Review of *A Dictionary of the Northern Dialect of Lisu (China and Southeast Asia)*[1]

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This review has its genesis in the Sino-Tibetan Etymological Dictionary and Thesaurus (STEDT) project currently underway under the direction of James Matisoff at UC Berkeley. The project continues to add new source materials on Tibeto-Burman languages to its burgeoning database of lexical items. When David Bradley, of La Trobe University, Melbourne, graciously sent the STEDT project a copy of his newly-published dictionary, as well as the original computer files, it fell to me to prepare the data for inclusion in the STEDT database.

In order to facilitate comparative work, a decision was made to first convert the Lisu forms from the non-phonetic romanization used in the dictionary into a transcription based on the International Phonetic Alphabet [IPA]. This little "side project" ended up lasting several months, during which time I became quite familiar with both the format and content of the dictionary. In addition to evaluating the merits of the dictionary, I will spend some time in this review describing the process by which the conversion was undertaken. I have no particular expertise on Lisu or Loloish languages, so my perspective will be that of the informed layman.

I. Introduction

There are approximately 900,000 speakers of Lisu, a Tibeto-Burman [TB] language spoken primarily in southwest China, Burma, and Thailand.[2] Lisu is a member of the Central Loloish subgroup of the Lolo-Burmese [LB] subfamily of TB, closely related to Lahu, Axi, and Nyi. Despite the large number of speakers and the importance of the language for LB studies, and the century-long familiarity of western scholars and missionaries with the Lisu people, until recently no comprehensive dictionary of the Lisu language had ever been available. Wordlists have been published since the late nineteenth century; the most extensive lexical source, still widely used today, is the wordlist in James Fraser's excellent 1922 linguistic study. Although recorded with careful attention to detail (including accurate tone transcriptions), the list is by no

means comprehensive. It also records only the Central dialect, rather than the more widely spoken Northern standard dialect.

The glaring gap in reliable data on the Lisu language was finally filled in 1985 with the publication of a Lisu-Chinese dictionary edited by Xu Lin, Mu Yuzhang et al. The dictionary primarily records the Northern dialect, spoken by nearly three-quarters of Lisu speakers. The standard is based on the speech of the Nujiang Lisu Nationality Autonomous Prefecture, which hugs the Burmese border in the northwestern corner of Yunnan Province, China. Unfortunately, this dictionary has not been widely available to the international community of linguists. Bradley (1994), the publication under review here, is both a translation and revision of that 1985 work. I have not had access to Xu, Mu et al. (1985) so am unable to make any direct comparison to Bradley (1994).

In preparing his version of the dictionary, Bradley revised the order of entries, expanded many definitions, made some modifications to the Lisu orthography, and added a brief English-Lisu glossary.[3]

II. The Dictionary

The dictionary has been published in a smart olive-green softcover volume as Pacific Linguistics C-126 (Australian National University), and is conveniently sized at 257 pages. A seven-page introduction provides, along with an outline of the history of Lisu linguistic studies, an extremely brief overview of the syntax, phonology and orthography of Lisu. A one-page bibliography providing references for further reading on these subjects is appended.

The Lisu-English portion of the dictionary follows the introduction, containing approximately 10,500 lexical items and a fair number of example sentences laid out in two columns over 208 pages. (By comparison, Fraser (1922) contains about 2,000 entries.) Subentries containing the same first morpheme(s) are arranged under a single head entry; the head entries themselves are in English alphabetical order according to the Lisu orthography. Just over 600 of the entries include a Central dialect form, presented in square brackets following the Northern form. Chinese borrowings, generally confined to the realms of government, politics, and new technology, are clearly indicated. Form classes are marked for head entries; non-standard dialectal forms and elaborate four-syllable expressions are also clearly marked.

Despite the fairly large size of the dictionary, it is possible to find lexical items in example sentences that are not listed as entries in the dictionary--how indicative this may be of serious abridgment is difficult to determine. For example, on page 142 under the head entry **niq** 'heart', we find the example

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[3] Ibid.

sentence **Aishit mit yei lil niq hainq miahainq yei chi nga** 'Whatever you do, you should have the initiative to do well'. Neither **hainq** nor **miahainq** are listed as entires in the body of the dictionary.

The English-Lisu glossary is forty-five pages long, and is simply a reversal of the head entries of the Lisu-English portion (excluding Chinese borrowings). Because a large proportion of basic English vocabulary items appear in the Lisu-English section as subentry glosses rather than head entry glosses, this glossary is seriously deficient. Many basic items cannot be found. For example, in the main dictionary we find **qini** 'toe' as a subentry under **qi** 'foot'; because it is not a head entry, 'toe' is not contained in the English-Lisu glossary.

With its large, clear typeface and consistent use of bolding for all Lisu forms, the dictionary is extremely readable and easy to use.

III. The Orthography

The orthography now in use for transcribing Lisu in China is known as "the new Lisu script". It was devised by mainland Chinese linguists and exhibits some obvious parallels to the *pinyin* system used for transcribing Mandarin Chinese.[4] Unfortunately, this script, although perfectly practical for reading and writing Lisu, is inadequate as a phonological transcription. In using the dictionary, the difficulty for the phonologist is compounded by Bradley's introductory explanation of the script, which is telegraphic to a fault, plagued by typographic errors, and occasionally misleading.

The phonetic correspondence charts below are adapted from Bradley's introduction, but have been modified to reflect new information supplied by Bradley (p.c. 1995) and new insights gleaned from a careful inspection of the dictionary entries themselves. (In running Lisu text, ambiguous syllable boundaries are clarified by the insertion of an apostrophe as a boundary symbol.)

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[4] For example, anyone familiar with *pinyin* romanization will recognize the use of **j,q, x** for the palatal series and **e** for the mid back unrounded vowel.

CONSONANTS:

IPA value

	bilabial	alveolar		palato-alveolar	palatal	velar	glottal
vl unaspirated	p	t	ts	tʃ	tɕ	k	ʔ
vl aspirated	ph	th	tsh	tʃh	tɕh	kh	
voiced	b	d	dz	dʒ	dʑ	g	
vl fricative	f		s	ʃ	ɕ	x	h
vd fricative	v		z	ʒ	ʐ (~ j)	ɣ	
nasal	m	n			ɲ	ŋ	ɦ
approximant	w	l	ɹ		j (~ ʐ)		

NEW LISU SCRIPT representation

	bilabial	alveolar		palato-alveolar	palatal	velar	glottal
vl unaspirated	b	d	z	zh	j	g	Ø
vl aspirated	p	t	c	ch	q	k	
voiced	bb	dd	zz	rr	jj	gg	
vl fricative	f		s	sh	x[5]	h	h
vd fricative	v		ss	r[6]	y	e(o/a)	
nasal	m	n			ni	ng	h-n[7]
approximant	w	l	r		e(i)		

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[5] There is a typographic error here at the bottom of p. viii, where this symbol is incorrectly given as **sh**.

[6] **r** represents [ʒ] before i and [ɹ] elsewhere.

[7] **n** can also indicate nasalization when appearing at the end of a zero-initial (i.e. glottal-stop initial) syllable.

VOWELS:

IPA value				*NEW LISU SCRIPT representation*		
i,ɿ[8]	y	ɯ	u	i	u̲	e̲ u
e	ø	ɤ	ɔ	ei	e̲i̲	e o
	æ	a		ai	a	

ja	ia
wa	ua
jø	i̲e̲i̲[9]

TONES:

IPA value	*NEW LISU SCRIPT representation*
55	-l
44	-x
33	(none)
21	-t
35	-q
ʔ21	-ɾ

One of Bradley's most significant revisions to Xu, Mu et al. (1985) was a modification of the new Lisu script. As he points out in the introduction, the script is deficient, from a phonological point of view, in several respects:

- It fails to distinguish between [x] and [h], writing both as **h**.
- It fails to distinguish between [ni] and [ɲi], writing both as **ni**.
- It fails to distinguish between [u] and [y], writing both as **u**.
- It fails to distinguish between [e] and [ø], writing both as **ei**.
- It fails to distinguish between [ɤ] and [ɯ], writing both as **e**.

In all of these cases the distinctions are marginal, in that they carry a very light functional load. Since Xu, Mu et al. (1985) is faithful to the new Lisu script, it also fails to make these distinctions. In the first case Bradley did not make any changes; in the second case, however, he rewrote some syllables as

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[8] ɿ represents [ɿ] after **zh**, **ch**, **rr**, **sh**, **r** and [i] elsewhere. Bradley writes [ʐ] rather than [ɿ] in his introduction, but I have here adopted the less awkward symbol [ɿ] in accordance with Bradley's personal communications.

[9] [jø] occurs only in Central dialect forms.

nyi to represent [ɲi].[10] In the last three cases, Bradley underlined the vowels **u**, **ei**, and **e** to represent [y], [ø], [ɯ][11].

(As for the [x]/[h] distinction, my own cursory comparison with other Lisu sources suggests that these phones are in complementary distribution, with [x] occurring only before [a].)

These changes are certainly welcome. Unfortunately this retranscrip-tion has been done sloppily. While head entries in the dictionary are generally correct, underlining is often missing (and occasionally extraneously added!) in subentries and example sentences. It is very important that users of the dictionary check forms carefully against head entry listings before citing them. Any occurrence of **e**, **u**, or **ei** is potentially suspect! A further inconsistency was revealed to me by Bradley (p.c. 1995): "... most Northern speakers lack the [e] versus [ø] contrast distinguished by **ei** versus **ei** in the dictionary; but all have the [ɤ] versus [ɯ] contrast distinguished by **e** versus **e**. This is therefore a problem with the orthography. [y] is very marginal even in those dialects which have it ...." In other words, at least one of the distinctions added by Bradley is not actually present in the standard Northern dialect.

IV. The Conversion

Two brief examples will suffice to illustrate the difficulties of the new Lisu orthography for the comparative phonologist. The seemingly consonant-rich term for 'termite', **bbaithaint**, is actually read [bæ²¹ hæ̃²¹]. The honorable phrase [li³³ su³³ ɲ²¹] 'Lisu nationality' becomes, alarmingly, **Lisushit**.

I wrote a program in MaxSpitbol (a computer program well suited to text-handling tasks) in order to effect the conversion into IPA according to the correspondences listed above. The program first had to divide Lisu text into separate syllables; because some of the letters which represent tone in the new Lisu script are also used to represent initial consonants, a prerequisite for this task was the deduction of certain phonotactic restrictions. For example, **i** and **u** cannot occur syllable-initially, thus disambiguating forms like **hornio** 'pliers'. As a second example, only syllables written with initial **h-** or zero can have vowel nasalization indicated by **-n**; thus **cana** 'meteor' and only be **ca-na**, not **can-a**.

Once individual syllables had been extracted, the initial consonant, vowel, and tone were converted according to a list of rules (such as **bb-** > b-; **-ai-** > -æ-; **-t** > ²¹). These rules had to be context-sensitive, however. Consider the symbol **e**, which may have up to six different meanings in the script: it can represent initial [j] or [ɤ], either of the back vowels [ɤ] and [ɯ], or serve as one

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[10] As it turns out, this distinction is only maintained in the Central dialect. There has been a complete merger in the Northern dialect.

[11] Thus underlining can symbolize three different features: fronting, rounding, and raising!

member of a digraph representing [e] or [ø]. In some cases, there seemed to be unresolvable ambiguities. For example, it was not clear whether the sequence **ru** should represent [ɹu], [ʒu], or perhaps either one depending on the particular lexical item; or similarly, whether **ri** should represent [ʒi] or [ɹi]. These problems were cleared up by personal communication from Bradley.

After the rules were implemented and the program was run on the computer files Bradley had provided, not only was the conversion effected (in under an hour), but ambiguous and incorrect transcriptions were quickly identified. An unforeseen benefit of the conversion program was that it could serve as an error-checker, uncovering typographic errors that would have taken weeks to discover by hand.

Any Lisu form that could not be successfully converted by the program was considered suspect. In some cases this was because of a genuine typographic error; in others, because legitimate forms were not adequately described in the introduction, on which I based my conversion rules. For example, in addition to the Lisu vowels listed on p. ix, there are a large number of diphthongs and triphthongs that appear only in Chinese loanwords and are represented in the new Lisu script by such forms as **ao, ou, iai, ui**. Bradley makes no mention of these vowels in his introduction; in most cases, it appears that the transcriptions are based on *pinyin* romanization, so that for example **ui** represents [wei].[12] The program was modified to deal with these and other legitimate forms.

Once it became clear that there were a small but significant number of typographic errors in the dictionary, I modified the program once more to automatically compare all converted subentries to their converted head entry. Whenever a subentry was detected that did not contain the morphemes of its head entry, this was flagged as a potential typographic error. The most common types of error discovered in this way were incorrect underlining of vowels and underuse of the apostrophe syllable divider. For example, **co**

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[12] Because of their similarity to *pinyin* transcriptions, I have assumed that they represent similar phonetic values, although I have no idea how these sounds have actually been incorporated into the Lisu phonological system—especially considering that the Chinese speakers with whom the Lisu have the most contact speak a non-standard southwestern dialect of Mandarin. An admittedly cursory scan of borrowed terms, and a comparison with the Chinese originals, suggests the following correspondences:

New Lisu script	Mandarin (*pinyin*) source	Presumed value in Lisu
ao	ao	/au/
ou	ou	/ou/
ui	ui, ue, uan, un	/wei/
io	iu	/jou/
iai	ian	/jæ/
uai	uai, uan	/wæ/
iao	iao	/jau/

'person' was converted to [tshɔ^{33}], while its subentry **colail** 'young person' was converted to [tshɔ^{55}æ^{55}]. Since the head entry [tshɔ^{33}] was not a constituent of the subentry [tshɔ^{55}æ^{55}], this was flagged as an error, and **colail** was subsequently corrected to **co'lail**.

Through repeated iterations of this sort, errors in the dictionary were detected and (following confirmation by Bradley through personal communication) corrected, and the conversion program was fine-tuned. After a while I was able to produce a complete IPA version of both the Lisu-English and English-Lisu portions of the dictionary.

The figure below illustrates briefly the original form of the dictionary and the converted result.

Original (from Bradley, p. 15):

bbaithaint *N* termite

bbaithaint alnat	white ants
bbaithaintlox	'black-charcoal-stick-fungus' (fungus which grows on the nests of termites)
bbaithaintm<u>u</u>	*collybia albuminosa* (fungus, speciality in Yunnan)
bbaithaintnai	flying ant
bbaithaintnai	*collybia albuminosa* (big ones)

Converted:

bæ^{21}hæ̃^{21} *N* termite

bæ^{21}hæ̃^{21} ʔa^{55}na^{21}	white ants
bæ^{21}hæ̃^{21}lɔ^{44}	'black-charcoal-stick-fungus' (fungus which grows on the nests of termites)
bæ^{21}hæ̃^{21}my^{33}	*collybia albuminosa* (fungus, speciality in Yunnan)
bæ^{21}hæ̃^{21}næ^{33}	flying ant
bæ^{21}hæ̃^{21}næ^{33}	*collybia albuminosa* (big ones)

V. Conclusion

Bradley's Lisu dictionary is an invaluable addition to the library of any Tibeto-Burmanist; the wealth of data it provides opens up a vast terrain of new opportunities, particularly in comparative Loloish studies. For the serious phonologist who is not already familiar with the new Lisu script, the

dictionary's orthography presents an annoyance, but one that is not insurmountable.

Hopefully in the near future we will have a revised edition that includes:

- An expanded and corrected introduction, with more detailed phonological information;
- IPA transcriptions for Lisu forms;
- a complete English-Lisu glossary based on a reversal of the full Lisu-English section;
- rectification of vowel underlining in subentries.

With the computational tools now available, all of these revisions would be relatively simple to implement.

Appendix I: Errata and Corrigenda
(This list makes no claim to completeness.)

Introduction:

Page (Line):	Original:	Correct to:
viii (line 23)	r	ɹ
viii (line 25)	medial /i/	medial /w/
viii (line 35)	sh	x

Lisu-English:

Page (Col:Line):	Original:	Correct to:	
6 (1:28)	Lisushit it	Lisushit tit	
10 (1:22)	atggpo	atggox	
10 (2:11)	loqyei hang	loqyei haq	
12 (1:3)	balei	ba'lei	
12 (1:7)	baleirla	ba'leirla	
13 (1:10)	sixa	si'xa	
14 (1:25)	Bbaiceq hang	Bbaiceq hanq	
15 (1:25)	bbaineil	bbairneil	
17 (1:9)	bbaeddal	bbeddal	
18 (2:6)	bbeqpatt	bbeqpat	
19 (2:10)	bbaithaqsit	bbiathaqsit	
23 (1:2)	jilhang nga	jilhanq nga	
23 (2:28)	bioxaig	biohaiq	
29 (1:37)	chizzax'lattzzi	chizzaxlatzzi	(2)[13]
30 (2:29)	laiqsssar	laiqssar	
31 (1:-9)	codil wattssat	codil wattssat	
32 (1:6)	colail	co'lail	
37 (1:13)	Daqlirrix	Daqli'rrix	
39 (2:14)	dderdder maiq malq	dderdder maiq maiq	
44 (1:1)	Diaqqiqhuaq	Diaiqqiqhuaq	
50 (1:3)	Eilbet ketge.	Eilbbet ketge.	
51 (1:28)	[eildil mieityeisu]	[eildil mie̲i̲tyeisu]	
58 (1:-3)	coqhang	coqhanq	
73 (1:-8)	goddeit	godd̲e̲i̲t	
76 (2:4)	qaiajjer	qaiqjjer	
81 (2:29)	he̲i̲nleiku	he̲i̲n'leiku	
86 (1:-10)	sitloh nga	sitlo nga	

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[13] Most of the words listed have just one error, but where there is more than one error being corrected the number of errors is indicated in parentheses.

88 (2:6)	hunlasu	hun'lasu	
90 (1:21)	jairbaq jaitdder	jaitbaq jaitdder	
90 (2:17)	titieq	titjeq	
91 (2:-2)	jilddulo	jilddu'lo	
92 (2:-1)	jjailei	jjai'lei	
93 (1:1)	jjailei	jjai'lei	
93 (1:16)	Jjaigolddu	Jjaiq'olddu̱	(3)
96 (1:21)	jjuaglar	jjuaqlar	
96 (1:-7)	jo'lolo	jo'lo'lo	
96 (1:-6)	jololo gua	jo'lo'lo gua	
100 (2:-6)	ketsetjua	ketsetjua	
100 (2:-4)	ketsetzzi	ketsetzzi	
101 (2:-3)	Bbacit itt koq	Bbacit tit koq	
102 (1:18)	korlshirhuat	korshirhuat	
106 (2:9)	liarjolgua	lairjolgua	
108 (1:-4)	laitzal qizlasu	laitzal qizalsu	
111 (2:-2)	La lexlei wa	La lexyei wa	
118 (2:23)	leiqyeio	leiqyei	(2)
118 (2:29)	maillaillpat	maillailpat	
118 (2:30)	maillsseit	mailsseit	
118 (2:32)	mailvu̱lail	mailvu̱'lail	
120 (1:20)	sixa	si'xa	
121 (2:-10)	matshi mastsail	matshi matsail	
122 (2:32)	mer'rrut	me'rrut	
123 (1:29)	meldalo	melda'lo	
123 (2:-12)	metbe̱lei	metbe̱'lei	
126 (1:6)	miqkit	miakit	
126 (1:31)	miaszi	miazi	
128 (2:20)	mitshu gaiget	mitzhu gaiget	
129 (2:-10)	morkorsu	motkorsu	
131 (2:12)	mutkutthet	mutkuthet	
132 (2:-12)	naidderlei	naidderlei	
133 (1:-10)	naikutgua	nailkutgua	
139 (1:14)	nguialcoq	ngualcoq	
142 (2:-5)	miahaing	miahainq	
149 (2:15)	ollhe̱inq	olhe̱inq	
158 (1:-5)	pulleissar	pu'leissar	
162 (1:-12)	qirrut	qi'rrut	
162 (1:-4)	qitono	qi'tono	
162 (2:3)	qixol	qi'xol	
175 (1:-9)	niqqqir	niqchir	
176 (2:17)	seitleit	sitleit	
185 (1:4)	yiglur	yiqlu̱r	(2)

190 (2:2)	**Nu sellei wair?**	**Nu sellei wai?**
193 (1:11)	**xaixai ggarggar**	**xai'xai ggarggar**
193 (1:12)	**xaixaiq**	**xai'xaiq**
193 (1:13)	**xaixaiqssar**	**xai'xaiqssar**
193 (1:15)	**xaliq**	**xaijiq**
204 (1:17)	**zhilxhirniaq**	**zhilchirniaq**
204 (2:-2)	**Qaiqvei lo'tu.**	**Qaiqvei lo'tu zhul.**
204 (2:14)	**Zhou Enlait**	**Zhou En'lait**
205 (1:10)	**Cossat zila**	**Cossat zi'la**
208 (1:29)	**Haind nei zzeir**	**Hainq nei zzeir**
208 (1:-6)	**zze͟ipu**	**zze͟ixpu**
209 (1:4)	**zzil ssat ssil gal**	**zzil ssat zzil gal**

Other changes:
• Move subentry **jjax laitho** 'help each other' from under **jjaxla** *V* 'permeate' to under **jjax** *N* 'help'. (pp. 93-94)
• Move subentries **oldd͟ut** 'zibet; fox' and **Oldd͟ut ddotmai** 'Song of Dream' from under **olddu** *N* 'head; skull' to function as individual head entries. (p. 149)
• Move subentry **ssatmail** 'adopted son; foster son' from under **ssatma** *N* 'friend (between girls)' to function as an individual head entry. (p. 178)
• Move subentries **xai'lei** 'clear' and **Eijjai ma xai'lei wa.** 'Water has become clear.' from under **xail** *V* (dialect) 'play' to under **xai** *V* 'clean'. (p. 193)

English-Lisu:

Entry:	*Original:*	*Correct to:*
cause	**eiliei**	**eiljei**
chaotic	**ollhe͟inq**	**olhe͟inq**
cuckoo, large	**gag**	**gaq**
dance	**zzuxx**	**zzux**
descendants	**laiqsssar**	**laiqssar**
exercise	**nu͟g**	**nu͟q**
gadfly	**maillsseit**	**mailsseit**
inheritor	**qizlasu**	**qizalsu**
lazy	**lazy**	**bbux**
low	**e͟in**	**e͟in**
mixed	**ollhe͟inq**	**olhe͟inq**
other people (m)	**bbeqpatt**	**bbeqpat**
plan	**kat**	**kat; ze͟ir**
successor	**qizlasu**	**qizalsu**
sunbird	**zhilxhirniaq**	**zhilchirniaq**
very full	**zzuxzzug**	**zzuxzzuq**
wither	**goshil sier**	**goshil seir**

Appendix II: Comparison with Fraser

The chart below compares the orthography used for Central Lisu in Fraser (1922) with that used for Northern Lisu in Bradley (1994). Bear in mind that this is only an orthographic correspondence; no phonetic identity is implied.

Fraser 1922	New Lisu script	Fraser 1922	New Lisu script
b	bb	y	y/i
p	b	h	h
hp	p	h'	h-n
d	dd	hh	h
t	d	v	v
ht	t	a	a
g	gg	á	ai
k	g	-yá	-ia
hk	k	ye	e
j	jj/rr	ē	e̱
ch	j/zh	i	i̱
hch	q/ch	ï	i
dz	zz	aw	o
ts	z	u	u
hts	c	ū	u̱
m	m	-rgh, -rghe	ɤ
n	n	rgh-	ɣ
l	l	[1]	-l
s	s	[2]	-q
r	r	[3]	(none)
ng	ng	[4]	-x
sh	x/sh	[5]	-t
w	w/u	[6]	-r

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