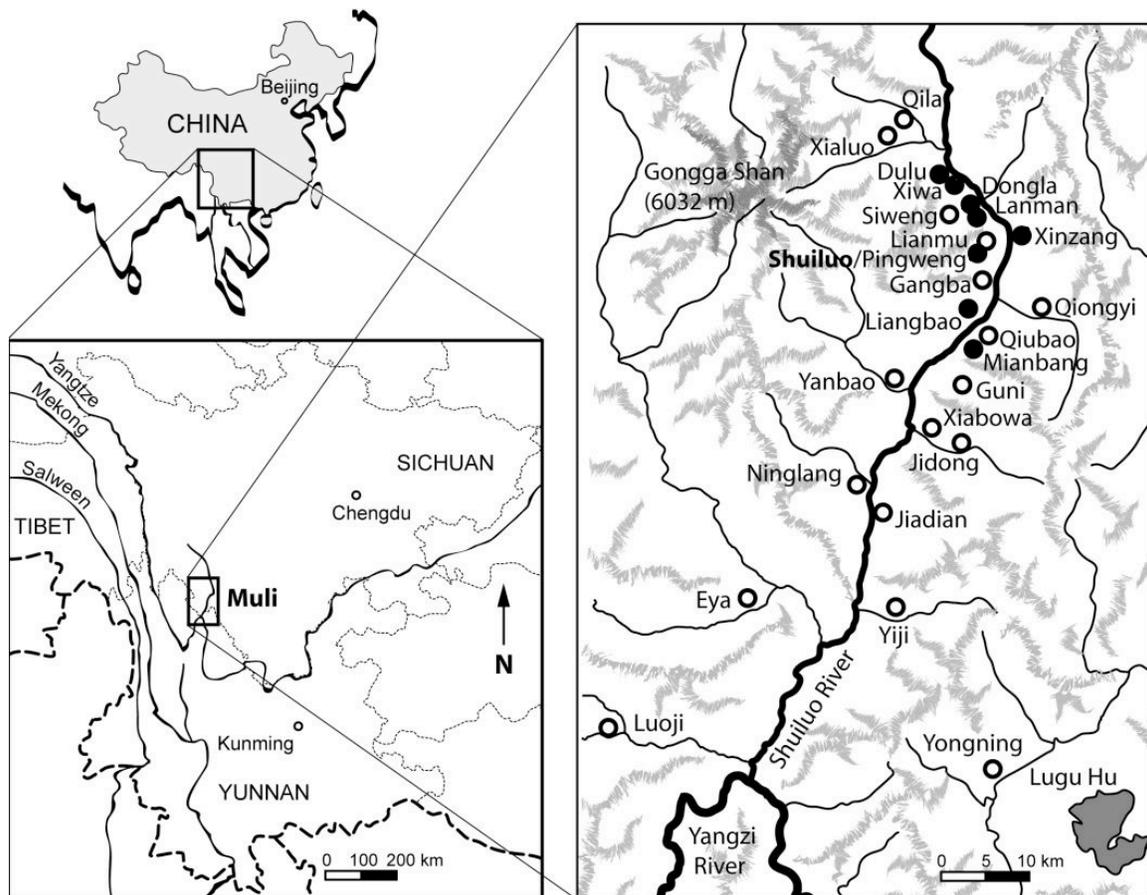


Xùmǐ

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## 1. General

The Xùmǐ 旭米 language is spoken by Xùmǐ Tibetans, an ethnic group of ca. 1,800 people who reside along the banks of the Shuǐluò 水洛 river in Mùlǐ 木里 (Written Tibetan [WT] *rmi li*) Tibetan Autonomous County in Sìchuān Province (see Map 1).



Map 1. Location of Shuǐluò Township (Xùmǐ villages marked with solid black circles)

Shuǐluò Township is a historically multi-ethnic and multi-lingual area, and Xùmǐ villages are interspersed with those of other ethnic groups. Their most numerous neighbors include Púmǐ 普米 people in the lower reaches of the Shuǐluò river, and Gāmǐ 嘎米

Tibetans in the upper reaches of the Shuǐluò river (Muli Gazetteers Compilation Committee 2010: 560, 563-564).

Possibly reflecting the respective influence of the Púmǐ and Tibetan languages, Xùmǐ can be divided into two sub-varieties with restricted mutual intelligibility: (1) that of the Lower and Middle Reaches of the Shuǐluò River (hereafter, Lower Xùmǐ), and (2) that of the Upper Reaches of the Shuǐluò River (hereafter, Upper Xùmǐ). The two varieties differ in their segmental inventories and phonotactic constraints. In addition, the two varieties have loanwords from the two respective neighboring languages. The self-denomination of the group is /<sup>EP</sup>ʃuhẽ/ in Lower Xùmǐ, and /<sup>EP</sup>ʃuhĩ/ in Upper Xùmǐ. The locally current Chinese character spelling for this autonym is *shūhēng* 書亨. Xùmǐ, the official name of the group in the national Mandarin Chinese language, is based on the name given to the group by the Púmǐ ethnic majority of Mùlǐ.

The Xùmǐ are essentially agriculturalists. They cultivate wheat, barley, buckwheat, corn, millet, rice, and a variety of vegetables. They also practice animal husbandry, forestry, and fruit farming, and they mine placer gold in the Shuǐluò river (Weckerle *et al.* 2005, 2006).

Most Xùmǐ are multilingual. In addition to their native tongue, they master Southwest Mandarin as well as, either Púmǐ (in the lower reaches of Shuǐluò river) or Tibetan (in the upper reaches of Shuǐluò river). They use their native language as the primary means of oral communication in family and community events. The language does not have its own writing system. Xùmǐ is traditionally considered mixed, combining elements of various local languages. It is of unusual interest for studies of language change in multilingual communities, and studies into the synchronic and diachronic dynamics of convergence. The language is highly endangered due to the increasing influence of Mandarin and of languages of the more numerous local groups, Púmǐ and Tibetan.

Xùmǐ is currently classified as a member of the putative Qiangic subgroup of the Sino-Tibetan language family (Bradley 1997:36-37, Sūn 2001) (see *Qiangic languages*). An alternative view links Xùmǐ to Nàxī/Naish languages (see *Naxi/Naish*). The latter view is based on (i) the recent migration history of the group from the areas historically populated by the Nàxī 納西 and Mósuō 摩梭 or Móxiē 摩些 (Dàlǐ 大理, Nínglàng 寧蒗,

Yǒngníng 永寧), and (ii) salient typological similarities between Xùmǐ and Nàxī/Naish languages in lexicon and grammar (such as aspectual marking and existential verbs) (Guō and Hé 1994:8-9, Chirkova 2012).

The language of the Xùmǐ was first brought to the attention of linguists by Sūn Hóngkāi 孫宏開 (1983), who labeled it “Shǐxīng”, based on his transcription of the autonym of the group as [ʂɿ<sup>55</sup>hĩ<sup>55</sup>]. This label is generally unknown in the county where the group resides. Instead, the Xùmǐ refer to their language as /<sup>EP</sup>ʃuhẽ ketçɛ/ in the lower reaches, or /<sup>EP</sup>ʂuhĩ ketçɜ/ in the upper reaches; both autonyms mean ‘the language of the Shu people.’ The language is little researched, with only two brief outlines to date (Sūn 1983, Huáng and Rénzēng 1991). In addition, Sūn *et al.* (1991) and Huáng *et al.* (1992) provide basic vocabulary lists of ca. 1,000 and 1,800 words respectively. More recent work includes Chirkova (2009, a collection of texts, a dictionary, and a grammar in preparation), Chirkova and Michaud (2009), Chirkova and Duoding (2012), Sūn *et al.* (2013), Chirkova and Chen (*manuscript1*, *manuscript2*). The present description focuses on Upper Xùmǐ for which more data are currently available.

## 2. Description of the language

### 2.1. Phonology

#### 2.1.1. Consonants

	<b>Bilabial</b>	<b>Alveolar</b>	<b>Retroflex</b>	<b>Alveopalatal</b>	<b>Velar</b>	<b>Uvular</b>	<b>Glottal</b>
<b>Plosive</b>	p p <sup>h</sup> b	t t <sup>h</sup> d			k k <sup>h</sup> g	q q <sup>h</sup>	
<b>Affricate</b>		ts ts <sup>h</sup> dz	tʂ tʂ <sup>h</sup> dz <sub>ɿ</sub>	tç tç <sup>h</sup> dz			
<b>Nasal</b>	m̥ m	n̥ n		ɲ	ŋ		
<b>Fricative</b>		s z	ʂ z <sub>ɿ</sub>	ç z	x	χ ʁ	h f
<b>Approximant</b>	w	ɹ		j			

<b>Lateral Approximant</b>		ᶲ	l		ᶻ	ʎ			
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There is a basic three-way manner distinction in stops and affricates: voiceless unaspirated, voiceless aspirated, and voiced. Velars and uvular stops are in near complementary distribution. Uvular stops are found before non-high vowels, and velar stops are found elsewhere. The two series contrast before /e, ɜ, u, ʊ/, e.g. /<sup>LR</sup>k<sup>h</sup>e/ ‘tax’ vs. /<sup>LR</sup>q<sup>h</sup>e/ ‘lime’, /<sup>HR</sup>k<sup>h</sup>ɜ/ ‘foot’ vs. /<sup>HR</sup>q<sup>h</sup>ɜ/ ‘feces’, /<sup>HR</sup>ku/ ‘be able’ vs. /<sup>HR</sup>qu/ ‘hearth’, /<sup>RP</sup>ɲɜ- kʊ/ ‘warm oneself’ vs. /<sup>HR</sup>qʊ/ ‘fate, life’.

The retroflexes are in near-complementary distribution with the alveopalatals: the former occur before the syllabic consonant /ɹ/ and the back vowels /u, ɜ, ʊ/, whereas the latter are mostly found before front vowels, but also before /ɜ, u, o/. The contrast is reinforced by Tibetan loanwords, e.g. /<sup>EP</sup>kʊtʃi/ ‘legging’ (WT *rkang dkris*), /<sup>EP</sup>ŋgʊtʃhi/ ‘leader’ (WT *mgo khrid*).

/n/ and /ɲ/ are minimally distinguished before the vowels /u, ʊ/, e.g. /<sup>LP</sup>ɲu-ɲu/ ‘breast’ vs. /<sup>LP</sup>nu-tʃ<sup>h</sup>u/ ‘bean curd’, /<sup>RP</sup>nɛɛ/ ‘twenty’ vs. /<sup>LP</sup>ɲɛɛ/ ‘shadow’. The contrast is not found before the vowels /i, e, jɛ, ɜ/ (where I use the symbol for the alveolopalatal nasal), e.g. /<sup>HR</sup>ɲi/ ‘you, thou’, /<sup>HR</sup>ɲe/ ‘snivel, snot’, /<sup>HR</sup>ɲɛ/ ‘milk’, /<sup>HR</sup>ɲɜ/ ‘have a craving, be hungry’. /ɲ/ only co-occurs with /ɜ, u, ʊ/, e.g. /<sup>HR</sup>ɲɜ/ ‘I, first person pronoun’, /<sup>EP</sup>ɲɛɲu/ ‘to fry (vegetables)’.

Bilabial and alveolar nasals show the correlation voiced-voiceless, as illustrated by the following pairs: /<sup>HR</sup>mjɛ/ ‘bamboo’, /<sup>HR</sup>mjɛ̃/ ‘medicine’ (WT *sman*), /<sup>RP</sup>nɛɛ/ ‘twenty’, /<sup>HR</sup>ɲɛ/ ‘incantation’ (WT *sngags?*). Voiceless nasals are infrequent. They mostly occur in loanwords from Tibetan, but they are also attested in the native vocabulary, e.g. /<sup>RP</sup>mjɛtsũ/ ‘tail’, /<sup>LR</sup>ɲũ/ ‘fur, hair’.

Alveolar and alveolopalatal laterals are minimally distinguished before /u/, e.g. /<sup>RP</sup>dʒi-lu/ ‘twice as much’, /<sup>RP</sup>dʒi-ɬu/ ‘be full’. The contrast is not observed before the front vowels /i, e, jɛ, ɜ/ (in which case I use the symbols for alveolopalatal laterals), e.g. /<sup>LR</sup>ɬe/ ‘hand’, /<sup>LR</sup>ɬɛ/ ‘predestined affinity’. Finally, only alveolar laterals are found before /e, ɔ, ɐ/, e.g. /<sup>EP</sup>ɬekwi/ ‘ring’, /<sup>HR</sup>ɬɔ/ ‘wind’, /<sup>HR</sup>ɬe/ ‘tiger’. All laterals show the correlation voiced-voiceless, e.g. /<sup>LR</sup>ɬɜ/ ‘stutterer’ vs. /<sup>LR</sup>ɬɜ/ ‘soul, spirit’, /<sup>HR</sup>ɬɛ/ ‘correct’ vs. /<sup>HR</sup>ɬɛ/ ‘flavorless’.

The syllabic consonant /ɹ/ may occur with a zero-initial (e.g. /<sup>RP</sup>k<sup>h</sup>u-ɹ/ ‘be in debt’), and after alveolar sibilants and retroflexes (/ts, ts<sup>h</sup>, dz, s, z, tɕ<sup>h</sup>, ʂ, ʐ/). In the latter case, /ɹ/ is realized as a syllabic fricative that is homorganic to the preceding consonant onset, e.g. /<sup>HR</sup>tsɹ/ [ʰ<sup>HR</sup>tsɹ] ‘use’, /<sup>HR</sup>ts<sup>h</sup>ɹ/ [ʰ<sup>HR</sup>ts<sup>h</sup>ɹ] ‘cut with scissors’, /<sup>HR</sup>dzɹ/ [ʰ<sup>HR</sup>dzɹ] ‘wheat’, /<sup>RP</sup>mesɹ/ [ʰ<sup>RP</sup>mesɹ] ‘tomorrow’, /<sup>RP</sup>mezɹ/ [ʰ<sup>RP</sup>mesɹ] ‘cat’, /<sup>HR</sup>tɕ<sup>h</sup>ɹ/ [ʰ<sup>HR</sup>tɕ<sup>h</sup>ɹ] ‘sell’, /<sup>HR</sup>ʂɹ/ [ʰ<sup>HR</sup>ʂɹ] ‘fishing net’, /<sup>LR</sup>ʐɹ/ [ʰ<sup>LR</sup>ʐɹ] ‘sleep’. Fricative vowels are also found in Mandarin Chinese, as well as in many languages of Southwest China, such as Northern Ngwi (or Nuosu) (Li and Mǎ 1983:36) or Lisu (Bradley 2003:224). In these languages, syllabic fricatives are often analyzed as allophones of high vowels: the apical vowels [ɨ] and [ɥ] as allophones of /i/ in Chinese, and as allophones of /i/ or /y/ in Nuosu and Lisu. Conversely, in Xùmǐ, the syllabic consonant /ɹ/ contrasts with high vowels (/i, u/), as in /<sup>HR</sup>tsi/ ‘lock’, /<sup>HR</sup>tsɹ/ ‘use’, /<sup>HR</sup>tsu/ ‘pluck (facial hair)’. For this reason, it is here analyzed as a separate phoneme.

The approximant /w/ occurs in the second position in consonant clusters, where it may be realized as secondary labialization of the first position consonant. It occurs after alveolars, alveolopalatals, retroflexes, velars, uvulars, and /ɹ/, and it may be followed by

/i, e, jɛ, ɜ, ɐ/. If preceded by an alveolopalatal onset or followed by the front vowels /i, e, jɛ/, /w/ is realized as [ɥ], e.g. /<sup>HR</sup>gwi/ [HRgɥi] ‘bundle wrapped in cloth’, /<sup>LR</sup>dwe/ [LRdɥe] ‘ask’, /<sup>LR</sup>dʒwɛ/ [LRdʒɥe] ‘bird’, /<sup>LR</sup>dʒwɜ/ [LRdʒɥɜ] ‘snow’, /<sup>EP</sup>gwjɛ-wɜ/ [EPgɥɛ-wɜ] ‘hunt’, /<sup>EP</sup>lɛ-gwɜ/ [EPlɛ-gɥɜ] ‘hide something’, /<sup>LR</sup>ɹwɜ/ [LRɹɥɜ] ‘copper’, /<sup>LR</sup>ɹwɐ/ [LRɹɥɐ] ‘heavy’.

Upper Xùmǐ has five voiced compound initials beginning with a homorganic nasal (/mb, nd, ŋg, ndz, ŋdz/). Prenasalization is contrastive, as illustrated with the following minimal pairs: /<sup>LR</sup>dze/ ‘exist (at a fixed location)’ vs. /<sup>LR</sup>ndze/ ‘board for pressing things together’, /<sup>RP</sup>lɛ-gɐ/ ‘obstruct, block’ vs. /<sup>RP</sup>lɛ-ŋgɐ/ ‘be scorched’. /ŋg/ is the most frequent cluster. Prenasalized clusters can occur in word-initial and word-medial position. In word-initial position, prenasalized clusters mostly occur in Tibetan loanwords (with WT nasal prefixes *m-* and *ʼ-*, e.g. /<sup>EP</sup>ŋgute/ ‘surrender’, WT *mgo btags*), but they are also attested in Xùmǐ native vocabulary, e.g. /<sup>LR</sup>ŋgɐ/ ‘hide (oneself); scorch’. Word-internally, prenasalized clusters mostly result from a resyllabification process, whereby the original nasal coda becomes part of the following onset syllable. This type of cluster is restricted to loanwords from Tibetan and Mandarin, where the initial syllable has or had a nasal coda, e.g. /<sup>EP</sup>tɔŋdzɐ/ ‘thousand’ (WT *stong phrag*), /<sup>RP</sup>tɕɛndzɹ/ ‘scissors’ (Mandarin *jiǎnzi* 剪子).

### 2.1.2. Vowels

	Front		Central		Back	
	Oral	Nasal	Oral	Nasal	Oral	Nasal
Close	i	ĩ	ɯ		u	ũ
Close-mid	e			ẽ	o	

Open-mid	jɛ	jẽ	ɜ		ɔ	õ
Open			e	ẽ		

Examples include: /<sup>LR</sup>bi/ ‘flour’, /<sup>LR</sup>be/ ‘pig’, /<sup>LR</sup>bjɛ/ ‘leaf’, /<sup>LR</sup>bɜ/ ‘pot, pan’, /<sup>LR</sup>bu/ ‘crops’, /<sup>LR</sup>bɯ/ ‘rub with hands’, /<sup>LP</sup>boxu/ ‘gourd’, /<sup>HR</sup>bɔ/ ‘mask’ (WT 'ba), /<sup>RP</sup>bɛχu/ ‘wood post’, /<sup>HR</sup>bĩ/ ‘measure cup for grain’, /<sup>HR</sup>bjẽ/ ‘lay bricks’, /<sup>LP</sup>mõde/ ‘roof’, /<sup>HR</sup>bẽ/ ‘guest’, /<sup>HR</sup>bũ/ ‘carry on the shoulder’, /<sup>HR</sup>bõ/ ‘yak’.

(i) /ɛ ẽ/ occur only with /j/

(ii) /o/ has many different realizations, including (a) [o] after alveolars (e.g. /<sup>LR</sup>to/ [LRto] ‘build’), (b) [əʊ] after alveopalatals (e.g. /<sup>HR</sup>ço/ [LRçəʊ] ‘meat’), as well as sporadically, also (c) [ɣ] (e.g. /<sup>HR</sup>tso/ [HRtsɣ] ‘crown of a head’) (see Chirkova and Chen *manuscript2* for detailed discussion).

### 2.1.3. Syllable

The syllabic structure is (N)(C)(G)VT, where N is nasal, C is consonant, G is glide (-w-), V is vowel, T is tone, and parentheses indicate optional constituents. Most syllables have CVT structure. For example:

VT      /<sup>RP</sup>e = zõ/ ‘do you have?’

CVT     /<sup>HR</sup>sɜ/ ‘know’, /<sup>HR</sup>dzɔ/ ‘enemy’ (WT *dgra*)

CGVT   /<sup>HR</sup>swɜ/ ‘whet (a knife)’

NCVT   /<sup>LR</sup>ŋdzɔ/ ‘be similar’ (WT 'dra)

#### 2.1.4. Tone and stress

Xùmǐ has two contrastive tones that occur on monosyllabic words: (i) low rising (e.g. /<sup>LR</sup>jɛ/ ‘vegetable oil’, /<sup>LR</sup>lɛ/ ‘rope bridge’), and (ii) high rising (e.g. /<sup>HR</sup>jɛ/ ‘buy’, /<sup>HR</sup>lɛ/ ‘tiger’). Content morphemes are lexically specified for tone, whereas affixes are toneless. In the five-scale pitch system developed by Yuen Ren Chao (1930), these tones may be annotated as 35 for the low rising tone and 45 for the high rising tone. Chao’s system has, however, not been adopted for the present description, given that non-contrastive variation abounds in the actual realization of the two lexical tones. In particular, the pitch level of the rising peak may vary in the low rising tone. The high rising tone, on the other hand, may be realized with a continued falling after the abrupt f<sub>0</sub> rising in the initial part of the syllable, giving the perception of a falling tone.

In lexical words longer than one syllable, three tonal patterns are observed:

- (i) Equal-Prominence pattern (EP): There is no salient rise or fall over any of the syllables, and the two syllables have high-level pitch contours throughout. This pattern is mostly attested in monomorphemic words and in loanwords, e.g. /<sup>EP</sup>mɛmi/ ‘soldier’ (WT *dmag mi*).
- (ii) Left-Prominent pattern (LP): The high f<sub>0</sub> peak is realized before the end of the first syllable, where the pitch starts to fall already and continues to fall in the second syllable, e.g. /<sup>LR</sup>mɛjɛ/ ‘fire tongs’.
- (iii) Right-Prominent pattern, RP: The high f<sub>0</sub> peak is realized within the last syllable, e.g. /<sup>RR</sup>mɛjɛ/ ‘mani pile’ (WT *ma ni*, pile of stones with the Mani Mantra of Avalokiteshvara).

Xùmǐ generally conforms to the areal characteristics of the languages of Southwest China, in which the prosodic pattern of the leftmost root determines in many cases the tonal melody of the whole compound domain (see Evans 2009 for an overview and

discussion). If the tone of the leftmost monosyllabic root is high rising, the resulting compound in many cases has the left-prominent pattern, e.g. /<sup>LP</sup>tɕɛ-bɜ/ ‘clay pot’ (from /<sup>HR</sup>tɕɛ/ ‘earth’, /<sup>LR</sup>bɜ/ ‘pot’). Conversely, if the tone of the leftmost monosyllabic root is rising, the resulting tonal melody is in most cases right prominent, e.g. /<sup>RP</sup>rwɜ-bɜ/ ‘copper pot’ (from /<sup>LR</sup>rwɜ/ ‘copper’, /<sup>LR</sup>bɜ/ ‘pot’). The surface tone realization of toneless affixes depends on the tone of the preceding (host) lexical word (similar to tone sandhi in compounds).

### 2.1.6. Phonotactics

Xùmǐ has a set of partially automatic and partially idiosyncratic lenition rules, which transform some (mostly aspirated) initial stops and affricates into spirants. This happens when these initials appear intervocalically, both in words (e.g. in verbs with directional prefixes) and across word boundaries (e.g. in VO or N-Cl compounds):

Change	Examples
b > w	/ <sup>LR</sup> bjɛ/ ‘leaf’ > / <sup>RP</sup> sĩ-wjɛ/ ‘tree leaves’
p <sup>h</sup> > hw	/ <sup>HR</sup> p <sup>h</sup> i/ ‘weave’ > / <sup>RP</sup> ɣu hwi/ ‘weave a plait’
dz > z	/ <sup>HR</sup> dzũ/ ‘sit; live’ > / <sup>RP</sup> mjɛ-zũ/ ‘sit down’
tɕ <sup>h</sup> > ɕ	/ <sup>LR</sup> tɕ <sup>h</sup> ĩ/ ‘drink’ > / <sup>EP</sup> tɕwe ɕĩ/ ‘drink tea’
dzɿ > zɿ	/ <sup>LR</sup> dzwe/ ‘hit’ > / <sup>LR</sup> hĩ zwe/ ‘hit a man’
k <sup>h</sup> > x	/ <sup>LR</sup> k <sup>h</sup> u/ ‘want’ > / <sup>EP</sup> mu = xu/ ‘not want’
q <sup>h</sup> > χ	/ <sup>HR</sup> q <sup>h</sup> o/ ‘bowl’ > / <sup>RP</sup> dzi-χo/ ‘one bowl’

## 2.2. Lexicon

Xùmǐ is phonologically monosyllabic with a tendency towards disyllabicity in its lexicon. Monosyllables are of two types: (i) roots (free and bound), and (ii) affixes. Monomorphemic words are for the most part monosyllabic, e.g. /<sup>HR</sup>tɕɛ/ ‘earth’, /<sup>LR</sup>tɕhĩ/ ‘drink’. Upper Xùmǐ has numerous Tibetan loanwords, including some in its basic vocabulary, e.g. /<sup>EP</sup>t<sup>h</sup>ɛpɔ/ ‘head’ (WT *thod pa*).

Xùmǐ major open word classes include nouns and verbs. Adjectives are formally a subset of verbs (intransitive stative verbs). Closed word classes include pronouns, numerals, classifiers and measure words, auxiliaries, question and negation particles, conjunctions, interjections, and discourse particles.

### 2.3. Morphology

Xùmǐ is an agglutinative language with little inflexional morphology. The major word-formation processes include affixation, compounding, and reduplication. The majority of affixes are derivational.

Nominal prefixes and suffixes are restricted to animate nouns and include: (i) the fully lexicalized vocative prefix /ɛ-/ in kinship terms, e.g. /<sup>RP</sup>ɛ-zǐ/ ‘older sister’; (ii) two gender suffixes: (a) feminine /-mi/, e.g. /<sup>RP</sup>mɛzɿ-mi/ ‘female cat’; (b) male /-p<sup>h</sup>ɛ/, e.g. /<sup>RP</sup>mɛzɿ-p<sup>h</sup>ɛ/ ‘male cat’; (iii) diminutive suffix /-zǐ̃/, e.g. /<sup>RP</sup>mɛzɿ-zǐ̃/ ‘kitten’.

Verbal prefixes include: (i) five directional prefixes: /dʒi-/ ‘upward’, /mjɛ-/ ‘downward’, /k<sup>h</sup>u-/ ‘inward’, /bu-/ ‘outward’, and /ɕi-/ ‘to’; (ii) two aspectual prefixes: the perfective prefix /lɛ-/ and the delimitative prefix /dʒi-/.

Adjectival prefixes include two intensifying prefixes: (i) /mɜ-/ , added to a single stem, e.g. /<sup>RP</sup>mɜ-ɿ̃/ ‘(very) tall’; (ii) /ɛ-/ , added to a reduplicated stem, e.g. /<sup>EP</sup>ɛ-tsjɛ/ ‘(very) hot’.

Xùmǐ inflexional morphological changes are attested primarily in the derivation of irregular stems of some high frequency verbs and the formation of causatives.

A limited number of Xùmǐ high frequency verbs use ablaut to form the imperative stem, whereby the original vowel of the verbal root changes to /u/, e.g. /<sup>LR</sup>dʒ3/ ‘eat’ vs. /<sup>LR</sup>dʒu/ ‘eat!’.

A few verbal roots mark causativization by consonant alternation. These causative verbs contain plain voiceless initials, e.g. /<sup>RP</sup>lɛ-χu/ ‘cause to break’; whereas the corresponding non-causatives contain voiced ones, e.g. /<sup>RP</sup>lɛ-βu/ ‘break, be broken’.

Finally, the verbs ‘go’ and ‘come’ have three stems each, combining suppletive verb forms with verb stem derivation through ablaut.

	‘go’	‘come’
non-past	<sup>LR</sup> bi	<sup>LR</sup> lɜ
past	<sup>LR</sup> xɛ	<sup>LR</sup> tɕ <sup>h</sup> ũ
imperative	<sup>LR</sup> xu	<sup>LR</sup> ɬu

Reduplication is mostly attested on verbal roots. It is partially productive and partially lexically idiosyncratic. Reduplication expresses: (i) reciprocity, e.g. /<sup>RP</sup>qɛ-qɔ/ ‘help (each other)’, (ii) (with dynamic verbs) iteration, e.g. /<sup>LP</sup>ɕw3-ɕw3/ ‘stir’, or (iii) (with adjectives) intensification, e.g. /<sup>EP</sup>gw3-gw3/ ‘(very) round’.

#### 2.4. Noun phrase

Nouns in Xùmǐ can modify other nouns directly (appearing immediately before the modified noun, e.g. /<sup>RP</sup>dʒibu-wu <sup>LR</sup>zĩ/ ‘prince, king’s son’) or in a genitive phrase (pre-head, with or without the genitive enclitic /ji/, e.g. /<sup>RP</sup>dʒibu-wu = ji <sup>LR</sup>zĩ/ ‘the son of the king’). Direct modification is more lexicalized semantically. The maximum structure of a

noun phrase in Xùmǐ is as follows (with non-compatible elements listed on separate lines):

DEM		DEM
GEN phrase / REL clause	N+ADJ	NUM+CLF
		PL

For example, /<sup>HR</sup>xɛ <sup>RP</sup>ɰu-tsɔ̃ <sup>RP</sup>ɰɛ-tsɔ̃ <sup>HR</sup>xɛ/ this/head-thing/neck-thing/this ‘these pieces of jewellery’, /<sup>HR</sup>tʰi <sup>LP</sup>mizɛ <sup>RP</sup>tʰi=ji <sup>RP</sup>ɰu-tsɔ̃ <sup>RP</sup>ɰɛ-tsɔ̃/ that/girl/that=GEN/head-thing/neck-thing ‘the pieces of jewellery of that girl’, /<sup>RP</sup>ŋ3-wu <sup>RP</sup>ɰw3-ku =ji <sup>HR</sup>qɔ̃/ we-CLT/four-item=GEN/life ‘the life of the four of us’.

Xùmǐ nouns are unspecified for number. The optional plural marker /mezi/ may be used to emphasize plurality. /mezi/ may be added to any countable noun regardless of animacy, e.g. /<sup>LP</sup>hĩ =mezi/ ‘people’, /<sup>EP</sup>tsɔ̃ =mezi/ ‘things’.

The definiteness and indefiniteness of the noun in Xùmǐ is mostly signaled by word order and contextual clues. In addition, the demonstrative pronoun /<sup>HR</sup>tʰi/ ‘that’ and the numeral /<sup>LR</sup>dzi/ ‘one’ may serve as optional definite or indefinite markers, respectively.

Xùmǐ has four locative adpositions: /ɰɔ̃/ ‘on, up’, /nɔ̃/ ‘inside’ (WT nang?), /k3/ ‘at’, and /l3/ ‘at, on, in’ (WT la?). The adpositions /ɰɔ̃/ and /nɔ̃/ signal the positioning of the entity in question on or inside a location, e.g. /<sup>EP</sup>ji-ɰwje =ɰɔ̃/ ‘at the side of the field’; /<sup>EP</sup>dzitjɛk<sup>h</sup>ɔ̃ =nɔ̃/ ‘in the world’. /k3/ indicates attainment of a location, e.g. /<sup>RP</sup>tʰu-wu =k3/ ‘[arrived] at their place’. /l3/ signals a general locative meaning, e.g. /<sup>HR</sup>dzi =l3/ ‘in the mountains’.

### 2.4.1. Pronouns

Personal pronouns in Xùmǐ distinguish singular, dual, and plural number in all persons. Dual forms may be optionally followed by the expression /<sup>RP</sup>ŋ3-ku/ ‘two [items]’, e.g. /<sup>EP</sup>ŋi = dzɿ (RPŋ3-ku)/ ‘the two of you’.

	singular	dual	plural		
			exclusive	inclusive	collective
First person	<sup>HR</sup> ŋ3	<sup>RP</sup> ɕ-dzɿ	<sup>EP</sup> ŋ3-ɿɛ̃	<sup>RP</sup> ɕ-ɿɛ̃	<sup>EP</sup> ŋ3-wu
Second person	<sup>HR</sup> ŋi	<sup>EP</sup> ŋi-dzɿ	<sup>EP</sup> ŋi-ɿɛ̃		<sup>EP</sup> ŋi-wu
Third person	<sup>HR</sup> t <sup>h</sup> i	<sup>EP</sup> t <sup>h</sup> i-dzɿ	<sup>EP</sup> t <sup>h</sup> 3-ɿɛ̃		<sup>EP</sup> t <sup>h</sup> u-wu

Demonstrative pronouns are /<sup>LR</sup>xɛ/ ‘this’ and /<sup>HR</sup>t<sup>h</sup>i/ ‘that’. /<sup>LR</sup>xɛ/ is used in the position before and after the noun it modifies, e.g. /<sup>LR</sup>xɛ <sup>HR</sup>hĩ <sup>LR</sup>xɛ/ ‘this man’. /<sup>HR</sup>t<sup>h</sup>i/ may appear after the modified noun, e.g. /<sup>EP</sup>hĩ = t<sup>h</sup>i/ ‘that man, the man’, or before and after the modified noun, e.g. /<sup>EP</sup>t<sup>h</sup>i hĩ t<sup>h</sup>i/ ‘that man’. Plural forms are formed with the suffix /ɿɛ̃/, i.e. /<sup>EP</sup>xɛ-ɿɛ̃/ ‘these’, /<sup>EP</sup>t<sup>h</sup>3-ɿɛ̃/ ‘those’. Reflexive pronouns distinguish between the first person form /<sup>HR</sup>ɕ/ and the third person form /<sup>LR</sup>fĩɛ̃/.

The main interrogative pronouns include: /<sup>HR</sup>ŋi/ ‘who’, /<sup>HR</sup>tɕ<sup>h</sup>i/ ‘what’ (WT *chi*), /<sup>EP</sup>tɕ<sup>h</sup>i-ɿɛ̃/ ‘why’, /<sup>LR</sup>zi/ ‘which’, /<sup>LR</sup>zɛ/ ‘where’, and /<sup>RP</sup>nɕzɿ/ ‘when’.

### 2.4.2. Numerals

Xùmǐ has a decimal counting system, with numerals for 10, /<sup>LP</sup>qɛ-ku/; 100, /<sup>HR</sup>ɕ3/ (WT *brgya*); and 1,000, /<sup>EP</sup>tonɕza/ (WT *stong phrag*).

Cardinal numerals distinguish between the free form /<sup>LR</sup>dʒĩ/ ‘one’, which can stand alone and need not co-occur with a classifier, and bound forms for the numerals 2 through 10, which need to co-occur with a classifier (in counting, with the general classifier /ku/ ‘item’). Ordinal numbers are formed by adding the form /<sup>RP</sup>tětse/ to cardinal numbers.

Meaning	Xùmǐ	Meaning	Xùmǐ
one	<sup>LR</sup> dʒĩ	first	<sup>RP</sup> tětse <sup>LR</sup> dʒĩ
two	<sup>RP</sup> ɲ3-ku	second	<sup>RP</sup> tětse <sup>RP</sup> ɲ3-ku
three	<sup>LP</sup> sɛ-ku	third	<sup>RP</sup> tětse <sup>LP</sup> sɛ-ku
four	<sup>RP</sup> ʒw3-ku	fourth	<sup>RP</sup> tětse <sup>RP</sup> ʒw3-ku
five	<sup>EP</sup> ɦõ-ku	fifth	<sup>RP</sup> tětse <sup>EP</sup> ɦõ-ku
six	<sup>EP</sup> tɕ <sup>h</sup> o-ku	sixth	<sup>RP</sup> tětse <sup>EP</sup> tɕ <sup>h</sup> o-ku
seven	<sup>EP</sup> ʂɛ-ku	seventh	<sup>RP</sup> tětse <sup>EP</sup> ʂɛ-ku
eight	<sup>EP</sup> ɕi-ku	eighth	<sup>RP</sup> tětse <sup>EP</sup> ɕi-ku
nine	<sup>RP</sup> gw3-ku	ninth	<sup>RP</sup> tětse <sup>RP</sup> gw3-ku
ten	<sup>LP</sup> qɛ-ku	tenth	<sup>RP</sup> tětse <sup>LP</sup> qɛ-ku

Xùmǐ has a multiplicative-additive number system. For example, the numeral ‘53’, /<sup>EP</sup>ɦõ-qɛ <sup>LP</sup>sɛ-ku/, is formed by multiplying ten by five and then adding three. Numbers above one hundred are formed with the intrusive conjunction /ɲi/ ‘and’ between the hundred and the adjoined number, e.g. /<sup>RP</sup>dʒi-ɕ3 ɲi <sup>LR</sup>dʒĩ/ ‘one hundred and one’. Numeral

formation is by and large regular. Exceptional numerals include /<sup>EP</sup>qɛ-tɜ/ ‘eleven’, and /<sup>RP</sup>nɛɛ/ ‘twenty’.

### 2.4.3. Classifiers and measure words

Numerals combine with classifiers to form numeral phrases, which follow the noun they modify. Xùmǐ has two sortal classifiers: (i) the general classifier /ku/ ‘item’, e.g. /<sup>HP</sup>mu<sup>RP</sup>gɔwɜ-ku/ ‘nine forests’; and (ii) the classifier for elongated objects /ɿ̃/ ‘strip’, e.g. /<sup>RP</sup>q<sup>h</sup>ɔwu<sup>RP</sup>ɲi-ɿ̃/ ‘two sticks’. The inventory of measure words (free forms which lend themselves to classifier use) is richer, and can be further subdivided into measure-, container-, group-classifiers, and repeaters, i.e. classifiers that have the same form as the noun they modify, e.g. /<sup>HR</sup>hɛ<sup>LR</sup>dzi-hɛ/ ‘one meal’.

### 2.5. Verb phrase

Verbs in Xùmǐ can be preceded by adverbial expressions and can be followed by auxiliaries expressing aspect, mood, and modality.

According to the number of arguments, verbs can be divided into intransitive and transitive. While Xùmǐ verbs are not morphologically marked for transitivity, some correlation is observed between case markers and transitive and intransitive constructions (see below). Xùmǐ has a subclass of copular verbs that occur with nominals. It consists of (i) the positive, semantically neutral copular /<sup>LR</sup>ɲ̃/ (see examples 5 and 6), and (ii) the emphatic copular /<sup>LR</sup>wɛ̃/ ‘be definitely the case that’ (see example 1). Xùmǐ also has a subclass of existential or locative verbs that categorize the S/O argument in terms of its inherent properties (such as animacy or form) as well as its orientation or stance in space. It includes:

- (i) /<sup>LR</sup>ji/: denoting the existence, location or possession of animate beings
- (ii) /<sup>LR</sup>dʒĩ/: denoting the existence or possession of inanimate beings
- (iii) /<sup>HR</sup>k<sup>h</sup>wɜ/: denoting containment
- (iv) /<sup>LR</sup>dze/: denoting the position of an entity attached to some location.

### 2.5.1. Adverbial expressions

Time and place adverbs are placed freely in the sentence (see example 5). Manner adverbs are derivable from adjectives by adding the verb /<sup>LR</sup>bɜ/ ‘make’ and the adverbial marker /se/, e.g. /<sup>LR</sup>tʂ<sup>h</sup>ĩ <sup>LR</sup>bɜ = se <sup>LR</sup>p<sup>h</sup>jĩ/ ‘precipitously escape’.

### 2.5.2. Tense and aspect

Xùmǐ has grammaticalized absolute tense, with a past/non-past contrast reflected in past/non-past stems of some high frequency verbs and in a past/non-past distinction in patient nominalizers.

The following main aspectual distinctions are marked via prefixes and auxiliaries:

- (i) /lɐ-/: perfective aspect, e.g. /<sup>RP</sup>lɐ-dzɜ/ ‘have eaten’
- (ii) /dʒi-/: delimitative aspect, e.g. /<sup>RP</sup>dʒi-ɕĩ = du/ ‘have a look!’
- (iii) /sɿ/: perfect aspect, e.g. /<sup>RP</sup>lɐ-dzɜ = sɿ/ ‘have eaten’
- (iv) /ts<sup>h</sup>ɐ/ (WT *tshar*): terminative or telic aspect, e.g. /<sup>LR</sup>dzɜ = ts<sup>h</sup>ɐ = sɿ/ ‘have finished eating’
- (v) /dʒɜ/: experiential aspect, e.g. /<sup>LR</sup>dzɜ = dʒɜ/ ‘have once eaten’
- (vi) /ji/: progressive aspect (with dynamic verbs), e.g. /<sup>LR</sup>dzɜ = ji/ ‘be eating’

(vii) /dʒɔ̃/: durative aspect (with stative verbs), e.g. /<sup>LR</sup>zɛ̃ = dʒɔ̃/ ‘[e.g. firewood] be in a pile’

Adjectives only co-occur with the perfect and durative auxiliaries.

### 2.5.3. Mood and modality

The inventory of mood and modality markers includes:

(i) /gɔ̃/, which is predominantly used with agentive (volitional) subjects to signal events that are certain to take place, e.g. /<sup>LR</sup>dʒɔ̃ = gɔ̃/ ‘will eat’

(ii) /ɪɛ̃/, which is typically used to signal prospective situations, e.g. /<sup>LR</sup>ɲɔ̃ xi = ɪɛ̃ <sup>HR</sup>ɕwɔ̃ = li = ɲɔ̃/ ‘[they] thought they would lit a fire’

(iii) /tɕɛ̃/, which is used to signal contexts in which the speaker’s discovery of the reported situation is recent, and consequently expresses surprise, unexpectedness, and new information, e.g. /<sup>HR</sup>xu <sup>LR</sup>zɛ̃ = tɕɛ̃/ ‘[to my surprise], it began to rain’

(iv) /ɸɔ̃/: the irrealis mood auxiliary, representing the irrealis mood in the following contexts:

(a) counterfactual conditionals, e.g.

(1) <sup>HR</sup>ɲɔ̃ <sup>HR</sup>hĩ <sup>LR</sup>wɛ̃ = ɸɔ̃ zu zɪ, <sup>HR</sup>tʰo <sup>LR</sup>bɔ̃ = gɔ̃ <sup>LR</sup>dʒɔ̃.

<sup>HR</sup> ɲɔ̃	<sup>HR</sup> hĩ	<sup>LR</sup> wɛ̃ = ɸɔ̃	zu	zɪ	<sup>HR</sup> tʰo	<sup>LR</sup> bɔ̃ = gɔ̃	<sup>LR</sup> dʒɔ̃
1	person	EMPH.COP=IRR	if	TOP	way.out	make=VOL	exist

‘If I were a human being, I would have known what to do.’

(b) polite requests, e.g. /<sup>RP</sup>mjɛ-zu = ɸɔ̃/ ‘please sit down’

(c) the optative mood, which combines the irrealis auxiliary /ɸ̃/ with the auxiliary /ɪ̃/,

e.g. /<sup>HR</sup>xu t<sup>h</sup>3 = <sup>LR</sup>zɸ = ɸ̃ = ɪ̃/ ‘I wish it would not rain’.

#### 2.5.4. Comparative construction

The comparative construction has the following structure:

standard + marker (/b3ɹu/ or /sɪɸe/) + predicate

For example:

(2) <sup>HR</sup>ɳ3 <sup>HR</sup>t<sup>h</sup>i = b3ɹu <sup>RP</sup>m3-ɪ̃ = ji.

<sup>HR</sup>ɳ3    <sup>HR</sup>t<sup>h</sup>i = b3ɹu    <sup>RP</sup>m3-ɪ̃ = ji.

1        3=CMPR        INT-tall=PRG

‘I am taller than he is.’

#### 2.6. Syntax

Syntax operates predominantly through word order and the use of nominal markers and verbal auxiliaries. A clause in Xùmǐ must have a verb phrase, whereas noun phrases are optional. The basic word order is S – IndO – DirO – V, e.g.:

(3) <sup>RP</sup>e-ju <sup>RP</sup>ɳ3 = sɪ <sup>RP</sup>buxu <sup>LR</sup>dzi = ɪ̃ <sup>LR</sup>k̃ = ji.

<sup>RP</sup>e-ju                      <sup>RP</sup>ɳ3 = sɪ              <sup>RP</sup>buxu              <sup>LR</sup>dzi = ɪ̃              <sup>LR</sup>k̃ = ji.

VOC-older.brother    1=ANM.PNT    flower              one=strip              give=PRG

‘The older brother is giving me a flower.’

Encoding of the semantic roles of agent and patient is governed in Xùmǐ by their respective ranking on the empathy hierarchy (Silverstein 1976; speaker > hearer > non-participant > non-human animate > inanimate).

The agent marker /ɿẽ/ and the animate patient marker /sɿ/ signal a highly transitive construction that involves two maximally distinguished, independent participants. /ɿẽ/ marks the volitional and instigating agent, whereas /sɿ/ signals a highly individuated patient that is undergoing a change of state as a result of the event denoted by the verb. The two markers are non-obligatory. Rather, the lower the ranking of the agent on the empathy hierarchy, the more obligatory the use of the agent marker /ɿẽ/ becomes, e.g. sentence (4):

(4) <sup>RP</sup>ŋ3 = sɿ <sup>HR</sup>dʒũ <sup>RP</sup>gw3-ku = ɿẽ <sup>RP</sup>le-ŋge = ji.

<sup>RP</sup>ŋ3 = sɿ            <sup>HR</sup>dʒũ            <sup>RP</sup>gw3-ku = ɿẽ            <sup>RP</sup>le-ŋge = ji.

I=ANM.PNT    mountain            nine-item=AGT            PFV-obstruct=PRG

‘Nine mountains are blocking my way (literally, me).’

Conversely, the higher the ranking of the patient on the empathy hierarchy, the more obligatory the use of the patient marker /sɿ/ becomes, see examples (3), (4) or (6).

When both the agent and the patient are equally ranked, both the agentive and the patient marker are used, as in the following example:

(5) <sup>RP</sup>dʒi-me = le = le, <sup>LP</sup>hĩ = t<sup>hi</sup>i = ɿẽ <sup>LR</sup>ts<sup>h</sup>u = sɿ <sup>HR</sup>bẽ <sup>LR</sup>ɿẽ = li = jũ.

<sup>RP</sup>dʒi-me = le = le,            <sup>LP</sup>hĩ = t<sup>hi</sup>i = ɿẽ            <sup>LR</sup>ts<sup>h</sup>u = sɿ            <sup>HR</sup>bẽ

one-day=become=become    person=that=AGT            ghost= PNT.ANM            guest

<sup>LR</sup>ɿẽ = li = jũ.

call=NMLZ.PNT=COP

‘One day, the man invited the ghost to his place.’

An additional patient and comitative marker is /wu/, which indicates patients that are indefinite and do not undergo a change of state, as in example (6):

(6) <sup>RP</sup>ɬemuts<sup>h</sup>u = ɬɛ̃: “<sup>HR</sup>ɲi <sup>RP</sup>ɲ3 = wu <sup>HR</sup>d3 zu, <sup>HR</sup>ɲ3 <sup>RP</sup>ɲi = sɿ <sup>EP</sup>mjɛ-ũ <sup>LR</sup>tɕi = g3,”  
<sup>HR</sup>p3 = li = ɲũ.

<sup>RP</sup> ɬemuts <sup>h</sup> u = ɬɛ̃:	“ <sup>HR</sup> ɲi	<sup>RP</sup> ɲ3 = wu	<sup>HR</sup> d3	zu,	<sup>HR</sup> ɲ3	
moon=AGT	2	1=COM	fight	if	1	
<sup>RP</sup> ɲi = sɿ	<sup>EP</sup> mjɛ-ũ		<sup>LR</sup> tɕi = g3,”		<sup>HR</sup> p3 = li = ɲũ.	
2=PNT.ANM	downward-swallow		do=VOL		speak=NMLZ.PNT=COP	

‘The moon said: “If you fight with me, I will swallow you.”’

### 2.6.2. Question formation

Yes/no questions are formed with the question particle /ɐ/, prefixed to the sentence-final verb or auxiliary, e.g.:

(7) <sup>HR</sup>t<sup>hi</sup> <sup>LR</sup>dz3 = ts<sup>h</sup>e = e = sɿ?

<sup>HR</sup>t<sup>hi</sup> <sup>LR</sup>dz3 = ts<sup>h</sup>e = e = sɿ?

that eat=finish=Q=PRF

‘Has he finished eating?’

The interrogative word remains in the position of the questioned NP, e.g. /<sup>EP</sup>ɲi ɕũ/ ‘Who came?’.

### 2.6.3. Negation

Negation has two forms: (i) /t<sup>h</sup>e/ for imperatives and optatives, e.g. /<sup>EP</sup>t<sup>h</sup>e = dz3/ ‘do not eat!’, and (ii) /mu/ for all other verb forms, e.g. /<sup>EP</sup>mu = xu/ ‘not want’. Both prefix to the verb stem, or affix between the directional, aspectual or tentative prefix and the verb stem.

#### 2.6.4. Complex sentences

Clauses may be nominalized with the genitive marker or patient nominalizers to function as subjects or as complements to complement-taking verbs. Patient nominalizers differentiate between (i) the past patient nominalizer /li/, which signals events that took place before the time of utterance, as in examples (5) and (6); and (ii) the future or purpose patient nominalizer /g3/, which signals situations that are to take place after the time of utterance, e.g. /<sup>LR</sup>dz3 = g3/ ‘things to eat, edibles’.

The most commonly used conjunctions in coordinate non-embedded subordinate constructions include /ɲi/ ‘and’, /<sup>LR</sup>se/ ‘after, then’, and /zɯ/ ‘if’.

Relative clause constructions can be subdivided into:

(i) headed relative clauses that take as the nominal head either (a) the agentive nominalizer /<sup>HR</sup>hĩ/ ‘person’, e.g. /<sup>RP</sup>mje-zɯwje = xi = hĩ/ ‘the one who let you fall [into the water]’, or (b) the locative nominalizer /tɕɹ/ ‘place’, e.g. /<sup>RP</sup>gu-ɬu = tɕɹ/ ‘place to herd animals’.

(ii) headless relative clauses, which may be followed by the demonstrative pronouns or the topic marker /zɹ/

## Abbreviations

Abbreviations follow the Leipzig Glossing Rules. Additional abbreviations include: - =morpheme boundary within a lexical word; = =clitic boundary; AGT=agentive; ANM=animate; CLT=collective; EMPH=emphatic; PNT=patient; VOL=volition.

## References

- Bradley, David, “Tibeto-Burman languages and classification”, in: David Bradley, ed., *Tibeto-Burman Languages of the Himalayas*. Papers in Southeast Asian Linguistics No.14, Canberra: Australian National University, 1997, 1-71.
- Bradley, David. “Lisu”, in: Graham Thurgood and Randy LaPolla, eds., *The Sino-Tibetan Languages*. Routledge Language Family Series, London and New York: Routledge, 2003, 222-235.
- Chao, Yuen Ren. “ə sistəm əv “toun-letəz” ”, *Le Maître Phonétique* 30, 1930, 24-27.
- Chirkova, Katia, “Shixing, a Sino-Tibetan language of South-West China: A grammatical sketch with two appended texts”, *Linguistics of the Tibeto-Burman Area* 32.1, 2009, 1-90.
- Chirkova, Katia, “The Qiangic Subgroup from an Areal Perspective: A Case Study of Languages of Muli”, *Language and Linguistics* 13.1, 2012, 133-170.
- Chirkova, Katia 齐卡佳 and Lǔróng Duōdīng 鲁戎多丁, *Mùlǐ Fāngyán Kèběn: Zàngyǔ Xùmǐ Kèběn* 《木里方言课本：藏语旭米课本》 [Textbooks of Muli Languages: A Manual of the Xumi Language] (Chinese-Tibetan-Xumi manual with IPA transcriptions and audio recordings), forthcoming 2012.
- Chirkova, Katia and Yiya Chen, “Lower Xumi”, *manuscript 1*.

- Chirkova, Katia and Yiya Chen, “Upper Xumi”, *manuscript*2.
- Chirkova, Katia and Alexis Michaud, “Approaching the prosodic system of Shǐxīng”,  
*Language and Linguistics* 10.3, 2009, 539-568.
- Evans, Jonathan, “Types of tone culminativity in languages of Sichuan and elsewhere”,  
2009, manuscript, available at:  
<http://www.ling.sinica.edu.tw/eip/FILES/publish/2009.4.30.24511354.9165533.pdf>.
- Guō Dàliè 郭大烈 and Hé Zhìwǔ 和志武, *Nàxīzú shǐ* 《纳西族史》 [History of the  
Nàxī], Chéngdū 成都: Sìchuān Mínzú 四川民族出版社, 1994.
- Huáng Bùfán 黄布凡 and Rénzēng Wāngmǔ 仁增旺姆, “Shǐxīngyǔ” 史兴语 [The  
Shǐxīng language], in: Dài Qìngxià 戴庆夏, Huáng Bùfán 黄布凡, Fù Àilán 傅爱  
兰, Rénzēng Wāngmǔ 仁增旺姆, and Liú Júhuáng 刘菊黄, eds., *Zàng-Miányǔ  
shíwǔ zhǒng* 《藏缅语十五种》 / *Fifteen Tibeto-Burman languages*, Běijīng 北  
京: Běijīng Yànshān 北京燕山出版社, 1991, 174-197.
- Huáng Bùfán 黄布凡, Xǔ Shòuchǔn 许寿椿, Chén Jiāyīng 陈嘉瑛, and Wáng Huìyín 王  
会银, eds., *Zàng-Mián yǔzú yǔyán cíhuì* 《藏缅语族语言词汇》 [A Tibeto-  
Burman lexicon], Běijīng 北京: Zhōngyāng Mínzú Dàxué 中央民族大学出版社,  
1992.
- Lǐ Mín 李民 and Mǎ Míng 马明, *Liángshān Yíyǔ yǔyīn gàilùn* 《凉山彝语语音概论》  
[Introduction to the phonetics of the Yí language of Liángshān Prefecture],  
Chéngdū 成都: Sìchuān Mínzú 四川民族出版社, 1983.

- Muli Gazetteers Compilation Committee 木里藏族地方志编纂委员会 Mùlǐ Zàngzú Zìzhìxiàn Difang Zhì Biānzǔǎn Wěiyuánhùi, eds., *Mùlǐ Zàngzú Zìzhìxiàn zhì* 《木里藏族自治县志》 [Gazetteers of the Muli Tibetan Autonomous County (1991-2006)], Běijīng 北京: Zhōngguó Wénshǐ 中国文史出版社, 2010.
- Silverstein, Michael, “Hierarchy of features and ergativity”, in: R.M.W. Dixon, ed., *Grammatical Categories in Australian Languages*, Canberra: Australian Institute of Aboriginal Studies / New Jersey: Humanities Press, 1976, 112-171.
- Sūn Hóngkāi 孙宏开, “Liùjiāng liúyù de mínzú yǔyán jí qí xìshǔ fēnlèi 六江流域的民族语言及其系属分类” [Minority languages of the six river valley and their genetic classification], *Mínzú Xuébào* 《民族学报》 [Scholarly Journal of Nationalities] 3, 1983, 99-274.
- Sūn Hóngkāi 孙宏开, “Lùn Zàng-Mián yǔzú zhōng de Qiāng yǔzhī yǔyán 论藏缅语族中的羌语支语言” [On the Qiangic branch of the Tibet-Burman language family], *Language and Linguistics* 2.1, 2001, 157-181.
- Sūn Hóngkāi 孙宏开 *et al.*, *Zàng-Miányǔ yǔyīn hé cíhuì* 《藏缅语语音和词汇》 [Tibeto-Burman phonology and lexicon], Běijīng 北京: Zhōngguó Shèhuì Kēxué 中国社会科学出版社, 1991.
- Sūn Hóngkāi 孙宏开, Xú Dān 徐丹, Liú Guāngkūn 刘光坤, and Lǚróng Duōdīng 鲁戎多丁, *Shǐxīngyǔ yánjiū* 《史兴语研究》 [The Shixing language], Běijīng 北京: Mínzú 民族出版社, forthcoming 2013.

Weckerle, Caroline S., Franz K. Huber, Yang Yongping, and Sun Weibang, “The role of barley among the Shuhi in the Tibetan cultural area of the Eastern Himalayas”, *Economic Botany* 59.4, 2005, 386-390.

Weckerle, Caroline S., Franz K. Huber, Yang Yongping, and Sun Weibang, “Plant knowledge of the Shuhi in the Hengduan Mountains, Southwest China”, *Economic Botany* 60.1, 2006, 3-23.