bird)
*nedʒo^{1}			nedʑo	ne^{33}dʐu^{53}		collapse / fall down
*dʒo^{1}	dzo˥; dʒo^{55}	dʐu	dʑo	dʐu^{53}	*m-dzyaŋ	have, exist (animate)
*ndʒo^{1}	ndʒo^{55}	ndʐu	ndʑo			know how to, be capable of
*ndʒo^{2}	ndʒo^{33}khuɑ^{33} dzɻ^{33}ʂɛ^{55}		`ndʑowɑ, `ndʑowæˀ	ndʐu^{55}dzɻ^{55}		noon
*njonjo^{2}	ɲo˨ɲo˥; ɲo^{33}ɲo^{55}	nu^{33}nu^{53} ??		ɲu^{53}ɲu^{53}	*now	soft
*ʐo^{1}			mele ʐo, me ʐo	me^{33}ʐu^{53}		quake (earth)
*t^{h}ejo			`ɣo `k^{h}ejo	the^{33}ju^{53}		drunk, be
*k^{h}ejo	ji˥tʌ˥ ‘bed’ ?	khə^{33}jə^{55}	`k^{h}ejo	khe^{33}ju^{53}	(*s-yip ⪤) *s-yup	sleep, lie down
*tʃ^{h}iujo^{2}	tʃhɻ^{33}**ji^{33}**		`jotʂ^{h}**i̱jo**, jotʂ^{h}**i̱jo**	tʂhu^{33}**ju^{53}**		orphan
*mbo^{1}	bu˥; nbu^{33}	nbo	mbo, mbo**jo**	nbo^{35}, nbo^{53}**ju^{53}**		hat
*ndo**jo**^{1}			ndojo	nduo^{33}**jʉ^{53}**		calf (yak)
*zjeji/zijo^{2}	zi˦xi˦ ‘woman’; zi^{33}**ji^{55}**	`ʐe**je** ?	`z**i̱jo**	zʉ^{33}**ju^{53}**, zʉ^{53}**ju^{53}**		daughter, woman

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*gojo^{1}	gu˩; gu^{55}phɑ^{55}	go^{33}**je^{53}**	ɣo**jo**	ɣuo^{33}**jʉ^{53}**	*yəw/PLB *(k)-rwak^{H}	mouse
*xwɑjo^{1}	huʌ**i**˩; xuɑ**i^{55}**	xɑ^{53}, xɑ^{33}**jɯ^{53}**	xɑ**jo**	xua^{33}**jʉ^{53}**		bird, sparrow
*ŋuijo			`ŋwe**jo**	ŋʉ^{33}**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
*k^{h}o			-k^{h}o	(to^{33}) khuo^{31}	*kwak	bowl
*k^{h}oji		`k^{h}oje		khuo^{33}ji^{53}		key
*k^{h}ok^{h}o^{1}	k^{h}u˥k^{h}u˩; khu^{55} khu^{55}		dek^{h}ok^{h}o	khuo^{33}khuo^{53}	*kuk	curved / crooked / bent
*riku/rik^{h}u^{1}	ɾ**gu**˩; rɳ^{33}**ku^{55}**	əɹ^{33}**khu^{53}**	ə^{ɹ}**k^{h}o**	ə^{ɹ33}**khuo^{53}**	*g-rus	bone
*(mja)ko^{2}	dɛ^{33}**ku^{55}**		`mjɑ**ko**	miæ^{33}**ku^{53}**, no^{33}**kuo^{53}**		blind
*kotsV^{1}	ku^{33}tsɛ^{55}		kotsɑ	no^{33}kuo^{53}tsɻ^{31}		step on / stamp / tread
*kuts^{h}je^{1}		ku^{33}tshi^{53}	kʉts^{h}epə^{ɹ}	kuo^{33}tɕhi^{53}		life
*ŋk^{h}o^{1}		nq^{h}u		to^{33}nkuo^{53}ji^{31}		hook
*ŋk^{h}o^{1}	nk^{h}u˩; nkhu^{55}	nq^{h}o		khuo^{35}, no^{33}nkhuo^{53}		lock
*hko^{1}	xku˩ ‘hatch’		xko	ŋo^{33}kuo^{53}læ^{31}		appear, come out
*hko^{1}	pɛ^{55}hku^{55}	`qoqo	xko		*g/kuŋ, *kor	hole
*ŋgo^{2}	dʒɿ˩ ?; ndʐu^{55}?		`ŋgolo	guo^{53}luo^{53}		tile
*dego^{1}	gu^{55}			do^{33}guo^{53}		twist (hemp fibers) between the palms
*gojo^{1}	**gu**˩; **gu^{55}**phɑ^{55}	**go^{33}**je^{53}	**ɣo**jo	**ɣuo^{33}**jʉ^{53}	*yəw/PLB *(k)-rwak^{H}	mouse
*dego^{1}	gu^{55}	`ʁo; dɐ^{33}go^{53}	`ɣo	ɣuo^{35}, ɣuo^{33}ɣuo^{53}		kick
*goɬæ^{2}	gu^{33}ɬɑ^{55}		`xolæ	guo^{33}ɬa^{53}	*m/s-la:y	middle
*ŋo^{1}	ŋuə˩; ŋ̍^{55}		(de)ŋo	ŋuo^{35}		crow (of cocks)
*ɣo^{1}	vu˩; vu^{55}	wo^{35}	ɣo	ɣuo^{35}	*yəw ?	liquor
*ɣeniu/ɣoniu^{1}	vɛ^{55}n̥o^{55}	`ɣɯɲi~`gɯɲi; wo^{33}nu^{53}	ɣweɲi, ɣʉɲi	ɣuo^{33}n̥u^{53}	*ril ⪤ *rul	intestine
*ɬæwo			ɬæwo	ɬæ^{53}ɣuo^{53}		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	-phɛ^{55}		-pʰo	-phu	Lahu phɔ̂ < *paŋ	side, direction
*pʰwo			-pʰo	(te^{33}) phu^{31}		classif. one of pair (hand, eye)
*ŋepʰwo^{1}	phu^{55}			ŋe^{33}phu^{53}	*m-pup	flip over, reverse
*mpʰwompʰwo			mpʰo gɤ, mpʰompʰo	(n)phu^{53}nphu^{53}		industrious / hardworking
*lo(bwo)^{1}	əˤ˥lkʰuʌ˩; əˤ^{55}khuɑ^{55}	lo^{33}**pu^{53}**, lo^{33}**bu^{53}**		luo^{33}**bo^{53}**, luo^{53}**bu^{53}**	*r-lung, *k-luk	stone, rock
*hpwo^{2}	hpo^{55}		`hpo	pu^{53}		incense (bark of cypress? tree)
*debwo^{1}			(ji) debo	(ji^{35})de^{53}pu^{31}		want (to go)
*mbwo^{2}	nbo^{33}ntsho^{55}		`mbo	nbu^{53} '100,000'	WT ḥbum '100,000'	ten thousand
*mbwo		nbə^{53}	`mbo	nbu^{35}, nbo^{35}		dig / scoop out / excavate
*demwo^{1}	maˤ^{55} ?	dɐ^{33}mɑ^{53} ?	mo	te^{53}mu^{53}	*s-mut	blow (away)
*htʂomo^{2}	ʂo^{55}**mo^{55}**		`ʂtʂo**mo**	ʂl^{53}**mu^{53}**	*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
*nwo^{1}	ɳo˩; ɳo^{55} ??	no^{33}pa^{53}	əˤno	nu^{53}	*s-nuk	brains
*lwo		(mbe^{33}) lo^{53}		(nbi^{33}) lu^{53}		climb (a mountain)
*tsʰwo^{1}			tsʰw-ɑ	ma^{33}tshu^{53} '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
*kʰwo[1]	kho[55]		`kʰo	khu[31]		dry (clothes) in the sun
*kʰwo[1]	kho[55]		`jotɕɑ kʰo			make the bed
*meŋkʰwo			`menkʰo	me[33]nkhu[53]		dark, get
*ŋkʰwo[1]	nkhuaɹ[55]	khwe[55] ???	nkʰo	nkhu[35]		night, evening
*ŋkʰwohke[2]			`nkʰo xkɤ	nkhu[53]kɯ[53]		midnight
*ŋkʰwo[1]	ko[33]htʃɛ[55] ??	nqʰv	nqʰo	khu[35], khu[53]dʑi[53]		silk/satin
*jahɑ̃ŋkʰwo[1]		`jæxwæ ?	jɑhɑ̃**nkʰo**	ja[33]ha[33]**nkhu[35]**		last night
*hkwohkwosu[1]			xkoxkosʉ	ku[33]ku[33]sʉ[31]		beggar
*myihkwo[1]	mi[55]hku[55]		`n̥ipwe-kotɑ	mi[33]ku[53]	*mit, *l-ko(k)	throat
*kwopʰo			(`kopʰo)	ku[33]phu[53]		this side / here
*nekwo[1]		neko	(ne)ko	ne[33]ku[53]		put (into a container)
*kwo			`kopʰæ, `kʰopʰæ	tsha[33]əɹ[53]ku[31]		chest
*kwo[2]	kuiˋ		`ko	(te[53]) ku[53]	Lahu kù < *gru	shout[30]
*nekwo[1]		`neko		ne[33]ku[53]		shrivel up / wither
*neŋgwo			`neŋgo	(vu[35]) ne[33]ngu[31]		lower (the head)
*deŋgwo[1]	ngo[55]	ngo	deŋgo	de[33]ngu[53]	*s-g-ruk	pick up
*(pʰe)ŋgwo[2]	ngɑ[33]ngu[55]		`pʰoŋgo	phe[33]ngu[53]		thing, tool
*tsexwo[1]	tsɑ[33]xɑ[55]		ts**ixo**	tse[33]**hu[53]**		pheasant (short-tailed)
*gwogwo[1]	go[55]go[55]	gu[33]gu[53]	`ɣuɣo	gu[33]gu[53]		light (weight)
*deɣwo[1]			deɣo	de[33]gu[53]		rise / get up
*ɣwoɣwo[1]	vaɹ[55]vaɹ[55]		`wuwo	ɣu[33]ɣu[53]		help
*ɣwo[1]	vɛˋ; vɛ[55]	`wo~`ɣo; we[53]	wo	ɣu[35]	*pʷak, PLB *wakᴸ	pig
*ɣwebje/ ɣwobje[1]	vɛ[33]bi[55]		wobi	ɣu[33]pi[53]		shoulder
*(rwa)ŋwoŋwo[1]			æɹŋo, ŋoŋo, æɹŋoŋo	ɣua[33]phe[53] ŋɯ[53]ŋɯ[53]		cockscomb

TBL ‘cockscomb’ has an unrounded vowel.

[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/ᴀ**; 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**	**ᴀ**
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
*pʰælæ^{1}	pʰᴀ˩lɛ˩		(ne)pʰælæ	phæ^{33}læ^{53}		used / old
*pʰæ^{1}	-pʰᴀ		pʰæ	phæ^{35}		can, be able
*diupʰæ^{1}	bu^{55}**phɑ^{55}**, ji^{33}**phɑ^{55}**	`tɕu**pʰæ**; di^{33}pe^{53}	dʑy**pʰæ** 'stomach'	dʑi^{33}**phæ^{53}**		belly
*mopʰæ^{1}	mu˩; m̩^{55}phɑ^{55}		mopʰæ			brother
*mopæ^{2}	mo^{33}pa^{55}			mo^{53}pæ^{53}	*s-mak	son-in-law[31]
*dībæ		`dībæ 'stupid'		di^{33}nbæ^{53}		honest / well-behaved
*æbæ^{2}	ᴀ˩bᴀ; a^{55}ba^{55}	`æpæ	`æbæ	æ^{53}bæ^{53}		father[32]
*debæ^{1}	ba^{55}		debæ	de^{33}bæ^{53}	*ba ?	carry on the back
*rbæ	rbæ˥		`əˈmbæ			kind, type
*mumbæ^{1}		mu^{33}nba^{53}		mu^{33}nbæ^{53} mu^{31}		hunt
	htɕi^{33}nba^{55}su^{55}			pi^{53}nbæ^{53}mu^{33}sʉ^{33}		doctor
*tʰæ^{1}	thɑ^{55}	`tʰæ	`tʰæ	thæ^{33}	*ta	neg. imp.
*tɕitæ^{1}	tsʅ^{55}**tɑ^{55}**		`tɕi**tæ**	khe^{33}tɕi^{53}**tæ^{31}**		collect, harvest, put away

[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}	thuɑ^{55} ??		ʃtæ	tæ^{53}		mule[33]
*hto/htæ	-xto˥; hto^{55}		`ʃtæ, `ʃtɤʃtæ		PQc *N/s-tsak	jump[34]
*læ^{1}	lA˥		=læ	læ^{35}		and
*læ^{1}	lA↓; lɑ^{55}		læ	læ^{31}, læ^{35}	*la-y	come
*læ			-læ ‘pint, 1/10 peck’	(te^{33}) læ^{31}, læ^{35}		liter, container (measuring, 1-liter-volume)
*belæ^{1}			belæ	be^{33}læ^{53}		work / labor
*læ^{1}	lA˥; lɑ^{55}		læp^{h}æ, læ	læ^{33}phæ^{53}	PLB *k-la^{2}	tiger
*dedulæ^{2}			`dedʉlæ	te^{53}du^{53}læ^{33}sæ^{31}		consult / discuss
*ɬæp^{h}e^{1}	ɬA ‘month’; ɬɑ^{55}phɛ^{55}	`ɬæphe; ɬe^{55}	`ɬæp^{h}ø	ɬæ^{33}phe^{53}	*s/g-la	moon
*ɬæ	ɬA↓; ɬɑ^{33}		ɬæ		*m-hla / WT lha	spirit, deity
*rAɬæ^{1}	rɑ^{55}rɑ^{55}		`ə^{ɻ}**ɬæ**	ɣɯ^{ɻ33}**læ^{53}**	*g-ray GOD/COPULA	soul / spirit
*ʈ^{h}ets^{h}æ^{1}			k^{h}ets^{h}æ	the^{33}tshæ^{53}		finish
*ts^{h}æ^{2}	tshɑ^{55}	tshe^{33}tshe^{55}	`dets^{h}æ	tshæ^{53}tshæ^{53}	*tsa-t	hot
*nts^{h}æ^{1}	ntshɑ^{55}		nts^{h}æ			make, fix, repair
*nts^{h}æ	ntshɑ^{55}			ntshæ^{53}		mark / sign / boundary line
*k^{h}ents^{h}æ	khɑ^{33}ntshɑ^{55}			khe^{33}ntshæ^{53}		remember
*dzæ^{1}	dzA↓; dzɑ^{55}		dzæ-	dzæ^{35}		rice (paddy), seedling (rice)
*dzæ	tɛ˥dzA˥		-dzæ	(te^{33})dzæ^{53}		meal
*mwEdzæ^{1}			mʉdzæ	me^{33}dzæ^{53}		barley
*ndzæ^{1}	ndzɑ^{55}		ndzæ	ndzæ^{53}		stir-fry
*desæ^{1}			sæ	de^{33}sæ^{53}		wear (a bracelet)
*sæ^{1}	sɑ^{55}		(tɑli) desæ	khe^{33}sæ^{53}xæ^{31}		bear (fruit)
*zæzæmu^{1}	zɑ^{55}zɑ^{55}ŋ^{55}		æzɨzæ mʉ	æ^{33}zæ^{53}mu^{31}		careful / cautious
*zæzæ^{1}	zA˥zA˥ ‘young’; zɑ^{55}zɑ^{33}		zɨzæ	zæ^{33}zæ^{53}		tender, young (plant)
*-zæzæ^{2}			`jozɨzæ	ja^{53}ka^{53}zæ^{33}zæ^{31}		baby
*jizæ^{1}	i^{33}zɑ^{55}	ji^{33}ze^{55}	jozæ ‘husband’	ji^{33}zæ^{31} ‘man’		son
*nik^{h}æ^{2}			`n̥ik^{h}jæ	n̥i^{53}khæ^{53}		when

[33]It would be nice if the Ersu form for ‘mule’ was ****htɑ^{55}**, 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.

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*tʂʰæ^{1}	tʂʰᴀ˥˧; tʂhɑ^{55}		tʂʰæ	tʂhæ^{53}		ghost / spirit
*nedʐæ^{1}	nɑ^{55}dʐɑ^{55}	nedʐæ	`nedʐæ	ne^{33}dʐæ^{35}, ne^{33}dʐæ^{53}	*k/gla-k/y/t	drop / fall
*(n)tʃʰæ	ntʃhɑ^{55}			tʂhæ^{53}		skirt
*tʃæ^{1}	tʂᴀ; tʃɑ^{55}	dɐ^{33}tʂe^{53}		tʂæ^{31}, ŋe^{33}tʂæ^{53}		chase after, drive out / expel
*htʃæ/ʂæ^{1}	xtʃᴀ˥˧; htʃɑ^{55}		`ʂɨʂæ	ʂʅ^{33}ʂæ^{53}	PLB *x-ra^{1} ?	search, look for
*ʃæ^{1}	ʂᴀ˥˧; ʂa^{55}	ʂa^{55}	xjæ	ʂæ^{53}		wheat[35]
*ʃæ			(de)xjæ, xæʴ	(dʐu^{53}) ʂæ^{53}ji^{31}		fetch / draw (water)
*kʰækʰæ^{1}			kʰikʰjæ	khæ^{33}khæ^{53}		separate, other
*kʰæ		khɛ^{55}	kʰjæ	khæ^{53}	Lahu qha < *ka	rice (cooked)
*tsukʰæ			`tsʉkʰjæ	tsu^{33}khæ^{53}		stove (cooking) / range (kitchen)
*pʰukʰæ^{2}			`pʰʉkʰjæ	phu^{53}khæ^{53}		fortune / luck
*ŋkʰæ^{1}	nkhɑ^{55}	tʰenkʰæ; khe^{53}	nkʰjæ	(n)khæ^{35}		sell
*kæ	-kᴀ˧˩; kɑ^{55}	-kæ	-kjæ	(te^{33}) kæ^{31}		classif. long items
*sẽkæle^{1}	si^{55}**kɑ^{33}**lɛ^{55}	sə^{33}**kəɹ^{55}** ?		se^{33}**kæ^{53}**li^{31}	*s-ka:k	branch / twig
*kæmbæ^{1}			kjæmbæ	kæ^{33}nbæ^{53}		tongs (fire)[36]
*dekæ^{2}	dᴀ˥˧kᴀ˧˩˧ (perf.); kɑ^{55}		`dekjæ	kæ^{53}		hit (a person)
*kækæ^{1}	kɑ^{55}kɑ^{55}		kikjæ	kæ^{53}kæ^{53}		fight
*zikæ			`zɨkjæ	sʅ^{33}kæ^{53}, mæ^{33}zʅ^{53}mæ^{33}kæ^{31}	*ga ⋉ *ʔa	mute, dumb, stupid
*kæpælæ			kjæpælæ	kæ^{53}pæ^{53}læ^{31}		forehead
*gæme^{1}	gᴀ˥˧mɛ˥˧; nga^{33}mɛ^{55}	`gæmi	gjæme	gæ^{33}me^{53}	Lahu vèʔ-qâ < *ga	clothing / garment[37]
*gægæ^{1}	ga^{55}ga^{55}		gigjæ	gæ^{33}gæ^{53}	see SING	play
*gæ^{1}	gᴀ˥ 'song'; gɑ^{55}			gæ^{33}mu^{53}, giæ^{35} 'song'	*ga	sing
*gæ/gja^{1}	gɑ^{55}		ɣjæ	giæ^{31}, giæ^{35}	*r/N/d/s-ga	like / love
*wægæ	vɑ^{33}gɑ^{55}			wæ^{33}gæ^{53}		mat
*sẽŋgæ^{1}	sʅ^{33}nguɑ^{55}		seŋgjæ	sʅ^{33}ngæ^{53}		melon / gourd[38]

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

[36] Interestingly, Mn. also has the form **`kæʴn̥i**, a loan from Nuosu [illegible] **ka^{34}n̥e^{33}**. 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 **-u-** medial in Ersu is unexplained.

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*ŋgæ[1]	gʌ˩; ngɑ[33]	`ngæ	ŋgjæ	ngæ[35]	*m-ka, Mpi nko	door
*pwondzo̱ŋgæ[2]			`pondzo̱**ŋgjæ**	pu[53]dzɻ̈[53]**ngæ[31]**		window
*ŋæ[2]	ŋʌ˩; ŋɑ[33]		`jideɲæ	ji[33]de[53]ŋæ[53]		hungry
*ŋæ[1]	ɲo[55]		ɲiɲæ	ne[33]ŋæ[53]		skinny, get thin[39]
*ɕaŋæ[2]			`ɕæɲæ	ɕæ[53]ŋæ[53]		pitiable / pitiful
*ɑntʂʰæ[2]	ɑ[33]ntʂhɑ[55]			a[53]ntʂhæ[53]		sieve / sifter
*(h)æne	ʌ˩nɛ˥		`hæ̃ne	hæ[33]ne[53]		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
*ntʂʰæntʂʰæ[2]	jʌ˩**ntʂʰɛ˥**; jɛ[33]**ntʂhɛ[55]**		**ntʂʰɨntʂʰæ**, **ntʂʰæ** gɤ	**tʂha[53]ntʂha[53]**		clever
*gołæ[2]	gu[33]**ɬɑ[55]**		`xo**læ**	guo[33]**ɬa[53]**	*m/s-laːy	middle
*dzæpʰæ[1]	dza[55]pha[55]		`dzæpʰæ	dza[33]pha[53]		pillar / column
*æmæ[1]	ʌ˩mʌ˨,ʌ˩mʌ˥; a[55]ma[55]	`æmæ	æmæ	a[33]ma[53]	*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	næ[53]pu[53]		host / master
*dzæpu[1]			**dzɑ**pʉ	**dzæ[33]**pu[53]		food
*æpʰu[1]			**ɑ**pʰʉ	**æ[33]**phu[53]	*pəw	grandfather
*ɣuini/ ɣuindzA[1]	zɻ[33]ɲi[33]		ɣɤ**ndzɑ**	ɣɯ[33]ɲi[53]ɣɯ[33]**ndzæ[53]**		relatives
*sɑ-[2]			`sɑʑi	sæ[53]		earth, ground
*ʂæpʰo/ʂopʰo[1]	**ʂo**˩pʰɛ˥; **ʂo[55]**phɛ[55]		**ʂɑ**pʰo	**ʂæ[33]**phu[53]		front
*kɑlɑ/kælæ[2]	no[33]mɑ[55]-kɑ[55]lɛ[55]	ke[33]le[53]	kɑli, kɑlɑ	mu[53]tɕu[53]kæ[33]læ[33]		butterfly
*æ[1]	ʌ˩; ɑ[55]	`æ; æ[35]	ɑ	æ[53], a[33]duo[53]		I

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

[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	-tsʰᴀˋl; tshɑ^{55}		-pʰɕɑ	(te^{33}) phʑæ^{31}		classif. garments
*lepʰja^{1}		le^{33} tɕhə^{53}	lepʰɕɑ			palm
*sɛ̃pʰja^{1}	si^{55}tshɑ^{55}	sæ^{33}tɕhe^{53}	sɨpʰɕɑ	se^{33}phʑæ^{53}	*r-pak	leaf
*-pʰja		li^{33}tɕhə^{53}	`tsʰɨpʰɕɑ	tʂhu^{33}phiæ^{53}		thigh
*pʰja		`pɕæ		ŋe^{33}phʑæ^{53}	*py(w)ak	sweep
*pʰjapʰja^{1}		dɐ^{33}tɕhɯ^{55}tɕhɯ^{33}		ne^{33}phiæ^{53}phiæ^{31}		wipe (the table)
*pʰja^{2} mu			`pʰɕɑ mʉ	phʑæ^{53}/(n)phiæ^{53} mu^{53}		kowtow, make obeisance to
*pja^{1}	tsɑ^{55}	pʑæ	pɕɑ	de^{33}pʑæ^{53}		hang
*pja^{1}		depʑæ		pʑæ^{35}		catch (in mouth)
*mbroʐa	nbo^{55}zɑ^{55}		`mbzo̱ʐɑ			saddle
*ɑmja/ɑmjo/æmi			ɑmjo, ɑmjɑ	æ^{53}mi^{53}		now
*mja^{1}	miɑ^{55}		mjɑ	miæ^{33}ku^{53} 'blind'	*s-mik ⨯ *s-myak	eye
*mja^{2}	miᴀˋl; vu^{33}miɑ^{55}		`mjɑpʂʰʉ, `mjɑtʂʰʉ	miæ^{35}	cf. EYE	face
*mje/mja	jɑ^{33}mi^{55}	mjemje	mimjɑ	miæ^{53}miæ^{53}	*mra, PLB *C-mya^{2}	many / much[40]
*ʐa^{1}	zɑ^{55}tshɛ^{55}		ʐɑ	ʐæ^{33}tshɳ^{53}	*s-la	pants / trousers
*ʐa^{1}	zᴀˋl; zɑ^{55}	ɐ^{33} ʐɛ^{53}	ʐɑ	(te^{33}) ʐæ^{53}	*b-r-gya	hundred
*tɕʰa^{1}	tɕho^{55}		-ɕɑ	tɕhæ^{31}		on (the wall)[41]
*wutɕʰa			`vʉɕɑ	wu^{33}tɕhæ^{53}		above, on top of
*detɕa^{1}	da^{33}tsɑ^{55}	də^{33}tɕɯ^{53}	dentɕʰɑ ??	de^{33}tɕæ^{53}		wake up
*(d)ʐapu			`ʐɑpʉ 'rich man'	dʐæ^{33}pu^{53}		leader / chieftain / headman (Mand. 'tǔsī')
*kʰendʐa^{1}	dzᴀˋl; ndzɑ^{55}	khe^{33}ndʐɯ^{55}	kʰendʐɑ	khe^{33}ndʐæ^{53}	*g-r(y)ap	stand
*ndʐindʐa^{2}	ndzɳ^{33}ndzɑ^{55}		`ndʐindʐɑ	ndʐi^{33}ndʐæ^{53}, te^{53}ntɕi^{53}ntɕæ^{53}		think / idea / opinion

[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}	**jᴀ˩n̥o˥**; **jɛ**^{55}n̥o^{55}	`**jæ**ɲi	**jæ**n̥i	**jæ**^{53}n̥ʉ^{53}	cf. Lahu yàʔ- < *yak	yesterday
*æja^{1}			æjɑ	æ^{33}jæ^{53}	PLB *ʔ-wyik^{L}	elder brother/sibling
*k^{h}uija			`k$^{h}$we**jɑ**, `k^{h}wæ	khu^{33}**jæ**^{53}		under
*legija^{1}			ligjæ**jɑ**, ligi**jɑ**	le^{33}gi^{53}**jæ**^{31}		armpit
*jakrɑ	**jɑ**^{55}dʐɛ^{55}	`**jæ**qɑ		**ja**^{53}ka^{53}		child
*njap^{h}o/ njop^{h}o^{1}	**n̥o**˥p^{h}ɛ˥; **n̥o**^{55}phɛ^{55}	**ɲo**p^{h}o	`**n̥ɑ**p^{h}o 'back, behind'	**n̥æ**^{33}phu^{53}		outside[42]
*ŋenja^{1}	ŋɑ^{33}**n̥ɑ**^{55}		k^{h}e**n̥in̥ɑ**	t/ŋe^{33}**n̥æ**^{53}**n̥æ**^{5}		dodge, make way, retreat
*tʃ^{h}atʃ^{h}a^{1}	tʂ^{h}ᴀ˥tʂ^{h}ᴀ˥; tʃhɑ^{55}tʃhɑ^{55}	tʂ^{h}ætʂ^{h}æ	`tɕ^{h}ɑtɕ^{h}ɑ	tʂhæ^{33}tʂhæ^{53}		magpie
*kætʃa			`kjætɕɑ	ku^{33}tʂæ^{53}		squirrel
*sundʒa^{2}	suɑ^{33}ndʐɑ^{55}		`sũdʑɑ	(suo^{53}) ndʐæ^{53}, su^{53}ndʐæ^{53}	Mand. 算账 suànzhàng ?	count (numbers), calculate
*dʒa^{1}		dʐɑ	dʑɑ	dʐæ^{35}	WT ja	tea

[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	-pʰA˩		-pʰɑ			classif. sheet/small object
*nepʰɑ[1]	pʰA˨˩; phɑ[55]		nepʰɑ	na[33]pha[53]		break open, broken
*pɑ	pA˩; pɑ[55]		-pɑ	(te[33]) pa[31]		peck, unit of dry measure for grain (=1 decaliter)
*bɑ[2]	dA˩bæ˩; ba[33]wɑ[55]		`debɑlo	ba[33]laŋ[53]laŋ[31]	PLB *m-ba[3]	bright[43]
*jimɑ[1]	ji[55]mɑ[55]	nejemɑ; jɐ[33]mɐ[55]	(ne)jimɑ	ji[33]ma[53], ʑi[35]ma[53]	*yip + *mak	dream
*ratʰɑ[1]	rɑ[55]thɑ[55]		æˈtʰɑ	əˈ[33]tha[53]	< Tib. rang 'thag	millstones
*tɑ[1]			detɑ 'accurate'	ta[33]ma[53]		true
*tɑso[1]			tɑso 'just now'	ta[33]suo[53]	PLB *C-sok	morning
*tɑ	tA˧ (perf.)		`netɑ	də[33]ta[53] 'open (an umbrella)'		close
*dɑdɑ[2]			pædɑ, `dedɑ	da[53]da[53]		short
*htɑhtɑ[2]	htɑ[33]htɑ[55]	ta[33]tsha[53] ??	`ʃtɤʃtɑ	na[33]ta[53]ta[33]		chew
*nɑ			əˈnɑ	na[55]na[53]tʂhu[33]tʂhu[53]		stable, steady
*nɑ[2]	nɑ[55]ku[55]	na[33]pu[55]	`æˈnɑpi	na[53]pi[53]	*r/g-na	ear
*ninɑ[1]	ɳo˩- ??; ɳi[55]nuɑ[55]	`jena	`ɳinɑ	ɳi[33]na[53], ji[33]na[53]	*nyey/*na-w	younger sibling
*rAne,rAnɑ[1]	rɑ[55]**nɛ[55]**	**rənɑ**		əˈ[35]**na[53]**		shadow[44]
*sɛ̃lɑ[1]			selɑ	se[33]la[53]		forest
*lɑ[2]	lA˧; lɑ[33]phɛ[55]; lɑ[33]ma[55]		`lɑ	la[33]mæ[53], la[33]nphæ[53]	WT glaba 'musk deer'	deer (river)
*lɑ[1]	lA˩ 'plant (v.)'; lɑ[55]		lɑ	la[35]		plow / till (v.)
*lɑ[1]	lA˩; lɑ[55]		lɑ	la[35]		dung, manure
*tʰeɕʷiulɑ			`(kʰe)ʂi**lɑ**	tho[33]ɕuo[55]**la[31]**		slanted / askew
*niu(mæ)lɑwu[1]			ɳimæ**lɑ**vɯ	ɳi[33]**la[53]**wu[31]		daytime

[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
*lɑmo	lɑ^{55}mo^{55}			la^{53}mu^{53}		stutterer
*lɑlɑ^{1}	lɑ^{55}lɑ^{55}	`lælæ	deɬɑ, deɬɤɬɑ	la^{33}la^{53}		roll
*ɬɑ^{1}			deɬɑ, deɬɤɬɑ	ɬa^{33}hũ^{53}		roll, turn (cause to)
*ɬɑ^{1}	ɬɑ^{55}		ɬɑ	ɬa^{53}, ɬa^{55}	*gliŋ	flute
*k^{h}ets^{h}ɑ^{1}			k^{h}ets^{h}ɑ	khe^{33}tsha^{53}		block (the wind)
*buts^{h}ɑ^{1}	vu^{55}tshuɑ^{55}	`nbuts^{h}æ	bʉts^{h}ɑ	bu^{33}tsha^{53}	*r-p^{w}a	axe[45]
*nts^{h}ɑ^{1}	ntshɑ^{55}	tsha^{35}	nts^{h}ɑ	tsha^{35}	*m-sin	liver
*dents^{h}ɑ^{1}	ntshɑ^{55}	`dents^{h}æ	nts^{h}ɨnts^{h}ɑ	ntsha^{35}, de^{33}ntsha^{53}	Lahu šɛ < *sin	pull / drag / lead (a cow) along
*tsɑ^{1}	tsɑ^{55}	khe^{33}tsa^{53}le^{31}	tsɨtsɑ, tsɑ	khe^{33}tsa^{53}le^{31}		tie up, bind
*ledzi/letsɑ^{2}	lɛ^{33}dzɻ^{55}	`ledzɻ; le^{33}tsa^{53}	`lidzɑ ‘claw’	le^{33}tsa^{53}	*m-tsyen	nail[46]
*dzidzi/dzɑdzɑɬdzɻ^{55} dzɻ^{55}		`ledzɻ; dza^{33}dza^{53}	`lidzɑ	dza^{33}dza^{33}	*m-tsyen	claw / talon
*ɑdzje/adzɑ^{1}	ʌ˩dzi˩; ɑ^{55}dzi^{55}		ɑdzɑ	a^{33}dza^{53}		we (dual)[47]
*nedzje/nedzɑ^{1}	nɛ˩dzi˩		nedzɑ	ne^{33}dza^{53}		you two
*(n)dzɑ^{1} ?	dzʌ˥; ndzɑ^{55}	ndzɑ	dzɑ	dzaŋ^{35}		drum
*ndzɑ^{2}	dzʌ˧; ndzɑ^{55}	`ndzɑ	`ndzɑ	dʑæ^{53}, dza^{33}		Chinese (Han)
*ndzɑ^{1}	ndzɑ^{55}		`bi ndzɑ	ndza^{35}		sting (of wasps)
*ntʂ^{h}ɑ			ntʂ^{h}ɑ ‘play inst.’	ntʂha^{53}		blow (the trumpet)
*(ri)ʂɑ^{1}	(ʂɛ˧ʂɛ˧); (ʂɛ^{55})	(ʂɐ^{33}ʂɐ^{53})	əˈʂɑ	əˈ^{33}ʂa^{35}	*s-riŋ LONG	far / distant[48]
*ʂɑ	ʂɛ˧ʂɛ˧; jɑ^{33}ʂɛ^{55}	ʂa^{33}ʂa^{53}, ʂɐ^{33}ʂɐ^{53} ‘far’	pæʂɑ, ʂiʂɑ	ʂa^{53}ʂa^{53}	*s-riŋ	long
*ʂɑ			ʂɑ		*sywar SCATTER	pour (water)
*bɑtʂɑ/butʂɑ	pʌ˩tʂʌ˩; ba^{33}tʃɑ^{55}		bʉtʂɑ			knife
*mek^{h}ɑ^{1}	mɛ^{55}khuaˈ^{55}	mə^{33}khɑ^{55} ‘cloud’		me^{33}kha^{53}		rainbow[49]
*ts^{h}ek^{h}ɑ^{1}	tshɛ^{55}kɑ^{55}		ts^{h}ɨk^{h}ɑ	(n)tshŋ^{53}kha^{53}	*kaːk	sputum, phlegm
*kɑpe^{1}	kɑ^{33}pi^{55}		kɑpø	ka^{33}pe^{53}		garbage / debris
*(h)kɑra(wɑ)^{2}	kɑ^{33}rɑ^{55}	`kɘwæ	`xkɑwɑ ntʂ^{h}ɑmæ	kæ^{55}əˈ^{53}		spider[50]

[45]The medial glide in the Ersu form is unexplained.
[46]The Ersu and Kl. forms for ‘nail’ and ‘claw’ point to a variant with the rhyme ***-i***.
[47]The Ersu form seems to descend from ***-je***.
[48]Not the **-ɛ** rhyme in Ersu in ‘far’ and ‘long’ (clearly from the same root) instead of expected **-ʌ/ɑ**.
[49]The medial glide and rhotic vowel in the Ersu form are unexplained.
[50]The 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
*kɑ^{2}	kʌ˩; kɑ^{33}phɑ^{55}			ka^{53}ba^{53}	< PLB *ʔ-ga^{2} ?	mute
*kwɑ/kɑ^{2}	ɳo˥˩kuʌ˥˩; ɳo^{33}kuɑ^{33}		`ja kɑmu	ja^{33}ka^{53}	PLB *ka^{1}	all / the whole[51]
*gɑp^{h}o^{1}			gɑp^{h}o ‘top of’	ka^{33}phu^{53}		upper part
*xɑ^{1} mu	xɑ^{55} ŋ̇^{55}	`xwæ mu	`xɑxɑ mʉ	xa^{35} mu^{33}		yawn
*ŋɑp^{h}o^{1}	tʃɑ^{33}ŋɑ^{33} ‘under’?		ŋɑp^{h}o ‘that side’	ŋa^{33}phu^{51}		lower part / lower reaches
*ɑdo(ri)^{1}			ɑdo (incl.)	a^{33}do^{ɪ35}		we

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

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*kotsV^{1}	ku^{33}**tsɛ^{55}**		kot**sɑ**	no^{33}kuo^{53}**tsʅ^{31}**		step on / stamp / tread
*tʂ^{h}ɑ/tʂ^{h}i^{2}			`tʂ^{h}ɑ ???	tʂhʅ^{53}		bed

[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	dzuɑ^{55}		-dʑɑ ?	(te^{33}) dzɻuæ^{31}	*m-twa	span (thumb to finger)
*k^{h}wæ^{1}	jʌ˩k^{h}uʌ˩; jɑ^{33}khuɑ^{55} ‘big’	-k^{h}wæ	dek^{h}wɑ	de^{33}khuæ^{53}		grow, grow up
*p^{h}ek^{h}wæ^{1}	phɛ^{55}**khuɑ^{55}**		p^{h}**ʉk^{h}wɑ**	phe^{31}**khuæ^{53}**	*pəw PRICE	expensive
*ts^{h}ok^{h}wæ			ts^{h}u**k^{h}wɑ**	tshuo^{53}**khuæ^{53}**		adult
*ŋk^{h}wæ^{2}	nk^{h}uʌ˩; ŋkhuɑ^{33}	`q^{h}wɑ	nk^{h}wɑ	(n)khuæ^{53}		lake
*k^{h}eŋk^{h}wæ	ŋkhuɑ^{33}			khe^{33}nkhuæ^{53}, khɯ^{33}khuæ^{53}		rust
*ŋgwæ^{1}	nguɑ^{55}		ŋgwɑ	nguæ^{33}phe^{53}		pheasant (long-tailed)
*deɣwæ^{1}	wɑ^{55}		dewɑ	de^{33}ɣuæ^{53}	*k-wa	full, satiated
*rik^{h}wæ^{1}			ə^{ɹ}k^{h}wɑ ‘cliff’	ɦɯ^{ɹ33}khuæ^{53}		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
*tʂ^{h}wæ			`tʂ^{h}wæ ‘water tank’	tʂhuæ^{33}ɦæ^{ɹ35}-dzɻu^{33}gu^{53}		vat / jar
*zɻwæzɻwæ			zɻʉzɻwæ	te^{53}zɻuæ^{53}zɻuæ^{31}		rinse (the mouth)
*wurA/wærA^{1}	**vu˩ɾʌ˩**; **vu^{33}**rɑ^{55}		**wæ**, **wæə^{ɹ}**	**ɣuæ^{33}**ɦæ^{ɹ35}		cloth
*wæ^{1}			wæ (t^{h}ʉ)	ɣuæ^{35}	*wa	snare / trap
*wæ^{1}			wæ ‘OK!’	ɣuæ^{35}		permit / allow
*diwæ^{1}	dʑi^{55}**vɑ^{55}**		dʑyæ^{ɹ}	dʑi^{33}**wæ^{53}**		slow / clumsy
*rgwæ^{1}	guɑ^{33}	ŋgwæ; ɣue^{53}	ɣwæ	ɣuæ^{35}	*r/g-wa	rain
*rA/ɣwA	rɑ^{55}	`ɣwæ				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	jʌ˩ntʰuʌ˩; nthuɑ⁵⁵	thɑ̃³³nthʌ⁵³	ntʰɑ gɤ	thua⁵³nthua⁵³	PLB *takᴴ	sharp, pointed
*ntʰwɑ	ntʰo˩; nthuɑ⁵⁵		-ntʰɑ	(te⁵⁵) nthua⁵³		drop (of oil)[52]
*detwɑ¹	tuɑ⁵⁵		`detɤtɑ	de³³tua⁵³		hug / embrace
*dwɑ¹	duʌ˧; ŋɛ⁵⁵duɑ⁵⁵ ‘pass by’	dæ	dɑ	dua³⁵, ŋe³³dua³⁵		go / leave (past)
*denwɑ¹	dʌ˩nuʌ˩; nuɑ⁵⁵	dɐ³³nɐ⁵³	denɑ	de³³nua⁵³	*s-nak	black
*ʂinwɑ	ʂʅ³³nuɑ⁵⁵			ʂʅ³³nua⁵³		mole
*tsʰwɑ			-tsʰɑ	(te³³) tshua⁵³		classif. rooms
*tswɑ			`tsɑ	ne³³tsua⁵³		filter / strain
*swɑ¹			sɑ	sua³⁵, gu³³sua⁵³		send (a message)
*tʃwɑpu¹			tʂɑpʉ	tʂua³³pu⁵³	*kyak	navel
*dʐwɑ		dʐa³³le⁵⁵		dʐua⁵³le⁵³		put in order / arrange
*dʒwɑ¹	dʒʌ˩; dʒɑ⁵⁵	dʐuæ	dʐɑ	dʐua³¹		have, exist (movable)
*ʂwɑ		`ʂwɑ		ʂua³³nphʐi⁵³		mosquito (relatively small)
*tʰekʰwɑ¹	thɑ³³khɑ³³		kʰekʰɑ	the³³khua⁵³	PLB *k-ra²/³	win
*ŋ(u)kʰwɑ	nkhuɑ⁵⁵			ŋu⁵⁵khua⁵³	*kwa ?	hoof
*tɕukʰwɑ²	tsʅ³³khuɑ⁵⁵			tɕu⁵³khua⁵³		cucumber[53]
*lɑkʰɑ/lokʰɑ¹			lɑkʰɑ kʰeæˀ ‘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	kɑ³³əˀ⁵⁵		kɑli	kua³³li⁵³	*ka	crow
*kɑpi²	kɑ³³psʅ⁵⁵		`kɑpi	kua⁵³pi⁵³		lame person
*xwɑjo¹	huʌi˥; xuɑi⁵⁵	xɑ⁵³, xɑ³³jɯ⁵³	xɑjo	xua³³jʉ⁵³		bird, sparrow

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

[53]The 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	xua³³ntʂhu⁵³	*kʷəy ? *(t)si/up?	nest (bird)
*(ju/ʐu)xwɑ¹	zu⁵⁵xuɑi⁵⁵			jy³³xua⁵³	*hya SWID-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 **æˤ**; these changes will be explained in detail below.

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*tsʰɑwɑ¹			tsʰɑwɑ	tsha³³wa⁵³		gruel / porridge
*wɑwɑ¹	dʌ˩wuʌ˩li˩	wa³³wa⁵⁵	wɑwɑ, wɑwɑløløˌ	ɣua³³ɣua⁵³		circular (planar), round
	kuɑ⁵⁵		kwɑ	ne³³kua⁵³	Mand. 刮 guā ?	take off (clothes), peel
			xwɑ	the³³xua⁵³	Mand. 還 huán ?	return (a pen)
*gwɑ²			`neæˤ	**gua⁵³**		left over / remain
*rwɑ¹	rʌ˩; rɑ⁵⁵	rwæ; rɑ⁵⁵	æˤ	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 *rwA	OBTAIN *rA	REMAIN *gwɑ	- **gwæ	- **ɣwɑ	FULL *ɣwæ	RAIN *rgwæ
1. rw > ɣ	ɣA	-	-	-	-	-	-
A. g > ɣ / __ {w,u,o,ɤ,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} > æˤ	æˤ	æˤ	æˤ	-	æˤ	-	-
(output)	æˤ	æˤ	æˤ	wɑ	æˤ	wɑ	ɣwæ

[54]See 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-, ts^{h}-**) 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', ***jɑ̃** '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-**.

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

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

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
*tsʰi¹	tshɻ^{55} ‘shoulder blade’	tshɻ^{33}tshɻ^{53}	tsʰɨtsʰɨ	tshɻ^{33}tshɻ^{53}-ta^{33}ta^{33}	*tsik	joint
*tsʰi²	tsʰɻ↓; tshɻ^{33}	tshɻ^{53}	`tsʰɨ	tshɻ^{53}	*tsa	salt
*zi¹	zɻ^{55}	zɻ	zɨ	zɻ^{53}		shoe
*zi²		`zɻ	`zɨ	zɻ^{53}	*za	son
*xui/ŋui¹	həˈ˥ ?; xaˈ^{55} ?	ŋo~ɦo; ŋue^{33}mo^{53}	ŋwe, ŋwemo	ŋu^{33}mu^{53}	*d/g-wam	bear (n.)
*ŋui²	ŋAˈ↓; ŋuaˈ^{33}	`ŋu	`ŋwe	ŋu^{53}	*ŋwa	cattle, cow

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*mbo[1]	bu˩; nbu[33]	nbo	mbo, mbojo	nbo[35], nbo[53]ju[53]		hat
*mbwo[2]	nbo[33]ntsho[55]		`mbo	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:

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

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*pri	-peʴ˧; paʴ^{55}	\`pɚ 'grain'; nu^{33}pi^{53} 'peas'	-pəʴ	(te^{33}) pɯ^{31}		classif. small round obj.
*p^{h}ɑ	-p^{h}ᴀ˧		-p^{h}ɑ			classif. sheet/small object
*kæ	-kᴀ˩; kɑ^{55}	-kæ	-kjæ	(te^{33}) kæ^{31}		classif. long items
*pu	-pu˧, -bu˧; pu^{55}	-pv	-pʉ	(te^{33}) pu^{31}	PLB *baŋ^{1}	classif. trees/flat obj.
*dʐe	-dʐɛ, -dzi; dʐɛ^{55}	-dʐe	-dʐɤ	(te^{53})dʐɯ^{53}	*dzum ⋉ *tsum	pair
*p^{h}wo			-p^{h}o	(te^{33}) phu^{31}		classif. one of pair (hand, eye)
*p^{h}ja	-ts^{h}ᴀ˧; tshɑ^{55}		-p^{h}ɕɑ	(te^{33}) phʑæ^{31}		classif. garments
*p^{h}jo			-p^{h}ɕo	(te^{33}) phiu^{31}		bolt (of cloth)
*ts^{h}wɑ			-ts^{h}ɑ	(te^{33}) tshua^{53}		classif. rooms
*bru	bu˧; bu^{33}	-bo	-bʐʉ	(te^{33}) bu^{31}		flock (of sheep)
*hke	hkɛ^{55}	-kɯ	-xkɤ	ne^{33}kɯ^{53} 'break, snap'		half
*dʒwæ	dzuɑ^{55}		-dʑɑ ?	(te^{33}) dʐuæ^{31}	*m-twa	span (thumb to finger)
*liu	-liu˧; lio^{55}		-li	(te^{55}) liu^{53}	*lam ?	fathom
*mbi	mbzɿ˦/˧; nbzɿ^{55}		\`mbi 'step across'	(te^{33}) nbi^{31}		step / stride
*k^{h}o			-k^{h}o	(to^{33}) khuo^{31}	*kwak	bowl
*nt^{h}wɑ	nt^{h}o˧; nthuɑ^{55}		-nt^{h}ɑ	(te^{55}) nthua^{53}		drop (of oil)
*bje	bi^{55}	\`bje	lɑbje	(te^{53}) bi^{53}		heap (e.g. of dung)
*krɑ	-tʂɛ˧; tʂɛ^{55}		-kæʴ	(te^{33}) ka^{31}		catty (=1/2 kilogram)
*lo	-lo˧; lo^{55}		-lo	(to^{33}) luo^{31}	<MC ljangX 兩 ?	tael (=50 grams)
*tetsje			-tʌtse	(ne^{33}) te^{53}tɕi^{31}		measure of weight (=0.1 tael)
*læ			-læ 'pint, 1/10 peck'	(te^{33}) læ^{31}, læ^{35}		liter, container (measuring, 1-liter-volume)
*pɑ	pᴀ˧; pɑ^{55}		-pɑ	(te^{33}) pa^{31}		unit of dry measure for grain (=1 decaliter), peck
*dzæ	tɛ˧dzᴀ˧		-dzæ	(te^{33})dzæ^{53}		meal
*niu	ȵo˩,ȵo˧; ȵo^{55}	nɯ^{55}	-ȵi	(te^{53}) ȵy^{53}	*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	*k^{h}e-	khe-	khe-	khə-	khe-	khɛ-	khɛ-	30
outward/downstream	*ŋe-	ŋe-		?		ŋɛ-	ŋɛ-	10
away	*t^{h}e-	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: **thɛ^{33}gɛ^{55}** 'happy/glad', **thɑ^{33}khɑ^{33}** 'win', **(thɛ^{55})ɬi^{55}** 'hide (smtg.)', and **thɛ^{33}mɛ^{55}** '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 **ŋe^{33}bɯ^{53}** 'tired', **ŋe^{33}le^{53}ʂl^{31}** 'turn around [face downhill]', **ŋe^{33}phi-æ^{53}** 'lose, throw away', **ŋo^{33}tshuo^{53}** 'extract/take out', and **ŋuo^{33}hũ^{53}** '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 **t^{h}e-** with **k^{h}e-**.

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 ***t^{h}æ-** '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.

[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 **the^{55}pe^{53}tɕi^{31}** 'send (someone)', **the^{55}le^{53}** 'release', **the^{55}ka^{53}** 'splash water', **the^{55}pu^{53}** 'change, become', and **the^{55}ly^{53}** '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 **ŋe^{33}tu^{53}** and Mn. **k^{h}etʉ** '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 /**dzɿ^{33}** + **A**/ yielding **dzɑ^{35}**.

verb	verb + **ɑ**	gloss
dzi^{55}	dziɑ^{35}	cut (grass)
ntʂhu^{55}	ntʂhuɑ^{35}	steam
tʃo^{55}	tʃuɑ^{35}	cook
tʂɛ^{55}	tʂɑ^{35}	weigh
dzɿ^{33}	dzɑ^{35}	eat
kuɑ^{55}	kuɑ^{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 **gɛ^{55}** as a marker of immediate future (*jiāngxíngtǐ* 将行体), with a different (and, interestingly enough, morphologically more complex!) form **gɛ^{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

[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 **gɛ^{55}sɛ^{55}** contributes to the meaning.

Shixing (**gɜ**),[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
*ji^{1}	k^{h}-**i**˩ ‘enter’, **zɿ**˥˧, **ji**˥˧; **zɿ**^{55}, **ji**^{55}	nə^{33}**ji**^{53}	**ji**	**ji**^{35}	*ʔay	go
*dwɑ^{1}	duʌ˨˦˨; ŋɛ^{55}duɑ^{55} ‘pass by’	dæ	dɑ	dua^{35}, ŋe^{33}dua^{35}		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

[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.	-mbzo	'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, deɬɤɬɑ	'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.

[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. **mbzo** through regular developments. Adding an ***s-*** prefix would yield a form like ***s-m-raŋ***; cf. the Burmese forms **mraŋ**$^{\mathbf{1}}$ 'be high' and **hmraŋ**$^{\mathbf{1}}$ '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
*dʒo[1]	dzoˀ; dʒo[55]	dʐu	dʑo	dʐu[53]	*m-dzyaŋ	have, exist (animate)
*hã[1]	hʌ↓; xɑ[55], xa[55]	hæ̃	hɑ̃	hiæ̃[31]		have, exist (immovable)
*dʒwɑ[1]	dʒʌˀ; dʒɑ[55]	dʐuæ	dʐɑ	dʐua[31]		have, exist (movable)
*niu[1]	ȵo↓ '~ (polite)'; ȵo[55]	ȵe	ȵi	ȵy[35]	*r-ney-t	have, exist (general/abstract)
*bo[1]	boˀ 'have livestock', buˀ 'have N (be age N)'; bo[55]	bo	bo	bo[31]		have, exist (money)
*dʐiu[1]		dʐe	dʐɨ	dʐu[33]dʐu[53]		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. **vʌˀ, vʌˀkʌˀ**. 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 **vɑ[55]** an "affected object" marker (受动助词 *shòudòng zhùcí*) that usually attaches to indirect objects (but sometimes direct objects).

[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. (**kɐ**) 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 ***t^he**. 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}rŋ^{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}rŋ^{55}
3sg	*t^he	t^he, t^ho-[14]	the^{53}	thɛ^{55}
3du		t^hedzɑ	the^{33}dza^{53}	thɛ^{55}dzi^{55}
3pl		t^hidi	the^{33}doɹ^{35}	thɛ^{55}rŋ^{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 **rŋ**.

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. **t^ho-**, 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**.

[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 **t^ho** variant only shows up before the object marker **wɑ**: **t^howɑ**. 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}	tε˥; tε^{55}	\`te; tə^{53}	\`te	te^{31}		one
*ne^{1}	nε˥; nε^{55}	ne; nə^{53}	ne, næ	ne^{35}	*g/s-nis	two
*sjẽ^{2}	si˥; si^{55}	si^{53}	\`ɕe	ɕi^{53}, ɕe^{35}	*g-sum	three
*ʐ̩iu^{2}	ʐo˩; ʐo^{33}	\`ʐe; tʂʅ^{53} ???	\`ʐɨ	ʐu^{35}	*b-ləy	four
*ŋrɑ^{2}	ŋʌ˞˩; ŋua˞^{33}	ɦɑ̃; ɐ^{53} ?	\`ŋæ˞	ŋa^{53}	*l/b-ŋa	five
*tʂʰu^{2}	tʂʰu˥; tʂhu^{55}	tʂhu^{53}	\`tʂʰʉ	tʂhʉ^{53}	*d-kruk	six
*sini/stẽ^{2}	sʅ̃˥; ʃʅ^{55}n̩^{55}	\`tŋ~\`kŋ; ki^{53}	\`ʃtɤ̃	skŋ̍^{53}	*s-nis	seven
*rdi^{1}	zʅ˥; ʒʅ^{55}		dzɨ	dʑi^{35}	*b-r-gyat ≍ *b-g-ryat	eight
*ŋge^{2}	gε˩; ngε^{33}		\`ŋgɤ	ngɯ^{35}	*d/s-kəw, PQc s/r/n-gəw	nine
*tɕʰetɕʰe^{1}	tsʰε˥tsʰε˥; tshε^{55}tshε^{55}	tɕhe^{33}tɕhi^{53}	tɕʰetɕʰe	tɕhe^{53}tɕhe^{53}	*ts(y)i/əy/ay	ten
*tsʰetɕi	tsʰε˥tsʅ˥; tshε^{55}tsʅ^{55}		\`tsʰetɕi	tshe^{53}tɕi^{53}		eleven
*tsʰene	tsʰε˥nε˥; tshε^{55}nε^{55}		tsʰenæ, tsʰene	tshe^{53}ȵe^{53}		twelve
*tsʰesɑ/tsʰesjẽ	tshε^{55}sɑ^{55}		\`tsʰeɕe	tshe^{53}sa^{53}		thirteen
*tsʰeʐ̩iu	tshε^{55}ʐo^{33}		\`tsʰeʐɨ	tshe^{53}ʐu^{33}		fourteen
*tsʰeŋra	tshε^{55}ŋua˞^{33}		\`tsʰeŋæ˞	tshe^{53}ŋa^{53}		fifteen
*tsʰetʂʰu	tshε^{55}tʂhu^{55}		\`tsʰetʂʰʉ	tshe^{53}tʂhu^{53}		sixteen
*tsʰesini/htẽ	tshε^{55}ʃʅ^{55}n̩^{55}		\`tsʰeʃtɤ̃	tshe^{53}skŋ̍^{53}		seventeen
*tsʰerdi	tshε^{55}ʒʅ^{55}		\`tsʰedzɨ	tshe^{53}dʑi^{35}		eighteen
*tsʰeŋge	tshε^{55}ngε^{33}		\`tsʰeŋgɤ	tshe^{53}ngɯ^{35}		nineteen
*netsʰi^{1}	nε˥tsʰʅ˥; nε^{55}tshʅ^{55}	nə^{33}tshʅ^{53}	\`nɤtsʰɨ	ne^{33}tshʅ^{53}		twenty
*sɑtsʰi	sʌ˥tsʰʅ˥; sɑ^{55}tshʅ^{55}		sɑtsʰɨ	sa^{33}tshʅ^{53}		thirty
*zi	-zʅ˥; -zʅ^{33}		-zɨ	-zʅ^{53}		ten (bound), -ty
*ʐ̩iuzi	ʐo˩zʅ˥; ʐo^{33}zʅ^{33}		\`ʐɨzɨ	ʐu^{33}zʅ^{53}		forty
*ŋrazi	ŋua˞^{33}zʅ^{33}		\`ŋæ˞zɨ	ŋa^{33}zʅ^{53}		fifty
*tʂʰuzi	tʂʰu˥zʅ˥; tʂhu^{55}zʅ^{33}		tʂʰuzɨ, \`tʂʰuzɨ			sixty
*sini/htẽzi	ʃʅ^{55}n̩^{55}zʅ^{33}		ʃtɤ̃zɨ, \`ʃtɤ̃zɨ			seventy
*rdizi	ʒʅ^{55}zʅ^{33}		dzɨzɨ			eighty
*ŋgezi	ngε^{33}zʅ^{33}		\`ŋgɤzɨ			ninety

PEr	Ersu	Kl./Nq.	Mn.	TBL	PTB	gloss
*ʑa[1]	zʌ˥; zɑ[55]	ɐ[33] ʑɛ[53]	ʑɑ	(te[33]) ʑæ[53]	*b-r-gya	hundred
*htũ[2]	tu˥,tu↓; hpu[55](htu[55])		`ʃtũ	tu[53]	*s-toŋ	thousand; ten cents
*mbwo[2]	nbo[33]ntsho[55]		`mbo	nbu[53] ‘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 **ts^{h}-**, 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 [rɿ]; then velar + **r** combinations became retroflexes before the apical vowel **ɿ**; 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: ***xui**^{1} 'tooth' > **xri** > **xrɿ** > **ʂɿ**^{55}.

	sound change	comments
1.	ui > ri	"spontaneous" rhotacization[2]
2.	i > ɿ / {S, r} ___	apicalization (also see below)
3.	[Kr, xr, ɣr] > [Tʂ, ʂ, zʐ] / ___ ɿ	retroflexion
4.	rɿ, re, rA > aˠ / C ___	r-coloring of unrounded vowels[3]
	ru, ro > o / C ___	r-deletion next to rounded vowels
	ɿu > 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 [krzʐ] to [**tʂzʐ**] 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 ***ɣwɑ**^{1} 'hungry' > Ersu **wɑ**^{55} 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 **a**ˠ, Qŝ. almost always has **ə**ˠ (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) ***mp^{h}i^{2}** 'throw up, vomit' > **mp^{h}ɕi** (extrusional ɕ) > **mp^{h}si** (depalatalization) > **nphsɿ^{55}** (apicalization). (2) ***p^{h}ja** 'leaf/flat object' > **tɕ^{h}a** (P-j fusion) > **ts^{h}ɑ^{55}** (depalatalization). (3) ***mbje^{1}** 'hill/mountain' > **nbi^{55}** (je-raising).

1. ∅ > ɕ / P __ i Pj > Tɕ / __ {A, o} j > ʑ / # __ i K > Tɕ/ __ i	extrusional ɕ P-j fusion high front glide frication (optional) palatalization #1
2. (T)ɕ > (T)s / except before -o	depalatalization
3. i > ɿ / {S, r} __ K > Tɕ / __ je	apicalization palatalization #2
4. je, jẽ > i ẽ > i	je-raising ẽ>i

In the following pair of sound changes, ***-wɑ** lost its medial glide before the two low vowels merged in Ersu.

Examples: (1) ***k^{h}wɑ^{1}** 'win' > **khɑ^{33}** (glide deletion). (2) ***k^{h}wæ^{1}** 'big' > **khuɑ^{55}** (*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) ****diu**ʈʂ^{h}e^{1}** 'year' > ***bu*^{55}ʈʂhɛ^{55}** (*du* to *bu*). (2) ****di**wæ^{1}** 'slow' > ***dʑi*^{55}vɑ^{55}** (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: ***ɣo**[1] 'liquor' > **ɣu** > **vu**[55].

1. o > u / K __	
2. wo > o	
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.

hṼ > xV	denasalization
li, liu, lu, lo > əɻ	li > əʵ (but with various exceptions!)
[ʃ, ʒ] > [ʂ, ʐ]	merger of alveopalatal fricatives into retroflexes (also with sundry exceptions)
[rd, rg] > [d, g]	prefixal r-deletion
mps > nts	(for 'hail')
my > m	(for 'throat', 'rabbit')
rw > r	(for 'chicken')
ɕ^{w} > ɕ	
ew, e, wE > ɛ	
je > ɛ / R __	
iu > ɛ / P __	

The *li/liu/lu/lo* > *əɻ* 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 [**əɻ**], but ***li** apparently did. Thus, the *lo* > *əɻ* 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 **lʌ˥˩əɻ˥** '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 > ȵ / __ Ṽ	palatal glide to nasal before nasal rhyme
e > ɯ / [velar] __	***-e** becomes back vowel after all velars
riu > ri	merger of ***-riu** into ***-ri**

[5]This Tibetan loanword exists alongside the two native morphemes for 'year', the free/countable form **bu**[55]**tʂhɛ**[55] and the bound form **-xi**[55].

Examples (from Mianning Lizu): (1) ***jõ*¹ ‘sheep’ > **ɲo**. (2) ***hke*¹ ‘eagle / hawk’ > **xkɤ**. (3) ***riu*¹ ‘write’ > **ʐi**; **ri**¹ ‘laugh’ > **`ʐi**.

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: **ŋgrɑŋgrɑ**¹ ‘shake/shiver’ > **`nɢᵡɑnɢᵡɑ**.

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: ***ŋkʰwæ*² > **`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 ***hko**¹, 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: ***kri*¹ ‘star’ > **`tʂɿ**.

1. i > ɿ / S __	apicalization
2. Kr > Tʂ / __ ɿ	retroflexion
3. rɿ > ɚ / P __, rɿ > ræ / m __; *then* ri > rə	various changes to ***-ri**

[6] [nɢᵡ] can be considered the phonetic realization of underlying /**nɢ-**/ (< ***ŋgr-**), but the fricative component is apparently quite salient; Chirkova (2008:8) notes that [nɢᵡ] 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 intervocalically)
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	
ɕ^{w} > 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 **ʂʅ** to **xɯ** (in the Nq. forms **xɯ^{53}** 'blood' and **thɯ^{33}xɯ^{53}** 'die') occurred before the alveopalatal merger, since the ʂʅ > xɯ change only applied to Proto-Ersuic *retroflexes, not *alveopalatals.

Example: ***ʂiu¹** 'blood' > **ʂi** > **ʂʅ** > **xɯ^{53}**.

1. iu > i (*but* iu > u / l __)	
2. i > ʅ / S __	apicalization
3. je, jẽ > i	je-raising
ʂʅ > xɯ	ʂʅ > 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) ***mpʰru**^{1} ‘steal’ > **tʂhə**^{33}. (2) ***kri**^{1} ‘star’ > **kəɹ**^{55}. (3) ***mbro** ‘high/tall’ > **bo**^{33}**mbo**^{53}.

1. pʰr > tʂʰ ri > əᶦ / {K, #} __ rɑ > ɐɹ / C __ 2. r > ∅ / C __	pʰ-r fusion (except ‘road’ **ʐɻ**^{35} and variant for ‘hear’)

The remaining sound changes are unordered with respect to the others.

Pj > Tɕ / __ {A, ẽ}	P-j fusion
A > ə / palatal __	
HC > C	depreaspiration
st > k	
NC[-vc] > C / # __	deprenasalization (does not apply intervocalically)
rd > d	
rg > ɣ	
ru > əᶦ / # __	
my > m	
ɕʷ > ɕ	
ui, ew > u	
e > ə / {m, T} __	
e > ɳ / (t)s __	
ẽ > ɐ	
wE > e	
wo > o	
rw > r	

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) ***htʃiu**^{2} ‘feces’ > **htʂiu** (alveopalatal split) > **htʂi** (iu/i merger) > **ˋʂtʂi** (apicalization). (2) ***tʃʰu-** ‘mud’ > **tɕʰu-** (alveopalatal split) > **tɕʰy-** (u-fronting).

1.	Tʃ > Tɕ / __ {i, u, o, A} #; *then* Tʃ > Tʂ	alveopalatal affricate split
2.	iu > i *or* ø / l __; iu > ø / P __; *then* iu > i	iu merger into i except after bilabials and laterals
3.	i > ɨ / S __ u > y / [palatal] __	apicalization 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 > ∅ / __ wA	ɣ-deletion
2/c.	{ɣA, rA} > æˠ	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' > **ʃɿ**, followed by **ʃɿ > xɯ**. This is clearer if we replace the shorthand symbol **-ɿ**, which stands for something like "a syllabic fricative at the same place of articulation as the preceding consonant", with an explicit IPA symbol: [ʃʒ̩ > xɣ̩]. 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 **`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. **tɕi^{55}**, Mn. **`pse**, TBL **pʑe^{35}**. Cognates for 'run' and 'fly' are not found in the wordlists for Ersu; the Ersu form for 'run' is **li^{55}gɑ^{55}**, and 'fly (v.)' is **guaˠ^{55}**.

‘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: ***pja**[1] ‘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: ***sẽ**[1] ‘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 > əɪ / {P, #} __	(except ‘laugh’ **`ʐɨ** and ‘write’ **ʐɨ**)
re, ru > əɪ / # __	
r > ɻ	r > ɻ
ɬ > l / V[-reduced] __ V	
ɕʷ > ʂ	
my > ɱ	
ø > j / [velar] __ æ; *then* ŋj > ɲ	
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: ***p^{h}jo** > **p^{h}ɕo**, and ***bjo** > **bʑo**.

7.2.4 Lŭsū/Kala Lizu (TBL)

In TBL, ***-r-*** deleted after non-aspirated initials and became a fricative after aspirated **p^{h}**. 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 > ∅ / C[-asp] __ V[+hi]	r-deletion
r > z̧ / p^{h} __	r-frication after aspirated p
Kr > Tʂ / __ ɿ	retroflexion (optional)
3. rV > V^{ɹ} / C __	r-coloring
4. V^{ɹ} > 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) ***ʑu^{1}** 'snow' > **ʑy^{35}** (u-fronting). (2) ***ʑiu^{1}** 'fall (rain)' > **ʑu^{35}** (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	
ɕ^{w} > 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’)
p^hr *or* p^hʐ > $tʂ^h$	P-r fusion (optional)
iu > y / l __	(optional)

7.3 Subgrouping

As noted above, the unusual change of *j* > *ɲ* / __ $\tilde{V}$, along with the less unusual change of *e* > *ɯ* / *[velar]* __ and the *riɯ* > *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* > *ɲ* change (‘sheep’ is “Yo”) or the *riɯ* > *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 *dɯ* > *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 “Ngụ” (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* > *əˈ* which happened in Zl. and Qŝ. Ersu also seems to have limited scope in Baber's wordlist. Although 'wind' is "Mụr", 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 **lo˥su˥**; these dialects must not have undergone a *lo* > *əˈ* 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 **jo^{35}**—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.

[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** > **ŋ** 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.

[12]For an overview of apicalization in the Sino-Tibetan context, see Baron (1974).

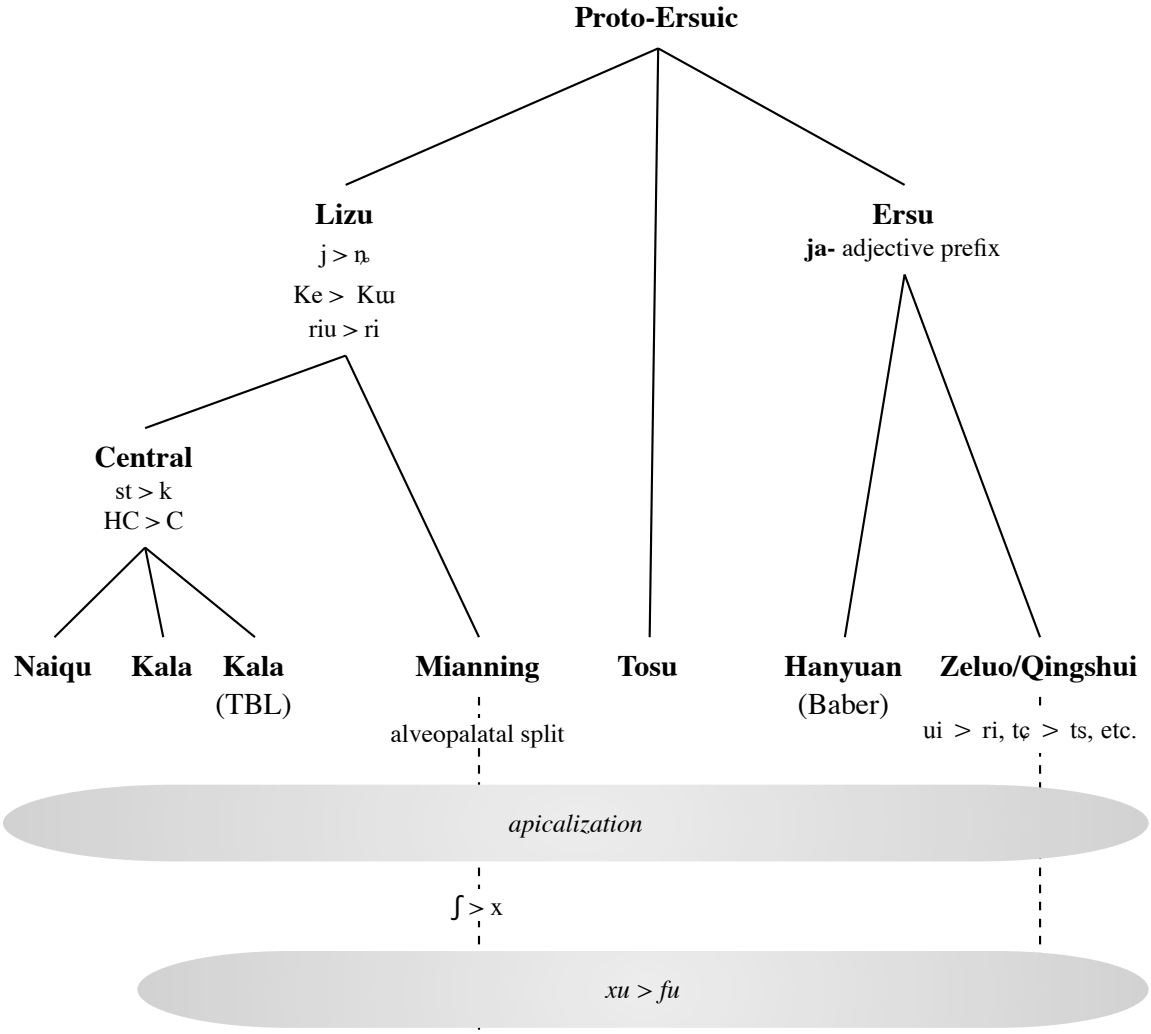


Figure 7.1: Ersuic family tree

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	*ts^{h}i²	salt
*dzya	*dzi²	eat
cf. Lahu ɔ-cɛ̄ < PLB *dzya ?	*(n)dʑi(u)²	ear / spike[1]
*za	*zi²	son
*na-t	*de**ni**¹	sick, ache
*r/g-na	*bæ**ni**¹	listen
*g-na-s	*bre**ni**¹	rest
*s-na	***sti**m(b)u¹	nose
*nyey/*na-w	***ni**nɑ¹	younger sibling
*s-l(y)a	***ht(s)i**pi²	tongue
*pla, PLB *C-la¹	*li¹	ashes
*r(y)a	*ri¹	laugh / smile
*sya-n	*ʃi²	meat
*gra	*t^{h}e**gri**¹	hear
PLB *g-ra² ?	*ŋgi¹	buckwheat[2]

*-al, *-at > *-i

Similarly, ***-al*** and ***-at*** are exemplified by the following roots, which have undergone brightening as well:

PTB	PEr	gloss
*s-bal	***pi**mæ¹	frog, toad
*m-pat	*mp^{h}i²	vomit, spit
*k-r-p^{w}at	*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	*hpje^{2}	medicine
*pran/t	*tsjẽ**p^{h}rje**^{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-ga^{2}	*zi**kæ**	dumb, stupid
*ga	*gæ^{1}	sing
*r/N/d/s-ga	*gæ/gja^{1}	like / love
*gra	*gæwu	enemy (personal)
*m-ka, Mpi nko	*ŋgæ^{1}	door
Lahu qha < PLB *ka	*k^{h}æ	rice (cooked)
Lahu vəʔ-qâ < PLB *ga	***gæ**me^{1}	clothing / garment
*b-ka	*dek^{h}ra^{1}	bitter, salty
*l/b-ŋa	*ŋra^{2}	five
*s-ŋ(y)a FISH	*deŋra^{1}	stinky, fishy-smelling
*ka	*kwɑli^{1}	crow
PLB *ka^{1}	*kwɑ/kɑ^{2}	all / the whole
PLB *k-ra$^{2/3}$	*t^{h}e**k^{h}wɑ**^{1}	win
*hya SWIDDEN	*(ju/ʑu)xwɑ^{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	*ɬæp^{h}e^{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	*t^{h}æ^{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	*ʑa^{1}	pants / trousers
*b-r-gya	*ʑa^{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	*æ**mæ**^{1}	mother
*tsa-t	*ts^{h}æ^{2}	hot
*ba ?	*de**bæ**^{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**.

[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	*t^{h}e**me**^{2}	forget
*r-ma	*mjari/**me**ri^{1}	sore / boil
*ba-y	***mbe**re^{2}	cheek
*r/s-ŋ(y)a	*hjẽ^{1}	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	*xui^{1}	tooth
*s-wa GO	*xui	walk
*swa-n	*xui^{1}	garlic
*gwa-n	*deɣui^{1}	wear (a garment)
*lway ?	*ɣuiɣui	easy
*ŋwa	*ŋui^{2}	cattle, cow
*r/g-wa ?	*xu^{1}	village[4]

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)	*wæ^{1}	snare / trap
*k-wa	*de**ɣwæ**^{1}	full, satiated
*r/g-wa	*rgwæ^{1}	rain
*m-twa	*dʒwæ	span
*kwa ?	*ŋ(u)**k^{h}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.

[4]Note that the rhyme for 'village' is ***-u***, not ***-ui***; and the origin of the PEr ***x-*** initial is mysterious.

PTB	PEr	gloss
*r-p^{w}a	***bu**ts^{h}ɑ^{1}	axe
*p^{w}a, PLB *ba^{1} ?	***pwEpwE**^{2}	patch (clothing)
Lahu bù < PLB *mbwa	*mbrɑ^{1}	loud

Finally, we have some lone forms demonstrating perhaps ***-wal** > ***-je** or ***-wat** > **e**.

PTB	PEr	gloss
*g-lwat	*t^{h}e**le**^{1}	release / set free
*s-p^{w}al	*mp^{h}je^{1}	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	***bjẽbjẽ**^{1}	fly (v.)
*tsam	*tsjẽ^{1}	hair
*m-dzam	*dzjẽ^{1}	bridge
*N-dzyam	*ndzẽ^{1}	wedge
*syam	*ʃje^{1}	iron
*sram	*ʂe^{1}	otter
*kram	*tʂ^{h}e	fence (bamboo / twig)
*kram	*xu**tʂ^{h}e**^{1}	garden (plot)
*kam (≍ *ka:p)	*k^{h}e	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/ŋui^{1}	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)	***mp^{h}ro**zæ[1]	young lad / chap
*k-m-raŋ	*m(b)ro[2]	horse
*m-raŋ	*mbro	high / tall[6]
*naŋ	*ne/no[2]	you
*kraŋ	***htʂo**mo[2]	strength (physical)
*taŋ	***tɕ^{h}o**pu[2]	pine
*syaŋ	***ʃoʃo**[1]	clean
*m-dzyaŋ	*dʒo[1]	have, exist (animate)
PL *taŋ[3] (PL 257)	*mbo**to**	knife
*l(y)aŋ	*k^{h}e**lo**[1]	wait
MC ljangX ?	*lo	tael (=50 grams)[7]
PLB *tsaŋ[1]	*ts^{h}o[1]	human being, person
*m-baŋ	*ne**mbo**	deaf
*maŋ	*t^{h}e**mo/momo**[1]	old / elderly
*yaŋ	*jõ[1]	sheep
*s-m-raŋ ?	*hwõ[1]	stretch out (the arm)
Lahu phɔ̂ < PLB *paŋ	*p^{h}wo	side, direction
cf. Lahu khɔ̂ < PLB *kraŋ	*tʂ^{h}e[1]	sound[8]

Some plausible exceptions have ***-wE** or ***-u** instead:

PTB	PEr	gloss
*g-raŋ	*gwEmæ[2]	back
*ryaŋ ?	***ɣwE**mo/ **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 <	*$\mathbf{k^hep^he}$/	inside
PLB *kaŋ	$\mathbf{k^hup^ho}^1$	

***-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	*nt^{h}wɑ^1	sharp, pointed
*s-nak	*de**nwɑ**^{1}	black
*kyak	***tʃwɑ**pu^1	navel[10]
*k-rak	*rwɑ^1	chicken

Others have PEr ***-e**:

PTB	PEr	gloss
*s-p^{w}ak	*khe**mp^{h}e**	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	*nts^{h}e^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:

'tree' in e.g. WB **sac-paŋ**, Mn. **ṡipu**, 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**p^{h}ja**[1]	leaf
*py(w)ak	*p^{h}ja	sweep
*s-mik ≍ *s-myak	*mja[1]	eye
PQc *N/s-tsak	*hto/htæ	jump[14]
*ka:k	*ts^{h}e**k^{h}ɑ**[1]	sputum, phlegm
*s-ka:k	*sẽ**kæ**le[1]	branch / twig
*s-r(y)ak 24-HOURS	*t(w)ɑ**h(w)ã**[1]	tonight
cf. Lahu yàʔ- < 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}	*t^{h}e**dʑo**[1]	push / shove[15]
*m-krak, PLB *m-prak^{H}	*(n)tʂ^{h}o[1]	scratch

Some more speculative forms have PEr rhymes with ***-u** or ***-ew**.

PTB	PEr	gloss
*tsyap or PLB *ʔ-dzak^{L} ?	*k^{h}etsu	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
*p^{w}ak, 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	*k^{h}o	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	*k^{h}endʑa^{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 **-k^{h}o**, and the free form **k^{h}wælæ**. Compare with TBL **-khuo^{31}** 'bowl (classif.)' and **khuo^{33}la^{53}** 'bowl', both with **khuo**. Perhaps Mn. **k^{h}wæ** is a loan (cf. PNa ***k^{h}wa**, Prinmi **k^{h}wă**).

***-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	*go**ɬæ**[2]	middle
*g-ray GOD/COPULA	***rA**ɬæ[1]	soul / spirit
*k/gla-k/y/t	*ne**dzɻæ**[1]	drop / fall
*pwaːy	*p^{h}rɑ[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)	*ʑ^{w}i[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	***dzɻi**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	*t^{h}e**ʂiu**[1]	die, dead
*b-ləy	*z̨iu[2]	four
*kləy	*htʃiu[2]	feces
*m-t(w)əy	*dʒiu[1]	water, river
*s-kəy	*ɕ^{w}iu[1]	borrow (money)
*nəy SUN	*niu	day, day's (work)
*s-ləy	*nts^{h}o**ɬiu**[1]	flea

The two examples of ***-wəy**, BLOOD and DOG, both show the same correspondences as ***-əy**.

PTB	PEr	gloss
*s-hywəy	*ʂiu[1]	blood
*d-k^{w}əy	*tɕ^{wh}iu[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	*l**i**t^{h}o/lot^{h}o[1]	grandchild
*g-ləy	*me**li**/me**le**[2]	wind[18]
-e		
PLB *tsəy[2]	*ts^{h}e[2]	wash (clothes)
PLB *ʔ-dzəy[2]	*de**ts^{h}e**[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 ***meŋk^{h}e***[2] 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	*__melje__	earth, ground
*d/s-ləy	*__sjelje__	bow (weapon)
*s/m-grəy	*ne__lje__/ne__ɬje__[1]	melt, dissolve
*b-ləy > PLB *p-re	*pjẽ	run
*ts(y)i/əy/ay	*__tɕʰetɕʰe__[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	*__ɬje__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:

[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, GRANDCHILD, 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	*ts^{h}e**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	*nts^{h}ɑ[1]	liver
Lahu šɛ < PLB *sin	*de**nts^{h}ɑ**[1]	pull / drag / lead (a 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 ≍ *k-yum	*jẽ[1]	house
*m-kum ≍ *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 **sɿ** (see below).

PTB	PEr	gloss
*g(l)im ~ *g(l)um	*net**ɕʰiu**/ net**ɕiu**[1]	set (of the sun)
cf. Lahu chɛ < PLB *kyim/kyum	*de**tʂʰe**	flavorful
cf. Lahu phɛ < PLB *pim/pum	*kʰe**pʰui**[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]	*æ**ja**[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)	***myi**hkwo[1]	throat
*m-kyit	***tʃʰitʃʰi**[1]	move

PTB	PEr	gloss
*kriːt	*dʐe[1]	grind
*tsiːt	*ts^{h}ẽ[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}	*de**ʃo**	thirsty
*m-dzu/ip SUCK	*nts^{h}ew	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-, *-ɔw, *-o

***-u**

In general, PTB ***-u** seems to yield PEr ***-u**:

PTB	PEr	gloss
*d-bu	*w**i**lje/w**u**lje[2]	head
*ru	*r**du**mo[2]	crazy person, lunatic
PLB *ʔ-blu[1]	*p^{h}ru	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	*ht**ɕ**i^{1}	vagina
*dz(y)u	*rwa**tɕo**^{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	*me**ŋk^{h}e**^{2}	smoke
*pəw PRICE	*$\mathbf{p^{h}}$**e**k^{h}wæ^{1}	expensive
*bəw, *zril > PLB *di^{1}	*b**e**di^{1}	insect / worm
*r-məw	*me/mo	sky
-iu		
*kyəw	*de**tʃ^{h}iu**^{1}	sweet
Lahu mɛ̂-chɔ̂-ma < PLB *kyəw	*$\mathbf{tʃ^{h}}$**iu**mæ	widow
*nəw	*dʒa**niu**^{1}	breast, milk
-u		
*ŋəw	*ŋu^{1}	cry, weep
*r-kəw	*mp^{h}ru^{1}	steal
*pəw	*æp^{h}u^{1}	grandfather
*pəw	*æpu	grandfather
-o, -ẽ		
PLB *m-dzəw^{2}	*n**dzo**mo^{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	*de**ts^{h}u**^{1}	fat
*tsyow	*de**tsu**^{1}	boil
*tsow THORN	*ndzu	pricked (on a thorn)
*mow	*mu^{1}	do / make
*t/dow-n, *tu:k	***rdurdu**	thick
*s-r(y)ik, *s-row NIT	***ʂew**mæ^{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-kyu:r ⪤ *s-kwya:r	*de**tʃew**^{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	*mui[2]	feather, hair (of body)
*d-ŋul	*ŋui[1]	silver
*s-krul	*tʂu[1]	sweat
*s-b-ruːl	*beri[2]	snake
*ril ⩙ *rul	*ɣ**e**niu/ɣ**o**niu[1]	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	*sjẽ[2]	three
*lum	*-lje	round object
*zum ⩙ *zuŋ	*zẽ[1]	use
*dzum ⩙ *tsum	*dzʐe	pair
*tsum ?	*tsumu/tsumo[2]	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)/du[1]	horn
PLB *p(l/y)uːŋ[2] (MLBM 62)	*pʰru	face
*m-bruŋ ⩙ *m-bruk; <WT ḥbrug?	*mbru[2]	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 ?	*p^{h}o[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	***k^{h}ok^{h}o**[1]	curved / crooked / bent
*gyuk	*ʤu[1]	waist
*d-kruk	*tʂ^{h}u[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	*tɑ**so**[1]	morning
PLB *tok TSR #15	*nt**h**ont**h**o[1]	peck at (of a chicken)
*mit, *l-ko(k)	*myi**hkwo**[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	*nts[h]u[2]	lung
*s-mut	*de**mwo**[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	*k[h]e**jo**	sleep, lie down
*m-pup	*ŋe**p[h]wo**[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 **jimɑ**[1] 'dream', probably from ***yip**.

***-us**

There is one form for this rhyme, suggesting ***-us** > ***-u**.

PTB	PEr	gloss
*g-rus	*ri**ku**/rik[h]**u**[1]	bone

* * *

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	*bi[2]	bee, honey
*ba	*bi[1]	thin
*ba ?	*debæ[1]	carry on the back
*byam	*bjẽbjẽ[1]	fly (v.)
*b(w)ar ⨯ *p(w)ar	*debræ[1]	burn
PKC *puar	*debro[1]	feel bloated (stomach)
PKC *ɓuay	*bibi[1]	busy
*bəw, *zril > PLB *di[1]	***be**di[1]	insect / worm
*m-bup ROT / SPOTTED / WRITE	*bu[1]	multicolored / patterned (cloth)
*s-b-ruːl	*beri[2]	snake
d		
*dak	*de[1]	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	*de**ɣ**ui[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^{h}**u**[1]	bone
*g(l)im ≋ *g(l)um	*netɕ^{h}iu/ netɕiu[1]	set (of the sun)

[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	*sẽp^{h}ja^{1}	leaf
*py(w)ak	*p^{h}ja	sweep
*pwaːy	*p^{h}rɑ^{2}	chaff / bran
*pran/t	*tsjẽp^{h}rje^{1}	braid / plait

PTB	PEr	gloss
*pəw	*æp^{h}u^{1}	grandfather
*pəw	*æpu	grandfather
*pəw PRICE	*p^{h}ek^{h}wæ^{1}	expensive
*m-pup	*ŋep^{h}wo^{1}	flip over, reverse
*p^{w}a, PLB *ba^{1} ?	*pwEpwE^{2}	patch (clothing)
t		
*ta	*t^{h}æ^{1}	neg. imp.
*taŋ	*tɕ^{h}opu^{2}	pine
k		
*b-ka	*dek^{h}ra^{1}	bitter, salty
*ka:k	*ts^{h}ek^{h}ɑ^{1}	sputum, phlegm
PLB *k-ra^{2}/^{3}	*t^{h}ek^{h}wɑ^{1}	win
*kam (≭ *ka:p)	*k^{h}e	draw water
*kuk	*k^{h}ok^{h}o^{1}	curved / crooked / bent
*kwak	*k^{h}o	bowl
*kwak	*k^{h}wælæ/k^{h}olɑ^{1}	bowl
*kwa ?	*ŋ(u)k^{h}wɑ	hoof
k + C		
*kram	*tʂ^{h}e	fence (bamboo / twig)
*kram	*xu**tʂ^{h}e**^{1}	garden (plot)
*d-kruk	*tʂ^{h}u^{2}	six
*kyəw	*detʃ^{h}iu^{1}	sweet
*m-kyit	*tʃ^{h}itʃ^{h}i^{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
*p^{w}a, 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
*kri:t	*dzɻe^{1}	grind

PTB	PEr	gloss
*k-rap	*ɣrɑ/ge^{1}	needle
*yəw/PLB *(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-p^{w}a	***bu**ts^{h}ɑ^{1}	axe
*m-t(w)əy	*dʒiu^{1}	water, river
*m-twa	*dʒwæ	span
*k^{w}əy ? *(t)si/up?	*(xwɑjo)**ntʃ^{h}o**^{1}	nest (bird)
*m-ts(y)il	*dʑiki^{1}	saliva
*m-pat	*mp^{h}i^{2}	vomit, spit
*k-r-p^{w}at	*mbi^{1}	leech
*s-p^{w}al	*mp^{h}je^{1}	ice
*s-p^{w}ak	*khe**mp^{h}e**	hide oneself
PLB *tak^{H}	*nt^{h}wɑ^{1}	sharp, pointed
PLB *tok TSR #15	*nt^{h}ont^{h}o^{1}	peck at (of a chicken)
*kyiːn	*ndʒew	weigh (v.)
*kəw	*meŋk^{h}e^{2}	smoke
*m-ka, Mpi nko	*ŋgæ^{1}	door
*m-kum ⪤ *m-kim	*ŋgje^{2}	pillow
PLB *m-k-rəy	*ŋgriupje^{1}	skin
*r-kəw	*mp^{h}ru^{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.

[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	*htũ^{2}	thousand; ten cents
*r-tsyəy	*hte	count
*s-tu	*htɕi^{1}	vagina
PQc *N/s-tsak	*hto/htæ	jump
*g/kuŋ, *kor	*hko^{1}	hole
*s-kaːk	*sẽ**kæ**le^{1}	branch / twig[27]
*kləy	*htʃiu^{2}	feces
*s-kyuːr ≷ *s-kwyaːr	*detʃew^{1}	sour
*krəy, PLB *ʔgrəy^{1}	*kriu^{2}	gall bladder[28]
*s-krul	*tʂu^{1}	sweat
*kraŋ	*htʂomo^{2}	strength (physical)
*s-glak ≷ *klak	*tʃew^{1}	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 ?	*p^{h}o^{1}	escape / run away
*plu	*deliu^{1}	white
*pla, PLB *C-la^{1}	*li^{1}	ashes
*bliŋ	*de**brɑ**^{1}	full
PLB *p(l/y)uːŋ^{2} (MLBM 62)	*p^{h}ru	face
PL *m-laŋ/plaŋ^{1} 'husband' (PL 217)	*mp^{h}rozæ^{1}	young lad / chap
*m-la-y	*mrɑ^{1}	bow / arrow[29]
*b-ləy, PLB *p-re	*pjẽ	run

[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 ***ʔgrəy^{1}**, since Lahu has a plain initial + mid tone (**ki**), 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	*t^{h}egri^{1}	hear
PLB *ʔgrəy^{1}	*kri^{1}	star
*krəy, PLB *ʔgrəy^{1}	*kriu^{2}	gall bladder
PLB *m-k-rəy	*ŋgriupje^{1}	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 [rʑ]*) 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	*dzʐe^{1}	grind
*s-krul	*tʂu^{1}	sweat
*kraŋ	*htʂomo^{2}	strength (physical)
*kram	*tʂ^{h}e	fence (bamboo / twig)
*m-krak, PLB *m-prak^{H}	*(n)tʂ^{h}o^{1}	scratch
*kram	*xu**tʂ^{h}e**^{1}	garden (plot)
*kriːt	*dzʐe^{1}	grind
*d-kruk	*tʂ^{h}u^{2}	six
*s-krul	*tʂu^{1}	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	*de**ŋgwo**^{1}	pick up
*g-raŋ	***gwE**mæ^{2}	back
*g-rus	*ri**ku**/ri**k^{h}u**^{1}	bone[30]
PLB *k-ra$^{2/3}$	*t^{h}ek^{h}wɑ^{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	*ʐi̱u^{2}	four
*s-hywəy	*ʂiu^{1}	blood

Note that the reconstruction of PEr ***riu*** WRITE as opposed to ***ʐi̱u*** FOUR (i.e. a distinction between ***r-*** and ***ʐ-*** 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↓; ʐo^{55}ʐo^{55}	rə	ʐi̱	ɣɯ^{ɪ35}	*b-rəy	write
*ʐi̱u^{2}	ʐo↓; ʐo^{33}	`ʐe	`ʐi̱	ʐu^{35}	*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	*detʃ^{h}iu^{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**dzɻæ**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

PTB	PEr	gloss
*tsik	*ts^{h}i^{1}	joint
*tsow	*dets^{h}u^{1}	fat
*tsa-t	*ts^{h}æ^{2}	hot
dz		
*m-dzam	*dzjẽ^{1}	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-dzəw^{2}	*ndzomo^{2}	official (government)
*m-dzu/ip SUCK	*nts^{h}ew	squeeze (for milk)
*m-tsak DRIP	*nts^{h}e^{2}	leak
*tsut	*nts^{h}u^{2}	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	*tsjẽ^{1}	hair
*tsum ?	*tsumu/tsumo^{2}	mortar
PLB *ʔ-dzəy^{2}	*dets^{h}e^{2}	cough
*ts(y)ap	*dzẽ^{1}	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	*dzi^{2}	eat
*tsyap or PLB *ʔ-dzak^{L} ?	*k^{h}etsu	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	*rwa**tɕo**[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	***dʑi**ki[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	*ʑa[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.

[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-k^{w}əy	*tɕ^{wh}iu^{2}	dog
*s-kəy	*ɕ^{w}iu^{1}	borrow (money)
*s-la	*ʑa^{1}	pants / trousers

Finally, there remain several cases of seemingly unconditioned, sporadic palatalization:

PTB	PEr	gloss
*taŋ	***tɕ^{h}o**pu^{2}	pine
*r-pak	*sə̃**p^{h}ja**^{1}	leaf
*s-tu	*htɕi^{1}	vagina
*duk ⪤ *tuk	*dʑu^{1}	poison
*r/N/d/s-ga	*gæ/gja^{1}	like / love

8.2.8 Fricatives

PTB	PEr	gloss
s		
*g/b-sat	*si^{1}	hit, kill
*r-sak	*sə̃^{1}	air, breath, steam
*səy	*t^{h}eʂiu^{1}	die, dead[33]
*si(y)	ʂi^{2}	comb (v.)
*sey	*sə̃**se**^{1}	fruit
*g-sik	*si	new
*siŋ ⪤ *sik	*sə̃^{1}	wood / log
PLB *C-sip^{L}	*deʃo	thirsty[34]
PLB *si^{2}	*desu^{1}	sharpen, whet (a knife)
*su	*se^{2}	who
PLB *C-sok	*tɑso^{1}	morning
*g-sum	*sjə̃^{2}	three
z		
*za	*zi^{2}	son
*zum ⪤ *zuŋ	*zə̃^{1}	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	*nts^{h}ɑ^{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
*p^{w}ak, 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.

[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	*jõ[1]	sheep
*k-yim ⪤ *k-yum	*jẽ[1]	house
*yip + *mak	*jimɑ[1]	dream
(*s-yip ⪤ *s-yup	*k[h]ejo	sleep, lie down
*z(y)əy ?, cf. Lahu i	*jiji[1]	small
*yəw ?	*ɣo[1]	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-*** > **ʑ**. 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	*k[h]elo[1]	wait
*g-lak	*le(pje)	hand
*l(y)ak	*lje[1]	good
*g-lwat	*t[h]ele[1]	release / set free
*lam ?	*liu	fathom
*k-la	*læ[1]	tiger
*la-y	*læ[1]	come
*d/s-ləy	*sjelje	bow (weapon)
*m-ley ⪤ *m-ləy	*melje	earth, ground
*b-ləy	*lit[h]o/lot[h]o[1]	grandchild
*g-ləy	*meli/mele[2]	wind
PLB *ʔ-li[1]	*le[1]	old
*s-loŋ	*lolo/lulu[1]	bark (of dog)
*s-luk/ŋ	*bulo	maggot
*r-lung, *k-luk	*lo[1]	stone
*lum	*-lje	round object
sl > ɬ		
*s/g-la	*ɬæp[h]e[1]	moon

PTB	PEr	gloss
*m/s-laːy	*go**ɬ**æ[2]	middle
*s-ləy	*nts^{h}o**ɬiu**[1]	flea
*s-lay ⩵ *s-ley	***ɬje**ki[1]	ladder
*m-hla / WT lha	***ɬ**æ	spirit, deity
sl > ht		
*s-l(y)a	*ht(s)ipi[2]	tongue
*m-liŋ	*ht(w)ɑrA[2]	neck[36]
other		
*s-la	*$\not{z}$a[1]	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	*ri[1]	laugh / smile
*k-rak	*rwɑ[1]	chicken
*g/p-rwak	*bərA/burA	ant
PLB *ra[3]	*rA[1]	get / obtain
*g-ray GOD/COPULA	***rA**ɬæ[1]	soul / spirit
*b-rəy	*riu[1]	write
*rəy	*re[1]	water / soup
*g-ruŋ	*ru(bu)/du[1]	horn
*g-rus	*riku/rik^{h}u[1]	bone
mr		
*k-m-raŋ	*m(b)ro[2]	horse
*m-raŋ	*mbro	high / tall

Some forms appear to have developed PEr ***ɣ-** from PTB ***r-**.

PTB	PEr	gloss
*ryaŋ ?	***ɣwE**mo/ æ**ɣwE**[1]	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)	*ʑ^{w}i[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 SCATTER	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	*t^{h}eme[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	*t^{h}emo/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-mi:t	*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	*ɒreni[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(:)p	*niu[1]	west
*g/s-nis	*ne[1]	two
*nəw	*dʒaɲu[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 ***ȵ-** 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	*ts^{h}ehĩ[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/ʑu)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	p^h		(m)b/mp^h
*t	t^h	ht	nt^h
*k	k^h	hk	ŋg, ŋk^h
*b	b	p	mb
*d	d	t	
*g	g	k	ŋg
*kr	$tʂ^h$	htʂ	$ntʂ^h$
*ky, *kl	$tʃ^h$	tʃ	ndʒ
*tw			dʒ
*s	s		nts^h
*z	z		ndz
*sy	ʃ		
*sw	x		
*sr	ʂ		
*ts(y)	ts^h	ht	dz/nts^h
*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.

[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, zm̩a	羌 Qiāng, Ch'iang
Southern Qiang	ma	
rGyalrong	kəru, kərə	嘉戎 Jiāróng, Gyarong
Lavrung	?	拉烏戎 Lāwūróng
Ergong	stɛ wu va	尔龚 Ěrgōng, 道孚 Dàofú, Stau, Horpa
Choyo	tɕo^{55}yo^{55}	卻隅 Quèyú, 却域 Quèyù, formerly mistakenly identified as 扎巴 Zhábā
nDrapa	ndzm̩a^{33}pa^{53}	扎巴 Zhábā, 扎坝 Zhábà
Guiqiong	gu^{33}tɕ^{h}ɔ̃^{55}	贵琼 Guìqióng
Minyak	mə^{33}n̩æ^{53}, mu^{55}n̩a^{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}, lɵ^{55}zu^{55}	吕苏 Lǚsū, Western Ěrsū
Namuyi	næ^{55}mu^{33}zɻ^{31}, na^{53}mʑi^{53}	纳木依 Nàmùyī, 纳木义 Nàmùyì, 纳木兹 Nàmùzī
Shixing	ʂɻ^{55}hĩ^{55}	史興 Shǐxīng, Shuhi
Prinmi	p^{h}zm̩ə̃^{55}mi^{55}	普米 Pǔmǐ, Prmi[3]

Table 9.1: Alternate language names

[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).

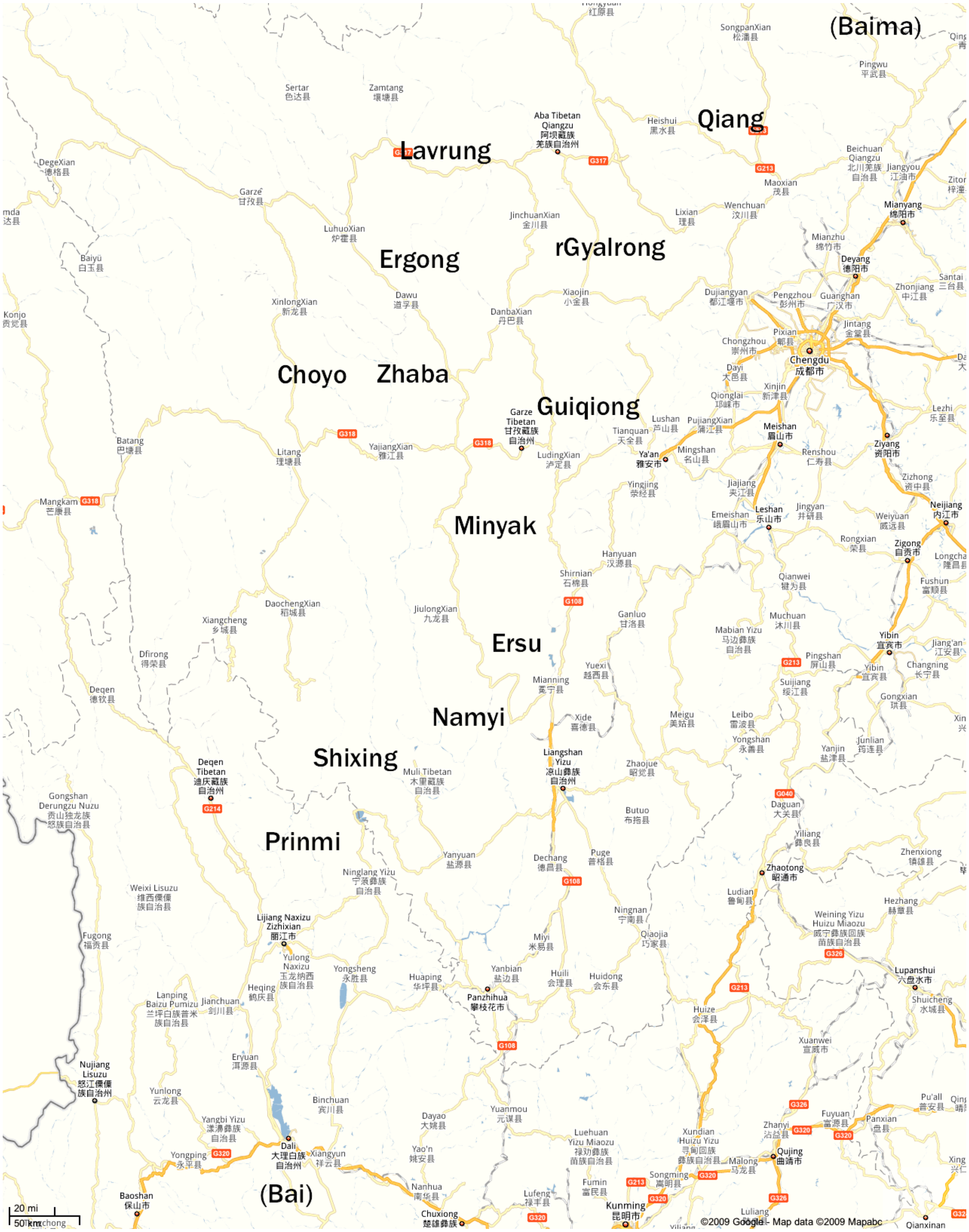


Figure 9.1: Map of Qiangic-speaking areas

	County	Chinese	Tibetan	Languages
Ngawa	Barkam	马尔康 Mǎ'ěrkāng	འབར་ཁམས་	rGyalrong, Lavrung, Ergong
	Heishui	黑水 Hēishuǐ	ཁོར་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་ཨྱུ་	rGyalrong
	Zamtang	壤塘 Rǎngtáng	འཛམ་ཐང་	rGyalrong, Lavrung, Ergong
Garzê	Danba	丹巴 Dānbā	རྫོང་བཱ་	rGyalrong, Ergong
	Dawu	道孚 Dàofú	རྟ་འུ་	rGyalrong, Ergong, Choyo, nDrapa
	Jiulong	九龙 Jiǔlóng	བརྒྱད་ཟུང་	Minyak, Ersu, Namuyi, Prinmi
	Kangding	康定 Kāngdìng	དར་མདོ་	Guiqiong, Minyak
	Litang	理塘 Lǐtáng	ལི་ཐང་	Choyo
	Luhuo	炉霍 Lúhuò	བཀཀ་འཕོ་	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	སྨུ་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.

[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.

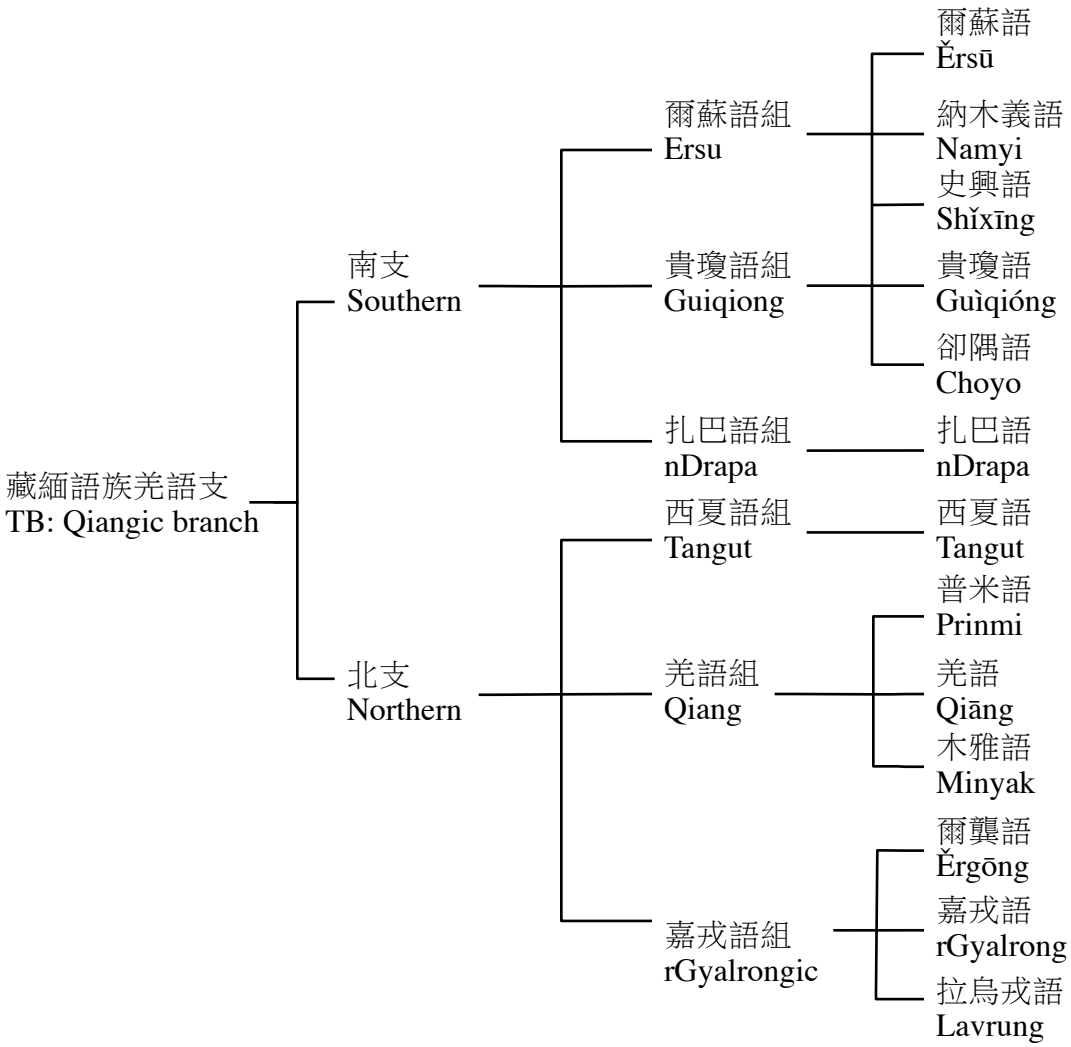


Figure 9.2: Subgrouping of Qiangic from Sūn (2001)

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.

[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)

[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.

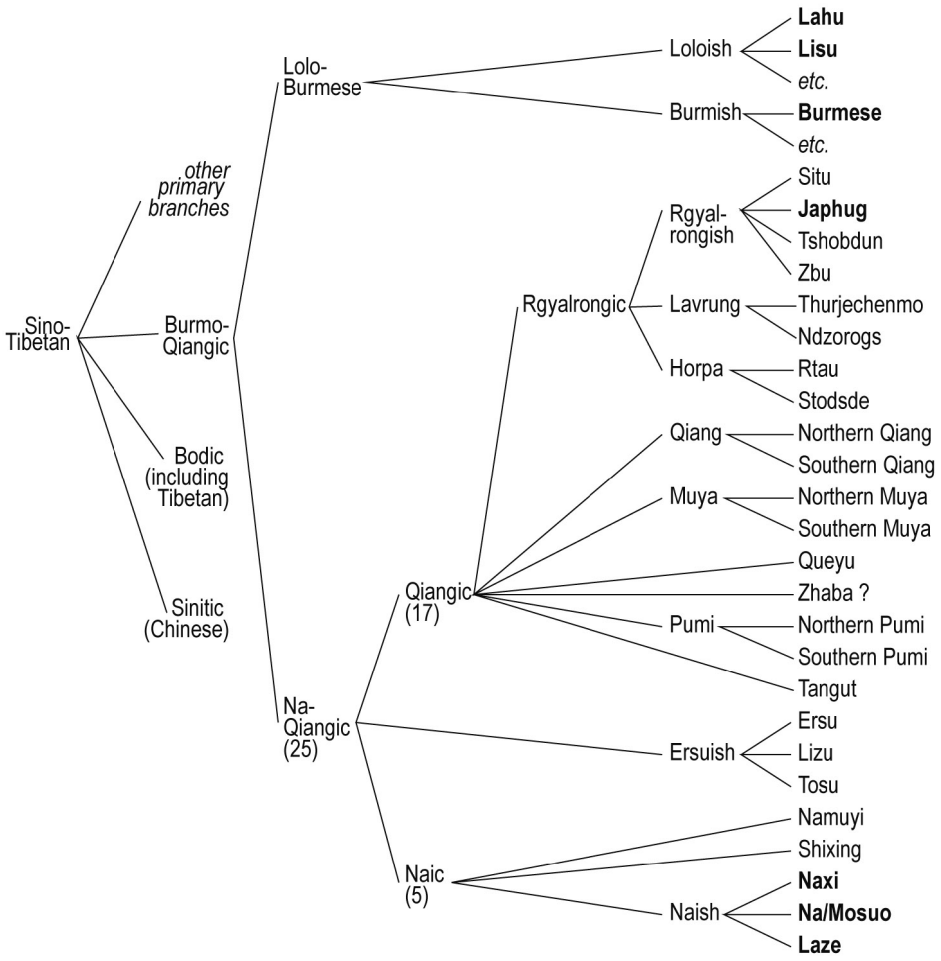


Figure 9.3: Subgrouping of Burmo-Qiangic from Jacques and Michaud (2011)

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}uəɹ^{55}/ < *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} dzɳ^{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

[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".

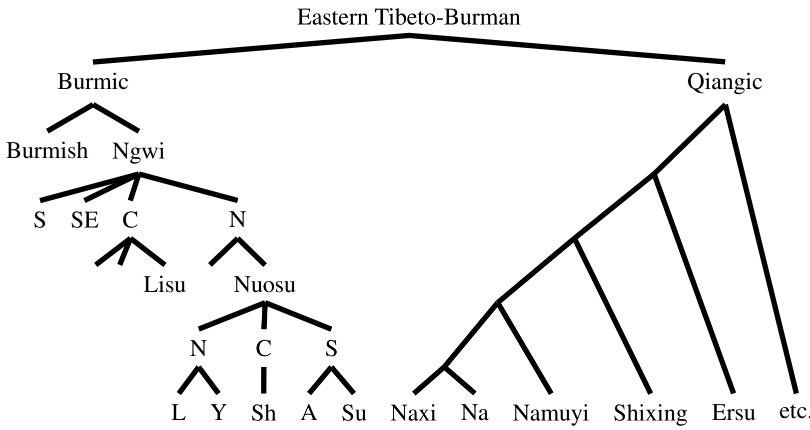


Figure 9.4: Subgrouping of "Eastern Tibeto-Burman" from Bradley (2008)

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 ***ŋui**^{1} 'silver'
2. PEr ***diu*ʈʂ^{h}e**^{1} 'year' (the retroflex initial could descend from a ***kr-** cluster; note the rhotic vowel in Namuyi form **k^{h}uə**^{ɹ55})
3. PEr ***mbrɑ**^{1} 'urine'
4. Zeluo Ersu ***phɛ**^{55}**ɬi**^{55} 'winnow'[12]
5. PEr ****mwE*dzæ**^{1} '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 ***k^{h}endo**^{1} '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

[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 **pja̠ŋ**^{21}, Nusu (Bijiang) **piɑ̃**^{35}, 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
	*zi**kæ**	*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]
*tʰaC$_1$	*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
pɛ̀	*bya	***mbimbi²**	divide / share (things)
ɔ̀-cɛ̄	*dzya ?	*(n)dʐi(u)[2]	ear / spike
qha	*ka	*kʰæ	rice (cooked)
vəʔ-qâ	*ga	***gæ**me[1]	clothing / garment
bù	*mbwa	*mbrɑ[1]	loud
phɔ̂	*paŋ	*pʰwo	side, direction
khɔ̂	*kraŋ	*tʂʰe[1]	sound
qhɔ	*kaŋ	***kʰe**pʰe/ **kʰu**pʰo[1]	inside
yàʔ- 'today'	*yak	***ja**niu[1]	yesterday
šɛ	*sin	*de**ntsʰɑ**[1]	pull / drag / lead (a cow) along
chɛ	*kyim/kyum	*de**tʂʰe**	flavorful
phɛ	*pim/pum	*kʰe**pʰui**[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:

[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}eɕ^{w}iu**lɑ**	slanted	(Shixing ***lɛ^{33}dʑyɛ^{33}dʑyɛ^{55}***)
*ndaC$_2$	*k^{h}endo[1]	see	(Namuyi **ndo^{53}**, Shixing **dɔ̃^{33}**)
*saC$_2$ ‘study’	*soso	learn, teach	(Namuyi **so^{33}so^{55}**)

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	*dʒiu[1]	water	*m-t(w)əy
*k^{h}i	*detʃ^{h}iu[1]	sweet	*kyəw
*rsi	*t^{h}eʂiu[1]	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 ***sẽ^1** ‘wood’.) On the other hand, Ersuic ***ji*ma^1** 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 **tɕe^{35}** 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 ***tɕe^1** 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**.

[14]Also compare Naxi **mby˧ly˧** with Ersu **nbɛ^{33}li^{55}**, 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	Lǔsū	Nàmùyī	nDrapa	Shǐxīng	Tibetan
kidney	ʂpu lu	tɯm	pɐ^{55}lɐ^{53}	pu^{11}lũ^{55}	dɔ̃^{35}tʂɑ^{53}	nbo^{33}ly^{53}	fu^{33}ly^{35}	vʌ^{33}le^{55}	bɔ^{55}hĩ^{33}	mkhal ma
urine	bi	rmbi	bi^{24}	bẽ^{35}	ɛ^{55}ʃʅ^{55}	nba^{ɹ35}	mbɛ^{33}	ʑʌ^{13}	phu^{33}læ^{55}	gcin
pus	spə sɑ	spɯ	pə̰^{24}	pu^{55}	pu^{53}	pu^{35}	mbɛ^{35}	fʌ^{13}	bã^{55}	rnag
sharpen	sə	fse	to^{55}si^{33}	khɯ^{11}sy^{55}	sʅ^{55}	te^{53}su^{53}	sʅ^{35}	ə^{55}sʅ^{33}sʅ^{33}	suɜ^{53}	rdar
forget	rmə	jmɯt	thɐ^{55}mə^{53}	a^{11}mã^{11}	ʂo^{33}mu^{55}tɑ^{33}	the^{33}me^{53}	ɲi^{33}pa^{53}	tə^{55}mə^{55}	lɜ^{55}ma^{55}	brjed
year	pə	pa	kui^{53}	ko^{35}	ŋɔ^{53}	dʐu^{53}tʂhɯ^{31}	kuə^{ɹ55}	wo^{55}	khu^{53}/bə	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 ***diutʂʰe**^{1} ‘year (with numerals)’, with the second syllable in ***diu*ʈʂ^{h}*e***^{1} 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 **ji**^{31} ~ **ȵi**^{31} 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 ***ʈʂhɯ˧*/be˦**, Na ***tshi*.i**$^{(M)}$, Laze ***tshɯ˧*/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.
belly	肚	ji^{55}phɛ^{55}	也怕
bone	骨	ə^{ɪ33}qo^{55}	勒骨
chest	胸	ə^{ɪ55}kho^{55}	勒庫
cloud	雪	ji^{55}	衣
cloud	雲	tɕe^{35}	借
ear	耳	na^{55}pi^{55}	乃比
earth	地	me^{33}li^{55}	梅利
eye	眼	ndo^{33}sʮ^{53}	奪索
fire	火	me^{53}	麥
fish	魚	y^{55}	魚
foot	脚	dzɻ^{33}dzɻ^{33}	知之
frost	霜	tʂʮ^{35}	掣
hair	髮	tɕi^{53}	接
hand	手	le^{33}pho^{55}	勒迫
head	頭	ɣu^{33}li^{55}	物利

gloss		form	translit.
horse	馬	mbzə̟^{53}	卜
lungs	肺	ntshu^{53}	初
monkey	猴	mi^{55}dzʮ^{55}	迷自
moon	月	ɬɛ^{33}phe^{55}	納魄
one	一	te^{55}	得
rain	雨	ŋguɛ^{55}(ʑu^{55})	掛
sheep	羊	ɲo^{35}	藥
smoke	煙	me^{55}ŋkhɯ^{53}	悶客
star	星	me^{55}tʂʮ^{35}	墨治
stone	石	lo^{33}bo^{55}	勒布
ten	十	tshe^{55}tɕhi^{55}	擇且
thunder	雷	me^{55}dʑi^{55}	墨這
tooth	齒	fu^{33}mɛ^{55}	胡麻
water	水	dzu̟^{35}	者
wind	風	me^{55}li^{55}	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.
arrive	到	pɑ^{55}lɑ^{55}	摆大
belly	肚	do^{55}p^{h}ɑ^{55}	度怕
bone	骨	jo^{55}ku^{55}	玉古
cloud	雲	tɕɑ^{13}	甲
earth	地	dɑ^{55}	大
eye	眼	mi^{55}sʮ^{33}	迷思
fire	火	mi^{33}	祕
fish	魚	ju^{55}	淤
foot	脚	gu^{55}du^{33}	穀獨
gold	金子	ɳi^{55}	你
hail	雹	ts^{h}u^{13}	族
hair	髮	tsɑ^{13}	雜
hand	手	lo^{33}ko^{55}	鑼鍋
have/exist	在	dʑo^{55}	觉
head	頭	ʁu^{55}dʑo^{33}	務鞠
horse	馬	mo^{33}	摸
iron	铁	ʂɑ^{55}	沙
liver	肝	ɕe^{55}p^{h}u^{33}	謝哺
lungs	肺	ts^{h}e^{33}p^{h}u^{33}	擇哺
monkey	猴	mi^{33}	密

gloss		form	translit.
moon	月	ɳe^{33}ma^{55}	良麻
nose	鼻	ɳɑ^{33}ku^{55}	啞孤
one	一	tɕi^{33}	幾
rain	雨	wɑ^{55}dʑu^{33}	凹鞠
s/he	他	the^{55}	特
see	看见	do^{55}	躲
sheep	羊	jo^{35}	喲
skinny	瘦	qɑ^{55}	呷
smoke	煙	me^{55}ŋkhɯ^{53}	麥卡
snow	雪	je^{33}	噎
star	星	ki^{13}	庚
stone	石	nio^{55}bu^{33}	路補
tael	一两	tɕi^{55}lo^{55}	计诺
ten	十	tɕ^{h}i^{55}	齊
thunder	雷	me^{33}dʑi^{33}	墨吉
tooth	齒	ɕe^{55}mɑ^{33}	謝馬
water	水	vu^{33}	威
wear	穿	ve^{31}	歪
wind	風	me^{33}li^{55}	墨利
write	写	zɻ^{55}zɻ^{55}	认

Appendix B

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(10)	and	***læ¹**	34, 123
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(305)	grass	***ʐu^{1}**	55, 102
(306)	grind	***dzʐe^{1}**	52, 111, 179, 188, 191, 191
(307)	grow, grow up	***k^{h}wæ^{1}**	65, 131
(308)	gruel / porridge	***ts^{h}ɑwɑ^{1}**	37, 133
(309)	guard / defend	***ʂu^{1}**	54, 102
(310)	guest	***wra^{1}**	31, 85
(311)	guide, lead (the way)	***ʃu^{1}**	56, 102
(312)	gum (“tooth-red”)	***xuini^{1}**	49, 91
(313)	hail	***mps^{h}u^{1}**	25, 100
(314)	hair	***tsjẽ^{1}**	43, 107, 169, 194

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(315)	hair / down	***dʒu**	58, 104
(316)	half	***hke**	62, 112, 139
(317)	hand	***lepʰew**^{1}	18, 34, 109, 113
(318)	handful (of rice)	***ntʂʰe**^{1}	53, 111
(319)	hang	***pja**^{1}	22, 126
(320)	happy / excited	***tʰegew**^{2}	68, 113
(321)	hard	***kwɑkwɑ**^{1}	67, 132
(322)	hat	***mbo**^{1}	25, 115, 118, 137
(323)	hatch / incubate	***hẽ**^{1}	74, 89, 183, 187
(324)	have, exist (animate)	***dʒo**^{1}	59, 118, 146, 170, 193, 195
(325)	have, exist (container)	***dzi̯u**^{1}	52, 98, 146
(326)	have, exist (general/abstract)	***niu**^{1}	50, 97, 146, 176, 201
(327)	have, exist (immovable)	***hã**^{1}	74, 89, 146
(328)	have, exist (money)	***bo**^{1}	20, 115, 146
(329)	have, exist (movable)	***dʒwɑ**^{1}	57, 132, 146
(330)	head	***wilje/wulje**^{2}	70, 102, 106, 179, 187
(331)	heap (e.g. of dung)	***bje**	20, 105, 139
(332)	hear	***tʰegri**^{1}	60, 79, 165, 191
(333)	heart	***sini/htimi**^{1}	32, 93, 174, 202
(334)	heavy	***dede**^{1}	30, 109
(335)	help	***ɣwoɣwo**^{1}	70, 77, 121
(336)	hemp	***tse**^{2}	38, 110
(337)	herd, put out to pasture	***hkui**^{1}	62, 87
(338)	hide (sthg.)	***tʰekiʃi**^{1}	56, 66, 95
(339)	hide oneself	***khempʰe**	24, 108, 171, 189
(340)	high / tall	***mbro**	23, 25, 77, 82, 170, 199
(341)	hill / mountain	***mbje**^{1}	25, 105
(342)	hit (a person)	***dekæ**^{2}	66, 124
(343)	hit, kill	***si**^{1}	41, 94, 165, 196
(344)	hoe	***dzepi/ dzopʰi**^{1}	19, 39, 93, 117
(345)	hold (a pen)	***hte**^{1}	32, 109
(346)	hole	***hko**^{1}	62, 119, 183, 190
(347)	home	***jã**^{1}	49, 90
(348)	honest / well-behaved	***dĩbæ**	30, 90, 122
(349)	hoof	***ŋ(u)kʰwɑ**	66, 132, 168, 188
(350)	hook	***ŋkʰo**^{1}	63, 119
(351)	horizontal	***gjegje**	61, 68, 105
(352)	horn	***ru(bu)/du**^{1}	72, 80, 100, 182, 199
(353)	horse	***m(b)ro**^{2}	23, 26, 82, 170, 199
(354)	host / master	***nɑ-**	33, 125
(355)	hot	***tsʰæ**^{2}	37, 123, 167, 194

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(356)	hot / spicy	***deju**^{1}	48, 103
(357)	house	***jẽ**^{1}	49, 90, 177, 198
(358)	how many	***tʃ^{h}iu**^{2}	57, 99
(359)	hug / embrace	***detwɑ**^{1}	29, 132
(360)	human being, person	***ts^{h}o**^{1}	37, 116, 170, 193, 215
(361)	hundred	***ʑa**^{1}	46, 126, 149, 167, 195
(362)	hungry	***ŋæ**^{2}	64, 125
(363)	hunt	***mumbæ**^{1}	25, 28, 122
(364)	I	***æ**^{1}	73, 125
(365)	ice	***mp^{h}je**^{1}	24, 105, 169, 189
(366)	incense (bark of cypress? tree)	***hpwo**^{2}	26, 120
(367)	industrious / hardworking	***mp^{h}womp^{h}wo**	24, 120
(368)	infect	***tu**^{1}	29, 100
(369)	insect / worm	***bedi**^{1}	20, 30, 94, 108, 180, 185, 186, 215
(370)	inside	***k^{h}ep^{h}e/ k^{h}up^{h}o**^{1}	65, 102, 171, 215
(371)	intestine	***ɣeniu/ ɣoniu**^{1}	50, 69, 97, 119, 182, 200
(372)	iron	***ʃje**^{1}	56, 105, 169, 197
(373)	itch	***dekri**	60, 79, 178
(374)	jar (earthen)	***gje**^{1}	61, 68, 105
(375)	joint	***ts^{h}i**^{1}	37, 94, 136, 178, 194
(376)	jump	***hto/htæ**	32, 123, 172, 190
(377)	key	***k^{h}oji**	66, 119
(378)	kick	***dego**^{1}	68, 119
(379)	kidney	***mbiulje**^{2}	25, 34, 99, 106
(380)	kill (a person)	***ŋgrɑ**^{2}	63, 84
(381)	kill / slaughter (an animal)	***ntʃ^{h}i**^{2}	58, 95
(382)	kind, type	***rbæ**	25, 122
(383)	knee	***pjembje**	19, 25, 105
(384)	kneel	***hke**^{1}	62, 111
(385)	knife	***bɑtʂɑ/butʂɑ**	21, 52, 129
(386)	knock / strike	***ts^{h}uts^{h}u**^{1}	37, 101
(387)	know how to, be capable of	***ndʒo**^{1}	59, 118
(388)	kowtow, make obeisance to	***p^{h}ja**^{2} **mu**	22, 126
(389)	ladder	***łjeki**^{1}	36, 95, 106, 176, 199
(390)	ladle	***ji**^{1}	47, 92
(391)	lake	***ŋk^{h}wæ**^{2}	63, 131
(392)	lame person	***kɑpi**^{2}	67, 93, 132
(393)	last night	***jahãŋk^{h}wo**^{1}	47, 76, 121
(394)	last year	***ja(ji)hĩ**^{1}	47, 76, 88

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(395)	laugh / smile	***ri**^{1}	72, 79, 165, 199
(396)	lay (eggs)	***tɕo**^{1}	45, 118
(397)	lazy	***mætʰu**	27, 29, 100
(398)	leader / chieftain / headman (Mand. ‘tǔsī’)	***(d)ʑapu**	45, 126
(399)	leaf	***sɛ̃pʰja**^{1}	22, 126, 172, 187, 196
(400)	leak	***ntsʰe**^{2}	40, 110, 171, 194
(401)	learn, teach	***soso**^{1}	42, 77, 117, 216
(402)	leech	***mbi**^{1}	25, 93, 165, 189
(403)	left (side)	***leji**^{1}	34, 48, 92
(404)	left over / remain	***gwɑ**^{2}	69, 73, 85, 133
(405)	leopard / panther	***ndzi**^{1}	40, 94, 178, 197
(406)	letter, book	***ndʒiundʑi**^{1}	57, 99
(407)	lick / lap	***dege**^{1}	68, 112
(408)	lid / cover	***xexe**^{2}	71, 112
(409)	life	***kutsʰje**^{1}	43, 66, 107, 119
(410)	lifetime	***te zu**	42, 102
(411)	light (a fire, a light)	***ntsʰo**^{1}	40, 117
(412)	light (weight)	***gwogwo**^{1}	69, 121
(413)	like / love	***gæ/gja**^{1}	69, 124, 166, 186, 196
(414)	liquor	***ɣo**^{1}	69, 119, 181, 198
(415)	liquor (yellow rice / millet / Shaoxing)	***wɑre/ɣɑre**^{1}	70, 81
(416)	listen	***bæni**^{1}	20, 49, 92, 165, 201
(417)	liter, container (measuring, 1-liter-volume)	***læ**	34, 123, 139
(418)	live / reside	***ji/ʑi**^{1}	48, 92
(419)	liver	***ntsʰɑ**^{1}	39, 129, 177, 197
(420)	lock	***ŋkʰo**^{1}	63, 119
(421)	long	***ʂɑ**	54, 129, 177, 200
(422)	lose / mislay, throw away	***pʰi**^{1}	18, 93
(423)	loud	***mbrɑ**^{1}	24, 25, 83, 169, 215
(424)	louse	***ʂewmæ**^{1}	54, 113, 181, 200
(425)	low / short	***nini**	49, 91, 178, 201
(426)	lower (the head)	***neŋgwo**	63, 121
(427)	lower part / lower reaches	***ŋɑpʰo**^{1}	64, 130
(428)	lung	***ntsʰu**^{2}	40, 101, 184, 194
(429)	mace (=0.1 tael)	***tetsje**	43, 107, 139
(430)	maggot	***bulo**	20, 35, 116, 183, 198
(431)	magpie	***tʃʰatʃʰa**^{1}	59, 127
(432)	make the bed	***kʰwo**^{1}	65, 121
(433)	make, fix, repair	***ntsʰæ**^{1}	39, 123

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(434)	many / much	***mje/mja**	27, 126, 167, 200
(435)	mark / sign / boundary line	***nts^{h}æ**	40, 123
(436)	marry (a woman)	***ʃu^{2}**	56, 102
(437)	mat	***wægæ**	70, 124
(438)	meal	***dzæ**	39, 123, 139
(439)	means / way	***ri^{2}**	72, 79
(440)	measles	***mp^{h}rjo^{1}**	24, 25, 117
(441)	meat	***ʃi^{2}**	56, 95, 165, 197
(442)	medicine	***hpje^{2}**	26, 105, 166, 202
(443)	meet / come across	***k^{h}edʑudʑu^{2}**	45, 103
(444)	melon / gourd	***sẽŋgæ^{1}**	63, 124
(445)	melt, dissolve	***nelje/neɬje^{1}**	36, 106, 176, 187, 193
(446)	middle	***goɬæ^{2}**	36, 119, 125, 174, 199
(447)	midnight	***ŋk^{h}wohke^{2}**	63, 121
(448)	millstones	***rat^{h}ɑ^{1}**	73, 128
(449)	mirror	***mjalo^{1}**	27, 116
(450)	mix / blend / mingle	***detʂ^{h}u^{1}**	52, 102
(451)	mole	***ʂinwɑ**	54, 132
(452)	money	***bædzje^{1}**	20, 53, 107
(453)	monkey	***gætʃu^{1}**	58, 68, 104
(454)	moon	***ɬæp^{h}e^{1}**	36, 108, 123, 167, 198
(455)	morning	***tɑso^{1}**	29, 42, 76, 117, 128, 184, 196, 215
(456)	mortar	***tsumu/ tsumo^{2}**	28, 38, 117, 182, 194
(457)	mosquito (relatively small)	***ʂwɑ**	54, 132
(458)	mother	***æmæ^{1}**	27, 125, 167, 200
(459)	mouse	***gojo^{1}**	68, 119, 119, 173, 189
(460)	mouth	***stiupe^{1}**	32, 108
(461)	move	***tʃ^{h}itʃ^{h}i^{1}**	58, 95, 178, 188, 193
(462)	mud	***tʃ^{h}ulje^{1}**	58, 103, 106
(463)	muddy / turbid	***tʃ^{h}u^{1}**	58, 103
(464)	mule	***htæ^{1}**	32, 123
(465)	multicolored / patterned (cloth)	***bu^{1}**	20, 100, 184, 185
(466)	mushroom	***hẽ^{1}**	74, 89, 181, 202
(467)	musk	***lɑhẽ/lahõ**	74, 89
(468)	mute	***kɑ^{2}**	66, 130
(469)	mute, dumb, stupid	***zikæ**	42, 66, 124, 166, 187, 215
(470)	nail	***ledzi/letsɑ^{2}**	35, 38, 129, 195
(471)	name	***mi^{1}**	27, 93, 177, 200
(472)	narrow	***ʐuʐu^{2}**	55, 102
(473)	navel	***tʃwɑpu^{1}**	57, 132, 171, 188, 193

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(474)	near	***(ri)ni**^{1}	49, 72, 91, 176, 201
(475)	neck	***ht(w)ɑrA**^{2}	32, 84, 177, 199
(476)	needle	***ɣrɑ/ge**^{1}	68, 84, 112, 173, 189, 192
(477)	neg. imp.	***t^{h}æ**^{1}	29, 122, 167, 188
(478)	nephew (brother's son)	***zjendʑu/ zindʑu**^{2}	45, 103
(479)	nest (bird)	***(xwɑjo)ntʃ^{h}o**^{1}	59, 118, 133, 176, 189, 193
(480)	new	***si**	41, 94, 178, 196
(481)	next year	***sohĩ**^{1}	42, 88
(482)	night, evening	***ŋk^{h}wo**^{1}	63, 121
(483)	nine	***ŋge**^{2}	64, 112, 148, 180, 187
(484)	nit	**-**	54, 113
(485)	no problems, leisurely	***tosi mæni**	30, 94
(486)	noon	***ndʒo**^{2}	59, 118
(487)	nose	***stim(b)u**^{1}	32, 93, 100, 165, 202
(488)	now	***ɑmja/ɑmjo/ æmi**	27, 126
(489)	obtain, get	***rA**^{1}	73, 84, 167, 199
(490)	official (government)	***ndzomo**^{2}	40, 116, 117, 180, 194
(491)	old	***le**^{1}	35, 109, 175, 198
(492)	old / elderly	***t^{h}emo/ momo**^{1}	27, 115, 170, 200
(493)	old lady	***mɑmo**	27, 115
(494)	old man	***ts^{h}omo**	38, 115, 117
(495)	on (the wall)	***tɕ^{h}a**^{1}	44, 126
(496)	one	***te**^{1}	29, 109, 148
(497)	oneself	***niuniu**^{2}	50, 97
(498)	onion / scallion	***xuibu**^{1}	71, 87
(499)	open	***dexwɑ/ dehkwɑ**^{1}	62, 132
(500)	orphan	***tʃ^{h}iujo**^{2}	57, 99, 118
(501)	other person(s)	***ndzew**^{1}	40, 114
(502)	otter	***ʂe**^{1}	54, 111, 169, 200
(503)	outside	***njap^{h}o/ njop^{h}o**^{1}	49, 127
(504)	owe/lose (money), suffer (illness); hit (a target)	***zo**^{1}	42, 117
(505)	pad	***lu**	35, 101
(506)	paddy fields	***(ju/ʑu)xwɑ**^{1}	48, 71, 133, 166, 202
(507)	pair	***dzʐe**	53, 111, 139, 182, 194
(508)	palm	***lep^{h}ja**^{1}	21, 126
(509)	pants / trousers	***ʑa**^{1}	46, 126, 167, 196, 199

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(510)	patch (clothing)	***pwEpwE²**	19, 114, 169, 188, 188
(511)	peach	***jVsi¹**	48, 96
(512)	pear	***lirV¹**	35, 82
(513)	peck at (of a chicken)	***nt^{h}ont^{h}o¹**	31, 116, 184, 189, 215
(514)	peck, unit of dry measure for grain (=1 decaliter)	***pɑ**	19, 128, 139
(515)	pen in (sheep)	***gje²**	61, 67, 105
(516)	pepper (hot) / chili	***hõ¹**	74, 89
(517)	permit / allow	***wæ¹**	70, 131
(518)	pestle	***-ŋgrɑ²**	35, 61, 63, 84
(519)	pheasant (long-tailed)	***ŋgwæ¹**	64, 131
(520)	pheasant (short-tailed)	***tsexwo¹**	38, 121
(521)	pick up	***deŋgwo¹**	64, 121, 183, 186, 192
(522)	pig	***ɣwo¹**	70, 121, 172, 197
(523)	pillar / column	***dzæp^{h}æ¹**	38, 125
(524)	pillow	***ŋgje²**	61, 64, 106, 177, 189
(525)	pine	***tɕ^{h}opu²**	44, 117, 170, 188, 196
(526)	pitiable / pitiful	***ɕaŋæ²**	46, 125
(527)	plant ash	***ʐu**	46, 103
(528)	play	***gægæ¹**	68, 124
(529)	plow (n.)	***du¹**	30, 100
(530)	plow / till (v.)	***lɑ¹**	34, 128
(531)	pluck (flowers)	***k^{h}ui¹**	65, 86
(532)	point / tip	***wutɕu**	70, 103
(533)	poison	***dʐu¹**	45, 103, 184, 186, 196
(534)	porcupine	***p^{h}ru**	23, 80, 179, 215
(535)	pour (water)	***ʂɑ**	54, 129, 173, 200
(536)	pregnant	***mæntʂ^{h}ew**	53, 113
(537)	press (with palm or finger)	***zẽ¹**	42, 110
(538)	pricked (on a thorn)	***ndzu**	40, 101, 181, 194
(539)	pull / drag / lead (a cow) along	***dents^{h}ɑ¹**	40, 129, 177, 215
(540)	pull down (a house), untie	***netʃ^{h}o¹**	59, 118
(541)	pull up (weeds)	***tsẽ**	38, 110
(542)	puncture (sthg.)	***nedʐu**	52, 102
(543)	pus	***piu¹**	19, 99, 177, 186
(544)	push / shove	***t^{h}edʐo¹**	45, 118, 172, 195
(545)	put (into a container)	***nekwo¹**	67, 121
(546)	put in order / arrange	***dʐwɑ**	53, 132
(547)	quake (earth)	***ʐo¹**	46, 118
(548)	rabbit	***myidzi²**	28, 94
(549)	rain	***rgwæ¹**	62, 131, 168, 186

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(550)	rainbow	***mek^{h}ɑ^{1}**	65, 129
(551)	raw / uncooked	***dzjɛ̃dzjɛ̃**	43, 107, 177, 194
(552)	red	***deni^{1}**	49, 91, 174, 201
(553)	relatives	***ɣuini/ ɣuindzA^{1}**	61, 69, 86, 92, 125
(554)	release / set free	***t^{h}ele^{1}**	35, 109, 169, 198
(555)	remember	***k^{h}ents^{h}æ**	40, 123
(556)	rescue / save	***ŋeʂu^{1}**	54, 102
(557)	rest	***breni^{1}**	49, 91, 165, 201
(558)	return (a pen)	**-**	71, 133
(559)	return, go back	***dʐ^{w}ew^{1}**	47, 113
(560)	rib	***-ro**	72, 82
(561)	rice (cooked)	***k^{h}æ**	65, 124, 166, 215
(562)	rice (paddy), seedling (rice)	***dzæ^{1}**	39, 123
(563)	rice (uncooked)	***ntʃ^{h}ew^{1}**	57, 113
(564)	rich	***djemo^{1}**	30, 116
(565)	ride (a horse)	***ndze^{1}**	40, 110, 174, 195
(566)	right (side)	***letɕu^{1}**	34, 44, 103
(567)	right / correct	***k^{h}edu^{1}**	30, 101
(568)	ring	***leŋgui^{2}**	35, 63, 86
(569)	rinse (the mouth)	***ʐwæʐwæ**	55, 131
(570)	ripe, cooked, done	***dehĩ^{1}**	74, 88
(571)	rise / get up	***degwo^{1}**	69, 121
(572)	road	***ri^{1}**	72, 79
(573)	rob / loot	***liu^{1}**	35, 98
(574)	rock	***rik^{h}wæ^{1}**	72, 131
(575)	roll	***lɑlɑ^{1}**	36, 129
(576)	roll, turn (cause to)	***łɑ^{1}**	36, 129
(577)	root	***mbre^{1}**	26, 81
(578)	rope / string	***brɑ^{1}**	23, 83
(579)	rot	***netʃ^{h}iu^{1}**	57, 118
(580)	run	***pjɛ̃**	22, 107, 176, 186, 190
(581)	run away / escape	***p^{h}o^{1}**	18, 115, 183, 190
(582)	rust	***k^{h}eŋk^{h}wæ**	63, 131
(583)	s/he	***t^{h}e^{1}**	29, 109
(584)	saddle	***mbroʐa**	26, 126
(585)	saliva	***dʐiki^{1}**	45, 92, 174, 189, 195
(586)	salt	***ts^{h}i^{2}**	37, 94, 136, 165, 193
(587)	scald / burn	***mbu^{1}**	26, 100
(588)	scales, steelyard	***krɑ^{2}**	66, 83
(589)	scoop up (water) / ladle	***kui^{1}**	67, 87
(590)	scratch	***(n)tʂ^{h}o^{1}**	52, 117, 172, 191

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(591)	search, look for	***htʃæ/ʂæ¹**	54, 124, 167, 200
(592)	see	***kʰendo¹**	31, 116, 216
(593)	seed	***ge¹**	68, 112
(594)	sell	***ŋkʰæ¹**	63, 124
(595)	send (a message)	***swɑ¹**	42, 132
(596)	send/dispatch (a person)	***pwEki/ pwEtɕi**	19, 114
(597)	separate, other	***kʰækʰæ¹**	65, 77, 124
(598)	set (of the sun)	***netɕʰiu/ netɕiu¹**	45, 97, 178, 186, 195
(599)	seven	***sini/stẽ²**	32, 89, 148, 179, 202
(600)	sew (up)	***ndzɻe²**	53, 111
(601)	shadow	***rAne,rAnɑ¹**	72, 84, 128
(602)	shake / shiver	***ŋgrɑŋgrɑ¹**	61, 63, 77, 83
(603)	sharp, pointed	***ntʰwɑ¹**	31, 132, 171, 189, 215
(604)	sharpen, whet (a knife)	***desu¹**	41, 101, 174, 196
(605)	shave (the head)	***ru¹**	72, 80
(606)	sheep	***jõ¹**	49, 90, 170, 198
(607)	shoe	***zi¹**	42, 94, 136
(608)	shoot, fire a shot	***tʂʰe¹**	52, 111
(609)	short	***dɑdɑ²**	30, 128
(610)	shoulder	***ɣwebje/ ɣwobje¹**	70, 105, 121
(611)	shout	***kwo²**	67, 121, 180, 215
(612)	shout, yell	***rA/ɣwA**	73, 131
(613)	shrivel up / wither	***nekwo¹**	67, 121
(614)	shy / bashful	***mbuʂew**	26, 54, 113
(615)	Sichuan pepper	***tsʰu**	37, 101
(616)	sick, ache	***deni¹**	49, 91, 165, 201
(617)	sickle	***dzjẽ**	43, 107
(618)	side, direction	***pʰwo**	18, 120, 170, 215
(619)	sieve / sifter	***ɑntʂʰæ²**	73, 125
(620)	silk/satin	***ŋkʰwo¹**	63, 121
(621)	silver	***ŋui¹**	65, 86, 182, 201
(622)	sing	***gæ¹**	68, 124, 166, 186
(623)	sister	***hjẽmæ¹**	74, 89
(624)	sit down	***ʑi¹**	46, 92
(625)	six	***tʂʰu²**	52, 102, 148, 183, 188, 191
(626)	skin	***ŋgriupje¹**	60, 80, 175, 189, 191, 215
(627)	skinny	***hkwɑ**	62, 132
(628)	skinny, get thin	***ŋæ¹**	64, 125
(629)	skirt	***(n)tʃʰæ**	59, 124

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(630)	sky	***me/mo**	28, 114, 180, 201
(631)	slanted / askew	***t^{h}eɕ^{w}iulɑ**	46, 98, 128, 216
(632)	sleep, lie down	***k^{h}ejo**	48, 118, 184, 198
(633)	slippery (road)	***dendʑew^{1}**	53, 113
(634)	slow / clumsy	***diwæ^{1}**	30, 70, 131
(635)	small	***jiji^{1}**	47, 92, 175, 198
(636)	smell	***hẽhẽ^{1}**	74, 89
(637)	smoke	***meŋk^{h}e^{2}**	63, 111, 180, 189
(638)	smooth / glossy / sleek	***hĩhĩ**	74, 88
(639)	snake	***beri^{2}**	21, 72, 79, 182, 185
(640)	snap (thread)	***tsẽ**	38, 110
(641)	snare / trap	***wæ^{1}**	70, 131, 168, 197
(642)	snot	***hti(u) 'nose'**	32, 93
(643)	snot (liquid)	***stiu(d)zære^{1}**	32, 72, 81, 173, 202
(644)	snow	***ʑu^{1}**	46, 103
(645)	soak / steep	***ndʒo^{1}**	45, 118
(646)	soft	***njonjo^{2}**	50, 118, 181, 201
(647)	soldier, army	***mo**	27, 116, 172, 200
(648)	son	***jizæ^{1}**	48, 123
(649)	son-in-law	***mopæ^{2}**	27, 122, 172, 200
(650)	sore / boil	***mjari/meri^{1}**	28, 79, 168, 174, 200
(651)	soul / spirit	***rAɬæ^{1}**	72, 84, 123, 174, 199
(652)	sound	***tʂ^{h}e^{1}**	52, 111, 170, 215
(653)	sour	***detʃew^{1}**	57, 113, 181, 190, 192
(654)	spacious	***didi**	30, 94
(655)	span (thumb to finger)	***dʒwæ**	59, 131, 139, 168, 189, 193
(656)	speak, say	***dʑi^{1}**	45, 92
(657)	speech, language, dialect	***hwõ**	74, 89
(658)	speech, phrase, words	***gui^{1}**	61, 68, 86
(659)	spider	***(h)kɑra(wɑ)^{2}**	66, 129
(660)	spirit, deity	***ɬæ**	36, 123, 167, 199
(661)	sputum, phlegm	***ts^{h}ek^{h}ɑ^{1}**	38, 129, 172, 188
(662)	square / rectangular	***ʑiudu^{2}**	30, 55, 98, 101
(663)	squeeze (for milk)	***nts^{h}ew**	40, 114, 179, 194
(664)	squirrel	***kætʃa**	59, 66, 127
(665)	stable, steady	***nɑ**	33, 128
(666)	stand	***k^{h}endʑa^{1}**	45, 126, 173, 195
(667)	star	***kri^{1}**	60, 78, 175, 191, 215
(668)	be startled/afraid	***ni^{2}**	49, 91
(669)	steal	***mp^{h}ru^{1}**	23, 25, 80, 180, 189
(670)	steam (v.)	***mp^{h}ru^{1}**	23, 24, 80
(671)	step / stride	***mbi**	25, 93, 139

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(673)	sting (of wasps)	***ndzɑ**^{1}	40, 129
(674)	stinky, fishy-smelling	***deŋrɑ**^{1}	64, 84, 166, 201
(675)	stir-fry	***ndzæ**^{1}	40, 123
(676)	stone	***lo**^{1}	35, 116, 183, 198
(677)	stone, rock	***lo(bwo)**^{1}	20, 35, 116, 120
(678)	story	***jajihĩ**^{2}	47, 92
(679)	stove (cooking) / range (kitchen)	***tsuk^{h}æ**	38, 124
(680)	straight	***tɕutɕu**	45, 103
(681)	straw (rice)	***dzæbu**^{1}	39, 100
(682)	strength (physical)	***htʂomo**^{2}	53, 117, 120, 170, 190, 191
(683)	stretch out (the arm)	***hwõ**^{1}	74, 89, 170, 202
(684)	strike (the table)	***mp^{h}jo**^{2}	21, 25, 117
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(687)	swallow	***nemi**^{1}	27, 93
(688)	sweat	***tʂu**^{1}	52, 102, 182, 190, 191, 191
(689)	sweep	***p^{h}ja**	22, 126, 172, 187
(690)	sweet	***detʃ^{h}iu**^{1}	57, 99, 180, 188, 192, 216
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(696)	tea	***dʒa**^{1}	59, 127
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(700)	ten (bound), -ty	***zi**	42, 94, 148
(701)	ten thousand	***mbwo**^{2}	26, 120, 137, 149
(702)	tender, young (plant)	***zæzæ**^{1}	42, 77, 123
(703)	tendon	***bru**^{2}	23, 80
(704)	testicle	***zulje**^{1}	42, 102, 106
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(710)	thing, tool	***(p^{h}e)ŋgwo**^{2}	18, 121
(711)	think / idea / opinion	***ndʑindʑa**^{2}	45, 126
(712)	thirsty	***deʃo**	56, 118, 179, 196

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(714)	this year	***ts^{h}ehĩ^{1}**	37, 74, 88, 177, 202
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(716)	thousand; ten cents	***htũ^{2}**	32, 90, 149, 183, 190
(717)	thread (a needle)	***su^{1}**	41, 101
(718)	three	***sjẽ^{2}**	43, 107, 148, 182, 196
(719)	three days from now	***miso**	27, 93
(720)	throat	***myihkwo^{1}**	28, 121, 178, 184, 200
(721)	throw / hurl / toss	***ts^{h}je^{1}**	43, 107
(722)	thumb	***lemæ^{1}**	34, 108
(723)	thunder	***megi^{2}**	61, 67, 95, 178, 186
(724)	Tibetan	***p^{h}ui^{1}**	19, 86
(725)	tie up, bind	***tsɑ^{1}**	38, 129
(726)	tiger	***læ^{1}**	34, 123, 167, 198
(727)	tight / taut	***k^{h}esu^{1}**	41, 101
(728)	tile	***ŋgo^{2}**	61, 64, 119
(729)	tired, fatigued	***nebre^{1}**	23, 81
(730)	tobacco / cigarette	***ji^{1}**	48, 92
(731)	today	***tæniu^{1}**	29, 76, 97
(732)	tomb	***mo^{1}**	27, 116
(733)	tomorrow	***soniu^{2}**	42, 117
(734)	tomorrow night / evening	***somwoŋk^{h}wo**	42, 117
(735)	tongs (fire)	***kæmbæ^{1}**	66, 124
(736)	tongue	***ht(s)ipi^{2}**	32, 93, 165, 199
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(738)	tooth	***xui^{1}**	61, 71, 86, 168, 197
(739)	topple / tear down (a wall)	***nedʑo**	45, 118
(740)	torch	***ʂu**	54, 102
(741)	tree	***sẽpu^{1}**	19, 100
(742)	true	***tɑ^{1}**	29, 128
(743)	trunk	***seŋgrɑ^{1}**	63, 83
(744)	turn (a corner)	***putɕ^{w}ew/ gutɕ^{w}ew**	47, 113
(745)	turn around	***ŋeleʂi^{1}**	35, 95
(746)	kind of turnip (圆根 yuángēn)	***ŋe^{1}**	65, 112
(747)	twenty	***nets^{h}i^{1}**	37, 94, 148
(748)	twist (hemp fibers) between the palms	***dego^{1}**	68, 119
(749)	two	***ne^{1}**	33, 109, 148, 179, 201
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(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
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(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	***dzjĕdzjẽ²**	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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(794)	wind (thread onto a keel)	***tɕo¹**	45, 118
(795)	window	***pwondzo̱ŋgæ²**	19, 125
(796)	wing	***du(liu)¹**	30, 98, 100, 182, 186
(797)	winnow	***ɬje¹**	36, 106
(798)	winnowing tray/basket	***lip^{h}i/læp^{h}i¹**	18, 93
(799)	wipe (the table)	***p^{h}jap^{h}ja¹**	22, 126
(800)	wok (large, iron) / pan	***dzi̱u¹**	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	***lɑk^{h}ɑ/lok^{h}ɑ¹**	35, 65, 84, 132
(805)	wrap (v.)	***k^{h}ekuliu¹**	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	***diutʂ^{h}e¹**	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	***mp^{h}rozæ¹**	23, 24, 42, 82, 170, 190
(819)	younger sibling	***ninɑ¹**	49, 128, 165, 201