



HAL
open science

Yongning Narua orthography: users' guide and developers' notes

Roselle Dobbs, Xióng Yàn

► **To cite this version:**

Roselle Dobbs, Xióng Yàn. Yongning Narua orthography: users' guide and developers' notes. 2018.
halshs-01956606

HAL Id: halshs-01956606

<https://shs.hal.science/halshs-01956606>

Preprint submitted on 16 Dec 2018

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Distributed under a Creative Commons Attribution - NonCommercial - ShareAlike 4.0 International License

Yongning Narua Orthography: Users' Guide and Developers' Notes

Roselle Dobbs and Xióng Yàn 熊燕

TABLE OF CONTENTS

1. Introduction	1
PART ONE: USERS' GUIDE	4
2. Spelling	4
3. Tables of Initials, Finals and Syllables.....	5
4. Word Boundaries	12
PART TWO: DEVELOPERS' NOTES	14
5. Methodology	14
6. Major Orthographic Decisions	16
7. IPA Syllables to Orthography.....	22
8. Variety in the Language.....	33
PART THREE: WRITTEN TEXTS	36
9. Examples of Written Text.....	36
Text 1: Daily Life	37
Text 2: Almost Late for School	39
Text 3: Fifth-Month Festival.....	46
10. Issues for the Future	50
LIST OF ABBREVIATIONS	51
BIBLIOGRAPHY	52

LIST OF TABLES

Table 1: List of initials with IPA and examples.....	6
Table 2: List of finals with IPA and examples.....	7
Table 3: Syllables with plain finals	10
Table 4: Syllables with 'glide + vowel' finals	11
Table 5: Syllables with nasalised finals	12
Table 6: Syllables with plain finals, listed by IPA.....	24
Table 7: Syllables with glide + vowel finals, listed by IPA	31
Table 8: Syllables with nasalised finals, listed by IPA.....	32
Table 9: Borrowings from Chinese with closed syllables.....	35

1. Introduction

The purpose of this paper is to introduce the reader to a practical orthography that has been developed for Yongning Narua (hereafter YN Narua) since 2008. It is intended to be of use to native speakers wishing to read and write in their language, to researchers, and to other interested parties. Part One, the user's guide, is a concise description of the orthography. Part Two, developers' notes, presents more detailed phonological information, along with methodology and reasons for orthographic decisions. For obvious reasons, there is some redundancy between Part One and Part Two. Part Three gives examples of YN Narua text written using the orthography.

YN Narua roughly equates to the central of three dialects of "eastern Naxi" identified by Hé & Jiāng (1985). It is spoken by the Na (Mosuo)¹ people in and around the Yongning basin in Yunnan province and Lugu Lake which straddles Yunnan and Sichuan provinces. Spoken YN Narua varies from village to village and, in some cases, from household to household. The pronunciation of certain sounds and words, the way the tone system works, and even some vocabulary items differ from place to place. The orthography has been developed with this variety in mind. Extensive use has been made of data from the following sources:

- Alexis Michaud's numerous publications on the language as it is spoken in Alawa village² (*Alawua*) on the northern edge of Yongning township in Ninglang Yi autonomous county, Yunnan province;
- the PhD dissertation by Liberty Lidz (2010) on the language as it is spoken in Luoshui village³ (*Loshu*) on the south-western edge of Lugu Lake, also in Ninglang Yi autonomous county, Yunnan province;

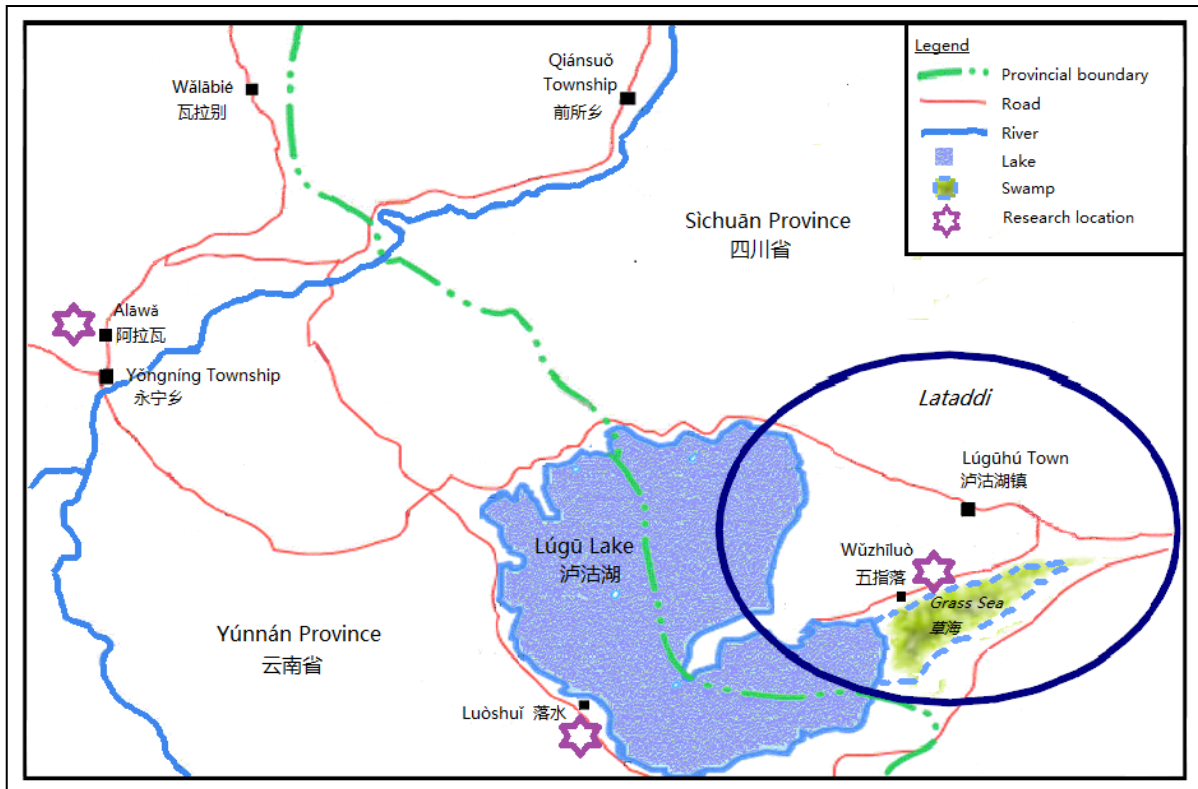
¹ The term Na (orthographic spelling: *Naq*) is an autonym; it is how the Na people refer to themselves. The word Mósuō (摩梭) is a Chinese term used for the Na people in Yunnan province. The Na in Sichuan province are referred to in Chinese as Ménggǔrén (蒙古人).

² Yúnnán shěng, Lìjiāng shì, Nínglàng Yízú zìzhìxiàn, Yǒngníng xiāng, Ālāwǎ cūn 云南省丽江市宁蒗彝族自治县永宁乡阿拉瓦村. In YN Narua orthography, the spelling of the village name is *Alawua*. In Michaud's earlier publications, this location was referred to as Pingjing village (Píngjìng cūn 平静村), but his main consultant prefers to refer to her home village as *Alawua* (Michaud, p.c. 2018).

³ Yúnnán shěng, Lìjiāng shì, Nínglàng Yízú zìzhìxiàn, Yǒngníng xiāng, Luòshuǐ cūn 云南省丽江市宁蒗彝族自治县永宁乡落水村. In YN Narua orthography, the village name is spelled *Loshu*.

- the first author's own publication (Dobbs & La, 2016) and unpublished field notes, primarily on the language as it is spoken in Wuzhiluo,⁴ a sub-village of Boshu village on the northern edge of the Grass Sea which forms the eastern end of Lugu Lake in Yanyuan county, Liangshan Yi autonomous prefecture, Sichuan province. This area is known to speakers of Narua as *Lataddi*.

Map showing locations of YN Narua research



In developing an orthography for YN Narua, the aim was not to set a standard, but to create a system that could be used to write all varieties of the language. For this reason, the orthography is not an exact representation of any one variety. Opinions and intuitions of native speakers from various locations were taken into consideration during its development. Using the Roman alphabet, the orthography employs spelling similar to that of Hanyu pinyin wherever possible. It has been tested in various stages of its development with individuals and small groups of native speakers in Wuzhiluo village of *Lataddi* (see map), and in the city of Chengdu, where speakers come from the *Lataddi*

⁴ Sìchuān shěng, Liángshān Yízú zìzhìzhōu, Yányuán xiàn, Bóshù cūn, Wúzhǐluò 四川省凉山彝族自治州盐源县泸沽湖镇博树村五指落.

area; in Lijiang, where speakers come from the areas around Yongning and Qiansuo (see map); in Yanyuan town⁵ with speakers from various locations in Sichuan province; and with individuals in other villages in both Sichuan and Yunnan provinces. Eni Siggee Ddeema (Xióng Yàn 熊燕), a native speaker from Walabie⁶ village (*Wualabbi*) north of Yongning township (see map) and the second author of this paper, has provided extensive input into orthographic decisions. All native speakers involved in testing are at least semi-literate in Hanyu pinyin. The orthography has not yet been tested with illiterate speakers.

Because the majority of data on YN Narua published to date is that of Alexis Michaud - including numerous papers (see bibliography), a book (2017), online recordings and transcriptions,⁷ and a dictionary⁸ - and to avoid confusing the reader, it is Michaud's IPA conventions that are used in this paper, unless otherwise stated. Except in tables, IPA symbols are shown inside forward slashes, e.g. /t/. Orthographic representations of letters and words are written in italics, e.g. *lh*, *lhuq*.

⁵ Sichuān shěng, Liángshān Yízú zìzhìzhōu, Yányuán xiàn, Yánjǐng zhèn 四川省凉山彝族自治州盐源县盐井镇. Although the name of the Yanyuan county seat is officially Yanjing town, it is commonly referred to as Yuanyan.

⁶ Yúnnán shěng, Lìjiāng shì, Nínglàng Yízú zìzhìxiàn, Yǒngníng xiāng, Wǎlābié cūn 云南省丽江市宁蒗彝族自治县永宁乡瓦拉别村. The spelling Walabie is the Hanyu pinyin approximation of the village spelled *Wualabbi* in YN Narua orthography.

⁷ http://lacito.vjf.cnrs.fr/pangloss/corpus/list_rsc.php?lg=Na

⁸The dictionary is available online in:

Narua-English-Chinese at <https://halshs.archives-ouvertes.fr/halshs-01204638>

Narua-Chinese-French (Chinese version) at <https://halshs.archives-ouvertes.fr/halshs-01744420>

Narua-Chinese-French (French version) at <https://halshs.archives-ouvertes.fr/halshs-01204645>

PART ONE: USERS' GUIDE

2. Spelling

The following section presents the general principles of YN Narua spelling, followed by notes on some specific spelling issues.

2.1. General principles

2.1.1. YN Narua spelling is approached on a syllable-by-syllable basis, set out in Tables 3, 4 and 5. Syllables are generally comprised of an initial sound (consonant) and a final sound (vowel or glide + vowel), although the initial is not compulsory. There are no syllable-final consonant sounds. For a general overview of initials and finals, along with example words, see Tables 1 and 2.

2.1.2. One consonant or vowel sound may be represented by a one-, two- or three-letter combination i.e. by a monograph, digraph or trigraph. For example, /t^h/ is represented by *t*, /t/ is represented by *lh*, /æ/ by *ae*, and /dz/ by *zzh*.

2.1.3. Some vowels in YN Narua are nasalised. Nasalisation is represented by the letter *n* after the vowel, e.g. *haen* ('gold').

2.1.4. Where a syllable comprised of only a final occurs non-initially in a polysyllabic word, the syllables are separated by an apostrophe, e.g. *bbu'er* ('fly (insect)').

2.1.5. In a word where a syllable with a nasalised vowel is followed by a syllable beginning with *n*, these syllables are separated by an apostrophe, e.g. *hun'na* ('wild animal').

2.1.6. Although YN Narua is a tonal language, tone is only shown on those monosyllabic words which, when pronounced in isolation, have rising tone. It is represented with a word-final letter *q*, e.g. *liq* ('tea'). All other tones are unmarked. (For an exception to this rule, see note 2.2.5 below.)

2.2. Specific notes

2.2.1. There are some vowels in YN Narua whose pronunciation vary depending on the vowel in the next syllable of the word, i.e. they are subject to regressive vowel harmony. This is particularly the case for prefixes. However, their spelling does not change, viz:

- i. KINSHIP PREFIX: *a-*, e.g. *ami* ('mother')
- ii. QUESTION PREFIX: *ae-* e.g. *aezzi* ('eaten?')
- iii. ACCOMPLISHED PREFIX: *le-* e.g. *lehee* ('went')
- iv. NEGATIVE PREFIX: *me-*, e.g. *mesi* ('don't know')
- v. DURATIVE PREFIX: *tee-*, e.g. *teezzee* ('sitting')

2.2.2. Retroflex initials /ɖ, ʈ, ʈʰ, ŋ, ʋ/ are spelled *dd, d, t, n, l*, the same as their non-retroflex counterparts. (For further discussion, see 7.1.1.)

2.2.3. Chinese borrowings with Hanyu pinyin *ian* are represented in YN Narua as *ia* word-medially, and as *ian* word-finally. In this case, word final *n* does not indicate a nasalised vowel.

2.2.4. Noun classifiers, where they occasionally occur on their own - i.e. without a number or determiner such as *tee* ('that, this') in front of them - are written without tone marking.

2.2.5. The word *noq'sigu* ('themselves') is written with a word-medial *q* followed by an apostrophe, so as not to be confused with *nosigu* (second person plural pronoun 'you').

3. Tables of Initials, Finals and Syllables

The following tables present YN Narua initials, finals and syllables in orthographic form. For a more in-depth coverage of the rationale behind various orthographic decisions, the reader is referred to the developers' notes in Part Two of this paper.

3.1. Initials and Finals

YN Narua initials and finals, along with IPA and example words in both English and Chinese, are presented in alphabetical order in Tables 1 and 2 respectively. The tables are followed by explanatory notes.

Table 1: List of initials with IPA and examples

Letter	IPA	Example (ortho)	Example (IPA)	Gloss (English)	Gloss (Chinese)
b	p	boq	po1	carry	拿
bb	b	bboq	bo1	pig	猪
c	ts ^h	co	ts ^h o1	jump	跳
ch	tɕ ^h	chae	tɕ ^h æ1	wash	洗
d	t, ʈ	dodo	to1to1	hug	拥抱
dd	d, ɖ	ddaɖ	da1	chop	砍
f	f	fu	fy1	happy, content	开心、满意
g	k	gi	ki1	give	给
gg	g	ggomi	go1mi1	little sister	妹妹
gh	q	ghaeghae	qæ1qæ1	swap	交换
h	h	ha	ha1	food	饭
hr	ɣ	hreeq	ɣwa1	skin	皮肤
	ɣ	hrae	ɣæ1	rich	富有
j	tɕ	ji	tɕwa1	cloud	云
jj	dz	jjj	dzwa1	water	水
k	k ^h	ki	k ^h i1	door	门
kh	q ^h	khuaq	q ^h wa1	bowl	碗
l	l, ʎ	la	la1	tiger	老虎
	ɭ	laeq	ɭæ1	seed	种子
lh	ʈ	lhimi	ʈi1mi1	moon	月亮
m	m	mu	my1	fire	火
n	n, ɳ	Naq	na1	Na, Mosuo	摩梭
ng	ŋ	ngu	ŋy1	silver	银子
ny	ɲ, ɳj	nyalee	ɳjɳ1[wa1	eye	眼睛
p	p ^h	pili	p ^h i1li1	butterfly	蝴蝶
q	tɕ ^h	qoq	tɕ ^h o1	ladle	瓢
r	ʐ	ri	ʐwa1	alcohol	酒
s	s	soq	so1	study	学习
ss	z	ssosso	zo1	son	儿子
sh	ʂ	shoq	ʂo1	clean	干净
t	t ^h , t̪ ^h	toli	t ^h o1li1	rabbit	兔子
v	ʋ	vuzzei	ʋ1dze1	bird	鸟
w	ɰ	wua	ɰwa1	village	村庄
x	ɕ, ɕj	xeq	ɕjɳ1	try	尝试
xx	ʑ	axxi	ə1ʑi.	granny	外婆
y	j, j	yeq	jɳ1	lick	舔
z	ts	zee	tsi1	spicy	辣
zz	dz	zzi	dzwa1	eat	吃
zh	tɕ	zhei	tɕse1	soil	土
zzh	dʑ	zzhei	dʑe1	money	钱

Table 2: List of finals with IPA and examples

Letter	IPA	Example (ortho)	Example (IPA)	Gloss (English)	Gloss (Chinese)
a	ɑ	la	la˧	tiger	老虎
an	ã	hanq	hã˧	spend a night	过夜
ae	æ	chae	tʂʰæ˧	wash	洗
aen	æ̃	aenq	æ̃˧	chicken	鸡
e	ɤ	pebbe	pʰɤ˧bɤ˧	gift	礼物
	ə	essei	ə˧dzɤ˧	slowly	慢
ee	u	hreeq	ɣu˧	skin	皮肤
	i	cee	tʂʰi˧	hot	热
ei	e	shei	ʂe˧	meat	肉
eo	o	meddeo	mɤ˧dɔ˧	not allowed	不准
er	ɿ	bbu'er	bɤ˧ɿ˧	fly (insect)	苍蝇
	ɤæ	tae'er	tʰæ˧ɿæ˧	book	书
eu	ɥ	neu	ɲɥ˧	know	知道
	ɿ	sheuq	ʂɿ˧	full	满
eun	ɿ̃	eun	ɿ̃˧	bone	骨头
i	i	lhi	li˧	to rest	休息
	u	ri	ɹu˧	alcohol	酒

Letter	IPA	Example (ortho)	Example (IPA)	Gloss (English)	Gloss (Chinese)
in	ĩ	hin	hĩ˧	person	人
ia	jɤ	diahua	tjɤ˧lhwa˧	phone	电话
ian	je	xiqitian	çi˧tɕʰi˧tʰjæ˧	Sunday	星期天
ie	i	jieq	tɕi˧	small	小
o	o	soq	so˧	study	学习
on	õ	honq	hõ˧	eight	八
u	ɥ	mu	mɥ˧	fire	火
	u	humi	hu˧mi˧	stomach	胃
un	ũ	wohun	ɤo˧hũ˧	hair	头发
ua	wɤ	huali	hwɤ˧li˧	cat	猫
uan	wɿ̃	huanq	hwɿ̃˧	late	晚、迟
uae	wæ	dduae	ɖwæ˧	be afraid	害怕
uaen	wæ̃	uaen	wæ̃˧	swollen	肿
uo	wo	uo	wo˧	hard	硬

3.1.1. Notes on Table 1

- i. Initial *hr* represents /ɣ/ in syllables with final *a*, *ae*, e.g. *hra* ('strength'), *hrae* ('rich'). With final *ee*, it represents /ɣ/, e.g. *hreeq* ('skin').
- ii. Initial *l* represents /l, ɭ, ɺ/, except when /ɺ/ occurs after *ae* or *eu*. (See also 3.1.2.ii below.) Note that /ɺ/ - as a final - also occurs as a syllable on its own (see Table 2.)
- iii. Initial *w* represents /ɣ/ in syllables with finals *o*, *eu*, *ua*, *ae*, e.g. *woq* ('needle'), *weu* ('to swallow'), *wua* ('village'), *wae* ('left').

3.1.2. Notes on Table 2

- i. Finals *ee* and *i* represent either /i/ or /ɯ/, depending on which initial they occur with. For further details, see Table 6 and paragraph 7.1.3.i.
- ii. Final *er* represents /ɺ/ as a syllable on its own, e.g. *bbu'er* ('fly'). It also represents the syllable ɺæ when it occurs after finals *ae* or *eu*, e.g. *tae'er* ('book'), *khaedeu'er* ('quiet').
- iii. Final *eu* represents /ɺ/ after initials *sh*, *zzh*, *zh*, *ch*, *r*. In the following environments, it represents /ɥ/:
 - after initials *gh*, *kh*, *w*, e.g. *gheuq* ('handle'), *kheu* ('hole'), *weuq* ('crane (bird)').
 - after initials *dd*, *d*, *n* where these have retroflex pronunciation /ɖ, ɳ, ŋ/, e.g. *ddeughae* ('wing'), *hraedeu* ('neck'), *neu* ('sniff; know').
 (See also 7.1.4 paragraphs i. and ii.)
- iv. Final *ie* represents /i/ after *jj*, *j*, *q*, *x*, e.g. *jjiami* ('female water buffalo'), *jieq* ('small'), *qie* ('thorn'), *xiemi* ('tongue').
- v. Final *u* generally represents /ɥ/, except in those environments listed in note iii. above, and in the one syllable transcribed by Michaud as /hu/, e.g. *huq* ('entrails').

3.2. Syllables

The following three tables set out in orthographic form all the syllables currently found in the YN Narua orthography. Table 3 presents syllables with plain finals, Table 4 shows syllables with finals comprised of a glide and a vowel, i.e. *u* + vowel, or *i* + vowel, and Table 5 presents those syllables which have nasalised finals. Syllables which appear inside parentheses () have not yet been found by researchers of YN Narua. They are considered gaps in the syllable inventory and, as such, it is plausible that they may be found in the future. Blank cells in the tables indicate that these syllables have not been found and probably do not exist in the language. Explanatory notes accompany the tables.

3.2.1. Notes on Table 3

- i. Distribution of finals *ee*, *i* and *ie* depends on the initial with which the syllable begins. In particular:
 - Initials *lh*, *jj*, *j*, *q*, *xx*, *x*, *y* occur with *i*, but not with *ee*, for example: *lhimi* ('moon'), *jjimi* ('river'), *ji* ('cloud'), *qi* ('to pierce'), *axxi* ('granny'), *xi* ('paddy rice'), *yi* ('ox').
 - Final *ie* only occurs with initials *jj*, *j*, *q*, *x*, for example: *jjiem* ('water buffalo'), *jieq* ('small'), *qie* ('thorn'), *xiemi*), *xiemi* ('tongue').
- ii. The only syllable containing initial *xx* is *xxi*, e.g. *axxi* ('granny').
- iii. The syllable written as *xie* is pronounced with [h] initial in some areas, as indicated by the phonetic representations in Michaud's data, e.g. /hi.lno.tmi#1/ 'lake', spelled *xienami*. (See 7.1.3.iv.)
- iv. Syllables *bei* and *pei* have, to date, been found only in a Mandarin borrowing and an interjection respectively, i.e. *beishei* ('本身 bĕnshēn, itself, per se'); *pei* (interjection). The syllable *bbei*, while theoretically possible within the constraints of Narua phonology, has not yet been found.

Table 3: Syllables with plain finals

FINAL →	a	ae	e	ee	ei	i	ie	o	u	eu	eo
INITIAL ↓											
[NIL]	a	ae	e					o	vu		
bb	bba	bbae	bbe		(bbei)	bbi		bbo	bbu	bbeu	
b	ba	bae	be		bei	bi		bo	bu	beu	
p	(pa)	pae	pe		pei	pi		po	pu	peu	
m	ma	mae	me			mi		mo	mu	meu	
dd	dda	ddae	dde	ddee	(ddei)	ddi		ddo	ddu	ddeu	ddeo
d	da	dae	de	dee	dei	di		do	du	deu	
t	ta	tae	(te)	tee	tei	ti		to	tu	(teu)	
zz	zza	(zzae)	zze	zzee	zzei	zzi		zzo			
z	za	zae	ze	zee	zei	zi		zo			
c	ca	(cae)	ce	cee	cei	ci		co	cu		
ss	ssa	(ssae)	sse	ssee	ssei	ssi		ssso			
s	sa	sae	se	see	sei	si		so			
n	na	nae		nee		ni		no	nu	neu	
l	la	lae	le	lee		li		lo	lu		
lh	lha	lhae				lhi		lho	lhu		
jj	jja	jjae				jji	jjie	jjo			
j	ja	jae				ji	jie	jo			
q		(qae)	qe			qi	qie	qo			
xx						xxi					
x		xae	xe			xi	xie	xo			
y			ye			yi		yo			
ny	nya							nyo			
gg		ggae	gge	ggee		ggi		ggo	ggu		
g		gae	ge	gee		gi		go	gu		
k		(kae)	ke	kee		ki		ko	ku		
ng		ngae	nge						ngu		
gh	gha	ghae						gho		gheu	
kh	kha	khae						kho		kheu	
hr	hra	hrae		hree							
w		wae						wo	wu	weu	
r		rae	re		rei	ri		ro	ru	reu	
sh		shae	she		shei	shi		sho	shu	sheu	
zzh	(zzha)	zzhae	zzhe		zzhei	zzhi		zzho	zzhu	zzheu	
zh	(zha)	zhae	zhe		zhei	zhi		zho	zhu	zheu	
ch	cha	chae	che		chei	chi		cho	chu	cheu	
f	fa	fae	fe		fei				fu		
h	ha	hae	he	hee				ho	hu		

- v. Syllable *cu* has, to date, been found only in the Mandarin borrowings *cu* ('醋 *cù*, vinegar') and *sacu* ('酸醋 *suāncù*, sour vinegar'). In theory, *zu* and *zzu* could also exist within Narua phonology, but there was no compelling reason to add these to the syllable chart in Table 3 at this point in time.
- vi. Pronunciation of the initial in the syllable *fe* (e.g. 'broad') is closer to [hw] in some areas. (See also 7.2.3.)
- vii. Pronunciation of the initial in the syllable *vu* (e.g. 'pot') varies on a continuum between [v] and [w].
- viii. The syllable *ddeo* is the only syllable in which final *eo* occurs e.g. *meddeo* ('not allowed'). (For further discussion, see 7.1.1.iv.)

Table 4: Syllables with 'glide + vowel' finals

FINAL →	ua	uae	uo	ia	ian
INITIAL ↓					
[NIL]	ua		uo		
bb					
b				bia	
p					
m					mian
dd	(ddua)	dduae		ddia	
d	dua	duae		dia	
t	(tua)	(tuae)		(tia)	tian
l	lua	luae		lia	
gg	ggua	(gguae)			
g	gua	guae			
k	kua	kuae			
ng	ngua				
gh	ghua	ghuae			
kh	khua	khuae			
w	wua	wae			
r	rua	ruae			
sh	shua	shuae			
zzh	(zzhua)	zzhuae			
zh	zhua	zhuae			
ch	chua	chuae			
h	hua	huae			

3.2.2. Notes on Table 4

- i. Final *uo* only occurs as a syllable on its own, never with an initial, e.g. *uo* ('hard').
- ii. Syllables with final *ian* only occur in borrowings from Chinese, e.g. *xiqitian* ('Sunday'). The letter *n* does not represent vowel nasalisation in this case.

Table 5: Syllables with nasalised finals

FINAL →	an	aen	in	on	un	eun	uan	uaen
INITIAL ↓								
[NIL]		aen	in	on		eun		uaen
h	han	haen	hin	hon	hun	heun	huan	huaen

3.2.3. Notes on Table 5

- i. Final *in*, as in *hinq* 'to stand', does not occur as a syllable on its own in Michaud's data. However, the word 'to do' - *yi* in *Alawua* - is nasalised in *Lataddi* and may be spelled *in*. (For an example, see Part Three, Text 1: Daily Life, (5).)
- ii. Syllable *huaen*, although not currently present in Michaud's data, is found in *Lataddi* words meaning 'green', e.g. *huaenleelee*, *huaensosso*.

4. Word Boundaries

Narua sounds are organized into syllables, and syllables into words. Syllable boundaries (a matter of phonology) are not difficult to identify. Word boundaries are a less obvious matter, and require some decisions when it comes to orthography. The following points should be noted concerning word boundaries in YN Narua.

- 4.1. The majority of YN Narua nouns are disyllabic and are written as individual words, e.g. *xxikhua* ('house'), *nimi* ('sun'). Where a noun consists of three or more syllables, it is usually written as one whole word, e.g. *bbalakeece* ('spider'), but sometimes as two words, particularly where the morphology is clear e.g. *apeu asee* ('ancestors'), where *apeu* means 'grandfather' and *asee* means 'great-grandparent'.

4.2. Verbs and adjectives tend to have monosyllabic roots. However, they often occur with an affix. Prefixes include:

- i. DURATIVE *tee-*, e.g. *teezee* ('sitting')
- ii. QUESTION *ae-*, e.g. *aezzi* ('eaten?')
- iii. ACCOMPLISHED *le-* e.g. *lezzi* ('eaten')

Suffixes include:

- i. RELATIVISER *-hin*, e.g. *jiehin* ('small').
- ii. NOMINALISER *-ddi*, e.g. *bbuddi* ('food steamer').

Note that the prohibitive particle *ta* ('don't!') is not a prefix; it is written as a word by itself, e.g. *Ta yo!* ('Don't come!').

4.3. Pronouns may be monosyllabic, e.g. *nya* (first person singular 'I'), or polysyllabic, e.g. *nyasigu* (first person plural 'we'). The possessive particle *bbu* is suffixed to singular pronouns, e.g. *nyabbu* ('my, mine'). Elsewhere, it occurs as a word on its own, e.g. *nyasigu bbu* ('our, ours'), *ami bbu* ('mother's').

4.4. {Number + classifier} and {demonstrative + classifier} combinations are usually written as single words, e.g. *nizzee* ('two (trees)'), *teevu* ('that one (person)'). However, where the number is three syllables or more in length, it is split into separate words according to the place value of the numeral. For example, the number 'eighty-seven' followed by a classifier is written as two words: *honcee shilee*, 'eight-ten (eighty)' and 'seven-CL'. (For further discussion and more examples, see 6.3.3.)

4.5. Compounds made up of {noun + verb + nominaliser} are represented as two words: noun followed by {verb + nominaliser}, e.g. *ha ggudi* ('stove'), comprised of *ha* ('food'), *gguq* ('cook'), *-ddi* (NOMINALISER).

4.6. Other grammatical particles, such as *la* ('and'), *keeq* (CAUSATIVE), *guq* (FUTURE; ABILITIVE), are written as words on their own.

PART TWO: DEVELOPERS' NOTES

The following Sections 5 - 8 are intended for those readers interested in the process of the development of the YN Narua orthography, and the reasons for making various orthographic decisions. A working knowledge of IPA and a background in linguistics is assumed throughout the discussion. It is recommended that other readers now move on to Part Three, where examples of texts using the orthography are provided.

5. Methodology

Research for the development of an orthography for YN Narua began in 2008 in Sichuan province, initially with Lǎ Míngqīng (喇明清)⁹, and then with other speakers from *Lataddi* (see map p.2). A phoneme inventory was established, and the discovery was made that the language is tonal, but that tones are associated, not to syllables as they are in languages such as Mandarin, but to words. (See Dobbs & La, 2016.) At the same time, Alexis Michaud was conducting in-depth research on the phonology of YN Narua as spoken in *Alawua* village, and Liberty Lidz was completing her PhD dissertation describing the language as it is spoken in *Loshu* (see map p.2.) Thus, the very fortunate situation developed in which three sets of phonological data from three different geographic locations were available to study, compare and contrast.

In comparing these data sets, lexical, segmental and tonal variation was observed. However, the core lexicon was consistent, and differences in segmental transcriptions - IPA representations of initials and finals - tended to be regular. For example, the final transcribed by Lidz as /u/ is consistently transcribed by Michaud as /ʏ/; and the syllable transcribed by Michaud as /ʌɑ/ is consistently transcribed by Lidz as /ʏɑ/. Assigning tentative graphemes to represent consonants and vowels, then, was a relatively straightforward matter.

Tone, however, was a far more complex issue. Michaud (2008, 2017) describes a system in *Alawua* as employing three tonal levels, with six tonal categories for monosyllabic nouns, eleven for disyllabic nouns, and seven for verbs. The tone system in *Loshu* is described by Lidz (2010) as employing three tonal levels,

⁹ Lǎ Míngqīng 喇明清 is a professor of ethnic culture and tourism at Southwest University for Nationalities (Xīnán Mínzú Dàxué 西南民族大学) in Chengdu.

with prolific tone sandhi processes. In *Lataddi*, the tone system employs only two tonal levels, and four categories have been identified for both nouns and verbs (Dobbs & La, 2016). In an informal survey conducted in 2013 (Dobbs & Xióng, unpublished), which sought to discover native speaker attitudes and opinions regarding different varieties of YN Narua,¹⁰ more than 70% of the 114 participants who listened to recorded narratives by speakers from five undisclosed locations reported that tone (*ggugu*) was different in those stories recorded in a different location than their own. Moreover, tone was overwhelmingly identified as the most common point of difference between the varieties. Clearly, this is an issue that native speakers are aware of, and one that needed to be carefully considered in the course of developing the orthography. (See section 6.2 below.)

After a tentative orthography was devised and tested with speakers from *Lataddi*, adjustments were made and the orthography was taken further afield to be tested and refined. Testing included simple "look and listen" texts, matching words and pictures, writing vowels, consonants or entire words under pictures, and reading short texts followed by multi-choice questions. A primer was drafted and workshops held in Chengdu in 2013 and in Lijiang in 2015; other individuals and small groups in various locations were also introduced to the primer as opportunity arose. As well as beginning to learn to read, some speakers became able to write simple texts. Furthermore, there is at least one non-native speaker learning YN Narua who is known to be using the orthography as a study tool and to transcribe oral narratives.

¹⁰ The survey took place in the Yongning Basin as far north as *Wualabbi* village, and as far south as Zhongshi village; the road east from Yunnan Province to Qiansuo; and the western, northern and eastern edges of Lugu Lake. Recorded texts were by speakers from *Wualabbi* (瓦拉别 Wǎlābié), *Lataddi* (五指落 Wǔzhǐluò), *Loshu* (落水 Luòshuǐ), *Lhiruazzee* (李家咀 Lǐjiāzuǐ) - a village in Muli county, north of Qiansuo township in Sichuan province, and *Khaeqie* (开基 Kāijī) - a village just south of Yongning township.

6. Major Orthographic Decisions

Even with abundant and accurate phonological data, developing an orthography for a language is no straightforward task. In theory, each phoneme should be able to be assigned a unique grapheme - a symbol or cluster of symbols - which is used to represent that phoneme every time it appears. In practice, few orthographies are this clear-cut, and many factors need to be taken into consideration. These include variety within the language, and the opinions and existing knowledge of stake holders, especially those of the language community. As Snider (2018:79) states:

"...(W)hat is considered ideal by a linguist is not necessarily considered ideal by everyone else... The question therefore arises whether an orthography actually needs to be linguistically ideal in order to be successful. This question, of course, is easily answered when one considers the English and the ancient Chinese [zho] orthographies. Both of these are less than ideal from a linguistic, especially a phonological, standpoint, but both orthographies have nevertheless served their societies well. So clearly, a linguistically ideal orthography is not absolutely essential to an orthography's success... Languages have a considerable degree of redundancy built into their linguistic structures, so this leaves plenty of room for compromise."

In practice, orthography development is both a science and an art, and compromise was indeed a necessary component in the development of this orthography.

6.1. Choice of script

When deciding what sort of script to use for representing YN Narua, Chinese characters, Hanyu pinyin, the Tibetan alphabet, and to a lesser extent the modern Naxi writing system (also known as Naxi pinyin) were all taken into consideration.

Chinese characters, while now familiar to many speakers of YN Narua, lack many features of Narua phonology, which has a much larger phoneme inventory than Mandarin Chinese does. Moreover, Chinese characters encode tone and meaning of their own. For example, even though the

sounds 纳若 (nà ruò) approximate the pronunciation of the word *Narua*, the tones associated to the characters are not the same as that of the Narua word, and the meanings of the characters - "to accept; to pay (taxes)" and "if" - are irrelevant in this context.

Given that most Na people adhere to Tibetan Buddhism, Tibetan script may have been considered a prestigious choice. However, it was deemed unwise to add to potential readers and writers of YN Narua the burden of having to learn a new and complex script.

The notion of a language having its "own" script may seem romantic; after all, Naxi, a language very closely related to Narua, has a pictograph *dongba* script which has become emblematic of the Naxi culture. This script, however, is neither practical nor comprehensive, nor is it in common use. While it may have looked exotic, creating a new alphabet, syllabary or pictographic script exclusively for YN Narua would have greatly increased barriers to literacy.

Seifart (2006:284) asserts that "an orthography that resembles the orthography of the dominant language may be advantageous in order to facilitate acquisition of the orthography of the endangered language for those who are already acquainted with the one of the dominant language." The Roman alphabet, which is already familiar to those conversant in Hanyu pinyin, seemed a logical choice for YN Narua. Not only are the letters of the alphabet and their associated sounds easily recognisable, but modern Naxi, with its similar phonology, successfully uses a Romanised script. (See Pinson 2012.) In addition, Roman characters are commonly available on cell phones and other technological devices, making it convenient for readers and writers to communicate with each other in this way. Wherever possible, therefore, Narua syllables have been represented based on Hanyu pinyin, in order to make the orthography as intuitive and simple as possible for those already literate to some degree in Mandarin. This has proved to be the case.

There are, of course, those who would rather that YN Narua had its own distinctive writing system, something more exotic, to distinguish it from Hanyu pinyin and Naxi. However, anecdotal evidence and observations confirm the efficacy of the current decision. To illustrate, a small group of

children was informally studying the Narua orthography in Wuzhiluo village. A mother standing nearby, herself illiterate, was at first sceptical about her child spending time studying this new writing system. However, after she realised that it was similar to and compatible with Hanyu pinyin, and had the added advantage, from the mother's point of view, of helping her child learn English, she enthusiastically supported it. It has also been observed on several occasions that an educated Na person can take a simple text written in the Romanised YN Narua orthography and read it with little or no help.

6.2. Representing tone

YN Narua is a tonal language, within which minimal pairs contrast only in regard to phonological tone exist, e.g. /dzeɿ/ 'sugar' cf. /dzeɿ/ 'Sichuan pepper'; /mɿk^hɿ/ 'evening' cf. /mɿk^hɿ/ 'smoke'. However, unlike languages such as Chinese and Naxi, where tones are associated to individual syllables, tones in YN Narua are associated to lexical items i.e. to a word or group of words (sometimes referred to as a phonological word). A whole book has been written about the tone system of YN Narua as it is spoken in *Alawua* village (Michaud, 2017), a paper exists outlining tone in the language as it is spoken in *Lataddi* (Dobbs & La, 2016), and chapter 5 of Lidz' (2010) dissertation covers aspects of the tonal system of the language spoken in *Loshu*. The interested reader is referred to these publications for an in-depth discussion on the topic. For the purposes of the present discussion, however, suffice to say that the surface tones of words - how they are actually spoken - varies according to the phonological context, and that the tonal system of the language itself differs markedly from location to location. Despite this tonal diversity, though, the same field study referred to above revealed that the varieties of YN Narua are mutually comprehensible, raising the question of whether and to what extent tone needed to be represented in the YN Narua orthography.

In the course of comparing the three sets of data, it was observed that, even though the surface tones of individual words spoken in isolation varied from place to place, those words that surfaced with rising tone were more often than not similar throughout the available data. Would it be possible, and was it necessary, to show tone on these words only?

Seifart (2006:281) has noted:

"While it is true that orthographies should reduce potential ambiguity of a written message, they should also be simple. And in order to achieve this simplicity, it may be justified not to represent features that do not have a high functional load, even if they are contrastive from a strictly structural point of view. Underrepresentation in an orthography leads to homographs, i.e. more than one word is orthographically represented in the same way, and may thus lead to ambiguity. However, readers can in fact tolerate a considerable amount of ambiguity caused by homographs because they can make use of many cues other than those representing phonological distinctions when decoding a written message."

Testing was carried out using word-final letter *q* (the same as the Naxi low tone) to indicate a rising tone on both monosyllabic and disyllabic words. In order not to ruin the meal by confusing sugar - *zzei* - with Sichuan pepper - *zzeiq* - it seemed prudent to show tone on monosyllables. To test whether or not tone marking was needed on disyllabic words, readers were given pairs of sentences, each containing a homograph with tone unmarked, and asked to match the word in question with its Chinese equivalent. For example:

Muku nya, osigu seisei bbi. 下午
(‘In the evening, we’ll go walking.’)

Mu muq nya, muku jjiq ruaeq. 火焰
(‘When blowing the fire, there is a lot of smoke.’)

No major problems were observed, one reason being that homographs often occur across different parts of speech, so the context renders them unambiguous.

It was decided, then, to show tone only on those monosyllabic words which, when spoken in isolation, have rising tone. In Michaud's data, these comprise LM, LH and MH tonal categories on monosyllabic nouns, and L and MH tonal categories on monosyllabic verbs and adjectives. It should be noted that, when a monosyllabic verb root takes a prefix, as is often the case, tone is not represented in the resulting disyllabic verb, e.g. *ruaq* 'to

speak' cf. *lerua* 'spoke' and *merua* 'not speak'. Although tone is thus highly underrepresented, this level of representation has proven adequate for readers. The advantage for writers, on the other hand, is that they only have to think about whether or not to add the letter *q* to the end of a monosyllabic word, and no others.

6.3. Word boundaries

During the development of the YN Narua orthography, decisions had to be made regarding word boundaries. As Seifart (2006:282) states:

“It is well known that languages vary drastically with respect to word boundaries and that the definition of words can be a highly complex issue because there may be conflicting criteria. Careful examination of a wide variety of issues, including prosodic, morphosyntactic, and semantic factors, is thus a precondition for proposing orthographic rules concerning word boundaries.”

After careful consideration and much trial and error, the following decisions were made.

6.3.1. Prefixes

Prefixes are spelled attached to their root. This differs from Naxi pinyin, in which, for example, the negative and question particles are spelled as words on their own before the verb. Examples of YN Narua words with prefixes have already been given in 2.2.1 and 4.2.

6.3.2. Post-verbal particles and suffixes

Many of the particles that are analysed as suffixes in Michaud's data, including the online dictionary, are treated as words on their own in the orthography. Most of these are associated with verbs - they occur after the main verb in a verb phrase - and include: *bbi* (IMMEDIATE FUTURE); *dage* ('alone'); *gi* (DATIVE); *guq* (ABILITIVE); *ho* (FUTURE DESIDERATIVE); *ji* (ASPECTUAL MORPHEME); *jjj* (EXPERENTIAL); *jjo* (PROGRESSIVE); *niq* ('like, as if'); *see* ('first'); *seiq* (COMPLETION); *shuddu* (VOLITIVE); *sso* (VOLITIVE; OBLIGATIVE; ADVERBIALISER); *ssei* (PERFECTIVE); *tee* (TOPIC MARKER); *zhae* (CAUSATIVE).

On the other hand, suffixes which function as nominalisers are written attached to the previous morpheme, e.g. *zziddi* ('eat-NOM' → 'stuff to eat');

lo yihin ('work, do-NOM' → 'worker'). The relativiser *-hin* is also written attached to the word that it modifies, e.g. *jiehin* ('small-REL').

The possessive particle *bbu* is written attached to singular pronouns, e.g. *nyabbu* ('my, mine'), *teebbu* ('his, hers, its'), but as a separate word in all other environments, e.g. *nyasigu bbu* ('our, ours'), *kumi bbu* ('(the) dog's').

6.3.3. Numbers and classifiers

As noted in 4.4, {number + classifier} and {determiner + classifier} are written as one word, for example: *ddeevu* ('one (person)'), *teevu* ('that one (person)'). On the odd occasion where a classifier occurs on its own, without a number or determiner, it is written with no tone marking.

Numbers comprised of three or fewer syllables are written as one word, e.g. *nizee* ('two-ten' → 'twenty'), *honceeggu* ('eight-ten-nine' → 'eighty-nine'). However, where the number itself has four or more syllables, and/or when a classifier is added to the number and the output is four or more syllables long, the number is split up according to the place value of the numbers. For example:

- *honcee ggulee* ('eight-ten, nine-cl' → 'eighty-nine (CL)'), not **honceeggulee*;
- *rucee nigu* ('four- ten, two-cl' → 'forty-two (people)'), not **ruceenigu*.

In numbers larger than one hundred, in cases where the word *la* ('and') - or *sa* in *Lataddi* - is part of the number, it too is written as a word on its own, e.g. *ddeexie la soceegu* ('one-hundred, and, three-ten-cl' → 'one hundred and thirty (people)'). Of course the option still exists of writing numbers using digits instead of words, in which case the subsequent classifier would be written on its own with no tone marking, e.g. *130 gu* ('one hundred and thirty (people)').

6.3.4. Noun and verb

Nouns and verbs, even when they occur without affixes and comprise only one tone group, are written as separate words, e.g. *ha zzi* ('eat food'), not **hazzi*; *lo yi* ('do work'), not **loyi*. Similarly, where a compound is made up of a noun, a verb and a suffix, these are written as two words, e.g. *ha gguddi* ('stove') comprised of *ha* ('food') written as a word on its own, then *gguq* ('to cook') plus *-ddi* (NOM) written as one word. Although spelling as

one word - **hagguddi* - would have been possible, those readers who were consulted generally found two shorter words easier to decode.

6.3.5. Noun compounds

Compounds comprised of two nouns have been treated on a case by case basis. The decision of whether to write these as one word or two depended on the following: to what extent the meaning of the original words had been retained in the compound; spelling - in particular, whether or not the second word began with a vowel; and the length of the resulting word, readers preferring words that are not too long. For example: the commonly used compound *amuggomi* ('older and younger sisters'), made up of *amu* ('older sibling') and *ggomi* ('little sister'), is written as one word. On the other hand *apeu asee* ('ancestors'), comprised of *apeu* ('grandfather') and *asee* ('great-grandparent'), is written as two words, because **apeu'asee*, with three vowel symbols in a row, is visually less comfortable. The compound *aebbae chaehree* ('kelp'), made up of *aebbae* ('goitre') and *chaehree* ('medicine'), despite its phonological integration as one tone group, is written as two words to avoid a long and complicated-looking **aebbaechaehree*. However, *eliahaenshi moq* (a type of mushroom) is written as a long word followed by the word 'mushroom', because the meanings of the individual morphemes in *eliahaenshi* are not transparent. It is quite possible that some of these word boundary decisions regarding compounds may be altered in the future.

7. IPA Syllables to Orthography

As noted by Michaud (2017:456), the consonant and vowel in simple YN Narua syllables tend to be "strongly co-articulated". For this reason, spelling was determined on a syllable by syllable basis, rather than phoneme by phoneme. The following Tables 6-8 present similar data to that in the tables in Part One, but this time syllables are organised by IPA, instead of by orthographic spelling, thus showing more in-depth phonological information. Explanatory notes and reasons for orthographic decisions - some of these less than "linguistically ideal" - accompany the tables. Colour coding connects notes to relevant places in the tables. Orthographic symbols shown inside curly brackets { } indicate a

minor representation of the given phoneme. For example, /o/ is usually spelled *o*, but in one environment it is spelled {*eo*}.

7.1. Notes on Table 6

7.1.1. Retroflex initials

- i. Retroflex stops /ɖ, ʈ, ʈʰ/ although given phonemic status in *Alawua* (Michaud, 2008), are spelled the same way as their non-retroflex counterparts /d, t, tʰ/, i.e. *dd, d, t* respectively. This is an instance of orthographic under-representation, due in part to the fact that retroflex stops, although appearing as allophones of /d, t, tʰ/ in certain environments, are not phonologically contrastive in *Loshu* (Lidz 2010:24) or in *Lataddi*. During testing, it was observed that non-representation of the retroflex feature was generally not a barrier for comprehension. However, there were a few phonological environments where providing a visual contrast between those syllable with a retroflex initial and those without proved to be helpful. In these cases, rather than creating new graphemes for the three consonants in question, and thus creating potential difficulties for speakers - and writers - from those areas where the contrast does not exist, these syllables are represented by contrastive spelling of the vowel instead, viz. *e* plus another vowel symbol. (See paragraphs ii. - iv. below.)
- ii. Where the retroflex initials /ʈ, ʈʰ/ occur with /i/, the final is represented by *ei*, e.g. *deiq* ('to get up'), *teiq* ('tired'). (Syllable /ɖi/ has not yet been observed.) These contrast with *di* and *ti*, e.g. *diq* ('to pound'), *tiq* ('plane (tool)'). In fact, instances of syllables *dei* and *tei* are so few in the language, it is quite possible that this contrast may be omitted from the orthography in the future.
- iii. Where retroflex /ɖ, ʈ/ occur with final /ɤ/, these syllables are spelled *ddeu* and *deu* respectively. (The syllable /ʈʰɤ/ has not yet been found.) Native speaker intuitions support this spelling. The vowel in these syllables could be reanalysed as /j/. (See 7.1.4.i below.)

Table 6: Syllables with plain finals, listed by IPA

	FINAL IPA →	ɑ	æ	ɤ	u	e	i	o	u	ɥ	ɨ	ə
INITIAL IPA ↓	SPELLING	a	ae, {er}	e, {a}	ee, i	ei	i, ee, ie, {ei}	o, {eo}	u	u, eu	er, eu	e, {a, ae}
[NIL]		a	ae	e				o		vu	er	e, a, ae
b	bb	bba	bbae	bbe		(bbei)	bbi	bbo		bbu, bbeu		
p	b	ba	bae	be		bei	bi	bo		bu, beu		
p^h	p	(pa)	pae	pe		pei	pi	po		pu, peu		
m	m	ma	mae	me			mi	mo		mu, meu		
d	dd	dda	ddae	dde			ddi	ddo		ddu		
ɖ	dd		ddae	dde	ddee		(ddei)	ddeo		ddeu		
t	d	da	dae	de			di	do		du		
t̥	d		dae	de	dee		dei			deu		
t^h	t	ta	tae	(te)			ti	to		tu		
t̥^h	t		tae	te	tee		tei			(teu)		
dz	zz	zza	(zzae)	zze	zzi	zzei	zzee	zzo				
ts	z	za	zae	ze	zi	zei	zee	zo				
ts^h	c	ca	(cae)	ce	ci	cei	cee	co		cu		
z	ss	ssa	(ssae)	sse	ssi	ssei	ssee	ssso				
s	s	sa	sae	se	si	sei	see	so				
n, ɲ	n	na	nae				ni	no		nu		
ɳ	n		nae		nee					neu		
l, ɭ	l	la	lae	le	lee		li	lo		lu		
ɬ	lh	lha	lhae				lhi	lho		lhu		
ɮ	l		lae, 'er									

Table 6 (cont.): Syllables with plain finals, listed by IPA

dz	jj		jjae	jj a	jjj		jj ie	jjō				
tɕ	j		jae	ja	jj		je	jō				
tɕ^h	q		(qae)	qe	qi		qie	qō				
z	xx				xxi							
ɕ, ɕj	x		xae	xe	xi			xō				
ɟ, ɟj	y			ye			ye	yō				
nj	ny			ny a				nyō				
g	gg		ggae	gge	ggee		ggi	ggo			ggu	
k	g		gae	ge	gee		gi	gō			gu	
k^h	k		(kae)	ke	kee		ki	kō			ku	
ŋ	ng		ngae	nge							ngu	
q	gh	gha	ghae					ghō			gheu	
q^h	kh	kha	khae					kho			kheu	
ɣ	hr				hree							
ɸ	hr	hra	hrae									
ɸ	w							wō			weu	
z	r		rae	re	ri	rei		rō			ru	reu
ʂ	sh		shae	she	shi	shei		shō			shu	sheu
dz	zzh	(zzha)	zzhae	zzhe	zzhi	zzhei		zzhō			zzhu	zzheu
tʂ	zh	(zha)	zhae	zhe	zhi	zhei		zhō			zhu	zheu
tʂ^h	ch	cha	chae	che	chi	chei		chō			chu	cheu
f	f	fa	fae	fe		fei					fu	
h	h	ha	hae	he	hee		xie	hō		hu		

- iv. One syllable exists in which a retroflex stop occurs with /o/, i.e. /dɔ/. In this case, the syllable is spelled *ddeo*, the only place in the orthography where *eo* occurs. Although it may seem counter-intuitive to assign a new grapheme to represent the final in a single syllable, native speakers were insistent that *meddeo* ('not allow') should be spelled differently than, for instance, *meddo* ('not see').
- v. In *Loshu* (Lidz 2010:24) and in *Lataddi*, retroflex [ŋ] is not given phonemic status; it is an allophone of /n/. Although /ŋ/ does appear in the *Alawua* phoneme inventory (Michaud, 2008), the only word in which a minimal pair contrasting it with /n/ occurs is /ŋɥ/, as in /ŋɥɪ/ ('to sniff; to get to know (news)') cf. /nɥ/, e.g. /nɥɪ/ ('to bury'). Michaud (2017:479; 2008:15) himself posits an alternative analysis to the former syllable as /ŋɿ/. This is the approach that has been taken in the orthography: both /ŋ/ and /n/ are represented as *n*; 'bury' is spelled *nu*, while 'sniff' is spelt *neu*. Note that there is also one word containing the syllable /næ/, in contrast to /ŋæ/, i.e. /jɪnæɪ-seɪ/ *Yinaesei* ('Kunming'). However, given that this single instance is extremely unlikely to be confused with any other word, the spelling of the syllable in question remains *nae* in both cases.
- vi. Retroflex [ɭ], an allophone of /l/, does not have phonemic status in any of the varieties of YN Narua under consideration. However, because the syllable /ɭw/ appears in Michaud's online dictionary, [ɭ] is included in Table 6. Its orthographic representation remains *l*.

7.1.2. Palatal issues

- i. According to Michaud's (2008) analysis, /j/ is a glide and, as such, forms part of the finals /jɣ, jo, jæ/. For orthographic purposes, however, where /jɣ, jo/ form syllables on their own, or where /j/ occurs with initials /ɕ, n/, it is reanalysed as a component of the initial - /j, ɕj, nj/ - yielding spellings *y, x, ny* respectively. (Note that in Lidz' (2010) analysis, the latter initial is analysed as the palatal nasal /ɲ/.) Similarly, the palatal on-glide [ɿ] in the syllable /jɿ/ is also treated as an initial and the syllable spelled *yi*. However, where /j/ occurs after dental initials /d, t,

l/, it remains analysed as part of the final */jɣ/* and spelled *ia*, as shown in Table 7.

- ii. Final */ɣ/* is represented by *e*, except in syllables with the palatal initials */dz, tɕ, nj/* where it is spelled *a*, viz. *jja, ja, nya*. These syllables could have been spelled **jje, *je, and *nye* respectively, making them consistent with *qe, xe* and *ye* which also have palatal initials, i.e. */tɕ^hɣ, ɕ, j/* respectively. Although not linguistically ideal, this orthographic decision was made in consultation with native speakers who felt that *a* better represented the vowel in question. This is an inconsistency in the current orthography which may need to be addressed in the future.

7.1.3. Close unrounded vowels

- i. The letter *i* in YN Narua represents both */i/* and */u/*, depending on the phonological environment. The former occurs with:

- stops */b, p, p^h, d, t, t^h, g, k, k^h/*: *bbi, bi, pi, ddi, di, ti, ggi, gi, ki*;
- nasals */m, n/*: *mi, ni*;
- laterals */l, ɬ/*: *li, lhi*;
- palatal on-glide [ɟ]: *yi*.

The latter occurs with:

- affricates */dz, ts, ts^h, dʒ, tɕ, tɕ^h, dʒ, tʂ, tʂ^h/*: *zzi, zi, ci, jji, ji, qi, zzhi, zhi, chi*;
- fricatives */z, s, ʒ, ɕ, ʒ, ʂ/*: *ssi, si, xxi, xi, ri, shi*.

At first glance, this seems to be an unnecessary complication to the orthography. However, those syllables listed above which also occur in Hanyu pinyin are pronounced similarly in YN Narua, and readers have accepted their spellings without hesitation. Furthermore, when alternative, more "linguistically ideal" spellings have been suggested, as discussed in paragraphs ii. and iii. below, these have been rejected. It is possible that this orthographic decision may present difficulties in the future, if and when those illiterate in Hanyu pinyin begin to use the orthography.

- ii. Syllables compromised of a retroflex initial and final */u/*, i.e. */zɰ, ʂɰ, dʒɰ, tʂɰ, tʂ^hɰ/*, instead of being spelled similarly to Hanyu pinyin, i.e.

ri, shi, zzhi, zhi, chi respectively, could have been written with vowel *ee* instead, i.e. **ree, *shee, *zzhee, *zhee, *chee*. While this may have been a more accurate representation of Narua phonology, native speakers conversant in Hanyu pinyin prefer the current spelling.

- iii. Syllables with alveolar-palatal affricates /dʒi, tʃi, tʃʰi/, spelled *jjie, jie,* and *qie* respectively, could have been written **jji, *ji, *qi*. Under this scenario, the spelling of /dʒʷ, tʃʷ, tʃʰʷ/ - currently *jjj, ji, qi* - would have been adjusted to **jjee, *jee, *qee*. This would have been a more economical solution: /i/ would have been consistently represented as *i*, /ʷ/ as *ee*, and *ie* could have been eliminated from the orthography. The current spelling, however, was strongly favoured by native speakers involved in orthography development, and reflects the local pronunciation of those Mandarin syllables represented in Hanyu pinyin as *ji* and *qi* and, to a lesser extent, *jie* and *qie*.
- iv. The syllable spelled *xie* is transcribed by Michaud as /hi/. Because research for the orthography began in *Lataddi*, where this syllable is pronounced /çi/, as it also is in *Loshu* (Lidz 2010), spelling *xie* was proposed. This was a potential problem for readers from /hi/-speaking areas. The current spelling, however, does not seem to have been problematic for emergent readers, albeit literate or semi-literate in Hanyu pinyin. The same may not be true for writers of the language, though, some of whom may want to represent the consonant in this syllable as *h*. An alternate representation for the syllable, and one which may need to be considered in the future, is *hie* (or even simply *hi*), a spelling which exists neither elsewhere in the YN Narua orthography, nor in Hanyu pinyin.

7.1.4. Finals *eu* and *u*

- i. In general, *u* represents final /ʏ/, while *eu* represents /j/. After uvular initials /q, qʰ, ɸ/ though, and in line with native speaker intuitions, /ʏ/ is spelled *eu*, e.g. *maegheu* ('tail'), *kheu* ('horn'), *aenweu* ('egg'). Given that these initials do not occur with final /j/ under Michaud's current analysis, this spelling has not caused any problems. It would, in fact, be possible to reanalyse the final in these syllables as /j/.

- ii. After retroflex initials /d̥, t̥, ɲ/, the final /ɤ/ is also represented as *eu*, thus providing an orthographic contrast between *ddeu*, *deu*, *neu* and *ddu*, *du*, *nu*, e.g. *ddeu* ('wing') cf. *ddu* ('to dig'). Given that retroflex initials /z̥, s̥, dz̥, tʂ̥, tʂ̥ʰ/ occur with both finals /ɤ/ and /ɨ/, this orthographic decision makes good sense. Note that the syllable /z̥ɨ/, although not present in Michaud's data, occurs in the Lataddi word for 'horse': *reu* (see Part Three, Text 2: Almost Late for School (17)).
- iii. Syllables *bbeu*, *beu*, *peu* contrast with *bbu*, *bu*, *pu* respectively in the orthography. For example: *bbeuq* ('yak') cf. *bbuq* ('food steamer'); *beu* ('dry') cf. *bu* ('to perform (a ritual)'); *peuq* ('white') cf. *puq* ('to pour'). This phonological contrast is not currently present in Michaud's data. However, consultation and testing with native speakers (Dobbs, unpublished field study, 2010) reveals that the contrast between finals *eu* and *u* after these bilabial initials does exist for many native speakers of YN Narua across a variety of locations. For this reason it is represented in the orthography. Similarly with the bilabial nasal initial, syllable *meu* - in contrast to *mu* - exists in Lataddi, e.g. *meu* ('sky') cf. *mu* ('fire'). Currently dictionary spelling does not show this contrast, but the spelling is available to be used in future and/or by writers who wish to express their own dialectic pronunciation.
- iv. The syllable transcribed /hu/ and spelled *hu*, which occurs in words such as *humi* 'stomach' and *huq* 'to miss, to long for', is the only instance of /u/ in Michaud's data. Throughout the rest of the orthography, the final *u* represents /ɤ/. Given that the syllable /hɤ/ does not exist in the data, there seemed no point in creating another vowel representation for a single syllable, and spelling *hu* was chosen.

7.1.5. Syllables *lae* and *er*

- i. The syllable spelled *lae* represents both /lae/ and /ɭæ/. Initial /ɭ/ occurs infrequently in Michaud's data, and only in two syllables: /ɭæ/ and /ɭwæ/. Syllable /ɭæ/ generally corresponds to /lae/ in *Lataddi*, e.g. 'seed' /ɭǣ/ in *Alawua*, c.f. /lae/ in *Lataddi*. (In *Loshu*, 'seed' is transcribed as /ɣǣl.) Further, it is noted that in *Alawua*:

"/ɹæ/ contrasts with /læ/, but the latter only appears (i) in borrowings (e.g. /MH læ.tsu/ 'chilli peppers', from Southwestern Mandarin 辣子 [la.tsɿ]), (ii) in the particle of accomplishment /lə/, whose phonetic realisations, determined by the vowel of the following verb, include [læ], and (iii) in words where the /æ/ could possibly result from vowel harmony, e.g./MH læ.Ɂæ/ 'raven'." (Michaud, 2008:16)

For the purposes of simplicity, therefore, *lae* seemed a reasonable representation of the syllable /ɹæ/, with one exception as described in paragraph ii. below.

In their paper on endangered phonemic oppositions in YN Narua, Michaud and Latami (2011:3) identify initial /ɹ/ as being under threat, and in danger of becoming confused with /l/ in the speech of younger or less proficient speakers. The orthographic decision to represent initial /ɹ/ as *l* here will perhaps inadvertently contribute to its future demise.

- ii. The syllable written as *er* represents the syllabic rhotic /ɹ/, such as in *bbu'er* /byɹɹ/ 'fly (insect)'. In addition, it represents /ɹæ/ only where this syllable occurs word-medially after finals *ae* and *eu*. In these two phonological environments, the syllable in question has a rhotic quality in all three sets of data. For example: *tæ'er* 'book' is /tʰæɹæ/ in *Alawua*, /tʰæɹæ/ in *Lataddi*, and /tʰæɹæ/ in *Loshu*; and *kuæ'er* 'felt, mat' is /kʰwæɹæ/ in *Alawua* and /kʰwæɹ æɹ/ in *Loshu*. (No data is currently available for this word in *Lataddi*.)

7.1.6. Schwa

Final /ə/ (schwa) occurs infrequently and, in Michaud's data, only as a syllable on its own. As a prefix, its orthographic representation is *a* (KINSHIP PREFIX) or *ae* (QUESTION PREFIX) (see 2.2.1). Elsewhere, it is spelled *e*.

Table 7: Syllables with glide + vowel finals, listed by IPA

	FINALS IPA →	wɣ	wæ	wo	jɣ, je
INITIALS IPA ↓	SPELLING	ua	uae	uo	ia, ian
[NIL]		ua		uo	
b	bb				
p	b				bia
p ^h	p				
m	m				mian
d	dd				ddia
ɖ	dd	(ddua)	dduae		
t	d				dia
t̪	d	dua	duae		
t ^h	t				
t̪ ^h	t	(tua)	(tuae)		
l, ɭ	l	lua	luae		lia
ɭ	l		luae		
g	gg	ggua	(gguae)		
k	g	gua	guae		
k ^h	k	kua	kuae		
ŋ	ng	ngua			
q	gh	ghua	ghuae		
q ^h	kh	khua	khuae		
ʋ	w	wua	wae		
ʐ	r	rua	ruae		
ʂ	sh	shua	shuae		
dʐ	zzh	(zzhua)	zzhuae		
tʂ	zh	zhua	zhuae		
tʂ ^h	ch	chua	chuae		
h	h	hua, fe	huae		

7.2. Notes on Table 7

7.2.1. Final /wɣ/ is represented *ua*, e.g. /gwɣɭ/ *gguaq* ('to sing'). An alternative spelling could have been **ue*. However, native speakers who were consulted about this matter preferred the former, partly because of its familiarity in Hanyu pinyin. Given that final /wa/ does not exist in the language, this orthographic decision has not been at all problematic. It has the added advantage of not being easily confused with *eu*, a spelling that does exist in the orthography.

- 7.2.2. The syllable spelled *luæ* represents the /ɭwæ/ in Michaud's data and /lwæ/ in *Lataddi*, e.g. 'to call out' /ɭwæɿ/ in *Alawua* cf. /lwæ./ in *Lataddi*. (This syllable does not exist in the *Loshu* data.) Michaud (2008:16-17) notes that the syllable /lwæ/ does not exist in *Alawua*, and hypothesises that "present day /ɭæ/ and /ɭwæ/ originate in earlier /læ/ and /lwæ/." The same issue applies as for syllable /ɭæ/ (see 7.1.5.i) regarding the potential of further endangering the initial /ɭ/.
- 7.2.3. Syllable /hwɿ/ yields two spellings: *hua* (e.g. *huali*, 'cat') and *fe* (e.g. *fe*, 'broad, vast'), the former of these occurring far more frequently in the language than the latter. This phonological contrast is not currently present in Michaud's data. However, consultation with native speakers (Dobbs, field notes, 2014) reveals that a contrast between these two syllables does exist for some speakers. As noted in 3.2.1.vi, pronunciation of the initial in *fe* is closer to [hw] than [f] for some speakers. This syllable could have been spelled **hue*, but this would have necessitated adding a final *-ue* - to the orthography.

Table 8: Syllables with nasalised finals, listed by IPA

	FINALS IPA →	ã	æ̃	ĩ	õ	ỹ	ĩ̃	wỹ	w̃æ
INITIALS IPA ↓	SPELLING	an	aen	in	on	un	eun	uan	uaen
[NIL]			aen	in	on		eun		uaen
h	h	han	haen	hin	hon	hun, heun		huan	huaen

7.3. Note on Table 8

- i. The syllable /hỹ/ is usually spelled *hun*, e.g. *wohun* 'hair (of head)'. However, there is one word in the current version of the dictionary in which this syllable is spelled *heun*, i.e. *heunheun* 'to disturb'. Although not yet in the dictionary, other items, such as *heunhin* 'crazy person' and *heunheun'nini* 'muddled, confused', clearly contain the same morpheme. Native speakers involved in orthography development insist that *heun* is the appropriate spelling of this syllable, suggesting that the final could be reanalysed as /ĩ̃/.

8. Variety in the Language

As stated at the outset of this paper, the aim in the development of the YN Narua orthography was not to set a standard, a kind of Narua *pŭtōnghuà*, but to create a system that could be used to write - and read - all varieties of the language. In his discussion on the development of "multidialect orthographies", Seifart (2006:294) cites "the different needs of readers vs. writers" as a pertinent issue. Elsewhere, he also states that "(w)hen making a compromise between an orthography that suits readers vs. writers, it should be taken into account that reading is far more frequent than writing (ideally, a text is written only once but read many times), so the needs of readers are somewhat more important" (Seifart 2006:283).

Some spelling decisions in YN Narua unavoidably better reflect the pronunciation of one variety over another. It has been observed, however, that readers quickly adapt to the spelling of frequently encountered words and pronounce them according to their own habit. A good example of this is the first person singular pronoun spelled *nya*. The initial *ny* reflects the pronunciation of both *Alawua* /njɿ/ and *Loshu* /ɲa/, but not that of *Lataddi*, where the initial of the pronoun is the velar nasal: /ŋɿ/. During testing, although *Lataddi* readers found the spelling *nya* a little surprising at first, they quickly got used to it and were able to read it with their own pronunciation. The spelling *nge* - similar to the Naxi first person singular pronoun - is still available for writers who may wish to draw attention to their own regional pronunciation. Other orthographic decisions which reflect the pronunciation of one variety of the language over another include:

8.1. Perfective *ssei*

In *Alawua*, the perfective, a post-verbal particle which occurs at the end of a clause, is pronounced /ze/, as it is in *Loshu*. In *Lataddi*, however, the initial is unvoiced: /se/. Although orthography development began in *Lataddi*, the spelling *ssei*, not *sei*, was eventually adopted to avoid confusion with the verb *seiq* ('to finish, complete') and a post-verbal particle of the same spelling which indicates the completion of an action.

8.2. Durative *tee-*

The durative particle occurs as a verb prefix and is written as part of the verb, e.g. *teezee* ('sitting'), *teerua* ('speaking'). In *Lataddi* and in *Loshu* this particle is pronounced /t^hu/, and therefore spelling *tee-* was proposed. It was later observed that speakers in *Alawua* and the Yongning basin tend to pronounce this particle /t^hi/. However the spelling was not adapted, as during testing readers coped with *tee-*. It is plausible, though, that the spelling of this particle may be amended to *ti-* in the future. It should also be noted that, if orthography testing had been carried out on previously illiterate speakers, the current spelling may have been a problem for people from the Yongning area.

8.3. Prefixes with vowel harmony

As pointed out in Section 2.2.1, verb prefixes in YN Narua tend to be subject to regressive vowel harmony. This is particularly true for the accomplished particle *le-* and the negative marker *me-*. Michaud (2017:467) gives these two examples:

- "(i) The accomplished prefix /le-/-/ is realized close to [læ] when the vowel of the following verb is /æ/ or an apical vowel.
- (ii) The negation prefix /mɣ-/-/ is realized close to [mɑ] when the vowel of the following verb is an apical vowel."

Similarly, pronunciation of the question marker *ae-* and the kinship prefix *a-* also tend to vary. Rather than try to represent orthographically this variety in surface form, it was decided to represent the underlying morpheme and maintain a consistent spelling for each of these prefixes, no matter what their phonological environment. Readers have barely batted an eyelid over this decision, although it has been observed that some writers tend to use *a-* instead of *ae-* for the question marker.

8.4. Borrowings

The spelling of words borrowed from Chinese is still somewhat unstable. This is partly because there is much variety in the pronunciation of these words by native speakers of differing ages, locations, exposure to Mandarin, and education levels. How well established a borrowed word is in the YN Narua lexicon also has an effect on the variety of its pronunciation.

Borrowings from Chinese in which the donor word has a syllable-final consonant (-n or -ng) are particularly troublesome, as no closed syllables exist in YN Narua. For example, the word 'noodles', borrowed from 面 *miàn* is transcribed as /mjeɫ/ in Michaud's data, suggesting a spelling of *miei*. Similarly, 'rice noodles', a borrowing of 米线 *mǐxiàn*, is transcribed by Lidz as /miçɛ/, which could have been spelled **mixiei*. On the other hand, spellings *miae* and *mixiae* respectively would have been closer reflections of the way the second author of this paper pronounces these words: /miæ/ and /miçæ/. Neither of these vowel combinations - *iei* or *-iae* - exist elsewhere in YN Narua, though, so in these cases the decision was eventually made to simply use Hanyu pinyin spelling, i.e. *mian* and *mixian*. For readers familiar with Hanyu pinyin, the presence of word-final *ian* signals a borrowing, as the final *ia* is never nasalised in indigenous YN Narua words. Where this same final occurs word-medially, however, spelling *ia* has been adopted. For example: *diahua* (tjɣɫhwaɫ) 'telephone' from 电话 *diànhuà*, and *diashi* (tjɣɫʃwaɫ) 'computer' from 电视 *diànshì*.

The following table gives examples of borrowed words that have closed syllables in Chinese, and their current YN Narua spellings.

Table 9: Borrowings from Chinese with closed syllables

Final in closed syllable (Chinese)	Example word (Chinese)	Gloss (English)	YN Narua IPA (Michaud's data)	Current spelling
an	电饭 <i>diànfàn</i>	rice cooker	tjeɫfæɫ	diafae
en	凉粉 <i>liángfěn</i>	bean jelly	ljeɫfeɫ	liafei
in	放心 <i>fàngxīn</i>	to have confidence	fæɫçiɫ	faexi
ian (word medial)	电话 <i>diànhuà</i>	telephone	tjɣɫhwã	diahua
ian (word final)	面 <i>miàn</i>	noodles	mjeɫ	mian
ang	商量 <i>shāngliáng</i>	to discuss	ʃæɫ-ljɣɫ	shaelia
eng	政府 <i>zhèngfǔ</i>	government	tʃwaɫfyɫ	zheifu
ing	定 <i>dìng</i>	decide	tɪɫ	diq
ong	西红柿 <i>xīhóngshì</i>	tomato	çiɫ-hoɫʃwaɫ	xihoshi
uan	砖头 <i>zhuāntóu</i>	brick	tʃwæɫtʰoɫ	zhuueto
iang	粮食 <i>liángshí</i>	cereals	ljɣɫʃwaɫ	liashi
uang	黄瓜 <i>huángguā</i>	cucumber	hwaɫkwɣɫ	huagua

PART THREE: WRITTEN TEXTS

9. Examples of Written Text

Audio recordings and transcriptions of a number of YN Narua texts are available online in the Pangloss collection. The speaker in these texts is from *Alawua* village in the Yongning basin (see footnote 2 p.1, and map p.2.) At the time of writing this paper, items in the collection that have orthographic sentence transcriptions, as well as IPA transcriptions, and English, French and Chinese translations, are:

- i. *The sister's wedding* (version 1):
http://lacito.vjf.cnrs.fr/pangloss/corpus/show_text_en.php?id=crdo-NRU_MARIAGE_DE_LA_SOEUR_V1_SOUND&idref=crdo-NRU_Mariage_De_La_Soeur_V1
- ii. *How the Lake was created* (version 3):
http://lacito.vjf.cnrs.fr/pangloss/corpus/show_text_en.php?id=crdo-NRU_Naissance_du_Lac_V3_SOUND&idref=crdo-NRU_Naissance_du_Lac_V3
- iii. *How dog and man exchanged their lifespan*:
http://lacito.vjf.cnrs.fr/pangloss/corpus/show_text_en.php?id=crdo-NRU_DOG_SOUND&idref=crdo-NRU_DOG

In addition, two texts from *Lataddi* and one from *Wualabbi* village are presented in orthographic form below. For IPA transcriptions of the *Lataddi* texts, the reader is referred to Dobbs & La, 2016. Words highlighted in grey indicate spelling that deliberately reflects *Lataddi* pronunciation. Chinese borrowings are transcribed in italics using Hanyu pinyin without tone marking.

The text from *Wualabbi* is noteworthy in that, unlike the others recorded here and online, it was originally a written text, not an oral one. Chinese sentence translations are provided by the author.

Text 1: Daily Life**Narrator:** Lǎ Míngqīng 喇明清**Na name:** *Mupae'er Cei'on Nobbu***From:** *Lataddi***Location & date of narration:** Chengdu, May 2008

(1) *aendua ggedei ggi xiq leghae jjo liq teeq*
 ǎ̃l̥twɿ̃l̥ gɣ̃l̥tĩl̥ gĩl̥ ɕw̃l̥ lə̃l̥-qæ̃l̥ dzõl̥ lĩl̥ tʰw̃l̥.
 dawn get up after incense ACCOM-burn CONJ tea drink

Aendua ggedei ggi, xiq leghae jjo, liq teeq.

At dawn after getting up, having burnt incense, (we) drink tea.

(2) *teeggi nee jjo chu gguq chu gguq so zzi*
 tʰw̃l̥gĩl̥ n̥w̃l̥ dzõl̥ tʂʰɸ̃l̥ gɸ̃l̥ tʂʰɸ̃l̥ gɸ̃l̥ sõl̥ dzw̃l̥.
 next ABL TOP breakfast cook breakfast cook CONJ eat

Teeggi nee jjo chu gguq, chu gguq so zzi.

Next (we) cook breakfast, cook breakfast and eat (it).

(3) *chu lezzi lodi bbi*
 tʂʰɸ̃l̥ lə̃l̥-dzw̃l̥ lõl̥tĩl̥ bĩl̥.
 breakfast ACCOM-eat manual_labour go

Chu lezzi, lodi bbi.

Having eaten breakfast, (we) go to work.

(4) *lodi gholo nee dizzhe ddeekua zzi*
 lõl̥l̥ qõl̥lõl̥ n̥w̃l̥ tĩl̥dzɿ̃l̥ dw̃l̥-kʰwɿ̃l̥ dzw̃l̥.
 manual_labour in ABL snack one-CL.bit eat

Lodi gholo nee dizzhe ddeekua zzi.

During work, (we) eat a snack.

(5) *dizzhe lezzi ggi lo ddeezhae in*
 tĩl̥dzɿ̃l̥ lə̃l̥dzw̃l̥ gĩl̥ lõl̥ dw̃l̥-tʂʰæ̃l̥ ɿ̃l̥.
 snack ACCOM-eat after work one-CL.time do

Dizzhe lezzi ggi, lo ddeezhae in.

After eating a snack, (we) do work for a while.

- (6) *che nee jjo roq gguq so roq zzi*
 tʂʰɣl nɯl dzoɿ zoɿ gɥɿ soɿ zoɿ dzɯɿ.
 there ABL TOP lunch cook CONJ lunch eat

Che nee jjo roq gguq so, roq zzi.

Next (we) cook lunch and eat lunch.

- (7) *roq zzi ggi lo le'in*
 zoɿ dzɯɿ giɿ loɿ luɿ-ŋ.
 lunch eat after work return-do

Roq zzi ggi, lo le'in.

After eating lunch, (we) go back to doing work.

- (8) *muku nya jjo chua gguq chua zzi*
 mɥɿkɥɿɿ naɿ dzoɿ tʂʰwɣɿ gɥɿ tʂʰwɣɿ dzɯɿ.
 evening when TOP dinner cook dinner eat

Muku nya jjo chua gguq, chua zzi.

When it's evening, (we) cook dinner (and) eat dinner.

Text 2: Almost Late for School

Narrator: Lǎ Míngqīng 喇明清 **Na name:** *Mupae'er Cei'on Nobbu*

From: *Lataddi*

Location & date of narration: Chengdu, March 2009

(1) **nge** *xiaoxue* *soq* *nya* *tae'er sowo*
 ŋɣɿ *xiaoxue* soɿ ɲaɿ tʰæɿəɿ-soɿ-ɬoɿ
 1SG primary_school study when book-study-place

solee *gholo* *soq* *ssei*
 soɿ-luɿ qoɿloɿ soɿ seɿ.
 three-CL in study PFV

Nge *xiaoxue soq nya, tae'er sowo solee gholo soq ssei.*

When I was at primary school, (I) studied in three schools.

(2) *ddeele* *jjo* *Lataddi* *qu* *gholo* *soq*
 duɿ-luɿ dzoɿ laɿtʰaɿdiɿ qu qoɿloɿ soɿ.
 one-CL TOP Lataddi district in study

Ddeele jjo Lataddi qu gholo soq.

One (place) was in Lataddi district.

(3) **che** *kupo* *da* *soq* **ssee** *nee* *jjo* **ngelae** *wua* *gholo*
 tʂʰɣɿ kʰuɿɿpʰoɿ taɿ soɿ ziɿ nuɿ dzoɿ ŋæɿɿæɿ ɬwɣɿ qoɿloɿ
 there half-year only study still ABL TOP 1PL village in

bbu *paejie* *ddeevu* *lecee* **so** *wua* *gholo* *bbu*
 buɿ pʰæɿtʂʰiɿ duɿ-vuɿ ɿɿ-tʂʰiɿ soɿ ɬwɣɿ qoɿloɿ buɿ
 POSS man one-CL return-come CONJ village in POSS

tae'er sowo *bbu* *ezzhi* **in** *lecee*
 tʰæɿəɿ-soɿ-ɬoɿ buɿ ɣɿdzɿɿ ɿɿ ɿɿ-tʂʰiɿ.
 book-study-place POSS teacher be return-come

Che *kupo da soq ssee nee jjo, ngelae wua gholo bbu paejie ddeevu*

lecee so, wua gholo bbu tae'er sowo bbu azzhi in lecee.

After studying there for only half a year, a man from our village came back to be a teacher in the village school.

- (4) *tee tae'er sowo ggeezhi nee xuexiao meni*
 tʰwɿ tʰæɿ-ɿ-sɿ-ɿ-ɿ gɿ-tʂwɿ nɿ xuexiao məɿ-niɿ.
 DEM book-study-place true-tell ABL school NEG-COP

Tee tae'er sowo ggeezhi nee xuexiao meni.

This school wasn't actually a school.

- (5) *nge'er avu chumi'er bbu teezhae gholo mezeihin*
 ŋɿɿɿwɿ əɿvɿ tʂʰvɿɿmiɿ-lwɿ bɿ tʰwɿ-tʂæɿ qɿɿɿɿ məɿ-tseɿ-hɿɿ
 1FAM uncle wife-FAM POSS DEM-time in NEG-use-ATTR

ggelaxxi niq
 gɿɿɿɿɿ-zwɿ niɿ.
 god-room COP

Nge'er avu chumi'er bbu teezhae gholo mezeihin ggelaxxi niq.

(It) was our uncles' wife's family's god-room that wasn't being used at the time.

[Note: Many Na families have a small room on the second floor of their homes that is set apart for religious articles and activities.]

- (6) *che nge niku leso li jjo Hoddi soq*
 tʂʰɿɿ ŋɿɿ niɿ-kʰvɿɿ ləɿ-sɿɿ liɿ dzoɿ hoɿdiɿ soɿ
 there 1SG two-year ACCOM-study CONJ TOP Hoddi study

ki ssei
 kʰiɿ seɿ.
 go.1.PST PFV

Che nge niku leso li jjo, Hoddi soq ki ssei.

After studying there for two years I went to study at Hoddi.

- (7) *Hoddi jjo Yanyuanxian bbu xiancheng niq*
 hoɿdiɿ dzoɿ Yanyuanxian bɿ xiancheng niɿ.
 Hoddi TOP Yanyuan_county POSS county_seat COP

Hoddi jjo Yanyuanxian bbu xiancheng niq.

Hoddi is the county seat of Yanyuan county.

- (8) *jowo Hoddi soq ki teeku jjo nge xiaoxue*
 tɕoɭboɭ hoɭdiɭ soɭ kʰiɭ tʰuɭ-kʰɸɭ dzoɭ ŋɣɭ xiaoxue
 first Hoddi study go.1.PST DEM-year TOP 1SG primary_school
sannianji sohin niq
sannianji soɭ-hĩɭ niɿ.
 grade_three study-ATTR CRS

Jowo Hoddi soq ki teeku jjo, nge xiaoxue sannianji sohin niq.

The first year (I) went to study at Hoddi, I was studying primary school grade three.

- (9) *Hoddi kihin teejo nge jowo reshae*
 hoɭdiɭ kʰiɭ-hĩɭ tʰuɭ-tɕoɭ ŋɣɭ tɕoɭboɭ zɣɭ-ʂæɭ
 Hoddi go.1.PST-NOM DEM-time 1SG first road-long
kihin teejo niq
kʰiɿ-hĩɿ tʰuɿtɕoɿ niɿ.
 go.1.PST-NOM DEM-time CRS

Hoddi kihin teejo, nge jowo reshae kihin teejo niq.

This time going to Hoddi was the first time I'd been on (such) a long trip.

- (10) *tee meni jjo wodda nge ngelae wua gholo sa*
 tʰuɭ məɭ-niɭ dzoɭ boɭdaɭ ŋɣɭ ŋɣɿlæɭ ɸwaɭ qoɭloɭ saɭ
 DEM NEG-COP TOP before 1SG 1PL village in and
Lataddi bbu geshe gholo da bbi jji
 laɿtʰaɿdiɿ buɿ kɣɿɿɣɿ qoɿloɿ taɿ biɿ dzuɿ.
 Lataddi POSS street in only go EXP

Tee meni jjo, wodda nge ngelae wua gholo sa Lataddi bbu geshe gholo da bbi jji.

Otherwise, I had only been to our village and Lataddi town before.

- (11) *jowo teeku ki nya remi gholo ceisoni*
 tɕoɭboɭ tʰuɿ-kʰɸɿ kʰiɿ ŋaɿ zɣɿmiɿ qoɿloɿ tsʰeɿsoɿ-niɿ
 first DEM-year go.1.PST when road in thirteen-day
sei ssei
seɿ seɿ.
 walk PFV

Jowo teeku ki nya, remi gholo ceisoni sei ssei.

The first year (I) went, (we) walked for thirteen days.

- (12) *xxiq jjo chezi zzeeq nya duci nilee messa*
 ɹwɿ dzoɿ tʂʰeɿtswɿ dziɿ ɲaɿ dʊɿtʂʰwɿ niɿ-lwɿ məɿzɑɿ
 now TOP car sit when hour two-CL NEG.limit
nee Hoddi tu
 neeɿ hoɿdiɿ tʰʊɿ.
 ABL Hoddi arrive

Xxiq jjo, chezi zzeeq nya, duci nilee messa nee Hoddi tu.

Nowadays, going by car, it takes two and a bit hours to get to Hoddi.

- (13) *nge jowo teejo Hoddi ki nya*
 ŋɿɿ tɕoɿkoɿ tʰwɿ-tɕoɿ hoɿdiɿ kʰiɿ ɲaɿ
 1SG first DEM-time Hoddi go.1.PST when
reseihin gha qoq ki so remi
 ɹɿɿseɿhɿɿ qɑɿ tɕʰoɿ kʰiɿ soɿ ɹɿɿmiɿ
 road-walk-person COM accompany go.1.PST CONJ road
gholo ceisoni sei ssei
 qoɿloɿ tʂʰeɿsoɿ-niɿ seɿ seɿ.
 in thirteen-day walk PFV

Nge jowo teejo Hoddi ki nya, reseihin gha qoq ki so, remi gholo ceisoni sei ssei.

The first time I went to Hoddi, (I) went with horse caravans, so it took thirteen days to walk.

- (14) *aezi in so oni ddeezhae sei lae*
 æɿtswɿ-ɿɿ-soɿ oɿniɿ dwɿ-tʂæɿ seɿ læɿ?
 what-do-for this way one-time walk Q.RHET

Aezi in so oni ddeezhae sei lae?

So why (did it take) this (long) to walk?

(15) *murei nya ki so xieggi*
 mʊlʒeɪ ɲaɪ kʰiɪ soɪ ɕiɪ-giɪ.
 hot_season when go.1.PST CONJ rain-fall

Murei nya ki so, xieggi.

(We) went in summer, so it was raining.

(16) *uaq jjo reseihinlae gha qoq ki so*
 wɣɪ dʒoɪ ʒɣɪseɪhɪɪlæɪ qɑɪ tɕʰoɪ kʰiɪ soɪ
 also TOP road-walk-person-PL COM accompany go.1.PST CONJ

ddeeni gholo jjaq nee shaelee sei mewu
 dɯɪ-niɪ qoɪloɪ dʒɣɪ nɯɪ ʂæɪ-lɯɪ seɪ məɪ-ɸɯɪ.
 one-day in much ABL far-CL walk NEG-can

Uaq jjo, reseihinlae gha qoq ki so, ddeeni gholo jjaq nee shaelee sei mewu.
 Also, (we) went with horse caravans, so (we) couldn't walk very far in a day.

(17) *ddeekua ddeekua gholo teehan nya jjo*
 dɯɪ-kʰwɣɪ dɯɪ-kʰwɣɪ qoɪloɪ tʰɯɪ-hãɪ ɲaɪ dʒoɪ
 one-place one-place in DUR-stay overnight when TOP

reu qiq hee so reu shei bbi zo tu
 ʒɣɪ tɕʰɯɪ hɯɪ soɪ ʒɣɪ ʂeɪ biɪ tsoɪ tʰɯɪ.
 horse lose go.3.PST CONJ horse look for go have to go out

Ddeekua ddeekua gholo teehan nya jjo, reu qiq hee so, reu shei bbi zo tu.
 In place after place where (we) stayed overnight, the horses went (and) got lost, so (we) had to go out and look for them.

(18) *che nee jjo teeggi ddeeni bbi mewu*
 tʂʰɣɪ nɯɪ dʒoɪ tʰɯɪ-giɪ dɯɪ-niɪ biɪ məɪ-ɸɯɪ.
 then ABL TOP DEM-after one-day go NEG-can

Che nee jjo, teeggi ddeeni bbi mewu.

Then the next day (we) couldn't go (on).

(19) *Sipo wodo reu shei so jjo soni*
 swɿpʰoɿ ʋoɿtoɿ zɿɿ ʃeɿ soɿ dʒoɿ soɿ-niɿ
 Sipo mountain-top horse look for CONJ TOP three-day
teezzhei
 tʰɯɿɿdʒeɿ.
 DUR-delay

Sipo wodo reu shei so jjo, soni teezzhei.

Looking for the horses on Sipo mountain delayed (us) for three days.

(20) *reu leshei leddo ggi vu leji ki*
 zɿɿ læɿ-ʃeɿ læɿ-doɿ giɿ vɿɿ læɿ-tɕɯɿ kʰiɿ
 horse ACCOM-look for ACCOM-see after animal ACCOM-load go.1.PST
ddeeda nee ceisoni sei nee da Hoddi tu
 dɯɿtaɿ nɯɿ tsʰeɿsoɿ-niɿ seɿ nɯɿ taɿ hoɿdiɿ tʰɿɿ.
 altogether ABL thirteen-day walk ABL only Hoddi arrive

Reu leshei leddo ggi, vu leji ki, ddeeda nee ceisoni sei nee da Hoddi tu.

After finding the horses (we) loaded the animals up, altogether (we) walked for thirteen days before arriving at Hoddi.

(21) *ceisoni sei so nge numi gholo ji ruaeq niq*
 tsʰeɿsoɿ-niɿ seɿ soɿ ŋɿɿ niɿmiɿ qoɿloɿ tɕɯɿ zɯæɿ niɿ
 thirteen-day walk CONJ 1SG heart in anxious very CRS
ssei
 seɿ.
 PFV

Ceisoni sei so, nge numi gholo ji ruaeq niq ssei.

Because (we) walked for thirteen days, I was feeling very anxious.

(22) *tæ'er sohin zzhikee teetu*
 tʰæɿləɿ-soɿhɿɿ dzɯɿkʰɯɿ tʰɯɿ-tʰɿɿ.
 book-study-NOM time DUR-arrive

Tæ'er sohin zzhikee teetu.

The time for school to start had already come.

(23) *wodda shuddu nya jjo vu gha qoq nya*
 ʋoɫdaɫ ʃʊɫdʊɫ ɲaɫ dzoɫ ʋʊɫ qaɫ tɕʰoɫ ɲaɫ
 before think when TOP animal COM accompany when

remi gholo hon'ni sei da sei yi jamu
 ʒɤɫmiɫ qoɫloɫ hõɫ-niɫ seɫ taɫ seɫ jiɫ tɕaɫmʊɫ.
 road in eight-day walk only walk FUT reckon

Wodda shuddu nya jjo, vu gha qoq nya, remi gholo hon'ni sei da sei yi jamu.

Previously, when (I'd) thought about travelling with the animals, (I) reckoned (we'd) be walking on the road for only about eight days.

(24) *khani neu lae ceisoni sei teegua*
 qʰaɫniɫ nʏɫ læɫ tsʰeɫsoɫniɫ seɫ tʰuɫ-kwɤɫ.
 how know Q.RHET thirteen-day walk DUR-take (time)

Khani neu lae, ceisoni sei teegua?

How (was I to) know (we) would walk for thirteen days?

(25) *Hoddi tae'er sohin gholo baominghin bbi gge*
 hoɫdiɫ tʰæɫəɫ-soɫ-hĩɫ qoɫloɫ baoming-hĩɫ biɫ gɤɫ
 Hoddi book-study-NOM in sign up-NOM go EMPH.time

ddeezi daddi tee me'aecei mae.
 dʋɫ-tswɫ taɫ-diɫ tʰuɫ məɫ-æɫtsʰeɫ məɫ.
 one-bit only-NOM DUR NEG-attain EMPH

Hoddi tae'er sohin gholo baominghin bbi gge, ddeezi daddi tee me'aecei mae.

(I) only just made it in time to enrol for school in Hoddi.

Text 3: Fifth-Month Festival

Author: Xiong Yan 熊燕
From: *Wualabbi*

Name in Narua: *Eni Siggee Ddeema*
Date of writing: 2015

Naq bbu Ngualhimi
 Na POSS fifth-month

Naq bbu Ngualhimi

The Fifth-Month Festival of the Na (Mosuo)

摩梭人的端午节

(1) *Naq jjo Ngualhimi yi guq.*
 Na TOP fifth-month do HABIT

Naq jjo Ngualhimi yi guq.

Na celebrate the Fifth-Month Festival.

摩梭人会过端午节。

(2) *Naq bbu Ngualhimi la Hae bbu Ngualhimi jjo*
 Na TOP fifth-month and Han TOP fifth-month TOP

ddeebbae meze.

one-sort NEG-become

Naq bbu Ngualhimi la Hae bbu Ngualhimi jjo ddeebbae meze.

The Na Fifth-Month Festival is not the same as the Han Dragon Boat Festival.

摩梭人的端午节和汉族的不一样。

(3) *Naq bbu Ngualhimi jjo nya fu ruaeq.*
 Na POSS fifth-month TOP 1SG like very

Naq bbu Ngualhimi jjo nya fu ruaeq.

The Na Fifth-Month Festival, I really like (it).

摩梭人的端午节我很喜欢。

(4) *Nya jieq nya jjo, Ngualhimi wodda ddeeso nee jjo,*
 1SG small when TOP fifth-month before one-bit ABL TOP

zzhu teejie gha qoq sso, Ngualhimi bbebbe

friend DEM.PL COM accompany CONJ fifth-month flower

zzheq bbi guq.
pick go HABIT

Nya jieq nya jjo, Ngualhimi wodda ddeeso nee jjo, zzhu teejie gha qoq sso, Ngualhimi bbebbe zzheq bbi guq.

When I was young, a few (days) before the Fifth-Month Festival (I) would go with (my) friends to pick flowers for the festival.

我小的时候，端午节前几天我会跟小朋友一起去摘端午花。

(5) *Ngualhimi bbebbe zzheq ki jjo ruaeq fu.*
fifth-month flower pick went TOP very happy

Ngualhimi bbebbe zzheq ki jjo ruaeq fu.

(When I) went to pick Fifth-Month Festival flowers, (I) was very happy.

去摘端午花的时候就很高兴。

(6) *Ddi gho ddeeda gho Ngualhimi bbebbe nee lesheu,*
ground in all in fifth-month flower ABL ACCOM-full

shighuaghua ddeebbae la ddeebi hunzzhaezzhae ddeebbae
yellow one-sort and a-little red one-sort

jjo guq.
EXIST HABIT

Ddi gho ddeeda gho Ngualhimi bbebbe nee lesheu, shighuaghua ddeebbae la, ddeebi hunzzhaezzhae ddeebbae jjo guq.

All over the ground would be full of Fifth-Month Festival flowers, a yellow sort and a reddish sort.

遍地都是端午花，有黄色的一种和有点红色的一种。

(7) *Ngualhimi teeso jjo, awo ki gho latae*
fifth-month DEM-morning TOP home door in and-such

ddeeda gho Ngualhimi bbebbe teecua guq.
all in fifth-month flower DUR-poke HABIT

Ngualhimi teeso jjo, awo ki gho latae ddeeda gho Ngualhimi bbebbe teecua guq.

On the morning of Fifth Month Festival, (we) would poke the festival flowers into the doors of (our) houses and (places) like that.

端午节那天早上，家里的门呀，那些地方都会插上端午花。

- (8) *Sosso teejie jjo Ngualhimi bbebbe boq khumu leggu*
 child DEM-PL TOP fifth-month flower DAT hat ACCOM-make
sso cee guq, chobbu bi ddeewo yizhae gho zi guq.
 CONJ wear HABIT *chobbu* say one-sort waist in tie HABIT

Sosso teejie jjo Ngualhimi bbebbe boq khumu leggu sso cee guq, chobbu bi ddeewo yizhae gho zi guq.

Children make hats to wear out of Fifth-Month Festival flowers, (and they) would tie a sort of (reed) called *chobbu* [calamus] around (their) waists.

孩子们会用端午花做一个帽子戴在头上，有一种药材也会拴在腰上。

- (9) *Uaq, Naq damu jjo tee niq bi guq ziq:*
 also Mosuo proverb top DEM like say HABIT REP
"Ngualhimi teeni chobbu yizhae gho zi bi jjo,
 fifth-month DEM-day calamus waist in tie if TOP
yizhae ggoq lekhua guq" ziq.
 waist pain/sick ACCOM-heal HABIT REP

Uaq, Naq damu jjo tee niq bi guq ziq: "Ngualhimi teeni chobbu yizhae gho zi bi jjo, yizhae ggoq lekhua guq" ziq.

Also, there's a Na saying that goes: "If (you) tie calamus around (your) waist on Fifth-Month Festival, (your) backache will be healed."

摩梭人的谚语说：“端午节那天把药材拴在腰上，腰的病痛会有好转。”

- (10) *Tiq, axxi nee keerimae leja, keerimae gho chobbu*
 then granny ABL sulima ACCOM-boil sulima in calamus
leddadda teekee.
 ACCOM-cut-cut DUR-put

Tiq, axxi nee keerimae leja, keerimae gho chobbu leddadda teekee.

Then grandmothers make sulima [a yellow alcohol made of fermented grains], (then) put chopped up calamus into it.

然后，外婆做好苏里玛酒，酒里也放切碎的药材。

(11) *Ami nee ruaemi beye leggu, shei la*
 mother ABL many-shaped pancake ACCOM-make meat and
ha leja.
 rice/food ACCOM-boil

Ami nee ruaemi beye leggu, shei la ha leja.

Mothers make all different shaped pancakes, (and) cook meat and other dishes.

妈妈会做各种形状的饼，做好饭菜。

(12) *Tiq gua, teeni jjo, ddeeda apo jjabbu bbi guq,*
 then after DEM-day TOP all outside play go HABIT
lo yi megu.
 work do NEG-HABIT

Tiq gua, teeni jjo ddeeda apo jjabbu bbi guq, lo yi megu.

Afterwards, on that day everyone goes out to have fun, (and) doesn't do (any) work.

然后，那天所有人都会出去玩，不会干活。

(13) *Ngualhimi teezhae gho jjo, Naddi gho jjo ssi la*
 fifth-month DEM-time in TOP Na-place in TOP grass and
bbebbe latae nuxie ruaeq.
 flower and-such beautiful very

Ngualhimi teezhae gho jjo, Naddi gho jjo ssi la bbebbe latae nuxie ruaeq.

During the Fifth Month Festival period, the grass and flowers and such in Na places are very beautiful.

端午节那段时间，摩梭人居住的地方草和花都很漂亮。

(14) *Sohua nyasigu gi jjabbu bbi leyo!*
 later 1PL ALL play go ACCOM-come

Sohua nyasigu gi jjabbu bbi leyo!

Come and have fun with us some time!

以后欢迎你们来玩！

10. Issues for the Future

Despite many efforts towards its documentation and preservation, YN Narua remains a highly endangered language. Pressures come from without and from within. Since the arrival of electricity to Na homes over the last two decades, many families have had daily exposure to Mandarin Chinese via television and, now, via the internet; many Na villages, particularly those on the shores of Lugu Lake, have become booming domestic tourist destinations, making it necessary for Na hosts and tourism operators to speak Chinese in order to communicate with tourists and enhance their business potential; schools using Chinese as the medium of instruction now exist in most Na areas, and Chinese language kindergartens are beginning to appear in major towns in the area. In addition, many Na families are keen that their children do well at school and in Han Chinese society, in order to "get ahead" financially and in other ways. Not fully understanding the richness and benefits of bilingualism, these families encourage their children to fully enter the Han world, often to the detriment of their mother tongue proficiency. These children are also lured by the bright lights, prosperity and relative comfort of the outside world. Many marry into non-Na families, and their children in turn are being raised in essentially Mandarin language environments.

Resources exist that have the potential to help prevent the demise of YN Narua. These include the online dictionary and other online resources referred to in the introduction of this paper; the primer that has been drafted and used by small groups of native speakers; electronic communication devices that enable conversation, both oral and written, in YN Narua; and the small number of Na who are now literate or semi-literate in their mother tongue. Ultimately, though, it will be the Na themselves who decide - either proactively or by default - whether to make the huge effort required to ensure that their language survives into the future, or whether it will join the increasing number of "minority" languages that have succumbed to the pressures of "majority" languages such as Mandarin and English.

Naq muq, Naq sso, hra tu!

LIST OF ABBREVIATIONS

ABL	Ablative
ACCOM	Accomplished
ALL	Allative
ATTR	Attributive
CL	Classifier
COM	Comitative
CONJ	Conjunction
COP	Copula
CRS	Currently relevant state
DAT	Dative
DEM	Demonstrative
DUR	Durative
EMPH	Emphatic
EXIST	Existential verb
FAM	Family suffix
FUT	Future
HAB	Habitual
NEG	Negative
NOM	Nominaliser
PFV	Perfective
PL	Plural
POSS	Possessive
PST	Past
Q.RHET	Rhetorical question
REP	Reported evidential
SG	Singular
TOP	Topic

BIBLIOGRAPHY

- Dobbs, Roselle & Lǎ Míngqīng 喇明清. 2016. The two-level tonal system of Lataddi Narua. *Linguistics of the Tibeto-Burman Area* 39(1). 67-104.
- Hé Jírén 和即仁 & Jiāng Zhúyí 姜竹仪. 1985. 纳西语简志 [A Brief Outline of the Naxi Language]. Beijing: Nationalities Publishing House.
- Lidz, Liberty A. 2010. *A descriptive grammar of Yongning Na (Mosuo)*. Ph.D. dissertation, University of Texas at Austin. Available online at: <https://repositories.lib.utexas.edu/handle/2152/ETD-UT-2010-12-2643>
- Michaud, Alexis. 2008. Phonemic and tonal analysis of Yongning Na. *Cahiers de Linguistique Asie Orientale* 37(2).159–196. Available online at: <https://halshs.archives-ouvertes.fr/halshs-00358610>
- Michaud, Alexis. 2015. Phrasing, prominence, and morphotonology: How utterances are divided into tone groups in Yongning Na. *Bulletin of Chinese Linguistics* (8). 112–152.
- Michaud, Alexis. 2017. *Tone in Yongning Na: Lexical tones and morphology* (Studies in Diversity Languages 13). Berlin: Language Science Press. Available online at: <http://langsci-press.org/catalog/book/109>
- Michaud, Alexis & Dashi Latami. 2011. A description of endangered phonemic oppositions in Mosuo (Yongning Na). In Tjeerd De Graaf, Xu Shixuan & Cecilia Brassett (eds.), *Issues of language endangerment*, 55–71. Beijing 北京: Intellectual Property Publishing House 知识产权出版社.
- Pinson, Thomas M. (ed.) 2012. *A Naxi-Chinese-English Dictionary (Naqxi-Habaq-Yiyu Ceeqdiai 纳西汉英词典)*. Kunming: Yunnan Nationalities Publishing House. Available online at: <https://naxi.webonary.org/?lang=en>
- Seifart, Frank. 2006. Orthography development. *Essentials of language documentation*, ed. Jost Gippert, Nikolaus P. Himmelmann and Ulrike Mosel. Trends in Linguistics. Studies and Monographs 178. Berlin: Mouton de Gruyter. 275-299.
- Snider, Keith L. 2018. *Tone Analysis for Field Linguists*. Texas: SIL International Publications.