A sociolinguistic survey of Kua-nsi and related Yi varieties in Heqing county, Yunnan province, China

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彝族夸恩斯支系及相关支系社会语言学方言调查

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Contents

Abstract

The purpose of this survey was to make an initial sociolinguistic documentation of Kua-nsi (跨恩斯话) and related Yi (Ngwi) varieties of northern Heqing county (鹤庆县), Yunnan province, and to make a preliminary evaluation of levels of inter-comprehension and lexical similarity. Five different language varieties were documented: Kua-nsi (跨恩斯话), Kuamasi (跨玛斯话), Laizisi (莱兹斯话), Zibusi (子逋斯话), and Sonaga (锁内嘎话). Based on an initial evaluation, the authors believe that none of these varieties are mutually intelligible to a high degree. Based on both lexical similarity scores and Levenshtein distance analysis, the closest known Yi variety to Kua-nsi is Talu (他留话), spoken in Yongsheng county (永胜县). All of these varieties exhibit typical features of other Central Ngwi languages, such as Lalo (拉罗话) and Lolo (倮倮话). They are all threatened speech varieties. Kua-nsi, with over 5,000 speakers, and Sonaga, with over 2,000 speakers, can be said to have the highest linguistic and cultural vitality.

1 Acknowledgements

The authors would like to express their gratitude to Jiao Xiongcai of the Heqing County Minority and Religious Affairs Bureau and Duan Desan of the Heqing Cultural Centre. Our fieldwork would not have been possible without them. They were enthusiastic about the survey from the beginning and provided much essential support and encouragement. They also provided us with people to accompany us during field research and arranged for us to meet people from whom we collected the data.

The authors would also like to personally thank Zi Haiwei, from San'gezhuang village, Liuhe township, Heqing, who accompanied us on trips and was faithful in translating back and forth between Bai, Kua-nsi and Chinese. He also assisted with the transcription of the wordlists. We are also grateful for the enthusiastic help of all the villagers in Heqing whom we interviewed. They were tireless helpers who enabled our research to be completed in an efficient and timely manner.

2 Introduction

2.1 General overview

The Yi are one of the largest minority groups in China, with a total population of over 5.4 million.[1] They are scattered over a huge area of south west China, primarily in Yunnan, Sichuan and Guizhou provinces. The Yi are one of the most diverse ethnic minority groups in China. There are numerous branches of the Yi, each with their own customs, traditional dress, and language.[2]

Heqing county, the location of our study, is situated in north-east Dali Bai Autonomous Prefecture in Yunnan province (Figure 1).[3]

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[1]According to the 2000 census, 5,416,021, National Statistics Department (2003).

[2]Gordon (2005) identifies over thirty different languages for the Yi people in China. This is more than for any other ethnic group.

[3]See Appendix A for a summary of the administrative divisions in China.

Figure 1. Map showing location of Heqing county in Yunnan province.

The Yi in Heqing lie scattered among the majority Bai and Han people. They account for just over 5% of the total population of the county (Table 1).

Table 1. Ethnic make-up of Heqing county.

| Ethnicity	Population (people) [a]	Percentage of total population of Heqing
Bai	142,035	57.1
Han	85,998	34.5
Yi	13,446	5.4
other (Miao, Lisu etc.)	7,551	3.0

[a] *Figures from 2000 census, cf. National Statistic Department (2003).*

Figure 2 shows the three main concentrations of Yi in Heqing, each of which have different autonyms and Chinese exonyms: 1. the Sonaga "*Heihua ren* 黑话人" (literally, "people of black speech") who live in the mountains to the west of the county seat; 2. the Kua-nsi "*Baiyi ren* 白依人" (deriving from 白衣, meaning "people of the white clothes") who live in the mountains to the east of the county seat; and 3. the "*Lipu* 利仆" who live at the foot of Sijiao Mountain (*Sijiaoshan* 四角山) in the south-eastern corner of the county.[4]

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[4]See *Heqing xianzhi* (1991:741) and *Heqingxian Caohaizhen* (2007). Whether these "Lipu" are related to the "Lipo," another Western Yi group, is uncertain.

Figure 2. Map showing Yi areas in Heqing county.[5]
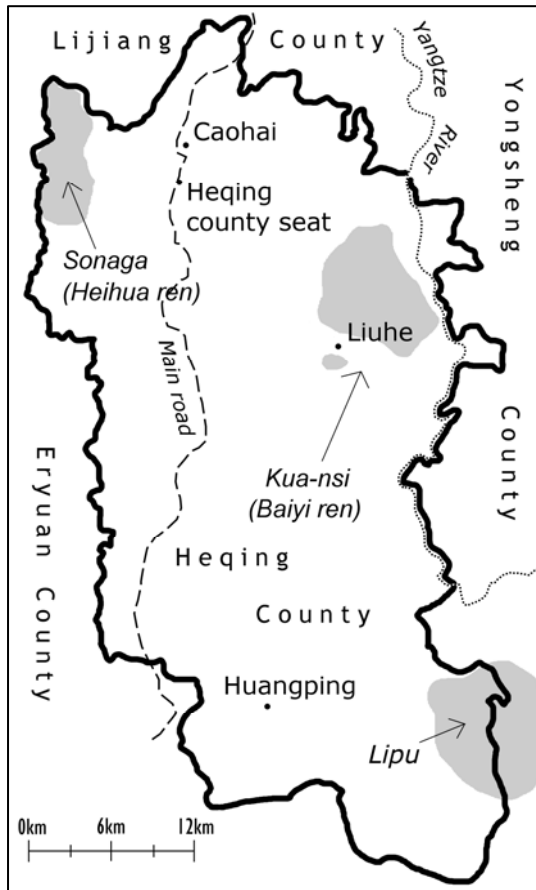
2.2 The Kua-nsi

There are around 5,000 Kua-nsi people who live scattered amongst other Yi groups, the Bai and the Lisu. They live primarily in Liuhe township, east of Heqing county seat. According to the *Heqing county almanac*, the Kua-nsi people descended from the group referred to during the Tang Dynasty as the "Shiman 施蛮"or the "Shunman 顺蛮."[6] There is another sub-branch of the Yi in Yongsheng county, to the north of Heqing (Figure 2), which, according to the *Yongsheng county almanac*, descended from the same group of people. They are known as the "Naruo 纳若" or the "Ziyipo 子彝泼."[7]

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[5]The maps in this report were designed by the author. They were mainly based on a scanned image of Heqing county from *Yunnan sheng ditu ji* (2002).

[6]Heqing xianzhi (1991:743).

[7]Yongsheng xianzhi (1989:93).

During our survey, the Kua-nsi referred to themselves using the exonym "Baiyi" when speaking Chinese.[8] When referring to themselves in their mother tongue they used the term, *"Kua-nsi"* [kʰua³³ n̩²¹ sɿ⁵⁵] which is a loconym.[9] *"Kua-n"* is the name of the place where they live, *"si"* is a word meaning "people." Duan Ling (1998) renders this as *Kua-en-si* 夸恩斯 in Chinese.

The Kua-nsi have a strong cultural identity and still preserve many traditional customs. They weave white cloth from a plant called "fire grass" (火草), with which they make traditional clothes; hence they are known as the "people of the white clothes." They have many folk stories, the most well-known telling the tale of a couple whose child was bitten to death by hornets. The couple then followed a hornet to its nest and burnt the nest in revenge. The nest was in a fertile area of land where the Kua-nsi eventually settled.[10]

They also have a unique system of courtship, known as *cuan qingchun peng* (窜青春棚), literally "to hide in the adolescent tent." Several young girls stay together overnight in a bedroom in one of their homes. The young men come to them playing the *erhu* (a two-stringed instrument played with a bow). If one of them gains the favour of one of the girls, he can stay up chatting with her into the small hours.[11]

2.3   Other Yi groups in Heqing

Little is known about the other Yi groups in Heqing mentioned in section 2.1. *Heqingxian Caohaizhen* (2007) gives a very brief description of some of their customs. Duan and Hu (2000) also mention a group whom they call *Heihua* and include a wordlist.[12] However, this wordlist was taken from a group of Yi which live in Dasongdian 大松甸, just outside of Eryuan county seat, which is over 50km from the *Heihua Yi* shown in Figure 2. From preliminary analysis of shared vocabulary, it is doubtful that they speak the same speech variety.[13]

Interviews with the Minority Affairs Bureau in Heqing county indicated that there are more Yi groups than the *Heihua* and the *Lipu* in Heqing. Within Liuhe township, in addition to the Kua-nsi, there is a Yi group known by the Kua-nsi as "[kʰua³³ ma³³ sɿ⁵⁵]" (literally "the people of *Kua-ma*"), who live in Songping village. There are also two other groups of Yi who live to the east and to the west of Liuhe township, known respectively by the Kua-nsi as the "[ʐɿ²¹ pɯ⁵⁵ sɿ⁵⁵]" and the "[sɿ²¹ pʰi̤²¹ sɿ⁵⁵]." All three of these groups are known by the Chinese simply as "Yi."

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[8]Confusingly, the Kua-nsi are sometimes referred to as *Bai Yi* 白彝, literally "White Yi." This term is also used to refer to many other Yi groups in Sichuan and Yunnan.

[9]Throughout this paper, the authors describe tones by a combination of superscript numbers representing different pitch levels, according to Chao's (1930) five level system. The highest pitch level is 5, the lowest is 1, and so a mid-rising tone is represented as [³⁵].

[10]Subsequently, the Kua-nsi have traditionally revered the hornet.

[11]This cultural information was supplied by Zi Haiwai, of San'gezhuang village, Liuhe, Heqing county. See Liang (2007) for more information on the Kua-nsi.

[12]Duan and Hu (2000:563ff)

[13]See section 5.3 for a lexical comparison of this *Heihua* and the *Heihua* of Heqing county.

2.4 Linguistic classification

The Yi languages have a linguistic classification of: Sino-Tibetan, Tibeto-Burman, Lolo-Burmese, and Loloish.[14] The term Loloish, however, is now rarely used by Chinese or Western linguists because of the derogatory nature of the term. Instead, Chinese linguists simply refer to these languages in general as "Yi languages," and divide them into six main dialects, based primarily on the geographical region in which they occur.[15]

There are numerous sub-branches of the Yi, each with its own autonym, in addition to numerous names used by other minority groups and by the Han Chinese. Such ethnonyms include "Black Yi (Hei Yi 黑彝)," "White Yi (Bai Yi 白彝)," "Red Yi (Hong Yi 红彝)," "Nuosu," "Gepo," "Nisu," and so on. According to the *Heqing county almanac,* the Kua-nsi language belongs to the "Gepo" branch of Yi which is classified as Western Yi.[16] Figure 3 shows this classification of Kua-nsi.

Figure 3. Linguistic classification of Kua-nsi according to Chinese sources.[a]
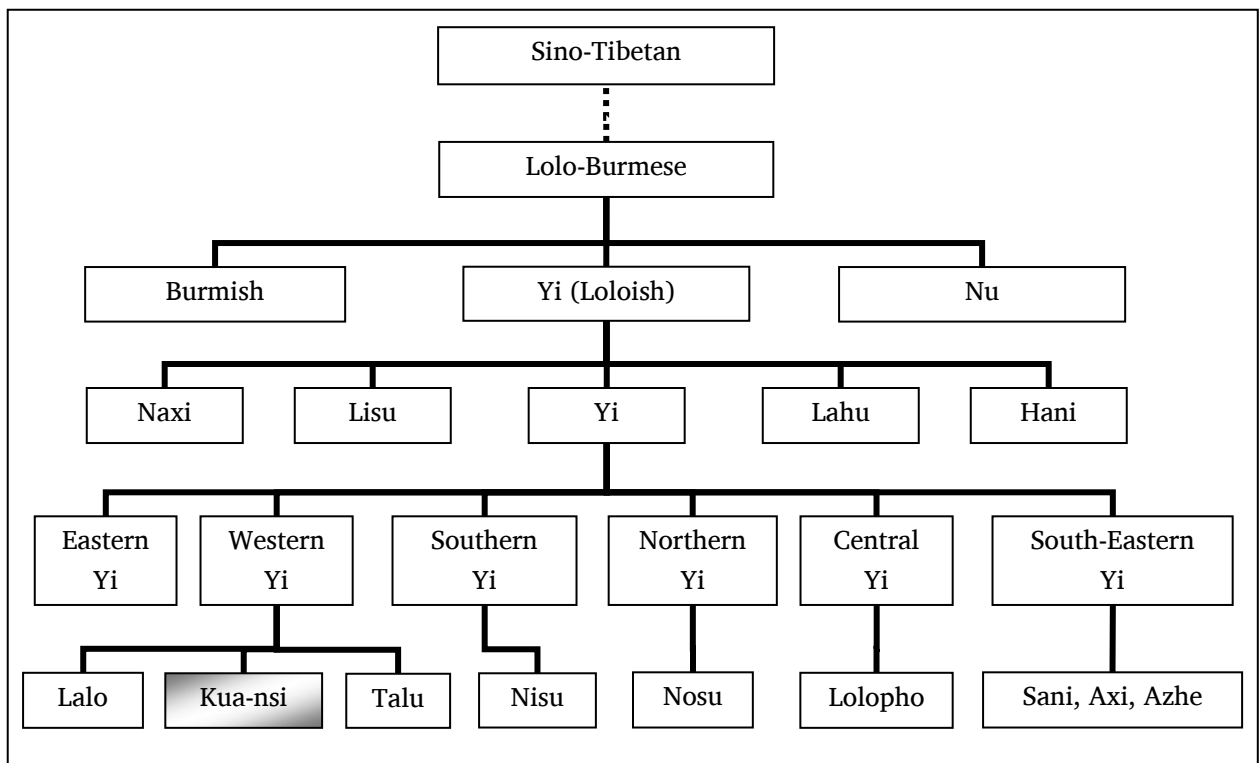
[a] *See Dai (1990:434) and Wang (2003:21ff)*

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[14]Gordon (2005:348)

[15]Wang (2003:21ff)

[16]Heqing xianzhi (1991:743)

Some Western linguists now use the term "Ngwi" in place of "Loloish." The word "Ngwi" is derived from a proto-form of the autonym "Ni" which can be found in the names of various Yi groups such as the Sani and the Nisu. Bradley (2004) divides the Ngwi languages into four sub branches: Northern, Central, Southern, and Southeastern.

A recent Kua-nsi wordlist indicates that Kua-nsi falls into the group of languages called "Central Ngwi" by Bradley (2004) and others (Crook and Zi 2007). The Kua-nsi word for 'dog' is [ʔu⁵⁵ nu²¹], which is not derived from the expected Proto-Ngwi etymon for 'dog', **kwe²**, but rather from the Proto-Ngwi for the verb 'snatch' **na²** proceeded by the nominalisation prefix **a**. The Kua-nsi word for 'fire' is [ʔa⁵⁵ to²¹], from the Proto-Ngwi etymon for 'burn' **ʔdukᴸ**, again proceeded by the prefix **a**. Both of these reflexes are only found in Central Ngwi languages.[17] Other languages classified by Bradley as Central Ngwi include Lisu, Lahu, Sani, Lolo, Lalo, Lipo, and Talu. Figure 4 shows the probable linguistic classification of Kua-nsi according to Bradley.

Figure 4. Probable linguistic classification of Kua-nsi according to Bradley.
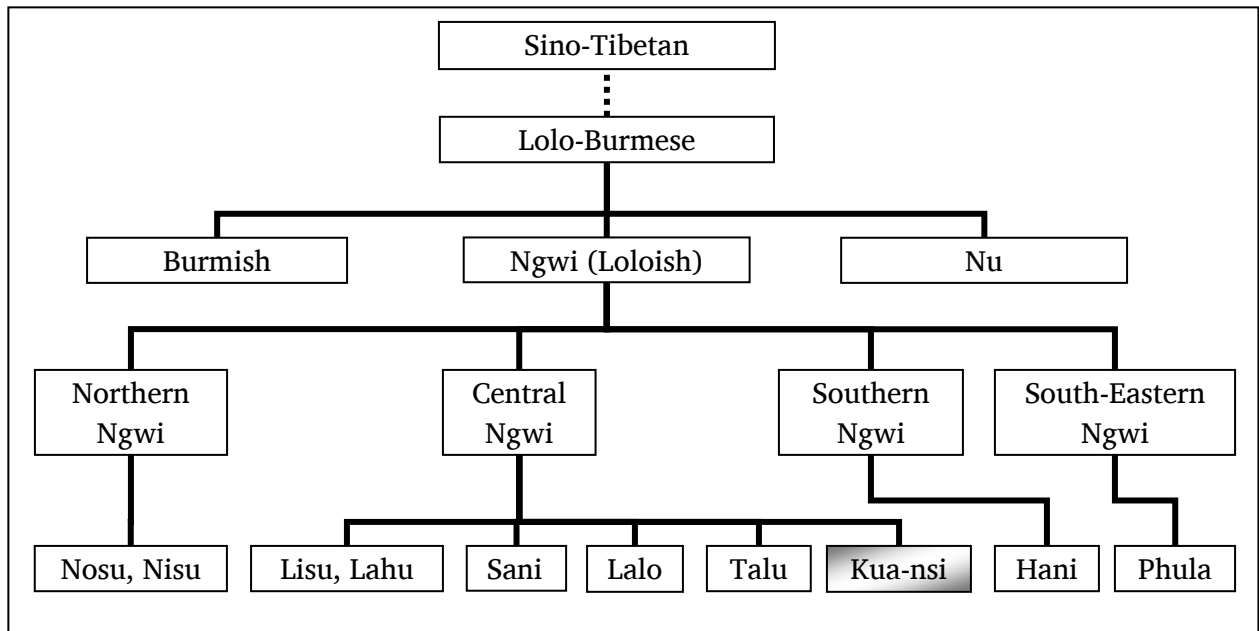
Kua-nsi is particularly interesting linguistically because its speakers live extremely close geographically to various Yi groups in Yongsheng county who speak endangered central Ngwi languages as documented in Bradley (2004). Interestingly, Bradley mentions that the Naruo (section 0), or Naluo, also speak a central Ngwi language. Bradley also hypothesises that because "the greatest diversity within central Ngwi is in northwestern central Yunnan, this must presumably be the point of origin of this sub branch (p. 8)."

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[17]See Bradley (2004) for examples of these two words in other Central Ngwi languages, and for a detailed description of the other characteristics of Central Ngwi languages. See Bradley (1979) for his reconstruction of Proto-Ngwi (a.k.a. Proto-Loloish).

Interviews with Kua-nsi people indicate that the Kua-nsi language is homogeneous throughout Liuhe township. Minimal dialect variation is reported and there is no difficulty in communication between Kua-nsi who come from different areas.

A description of the main features of Kua-nsi can be found in Duan (1998). However, because the other Yi languages in Heqing have been undocumented up until this point, their relationship to Kua-nsi and other central Ngwi languages is unknown.

2.5 Other languages spoken in Heqing

Heqing county comes under the administration of Dali Bai autonomous prefecture. It is no surprise, therefore, that Bai is the language spoken most widely in Heqing. Like Yi languages, Bai is also considered to be a Sino-Tibetan language. It has an exceptional number of loan words from Chinese along with eight tones, a comparatively large number (Allen 2004:1).

Chinese is also spoken widely in Heqing. The dialect of Chinese spoken in Heqing is a form of Yunnanese, classified along with the Chinese dialects of Sichuan, Guizhou, and Guangxi as a member of the Southwestern branch of the Northern Mandarin subfamily, known as "Southwestern Court Language," or *Xinan guanhua* 西南官话. The variety spoken in Heqing has been influenced by the Bai language (Ming 2001:5-–6, 29).

3 Survey objectives

On ushering in the 2008 International Year of Languages, the Director-General of UNESCO, Koïchiro Matsuura, issued the following warning to the world: "Within the space of a few generations, more than 50% of the 7,000 languages spoken in the world may disappear. ...We must act now as a matter of urgency. ...Thousands of languages ... are absent from ... the public domain. ...Our common goal is to ensure that the importance of linguistic diversity and multilingualism... is recognised" (Matsuura 2007).

In view of this urgency, the goal of this survey was to gain an overview of the linguistic situation of the Kua-nsi and adjacent Yi varieties in northern Heqing, most of which have been undocumented up to this point. To attain this goal, the following research objectives were pursued:

1. Demographics. Obtain demographic information about the Kua-nsi and adjacent Yi varieties.
   Key research question: Where do the Yi live and what are their populations?

2. Documentation. Make initial documentation of the different Yi varieties discovered.

3. Dialect variation (Kua-nsi). Confirm the homogeneity of the Kua-nsi language.
   Key research questions: a) How lexically similar is Kua-nsi in different locations? b) Can the Kua-nsi all understand each other when speaking Kua-nsi?

4. Dialect variation (other Yi). Make a preliminary evaluation of the level of intercomprehension between Kua-nsi and the adjacent Yi languages.
Key research questions: a) How lexically similar are Kua-nsi and the other Yi varieties? b) How phonetically similar are Kua-nsi and the other Yi varieties? c) How well do the different Yi groups understand each other's speech forms?

5. Language vitality. To gather information relating to language and culture vitality that would be useful for making decisions about a language-development project among the Kua-nsi and adjacent Yi groups.
Key research questions: a) What, if any, evidence is there of language shift? b) How well is each group preserving its ethnic identity?

4 Methodology

4.1 Site selection

Based on interviews with Kua-nsi speakers already known to the researchers, seven data points were chosen. After initial investigations, we discovered that the Yi living in the area south of Liuhe township seat are not actually Kua-nsi, but are another branch of the Yi (known by the Kua-nsi as "[kʰua³³ ma³³ sɿ⁵⁵]") whose language is similar to but not the same as Kua-nsi. We therefore chose only three locations within the Kua-nsi area itself: Shang'eping 上蕚坪, at the easternmost point; Hedong 河东, at the westernmost point; and San'gezhuang 三戈庄, at the northernmost point. These three sites would give us a broad overview of the situation within the Kua-nsi language area.

Figure 5. Map showing location of Kua-nsi with village names.
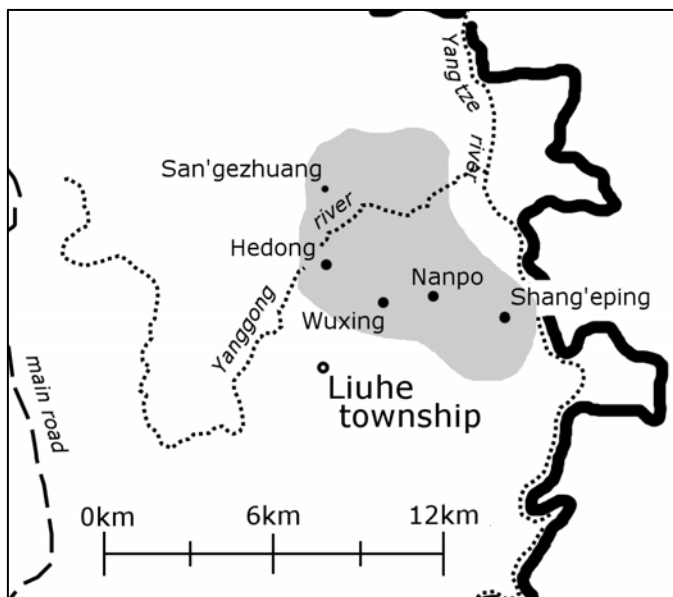
We then chose four more locations based on the information given in section 2.3. Each of these locations was believed to represent different Yi speech varieties. Table 2 gives the details of these data points. The map in Figure 6 (section 5.1) shows the location of all of the data points that we visited. The names used to reference the data points throughout this report are shown in bold type. For the most part, the name of the administrative village was used, apart from San'gezhuang which is referred to as "San'gezhuang" so as not to confuse it with Hedong administrative village which was also chosen as a data point.

Table 2. Data points visited in Heqing county.

Natural village	Administrative village	Township	Branch of Yi	% population Yi
Hedong 河东	Hedong 河东	Liuhe 六合	Kua-nsi	100
San'gezhuang 三戈庄	Hedong 河东	Liuhe 六合	Kua-nsi	100
Shang'eping 上薴坪	**Shang'eping** 上薴坪	Liuhe 六合	Kua-nsi	100
Matang 麻塘	**Songping** 松坪	Liuhe 六合	? (known by the Kua-nsi as [kʰua³³ ma³³ ʂ̩⁵⁵])	100
Shangshiyan 上石岩	**Daqing** 大箐	Duomei 朵美	? (known by the Kua-nsi as [z̩²¹ pɯ⁵⁵ ʂ̩⁵⁵])	100
Jidiping 吉地坪	**Moguang** 磨光	Jindun 金墩	? (known by the Kua-nsi as [ʂ̩²¹ pʰɨ²¹ ʂ̩⁵⁵])	100
Dongdeng 东登	**Xinfeng** 新峰	Caohai 草海	Sonaga	100

4.2   Tools

We used a combination of interview schedules[18], wordlist collection, and Recorded Text Testing (RTT) in order to gather the information required to meet our research objectives. A summary of the tools that were used to meet each objective is given in Table 3.

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[18]See Appendices E and F for the interview schedules used.

Table 3. Tools used to meet research objectives.

Research objective	Tools used
1. Obtain demographic information about Yi groups.	• Village leader interview schedules • Group interview schedules
2. Document the different Yi varieties discovered.	• Wordlists • Story collection (although the primary purpose of story collection was for RTT testing)
3. Confirm the homogeneity of the Kua-nsi language.	• Wordlists (lexicostatistical analysis and Levenshtein distance analysis) • RTT testing • Observation
4. Evaluate comprehension between Kua-nsi and the adjacent Yi languages.	• Wordlists (lexicostatistical analysis and Levenshtein distance analysis) • RTT testing • Group interview schedules
5. Gather information relating to language and culture vitality.	• Village leader interview schedules • Group interview schedules

We did not use every tool at every data point. We were limited by time constraints. Also, in some locations we found it difficult to find suitable subjects for comprehension testing. A summary of the tools that we used at each data point is given in Table 4.

Table 4. Tools used at each data point.

Data point	Wordlist	Interview schedule subjects	Number of RTT texts collected	RTTs administered
Hedong	545 item list	Vice Director of Village Committee, Group	1	-
San'gezhuang[a]	-	-	-	Hedong RTT and Songping RTT administered to 10 subjects
Shang'eping	100 item Swadesh list[b]	Director of Village Committee, Group	-	-[c]
Songping	545 item list	Director of Village Committee	1	Songping RTT and Hedong RTT administered to 3 subjects
Daqing	545 item list	Group[d]	-	-
Moguang	545 item list	Director of Village Committee, Group	1	-
Xinfeng	545 item list	Vice Director of Village Committee, Group	1	Moguang RTT, Jianchuan Bai RTT and Heqing Bai RTT administered to 7 subjects

[a] *A wordlist had already been taken from this data "point" (Crook and Zi 2007). The questionnaires had already been administered in Hedong administrative village (which covers San'gezhuang), so the authors did not deem it necessary to administer the questionnaires here too.*

[b] *On initial inspection, the Swadesh 100 list appeared almost identical to the list elicited in Hedong, so the authors did not deem it necessary to elicit the entire 545 item list in this location.*

[c] *We did not carry out comprehension testing in Shang'eping because we were accompanied by a Kua-nsi person from San'gezhuang who had not been to this area before. Through observing him communicate, we were able to get a good idea of the level of intelligibility between his variety and the variety of Kua-nsi spoken in Shang'eping.*

[d] *The authors did not visit Daqing administrative village, so they did not have the chance to interview either the Director or the Vice Director of the Village Committee. Instead, the Leader Questionnaire was administered to the group along with the Group Questionnaire.*

4.2.1 Interview schedules

We interviewed village leaders and a group of villagers in each location using interview schedules designed primarily to meet research objectives 1. Demographics and 5. Language vitality. The village leader interview schedule included sections on demographics, village history and language use, with particular reference to language use in markets, education and government. The village leader interview schedule is given in Appendix F.

The village leader interview schedule was given to either the Director or the Vice Director of the Village Committee in each location. They generally had all the demographic and other data at hand in order to answer the questions in this schedule.

The group interview schedule included sections on dialect variation (to help meet research objective 4. Dialect variation), language use, intermarriage, and cultural vitality. Through the latter, we were able to glean information on local cultural customs such as music, folktales, the wearing or making of traditional clothing, festivals, and religious practices that were characteristic of each group visited. The group interview schedule that we used is given in Appendix E.

When we conducted the group interview schedules, we generally had at least five villagers present. We tried to ensure a mix of men and women. There were often one or two people present who had travelled more widely and so were useful in providing information on dialect variation.

The interviews were conducted entirely in Chinese. Often the villagers would discuss the questions in their L1, but there was always someone present who would summarise the response in Chinese[19]

4.2.2 Wordlists

We constructed a 545-item wordlist designed to cover commonly used vocabulary, including a core 100 words based on the Swadesh 100 list, and to have plenty of overlap with other Central Ngwi and Bai wordlists.[20]

At each village we asked for three speakers who were born and raised in the village, who had spent little time outside of the village, who were not missing any front teeth and who were considered to have clear pronunciation by their fellow villagers. Where possible we tried to include at least one younger person under the age of forty and at least one older person over the age of sixty.

Words were elicited in Chinese. In every location, at least two out of the three language helpers were able to read Chinese and communicate in Chinese. We therefore gave the helpers copies of the wordlists with Chinese glosses in order to ease elicitation.

After eliciting the wordlists from these speakers, we compared them using the lexicostatistic technique for assessing phonetic similarity described by Blair (1990:30–32) in *Survey on a Shoestring*. The percentages of similarity were calculated using a computer program called WordSurv.[21] According to the procedures described by Blair, if two speech varieties are less than 60 percent similar, then one would not expect the speakers of those varieties to be able to understand each other and no intelligibility testing is required.

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[19]The term L1 refers to the speaker's first language, also known as their "mother tongue."

[20]The Lahu, Lisu and Lolo lists given in *Zangmian yuyin he cihui* (1991) and the Weishan Lalo lists in *Yunnan Yiyu fangyan ciyu huibian* (1984) formed a base for the list used in this survey. Words from the Bai lists given in Allen (2004) were also included so as to facilitate comparison with Heqing Bai, the main language spoken in Heqing county in addition to Chinese. Our list also included all of the glosses given in the Talu wordlist in Zhou (2002).

[21]Version 6.0 Beta D, White et al. (2006).

We also analysed the entire set of wordlists using the Levenshtein distance (LD) algorithm. To do this, we used the RuG/L04 computer software developed by Kleiweg (2008).

The LD algorithm calculates average phonetic distance between two different dialects by comparing the pronunciation of words in the first dialect with the pronunciation of the same words in the second. Phonetic distance is determined by the cost involved in changing one pronunciation into the other by inserting, deleting or substituting sounds. In the simplest form of the algorithm, all operations have the same cost. For example, "kidneys" is pronounced as [ju^{55} dʐ^{21}] in Moguang and [jou^{55} tsʐ^{33}] in Xinfeng. Table 5 shows how the LD algorithm would calculate the cost of changing one pronunciation into the other.

Table 5. Example of calculating cost according to LD.

Phonetic segments								Explanation	Cost
	j	u	55	d	z	ʐ	21	"kidneys" as pronounced in Moguang Yi (Laizisi)	
j	o	u	55	d	z	ʐ	21	insert [o]	1
j	o	u	55	t	z	ʐ	21	substitute [d] with [t]	1
j	o	u	55	t	s	ʐ	21	substitute [z] with [s]	1
j	o	u	55	t	s	ʐ	33	substitute low tone [^{21}] with mid tone [^{33}]	1
j	o	u	55	t	s	ʐ	33	"kidneys" as pronounced in Xinfeng Yi (Sonaga)	
								Total cost	4

In fact, many sequence operations map [ju^{55} dʐ^{21}] to [jou^{55} tsʐ^{33}]. The power of the Levenshtein algorithm is that it always finds the cost of the cheapest mapping. Comparing pronunciations in this way, the distance between longer pronunciations will generally be greater than the distance between shorter pronunciations. The longer the pronunciation, the greater the chance for differences with respect to the corresponding pronunciation in another variety. Because this does not accord with the idea that words are linguistic units, the sum of the operations is divided by the length of the longest alignment that gives the minimum cost. The longest alignment has the greatest number of matches. Hence the total cost of 4 (1 + 1 + 1 + 1) is now divided by the length of 8. This gives a phonetic distance of 0.5 or 50%.[22]

To put it simply, then, Levenshtein distance is the total cost of the insertions, deletions and substitutions required to transform one word into another, weighted according to the length of the word.

Unlike the lexicostatistic analysis described above, LD does not depend on comparing only a core of the most common vocabulary. Therefore, we used the entire 545-item wordlists for this comparison. Chinese loan words were included in the calculations. For example, "204. blanket" is [dʐ^{33} wa^{55}] in Kua-nsi, [dzɤ^{33} lo^{55}] in Kuamasi, and [lo^{21} bo^{21}] in Sonaga. However, in Zibusi and Laizisi the Chinese loan word [pai^{21} tsʐ^{21}] (from "被子") is used. The loan word [pai^{21} tsʐ^{21}] was included in the calculations because the disproportionate LD measurement correctly reflects the

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[22]Gooskens & Heeringa (2004), p. 198, for a more detailed explanation of the algorithm.

fact that people who speak Zibusi and Laizisi would not understand any of the words for "blanket" in the other lects.

If there were differing variants of the same word in a particular lect, we included all of the variants in the LD calculations. For example, in most lects there is only one word used for "260. to say", either [ba³³] or [tɕa²¹]. In Sonaga, however, both words are used. When LD was calculated for the distance between the Sonaga lect and the other lects, the distance between the first cognate "[ba³³]" and each of the other lects was calculated, and then the distance between the second cognate "[tɕa²¹]" and each of the other lects was calculated. Both LD results were then included when calculating the overall LD between Sonaga and the other lects.

LD has been shown to have a strong, significant correlation with intelligibility as measured by Recorded Text Test (RTT) comprehension testing (Yang and Castro 2009). It also has a strong, significant correlation to dialect speakers' perceptions of difference between dialects (Gooskens and Heeringa 2004). It is therefore an extremely valuable measure which gives a strong indication of relative phonetic similarity and lends extra weight to comprehension testing results.

We also compared the wordlists that we had collected with Ngwi wordlists from other sources, using the two techniques described above, in order to get some idea of how close the Yi varieties in Heqing are to other Yi varieties in the surrounding area. These wordlists were adjusted so as to conform to the transcription conventions used for the Heqing Yi lists.[23] This was primarily to prevent the LD algorithm from counting two sounds as different when they were actually the same but represented differently in IPA (for example, [ɿ] and [ɨ] are essentially one and the same sound, as are [ɤ] and [ɯ]).

4.2.3   Recorded Text Testing (RTT) for Yi varieties

In order to test intelligibility between the different Yi varieties, we used a Recording Text Test (RTT) retelling method, based on procedures described by Kluge (2006).[24] This method requires subjects to listen to a narrative that has been broken down into natural segments of one or two sentences each and to retell the recorded text, segment by segment, either in their L1 or in a language of wider communication (LWC).[25]

We recorded short texts in the L1 in four of the locations that we visited: Hedong, Songping, Moguang and Xinfeng. We chose narrators who had clear speech and who were confident in

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[23]For example, the way that tone was represented was standardized across the wordlists: a 21 and a 31 both became "low," a 33 and a 44 both became "mid" (because in Central Ngwi languages, a 44 usually represents a mid-tone raised due to vowel tenseness), etc.

[24]One key difference between our method and Kluge's method is that we did not transcribe the texts in IPA before translating them. However, we were rigorous in ensuring that the translator translated the texts as literally (word for word) as possible.

[25]See Kluge (2006:7). In Kluge's method, the participant always responds in L1, but we did not require this. Some participants felt comfortable retelling in Chinese dialect rather than in Yi.

telling stories. In some locations we recorded several texts and then chose the text which would be most suitable for RTT. To choose the texts for RTT, we applied the following criteria:

- The story should be under two minutes in length.
- It should include relatively few Chinese loan words (in Moguang, for example, all of the stories we collected contained high numbers of loan words, so we chose the one with the fewest);
- Its content should be varied (some stories contained too much repetition and not enough interesting details to be used effectively for comprehension testing).

After having the stories translated into Chinese, we broke them up into short segments of one or two sentences each. We then pilot-tested the stories on a number of L1 speakers to ensure in order to:

- Ensure that the recorded text was representative of the speech variety in question.
- Verify that we understood the text in the same way that the text was understood by mother-tongue speakers of that language.
- Identify the "core elements" (see below) that L1 speakers regarded as pertinent for each segment to establish a base-line scoring system based on panel subjects' responses.

The pilot-test procedure consisted of playing the story once all the way through to each participant, then playing it once again segment by segment, asking the participant to retell each segment after hearing it. They either retold each segment in their L1, in which case we had an interpreter translate it into Chinese, or they retold directly in Chinese. All of their responses were recorded and later transcribed in Chinese.

Based on these transcriptions, *"core elements"* for each segment were chosen in order to score the test elsewhere. Only the elements of the story that were consistently retold by all of the pilot-testees were chosen as core elements. The entire procedure is described in Kluge (2006). Kluge does not specify how "core elements" should be defined. In fact, while explaining the procedure at a conference in 2008, she asserted that the number of core elements or the length of each core element is not important.[26] What is crucial is that the scoring, as based on these core elements, is completely consistent for all of the respondents wherever the story is tested. The results for the same story tested in multiple locations are then comparable between each other. However, percentage results for different stories recorded in different locations *are not* comparable in any meaningful way.

The texts of the stories that we recorded, along with the core elements for scoring, are given in Appendix B. Note that the text for Xinfeng does not contain a baseline scoring. This is because it was the last data point that we visited and we did not intend to use it elsewhere, so we did not go

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[26]SIL Asia, Eurasia, and Pacific Language Survey Caucus, Chiang Mai, February 2008.

through the pilot-testing procedure. It was simply used as a practice test for participants in that location who were then tested on other stories.

It should also be noted that the Moguang RTT was not pilot-tested. The results should therefore not be given as much weight as the results of the other RTTs. The core elements are based on the researcher's own intuition and were chosen so as to exclude as much of the content that consisted of Chinese borrowings as possible.

For the actual RTT testing, the subjects were first screened using the questionnaire given in Appendix C. This was to ensure as much as possible that they had not had contact with the speech variety that they were being tested on. The RTT is designed to test "inherent intelligibility." In other words, we were testing features of the speech varieties themselves rather than specific attributes of the subjects which would vary from subject to subject. Therefore no specific sampling was required for the results to be valid. However, we did try to ensure a good balance of male, female, young and old subjects. Specific information about the subjects is given in Appendix D.

The pilot-test in the L1 also served as a practice test for each subject. It ensured that the subjects understood and were comfortable with the testing procedure. If they had problems with the L1 story, we didn't go on to test them on RTTs from other locations.

We then tested them on RTTs from elsewhere. Again, we played it for them once all the way through, and then played it again segment by segment. During this phase, we allowed the subject to listen to each segment a maximum of two times before retelling. We played the segment to them a second time when they did not hear clearly, or were distracted and couldn't remember the content of the segment they just listened to.

Their scores were then collated based on how many core elements they mentioned out of the total number of core elements that had been chosen based on the control tests. In some cases, half marks were allocated when they mentioned part of a core element but didn't get the whole answer.[27]

4.2.4   RTTs for testing bilingualism in Bai

We had heard that there were high levels of bilingualism in Bai in our final data point, Xinfeng, which straddles the border between Heqing county and Jianchuan county. Therefore, we decided to also test participants' comprehension of Bai using two RTTs that were developed for a previous Bai dialect survey (Allen 2004).

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[27]For example, in segment 10 of the Kua-nsi RTT, one of the core elements is, "two to three pounds (of mushrooms)." One respondent retold this as, "two pounds of mushrooms," and was thus rewarded half a point for this core element. Segment 7 of the same RTT has reported speech as a core element, "Where are the cattle?" This is a rhetorical question. By implication, the storyteller is saying, "The cattle have disappeared!" Most testees retold the question correctly. However, one testee responded, "The cattle have disappeared." He was awarded half a point for this core element because his answer was partially correct. In all such cases, detailed records were kept in order to ensure that every respondent was scored in exactly the same way.

It should be noted that the use of RTTs for testing bilingualism can only give a partial picture of the situation. For one thing, RTTs only give an indication of listening proficiency in the L2 and give no indication of speaking ability. Secondly, RTT results cannot distinguish between the higher levels of proficiency. According to Blair, a person with a proficiency of only 2+ on the FSI scale can usually score 100% on the RTT (Blair 1990:74). [28] However, due to time constraints and the lack of previously developed tests for Bai proficiency, we decided that the RTT would still provide a useful indicator of comprehension levels of Bai.

One of the RTTs we used was recorded in Bai as spoken in Heqing and the other in Bai as spoken in Jianchuan. These RTTs were originally designed as "traditional" RTTs, the procedures for which are described in Casad (1974). The Casad method requires the subjects to answer questions on the content rather than to retell the content. However, in order not to confuse the participants, we adapted the Bai RTTs so as to make them suitable for the retelling method. In some cases, this involved dividing the original text into slightly shorter segments so that none were too long for retelling.

We based the scoring on the answers to the original questions that had been designed for the Bai dialect survey. Each story originally had ten questions and ten correct answers. So we simply scored each of these RTTs on the basis of the same ten core elements. This means that the scoring was not nearly so refined as for the other RTTs that we designed. The texts for the two Bai RTTs are given in Appendix B.

5   Research results

5.1   Demographic information

The Yi groups in Heqing are extremely scattered. They tend to live high up in the mountains, often interspersed with the Bai and other ethnic groups. Table 6 summarizes the locations of the various Yi groups and gives an approximation of their populations. In addition to the major concentrations of Yi groups that we already knew about (the Kua-nsi, Sonaga, and Lipu, as described in section 2.1), it can be seen that there are many other smaller pockets of Yi scattered throughout the county.

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[28]The FSI scale is a scale of L2 proficiency developed by the Foreign Services Institute of the United States Department of State. The FSI scale and the ACTFL (American Council of Teachers of Foreign Languages) scale are the two most widely-used scales of L2 proficiency.

Table 6. Location of Yi groups in Heqing county with approximate populations.

Head village 村委会	Township 乡/镇	No. of natural villages	Total pop.	No. Yi natural villages	Total Yi pop.	Branch of Yi	Other nationalities in area
Hedong 河东	Liuhe 六合	15	1,565	14	≈1,400	Kua-nsi	Bai
Shang'eping 上萼坪	Liuhe 六合	6	550	6	550	Kua-nsi	
Wuxing 五星	Liuhe 六合				≈1,900	Kua-nsi	Bai
Nanpo 南坡	Liuhe 六合	12	≈850	12	≈850	Kua-nsi	
Maidi 麦地	Liuhe 六合			1	≈100	Kua-nsi	Bai
Longda 龙大	Duomei 朵美				≈50	Kua-nsi	Bai, Han, Lisu
Daqing 大箐	Duomei 朵美				≈600	Zibusi (≈450), Kua-nsi (≈150)	Bai, Han, Lisu
Songping 松坪	Liuhe 六合		1,032		1,000+	Kuamasi	Miao, Lisu
Liuhe 六合	Liuhe 六合			1	≈100	?	
Moguang 磨光	Jindun 金墩		1,090	2	≈250	Laizisi	Bai, Han
Daying 大营	Songgui 松桂				≈220	? (closely related to Kuamasi)	Bai, Lisu
Dafudi 大福地	Xintun 辛屯				300-400	?	Bai
	Xintun 辛屯 (elsewhere)				400+	?	Bai, Naxi
Xinfeng 新峰	Caohai 草海	4	2,800+	2	980+	Sonaga	Bai, Han
Anle 安乐	Caohai 草海	4	1,098	4	1,098	Sonaga	
Beiya 北衙	Xiyi 西邑			2-3	400+	?	Bai
	Huangping 黄坪 (all villages)	112	34,119		1,705	Lipu	Han, Bai, Lisu, Zhuang, Miao
Total					*≈12,000*		

The location of the Yi people in northern Heqing are represented visually in Figure 6. This map also shows the seven data points that we visited during this survey. Kua-nsi areas are shaded in light grey. Other Yi areas are shaded in dark grey. As can be seen from the map, there are two

main Yi areas which we did not visit, the area around Dafudi in the north and Beiya in the south. This was because we were not aware of these Yi groups before we conducted the fieldwork for the survey.

Figure 6. Map showing Yi areas in northern Heqing.
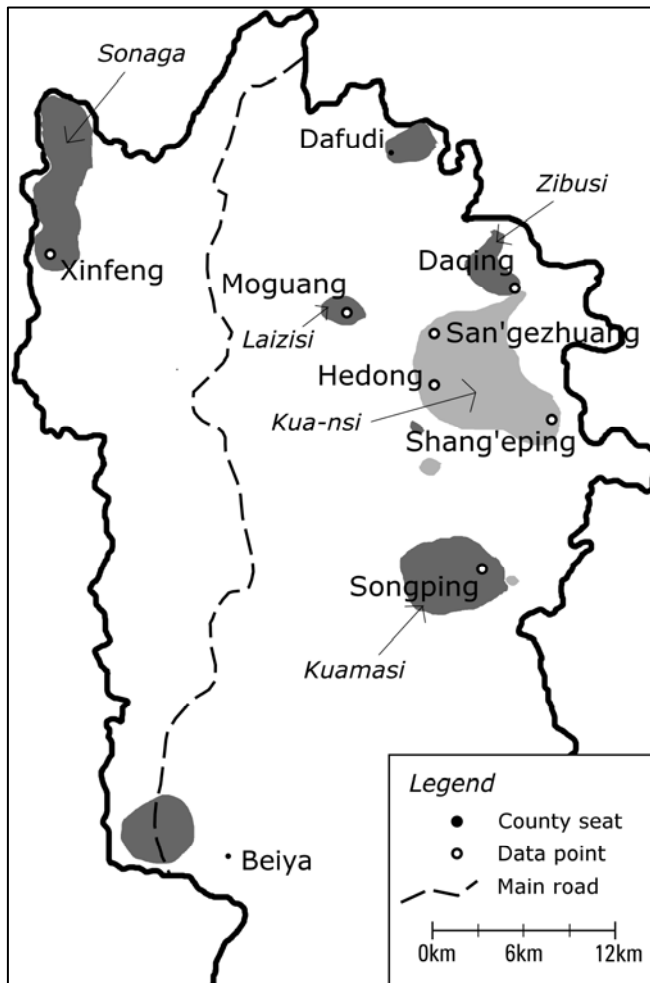
Table 7 summarizes the ethnonyms used by the five different Yi groups that we visited. The Yi groups living to the east of Heqing county town almost always used a loconym followed by the suffix [sʐ⁵⁵] when referring to themselves and to other Yi peoples. One notable exception is that the Yi of Moguang, who refer to the Kua-nsi as the [pɯ⁵⁵ ji⁵⁵], a Chinese borrowing. Interestingly, the Kua-nsi also use the suffix [sʐ⁵⁵] when referring to the Lisu and the Tibetans. In the other Yi varieties, [sʐ⁵⁵] is used exclusively to refer to Yi groups.

The Yi group living west of the county seat refer to themselves in the same way as the Chinese, as the "people of black speech," Sonaga [so²¹ na³³ ka̠³³] in their own language, or *Heihua ren* 黑话人 in Chinese. They are the only group to have a term for the Naxi people, due to their proximity to Naxi villages in Lijiang county. They refer to the Naxi as [mou⁵⁵ sou⁵⁵ zo²¹]. *Mosou* was the term that the Chinese used to refer to the Naxi long ago, before the term was transferred over to the particular Naxi group now known as the *Mosuo* 摩梭, who live by Lugu Lake on the border with

Sichuan province. This indicates that the Sonaga have lived in the area for a long time, since before the Chinese started using the term "Naxi." Indeed, it is possible that the Chinese borrowed the term from the Sonaga (since the Naxi have always referred to themselves as "Naqxi," as far as we know), but this is mere conjecture.[29]

Table 7. Ethnonyms.[a]

Yi group	**Kua-nsi**	**Kuamasi**	**Zibusi**	**Laizisi**	**Sonaga**
Location	Hedong	Songping	Daqing	Moguang	Xinfeng
Autonym	[kʰua^{33} n̩^{21} sɹ̩^{55}]	[kʰua^{33} ma^{33} sɹ̩^{55}]	[zɹ̩^{21} pu^{55} sɹ̩^{55}]	[lai^{21} dzɹ̩^{55} sɹ̩^{55}]	[so^{21} na^{33} ka^{33}]^{b}
Han Chinese	[ha^{21} pu^{55}]	[ha^{21} pu^{55}]	[xa^{21} pu^{55}]	[ha^{55} ʔõ^{33}]	[ha^{21} ʔɣ̍^{33} tɕa^{21}]^{c}
Yi (general)	[lo^{21} pʰa^{21}]		[ji^{21} tsʰu^{13}]		[ʑi^{21} zu^{55}]
Hedong Yi (Kua-nsi)		[kʰua^{33} zu^{21} sɹ̩^{55}]	[kʰua^{33} zu^{21} sɹ̩^{55}]	[pɯ^{55} ji^{55}]	[ʔa^{55} go^{33} tsʰa^{21}]^{d}
Songping Yi	[kʰua^{33} ma^{33} sɹ̩^{55}]				
Daqing Yi	[zɹ̩^{21} pɯ^{55} sɹ̩^{55}]				
Moguang Yi	[sɹ̩^{21} pʰi̤^{21} sɹ̩^{55}]			[la^{55} dzɹ̩^{55} sɹ̩^{55}]^{e}	
Xinfeng Yi				[sai^{55} ʃo^{21} sɹ̩^{55}]^{f}	
Bai	[lu^{21} pfi̤^{21}]	[lu^{21} bi^{21}]	[lu^{21} bie^{21}]	[lju^{21} bi^{21}]	[lo^{21} bi^{21} ʔɣ^{55}]
Miao	[miɑu^{21} tsɹ̩^{55}]	[ʔi^{55} sɹ̩^{55}]	[miu^{55} tsɹ̩^{33}]	[miu^{55} tsɹ̩^{33}]	[miou^{21} tsɹ̩^{55}]
Lisu	[i̤^{55} sɹ̩^{55}]	[li^{55} sɤ^{55} tsɹ̩^{33}]	[li^{55} su^{55}]	[li^{55} su^{55}]	
Tibetan	[ku^{21} tsua^{55} sɹ̩^{55}]				[gu^{21} dzu^{55}]
Naxi					[mou^{55} sou^{55} zo^{21}]

^{a} *These ethnonyms are transcribed in IPA to reflect the sounds as pronounced by the people we interviewed at each location. The transcriptions are not phonemic. Thus the transcription of [h] vs. [x], for example, refer to different phonetic realisations of the same phonemes.*

^{b} *Literally, "talk black speech," seemingly a literal translation of the Chinese "Heihua* 黑话*."*

^{c} *Literally, "speak Chinese."*

^{d} *This term literally means "comrades," and it is unclear if it is regularly used for the Kua-nsi.*

^{e} *This is how the Moguang Yi from Jidiping natural village refer to the Moguang Yi from Xipo natural village.*

^{f} *Literally, "the people of the western mountains."*

5.2 Folk history of the Heqing Yi

The different Yi groups have various views regarding their history. It would appear, however, that they are all closely related and share aspects of a common history. The information in this section comes from the leader and group interviews that we conducted.

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[29]Information on the Naxi autonym and exonyms was provided by Thomas Pinson, a Naxi scholar, in a personal communication, 7 May 2008.

The Kua-nsi believe they migrated several hundred years ago from a place called [ja^{55} wa^{55} t^{h}a^{21} lu^{33}], possibly in Yongsheng county.[30] The meaning of [ja^{55} wa^{55}] is unclear, but [t^{h}a^{21} lu^{33}] could refer to the Talu, a group of over 10,000 people who live in Yongsheng (Zhou 2004:1). The Talu preserve the same courtship custom of the "adolescent chamber" as the Kua-nsi (section 2.2).

The Laizisi believe they originally came from Sichuan province and, more recently, from Liuhe township. In southern Sichuan there are Central Ngwi groups, in particular, the Lipo of Panzhihua.[31] The Zibusi claim they migrated from Nanjing two to three hundred years ago, while the Yi in Songping say that they came from Nanchang 南昌 over five hundred years ago.[32] [33]

The Sonaga, known as *Heihua* by the Chinese, claim they have lived in the Heqing area for over 2,000 years. They say that they retreated into the mountain when Chinese soldiers came to the area during the Ming dynasty (1368-1644). It is interesting that the name for Heqing county seat in Xinfeng Yi is [mɨ^{21} t^{h}ɤ^{55}]. This appears to derive from the name used by the Chinese during the Nanzhao kingdom 南诏国, *Moutong county* 谋统郡.[34] The fact that the Chinese renamed the county seat as Hezhou 鹤州 during the Southern Song dynasty (1127–1279), and later as Heqing, suggests that the Yi have been present in the area for at least 800 years.

According to one village elder in Xinfeng, there were originally 42 *Heihua* Yi villages. He believes that the Yi of Dafudi, Daqing, Moguang, and Songping (see) descend from the same ancestors.[35] He also says that some of the original *Heihua* people moved to western Jianchuan county and to Eryuan county. Interestingly, Duan and Hu (2000:547) assert that the Yi of Cibi 茈碧乡, Sanying 三营乡, and Yousuo 右所乡 townships in Eryuan county, and the Yi of Dafudi, Beiya, Xinfeng, and An'le (Table 6) are all *Heihua* Yi.[36]

The fact that the different data points that we visited share so many common surnames also indicates that all of the Yi people of northern Heqing county are closely related (Table 8).

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[30]This is the Hedong pronunciation. It is written as 亚凹它鲁 in Chinese characters. In Shang'eping, they referred to this place as [lia^{55} wa^{55} t^{h}a^{21} lu^{33}].

[31]Personal communication with Lipo friend, 30 May 2008.

[32]It is unclear whether this is the Nanjing of Jiangsu province or some other location.

[33]Nanchang seems not to refer to Nanchang, Jiangxi province, but rather another location in Yunnan. See *Dalishi minzuzhi* (1997:103).

[34]The Nanzhao kingdom flourished during the eighth and ninth centuries AD. See http://en.wikipedia.org/wiki/Nanzhao

[35]This village elder lived in Zhongjiang, a town very close to Daqing, for several years and learned to speak Daqing Yi.

[36]They refer to the language spoken by the Yi in Cibi township as, "E'maorou 俄毛柔话," based on their autonym, [ɣɔ^{31}mɔ^{33}zɔ^{31}] which literally means, "people of the high mountains."

Table 8. Most common surnames.

Village	Yi branch	Most common Yi surnames
Hedong	Kua-nsi	*Luo* 罗, *Jiao* 绞, *Zi* 子, *Zi* 字, *Gong* 共
Shang'eping	Kua-nsi	*Luo* 罗, *Jiao* 绞, *Zi* 子, *Zi* 字
Daqing	Zibusi	*Luo* 罗, *Jiao* 绞, *Zi* 子, *He* 何, *Yang* 杨
Songping	Kuamasi	*Luo* 罗, *Jiao* 绞, *He* 何, *Gong* 龚
Moguang	Laizisi	*Luo* 罗, *Yang* 杨, *Li* 李
Xinfeng	Sonaga	*Luo* 罗, *He* 何, *Gu* 顾

5.3   Heqing Yi dialect variation

5.3.1   Lexical similarity

The Swadesh 100 wordlists were first compared using the lexicostatistical technique described in 4.2.2. They were also compared using the same methodology with Swadesh 100 wordlists from the following languages: Lahu, Lisu, Lolo,[37] Talu,[38] Lalo YB,[39] Lalo WY,[40] and Hani.[41] Bradley considers all of these languages Central Ngwi, with the exception of Hani, which he considers as a Southern Ngwi language (Bradley 2003:1, 3). The results of this comparison are given in Figure 7. The area shaded in white shows the speech varieties of the places that were visited in this survey.

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[37]Words for Lahu, Lisu and Lolo were taken from *Zangmian yuyin he cihui* (1991).

[38]Words for Talu were taken from Zhou (2002).

[39]Lalo YB refers to Lalo as spoken by the Yi of Yangbi county 漾濞县, Dali prefecture, taken from *Yunnan Yiyu fangyan ciyu huibian* (1984).

[40]Lalo WY refers to Lalo as spoken by the Yi of Wuyin township 五印镇, Weishan county 巍山县, Dali prefecture, taken from Dai and Huang (1992).

[41]Words for Hani were taken from *Zangmian yuyin he cihui* (1991).

Figure 7. Swadesh 100 lexical similarity percentages.

Kua-nsi (Hedong)	Kua-nsi (Shang'eping)	Kua-nsi (San'gezhuang)	Kuamasi	Zibusi	Laizisi	Sonaga	Lisu	Lolo	Talu	Lalo YB	Lalo WY	Lahu	Hani
96%													
94%	95%												
65%	65%	68%											
66%	63%	62%	60%										
52%	50%	52%	58%	72%									
44%	43%	46%	47%	59%	53%								
46%	44%	44%	48%	51%	49%	51%							
43%	41%	39%	42%	46%	48%	41%	60%						
48%	46%	46%	43%	47%	41%	36%	52%	47%					
41%	39%	39%	40%	44%	43%	41%	58%	42%	45%				
34%	34%	35%	40%	40%	41%	40%	52%	43%	40%	66%			
25%	23%	26%	29%	32%	36%	30%	48%	42%	31%	39%	36%		
26%	24%	26%	24%	31%	33%	32%	42%	31%	31%	34%	36%	44%	Hani

The chart shows that the speech varieties of the three data points within the Kua-nsi area—Hedong, Shang'eping, and San'gezhuang—are lexically extremely close to each other, with similarity percentages ranging from 94% to 96%. This goes some way to confirming the homogeneity of the Kua-nsi language throughout the Kua-nsi area.

The other striking thing about this chart is that it shows how diverse the different Yi varieties are outside of the Kua-nsi area. The highest similarity percentage is 72%, between Zibusi and Laizisi. The closest variety to Kua-nsi seems to be Kuamasi, with similarity percentages ranging from 65% to 68%. In these ranges, intelligibility testing is needed to confirm whether the varieties are mutually intelligible or not (Blair 1990:23).

Sonaga appears to be an outlier, with no similarity percentages of 60% or above. According to Blair (1990), one can therefore assume that Sonaga is not mutually intelligible with any of the other varieties in the table.

Figure 8 shows the clusters that resulted from the lexicostatistical analysis. The speech varieties were clustered using an algorithm known as unweighted pair-group method with average means (UPGMA), using software developed by Peter Kleiweg (2008). The three Kua-nsi varieties form an obvious cluster. Sonaga is clearly an outlier.

Figure 8. Heqing Yi varieties grouped according to UPGMA clustering analysis.
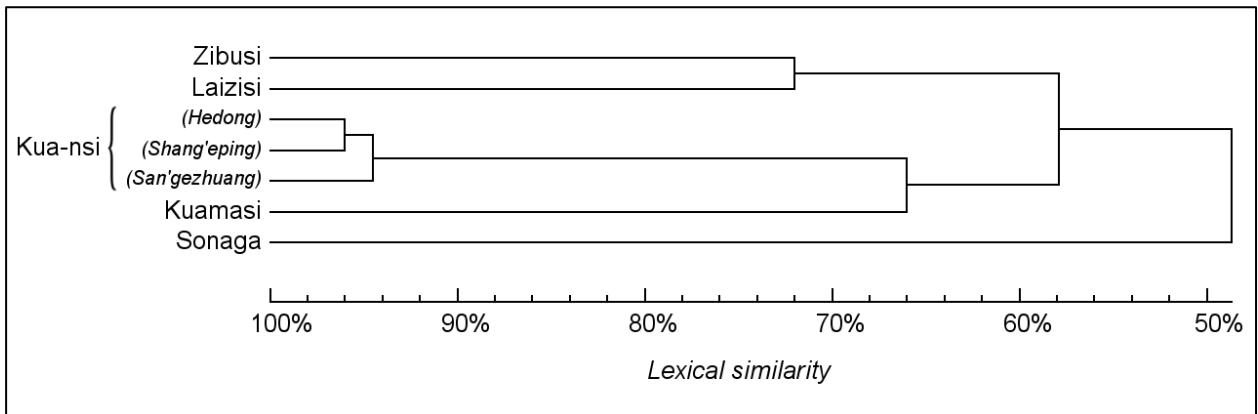
This evidence, coupled with reported levels of intelligibility across the Kua-nsi area, and our own observation, led us to the conclusion that Kua-nsi is indeed, for all intents and purposes homogeneous.[42] In other words, all the people who refer to themselves as "Kua-nsi" speak the same speech variety, with only very minor differences in accent and word use.

In section 2.3, the *Heihua* Yi of Eryuan county were mentioned. Using a core set of words for this Yi variety of Eryuan county given in Duan and Hu (2000), we also carried out a lexicostatistical comparison with the speech varieties surveyed in Heqing.[43] The results are given in Table 9. The most similar Heqing variety of Yi to Eryuan *Heihua* is, perhaps not surprisingly, the Sonaga (*Heihua*) language of Xinfeng. However, the lexical similarity is still way below the 60% cut-off point that would require intelligibility testing, and it can be safely assumed that these two varieties are mutually unintelligible.

Table 9. Lexical similarity comparison of Eryuan "Heihua" Yi and Heqing Yi varieties.

Heqing Yi variety:	*Kua-nsi*	*Kuamasi*	*Zibusi*	*Laizisi*	*Sonaga*
Eryuan county "Heihua" Yi	31%	33%	35%	40%	48%

To summarize, the following conclusions can be drawn from the lexical similarity analysis:

a)   The language spoken by the Kua-nsi is virtually identical across the area where they live.

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[42]When we travelled to the easternmost data point in the Kua-nsi area, Shang'eping, we took with us a Kua-nsi man from the northernmost Kua-nsi data point, San'gezhuang. He was able to converse with the Kua-nsi in Shang'eping without any problems whatsoever and reported that they spoke exactly the same language. It should also be noted that we used a text from the westernmost Kua-nsi data point, Hedong, as a practice test for the RTT participants in San'gezhuang, and they attained a mean score of 97%, confirming that the Kua-nsi spoken in San'gezhuang is virtually identical to that spoken in Hedong. See section 5.3.3.

[43]The list in Duan and Hu (2000) did not include enough words from the Swadesh 100 to make a worthwhile comparison, so we used a core of 136 words, all of which occur in the Swadesh 200, in order to make these calculations.

b) There is great diversity among all the Yi languages of northern Heqing, with the highest lexical similarity percentage being a mere 72%. Intelligibility testing is needed to confirm whether these varieties are mutually intelligible or not.

c) Sonaga appears to be an outlier. No other language could be found which was over 60% lexically similar to it.

5.3.2 Levenshtein distance

The Levenshtein distance (LD) algorithm was also used to compare phonetic difference between the Yi varieties that were surveyed and other Ngwi languages. This algorithm is explained in section 4.2.2. The results are shown in Figure 9. The area in white shows the speech varieties of the places that were visited in this survey.

For the Ngwi varieties outside of Heqing included in the analysis, the same sources were used as for the wordlists used for lexicostatistical analysis. However, we didn't just use the Swadesh 100 core words. Rather, we used as many words as possible that these different wordlists had in common. The fewest number of words used for any one comparison was 458, with the exception of Talu, for which we only had 225 common words available.

It should be noted that one cannot draw any conclusions from the raw figures themselves. The figures are only meaningful when compared relative to each other. Simply put, the lower the figures are, relatively speaking, the less phonetic distance there is between the two varieties being compared.

Figure 9. Levenshtein distance comparison between Yi varieties.

Kua-nsi (Hedong)	Kuamasi	Zibusi	Laizisi	Sonaga	Talu	Lalo YB	Lalo WY	Lolo	Lisu	Hani	Lahu
0.29											
0.31	0.28										
0.36	0.29	0.27									
0.41	0.40	0.37	0.36								
0.41	0.43	0.42	0.45	0.45							
0.56	0.55	0.55	0.55	0.55	0.51						
0.51	0.50	0.51	0.52	0.52	0.47	0.48					
0.54	0.51	0.52	0.51	0.51	0.46	0.50	0.54				
0.56	0.55	0.53	0.55	0.56	0.52	0.55	0.52	0.49			
0.55	0.55	0.55	0.55	0.55	0.52	0.61	0.55	0.55	0.60		
0.59	0.60	0.60	0.60	0.60	0.58	0.59	0.61	0.58	0.60	0.56	Lahu

Figure 10 shows the groups that resulted from the LD analysis, again using UPGMA clustering. It is interesting that the closest Ngwi variety to those surveyed in Heqing appears to be Talu, another

Central Ngwi language in neighbouring Yongsheng county. These, in turn, appear to be closest to the Lalo varieties of Yangbi and Weishan counties. This supports the claim by Talu expert, Zhou Decai, that Talu is best classified as a Western Yi language, and is "extremely close" to the Yi (Lalo) of Weishan county (Zhou 2004:232).

Figure 10. UPGMA clusters based on Levenshtein distance. [a]
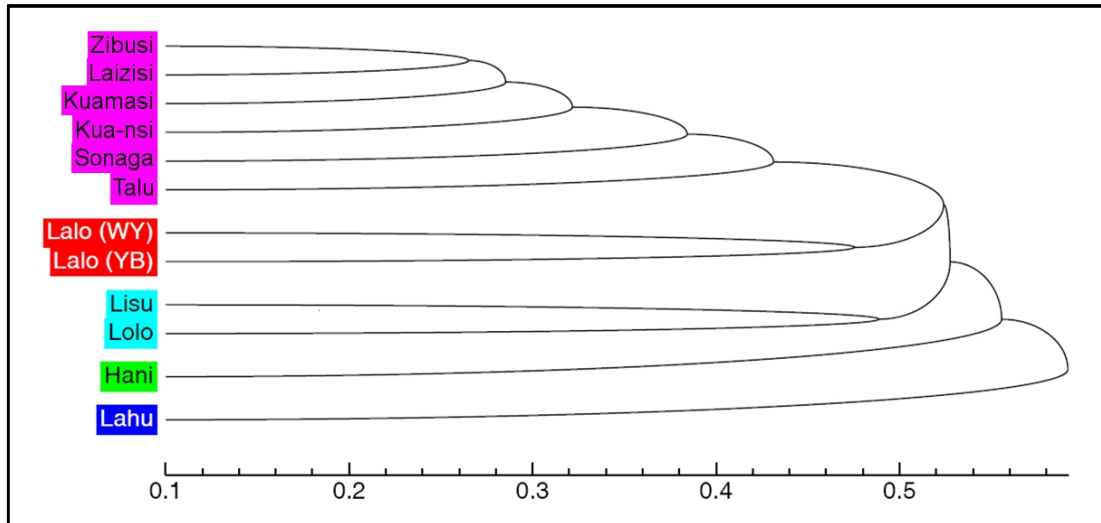
[a] *The data used to represent Kua-nsi was the Hedong wordlist.*

This chart indicates that, in terms of phonetic distance, the Kua-nsi language, as spoken in Hedong, is closest to Kuamasi. It also shows that Zibusi and Laizisi form their own "mini-cluster," and that Sonaga is an outlier. All of this is consistent with the clustering given by the lexical similarity analysis shown in Figure 8.

Given the correlation between LD analysis and intelligibility (section 4.2.2), it is possible to draw some tentative conclusions in conjunction with the RTT results. We shall first look at the RTT results before considering them together.

5.3.3   RTT results

Relatively little RTT testing was carried out due to the fact that most of the survey was conducted in one trip and it was difficult to develop good tests on location. In addition, the first six data points (in other words, all of the data points, with the exception of Xinfeng) are all extremely close to each other geographically, concentrated in and around Liuhe township. Therefore, it proved hard to find suitable RTT participants who had not had significant levels of contact with the varieties that we wanted to test them on.

In the end, we managed to find only three participants in Songping on whom to test the Kua-nsi (Hedong) RTT. It turned out that one of them came from Zala 咱腊, a natural village in Daying which is part of Songgui township (see Table 6). According to the villagers in Songping, the language spoken by the Yi in Daying is very close to their own language (Kuamasi) and they have no difficulty in communicating with each other. Certainly, the RTT participant from Zala had no

problems with the Kuamasi RTT, scoring 98%; she also scored 80% on the Kua-nsi RTT. One of the other participants, a man who said he very rarely meets Kua-nsi people, scored only 65% on the Kua-nsi RTT, and the third participant scored much higher (86%), possibly because she is used to hearing her mother speak Kua-nsi.

A much more satisfactory sample of RTT participants was found in San'gezhuang. Eight of the participants had not been outside of Heqing county and three of them had not even travelled to Heqing county seat. The nearest market to San'gezhuang is either in Moguang village (over one hour's walk away where the Laizisi people live) or Liuhe township (over three hours' walk away). People from Songping would very rarely have reason to travel to Moguang and only occasionally travel to Liuhe township (the nearest markets to Songping are Heishui or Duomei, not Liuhe). Therefore, the amount of contact that the Kua-nsi from San'gezhuang have with the Kuamasi from Songping is minimal.

The low standard deviation for the San'gezhuang participants' scores on the Kuamasi RTT gives confidence that their mean score of 62% is a relatively accurate picture of mutual intelligibility.[44] During the testing, we observed that the subjects were struggling to understand the recording. They got the general gist of the story but missed many significant details. This is reflected in their average score of 62%.

In contrast, the San'gezhuang participants scored exceptionally highly on the Kua-nsi RTT. This confirms the conclusion drawn in section 5.3.1 that there is very little variation in the Kua-nsi language throughout the Kua-nsi population.

Finally, seven Sonaga participants in Xinfeng were tested on the Laizisi RTT. We chose Laizisi because the Laizisi are geographically the closest Yi group to Xinfeng within Heqing county. At that point we had not done the comparison of the Sonaga wordlist with the other varieties in Heqing. We believe that, even though the Laizisi RTT had not been pilot-tested, the extremely low mean score of 33% confirms the conclusion drawn in sections 5.3.1 and 5.3.2 that Sonaga is an outlier.

Because the Sonaga people in Xinfeng were reported to be bilingual in Bai, we also decided to test two Bai RTTs on the same seven participants. One text represented Bai as spoken in Diannan township 甸南镇, Jianchuan county, which lies just over 20km south-west of Xinfeng. The other text represented the Bai spoken in Jindun township 金墩乡, Heqing county (this is the same township where the Moguang data point is located), which lies just over 15km east of Xinfeng.[45]

As mentioned in section 4.2.4, the RTT cannot be used as an accurate measure of bilingual proficiency. However, it is useful in giving an indication of the level to which the RTT participants

[44]Grimes (1990), section 7.2, states that, "A standard deviation of 15 percent or more indicates the probable presence of a bilingual overlay on intelligibility." A low standard deviation increases the confidence that the score is due to mutual intelligibility rather than other factors.

[45]These texts were recorded by Bryan Allen, SIL International, in 2000. See Allen (2004).

comprehend the L2. The key question to consider is how well the participants represent the population as a whole.

In Xinfeng, the participants achieved a mean score of 96% on the Heqing Bai RTT. We believe this is significant given that four out of the seven participants were women over the age of forty, the section of the population whom we expected to score the lowest. Villagers had reported that everyone in the village was proficient in Bai and that the men were generally slightly more comfortable speaking Bai than the women. The fact that some of the RTT participants responded in Bai, rather than in their L1, is also an indication of a high level of bilingualism. The participants generally did worse on the Jianchuan Bai RTT, which is not surprising given that they have more contact with the Heqing variety.

A summary of the RTT results is given in Table 10. Further details of the participants are given in Appendix D.

Table 10. Summary of RTT results.

Test site: *Reference text:*	**San'gezhuang** (Kua-nsi)	**Songping** (Kuamasi)	**Xinfeng** (Sonaga)
Kua-nsi *(Hedong)*	10 participants Mean score: 97% Standard deviation: 6.8	3 participants Scores: 86%, 80%, 65%	
Kuamasi	10 participants Mean score: 62% Standard deviation: 6.5	3 participants Mean score: 99% Standard deviation: 1.3	
Laizisi			7 participants Mean score: 33% Standard deviation: 8.1
Heqing Bai			7 participants Mean score: 96% Standard deviation: 6.1
Jianchuan Bai			7 participants Mean score: 83% Standard deviation: 13.8

5.3.4 Reported intelligibility

The Laizisi reported that the Sonaga language spoken of Xinfeng was "about 70% the same" as their own language and that they could communicate with each other. This is contradicted by the results of the RTT testing carried out in Xinfeng. The Laizisi also reported a considerable amount of intermarriage between themselves and the Yi of Dafudi and Redifang in Xintun township (see Table 6 and Figure 6). Based on this, they reckoned that the Yi language spoken in Xintun was "60% to 70% the same" as their own language and that they could communicate with each other.

In Daqing, the Zibusi villagers reported that three Yi (Laizisi) women from Moguang had married into their village. They said that the Yi language that these women speak is "basically the same" as their own Yi language. This lends weight to the idea of a mini-cluster of Zibusi and Laizisi revealed by the lexicostatistic and LD analysis. The Zibusi also said that the Yi language spoken by the Yi people in Dafudi and Redifang in Xintun was very different from their own language and that they could not communicate with each other at all. However, the Zibusi have much less contact with the Yi of Dafudi and Redifang than the Laizisi do. Someone from Daqing had also travelled to a Yi village in Songgui township but he said that their language was very different from Zibusi.

The Kuamasi people of Songping reported that the language spoken by the Yi in Zala 咱腊 and Xijiu 锡九, natural villages in Daying head village, Songgui township (see Table 6), was very similar to their own language and mutually intelligible. This was reported by several people, including women who had married into the Songping area.

5.3.5 Dialect variation conclusions

Based on the results of the wordlist comparisons and the RTTs, the following conclusions can be made regarding the dialect variation situation among Heqing Yi varieties:

a) The language spoken by the Kua-nsi is practically identical throughout the Kua-nsi region. There is virtually no dialect variation.

b) There is great diversity among the different Yi varieties spoken in northern Heqing. Each of the five varieties surveyed could be viewed as different languages. The fact that Kuamasi was shown to have low intelligibility with Kua-nsi (through RTT testing), and that both lexicostatistical analysis and LD analysis showed that Kuamasi and Kua-nsi were the closest two varieties (with the exception of Zibusi and Laizisi), suggests that mutual intelligibility between all five of the varieties surveyed is likely to be extremely low.

c) Based on lexicostatistical and LD analysis, Zibusi and Laizisi form a small cluster on their own. However, it would be difficult to test mutual intelligibility between the two because of high levels of contact.

d) LD analysis suggests that the closest language to Talu of Yongsheng county is the Kua-nsi language of Hedong and the surrounding area. This warrants further investigation, particularly given that the Kua-nsi have a tradition that they migrated from a location in Yongsheng which includes the name *Talu*.

e) Based on the apparent divergence of the Yi varieties surveyed, and on conflicting reported levels of intelligibility, it would be no surprise to discover that the varieties of Yi spoken in Dafudi and Beiya are equally divergent.

5.4 Language vitality[46]

5.4.1 Multilingualism

High levels of multilingualism were reported at all of the data points visited. In Daqing, Bai and Chinese seem to be spoken by even more people than the Yi (Zibusi) language. Table 11 shows the number of people reported to speak Yi, Chinese, and Bai in each of the data points.

Reported proficiency in L2 is notoriously unreliable. However, the Bai RTT that was carried out in Xinfeng provides significant weight to their particular claims of bilingualism.

Table 11. Languages reported spoken at each data point.

Data point: **Language spoken**	Hedong (Kua-nsi)	Shang'eping (Kua-nsi)	Songping (Kuamasi)	Daqing (Zibusi)	Moguang (Laizisi)	Xinfeng (Sonaga)
Yi[a]	all	all	all	most	all	all
Chinese[b]	most	most	most, better than Bai	all	almost all	most
Bai	most, better than Chinese	few	most	all	almost all	almost all

[a] *In each case, "Yi" refers to the respective Yi variety spoken in each of the data points.*

[b] *Chinese here refers to Yunnan Chinese dialect, a form of south-west Mandarin.*

5.4.2 In the home

In every natural village that we visited, Yi was the only language used in the home. The children speak Yi with their parents and vice versa. The villagers said that they knew of no households in which Yi was no longer spoken. The only exception was in Shang'eping where there was one household that now speaks Chinese because a Han Chinese from elsewhere married into the family. In Songping, Hedong, Shang'eping, and Xinfeng, no one knew of any other Yi villages where Yi was no longer spoken.

However, in Daqing head village, a reported 20% of Yi households no longer speak the Yi (Zibusi) language. They have shifted to speaking Chinese.

5.4.3 At the market

For all of the villagers that we interviewed, either Chinese or Bai is the dominant language in the places where they go to market. Table 12 summarizes this information. This helps to explain the high levels of multilingualism reported in section 5.4.1.

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[46]Information in this section came from the interview schedules that we conducted.

Table 12. Markets frequented by the Heqing Yi.

Village	Locations of markets visited and frequency markets are held	Dominant language/s of market
Hedong	Liuhe 六合乡 (3 times/10 days)	Bai, Chinese
	Lingdi 灵地村 (2 times/10 days)	Bai
Shang'eping	Zhongjiang 中江村 (3 times/10 days)	Chinese
Songping	Heishui 黑水村 (2 times/10 days)	Bai
	Duomei 朵美镇 (3 times/10 days)	Bai, Chinese
Daqing	Zhongjiang 中江村 (3 times/10 days)	Chinese
Moguang	Jindun 金墩乡 (3 times/10 days)	Bai, Chinese
	Heqing county seat 鹤庆县城 (3 times/10 days)	Chinese
Xinfeng	Damachang 大马厂 (2 times/10 days)	Bai
	Heqing county seat 鹤庆县城 (3 times/10 days)	Chinese

5.4.4 In school

The language of instruction in the early years of primary school depends entirely on the languages that the teacher speaks. Generally it seems to be the case that if the teacher speaks Yi (either because they are Yi themselves or because they have grown up near Yi villages), he or she uses it in the lower grades until the students are proficient enough in Chinese to be able to understand instruction in Chinese. There are no formal programmes of bilingual education, however.

In the primary schools in Hedong, Shang'eping, and Xinfeng, which go up to grade six, the students are almost entirely Yi nationality and the teachers are all able to speak the respective Yi variety. In Songping and Daqing, the primary school teachers are Bai and are unable to speak Yi. In Moguang, one of the primary schools, which goes up to fourth grade, has a Yi teacher who speaks Yi, but the other schools do not have any teachers who speak Yi.

In all locations, children have to go further afield to attend secondary school, where they study alongside Bai and Han students. The only language of instruction in secondary school is Chinese.

5.4.5 In government

In Hedong, Shang'eping, Xinfeng, and Songping, village meetings are almost always held in the respective variety of Yi. Yi is also the main language used in the head village committee offices in Hedong, Shang'eping, and Songping. Bai is most commonly used in Xinfeng village committee offices.

In Daqing and Moguang, village meetings are generally held in Chinese because villagers are of mixed nationalities. In the village committee offices, a mixture of Bai and Chinese is used.

At township level, Chinese is almost always the language of communication in government offices.

5.4.6 Intermarriage

Intermarriage between the Yi and both Han and Bai was reported in all of the places that were visited. If the Yi married out to Han or Bai families, Chinese or Bai would become the main language in the household. If Han or Bai married into a Yi family, Yi would generally become the main language of the household (with the exception of one family in Shang'eping who now speak Chinese in the household).

5.4.7 Language vitality conclusions

A key factor determining the level of endangerment of a language is inter-generational language transmission (Fishman 1991). According to a 2003 UNESCO report on language vitality and endangerment, if the language is no longer being learned as the mother tongue by children in the home, it can be considered to be *definitely endangered*. If the language is used by some children in all domains and by all children in limited domains, it can be considered *unsafe* (UNESCO 2003:14).

Li Jinfang categorizes languages in China as: *strong languages* 强势语言 (e.g. Mandarin, South-Western Mandarin, Cantonese, Shanghainese, Tibetan, Zhuang); *weak languages* 弱势语言 (defined as languages with a small but stable number of monolingual or bilingual speakers, e.g. Gelao, Pumi, Dongxiang); *endangered languages* 濒危语言 (defined as languages that are no longer used by some children, but still used by other children who are bilingual in another language, e.g. Qiang, Tujia); and *languages in danger of extinction* 濒绝语言 (e.g. Manchurian) (Li 2006;4–5).

Although the number of speakers of the varieties surveyed in this research are generally very small, most of them could be defined as "weak" but stable according to Li's categorization, because the language is used by all age groups, including children.

Having said that, it is clear that levels of bilingualism are high and are likely to become higher as education becomes more accessible. The fact that all children are reported to be learning Chinese (the only monolinguals that were reported were older women) and are exclusively using Chinese in the classroom, indicates that under the UNESCO guidelines, all of these Yi languages could be viewed as "unsafe."

However, there is clear evidence that the respective Yi varieties spoken in Moguang and Daqing are in decline. Moguang head village used to be Yi about 150 years ago, but the residents have now changed their identity to Bai and they no longer speak Yi. Instead, they speak Bai as their mother tongue. In Moguang, there are only two natural villages left where people speak Yi, accounting for a total of around 250 people, and the populations of both of these villages is declining due to migration. In Daqing head village, a reported 200 households which used to be Yi nationality have changed their official identity to Han nationality and now speak Chinese in the home. Very few of these people can now speak Yi. In addition, Yi is apparently no longer spoken in approximately 20% of the remaining Yi households. It has been replaced by Chinese. The Yi varieties in Moguang and Daqing could therefore be defined as "endangered" according to Li's criteria previously outlined.

On the Graded Intergenerational Disruption Scale designed by Fishman (Table 13), all of these Yi varieties can be seen to be at Stage 6 out of a total of eight stages, where Stage 8 is equivalent to "almost extinct." However, use of this scale should be cautious as it probably does not apply to all speech communities.

Table 13. GIDS: Graded Intergenerational Disruption Scale (Fishman 1991, adjusted)

Strength	Stage	Description	Domain
weak side	Stage 8	so few fluent speakers that community needs to re-establish language norms; requires outside experts (e.g. linguists)	no domain
	Stage 7	older generation uses L1 enthusiastically but children are not learning it	community domain
	Stage 6	language & identity socialization of children takes place in home, community in L1	home & community domain
	Stage 5	language socialization involves extensive literacy, usually including L1 schooling	ethnic language literacy domain
strong side	Stage 4	L1 used in children's formal education in conjunction with national or official language	formal education domain
	Stage 3	L1 used in workplaces of larger society, beyond normal L1 boundaries	work & employment domain
	Stage 2	lower governmental services & local mass media are open to L1	mass media domain
	Stage 1	L1 used at upper government level	government domain

5.5 Cultural vitality[47]

One should bear in mind that the Yi, along with many other minority groups of China, have lived side by side with the Han majority for many centuries. Therefore, there is a great deal of overlap between Chinese folk culture and ethnic minority culture. For example, many traditional instruments are not exclusive to Chinese culture or to a particular minority culture. Many aspects of folk religion also cross ethnic divides and have done so since ancient times.

5.5.1 The Kua-nsi

Out of all the Yi groups surveyed, the Kua-nsi have preserved their customs most completely. There are several people who play traditional instruments, such as the *suona* 唢呐 (a type of horn), the *erhu* 二胡 (a two-stringed instrument played with a bow) and the *dizi* 笛子 (a type of flute). In common with many other Yi groups, many people also learn to play the leaf.

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[47]Information in this section came from the interview schedules that we conducted.

The Kua-nsi continue to conduct their weddings in the traditional manner, over a period of three days. The elderly people still tell traditional folk tales to their grandchildren and some people still learn to sing folk songs in Kua-nsi.

Most of the young Kua-nsi women in Shang'eping learn to make and embroider their own clothes. Some people still make clothes out of traditional *fire grass* (section 0) and hemp. Figure 11 shows a Kua-nsi man wearing a jacket made from *fire grass* and a Kua-nsi woman wearing traditional dress.

Figure 11. A Kua-nsi couple in traditional dress.

5.5.2 The Sonaga

In common with the Kua-nsi, some of the Sonaga can play traditional instruments such as the *sanxian* 三弦 (a three-stringed plucked instrument) and can play the leaf. Some people are able to sing folk songs, but only in Bai, not in their own Yi language, as with the Heihua people of Eryuan county (Duan and Hu 2000:547). The Sonaga also preserve a form of opera known as *chuichuiqiang* 吹吹腔. It is traditionally performed in Chinese, not in the Sonaga's own language. However, very few Sonaga today are able to perform this and it is in danger of dying out.

Traditional clothes have not been worn by the Sonaga since the early 1970s. Villagers say that the women used to wear large, square headdresses like the Nuosu Yi of Sichuan. All of the women, including the old women, now wear Bai traditional dress just like their Bai neighbours. However, they do continue to wear traditional cloaks made from goat's skin, to protect their backs and keep off the rain.

In 2007, the Sonaga people of Xinfeng celebrated their temple "receiving the local spirits" festival for the first time in many decades. They plan to hold it every year. It appears to be mainly the women who take part in this. This festival is known in Chinese as *benzhu miaohui* 本主庙会 and is also celebrated by the Bai living in the surrounding areas (Dali 1986:19). It is held on the thirteenth day of the third lunar month.

From the fourteenth day to the sixteenth day of the seventh lunar month, each Sonaga family holds its own ceremony to honour their ancestral spirits, known as *jizu* 祭祖 in Chinese. The Sonaga also celebrate the traditional Yi Torch Festival *Huobajie* 火把节, as well as the traditional Chinese festivals, such as Chinese New Year.

5.5.3   The Zibusi of Daqing

Older people can still sing their traditional mountain songs but very few young people can sing them any more. Some people can play the leaf but no one now knows how to play traditional instruments. The Zibusi women haven't worn traditional dress since the 1960s. They now wear traditional Bai clothes. They have maintained their traditional three-day wedding ceremony, like the Kua-nsi.

5.5.4   The Laizisi of Moguang

There are some young people who have learned their traditional mountain songs and many people can play traditional instruments like the *suona* and the *erhu*, in addition to playing the leaf. However, the women no longer wear their traditional Yi clothes but wear Bai costumes instead. From the thirteenth day to the fifteenth day of the third lunar month they hold the traditional "welcoming and seeing off the Shibao mountain spirit" festival, known as *chaoshan hui* 朝山会 in Chinese. The Bai who live in the vicinity also celebrate this festival. Shibao mountain 石宝山 is a sacred mountain north of Moguang.

5.5.5   Summary of cultural vitality

While the Kua-nsi are the only one of the Yi groups surveyed who have preserved their traditional dress, there are other aspects of Yi culture which most of the groups have maintained, such as traditional festivals and playing the leaf.

Many customs, though, seem to be in decline, in particular the telling of traditional folk tales and the singing of folk songs in Yi. Unless action is taken to encourage these activities, one fears that the memory of them will pass into oblivion.

6   Conclusions and recommendations

There are over 12,000 people of Yi nationality living in Heqing county. They live scattered throughout the county, mainly in the mountains. Their languages are diverse and their history is unclear.

The dialect variation study presented in this report suggests that all of these Yi speech varieties belong to the Central Ngwi branch and are closely related to Lalo varieties of Weishan county and Talu of Yongsheng county. It can be projected that none of these varieties are likely to be mutually intelligible to any high degree. Our findings do show, however, that the Yi variety spoken by all of the people known as the Kua-nsi is largely homogeneous and mutually intelligible throughout the areas where the Kua-nsi live.

In terms of language vitality, most of these speech varieties can be described either as "weak but currently stable" or as "unsafe." In the light of this, they are definitely worthy of further study and documentation. Because the communities are extremely limited in size and resources, outside aid in the form of trained experts, programmes, funding and other materials, and protective legislation would be helpful.

In view of the relatively rapid decline in traditional culture and customs among these groups, urgent documentation of these customs, in particular traditional songs and folk stories is recommended. Priority should be given to the Yi of Moguang and Daqing, whose languages are further towards the endangered end of the vitality continuum than the other Yi varieties.

This survey is obviously very limited in terms of depth of research and the number of groups visited. Now that we know a little more about the Yi groups in Heqing, a more comprehensive survey covering all of the known groups, including a comparative study of shared and divergent historical innovations within the different speech varieties and more detailed research into multilingualism and language attitudes, would be extremely worthwhile. In addition, given the uncertainty of these people groups' histories, a historical comparative study of the endangered Central Ngwi languages of Yongsheng county alongside both the data gathered in this survey and data from related Yi groups such as the Lolo and Lipo of Chuxiong prefecture and the Lalo of Dali prefecture would be valuable.

The most vibrant language and culture included in this study is that of the Kua-nsi people of Liuhe township. Efforts at language maintenance are likely to be more successful here than with any of the other Yi groups due to the Kua-nsi's advantage in population size and to their strong sense of ethnic identity. The community itself should be involved in any efforts that are made so that the people themselves own the future of their own language and culture.

In May 2007, the General Assembly of the United Nations adopted a resolution on multilingualism which included the following commitment: "The General Assembly... calls upon Member States... to promote the preservation and protection of all languages used by the peoples of the world" (United Nations General Assembly 2007). As UNESCO asserts, "We all share the responsibility of ensuring that no languages will disappear against the will of the community concerned and that as many languages as possible will be maintained and transmitted to the future generations" (UNESCO 2003:28).

Let us share this vision with the Yi peoples of Heqing, that their languages would not slip into a forgotten past but be preserved and maintained for future generations.

Appendix A. Administrative units in China

The following chart shows the hierarchy of the administrative units in China.

Province *or* Autonomous Region
(e.g. Yunnan)

Municipality *or* Prefecture
(e.g. Dali)

County, District *or* City
(e.g. Heqing)

Township
(e.g. Liuhe)

Head village
(e.g. Hedong)

Natural village
(e.g. San'gezhuang)
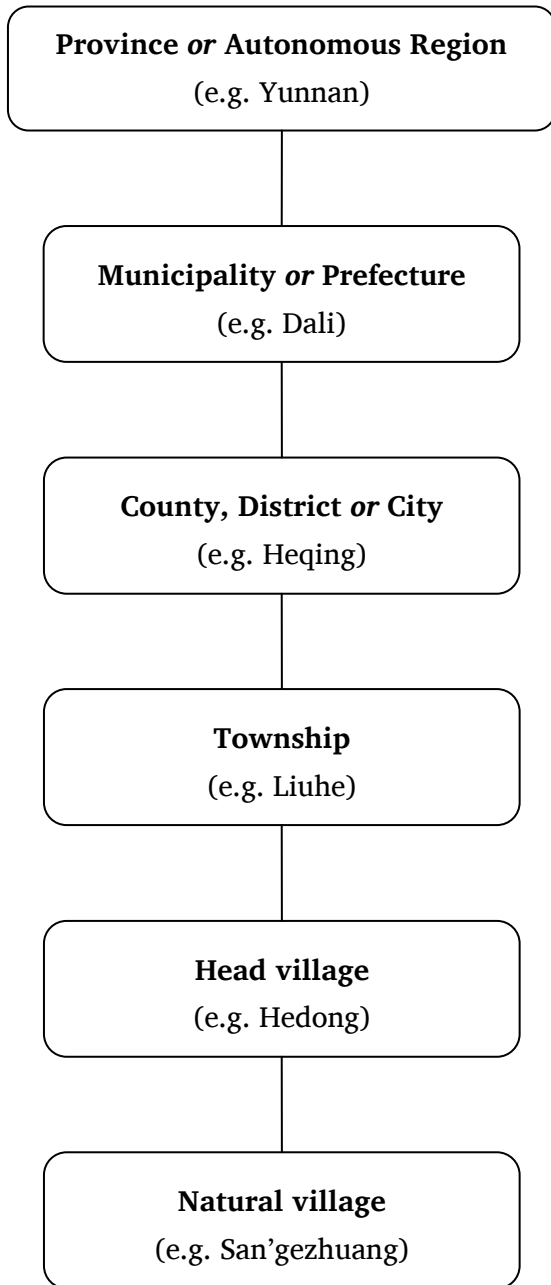
Appendix B. RTT texts

Laizisi RTT, recorded in Moguang

Segment	Text (core elements underlined, *Chinese loan words in italics*)	Score[a]
1	有一次，我去打麂子。 Once, I went to hunt deer.	2
2	我一个人 进去就看到一只黑熊。 I was alone, I entered (the forest) and saw a bear.	4
3	就打黑熊打了一枪。老黑熊爬过来，我就不敢打了。 I shot the bear once. The bear came towards me and I didn't dare shoot again.	3
4	*最后*,我回来了,它跟着我的后面，我就打给他[它]一枪,把它的心肝五脏 打烂了。 *In the end*, I came back, but the bear followed behind me. So I shot it again, and damaged its vital organs.	4
5	我打着了黑熊。他们不相信。*最后*，看了一下，老黑熊翻也翻不动。 So I got the bear. They didn't believe it! *In the end*, I looked at the bear, and it wasn't even able to roll over.	2
6	*五百斤以上*的老黑熊。我没有办法，（抬不动）当时没有*手机电话*也没有在山上。 The bear *weighed over five hundred pounds*. There was nothing I could do, I didn't have a *mobile phone* or a *telephone* on the mountain.	1
7	*最后*我回来我连夜跑回来，请马，骡子 I ran back home that very night, and got a horse and a mule	2
8	我又去请人把黑熊抬回来，老黑熊称着 *560 斤。* I found someone to help lift the bear back. We weighed it and found it was *560 pounds*.[b]	2
9	那一次我就*发财了*，我 一个人我*曾经经过的生命是危险*的，*相当危险。* So I had *made a fortune*. *This experience* of mine *was so dangerous, so very dangerous*.	0
10	*最后*我还是很划算，还是打着了。 But in the end it was really worth it, getting the bear.	2
	Total score:	22

[a] The score gives the maximum number of marks allocated for each segment, which is equal to the number of core elements in that segment.

[b] The Chinese word translated as "pound" in these texts actually refers to a weight of approximately 600g.

Kua-nsi RTT, recorded in Hedong

Segment	Text (core elements underlined, *Chinese loan words in italics*)	Score
1	以前，小的时候，我和我的伙伴我两去放牛。 When I was small, my friend and I took the cattle out to graze.	2
2	去放牛，赶着赶着就赶到上面。 We drove them on up the hill.	2
3	然后在那边看到一些鸡枞，我的心里就很高兴。 Then we saw some wild mushrooms there, and I felt really happy.	2
4	我就摘鸡枞，我的那个伙伴... So I picked mushrooms, and my companion...	2
5	...说："你在这里挖鸡枞，我去前面等着。" ...said, "You stay here and pick mushrooms, and I'll go ahead and wait for you."	2
6	"啊，那我就在这里挖鸡枞，"这以后， "OK, I'll pick mushrooms here." After this,	1
7	我鸡枞还没摘完的时候，我的那个伙伴就回来问我"牛在哪里？" when I still hadn't finished picking mushrooms, my friend came back and asked me, "Where are the cattle?"	3
8	"牛我不知道，刚刚还在这里吃草，不晓得跑哪里去了。 "I don't know about the cattle. Just now they were right here eating grass. I don't know where they have gone."	3
9	"那我就把这些摘完，我们该马上去找。" "I'll finish picking these mushrooms, then we can go and look for the cattle."	2
10	鸡枞有可能摘到*两三斤*左右。 I picked perhaps about *two or three pounds* of mushrooms.	2
11	后来我们就下去到我们房子的上边/面时， Afterwards, we went down to just above our house,	2
12	遇到一个伙伴，他也是放牛，我们就问他 and we bumped into a friend who was also grazing his cattle. We asked him,	3
13	"有没有见我们的牛，我们把它放丢了，有没有看到它们回家了？" "Have you seen our cattle – we've lost them! Did you see them go back home?"	2
14	"哦，在下面看到有一群红色的 跑下去。" "Oh, we saw a herd of brown ones running down there."	2
15	一下子我俩就相信他了，他是故意骗我们的可我俩不知道！ We believed him straight away. He was deliberately fooling us, but we didn't know!	2
16	后来我们就跑下去到那里，可一头牛都没有回家。 So we ran down there, but not a single one of our cattle had returned home.	3

17	我们问他的那个伴，他也找了一小点（一些）牛杆菌，明天我去卖，他请我帮他卖。 We asked this friend, he had also <u>found some wild mushrooms</u>. I was going to <u>go and sell them</u> the <u>next day</u> and he asked me to <u>help him</u> <u>sell his</u>.	5
18	我一个人又去那边的田里 看，可没在那边。 I <u>went into the fields</u> over there by myself to <u>have a look,</u> but [the cattle] <u>weren't there</u>.	3
19	我的那个伴，他跑到上面，上面有个玉米地，他去那里看... My friend ran <u>up the hill</u> where <u>there were some corn fields</u>, and when he got <u>there</u> he saw...	3
20	...那些牛都跑进去玉米地里，把人家玉米给吃光了。 ...that <u>the cattle</u> had all <u>run into the corn fields</u> and <u>eaten up</u> all <u>the corn</u>.	4
21	然后他就赶着牛，直接赶回家，那个地的主人就... Then he <u>drove the cattle straight back home</u>. The <u>owner</u> of <u>those corn fields</u>...	3
22	...我的公牛有一个是花牛，他把我的那个牛记准了。 ...<u>remembered</u> our <u>bull</u> very clearly because it had a <u>patchy coat</u>.	3
23	他就记得很准了，那时是雨天，他手上提着一对拖鞋，因为下坡 拖鞋 不能走路。 He remembered it very clearly. It had started <u>raining</u> and he was carrying his sandals in his hands because he was walking <u>down hill</u> and he <u>couldn't</u> <u>walk on the path</u> in his sandals.	4
24	走不可以走，提着拖鞋，Ni no^a 爹他在那... He <u>couldn't walk</u> so he was <u>carrying his sandals</u>. Nino's father was there...	2
25	...崖我们家上面的地里看，他（＝那个地的主人）就下来了 不停地骂。 ...<u>in the corn fields</u> above our house watching. Then he (i.e. the owner of the corn field) <u>came down</u>, <u>cursing us all the way</u>.	3
26	"有可能是吧，可放牛的孩子还没回来，那你先下去吧"，可他不乐意听他的解释。 [Nino's father said,] "<u>Perhaps it was</u> [their bull]! But the kids who were <u>watching them</u> still <u>haven't come back</u>. You <u>go on down</u> first." But he [the owner of the corn field] wasn't any happier for hearing his explanation.	4
27	后来就回到家，我的那个伴先回到家。 有头小牛 丢去了，不知道是在哪里（我）就回去找。 <u>After that</u>, he <u>went home</u>. <u>My friend</u> had <u>gone home</u> first. But we'd <u>lost a calf</u> and didn't know where it was, so I <u>went back</u> to look for it.	7
28	回到家，我的鞋子都破了。他（那个地的主人）已经到我家。"你们不赔给我，我就不回家。" When I <u>got home</u>, my <u>shoes</u> were both <u>broken</u>. That man (i.e. the corn field owner) had already arrived at our house. "I'm <u>not going home</u> until you <u>compensate me</u> [for my corn]."	5

29	"你们赔我，我才回去，你们不去叫*干部*我就会去。" "I'm <u>not leaving</u> until you've <u>compensated me</u>. If you don't go and get the *official* [to mediate], then I'm going to get him."	2
30	我们跟他说，他却听不见。<u>天黑了</u>，还<u>去地里看</u>... We spoke with him but he didn't listen to us. It was now <u>dark outside</u>, and we <u>went back to the corn field to have a look</u>...	2
31	...去看吃掉的<u>玉米</u>是多少。 ...to look at <u>how much corn had been eaten up</u>.	2
32	然后，马腊厂的一个人，<u>他俩说</u>， Then someone from Malachang came along, and <u>the two of them said</u>,	1
33	"<u>这些玉米 大概可以收 三十斤</u>左右。 "<u>This amount of corn</u> would come to <u>about *thirty pounds*</u> of corn <u>at harvest time</u>.	4
34	"那就你们<u>拿给他*三十斤*玉米</u>或钱就算*三十斤*玉米吧。" "So you should either <u>give him</u> thirty pounds of <u>corn</u> or the <u>equivalent amount</u> in <u>cash</u>."	4
35	"那就拿 <u>钱</u>也可以，<u>要*马上* 拿过来</u>。" "<u>Giving</u> me <u>cash</u> is fine, <u>hand over</u> the cash *right away*!"	4
36	<u>回到（家）然后</u>， So we <u>went back</u> home, and <u>then</u>,	2
37	<u>我俩</u>就每人赔了<u>十元钱</u>。我们就赔了十块钱，就没有了（＝结束了）! <u>the two of us</u> each gave him <u>ten *yuan*</u>. We compensated him ten *yuan* each, and that was the end of the matter!	2
	Total score:	104

[a] *Appears to be the name of a person.*

Kuamasi RTT, recorded in Songping

Segment	Text (<u>core elements underlined</u>, *Chinese loan words in italics*)	Score
1	我小的时候 我才5岁， <u>When I was small</u>, when <u>I</u> was just <u>five years old</u>,	3
2	上一年级的时候我去放牛。*二月初二，那天气候相当热。* <u>when I was in first grade</u>, I <u>took the cattle out to graze</u>. *It was the second day of the second month, and the weather was very hot.*	2
3	我有一个，我妹有一个，我大哥一个，我们三弟兄。 <u>There was me</u>, <u>my little sister</u> and my <u>elder brother</u>, three of us altogether.	3
4	*四点过，* 太阳落山的时候，气候有点冷。 It was <u>past *four o'clock*</u>, the <u>sun was setting</u>, and it was <u>a little cold</u>.	3
5	冷的时候 烧火，拿起一盒火柴，烧火我说"燃起就可以打死。" <u>When it got cold</u> we <u>took a box of matches</u> and <u>lit a fire</u>. When we'd <u>got the fire going</u>, I said, "<u>If the fire spreads, we can put it out</u>."	5

6	我哥他不信，我说"怕什么？以后可以把它破灭。"突然大风吹来。 My brother didn't believe me. I said, "What are you afraid of? We can put it out later." Suddenly, a strong wind blew up.	3
7	突然燃烧起来，没办法破灭，我们三弟兄就要躲。 Suddenly the fire started to spread and we couldn't put it out. So the three of us went and hid.	1
8	跑了，山坡焦尽，烧了三十亩左右。 We ran away, and the hillside completely burnt up, about thirty mu^a was destroyed.	2
9	隔壁的邻居过来帮忙，那晚上不敢回家。 The next-door neighbours came over to help [put out the fire], and that evening we didn't dare return home.	3
10	我家妈，我家爹，他们找我们，我妹妹说"不敢回家，回家就怕父母骂/打。" My mum and my dad came looking for us. My sister said, "I'm too scared to go home, I'm afraid mum and dad will beat us."	5
11	那晚上，山上躲了 一个晚上。 That night we spent the night hiding on the mountain.	2
12	第二天早上，隔壁的邻居出来找我们。 The next morning, the neighbours came looking for us.	2
13	他们找回了我们，大家都说父母不会骂我们。 They found us, and they all said our parents wouldn't scold us.	3
14	那时候相当好，隔壁邻居，本村本营相当好 So it was really good, our neighbours were all very nice to us.	2
15	我们父母都不打骂。 Our parents didn't beat us or scold us at all.	2
16	他们高高兴兴地帮我们领回家。我们在山里冷了一晚上！ They happily took us back home. So we had spent a cold night on the mountain!	4
	Total score:	45

a *mu* is a Chinese measurement of area, equivalent to about one-sixth of an acre or one-fifteenth of a hectare.

Sonaga practice test text,[a] recorded in Xinfeng

Segment	Text
1	我说的是解放前老人搬到这里以后。 I'm going to tell a story that comes from when our old people moved here before the liberation.
2	我们这里叫"汝南哨"的来历。是说我们这里的姑娘非常漂亮。 It's the story of how this place came to be known as *Runanshao*. It explains why our girls are so beautiful.
3	这与我们的祖先供奉的佛像有关。 This is related to the image of the Buddha that our ancestors used to offer sacrifices to.
4	后来又一尊非常漂亮的佛像被丽江人盗走了。 There was a very beautiful Buddha image that was stolen by the people of Lijiang.[b]
5	盗走以后祖先们发现后，把佛抢回来。这样来回了两次。第三次他们把佛像藏起来了。 When our ancestors discovered it had been stolen, they went and retrieved it. This happened twice. The third time it happened, they hid the image.
6	抢回来以后，在庙房里放了一年。 After they [*i.e. our ancestors*] had retrieved it [*ed. note: the storyteller seems to now return to the first time that the image was stolen and retrieved*], they put it in their temple for one year.
7	丽江人又盗去了。我们又把它抢回来，盗了两次，抢了两次。 The people from Lijiang stole it yet again. We retrieved it again, and they stole it again twice, and we retrieved it twice.
8	第三次他们把"它"盗走以后藏起，锁起来了。 The third time [the people of Lijiang] stole the image, they hid it and locked it up.
9	找不回来了。意思是丽江姑娘... So our ancestors couldn't get it back. This meant that the girls of Lijiang...
10	...所以丽江姑娘又漂亮了。因为是他们盗走了我们的佛像。人们生出来漂亮是因为与佛像有关。 ...so the girls of Lijiang are also very beautiful, because they stole our image of the Buddha. The reason that girls are naturally beautiful is to do with this image of the Buddha.
11	神像上遗传，"汝南哨"。 This godly image was inherited and was known as *Runanshao*.
12	最后佛像拿不回来了。汝南哨就是以漂亮的佛像命名的。汝南哨由此得名。 In the end, we couldn't retrieve the image. *Runanshao* is so-called because this was the name of the special image of the Buddha.
13	佛像落在丽江，所以现在丽江姑娘漂亮。 The image is now in Lijiang, so the girls there are also very beautiful.

[a] *This text was not developed into a full RTT but was used as a practice test for the RTT subjects in Xinfeng.*

[b] *Lijiang is the county that borders Heqing to the north.*

Jianchuan Bai RTT[a]

Segment	Text (core elements underlined)	Score
1	前几年，在我们东门的农贸市场里，有一天是街子天。我去<u>赶街</u>， A few years ago, in our agricultural market near the East Gate, it was market day. I <u>went shopping,</u>	1
2	刚刚走进农贸市场里<u>卖米的地方</u>， and just as I entered the section <u>where they sell rice,</u>	1
3	就见到一个老太婆背着<u>二十几斤</u>的米来卖。 I saw an old lady carrying on her back <u>about twenty jin</u> of rice to sell.	1
4	她在卖米时，来了两个外地的小偷。 As she was on her way to sell the rice, two <u>thieves, who were outsiders,</u> came along.	1
5	他们手上套着<u>袖套</u>，准备去偷米。 They were wearing <u>sleeve protectors</u> on their sleeves and wanted to steal some rice.	1
6	我刚好走在前面，觉得这两个人有点奇怪，到底老太婆身上有什么呢，（只见）他们将手<u>插进老人的米箩里</u>。 I was just walking in front and felt that these two people were a bit strange and wondered what the old lady had on her, anyway. I saw the two men dip their sleeves <u>into the old lady's basket.</u>	1
7	他们的手一插就将米插进他们的衣袖里，也就是他们套的袖套里。我觉得老太婆<u>很可怜</u>， As they put their hands in, the rice went into their clothes, that is, into their sleeve protectors. I <u>felt very sorry for</u> the old woman.	1
8	这两人这样做不应该，就去骂他们不应该这样做，要偷你们就去偷那些做大生意的人家， These two men shouldn't do this, so I went to scold them and tell them they shouldn't do this. If you want to steal, then steal from those people who do a lot of business.	0
9	这个老人她只有<u>二三十斤</u>的米。就这样，那天那两个人还<u>狠很地瞪了我一眼</u>， This old lady only has twenty or thirty *jin* of rice. So that day those two men <u>stared coldly at me</u>	1
10	我就说你们瞪着我干什么，你们要是不服气的话，我就<u>叫人来揍你们一顿</u>。 and I said, "Why are you staring at me? If you're not convinced, then I'll <u>call someone over here to beat you up.</u>"	1
11	这件事就<u>发生在以前的东门</u>农贸市场里，是我亲身经历的一件事。 This happened at the agricultural market, which used to be held <u>at the East Gate</u>. I saw it with my own eyes.	1
	Total score:	10

Heqing Bai RTT[a]

Segment	Text (<u>core elements underlined</u>, *Chinese loan words in italics*)	Score
1	那一年我好象是六岁， I must have been <u>six</u>	1
2	约了我的一群伴去山上玩。 that time I went with some friends <u>up the mountain</u>.	1
3	那天天气相当好， On that day, <u>the weather was beautiful,</u>	1
4	太阳照起，没有下雨。我们几个去了六七个，到山上玩， the sun was shining and there was no rain. <u>Six or seven of us</u> went up the mountain to play	1
5	是一片娃娃。这片娃娃到山上搞什么呢？到山上去采一些花，这会儿捉迷藏的捉迷藏，这点闲那点闲，到山上捡菌子的拣菌子，到处玩。 —a crowd of children. And what did this crowd of kids do on the mountain? We picked some flowers, played hide and seek, rested here and there, gathered <u>a few mushrooms</u>; we played all over the place.	1
6	我们有一个伴，小我一岁， There was this <u>friend of mine</u>, a year younger than me,	1
7	他要爬到树上去， who decided to <u>climb a tree</u>.	1
8	一直一直往上爬，爬了一截踩空了脚，掉下来了。"嘣"的一声掉在下面，把他的脚跌断了。 He climbed higher and higher, but then he slipped and fell to the ground. 'Bang', he fell and broke his leg.	0
9	我们几个六岁的小小的几个，怎么办呢？回去喊大人们， What could we six year olds do—we were only little. We could only go back and call <u>some adults</u> to come and help.	1
10	说给他们我们那个伴从树上掉下来了，掉下来把他的脚跌断了，在下面我们没有办法了。把大人喊起去，喊上去两三个。他们把他背下来，领起去医院给他瞧， We told them our friend had climbed a tree and fallen down and broken his leg; we could do nothing else. Two or three adults came and carried our friend to the hospital to be looked at.	0
11	说他的脚跌断了，后来医生认真检查了一下说：他的这个只是脱臼， They said he had broken his foot. The doctor, after examining the foot, said <u>it was only dislocated,</u>	1
12	没有断掉，断嘛没有断掉，只是脱臼。后来帮他包上一些药，三四天就好掉了， it wasn't broken. Then <u>he wrapped a poultice round his foot,</u>	1

50

13	两三天后他的脚就又好起来了。这个娃娃他太怪啦， and said it would be better in three or four days. After two or three days his foot was better. It was strange,	0
14	后来我们读书就在一班，他读书读得好，后来考起了到北京读书。 that boy later studied in my class at school; he was a good student and ended up studying in Beijing.	0
	Total score:	10

ᵃ Recorded on 16.9.2000 in Heqing county town.

Appendix C. RTT participant screening questions

A. Personal

1. Where were you born?   你是在哪里出生的？
2. What languages do you speak?   你会说什么语言？还有吗？
3. Which language did you learn first?   你小时候最先会说哪种话？
4. Which language do you speak best?   哪一种语言你现在说得最好？

B. Father

5. Where was your father born?   你的父亲是在哪里出生的？
6. What languages does your father speak?   你的父亲说什么语言？还有吗？
7. Which language did he learn to speak first?   他小时候最先会说哪种话？

C. Mother

8. Where was your mother born?   你的母亲是在哪里出生的？
9. What languages does your mother speak?   你的母亲说什么语言？还有吗？
10. Which language did she learn to speak first?   她小时候最先会说哪种话？

D. Spouse

11. Are you married?   你结婚了没有？
12. Where was your spouse born?   你的丈夫/妻子在哪里出生？
13. What languages does your spouse speak?   他/她说什么语言？还有吗？
14. Which language did he/she learn to speak first?   他/她小时候最先会说哪种话？

E. Children

15. Do you have children?   你有没有孩子？
16. What language does your child (children) speak?   他/她/他们说什么语言？
17. Which language did he/she/they learn to speak first?   他/她/他们小时候最先会说哪种话？

F. Education

18. What grade did you study to at school?   你读书读到几年级？
19. Where was the school(s)? (in/outside village/board?)   那所学校在哪里？
（在村外，在村里，
需要住宿舍？）

G. Occupation

20. What is your job?   你做什么工作？

H. Places of residence

21. What places have you lived in outside this village?   除了这个村落以外，
你还住过什么地方？
22. For how long?   住了多久？
23. What language/s do people speak there?   那边的人说什么语言？

Appendix D. RTT participant data

Table 14. Breakdown of RTT participants by age and gender.

Village	Men		Women	
	Older *(over 40 years old)*	*Younger* *(under 40 years old)*	*Older* *(over 40 years old)*	*Younger* *(under 40 years old)*
Hedong, San'gezhuang	4	2	2	2
Xinfeng	1	1	4	1
Songping	-	1	1	1

Table 15. Other information about RTT participants.

Village	Mean age	Mean no. years of education	Multilingual ability[a]
Hedong, San'gezhuang	39	4	• Two monolinguals (both women). • Two bilingual in Kua-nsi and Bai (both women). • Six trilingual in Kua-nsi, Bai and Chinese.
Xinfeng	49	4	• All trilingual in Sonaga, Bai and Chinese.
Songping (only three participants)	Participant 1: 27 Participant 2: 29 Participant 3: 60	Participant 1: 3 Participant 2: 4 Participant 3: 1	• Participants 1 and 2: trilingual in Kuamasi, Chinese and Bai. • Participant 3: bilingual in Kuamasi and Chinese.

[a] *As self-reported by the participants.*

Appendix E. Group interview schedule

Permission Requested? ☐   Granted ☐
口述者在了解此研究的情况下是否愿意参与研究：   愿意 ☐   不愿意 ☐

Name of natural village: 自然村：
Name of administrative village: 村委会：
Name of township: 乡/镇：

A. Alternative village names

A.1 Other Chinese names: 村寨的其他汉语名称：
A.2 Yi names: 村寨的彝语名称：

B. Ethnonyms

B.1 Yi autonyms: 本民族自称：
B.2 Chinese exonyms: 汉族给本民族的名称：
B.3 Other ethnonyms: 本民族的其他名称：

C. Dialect variation

C.1 Where do people speak your language just the same way you do?
     哪些地方/村寨的彝族跟你们说的彝族话完全一样？

C.2 Where do people speak your language a little differently?
     哪些地方/村寨的彝族跟你们说的彝族话有一点不同？

C.3 Where do people speak your language very differently?
     哪些地方/村寨的彝族跟你们说的彝族话完全不一样？

C.4 How often do you go to [place on map]?
     你们经常去 X 吗？一般你们一年去多少次?

C.5 How often do you talk with someone from [place on map]?
     你们经常跟来自 X 的人交流吗？

C.6 Can you understand the [Yi] spoken in [place on map]?
     X 的人说的彝族话，你们可以听得懂吗？

C.7 What language do you use to talk with people from [place on map]?
     你们跟来自 X 的人说话的时候，你们使用什么语言？

[*ask above four questions of all locations on map*]

<u>D. Language use</u>

D.1 What language do your children speak to you?
你们的孩子用什么语言跟你们说话？

D.2 What language do you speak to your children?
你们跟你们孩子说话的时候，你们说什么语言？

    D.2a Are these two things true of other villages nearby?
       附近寨子情况和你们一样吗？

D.3 What villages or areas that speak [Yi] are now using their language less and less?
附近有什么村寨说彝族话说得越来越少？

    D.3a What language do they use instead?
       如果他们不说彝族话，他们说什么语言呢？

D.4 What villages and/or areas that used to speak [Kua-nsi] are no longer speaking [Kua-nsi]?
附近有什么村寨以前说[夸恩斯话]但是现在不说了？

    D.4a What language do they use instead?
       他们现在说什么语言呢？

D.5 Can any of the [Bai/Han/Lisu] living in this [or in nearby villages] speak [Yi]?
本寨子有没有[白族/汉族/傈僳族等]会说彝族话？

    D.5a If not here, where?
       附近有什么地方的[白族/汉族/傈僳族等]会说彝族话？

D.6 Can any of you or any of your friends speak other ethnic languages?
你们或者你们的朋友们会不会说其他民族语言？

    D.6a If so, which other languages can you/they speak?
       如果会，你们会说什么其他民族语言？

<u>E. Intermarriage and language use</u>

E.1 Do the people of this village ever intermarry with Han Chinese or other ethnic groups?
本寨子的人会不会跟汉族或者其他民族结婚？

    E.1a How many households in this village have intermarried with other ethnic groups?
       本寨子有多少户人家跟其他民族（非彝族）结婚？

    E.1b What ethnic groups have intermarried with the [Yi] in this village?
       有什么民族跟本寨子的彝族通婚？

    E.1c What language do the husband and wife speak with each other in such cases?
       在这种情况下，丈夫和妻子一般互相说话的时候用什么语言？

    E.1d What language do the children learn to speak?
       他们的孩子一般会说什么语言呢？

E.2 Do the people in nearby villages ever intermarry with Han Chinese or other ethnic groups?

周围的寨子的人会不会跟汉族或者其他民族结婚？

    E.2a   What ethnic groups do they intermarry with?

        他们跟什么民族通婚？

    E.2b   What language is spoken between husband and wife?

        在这种情况下，丈夫和妻子一般互相说话的时候用什么语言？

    E.2c   What language do the children learn to speak?

        他们的孩子一般会说什么语言呢？

F. Cultural vitality

F.1 What festivals do you observe which are not held by other ethnic groups?

这里有什么节日是只有你们过而其他民族不过的？

    F.1a   When are they held?

        几月几日过？

    F.1b   What are the special features of the festival?

        一般怎么过呢？

F.2 What other festivals do you observe?

你们也过什么其他的节日？

F.3 Do your young people still sing the mountain songs?

你们的年轻人还会唱山歌吗？

    F.3a   Can any of them play leaves?

        有没有年轻人会吹叶子？

    F.3b   Can any of them play musical instruments?

        有没有年轻人会打/弹/吹/拉传统乐器？

F.4 Do you still tell the traditional folktales to your children?

你们会讲你们的传统民间故事给孩子听吗？

    F.4a   Do the elderly people still tell the traditional folktales to your children?

        老人会讲你们的传统民间故事给孩子听吗？

F.5 Do your daughters still learn to sew and embroider their own clothes?

你们的女儿还会自己缝衣服和刺绣吗？

    F.5a   If so, how old are they when they start learning?

        如果会，他们几岁的时候开始学习缝衣服、刺绣？

Appendix F. Village leader interview schedule

Permission Requested? ☐   Granted ☐

口述者在了解此研究的情况下是否愿意参与研究：   愿意 ☐   不愿意 ☐

Name of natural village: 自然村：
Name of administrative village: 村委会：
Name of township: 乡/镇：

A. Demographics

A.1 Population of natural village: A.2 Number of households: A.3 Year of statistic:
     整个自然村的人口：   多少户人家：   数据是哪一年的：

A.4 Population of head village: A.5 Number of households: A.6 Year of statistic:
     整个村委会的人口：   多少户人家：   数据是哪一年的：

A.7 What other ethnic groups live in this village?
     本村委会管辖的寨子还有什么其他民族？
A.8 Percentage population of natural village:
     自然村各种民族的比例：
A.9 Percentage population of head village (if known):
     村委会各种民族的比例：
A.10 Percentage population of township (if known):
     乡镇各种民族的比例：
[*above three questions asked for each ethnic group*]

B. History

B.1 When was this village first established?
     本寨子原来是什么时候成立的？
B.2 Where did the people who established this village move from?
     成立这个寨子的人是从哪里迁移过来的？
B.3 What are the most common surnames used in this village?
     本寨子最普遍的姓氏是什么？

<u>C. Markets</u>

C.1 What market town(s) do the people of this village usually visit?

本寨子的人去哪里赶集？

C.2 What are the market days for these places?

这些地方的街子天是什么时候？

C.3 If the market town is in interview location, people of what nationalities/villages come to your market days?

如果这里有街子，有什么民族来这里赶集？

<u>D. Education</u>

D.1 Where do the children of this village go to school?

本寨子的小孩在哪里上小学？初中？高中？

D.2 What language do the teachers speak to the children in first grade in order to explain things to them?

老师们给一年级的孩子上课的时候，一般用什么语言？

D.2a Second grade?

二年级呢？

D.2b Third grade?

三年级呢？

<u>E. Language use</u>

E.1 What language do your children speak to you?

你们的孩子用什么语言跟你们说话？

E.2 What language do you speak to your children?

你们跟你们孩子说话的时候，你们说什么语言？

E.2a Are these two things true of other villages nearby?

附近寨子情况跟你们一样吗？

E.3 What villages or areas that speak [Yi] are now using their language less and less?

附近有什么村寨说彝族话说得越来越少？

E.3a What language do they use instead?

如果他们不说彝族话，他们说什么语言呢？

E.4 What villages and/or areas that used to speak [Kua-nsi] are no longer speaking [Kua-nsi]?

附近有什么村寨以前说[夸恩斯话]但是现在不说了？

E.4a What language do they use instead?

他们现在说什么语言呢？

E.5   Can any of the [Bai/Han/Lisu] living in this [or in nearby villages] speak [Yi]?

本寨子有没有[白族/汉族/傈僳族等]会说彝族话？

　　E.5a   If not here, where?

　　　　　附近有什么地方的[白族/汉族/傈僳族等]会说彝族话？

E.6   Can any of you or any of your friends speak other ethnic languages?

你们或者你们的朋友们会不会说其他民族语言？

　　E.6a   If so, which other languages can you/they speak?

　　　　　如果会，你们会说什么其他民族语言？

F. Intermarriage and language use

F.1   Do the people of this village ever intermarry with Han Chinese or other ethnic groups?

本寨子的人会不会跟汉族或者其他民族结婚？

　　F.1a   How many households in this village have intermarried with other ethnic groups?

　　　　　本寨子有多少户人家跟其他民族（非彝族）结婚？

　　F.1b   What ethnic groups have intermarried with the [Yi] in this village?

　　　　　有什么民族跟本寨子的彝族通婚？

　　F.1c   What language do the husband and wife speak with each other in such cases?

　　　　　在这种情况下，丈夫和妻子一般互相说话的时候用什么语言？

　　F.1d   What language do the children learn to speak?

　　　　　他们的孩子一般会说什么语言呢？

F.2   Do the people in nearby villages ever intermarry with Han Chinese or other ethnic groups?

周围的寨子的人会不会跟汉族或者其他民族结婚？

　　F.2a   What ethnic groups do they intermarry with?

　　　　　他们跟什么民族通婚？

　　F.2b   What language is spoken between husband and wife?

　　　　　在这种情况下，丈夫和妻子一般互相说话的时候用什么语言？

　　F.2c   What language do the children learn to speak?

　　　　　他们的孩子一般会说什么语言呢？

G. Language of government

G.1   When you have a meeting with the villagers, what language do you/they use?

你们召集村民开会的时候，使用什么语言？

G.2   In the village-level government offices, what language do you use?

你们在村委会办公室的时候，一般说什么语言？

G.3   In the township-level government offices, what language do you use?

你们在乡政府的时候，一般用什么语言？

Appendix G. Wordlists

The wordlists were all elicited, transcribed and digitally recorded by the same phonetician. The sounds were first transcribed precisely according to how they were heard. Sound files of cognates were then compared across wordlists in order to ensure consistency across transcriptions. For example, /o/ is often represented as [o] in Kua-nsi and [ou] in Zibusi because the vowel quality is distinctly different in these two speech varieties. Recordings of similar sounds within wordlists were also compared to ensure that all identical sounds were transcribed in the same way within one wordlist. Phonemic analysis was not carried out, however. Therefore the same phoneme could be transcribed in different ways within a wordlist, depending on how the sound is conditioned by its environment.

The transcriber was extremely rigorous in eliciting the wordlists and tried to ensure that words with the exact semantic equivalent to the Chinese prompt were elicited. In cases where an unexpected word was elicited, the transcriber would probe for alternative words, often using lists of cognates from other Yi varieties in order to prompt for them. Where a cognate of the expected word was found, it was recorded.

In all cases, the most common or natural way of saying each item was recorded. For example, it may be noted that certain suffixes have been recorded in some locations but not in others. The suffix [zu^{21}] is a diminutive suffix indicating that the noun in question is "small" or "miniature." For Kua-nsi, "225. bowl" was recorded as [$t\varphi i^{21}\ zu^{21}$], whereas, for Kuamasi, it was simply recorded as [$t\varphi i^{21}$]. This is not because Kuamasi does not employ the suffix [zu^{21}]. It is because when referring to a small rice bowl, the Kuamasi do not generally add the suffix [zu^{21}] (it sounds unnatural to them to do so), whereas the Kua-nsi *always* add the suffix [zu^{21}].

Words from the Swadesh 100 wordlist are marked with an asterisk. Only the Swadesh 100 words were collected in Shang'eping. Under "Chinese gloss," the initial prompt used for elicitation is given first. Clarification was sometimes necessary for certain words. The prompts for clarification are given in parentheses after the initial prompt.

#	English Gloss	Chinese Gloss	Kua-nsi (Hedong)	Kua-nsi (Shang'eping)	Kuamasi (Songping)	Zibusi (Daqing)	Laizisi (Moguang)	Sonaga (Xinfeng)
1	sky	天(天空)	ʔa⁵⁵ n̩²¹ ka⁵⁵ la⁵⁵ mu³³		ʔa⁵⁵ ka⁵⁵ mũ³³	n̩²¹ ka⁵⁵ la⁵⁵ mu³³	mo̠²¹, ʔa⁵⁵ mu²¹ ka⁵⁵ la⁵⁵ mu³³	mɤ̠²¹
2	sun*	太阳	u⁵⁵ tsʰu⁵⁵	ʔu⁵⁵ tsʰu⁵⁵	ʔa²¹ tsʰu⁵⁵	ʔa³³ tsʰu⁵⁵	ʔa⁵⁵ tsʰu⁵⁵	mɛ²¹ hɛ⁵⁵ ki⁵⁵
3	moon*	月亮	hõ³³ bu³³	hũ³³ bu³³	hũ³³ bu³³	hũ³³ bu³³ lu³³	ʔa²¹ pu⁵⁵ hũ³³ bɯ³³	ho²¹ bou³³ ki⁵⁵
4	star*	星星	u⁵⁵ tɕua⁵⁵	ʔu⁵⁵ tɕua⁵⁵	tɕyɛ⁵⁵	tɕua⁵⁵	ʔa⁵⁵ tɕua⁵⁵ zu²¹	tɕiɛ⁵⁵ kʰõ³³
5	cloud*	云	tsɹ̩⁵⁵	tsɹ̩⁵⁵	ti²¹ mi⁵⁵	ti²¹ mie⁵⁵	tɯ²¹ mi⁵⁵	ti̠²¹ miɛ⁵⁵
6	wind	风	mi̠²¹ hi⁵⁵		mi̠²¹ hi⁵⁵	ʔi²¹ hie⁵⁵	mi²¹ hi⁵⁵	mɛ²¹ hɛ⁵⁵
7	rain*	雨	ʔũ²¹ huã⁵⁵	mu²¹ huã⁵⁵	ma²¹ ha⁵⁵	ʔũ³³ huɔ⁵⁵	mũ²¹ hũ⁵⁵	mo²¹ hõ⁵⁵
8	lightning	闪电	ʔn̩²¹ bia²¹ bia²¹		ʔõ²¹ bia²¹	ʔn̩²¹ dzɯ²¹ bia²¹	ŋɯ²¹ dʑi²¹ la³³	mi̠²¹ dʑi²¹
9	thunder	雷(声)	ʔn̩²¹ gɯ²¹ tʰua³³		ʔa⁵⁵ ka⁵⁵ mũ³³ mæ⁵⁵	ʔn̩²¹ gɯ²¹	mo²¹ ku²¹	mi̠²¹ kɯ²¹
10	rainbow	彩虹	ʔu⁵⁵ ju²¹ sua⁵⁵ zɹ̩⁵⁵		ʔa³³ ma̠²¹ ʃua⁵⁵ dʒua⁵⁵	sua⁵⁵ kou²¹	ʔa⁵⁵ tsʰu⁵⁵ lu⁵⁵ bu³³ tai²¹	sua⁵⁵ li⁵⁵
11	water*	水	ʔa⁵⁵ na⁵⁵	ʔa⁵⁵ na⁵⁵	ʔa³³ na⁵⁵	ʔa⁵⁵ na⁵⁵	ʔa⁵⁵ na⁵⁵	ʔa⁵⁵ na⁵⁵
12	land	地(大地)	mi̠⁵⁵ dɤ²¹		mi⁵⁵ do²¹	mie⁵⁵	mi⁵⁵ do²¹	mi⁵⁵
13	earth*	土(土壤)	ʔni²¹	ʔni̠²¹	ni̠²¹	nai²¹	nai²¹	nɛ²¹ ɕia²¹
14	mud	泥(巴)	pua²¹ tsʰɹ̩²¹		ni̠²¹	nai²¹	nai²¹	nai²¹
15	river*	河	zɹ̩²¹ mu³³	zɹ̩²¹ mu³³	ʒɹ̩²¹ mũ³³	zɯ²¹ mu³³	ʒɹ̩²¹ mu³³	kʰo²¹
16	lake	湖	-		-	hɯ⁵⁵ bɯ³³	ʔa⁵⁵ na⁵⁵ bɯ³³	ʔa⁵⁵ na⁵⁵ bɯ³³
17	mountain*	山	ɣɯ²¹ mu³³	ŋɯ³³ tsɯ²¹, ʔu̠²¹ mo³³	ʃo²¹	so²¹	ʃo²¹	tɯ²¹ po²¹, mi⁵⁵ ɕy⁵⁵

#	English Gloss	Chinese Gloss	Kua-nsi (Hedong)	Kua-nsi (Shang'eping)	Kuamasi (Songping)	Zibusi (Daqing)	Laizisi (Moguang)	Sonaga (Xinfeng)
18	gold	金(子)	sua⁵⁵		ʃua⁵⁵	sua⁵⁵	tɕi⁵⁵	tɕi⁵⁵
19	silver	银(子)	pfʰi̠⁵⁵		pfʰɤ⁵⁵	pfʰɤ⁵⁵	ɳi²¹	pfʰi̠⁵⁵
20	iron	铁	xɯ⁵⁵		xɯ⁵⁵	xɯ⁵⁵	xɯ⁵⁵	xɯ⁵⁵
21	stone*	石头	lo³³ dʐɹ⁵⁵	lo³³ dʐɹ⁵⁵	ʔwa̠²¹ pɯ³³	lou³³ di⁵⁵	ʔwa̠²¹	lo³³ dʑi⁵⁵
22	fire*	火	ʔa⁵⁵ to²¹	ʔa⁵⁵ to²¹	ʔa⁵⁵ tu³³	ʔa⁵⁵ tou²¹	ʔa⁵⁵ tu²¹	ʔa⁵⁵ to²¹
23	flame	火焰	ʔa⁵⁵ to²¹ lu̠⁵⁵		ʔa³³ tu²¹ lu⁵⁵	ʔa⁵⁵ tou²¹ lu⁵⁵	ʔa⁵⁵ tu²¹ ɕi⁵⁵	ʔa⁵⁵ to²¹ ɕi⁵⁵
24	smoke*	烟(炊烟)	ʔŋ̩²¹ kʰɤ²¹	ʔn̩²² kʰɤ³³	kʰo²¹ ʔõ³³	ʔn̩²² kʰo²¹	ʔõ²¹ kʰo²¹	kʰɤ²¹ ʔɤ²¹
25	night*	夜	mi⁵⁵ la⁵⁵	mi⁵⁵ la⁵⁵	mi⁵⁵ la⁵⁵, mi⁵⁵ la⁵⁵ mo³³	pa²¹ jou²¹	mi⁵⁵ na³³ ka⁵⁵	mei⁵⁵ vi̠⁵⁵
26	day	日(子)，天	ɳi³³		ɳi³³	ɳi³³	ɳi³³	ɳi³³
27	today	今天	ʔni̠²¹ ɳi³³, ʔni̠²¹ nɯ⁵⁵		ʔi̠²¹ ɳi³³	ʔŋ²¹ ɳi³³	ʔa²¹ ɳi³³	ʔɛ²¹ ɳi³³
28	yesterday	昨天	ʔa²¹ ɳi³³ nɯ⁵⁵		ʔa²¹ ɳi³³ ʔnũ⁵⁵	ʔa²¹ ɳi³³	ʔa²¹ ɳi³³ nɯ⁵⁵	ʔa²¹ ɳi⁵⁵
29	day before yesterday	前天	sɹ³³ ɳi³³ nɯ⁵⁵		ʃɹ³³ ɳi³³ ʔnũ⁵⁵	sɹ²¹ ɳi³³	ʃɹ³³ ɳi³³ nɯ⁵⁵	sɹ³³ ɳi³³
30	tomorrow	明天	ɳ̩²¹ ta³³ nɯ⁵⁵		ʔa³³ ta³³ ʔnũ⁵⁵	ʔn²¹ gu⁵⁵ na²¹	ʔa²¹ gu⁵⁵ na̠²¹	ta³³ nɯ⁵⁵
31	day after tomorrow	后天	u⁵⁵ ɳi³³ nɯ⁵⁵		u⁵⁵ ɳi³³ ʔnũ⁵⁵	ɣu⁵⁵ ɳi³³	ɣu⁵⁵ ɳi³³ nɯ⁵⁵	ɣu⁵⁵ ɳi³³
32	year	年	kʰo²¹		kʰu²¹	kʰou²¹	kʰu̠²¹	kʰo²¹
33	morning	早晨	na²¹ na²¹		na̠ʔ²¹ na²¹	dzua³³ a⁵⁵ ɣɯ²¹	na̠²¹ to⁵⁵	na²¹ tɤ̠⁵⁵
34	ox	牛(黄牛)	ɳu²¹		ɳo²¹	ɳu²¹	ɳu²¹	mi²¹

#	English Gloss	Chinese Gloss	Kua-nsi (Hedong)	Kua-nsi (Shang'eping)	Kuamasi (Songping)	Zibusi (Daqing)	Laizisi (Moguang)	Sonaga (Xinfeng)
35	water buffalo	水牛	ʔa⁵⁵ wã̠²¹		ʔa⁵⁵ wã̠²¹	ʔa⁵⁵ wa²¹	ʔa⁵⁵ wa²¹	ʔa⁵⁵ ŋa̠²¹
36	horse	马	ʔa⁵⁵ nɤ²¹		ʔa⁵⁵ no̠²¹	ʔa⁵⁵ na³³ mɤ²¹	ʔa⁵⁵ na³³ mo²¹	ʔa⁵⁵ na³³, ʔa⁵⁵ na³³ vi̠²¹
37	pig	猪	ɣa̠²¹		ɣa̠²¹	ɣa²¹	ɣa̠²¹	ɣɑ²¹
38	goat	山羊	tsʰɻ̩²¹		tsʰɻ̩²¹	ʔa⁵⁵ tsʰɻ̩²¹	tʃʰɻ̩²¹	tsai²¹
39	sheep	绵羊	ʐa⁵⁵		ja⁵⁵	ʐa⁵⁵	ʐa⁵⁵	ʐa⁵⁵
40	dog*	狗	ʔu⁵⁵ nu²¹	ʔu⁵⁵ nu²¹	ʔu⁵⁵ nu²¹	ʔa⁵⁵ nu²¹	kʰɯ²¹	tsʰɻ̩²¹
41	cat	猫	ʔa²¹ ɲi⁵⁵		ʔa²¹ ni⁵⁵	ʔa⁵⁵ ɲi⁵⁵	ʔa²¹ ni⁵⁵	ʔa⁵⁵ ɲi⁵⁵
42	rabbit	兔子	tʰa²¹ lua³³		tʰua²¹ la²¹	tʰa²¹ lo³³	tʰa̠²¹ lu³³	tʰa²¹ lo³³
43	dragon	龙	lɤ²¹		lo²¹	lo²¹	lo̠²¹	lɤ̠²¹
44	wild animal	野生动物	zɻ̩²¹		tu⁵⁵ vɤ²¹³		ʑi²¹ vɛi³³	ʑi²¹ vɛ³³
45	bear	熊	ɣɯ⁵⁵ mu³³		ɣɯ⁵⁵ mũ³³	ɣɯ⁵⁵ mu³³	ʔa²¹ ba³³ ɣɯ⁵⁵	ɣɯ⁵⁵
46	tiger	老虎	lu²¹ mu³³		lo²¹ mũ³³	lu²¹ mu³³	lu²¹	lo²¹
47	wolf	狼	na̠²¹		na²¹	na²¹	na²¹	tɯ²¹ vi̠⁵⁵
48	monkey	猴子	dʐa⁵⁵ mia²¹		dʑu⁵⁵ miɛ²¹	ʔa⁵⁵ miɑu²¹	ʔa⁵⁵ miæ²¹	ʔa⁵⁵ miou²¹
49	otter	水獭	tɕʰa³³		-	ɕyi³³ tɕʰa³³	tɕʰa³³	ɕyi³³ tɕʰa³³
50	rat	老鼠	ha³³ dʐɻ̩⁵⁵		hã³³	ha³³ bɛi²¹	ha³³ bɛi²¹	ha³³ ki⁵⁵
51	chicken	鸡	ʔja³³		ʔja̠³³	ja³³	ʔja̠³³	ʔja̠³³
52	cockerel	公鸡	ʔja̠³³ kɯ⁵⁵		ʔja³³ tsɯ⁵⁵	ja³³ pfʰɤ⁵⁵	ʔja³³ fɤ⁵⁵	ʔja̠³³ pfʰi̠⁵⁵

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53	duck	鸭子	bu²¹ ʔã³³		ʔa³³	bua²¹	ʔa³³	ʔa³³
54	goose	鹅	ka⁵⁵ ʔõ²¹		ʔa³³ u²¹	ʔa³³ u²¹	ʔa³³ u²¹	ʔou²¹
55	bird*	鸟	ʔa³³ zu²¹	ʔa³³ zu²¹	ʔja³³	ʔa³³ zu²¹	ʔã⁵⁵	ʔja³³ zo²¹
56	dove	鸽	dɯ²¹ pfɨ̠⁵⁵ mɯ²¹		ku⁵⁵ tsʅ³³	ku⁵⁵ tsʅ³³	ku⁵⁵ tsʅ²¹	ku⁵⁵ zõ²¹
57	eagle	老鹰	ku⁵⁵ ma²¹		pa²¹ la²¹ dzʅ⁵⁵	dzɯ⁵⁵ mu³³	dzɯ⁵⁵	ʔa⁵⁵ dzɯ⁵⁵
58	bat	蝙蝠	bia⁵⁵ lɤ²¹		ha³³ biou⁵⁵ lu⁵⁵	pɤ⁵⁵ pɤ³³	pi⁵⁵ pu³³ zu²¹	pɯ⁵⁵ pɯ³³
59	frog	青蛙	ʔu⁵⁵ pu²¹		ʔu⁵⁵ pou²¹	u⁵⁵ pu²¹	ʔũ⁵⁵ pu²¹	ʔou⁵⁵ po²¹
60	fish*	鱼	ʔu²¹ zu²¹	ʔu²² zu²¹	ʔu²¹	ʔu²¹	ʔũ²¹	ʔo²¹
61	snake	蛇	lu³³ sua⁵⁵		lu³³ ʃua⁵⁵	lu³³ sua⁵⁵	lu³³ ʃua⁵⁵	lo²¹ sɛ̃⁵⁵
62	leech	蚂蟥/水蛭	ʑi²¹		ʑi²¹	ʑi²¹	tɕi⁵⁵	tɕi²¹⁵ tʰa³³
63	spider	蜘蛛	ʔja²¹ mu³³		ʔja²¹ mu³³	ya²¹ mu³³	ʔja²¹ mũ³³	ʑa²¹ mou³³ zʅ⁵⁵
64	insect	昆虫	ba²¹ dzʅ⁵⁵		ba²¹ dzi⁵⁵	ba²¹ di⁵⁵	ba²¹ di⁵⁵	ba²¹ di⁵⁵
65	ant	蚂蚁	bu²¹ ʔo³³		bu²¹ wa³³	bou²¹ lou³³	bu²¹ lu³³	bo²¹ lo³³
66	fly	苍蝇	ja⁵⁵ mɨ̠²¹		ja⁵⁵ ma²¹	ʑa⁵⁵ mo²¹	ja⁵⁵ mo²¹	ʑa⁵⁵ mɨ̠²¹
67	bee	蜜蜂	bia²¹ mu³³		bia²¹	bia²¹	bia²¹	bia²¹
68	mosquito	蚊子	ja⁵⁵ sua⁵⁵		ja⁵⁵ ʃua⁵⁵	ʑa⁵⁵ so⁵⁵	ja⁵⁵ ʃua⁵⁵	ʑa⁵⁵ sʅ⁵⁵
69	butterfly	蝴蝶	bie²¹ lɤ³³		biạ²¹ lạ²¹	kua⁵⁵ lɛi²¹	bia²¹ lu³³ ɕi⁵⁵	ku⁵⁵ lɛi³³
70	louse*	虱子(衣上)	sʅ⁵⁵ pfʰɨ̠⁵⁵	sʅ⁵⁵ pfʰɨ̠⁵⁵	si⁵⁵	kʰɯ²¹ ɕi⁵⁵	ɕi⁵⁵	ɕi⁵⁵
71	egg*	蛋	fɤ³³	fɤ³³	fɤ³³	fɤ³³	fɤ³³	fɨ̠³³

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72	wing	翅膀	di̠⁵⁵ lua̠²¹		do⁵⁵ la̠²¹	biɯ⁵⁵ la²¹	do⁵⁵ la̠²¹	pʰa²¹ tʰa²¹ li⁵⁵, di̠⁵⁵ la³³
73	horn*	角	kua⁵⁵ tsʰ ̩⁵⁵	kua⁵⁵ tsʰ ̩⁵⁵	kua⁵⁵ tɕʰu⁵⁵	kua⁵⁵ tɕʰu⁵⁵	kua⁵⁵ tɕʰu⁵⁵	tɕʰyi⁵⁵
74	tail*	尾巴	mua²¹ vi̠²¹	ʔmua²² vi̠²¹	ma̠²¹ do²¹	mua²¹ do²¹	ma̠²¹ do²¹	ma̠²¹⁵ kua³³
75	tree*	树	s ̩³³ dz ̩⁵⁵	s ̩³³ dz ̩⁵⁵	s ̩³³ z ̩⁵⁵	s ̩³³ dz ̩⁵⁵	ɕi³³ dʑi⁵⁵	ɕi³³ dʑi⁵⁵
76	pine tree	松树	tʰa²¹ pʰua⁵⁵ dz ̩⁵⁵		ju⁵⁵ sua²¹ dz ̩⁵⁵	tʰa²¹ dz ̩⁵⁵	tʰa²¹ pa³³ dʑi⁵⁵	tʰa²¹ dʑi⁵⁵
77	bamboo	竹子	mu⁵⁵ tu⁵⁵		mu⁵⁵ tu⁵⁵	mu⁵⁵	mu⁵⁵	mũ⁵⁵
78	wheat	小麦	su⁵⁵		ʃu⁵⁵	su⁵⁵	ʃu⁵⁵	sou⁵⁵
79	buckwheat	荞麦/荞子	gu²¹, s ̩²¹ kʰu³³		gu²¹, gu²¹ kʰu²¹	gu²¹	gu²¹	go²¹
80	barley	大麦	z ̩³³		zɤ³³	z ̩³³	zɤ³³	z ̩³³
81	maize	玉米	su⁵⁵ mu⁵⁵		ju⁵⁵ ma⁵⁵	ji⁵⁵ mɯ⁵⁵	ɲi⁵⁵ mɯ⁵⁵	yi⁵⁵ mi̠⁵⁵
82	cooked rice	饭	dzu⁵⁵		dzu⁵⁵	dzu⁵⁵	dzu⁵⁵, ma²¹ ma²¹	dzu⁵⁵
83	rice	大米	ʔa⁵⁵ go³³		tʃʰɯ⁵⁵ pfʰɤ⁵⁵	tsʰɯ⁵⁵ pfʰɤ⁵⁵	tʃʰɯ⁵⁵ fɤ⁵⁵	tsʰɯ⁵⁵ pfʰi̠⁵⁵
84	dish (vegetables)	菜(饭菜)	ja²¹ tsa²¹		ja²¹	ʑa²¹	ja²¹ tsa²¹	ʑa²¹
85	soup	汤(菜汤)	zu⁵⁵ tsʰu⁵⁵		mi⁵⁵ tɕʰɛ³³	hua³³ ɕiou²¹	mi⁵⁵ tɕi³³	mi⁵⁵ tɕʰi³³
86	peanut	花生	ti⁵⁵ ɕu³³ ts ̩³³		li̠²¹ ti⁵⁵ ɕu³³	lo²¹ ti⁵⁵ ɕu³³	lai²¹ ti⁵⁵ ɕiũ³³	ty⁵⁵ ɕy³³
87	walnut	核桃	u⁵⁵ du⁵⁵		ʔu⁵⁵ dua⁵⁵	ɣu⁵⁵ du⁵⁵	u⁵⁵ du⁵⁵	ɣu⁵⁵ du⁵⁵
88	bean	豆子	nũ³³ bua³³		nua³³	nou³³	nṷ⁵⁵	no³³
89	gourd	葫芦	ʔu⁵⁵ pʰɯ²¹		ʔa⁵⁵ pʰɯ²¹	ʔa⁵⁵ pʰɯ²¹	ʔa⁵⁵ pʰɯ²¹	-

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90	aubergine	茄子	gu^{55}		gu^{55}	gu^{55}	tɕʰi^{55} tsɻ^{33}	tɕʰi^{55} tsɻ^{33}
91	garlic	蒜	kʰa^{21} suɯ^{55}		kʰa^{21} suɯ^{55}	sua^{21} miou^{21}	sua^{21}	kʰa^{21} suɯ^{55}
92	ginger	姜	tsʰa^{21}		tʃʰa^{21}	tɕʰi^{55} kou^{55}	tɕʰi^{55} ku^{55}	tsʰa^{21}
93	chilli pepper	辣椒	la^{55} dzɻ^{33}		la^{55} dzɻ^{33}	la^{55} dzɻ^{21}	la^{55} tsɻ^{21}	la^{55} tsɻ^{33}
94	fruit	果子(水果)	ji^{33} sua^{21}		sua^{21} kʰu^{33}	so^{21} tsʰo^{55}	ɕi^{55} kʰu^{33} lu^{55} kʰu^{33}	sa^{21} tsʰi̱^{55} sa^{21} vi̱^{21}
95	banana	香蕉(芭蕉)	ŋa^{33} dzɻ^{55} sua^{21}		pa^{55} tsiou^{55}	ŋa^{33} ba^{33}	pa^{55} tɕʰu^{55}	-
96	taro	芋头	bi^{55} tʰɤ^{55}		bi^{55} tʰɤ^{55}	bi^{55} tʰo^{55}	bi^{55} tʰo^{55}	bi^{21} tʰɤ^{55}
97	tobacco	烟(烟草)	ʑi^{55}		ji^{55}	ji^{55}	ȵi^{55}	ʑi^{33}
98	grass	草(青草)	sɻ^{21} tsʰɯ^{55}		ʃɻ̩^{21}	sɻ^{21}	ʃɻ̩^{21}	sɻ^{21}
99	mushroom	菌子	mi̱^{33} lɤ^{55}		mɤ^{55}	mɤ^{55} tsʰa^{21}	mɤ^{55}	mi̱^{55}
100	seed*	种子	sɻ̩^{21} kʰu^{55}	sɻ^{21} kʰu^{55}	ʃo^{21} kʰo^{55}	dzu^{55} so^{21}	ʔja^{55} ʃo^{21}	sɻ̩^{21} zo^{21}
101	root*	根(树根)	sɻ̩^{33} ti^{21}	sɻ^{33} ti̱^{33}	sɻ̩^{33} ti̱^{33}	sɻ̩^{33} tsu^{33}	ɕi^{55} tɕu^{33}	mi^{33}
102	leaf*	叶子	sɻ̩^{33} pʰia^{21}	sɻ^{33} pʰia^{21}	pʰia^{21}	su^{33} pʰia^{21}	pʰa^{21} tʃʰɻ̩^{21}	pʰia^{21}
103	branch	树枝	sɻ̩^{33} ka^{21} la^{21}, tʰa^{21} ka^{21} la̱^{21}		sɻ̩^{33} ka̱^{21}	sɻ̩^{33} ka^{21}	ɕi^{33} ka^{21} la^{21}	ʔou^{55} lo^{55}
104	shoot	芽(种子芽)	no^{21} dzua^{55}		dzua^{55}	dzua^{55}	ʔa^{33} nɛ^{33}	ɕy^{55} zo^{21}
105	flower	花	ʑi^{33} lɤ^{33}		ja^{33} lo^{33}	ʑi^{33} lo^{33}	ʑi^{55} no^{33}	ʔi^{33} no^{33}
106	board	板子(木板)	pua^{33}		pa^{33} pʰi^{21}	pua^{33}	pa^{33}	pa̱^{33}
107	stick	棍子	u^{55} tu^{55}, lo^{21} ka^{33}		la̱^{21} ka^{33}	ʔa^{55} tu^{55}	mu^{55} tu^{55}	kua^{33} a^{55} kua^{33}

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108	bark*	树皮	sɭ̩^{33} ko^{21}	sɭ̩^{33} ko^{33}	sɭ̩^{33} ku^{33}	ʑi^{55} kɯ^{21}	ɕi^{55} dʑi^{55} kɯ^{21}	pɯ^{33} jo^{55}
109	thorn	刺	tsʰɭ̩^{21} pfɨ̩^{55}		tsʰo^{21}	tsʰo^{21}	tʃʰo^{21}	tsʰʐ̩^{21}
110	ash*	灰(火灰、草木灰)	kʰɨ̩^{21} pʰɯ^{33}	kʰɨ̩^{21} huã^{55}	kʰo^{21} pʰɯ^{33}	kʰo^{21} huɔ^{55}	kʰo̩^{21} huã^{55}	kʰʐ̩^{21} hɛ^{55}
111	body	身体	gɨ^{55} dɯ^{21}		gɯ^{55} dɯ^{21}	go^{55} dɯ^{21}	gɯ^{55} dɯ^{21}	gɨ^{55} dɯ^{21}
112	head*	头	ʔŋ̩^{21} ka^{55}	ʔŋ̩^{21} ka^{55}	ŋɯ^{21} ka^{55}	ʔŋ̩^{21} ka^{55}	ʔŋ̩^{21} ka^{55}	ka^{55} kʰõ^{33}
113	brain	脑髓	ʔɨ̩^{21} ni^{21}		ʔɤ^{21} nɨ^{21}	ʔo^{21} nai^{21}	nɑu^{33}	ʔɨ̩^{21} nai^{21}
114	hair (on head)*	头发	ʔŋ̩^{21} tsʰɯ^{55}	ʔŋ̩^{21} tsʰɯ^{55}	ŋɯ^{21} tsʰɯ^{55}	ʔŋ̩^{21} tsʰɯ^{55}	ʔŋ̩^{21} tsʰɯ^{55}	ʔʐ̩^{21} tsʰɯ^{55}
115	face	脸	pʰia^{21} mo^{33}		pʰia^{21} mũ^{33}	pʰia^{21} ja^{21}	pʰɨ̩^{21} mia^{33}	kʰɯ^{21} mia^{33}
116	eye*	眼睛	mia^{33} dɤ^{21}	mia^{33} dɤ^{21}	mia^{33} to^{21}	mia^{33} do^{21}	mia^{33} do^{21}	mia^{55} tɯ^{21}
117	nose*	鼻子	ʔnɯ^{55} tsua^{55}	ni^{55} tsua^{55}	ʔnũ^{55} kʰo^{55}	nɯ^{55} kʰɤ^{55}	ʔnũ^{55} kʰɤ^{55}	nũ^{55} tɕiɛ^{55}
118	ear*	耳朵	ʔnʉ^{21} pa^{55}	nʉ^{21} pa^{55}	ʔnʉ^{21} pa^{55}	nʉ^{21} pa^{55}	nũ^{21} pa^{55}	nou^{21} pa^{55}
119	mouth*	嘴(里面)	kʰa^{21} bi^{21}	kʰa^{21} bi^{21}	kʰa^{21} pʰi^{21}	kʰa^{21} bɛi^{21}	kʰa^{21} bɛ^{21}	kʰa^{21} bɛ^{21}
120	tooth*	牙齿	sʉ^{21} tsʰɭ̩^{55}	si^{21} tsʰɭ̩^{55}	sʉ^{21} tɕʰi^{55}	sʉ^{21}	sʉ^{21}	sʉ^{21} tɕʰi^{55}
121	tongue*	舌头	lu^{55} pʰia^{21}	lu^{55} pʰia^{21}	nɯ^{55} pʰiɛ^{21}	lu^{55} pʰia^{21}	lu^{55} pʰa^{21}	lo^{55} pʰa^{21}
122	beard	胡子	mʉ^{21} tsʰɯ^{33}		mũ^{21} tsʰɯ^{21}	mu^{21} tsʰɭ̩^{33}	mu^{21} tɕʰi^{21}	mũ^{21} tɕʰi^{21}
123	chin	下巴	mʉ^{21} pfɨ̩^{55}		ja^{33} pa^{33} ku^{33}	ʐa^{33} pa^{33} kʰu^{33}	ja^{55} pa^{55} ku^{55}	mũ^{21} ʔɯ^{55}
124	neck*	脖子	li^{55} vɨ̩^{21}	li^{55} vɨ̩^{21}	lɯ^{55} miɛ^{21}	lɛi^{55} bɛi^{55}	lɛ^{55} bɛ^{55}	lɛ^{55} bɛ^{55}
125	shoulder	肩膀	ɣɯ^{55} pʰɯ^{21}		ɣɯ^{55} pʰɯ^{21}	la^{21} pʰua^{55}	la̩^{21} pʰai^{55} pʰai^{55}	pou^{33} tɯ^{21}

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126	hand+arm*	手·胳臂	la²¹ pʰa³³	la̝²¹ pʰa³³	la²¹ pʰa³³	la²¹ pʰa³³	la̝²¹ pʰa³³	lɑ²¹ pʰa³³
127	hand	手	la²¹ pʰa³³, la̝²¹ ka⁵⁵		la²¹ tɕa³³	la²¹ ʔju⁵⁵ zu²¹	la̝²¹ ʔju⁵⁵ zu²¹	la²¹ tsua²¹
128	arm	胳臂	la²¹ vi̠²¹		la̝²¹ pi⁵⁵	la²¹ tsʅ²¹	la̝²¹ tsai²¹	la²¹ tʰɯ⁵⁵, la²¹sɛ⁵⁵
129	palm	手掌	la²¹ pia³³		la̝²¹ ka⁵⁵	la²¹ ka⁵⁵ ɕi⁵⁵	la̝²¹ ka⁵⁵ ɕi⁵⁵	la²¹ ka⁵⁵
130	wrist	手腕	la²¹ tsʅ²¹		la̝²¹ tsʅ²¹	tsʰuɛi⁵⁵ tsʅ²¹	la̝²¹ tsai³³ zu²¹	la²¹ go²¹
131	elbow	肘	la²¹ nɤ⁵⁵		la̝²¹ da⁵⁵	la²¹ kwai²¹	la̝²¹ nɯ⁵⁵	lɑ²¹ kwɛ²¹
132	finger	手指	la²¹ ŋ⁵⁵ zu²¹		la̝²¹ ʔi⁵⁵ zu²¹	la²¹ tsʅ²¹	la̝²¹ ʔju⁵⁵	lɑ²¹ ʔi⁵⁵
133	thumb	拇指	la²¹ mũ³³		la̝²¹ mũ³³	la²¹ mu⁵⁵	la̝²¹ mu³³	lɑ²¹ ʔi⁵⁵ mo³³
134	fingernail*	指甲	la²¹ sɯ²¹	la̝²¹ sɯ²¹	la²¹ sɯ²¹	la²¹ kʰɯ²¹ sɯ²¹	la̝²¹ kʰɯ²¹ sɯ²¹	lɑ²¹ kʰi̠²¹ sɯ²¹
135	buttocks	屁股	tsʰʅ²¹ kʰɤ⁵⁵		da⁵⁵ pɯ³³	tɕʰi²¹ kʰo⁵⁵	tɕʰi²¹ kʰo⁵⁵	ta⁵⁵ pɯ³³
136	leg	腿	tsʰʅ⁵⁵ ɕi⁵⁵		pʰi²¹ si⁵⁵	tɕʰi⁵⁵ sei⁵⁵	pʰa²¹ sai⁵⁵	pʰai²¹ sɛ⁵⁵
137	foot+leg*	脚·腿	tsʰʅ⁵⁵ pʰa³³	tsʰʅ⁵⁵ pʰa³³	tɕʰi⁵⁵ pʰa³³	tɕʰi⁵⁵ pʰa³³	tɕʰi⁵⁵ pʰa³³	tɕʰi⁵⁵ vi̠²¹
138	foot	脚	tsʰʅ⁵⁵ pia²¹		tɕʰi⁵⁵ pʰia²¹	tɕʰi⁵⁵ pʰia²¹	tɕʰi⁵⁵ ge⁵⁵ bɛ⁵⁵	tɕʰi⁵⁵ tsua²¹
139	calf, lower leg	小腿	tsʰʅ⁵⁵ vi̠²¹		tɕʰi⁵⁵ ma⁵⁵ sua²¹	tɕʰi⁵⁵ kua⁵⁵ tʰo⁵⁵	ma⁵⁵ ɕya²¹ tʰo⁵⁵, tɕʰi⁵⁵ vɤ²¹	-
140	knee*	膝盖	hũ³³ dzʅ³³	hũ³³ dzʅ³³	hũ³³ zu³³	hŋ³³ dzʅ³³	hũ³³ dzũ³³	ki̠²¹ ŋɛ³³ tɯ⁵⁵
141	claw*	爪	tsʰʅ⁵⁵ tɕʰi³³	tsʰʅ⁵⁵ tɕʰi̠³³	tɕʰi⁵⁵ tɕia³³	la²¹ kʰɯ²¹ sɯ²¹	tɕʰi⁵⁵ pa³³	tɕʰi⁵⁵ tsua²¹
142	chest	胸脯	ʔn̩²¹ tɤ⁵⁵		n̩i²¹ to⁵⁵	nɛi³³ tua⁵⁵	nɛi²¹ to⁵⁵	ʔɯ⁵⁵ tɯ⁵⁵
143	back	脊背	ka⁵⁵ bi⁵⁵		ka⁵⁵ bi⁵⁵	ka⁵⁵ bɛi⁵⁵	ge⁵⁵ bɛ⁵⁵	do²¹ ko²¹ ɕi⁵⁵

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144	breast*	乳房	ʔũ⁵⁵ ɳu³³	ʔu⁵⁵ ɳu³³	ʔa⁵⁵ ju³³, ʔa⁵⁵ ɳu³³	ʔa⁵⁵ ba³³	pa²¹ pa̱²¹	ʔa⁵⁵ ba³³
145	belly*	肚子(腹部)	hi²¹ pɯ⁵⁵	hi²¹ pɯ⁵⁵	hi²¹ pu⁵⁵	hai²¹ pɯ⁵⁵	hai²¹ pɯ⁵⁵	hɛ²¹ pɯ⁵⁵, hɯ²¹ pɯ⁵⁵
146	waist	腰	dzo²¹ tsʰ̩⁵⁵		dʑu²¹ kɯ²¹	dzou²¹ kɯ²¹	dʑu²¹ kɯ²¹	dzo²¹ kɯ²¹
147	skin*	皮肤	ko³³ dz̩⁵⁵	ko³³ dz̩⁵⁵	xu²¹ ku³³	dʑi⁵⁵ kɯ²¹	dʑi⁵⁵	dʑi⁵⁵ ko³³, dʑi⁵⁵ tso⁵⁵
148	bone*	骨头	kua³³ tɯ²¹	kua³³ tɯ²¹	kua⁵⁵ tjɯ²¹	kua³³ tɯ²¹	kua³³ tɯ²¹	kua³³ tɯ²¹
149	stomach	胃	hi²¹ mu³³		hi²¹ mũ³³	hai²¹ mu³³	hai²¹ mu³³	hai²¹ mo³³
150	navel	脐(肚脐)	tsʰa³³ dɤ²¹		tɕʰa³³ do²¹	tsʰa³³ pu²¹ tu⁵⁵	tʃʰa²¹ do²¹	tsʰa³³ dɯ²¹
151	kidneys	肾(腰子)	vi̱²¹ dz̩⁵⁵		ju⁵⁵ dz̩³³	jou⁵⁵ dz̩³³	ju⁵⁵ dz̩²¹	jou⁵⁵ ts̩³³
152	intestines	肠子	xu²¹ vi̱⁵⁵		hu²¹ vɯ⁵⁵	hai²¹ vɤ⁵⁵	vɤ⁵⁵	vi̱⁵⁵ hai²¹
153	heart*	心	ʔni³³ mo³³	ni³³ mo³³	ʔni³³ mũ³³	nɛi³³ mu³³	nɛ³³ mũ³³	nɛ³³ mõ³³
154	liver*	肝	s̩²¹ kʰa³³	s̩²¹ kʰa³³	s̩²¹ kʰa³³	s̩²¹ kʰa³³	ka⁵⁵	s̩²¹ kʰa³³
155	lungs	肺	s̩²¹ pfʰi̱²¹		s̩²¹ pfʰɤ²¹	s̩²¹ pfʰɤ²¹	fɛi²¹	s̩²¹ pfʰi̱²¹
156	sweat	汗	tɕua²¹		tɕua²¹	tɕua²¹	tɕua²¹	tɕiɛ²¹
157	blood*	血	s̩²¹	s̩²¹	s̩²¹	s̩²¹	s̩²¹	s̩²¹
158	catarrh	鼻涕	ʔnɯ⁵⁵ nɯ²¹		ʔnɯ⁵⁵ nɯ²¹	nɯ²¹	bi̱²¹ ɕi²¹	bi²¹ ɕi²¹
159	saliva	口水	ts̩²¹ dz̩⁵⁵		mũ²¹ ʒe⁵⁵	tʰi²¹ pʰi²¹ z̩⁵⁵	dju²¹ bi²¹	mɯ²¹ z̩³³
160	milk	奶	ʔu⁵⁵ ɳu³³		ʔa⁵⁵ ɳu³³	ʔa⁵⁵ ba³³	pa²¹ pa²¹	ʔa⁵⁵ ba³³

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161	faeces	屎	tsʰɿ²¹		tɕʰi²¹	tɕʰi²¹	tɕʰi²¹	tɕʰi²¹
162	urine	尿水	zɿ²¹		zɿ²¹	ʑi²¹	ʑi²¹	ji²¹
163	pus	脓	bvi̠⁵⁵		bi⁵⁵	bie⁵⁵	bi⁵⁵	bi⁵⁵
164	feather*	羽毛	tsʰɯ⁵⁵	tsʰɯ⁵⁵	tsʰɯ⁵⁵	tsʰɯ⁵⁵	tsʰɯ⁵⁵	tsʰɯ⁵⁵
165	tendon	筋(腱)	dzɿ⁵⁵ tu̠²¹		dʑɤ²¹ tɕũ³³	dʑu²¹	tʃi⁵⁵	dʑyi²¹
166	life	生命	mia̠²¹		miɛ²¹	mia̠²¹	miæ²¹	miɛ²¹⁵ tsi̠³³
167	strength	力气	tɕʰi³³		tɕʰi³³	tɕʰi³³ xou³³	tɕʰi³³	tɕʰi²¹ xɛ⁵⁵
168	person*	人	tsʰa⁵⁵	tsʰa⁵⁵	tsʰa⁵⁵	tsʰa⁵⁵	tsʰa⁵⁵	tsʰa⁵⁵
169	man*	男人	tsɿ³³ ȵi²¹	tsɿ³³ ȵi²¹	tsɿ³³ ȵi²¹ zu²¹	tsɿ³³ ȵi²¹	zu²¹ pa²¹	zo²¹ ki⁵⁵
170	woman*	女人	ʔɿ⁵⁵ nɯ⁵⁵	ʔɿ⁵⁵ nɯ⁵⁵	zua²¹ ma²¹ zu²¹	zuɔ²¹ ma²¹	zu²¹ ma²¹	zo²¹ ma²¹
171	child	儿童	ʔa⁵⁵ hã³³		ʔa⁵⁵ hã³³	ʔa²¹ ha⁵⁵	zu²¹ nɯ⁵⁵	zũ²¹ nɯ⁵⁵
172	friend	朋友	tsʰa̠²¹ pa³³		tsʰa̠²¹ pa³³	pʰu⁵⁵ jou²¹	pʰũ⁵⁵ jou²¹	go³³ tsʰa²¹
173	soldier	兵(士兵)	ma̠²¹		ma̠²¹	ma²¹	kʰo⁵⁵ zu²¹	mɑ²¹
174	deaf person	聋(子)	ʔnu̠²¹ ba²¹		ʔnu̠²¹ ba²¹	nu²¹ ba²¹	nũ²¹ ba²¹	ʔɤ²¹ pou⁵⁵
175	paternal grandfather	爷爷	ʔu⁵⁵ pu⁵⁵		ʔa³³ pu⁵⁵	ʔa⁵⁵ pu⁵⁵	ʔa³³ pu⁵⁵	ʔa²¹ pou⁵⁵
176	father	父亲	ʔa⁵⁵ pu²¹		ʔa⁵⁵ pa³³	ʔa⁵⁵ pu²¹	ʔa⁵⁵ pa³³	ʔa²¹ bo²¹
177	mother	母亲	ʔa⁵⁵ mu³³		ʔa⁵⁵ mũ³³	ʔa⁵⁵ mu³³	ʔa⁵⁵ mũ³³	ʔa²¹ mõ³³
178	elder brother	哥哥	ʔa⁵⁵ ji²¹		ʔa⁵⁵ ku³³	ʔa⁵⁵ da³³	ʔa⁵⁵ ji²¹	ʔa²¹ ji²¹

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179	elder sister	姐姐	ʔa⁵⁵ tsʅ³³		ʔa⁵⁵ tsi³³	ʔa⁵⁵ tsʅ³³	ʔa³³ tɕi⁵⁵	ʔa²¹ tɕi³³
180	younger brother	弟弟	ȵya⁵⁵ zu²¹		ȵia⁵⁵ zu²¹	ȵya⁵⁵ zu²¹	ȵya⁵⁵ zu²¹	ȵiɛ⁵⁵ zõ²¹
181	younger sister	妹妹	ȵya⁵⁵ mu³³		ȵia⁵⁵ mũ³³	ȵya⁵⁵ mu³³	ȵya⁵⁵ mũ³³	ȵiɛ⁵⁵ mõ³³
182	husband	丈夫	tsʰa⁵⁵ bu²¹		tsʰa⁵⁵ pu²¹	tsʅ⁵⁵ ȵi²¹	ma̱²¹ vɤ⁵⁵	mɒ²¹ vi̱⁵⁵
183	wife	妻子	tsʰa⁵⁵ mo⁵⁵		kʰa³³ tsʅ³³ mũ³³	ɣu⁵⁵ zu²¹ mu³³	tɕʰi²¹ mũ³³	tɕʰi²¹ mõ³³
184	son	儿子	zu²¹		zu²¹	zu²¹	zu²¹	ŋo³³ zo²¹
185	daughter	女儿(姑娘)	zu²¹ mua²¹		zua²¹ ma²¹	zua²¹ ma²¹	zu²¹ ma²¹	ŋo³³ zo²¹ ma²¹
186	daughter-in-law	儿媳(媳妇)	tsʰʅ²¹ mu³³		tɕʰi²¹ mũ³³	tɕʰi²¹ mu³³	zu²¹ tɕʰi²¹ mũ³³	zo²¹ tɕʰi²¹ mõ³³
187	son-in-law	女婿	ʔma̱²¹ vi̱⁵⁵ zu²¹		ʔma̱²¹ a⁵⁵ zu²¹	ma²¹ vɤ⁵⁵	zu²¹ ma²¹ ma̱²¹ vɤ⁵⁵	zo²¹ mɛ²¹ ma²¹ vi̱⁵⁵
188	grandson	孙子	ʅ²¹ zu²¹		zi²¹ zu²¹	ʔji²¹ zu²¹	li²¹ zu²¹	li²¹ zo²¹
189	house	房子	hã³³ pfi̱⁵⁵		hĩ⁵⁵	hĩ⁵⁵	hĩ⁵⁵	hɛ⁵⁵ kɛ⁵⁵
190	wall	墙壁	tsɯ⁵⁵ pia³³		tsɯ³³ pia³³	tso⁵⁵ pai²¹	ŋũ³³	ɣo²¹³ pʰiɛ³³
191	beam	梁(椽子)	hĩ⁵⁵ dɤ²¹		vo̠³³	ɣa⁵⁵ mu³³	ʔŋua²¹	wa⁵⁵ mũ³³
192	door	门	gɯ⁵⁵ hũ²¹		gɯ³³ tɕi⁵⁵	ga³³ kʰɯ²¹	kuai²¹ mai⁵⁵	ma̱²¹ kʰɯ⁵⁵, kʰɯ²¹ di⁵⁵
193	room	房间	hã³³ pfi̱⁵⁵ ka⁵⁵ la⁵⁵		hĩ⁵⁵ hi̱³³ pu⁵⁵	tɕi²¹ kua⁵⁵	hĩ⁵⁵ kʰo³³	hɛ⁵⁵ kɛ⁵⁵
194	paddy field	田(稻田)	tua⁵⁵ mi̱⁵⁵		tua⁵⁵ mi⁵⁵	tua⁵⁵ mi⁵⁵	tʃʰɯ⁵⁵ mi⁵⁵	tsʰɯ⁵⁵ mi⁵⁵
195	dry field	田(旱田)	ka⁵⁵ tso²¹ mi̱⁵⁵		ka⁵⁵ so̠²¹ mi⁵⁵	ka⁵⁵ tsou²¹	ka⁵⁵ tsou²¹	mi⁵⁵

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196	hat	帽子	nõ²¹ hõ³³		zu⁵⁵ mo²¹	ɕia⁵⁵ mɑu²¹	ʐu⁵⁵ mu²¹	kʰa²¹ tɯ⁵⁵
197	earring	耳环	nõ²¹ kʰõ³³		nũ²¹ kʰou³³	nu²¹ kʰu³³	nɯ²¹ kʰu³³	no²¹ kʰo³³
198	ring	戒指	la²¹ dzɻ⁵⁵		su²¹ ku⁵⁵	la²¹ so²¹ ʔo⁵⁵	ʃɯ²¹ ku⁵⁵	lɑ²¹ ki̤⁵⁵
199	clothes (upper)	衣服(上衣)	pʰia⁵⁵		pʰia⁵⁵	pʰia⁵⁵	pʰia⁵⁵	pʰia⁵⁵
200	shirt	衬衫	kua⁵⁵ tsɻ²¹		ha⁵⁵ ji³³	xa⁵⁵ ji³³, kua⁵⁵ kua³³	xa⁵⁵ ji³³	xa⁵⁵ ji³³
201	trousers	裤子	ʔnu²¹ tsʰɻ²¹		gu²¹ lo⁵⁵	pʰia⁵⁵ zu²¹	lu²¹ tsʰɻ²¹	lou²¹ tsʰɻ²¹
202	shoes	鞋(布鞋)	tsʰɻ⁵⁵ ni̤³³		tsʰi⁵⁵ ni̤³³	kʰɛ⁵⁵ nɛi³³	kʰai⁵⁵ nai³³	tɕʰi⁵⁵ nɛ³³
203	cloth	布(棉布)	ʔmua̤⁵⁵		ʔma⁵⁵	mua⁵⁵	tɕʰi²¹ kʰu²¹	mõ³³ tsʰũ⁵⁵
204	blanket	被子	dzɻ³³ wa⁵⁵		dzɤ³³ lo⁵⁵	pai²¹ tsɻ²¹	pai²¹ tsɻ²¹	lo²¹ bo²¹
205	pillow	枕头	ʔn̩²¹ gɯ²¹ tu²¹ lɤ⁵⁵		ga²¹ pɯ³³	ʔn̩²¹ gɯ²¹	gɯ²¹ pɯ³³	gɯ²¹ bɯ²¹
206	food	食品	ɕu²¹ lɤ⁵⁵		hũ²¹ lo⁵⁵	dzu²¹ lua⁵⁵	ɕa²¹ lu⁵⁵ sɯ⁵⁵	dzo²¹ ki̤²¹
207	fat, oil*	油(脂肪)	tsʰua⁵⁵	tsʰua⁵⁵	tsʰua⁵⁵	tsʰua⁵⁵	tɕʰua⁵⁵	tɕʰɛ⁵⁵
208	salt	盐	tsʰu²¹ pfi̤⁵⁵		tsʰu²¹	tsʰu²¹	tsʰu²¹	tsʰo²¹
209	meat*	肉	xu²¹	xu²¹	xu²¹	hu²¹	xu²¹	hõ²¹
210	liquor	酒	li²¹ tɕie⁵⁵		lei²¹ tɕi⁵⁵	lɯ²¹ tɕi⁵⁵	lɯ²¹ tɕi⁵⁵	dzɻ⁵⁵ pʰa̤²¹
211	tea	茶	tsu²¹		tsu²¹	tsou²¹	tɕu²¹	tso²¹
212	saw	锯子	ʔa⁵⁵ tsʰo³³		ji⁵⁵ fɤ²¹	fɤ²¹	fɤ²¹	fi̤²¹³ sɛ²¹
213	knife	刀	ʔu⁵⁵ tʰu²¹		ʔu⁵⁵ tʰu²¹	ʔa⁵⁵ tʰu²¹	ʔa⁵⁵ tʰu²¹	ʔa⁵⁵ tʰõ²¹

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214	axe	斧头	hu⁵⁵ tsʰo³³		hu⁵⁵ tsʰu³³	huɯ⁵⁵ tsʰou³³	ku⁵⁵ tsʰu⁵⁵	ko⁵⁵ tsʰõ³³
215	hoe	锄头	wa²¹ gɯ⁵⁵		ʔa²¹ gɯ⁵⁵	ʔa²¹ gɯ⁵⁵	ʔa²¹ gɯ⁵⁵	tɕi²¹ pʰiɛ̃³³
216	plough	犁	sʅ³³ gu²¹		sʅ³³ gu²¹	sʅ⁵⁵ gu²¹	ɕi³³ gu²¹	ɕi³³ go²¹
217	needle	针	ɣɯ²¹		ɣɯ²¹	ɣɯ²¹	ɣɯ²¹	ɣɯ³⁵ tʰa³³
218	thread	线(缝衣用的)	tsʰʅ⁵⁵ tɕo³³		tɕʰi⁵⁵ tɕu³³	tɕʰi⁵⁵ tsɯ³³	tɕʰi⁵⁵ tʃɯ³³	tɕʰiɛ⁵⁵ xɯ³³
219	rope	绳子	çu³³		hiũ³³ tsu³³	çu³³ pfɤ³³	çiũ³³	çyi³⁵ ȵiŋ²¹
220	winnowing fan	簸箕(簸米用)	ʔa⁵⁵ pʰa²¹		ʔa⁵⁵ pʰa²¹	ʔu⁵⁵ pʰa²¹	ʔũ⁵⁵ pʰa²¹	ʔou⁵⁵ pʰa²¹
221	mortar	臼(盐臼)	pi⁵⁵ pa²¹		tsʰu²¹ pa²¹	tsʰu²¹ pa³³	tsʰu²¹ pa³³ la³³	dzo²¹ gu²¹⁵ kʰo³³
222	medicine	药	na⁵⁵ tsʰʅ²¹		na³³ tsʰʅ²¹	na³³ tsʰʅ²¹	na³³ tɕʰi²¹	nɑ³³ tɕʰi²¹
223	broom	扫帚(扫把)	m̩i⁵⁵ sʅ³³		mi⁵⁵ sʅ³³	mi⁵⁵ sʅ³³	mi⁵⁵ sʅ³³	mi⁵⁵ sʅ³³
224	pan	锅(炒菜的)	hɯ⁵⁵ sɯ̃²¹		hɯ⁵⁵ sɯ²¹, tsʰa̠²¹ ku⁵⁵	xɯ⁵⁵ tsʰua⁵⁵	xɯ⁵⁵ tɕʰua⁵⁵	xɯ⁵⁵ tsʰã³³
225	bowl	小碗	tɕi²¹ zu²¹		tɕi²¹	kai²¹	kai²¹	kai³⁵ pʰa²¹
226	chopsticks	筷子	ʔu⁵⁵ dzʅ³³		ʔa⁵⁵ tso³³	ʔa⁵⁵ dzo³³	ʔa³³ dzo³³	ʔa⁵⁵ dzʅ³³
227	stairs	梯子(木梯)	ga²¹ dzu⁵⁵, dzʅ²¹ tʰi⁵⁵		tʃʅ²¹ tʰi⁵⁵	tsʅ²¹ tʰɛi⁵⁵	ʒʅ⁵⁵ tʰai⁵⁵	dzʅ⁵⁵ tʰɛ⁵⁵
228	firewood	柴	sʅ³³ tɕa²¹		sʅ³³	sʅ³³	çi³³	çi³³
229	road*	路	dzu⁵⁵ mu³³	dzu⁵⁵ mu³³	dzu⁵⁵ mia³³	dzu⁵⁵ mu³³	dzu⁵⁵ ma³³	dzou⁵⁵ mo³³
230	bridge	桥	ga²¹ dzu⁵⁵		ga²¹ dzʅ⁵⁵	ga²¹ dzu⁵⁵	ga²¹ dzu⁵⁵	gu²¹⁵ tɕiou²¹

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231	boat	船	zɿ⁵⁵		zi⁵⁵ pa²¹	ʑi⁵⁵	li⁵⁵	li⁵⁵ su⁵⁵
232	market	街子(集市)	dzɿ³³		dʒɿ³³	dzɿ³³	dʒɿ³³	dzɿ³³ ta²¹
233	price	价钱(价格)	pfʰi̡²¹		ji³³ pfʰɤ²¹	ɣu²¹ pfʰɤ²¹	ʔja³³ fɤ²¹	pfʰi̡²¹
234	name*	名字	ʔmi̡⁵⁵	ʔmi̡⁵⁵	ʔmie⁵⁵	mie⁵⁵	mi⁵⁵	mie⁵⁵ tsʰɿ⁵⁵
235	dream	梦	zɿ²¹ mu³³ kʰa⁵⁵		zɿ²¹ mũ kʰa⁵⁵	zɿ²¹ ma³³ kʰa⁵⁵	ʒɿ²¹ mu³³ kʰa⁵⁵	zi̡²¹ mõ³³
236	shadow	影子	ʔa⁵⁵ pa³³ ku³³		ʔa³³ pa³³ zu²¹	ʔa³³ pa³³ zu²¹	ʔa³³ pa³³ pa³³ zu²¹	xou⁵⁵ zõ²¹
237	ghost	鬼	tsʰa̡²¹		ni²¹	nai²¹	nai²¹	nai²¹
238	god	神	ni²¹		du̡²¹ pu⁵⁵	wɛi²¹	suɯ²¹ puɯ²¹	çi²¹ po²¹
239	soul	灵魂	huã⁵⁵ suã⁵⁵ zu²¹		hu⁵⁵ su⁵⁵ zu²¹	hn̩ʔ⁵⁵ ju⁵⁵ zu²¹	hũ⁵⁵ zu²¹	hu⁵⁵ zũ²¹
240	fence	栅栏	mi̡⁵⁵ tɕu²¹ lɤ⁵⁵		tɕʰu⁵⁵ pia³³	tsʰua³³ tɕʰi⁵⁵	mi⁵⁵ wɛi⁵⁵, tɕʰua³³ tɕʰi⁵⁵	sua⁵⁵ li⁵⁵
241	bow	弓	mia²¹		mia²¹	mia²¹	mia²¹	pa⁵⁵
242	arrow	箭	mia²¹ zu²¹		mia²¹ zu²¹	tɕi⁵⁵ ha³³	mia²¹ tɕi⁵⁵	mie²¹ zo²¹
243	village	村子(寨子)	jo³³		juɯ³³	ʐou³³	ju³³	yi⁵⁵
244	flute	笛子	tʰju⁵⁵ lu²¹ lu⁵⁵		tʰi⁵⁵ lu³³	gwɛi²¹ lai²¹	pi⁵⁵ lu³³	çu⁵⁵ kua³³
245	poison	毒药	to²¹ na̡³³ tsʰɿ²¹		tu²¹ na̡³³ tsʰɿ²¹	tou²¹ na̡³³ tsʰɿ²¹	tsʰa⁵⁵ tu²¹	do²¹
246	to look*	看	na³³	na³³	ʔĩ⁵⁵	na³³	ça⁵⁵	to⁵⁵ tsɿ⁵⁵
247	to see	看见	mia⁵⁵ dʑa³³, mia⁵⁵ wu³³		mia⁵⁵ piɛ³³	mia⁵⁵	mia⁵⁵	mia⁵⁵ ga⁵⁵
248	to show	给看	na³³ tsɿ⁵⁵		ʔi⁵⁵ tsɿ⁵⁵	na³³ tsɿ⁵⁵	çia³³ tɕi⁵⁵	tou⁵⁵ tsɿ⁵⁵

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249	to hear	听见	dʑu²¹ ɣu³³		dʑu²¹ piɛ³³	nua⁵⁵ tɕu²¹	nua⁵⁵ tɕu²¹	nu⁵⁵ dʑo²¹
250	to listen*	听	ʔnu̱⁵⁵	ʔnu̱⁵⁵	ʔnu̱⁵⁵	nuɔ⁵⁵	nu̱⁵⁵	nu⁵⁵ dʑo²¹
251	to eat*	吃	ɕu²¹	ɕu²¹	hũ²¹	dzu²¹	ça²¹	dzo²¹
252	to drink*	喝	da⁵⁵	da⁵⁵	da⁵⁵	da⁵⁵	da⁵⁵	da⁵⁵
253	to bite*	咬	ŋa³³	ŋa³³	kʰɯ²¹	kʰɯ²¹	kʰɯ²¹	kʰɯ²¹
254	to chew	嚼	gu²¹		gu²¹	gu²¹	dzu²¹	dzo²¹
255	to lick	舔	lia²¹		liɛ²¹	lia²¹	lia²¹	la̱²¹
256	to swallow	咽(吞)	na̱⁵⁵		ʔna³³, dʑɯ⁵⁵	na⁵⁵ tsɛi²¹³	na⁵⁵	nɛ̃⁵⁵
257	to spit	吐(吐口水)	tsɻ²¹		tʰju²¹	tsɻ²¹	tʰju²¹	pʰi²¹
258	to vomit	呕吐	pʰi̱²¹		ta̱²¹	pʰai²¹	pʰai²¹	pʰai²¹
259	to blow	吹(吹火)	mɤ³³		mõ³³	mɤ³³	mɤ³³	mi̱³³
260	to say*	说	ba³³	ba³³	ba³³	ba³³	tɕa²¹	tɕa²¹, ba³³
261	to ask	问	mɤ²¹		mæ²¹	mie²¹	mi²¹	mie²¹
262	to call	叫	kʰɤ⁵⁵		kʰo⁵⁵	kʰo⁵⁵	kʰo⁵⁵	kʰɤ⁵⁵
263	to tell	告诉	tʰɯ⁵⁵ gu²¹		ba³³ gɯ²¹	ba³³ gɯ²¹	ba³³ gɯ²¹	ba³³gɯ²¹
264	to smell	闻(嗅)	nɯ²¹		nũ²¹	nɯ²¹	nɯ²¹	nũ²¹
265	to take	拿(拿书)	ta⁵⁵		ta⁵⁵	ta⁵⁵	ʔɯ̃³³	yi⁵⁵
266	to pick	摘(摘果子)	xu⁵⁵		hu⁵⁵	xu⁵⁵	kʰua²¹	ta̱⁵⁵
267	to tear	撕	xua³³		pʰi⁵⁵	sɻ³³	pʰai⁵⁵	pʰɛ⁵⁵

#	English Gloss	Chinese Gloss	Kua-nsi (Hedong)	Kua-nsi (Shang'eping)	Kuamasi (Songping)	Zibusi (Daqing)	Laizisi (Moguang)	Sonaga (Xinfeng)
268	to wring	拧(拧毛巾)	sɿ²¹		ʃo²¹	so²¹	ʃo²¹	sɿ̠²¹
269	to extend	伸(伸手)	tsʰa²¹		dʒɯ⁵⁵	tsʰɯ³³	tʃʰɯ³³	tsʰw̃³³
270	to pull	拉(向前拉)	ga⁵⁵		ga⁵⁵	ga⁵⁵	tɕya⁵⁵	dʑi³³
271	to push	推	dɯ²¹		dɯ²¹	dɯ²¹	dɯ²¹	dɯ²¹
272	to kick	踢	tsʰua³³		tʰua³³	tʰua³³	tɯ⁵⁵	tɯ⁵⁵
273	to kneel	跪	dzɿ²¹		dʒɿ²¹	go²¹	gɯ²¹	gɿ̠²¹
274	to sit*	坐	ȵi⁵⁵	ȵie⁵⁵	tsʰɿ³³	ȵi⁵⁵	tsʰɿ³³	ɕa⁵⁵
275	to carry on one's back	背(背小孩)	mɯ⁵⁵		mɯ⁵⁵	mɯ⁵⁵	mɯ⁵⁵	mɯ⁵⁵
276	to lift	提	di⁵⁵		di⁵⁵	die⁵⁵	di⁵⁵	di⁵⁵
277	to sleep*	睡觉	ʒɿ²¹	ʒɤ²¹	ʒɯ²¹ to⁵⁵, na²¹ to⁵⁵	zɤ²¹	ʒɿ²¹, ʒɿ²¹ tu²¹	zɿ²¹ to²¹
278	to do	做(做工)	mɨ⁵⁵, pi⁵⁵		mɤ⁵⁵	mɤ⁵⁵	mɤ⁵⁵	mɨ⁵⁵
279	to dig	挖(挖洞)	wa̠²¹		wa²¹	kua²¹	kua̠²¹	ka̠²¹
280	to grow, cultivate	种(种菜)	tua⁵⁵		tua⁵⁵	tuɔ⁵⁵	tua⁵⁵	tɯ̠⁵⁵
281	to chop, slice	切(切菜)	ɣɯ⁵⁵		ɣɯ⁵⁵	ɣɯ⁵⁵	ɣɯ⁵⁵	ɣɯ⁵⁵
282	to chop down	砍(砍树)	kʰa³³		kʰã³³	kʰa³³	kʰã³³	tsʰɤ⁵⁵
283	to split	劈(劈木柴)	kʰua²¹		kʰua²¹	kʰuɔ²¹	kʰua²¹	kʰa̠²¹

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284	to buy	买	γua^{55}		wa^{55}	γuσ^{55}	γua^{55}	$\gamma\epsilon^{55}$
285	to sell	卖	vi̱^{21}		vγ^{21}	vγ^{21}	vγ^{21}	vi̱^{21}
286	to count	数(数东西)	vi̱^{33}		vγ^{33}	vγ^{33}	vγ^{33}	vi̱^{33}
287	to teach	教	ʔmua^{21}		ʔma^{21}	mua^{21}	ma^{21}	ma̱^{21}
288	to boil (vegetables)	煮	tsa̱^{21}		tsa^{21}	tsa^{21}	tʃa^{21}	tsa^{21}
289	to fry	炒	li̱^{55}		ʔlo^{55}	lo^{55}	lo^{55}	lγ^{55}
290	to steam	蒸	sa^{21}		sa^{21}	sa^{21}	sa^{21}	sa^{21}
291	to hunt	打猎	ʃ^{21} ga^{21}		ʃo^{21} tʰ$\tilde{u}^{33}$	so^{21} ga^{21}	tʃʰ^{55} ga^{21}	ʑi^{21} vϵ^{33} diϵ^{21}
292	to shoot	射	bua^{33}		ba^{33}	sai^{33}	dua^{21}	bϵ^{33}
293	to hit (a target)	中(射中)	za^{33}		γu^{33}	da^{21}	da^{21}	dza^{21}
294	to kill*	杀(杀鸡)	ɕi̱^{21}	ɕie^{21}	si̱^{21}	sai^{21}	sai^{21}	sai^{21}
295	to die*	死	sʅ^{55} ai^{21}	sʅ^{55} ai^{21}	ʃʅ^{55}	sʅ^{55}	ʃʅ^{55}	sa^{55}
296	to mill	磨(磨米)	ga^{55}		ga^{55}	ʔai^{21}	ga^{55}	ŋwϵ^{21}
297	to winnow	簸(簸米)	ʔu^{55}		ʔu^{55}	ʔu^{55}	ʔ$\tilde{u}^{55}$	pou^{55}
298	to wear (a hat)	戴(戴帽子)	kʰo^{33}		kʰu^{33}	kʰou^{33}	kʰu^{33}	kʰo^{33}
299	to wear (clothes)	穿(上衣)	gu^{21}		gu^{21}	gu^{21}	gu^{21}	go^{21}
300	to comb	梳(梳头)	pfi̱^{21}		pæ^{21}	pie^{21}	pi^{21}	tɕiou^{55}

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301	to sew	缝(缝纫)	sl̩^{33}		si^{33}	ɕi^{33}	ɕi^{33}	tɕiɛ^{21}
302	to patch	补(补衣服)	pɯ^{33}		pɯ^{33}	pɯ^{33}	pɯ^{33}	pɯ^{33}
303	to weave	编织(布)	tsʰua^{21}		tsʰua^{21}	tsʰua^{21}	tɕɯ^{33}	tiɛ^{21}
304	to plait	编(编辫子)	pʰi^{21}		pʰi^{21}	pʰai^{21}	pʰai^{21}	pi^{55}
305	to sweep	扫(扫地)	sl̩^{33}		sl̩^{33}	sl̩^{33}	sl̩^{33}	sl̩^{33}
306	to cure	治(病)	na^{33}		ʐi^{33}	na^{33}	ʔji^{55}	ji^{55}
307	to open	开(开门)	pfʰɨ^{33}		pfʰɤ^{33}	pfʰɤ^{33}	fɤ^{33}	kʰɨ^{33}, pfʰɨ^{33}
308	to close	关	tsʰl̩^{21}		tsʰl̩^{21}	tsʰl̩^{21}	tsʰl̩^{21}	ɣa^{21}
309	to put down	放(下)[放置]	fɨ̱^{55}		fɤ^{55}	tu^{21}	za^{21}	na̱^{21}
310	to hang	挂(挂在墙上)	kua^{55}		kua^{55}	kua^{55}	kua^{55}	kua^{55}
311	to untie	解(解绳结)	tʰi^{33}, tʰɯ^{21}		tʰi^{33}	tʰai^{33}	tʰai^{33}	tʰai^{33}
312	to release	放(把鸟放走)	fɨ̱^{55}		fɤ^{55}	tsʰo^{21} fɤ^{55}	tʃʰo^{21} fɤ^{55}	tsʰã^{21}
313	to pack	装(装进袋里)	fɨ̱^{55}		fɤ^{55}	kɯ^{33}	za^{21}	na̱^{21}
314	to take out	拿出	ta^{55} do^{33}		ta^{55} du^{33}	ta^{55} tou^{33}	ʐu^{55} du^{33}	yi^{55} do^{33}
315	to stuff	塞(塞在洞口)	tsʰl̩^{21}		tsʰo^{21}	sɯ^{33}	ʐo^{55}	tsʰl̩^{21}
316	to hide (thing)	藏(东西)	ka̱^{33}		tʃua^{55}, ka^{33}	tsua^{55}	ka̱^{33}	tsãi^{55}

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317	to hide (self)	藏/躲(自己)	z̩³³		pia³³	pia³³	pia³³	ʔuɛ³³
318	to choose	挑选	tʰiu²¹, s̩⁵⁵		tʰiɔu²¹	tʰiɑu²¹	tʰju²¹	tʰiɑu²¹
319	to heap	堆(堆积泥土)	dʑi³³		dʑɯ³³	dzɛ̃³³	pia⁵⁵	dzɛ̃³³
320	to get	得(得到)	ɣu³³		ɣu³³, dza⁵⁵	ɣu³³	ɣu³³	ɣu³³ ga⁵⁵
321	to receive	收(收起来)	sɯ⁵⁵		ʃɯ⁵⁵	sɯ⁵⁵	ʃɯ⁵⁵	sɯ⁵⁵
322	to seek	找(寻找)	ʔmi³³		mi³³	tsu³³	tʃu⁵⁵	na³³
323	to use	用(使用)	ʔjõ²¹		ɳõ²¹	zu²¹	zu²¹	zũ²¹
324	to play	玩耍	no³³ gu³³		nũ³³ gu³³	ça⁵⁵ tʰɯ²¹	pai³³ gu³³	ga⁵⁵ go³³
325	to dance	跳舞	gu³³ tsɯ³³		tʃʰa⁵⁵ gu³³ tʰju³³	tʰiɑu⁵⁵ gu³³	gu³³ kʰai³³	tʰiou⁵⁵ vi̩³³
326	to celebrate New Year	过年	ko²¹ s̩²¹ ko²¹		tɕia³³ ku²¹	tɕa³³ ku²¹	tɕia³³ ku²¹	ʔɯ²¹ s̩²¹
327	to help	帮助	ɣu²¹ mi̩⁵⁵		ɳia³³ a⁵⁵ tɕu³³	ɳia³³ a⁵⁵ dʑu³³	dz̩⁵⁵ dʑu³³	dʑõ³³
328	to allocate	分配(分配)	bɯ⁵⁵ gu²¹		bɯ⁵⁵ gɯ²¹	bɯ⁵⁵ gɯ²¹	bɯ⁵⁵ gɯ²¹	bɯ⁵⁵
329	to wait	等(候)	la³³		la³³	la³³	la³³	la³³
330	to meet, come across	遇见	tʰu⁵⁵ ɣu³³		yi⁵⁵ wu³³	yi³³ da²¹, yi³³ wu³³	dʒ̩⁵⁵ dz̩⁵⁵	dz̩⁵⁵
331	to hit	打(打人)	ti²¹		ti²¹	tai²¹	luai²¹	diɛ²¹
332	to grab, rob	抢	tɕʰua²¹		tɕʰa²¹	tɕʰa²¹	tɕʰua²¹	tɕʰa²¹
333	to steal	偷	kʰɤ²¹		kʰo²¹	kʰo²¹	kʰo²¹	kʰi̩²¹

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334	to cheat	骗	kʰua²¹		pʰiɛ³³	pʰie³³	pʰiæ³³	pʰi³³
335	to laugh	笑	di̠²¹		di²¹	dai²¹	dai²¹	ɣɯ³³
336	to cry	哭	ŋɯ⁵⁵		ŋɤ⁵⁵	ŋo⁵⁵	ʔũ²¹	ki̠⁵⁵
337	to love	爱(爱小孩)	tsɿ⁵⁵ tsʰɿ⁵⁵		ka⁵⁵	ʔai³³	ɕi²¹ huã⁵⁵	ʔai³³
338	to like	喜欢(喜欢唱歌)	ɕi²¹ huã⁵⁵		ɕi²¹ huã⁵⁵	ɕi²¹ hua⁵⁵	ɕi²¹ huã⁵⁵	ɕi²¹ huã⁵⁵
339	to guess	猜	tsu²¹		tsʰai²¹	tsʰai²¹	tsʰai²¹	tsʰai²¹
340	to believe	相信	i̠³³ dzɹ³³		dʒɿ⁵⁵	ʔo³³ dzɹ³³	ɕã²¹ ɕĩ⁵⁵	ʔi̠³³ dzɹ³³
341	to remember	记得	tsɯ³³ u³³		tsɯ³³ wu³³	tsɯ³³ wu³³	tʃɯ⁵⁵ wu³³	tsɯ⁵⁵ wu³³
342	to forget	忘记	ʔni³³ mai⁵⁵		ʔi³³ mæ⁵⁵	nɛi³³ ma⁵⁵	nɛ³³ mai⁵⁵	nɛ³³ ma⁵⁵
343	to know*	知道(懂)	ɕi³³	ɕi³³	sua¹ piɛ³³	sɛi³³	sɛi³³	sɛ³³ ja²¹
344	to think	想(思考)	mi̠³³		mi³³	mie³³	mi³³	mi³³
345	to hate	恨	xɯ³³		xɯ³³	xɯ³³	xɯ³³	gɯ³³
346	to fear	怕	dʑo³³		dʑu³³	dʑou³³	dʑu³³	dʑo³³
347	to dare	敢	mi̠⁵⁵ pfi̠²¹		pa²¹	dʑa³³, pi²¹	pi²¹	pfʰi̠²¹
348	to know how to	会(会做)	la³³		la³³	la³³	ko²¹	kɤ²¹ ja²¹
349	to be	是(这是什么)	ŋɯ⁵⁵		ŋɯ⁵⁵	ŋɯ⁵⁵	ŋɯ⁵⁵	ŋɯ⁵⁵
350	to have	有	dza⁵⁵		dʒa⁵⁵	dza⁵⁵	dʒa⁵⁵	dza⁵⁵, dʑi⁵⁵

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351	to swim*	游(泳)	$l\gamma^{33}$	$l\mu^{33}$	$\textglotstop a^{33}\ na^{55}\ ti^{21}$	wa^{33}	$g\mu^{21}\ t\mu^{21}\ t\textctc h i^{21}$	$dz\textrhookschwa^{21}\ lai^{21}$
352	to save	救(救人)	$k\mu^{21}$		$k\mu^{21}$	$k\mu^{21}$	$k\mu^{21}$	$k\mu^{21}$
353	to walk*	走(动作：正在走)	$s\mu^{21}$	$s\mu^{21}$	$\textctz i^{21}$	$s\mu^{21}$	$s\mu^{21}$	$k^h ai^{55}$
354	to run	跑	$ts\mu^{33}$		$t^h ju^{33}$	$\textctz i^{21}$	$\textctz i^{21}$	sa^{33}
355	to come*	来	la^{55}	la^{55}	la^{55}	lu^{55}	la^{55}	la^{55}
356	to come up	上来	$da^{33}\ la^{55}$		$ga^{21}\ a^{33}\ la^{55}$	$da^{33}\ lu^{55}$	$da^{33}\ la^{55}$	$da^{33}\ la^{55}$
357	to go	去	li^{33}		$ts\mu^{55}$	$\textctz i^{55}$	$s\mu^{21}$	$\textctz i^{55}$
358	to go up	上去	$zua^{33}\ da^{33},\ da^{33}\ pa^{33}$		$ga^{21}\ a^{33}\ ts\mu^{55}$	$da^{33}\ li^{33}$	$da^{33}\ li^{33}$	$da^{33}\ ja^{55},\ da^{33}\ lai^{33},\ da^{33}\ ji^{55}$
359	to ascend	上(上山)	da^{33}		li^{33}	da^{33}	da^{33}	da^{33}
360	to descend	下(下山)	za^{21}		za^{21}	$ts\epsilon i^{33}$	$tsai^{33}$	$ts\epsilon^{33}$
361	to return	回	$t\mu^{55}$		$t\mu^{55}$	$la^{21}\ ji^{55}$	-	$k^h\epsilon^{33}$
362	to arrive	到	ka^{21}		ka^{21}	ka^{21}	ka^{21}	ka^{21}
363	to exit	出(出去)	do^{33}		du^{33}	do^{33}	du^{33}	do^{33}
364	to enter	进(进来)	$l\underaccent{\smile}{\mu}^{21}$		$g\mu^{55}$	$l\mu^{21}$	$l\mu^{21}$	$g\mu^{33}$
365	to flee	逃	$p^h a^{55}$		-	$\textctz i^{21}$	$\textctz i^{21}$	$p^h a^{55}$
366	to chase	追(追上)	$dz\textrhookschwa^{33}$		$t^h\mu^{33}$	ga^{21}	di^{33}	$ts^h o^{33}$
367	to jump	跳	$t^h i\alpha u^{33}$		$t^h ju^{33}$	$t^h i\alpha u^{33}$	$t^h ju^{33}$	tsu^{33}
368	to ride	骑(骑马)	$dzua^{21},\ sa^{33}$		$dzua^{21}$	$dzua^{21}$	$d\textctz ua^{21}$	$d\textctz\epsilon^{21}$

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369	to recline*	躺	kɯ^{55}	kɯ^{55}	ʑl^{21}	kʰou^{33}	kʰu̱^{33}	kʰo^{33}
370	to exist	在	dza^{55}		dza^{55}	dza^{55}	dʑa^{55}	dza^{55}
371	to crack	裂开(墙裂开)	bi̱^{21}		bi^{21}	bai^{21}	bai^{21}	bɛ^{21}
372	to roll	滚(石头滚)	ʔlɯ^{21}		ʔlɯ^{33}	kwɛi^{21}	lɯ^{33}, kwɛ^{21}	kwɛ^{21}
373	to fall down	掉(掉在地下)	tɕia^{33}		tɕi^{33}	tsʰɛi^{55}	tsʰai^{55}	tsʰɛ^{55}
374	to snap in two	断(绳子断了)	dza^{33}		tʰɯ^{33}	tʰɯ^{33}	tʰɯ^{33}	tʰia^{215}
375	to break	破(罐子破了)	ga^{21}		ga^{21}	çia^{21}	bai^{21}	tɕʰyɛ^{215}
376	to soak	浸(浸种子)	ʔnɯ^{21}		nɯ^{21}	tɕi^{33}	nɯ^{21}	ti̱^{33}
377	to boil (water)	沸	tsʅ^{55}		tso^{55}	tsʅ^{55}	tsʅ^{55}	hua^{33}
378	to grow (up)	长(长大)	wa^{21}		wa^{21}	wa^{21}	wa^{21}	ɣa̱^{21}
379	to tremble	发抖	dzɯ̱^{33}		dzɯ^{33}	nɛi^{33}	tʃʰɯ^{21}	nõ^{21}, tsʰɯ^{33}
380	to swell	肿	pʰɯ̱^{21}		pʰɯ̱^{21}	pʰɯ^{21}	pʰɯ^{21}	pʰɯ^{33}
381	to fly*	飞	biu^{55}	biu^{55}	biou^{55}	biɯ^{55}	biu^{55}	bi^{55}
382	to bark	吠(吠叫)	lɯ^{33}		tʰɯ^{33}	lo^{33}	lua^{33}, di^{33}	lɤ^{33}
383	to brood, incubate	孵	ʔi̱^{21}		ʔɤ̃^{21}	ʔo^{21}	ʔõ^{21}	ʔɤ̱^{21}

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384	to start	开始	$k^h\text{u}^{33}$		$k^h\varepsilon i^{33}\ s_1^{21}$	$k^h\text{ai}^{33}\ s_1^{21}$, $mu^{55}\ du^{55}\ gua^{55}$	$li^{33}\ lo^{33}$	$k\underset{.}{i}^{33}\ f\gamma^{55}$
385	to stop	停	nu^{33}		$n\tilde{o}^{21}$	za^{21}	za^{21}	$\textipa{P}\varepsilon^{21}\ no^{213}$
386	to write	写	wa^{33}		wa^{33}	γua^{33}	γua^{33}	$\gamma\underset{.}{a}^{33}$
387	to wash (self)	洗(手)	$ts^h_1^{21}$		$ts^h\underset{.}{1}^{21}$	$ts^h_1^{21}$	$t\textcgamma^h i^{21}$	$t\textcgamma^h i^{21}$
388	to shake, sway	摇动	$\textipa{P}n\text{u}^{33}$		$zi^{33}\ lo^{33}$	$ni^{33}\ \eta a^{33}$	ηa^{21}	ηa^{33}
389	to finish	完成	$g\underset{.}{i}^{55}$		$mu^{55}\ ko^{55}$	$mu^{55}\ gua^{55}$	$mo^{55}\ go^{55}$ (＝做完)	$g\underset{.}{i}^{55}\ to^{55}$
390	to give*	给	gu^{21}	gu^{21}	gu^{21}	gu^{21}	gu^{21}	gu^{21}
391	to destroy	破坏	ga^{21}		$pi^{55}\ pi\underset{.}{a}^{33}$	$gou^{33}\ bi^{33}\ ai^{55}$	$bi\underset{.}{a}^{21}\ bi^{33}$	$g\underset{.}{i}^{33}\ p^h i\varepsilon^{55}$
392	to stand up	站起来	$\textctc i\tilde{o}^{21}\ tu^{55}$		$hi\tilde{u}^{21}\ to^{55}$	$\textctc i\alpha u^{21}\ to^{55}$	$\textctc ya^{21}\ to^{55}$	$\textctc o^{21}\ t\underset{.}{i}^{55}$
393	to stand*	站(站位)	$\textctc\tilde{o}^{21}$	$\textctc i\tilde{o}^{21}$	$\textctc i\tilde{o}^{21}$	$\textctc i\alpha u^{21}$	$\textctc ia^{21}$	$\textctc o^{21}$
394	to peel	剥皮(削皮)	s_1^{33}		s_1^{33}	$\textctc i\alpha u^{33}$	$d\textctz i^{33}\ lo^{33}$	$l\underset{.}{a}^{55}$
395	to stir	搅拌	$d\textctz ya^{33}$		$d\textctz ua^{33}$	ba^{21}	$d\textctz u^{21}$, ba^{21}	$p\varepsilon^{21}$
396	to weigh	称	$ts^h_1^{55}$		$ts^h_1^{55}$	$t\textcgamma^h ye^{55}$	$t\textcgamma^h yi^{55}$	$t\textcgamma^h yi^{55}$
397	to burn*	焚(烧)	tu^{21}	tu^{21}	tu^{21}	tu^{21}	$t\textcgamma^h u^{55}$	$t\textcgamma^h yi^{55}$
398	to roast (in fire)	烧(烤)(火里)	$ts^h_1^{55}$		tu^{21}	tu^{21}	$t\textcgamma^h u^{55}$	$t\textcgamma^h yi^{55}$
399	to roast (over fire)	(烧)烤(火上)	$\textipa{P}\text{u}^{21}$, ka^{55}		$k^h a^{55}$	ka^{55}	ka^{55}	ka^{55}

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400	to cough	咳嗽	ʔi²¹ hiã⁵⁵ tsʅ²¹		tso²¹	tsʰua²¹ tsʅ²¹	tɕʰua²¹ la²¹ tsʅ²¹	tɕʰiɛ²¹ tsʅ²¹
401	to yawn	打呵欠	ha⁵⁵ ju²¹ pʰi⁵⁵, ha⁵⁵ ju²¹ pʰiu⁵⁵		ha⁵⁵ la²¹ pʰia⁵⁵	hua⁵⁵ hua⁵⁵ ji²¹	hua⁵⁵ hua⁵⁵ ji²¹	tɕʰi²¹ hou³³ ji²¹
402	to sneeze	打喷嚏	ʔa⁵⁵ tʰi²¹ sʅ⁵⁵		ʔa̱²¹ tʰju⁵⁵	ʔa⁵⁵ tʰju²³²	ʔa⁵⁵ tʰju⁵⁵	ʔa⁵⁵ tʰjy²¹
403	to give birth	生(生孩子)	lo²¹		na²¹	zʅ²¹	ʒɛ²¹	zʅ²¹
404	to fart	放屁	tsʰʅ²¹ pfɨ̱³³		tɕʰi²¹ pi²¹	tɕʰi²¹ pi²¹	tɕʰi²¹ pi²¹	tɕʰi²¹ pi²¹
405	to defecate	作大便	tsʰʅ²¹ wã²¹		tɕʰi²¹ ʔua²¹	tɕʰi²¹ wa²¹	tɕʰi²¹ ʔa²¹	tɕʰi²¹ ʔa̱²¹
406	to urinate	作小便	zʅ²¹ ia³³		zʅ²¹ tɕʰi⁵⁵	ʑi²¹ sʅ²¹	ʑi²¹ pai²¹	ʔi²¹ tʰa̱²¹
407	to live	活	sa̱²¹		dʑa³³	dʑa³³	xã⁵⁵	xa⁵⁵
408	to borrow	借	ʔu²¹		ʔu²¹	ɣu²¹	ʔu²¹	ʔõ²¹, tsʰʅ²¹
409	to owe	欠	bvɨ̱³³		vɤ³³	bvɤ³³	vɤ³³	bvɨ̱³³
410	to exchange	(交)换	pu⁵⁵		pu⁵⁵	pu⁵⁵	pu⁵⁵	pou⁵⁵
411	to suck	吸	xu³³		ɕi⁵⁵	ɕi⁵⁵	ɕi⁵⁵	ɕi⁵⁵
412	to lift (over head)	举起	ta⁵⁵ vɨ̱⁵⁵		tɕyi²¹ to⁵⁵	tɕyi²¹ to⁵⁵	tɕyi²¹ to⁵⁵	yi⁵⁵ tɤ⁵⁵
413	to squeeze	挤压	ʔi̱²¹		ʔi̱²¹	ʔie²¹	zʅ²¹	ʔi̱²¹
414	to pinch	捏	ȵo³³		ʔȵũ³³	ʔjou³³	ʔju⁵⁵	nai²¹
415	white*	白	pfʰɨ̱⁵⁵	ʔu²¹ pʰɨ̱⁵⁵ le⁵⁵	pfʰɤ⁵⁵, ʔu²¹ pfʰɤ⁵⁵	pfʰɤ⁵⁵	pfʰɤ⁵⁵	pfʰɨ̱⁵⁵
416	black*	黑	na³³	na³³ kua³³	na³³ kɯ³³	na³³	na³³	na̱³³
417	red*	红	sʅ²¹ ȵi̱⁵⁵	sʅ²¹ʔȵie⁵⁵	sʅ²¹ nie⁵⁵	nɛi⁵⁵	ȵi⁵⁵	ȵi⁵⁵

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418	yellow*	黄	sua⁵⁵ wo²¹	suo⁵⁵ wo²¹	ʃua⁵⁵	sua⁵⁵	ʃua⁵⁵	sɛ⁵⁵
419	blue	蓝	tɕʰya⁵⁵ ɕi³³		ʔi⁵⁵ tɕi⁵⁵	tɕʰɛ̃⁵⁵	tɕʰi⁵⁵	tɕʰiɛ⁵⁵
420	green*	绿	ʔn̩⁵⁵ tsʰɹ̩²¹ li⁵⁵	ʔn̩⁵⁵ tsʰɹ̩²¹ li̠⁵⁵	ʔi⁵⁵ tɕʰi³³	tɕʰi²¹	tɕʰi³³	lyi⁵⁵
421	sharp	快(刀快)	ʔn̠i²¹, tʰa³³		tʰa³³	tʰa³³	tʰa³³	ʑi²¹
422	blunt	钝(刀钝)	ni⁵⁵		mo²¹ tʰa³³	n̩²¹ tʰa³³	tʰɯ³³	kʰu⁵⁵
423	flat	平(路很平)	bua⁵⁵		ba⁵⁵	bua⁵⁵	ba⁵⁵	bɛ⁵⁵
424	straight	直(棍子很直)	tɯ̠³³		tɯ³³	tɯ³³	tɯ⁵⁵	dza²¹
425	round*	圆(球很圆)	ʔu⁵⁵ lɯ³³, kʰu³³ du³³ lu³³, duo³³ lua³³	kʰu³³ du³³ lu³³, duo³³ lua³³	li⁵⁵ lu³³	ŋwɛi²¹	ŋwɛ²¹, li⁵⁵ lu³³	wei⁵⁵
426	soft	软	n̠a̠²¹ ʔnɯ³³		hia²¹ nɯ̃³³	n̠a̠²¹ nɯ³³	no²¹	nɯ²¹
427	bright	亮(房子很亮)	ɹ̩⁵⁵ mia⁵⁵		n̠ia³³	ma²¹	n̠ia³³	ma²¹
428	full*	满	bvi̠³³	bi̠³³	bie³³	bie³³	bi³³	bie³³
429	empty	空	kʰɯ⁵⁵（＝白语）, ʔn̩²¹ dza⁵⁵ （＝没有）		kʰo⁵⁵	ɕa⁵⁵	kʰo⁵⁵	kʰɨ⁵⁵
430	fat	胖	gɯ⁵⁵ tʰɯ³³		go⁵⁵ tʰɤ²¹	go⁵⁵ tʰo³³	zɛ⁵⁵	gɨ⁵⁵ tʰɨ²¹
431	lean	瘦(肉瘦)	gua³³ nɯ⁵⁵		tɕɯ⁵⁵	ja⁵⁵ sɹ̩⁵⁵	la³³ ka³³, ja⁵⁵ sɹ̩⁵⁵	lɑ³³ kɑ³³
432	dirty	脏	ma²¹ n̩²¹ da⁵⁵ (= not clean)		tsa⁵⁵	la⁵⁵ tʰa⁵⁵	tsa⁵⁵, la⁵⁵ tʰa⁵⁵	ʔua³
433	old (person)	老(老人)	ma²¹		ma²¹	ma²¹	ma²¹	ma²¹

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434	young	年轻	ʔla̠^{21}		n̠i^{33} hia^{21} ʔja^{55}	n̠i^{33} çia^{21} ja^{55}	n̠i^{33} çia^{21} ja^{55}	lɑ^{21}
435	good*	好(东西好)	dzua^{33}	dzua^{33}	dzua^{33}	dzua^{33}	xu^{33}	dʑiɛ^{33}
436	bad	坏(东西坏)	xuɛi^{33}		hɛi^{55}, bia^{33}	bia^{33}, hai^{33}	bia^{33}, hai^{33}	kua̠^{21}
437	fast	快(走得快)	miõ^{33}		mia^{33}	miɑu^{33}	miɑu^{33}	dʑi^{55}
438	slow	慢(走得慢)	dʑu^{55}		pʰi^{55}	la^{21}	pʰi^{55}	pʰi^{55}
439	wet	湿(衣服湿)	zl̩^{33}		ʔnua^{33}	nua^{33}	pʰɯ^{33}	dʑi^{21}
440	dry*	干(衣服干)	xua^{33}	xua^{33}	xua^{33}	xua^{33}	xua^{33}	dʑyi^{33}
441	new*	新	çi^{55} nu^{33}	çi^{55} nu^{33}	sei^{55}, si^{55}	sl̩^{21}	ʃl̩^{21}	sl̩^{21}
442	old	旧	gɯ^{21} nu^{33}		gɯ^{21} no^{33}	lo^{55}	lo^{55}	gɯ^{21}
443	raw	生 (生肉)	ji^{33} dzl̩^{21}		ji^{33} dzl̩^{21}, dzl̩^{21}	dzl̩^{21}	dʑi^{21}	dʑi^{21} mu^{33}
444	ripe	熟(熟肉)	mi̠^{33}		ʔmi^{33}	mie^{33}	mi^{33}	nõ^{55} ga^{55}
445	early	早(来得早)	na^{21}		na̠^{21}	na^{21}	na̠^{21}	nɑ^{21}
446	hot*	热	tsʰu^{55}	tsʰu^{55}	tsʰu^{55}	tsʰu^{55}	lɯ^{55}	ʔi̠^{21}
447	cold*	冷	dʑa^{33}, dʑa^{33} kɯ^{33}	dʑa^{33} kɯ^{33}	dʑa^{33}	dʑa^{33}	dʑa^{33}	dʑa^{33}
448	warm	暖和	lɯ^{55}, lɯ^{55} mɯ^{21}		lɯʔ^{55} mɯ^{21}	lɯ^{55}	lɯ^{55} mɯ^{21}	lɯ^{55}
449	cool	凉快	hi^{55} sl̩^{33}		nia^{55}	nia^{55}	nia^{55}	-
450	sour	酸	tsɯ^{55}		tsɯ^{55}	tsɯ^{55}	tsɯ^{55}	tsũ^{55}
451	sweet	甜	tsʰl̩^{55} mi̠^{55}		mi^{55}	mi^{55}	mi^{55}	çiou^{55}
452	bitter	苦	kʰu^{21}		kʰu^{21}	kʰu^{21}	kʰu^{21}	kʰɑu^{21}

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453	spicy	辣	dzɿ³³		dzɿ³³	dzɿ³³	dʑɪ³³	dʑi³³
454	delicious	好吃	ɕu²¹ mɪ̠⁵⁵		hũ²¹ dzua³³	ɕu⁵⁵	ɕa²¹ dʑua³³	dzou²¹ dʑiɛ³³
455	stinky	臭	bi²¹ nɯ⁵⁵		bɯ²¹ nɯ⁵⁵	bɯ²¹ nɯ⁵⁵	bɯ²¹ nɯ⁵⁵	tsʰɪ̠²¹ nɯ⁵⁵
456	hungry	饿	mɯ²¹		mɯ²¹	mɯ²¹	mɯ²¹	mu²¹
457	thirsty	渴	sɿ²¹, hua³³		sɿ²¹	sɿ²¹	ɕɪ̠²¹	ɕi²¹
458	tired	累(疲倦)	dya³³		su²¹	su²¹	ʃu²¹	so²¹
459	sad	忧愁	mɯ³³ tsa³³		ʔũ³³ tɕʰi³³	tsʰɑu²¹	ʔou³³ tɕʰi³³, tsʰɑu²¹	ʔou³³ tɕʰi³³
460	ashamed	惭愧	ɪ̠⁵⁵ gu³³ n̩²¹ di²¹		gu³³ mu²¹ dzua³³	ʔi⁵⁵ gu³³ n̩²¹ dai²¹	gɯ³³, gɯ³³ n̩²¹ zai³³	tsʰa⁵⁵ tsʰũ̃³³
461	glad	高兴	di²¹ lua⁵⁵		ɕi²¹ huã⁵⁵	kou⁵⁵ ɕɯ³³	ɕi²¹ huã⁵⁵	ɕi²¹ huã⁵⁵
462	angry	生气	vɪ̠⁵⁵ tsɿ⁵⁵, ɕya²¹ kʰɯ³³		tu⁵⁵ tɕʰi³³	zɿ²¹ tɕʰi⁵⁵	tɕʰi³³ tu⁵⁵	hɑu²¹ tsʰũ̃²¹
463	itchy	痒	ju²¹, dzɿ⁵⁵ ju²¹		dzi⁵⁵ jo²¹	do²¹	ʑu²¹	jõ²¹
464	hurting	痛	nu⁵⁵		nu⁵⁵	nu⁵⁵	nua⁵⁵	nũ⁵⁵
465	sick	病(生病)	nu⁵⁵		bæ²¹	ŋua²¹ nu⁵⁵	bæ²¹	nõ⁵⁵
466	clever	聪明	tʰi⁵⁵		tsʰu⁵⁵ miŋ⁵⁵	tsʰu⁵⁵ miŋ⁵⁵	nũ²¹ kã⁵⁵（＝能干）	da³³
467	crazy	疯狂	vɪ̠⁵⁵ lua³⁵ (lua³⁵ ＝ 很)		vɤ⁵⁵	ni⁵⁵ kʰua²¹, vɤ⁵⁵	kai²¹ ʔõ³³, vɤ⁵⁵	ɣou⁵⁵
468	lazy	懒	bua³³ jo³³		nã³³	bua³³ jou³³	ba³³ ʔju³³, nã³³	la³³
469	brave	勇敢	dʑa³³ lua³⁵, ta³³ do²¹		ta³³ wa²¹	xou²¹ tɕʰi⁵⁵, nɛi³³ wa²¹	zu²¹ du⁵⁵, nɛ⁵⁵ wa²¹	nɛ³³ ɣa²¹
470	drunk	(喝)醉了	ʑɪ̠²¹		ʑɪ̠²¹	ʑi²¹	ʑɪ̠²¹	jɪ̠²¹
471	same	一样(相同)	dzɿ⁵⁵ kʰɯ²¹		tɕʰi²¹ ʃɿ²¹	dʑi²¹ jɑu²¹	di²¹ jo²¹	dʑi²¹ jo²¹

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472	expensive	贵	pfʰi̠²¹ kʰa³³		pfʰɤ²¹ kʰa³³	pfʰɤ²¹ kʰa³³	fɤ²¹ kʰa³³	pfʰi̠²¹ kʰa³³
473	correct	正确	xu⁵⁵		hu⁵⁵	hu⁵⁵ do⁵⁵	hu⁵⁵ li²¹, hu⁵⁵	hou⁵⁵ ja²¹
474	enough	足够	lo²¹		lu²¹	lɑu²¹	lṳ²¹	lo²¹ ga³³
475	near	近	dʑu⁵⁵ nu²¹		dʑi³³	dʑi³³	dʑu⁵⁵ no²¹	dʑu⁵⁵ na²¹
476	high	高	i̠⁵⁵		ʔũ⁵⁵	ʔo⁵⁵	ʔõ⁵⁵	ʔi̠⁵⁵
477	low	低	ʔn̠i⁵⁵, ʔn̠i̠²¹		ʔi⁵⁵, ʔni⁵⁵	nɛi⁵⁵	ni⁵⁵	n̠i⁵⁵
478	long*	长	sl̩⁵⁵	sl̩⁵⁵	ʃl̩⁵⁵	xɯ⁵⁵	xɯ⁵⁵	xɯ⁵⁵
479	short	短	ʔju²¹		n̠ũ²¹	ʔju²¹	ʔjũ²¹	ʔyi²¹
480	many*	多	mia²¹	mia²¹	mia²¹	mia²¹	mia²¹	miɛ²¹
481	few	少	ɕu³³		ʔni²¹	nai²¹	ni²¹	sl̩²¹ n̠i²¹
482	wide	宽	kʰuã³³, la²¹ sa⁵⁵		kʰua³³	kʰua³³	kʰua³³	kʰua³³
483	narrow	窄	tsuã³³		tsua³³	gua³³	tʃua³³	tsa̠i³³
484	big*	大	wa²¹	wa²¹	wa²¹	wa²¹	wa̠²¹	ɣa²¹
485	small*	小	ʔja³³	ʔja⁵⁵	ʔja⁵⁵	ʔja³³	ʔja³³	ʔja⁵⁵
486	deep	深(水深)	na̠²¹		ʔna²¹	na̠²¹	na̠²¹	nɑ²¹
487	light	轻	la⁵⁵		la⁵⁵	la⁵⁵	la⁵⁵	la⁵⁵
488	heavy	重	zl̩²¹		zi²¹	ʑi²¹	li²¹	li̠²¹
489	thick (2D)	厚	kɯ²¹ tʰɤ⁵⁵		kɯ²¹ tʰo⁵⁵	tʰua⁵⁵	tʰo⁵⁵	tʰi̠⁵⁵
490	thin (2D)	薄	kɯ²¹ bu²¹		kɯ²¹ bu²¹	bu²¹	bu²¹	bou²¹

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491	thick (3D)	粗(粗大)	mu^{55} tu^{33}		tsʰu^{55}	tsʰu^{55}	bæ^{55}	bei^{55}
492	thin (3D)	细(细小)	mu^{55} tsʰʅ^{55}, mo^{21}		mou^{21}	mɑu^{21}	tɕʰi^{55}	tɕʰi^{55}
493	one*	一	tɕʰi^{21}	tɕʰi^{21}	tɕʰi^{21}	tɕi^{21}	ti̠^{21}	tɕi^{21}
494	two*	二	ȵi^{21}	ȵi^{21}	ȵi^{21}	ȵi^{21}	ȵi̠^{21}	ȵi^{21}
495	three	三	su^{55}		su^{55}	su^{55}	su^{55}	su^{55}
496	four	四	ʅ^{55}		zi^{55}	ʑi^{55}	li^{55}	li^{33}
497	five	五	ŋu^{21}		ŋu^{21}	ŋu^{21}	ŋu^{21}	ŋo^{21}
498	six	六	tɕʰo^{21}		tɕu^{21}	tɕʰɑu^{21}	tɕu^{21}	tɕʰou^{21}
499	seven	七	sʅ^{21}		ʃʅ^{21}	sʅ^{21}	ʃʅ^{21}	sʅ^{21}
500	eight	八	çi^{21}		hi^{21}	hai^{21}	hai^{21}	hai^{21}
501	nine	九	kɤ^{55}		ko^{33}	ko^{55}	ko^{33}	kɤ^{33}
502	ten	十	tsʰʅ^{55}		tsʰʅ^{55}	tsʰʅ^{55}	tɕʰi^{55}	tɕʰi^{55}
503	eleven	十一	tsʰʅ^{55} tsʅ^{21}		tsʰʅ^{55} tɕʰi^{21}	tsʰɯ^{55} tɕi^{21}	tɕʰi^{55} ti̠^{21}	tɕʰi^{55} ti̠^{21}
504	twelve	十二	tsʰʅ^{55} ȵi^{21}		tsʰʅ^{55} ȵi^{21}	tsʰɯ^{55} ȵi^{21}	tɕʰi^{55} ȵi̠^{21}	tɕʰi^{55} ȵi̠^{21}
505	twenty	二十	ȵ̩^{21} tsʅ^{55}		ȵi^{21} tsʰʅ^{55}	ȵ̩^{21} tsʅ^{55}	ȵi̠^{21} tɕi^{55}	ʔɛ^{21} tɕi^{215}
506	twenty one	二十一	ȵ̩^{21} tsʅ^{55} tɕʰi^{21}		ȵi^{21} tsʰʅ^{55} tɕʰi^{21}	ȵ̩^{21} tsɯ^{55} tɕi^{21}	ȵi̠^{21} tɕi^{55} ti̠^{21}	ʔɛ^{21} tɕi^{215} ti̠^{21}
507	hundred	百	çiũ^{55}		hiũ^{55}	çiu^{55}	çiũ^{55}	çõ^{55}
508	thousand	千	tɤ^{55}		tɕʰi^{55}	tɕʰɛ̃^{55}	tɕʰi^{55}	tɤ̰^{55}

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#	English Gloss	Chinese Gloss	Kua-nsi (Hedong)	Kua-nsi (Shang'eping)	Kuamasi (Songping)	Zibusi (Daqing)	Laizisi (Moguang)	Sonaga (Xinfeng)
509	arm span (measure)	庹(两臂伸直)	bo³³		bu³³	bɑu⁵⁵	bo⁵⁵	bo⁵⁵
510	hand span (measure	柞(拇指-中指)	tʰɯ⁵⁵		tʰɯ⁵⁵	tʰɯ⁵⁵	tʰu²¹	tʰo²¹
511	I*	我	ŋu⁵⁵	ŋu⁵⁵	ŋu⁵⁵	ŋu⁵⁵	ŋu⁵⁵	ŋo⁵⁵
512	we incl.*	我们	ŋu²¹	ŋu²¹	ŋo²¹	ŋua²¹	ŋo²¹	n̻a²¹
513	you sg.*	你	ȵi⁵⁵	ȵi⁵⁵	ȵi⁵⁵	ȵi⁵⁵	ȵi⁵⁵	ȵi⁵⁵
514	you pl.	你们	nu²¹		nõ²¹	na²¹	no²¹	no²¹
515	he, she	他	ji³³		ʑi³³	ji⁵⁵	ʔi⁵⁵	ʔɛ⁵⁵
516	they	他们	ɕia⁵⁵ mu³³		ʑi²¹	tʰa²¹	tu²¹	to²¹
517	this*	这(个)	ʔa³³ tɕʰu⁵⁵	ʔa³³ tɕʰu⁵⁵	ʔa³³ mu⁵⁵	ʔa³³ n̻²¹ tsu⁵⁵	ʔa³³ mu⁵⁵	tɕi⁵⁵ ki⁵⁵
518	that*	那(个)	xu³³ tɕʰu⁵⁵	kʰu³³ tɕʰu⁵⁵	kʰu³³ mu⁵⁵	kʰu⁴⁵ tʰo³³	kʰu³³ hõ⁵⁵	ko⁵⁵ ki⁵⁵
519	here	这里	ʔa³³ mua⁵⁵		ʔa⁵⁵ mu⁵⁵ ti⁵⁵	ʔa²¹ ba²¹	ʔa³³ lu⁵⁵	tɕi⁵⁵ ko²¹
520	there	那里	xua⁵⁵		kʰu⁵⁵, kʰua⁵⁵	kʰu⁵⁵	kʰu³³ lu⁵⁵	kou⁵⁵ ko²¹
521	over here	这边	ʔa³³ mua⁵⁵ pʰa³³		ʔi⁵⁵ tɕʰu²¹	ʔi⁵⁵ tɕʰu²¹	di⁵⁵ ba²¹	tɕi⁵⁵ tɕʰyi²¹
522	over there	那边	xua⁵⁵ pʰa³³		kʰua⁵⁵ tɕʰu²¹, kʰu⁵⁵ tɕʰu²¹	kʰu³³ tɕʰu²¹, kʰu³³ ba²¹	kʰu³³ ba²¹	ko⁵⁵ tɕʰyi²¹
523	between	中间	ka⁵⁵ la⁵⁵ mu³³		ka⁵⁵ la⁵⁵ tɯ³³, ka⁵⁵ la⁵⁵	ka̠⁵⁵ na⁵⁵	ʔwa⁵⁵ ɕi⁵⁵ mi²¹	ʔa̠⁵⁵ ɕi⁵⁵ miɛ²¹
524	left	左边	ua²¹ a³³ pʰa³³		ʔua²¹ tɕʰu²¹	la²¹ ʔo²¹	la̠²¹ ʔo²¹, ʔo²¹ o³³ ba²¹	lo²¹ ʔa̠²¹⁵ tɕʰyi²¹
525	right	右边	ʔja⁵⁵ pʰa³³		ʔja⁵⁵ tɕʰu²¹	la²¹ ʔju⁵⁵	la̠²¹ ʔya⁵⁵, ʔyæ⁵⁵ ba²¹	lo²¹ ʔja⁵⁵ tɕʰyi²¹

#	English Gloss	Chinese Gloss	Kua-nsi (Hedong)	Kua-nsi (Shang'eping)	Kuamasi (Songping)	Zibusi (Daqing)	Laizisi (Moguang)	Sonaga (Xinfeng)
526	beside	旁边	mũ²¹ hũ²¹		bia²¹ to⁵⁵ tɕʰu²¹	ŋu²¹ bie⁵⁵, ŋ̩²¹ dz̩⁵⁵	ŋua³³ bia³³	pi⁵⁵ tɑ²¹
527	above	上面	ʔu⁵⁵ pʰua⁵⁵		ko̠²¹ to³³	ga²¹ ʔa⁵⁵ mi²¹, ko²¹ to³³	ga³³ ba²¹	ka⁵⁵ tɑ²¹
528	beneath	下面	tsʰ ̩⁵⁵ kʰʏ²¹		ji³³ tɕi³³	wa²¹ ʔa⁵⁵ mi²¹, ʔi³³ tɕi³³, tɕʰi⁵⁵ kʰo²¹	ʔwa³³ ba²¹	wa²¹⁵ tɕʰyi²¹, tɕʰa⁵⁵ kʰɨ³³
529	inside	里面	kʰɯ²¹		kʰɯ²¹ kʰo⁵⁵	kʰa²¹ kʰo⁵⁵	kʰa²¹ kʰo⁵⁵	kʰɨ⁵⁵ sɯ⁵⁵
530	outside	外面	ŋuã³³		ŋa³³ mi⁵⁵	ŋa³³ ba²¹	ŋa³³ ba²¹	ma³³ ba²¹, ha³³ ba²¹
531	in front of	前面	ɯ⁵⁵ xɯ²¹		ʔa⁵⁵ xɯ²¹	ɣɯ²¹	ɣæ²¹	ʔa²¹⁵ ɣɯ³³
532	what?*	什么?	ʔa⁵⁵ tsʰa⁵⁵	ʔa⁵⁵ tsʰa⁵⁵	ʔa³³ tsʰa⁵⁵	ʔa⁵⁵ tsʰa⁵⁵ tʰo²¹	ʔa⁵⁵ tsʰa⁵⁵ mu²¹	ʔa⁵⁵ tsʰa⁵⁵
533	where?	哪里?	ʔa³³ dia⁵⁵		ʔa⁵⁵ ti⁵⁵ pa²¹	ʔa²¹ li²¹ ba²¹	ʔa²¹ di³³ lu⁵⁵, ʔa²¹ di³³ ba²¹	ʔa²¹⁵ go²¹
534	why?	为什么?	ʔa³³ pia⁵⁵ su³³		ʔa⁵⁵ tsʰa⁵⁵ lu⁵⁵ bɯ²¹	ʔa⁵⁵ tsʰa⁵⁵ la⁵⁵ bɯ²¹	ʔa²¹ su³³ ko³³, ʔa⁵⁵ tsʰa⁵⁵ lu⁵⁵ bɯ²¹	ʔa⁵⁵ mɨ⁵⁵
535	how?	怎么?	ʔa³³ su³³		ʔa³³ si³³	ʔa³³ ɕi³³	ʔa²¹ su³³	ʔa⁵⁵ sɯ⁵⁵
536	who?*	谁?	ʔa³³ di⁵⁵, ʔa³³ di³³ tɕʰu⁵⁵	ʔa³³ die⁵⁵	ʔa³³ tu⁵⁵	ʔa³³ s̩²¹	ʔa³³ sa²¹	ʔa⁵⁵ s̩²¹
537	now	现在	ʔi³³ n̩²¹ tɕʰa⁵⁵		ʔi⁵⁵ tʃ̩²¹	ʔi³³ n̩²¹ tɕʰi³³, ʔi⁵⁵ n̩²¹ kɑ²¹	ʔa³³ tɕʰi³³	tɕi⁵⁵ ka²¹
538	before (temporal)	以前(过去)	xu⁵⁵ vɨ⁵⁵, ʔa²¹ s̩³³ vɨ⁵⁵		ʔa⁵⁵ xɯ²¹	ka²¹ dou³³	ku²¹ bɨ³³, kɑ²¹ du³³	kou⁵⁵ ŋɛ⁵⁵, ga²¹ ba²¹
539	after (temporal)	今后(将来)	ɕia⁵⁵ dza³³, ʔa⁵⁵ dza³³		tia²¹ a³³ n̠i³³, ʔa²¹ ta⁵⁵ n̠i³³	tia²¹ a⁵⁵ n̠i³³	ʔa²¹ ka³³ na²¹ ʔu⁵⁵ n̠i³³	tia²¹ ba²¹
540	most	最(最大)	kḁ³³		kæ³³	kḁ³³	kḁ³³	kḁ³³

#	English Gloss	Chinese Gloss	Kua-nsi (Hedong)	Kua-nsi (Shang'eping)	Kuamasi (Songping)	Zibusi (Daqing)	Laizisi (Moguang)	Sonaga (Xinfeng)
541	again	再(明天再来)	tɕi³³		tsɛi³³	tsai³³	tsai³³, ha²¹	tsɛ³³
542	certainly	一定(我一定去)	ŋɯ⁵⁵ di̠²¹ ai⁵⁵		tʃʅ²¹	ʔa²¹ tou⁵⁵ tou²¹	-	n̠a²¹ ʔa³³ sɯ³³ lɛ⁵⁵
543	not*	不(他不来)	ʔn̩²¹	ʔn̩²¹	mo²¹	ʔn̩²¹	ʔũ²¹	dza²¹ a³³
544	all*	都(大家都来)	ʔi⁵⁵	ʔi⁵⁵	ʑi⁵⁵	ʔi⁵⁵	-	ʑi³⁵ sʅ²¹, mia⁵⁵
545	don't	别(别去)	ʔn̩²¹ n̠u⁵⁵		tʰu²¹	tʰu²¹	tu²¹	no³⁵

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