LISU AND PROTO LOLO-BURMESE*

BY

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Synopsis: This paper outlines the relationship between Lisu and proto-Lolo-Burmes. Lisu evidence results in modification of the reconstruction schemas found in the literature for Lolo-Burmes proto prefixes, tones, and rhymes. On the basis of Written Burmes, Lahu, Lisu, and Akha complete reconstructions, particularly with reference to open rhymes, are given in an appendix. With Lolo-Burmeses reconstruction still in its infancy, Lisu data provides valuable evidence for tones, prefixes, dental versus palatal affricates, and rhymes. Three Lisu developments are particularly interesting from the viewpoint of general sound change: the effect of various proto prefixes on the tone height of proto checked syllables, the change of the *-oy rhyme to -u under a specific set of conditions, and the conditioning factors underlying the *-ak to -ae and -a change.

0.0 Introduction

One major thrust of this paper is an examination of the evidence which Lisu offers for the reconstruction of proto Lolo-Burmes; the other major focus is the delineation of the regular correspondences between the proto Lolo-Burmes phonological system and the modern Lisu phonological system.

Lisu data results in modifications of the reconstruction schemas found in the literature with regard to prefixes, tones, and rhymes. In addition, with Lolo-Burmes reconstruction still in its infancy, Lisu provides useful evidence for the voicing of initials and dental versus palatal affricates. Because a number of reliable Lisu sources exist, an outline of correspondences is very useful for further comparative work.

* I wish to thank Julian K. Wheatley for his translation of the anonymous grammar from Chinese. I also want to thank James A. Matisoff and Paul K. Benedict for their criticisms and help.

1 The most prominent attempts at total or partial Lolo-Burmes reconstruction are: Burling, Prolo-Lolo-Burmes, (The Hague, 1967); Matisoff, The Lolo-Burmes Tonal Split Revisited, (Berkeley, 1972); Shafer, Introduction to Sino-Tibetan, (Wiessaden, 1960); and Nishida's work cited in footnote 2.

Examination of the data also reveals a number of sound changes which are interesting in their own right. Three Lisu developments are particularly intriguing from this viewpoint: the effect of various prefixes on the tone height of proto-checked syllables, the change of the *-øy rhyme to -u under a specific set of conditions, and the conditioning factors underlying the *-ak to -ə̆^3 and -a split. Less unusual but still interesting are the various conditioned reflexes among both the sibilants and the resonants.

The reconstructions offered in this paper are based on Lisu data from Anonymous (1959), Burling (1967), Fraser (1922), and Hope (1972).4 The source of a particular citation is noted by the letter following the abbreviation of the language name. The majority of forms compared are from Written Burmese,5 Lahu,6 and Akha7 although occasionally a form from another language appears. The Written Burmese represents the Burmish side of Lolo-Burmese while the Lisu, Lahu, and Akha are all Loloish languages. The study is divided into prefixes, tones, initials, and rhymes. Prefixes and tones often are discussed in conjunction since their Lolo-Burmese histories are so inextricably interwoven.

1.0 Lolo-Burmese Prefixes

Although their morphological function is still somewhat poorly understood, prefixes play a crucial and central role in Tibeto-Burman and thus Lolo-Burmese historical phonology. Fossilized

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4 For an acoustic explanation of this sound change see Thurgood and Javickin (1975).
5 The Lisu forms from the above work are cited in the original notation but a comparative chart is given at the end of this paper.
6 The major source of forms is Paul K. Benedict’s Rhyming Dictionary of Written Burmese (1976) (compiled about 1941).
7 The source of Lahu forms is Matlof’s English-Lahu dictionary (forthcoming).
8 The major source of Akha forms is Paul Lewis’ Akha-English Dictionary, Data paper No. 70, Southeast Asia Program, Cornell University, Ithaca, N.Y.
remnants of the old system of prefixes can still be seen in Written Tibetan, but Lolo-Burmese retains little overt evidence of the prefixal system that once existed in earlier stages of Tibeto-Burman (TB) and Lolo-Burmese. At most Lolo-Burmese preserves overt evidence of four prefixes. The TB *a- nominalizer is found in *a-, *aŋ, and *ak- variants. The Lu-chüan homorganic nasal which appears before certain stops appears to be a remnant of the *m- prefix. And the Akha k’a, and sha, are overt retentions of the *k- velar animal prefix and the *sə- ‘flesh’ prefix. Aside from these, there is little overt preservation of the older prefixes in modern Lolo-Burmese languages.

However due to fossil forms and the systematic effects of former prefixes on tones and the manner of root-initial consonants, a number of prefixes can be reliably recovered at the Lolo-Burmese level. Besides the *a- and its variants, the *k- animal prefix, and the *sə- ‘flesh’ prefix, the *m-, *s-, *b- and *r- prefixes can be recovered. In addition tonal evidence also exists for *b-, *r-, *d-, and *g- as well as *aŋ- which all had the effect of lowering forms with voiceless initial consonants from the anticipated high-checked class into the low-checked class.⁸

1.1. Fossil forms. Fossil evidence exists for a number of prefixes. Due to extremely favorable phonetic environments prefixes are retained sporadically as root-initial consonants in a number of roots. Sometimes the prefix has been treated as a root-initial member of a cluster. Clear examples of this come from Written Burmese:⁹

| *r-wa¹ | 'rain' | rwa  |
| *k-r-wat | 'leech' | krwat |
| *s-wa¹ | 'tooth' | swa  |
| *k-rak | 'chicken' | krak |
| *k-ruŋ¹ | 'cat' | kroŋ |

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⁸ No specific evidence exists in Lolo-Burmese for reconstructing an *l- prefix and, in fact, it is doubtful that *l- was ever a widespread Tibeto-Burman prefix.
⁹ Initial clusters have undergone simplification throughout Loloish. Some languages still preserve -y- clusters and Bisu has -l- clusters, but in most instances such clusters have disappeared. Fortunately, such clusters still exist in Written Burmese making it possible for prefix to be interpreted as the initial member of a cluster.
Another type of fossil form results from pre-emption of the root-initial by a prefix. Again, it only happens—with one or two exceptions—under favorable phonetic conditions. Specifically, the root initial must a a resonant—an $r$, $l$, $y$, or $w$-. Examples can be found throughout Lolo-Burmese.\footnote{This example of pre-emption involves two stages. First, the $yi$- combination of Written Burmese is treated as if it were just an initial vowel; thus, \textit{\^{s}}yip 'sleep' > WB \textit{\^{t}}ip and \textit{\^{s}}yim \textit{\^{t}}ouse' > WB \textit{\^{t}}im. This is somewhat parallel to modern Mandarin where there is no contrast between \textit{l}/\textit{yi} or \textit{u}/\textit{wu}. Next, the \textit{\^{s}}s- prefix of \textit{\^{s}}s-yip 'cause to sleep' is treated as the syllable initial consonant.}

\begin{samepage}
\begin{tabular}{ll}
\textit{\^{s}}m-lum$^2$ & 'warm' \hspace{1cm} Sani $mi$ \textit{\^{s}}5
\textit{\^{s}}m-lay$^1$ & 'field' \hspace{1cm} Sani $mi$ \textit{\^{s}}44
\textit{\^{s}}s-dza$^2$ & 'feed' \hspace{1cm} Akha $sha$
\textit{\^{s}}m-lyak & 'flick' \hspace{1cm} Akha $myeu$, Bisu\textsuperscript{13} $b\acute{e}$
\textit{\^{s}}b-lay$^2$ & 'four' \hspace{1cm} Maru\textsuperscript{13} $bit$
\textit{\^{s}}s-rak & 'shameful' \hspace{1cm} Lisu $s\acute{a}$
\textit{\^{s}}s-rn$^2$ & 'poor' \hspace{1cm} Lisu $sw\acute{a}$
\textit{\^{s}}m-lay$^2$ & 'penis' \hspace{1cm} Atsi $n\acute{y}i$ Maru $n\acute{y}i$ Lahu $ni$
\end{tabular}
\end{samepage}

This is only a partial listing of the fossil forms which can be found throughout Lolo-Burmese. In such forms we find overt evidence of the \textit{\^{s}}k-, \textit{\^{s}}r-, \textit{\^{s}}s-, \textit{\^{s}}m-, and \textit{\^{s}}b- prefixes.

\textbf{1.2. The \textit{\^{s}}s- prefix.}\footnote{The reconstructions given here are PLB.} This prefix, a reduced form of TB \textit{\^{s}}sy\textit{a} 'flesh, animal',\footnote{The \textit{\^{b}}- initial in Bisu is a regular reflex of an older \textit{\^{s}}m-.} appears as a body part prefix in some languages and as an animal prefix in others.\footnote{For the final \textit{-t}, see Burling (1966).} For general Tibeto-Burman, Benedict (1972) reconstructs the following TB roots with this

\begin{samepage}
\begin{tabular}{ll}
\textit{\^{s}}m-lum$^2$ & 'cause to$^{10}$ \textit{\^{s}}ip
\textit{\^{s}}m-lay$^1$ & 'field'
\textit{\^{s}}s-dza$^2$ & 'feed'
\textit{\^{s}}m-lyak & 'flick'
\textit{\^{s}}b-lay$^2$ & 'four'
\textit{\^{s}}s-rak & 'shameful'
\textit{\^{s}}s-rn$^2$ & 'poor'
\textit{\^{s}}m-lay$^2$ & 'penis'
\end{tabular}
\end{samepage}
prefix: *s-kra 'hair' (STC #115), *s-lay 'tongue' (STC #281), *s-nap 'snot' (STC #102), *s-na.r~*s-na 'nose' (STC #101), *s-nij 'heart' (*s-nik in PLB) (STC #367), *s-hwiy 'blood' (STC #222), and numerous others. In addition to its appearance in the above reconstructed forms, the *s-prefix is found in a broad range of languages in several of the Tibeto-Burman subgroups. Lushai, a Central Kuki language, regularly prefixes sa- 'animal' to the words for animals (Benedict, 1972: 107):

\[
\text{Lushai} \\
\begin{align*}
\text{sa-kei} & \quad \text{'tiger'} \\
\text{sa-va} & \quad \text{'bird'} \\
\text{sa-vom} & \quad \text{'bear'} \\
\text{sa-hja} & \quad \text{'fish'} \\
\text{sa-hram} & \quad \text{'otter'}
\end{align*}
\]

Akha, a Lolo-Burmese language, regularly prefixes shaₜ to words for parts of the body:¹⁷

\[
\text{Akha} \\
\begin{align*}
\text{shaₜ zaw} & \quad \text{'lymph gland'} \\
\text{shaₜ yoe} & \quad \text{'bone'} \\
\text{shaₜ tsah} & \quad \text{'liver'} \\
\text{shaₜ tsu} & \quad \text{'fat'} \\
\text{shaₜ paw} & \quad \text{'lung'} \\
\text{shaₜ pya} & \quad \text{'thigh'}
\end{align*}
\]

Notice that in Lushai the sa- is an animal prefix, while in Akha shaₜ is a body part prefix.

1.3. The *k- prefix. The *k- prefix occurs most frequently, but not exclusively, with the names of animals. The prefix, once thought to be restricted to Burmese and its dialects,¹⁸ is found in


¹⁸ Thus, Benedict (1972: 107, fn. 301) describes the distribution thusly: "this prefix is exclusively a feature of Burmese and its dialects (incl. Phôn) and does not appear in Maru or the Lolo languages".
closely-related Jinhpho with the names of types of flying creatures (birds, bats, insects, etc.) and with the names of a few fish as well as in Akha and Lisu, two Loloish languages. Within Lolo-Burmese, Written Burmese clearly preserves it as a fossil in such words as krwàt 'leech', krâuy 'cat', krwàk 'rat', kyd < *k-la² 'tiger', and kyauk < *k-lok 'stone'.  Like the *s- 'flesh' prefix, the *k- is explicitly preserved in the modern Akha k'â₄ (noted in Bradley, 1971). The Akha form is found before the names of animals including k'â₄ hm₄ 'bear', k'â₄ Ja₄ 'tiger', and k'â₄ pa₄ 'frog'. Several pages of such prefixed roots can be found in Lewis' Akha dictionary. In addition to such overt retention, in certain contexts in Akha and Lisu²¹ the *k- prefix has disappeared, but left behind distinctive tonal reflexes. In Akha, when the *k- preceded checked syllables with an initial voiced stop, the reflex was mid-tone and unlaryngealized (Bradley, 1971: 16–17).²² In Lisu, when the *k- preceded a checked syllable with an initial voiced stop, the reflex was a high-rising laryngealized tone. The *k- prefix is, like the *s- 'flesh' prefix, an irregular secondary development in Lolo-Burmese, but in these languages it does have a distinct tonal reflex.²³

It has been repeatedly suggested that the animal classifying²⁴ *k- prefix is ultimately a borrowing from Mon-Khmer. In 1896 in his article "Outlines of Tibeto-Burman linguistic paleontology" (JRAS, 1896: 31), Bernhard Houghton first suggested the Mon-Khmer source and, since that time, Alton Becker, John Okell,

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²¹ More examples are found in Benedicte (1972: 107, fn. 301) and Matisoff (1969: 190–199).
²² For a further discussion of this animal prefix, see Matisoff (1969: 190–199), Smith (1975) for a discussion of the possibility that this prefix was borrowed from Mon-Khmer and the sections immediately following.
²³ In Bradley (1971: 16–17) this is discussed under the designation 'k-dissimilation rule', but in Bradley (1975) the analysis has apparently, and inexplicably, been abandoned.
²⁴ The PL or PLB reconstruction given is pertinent to the Akha and Lisu forms (not necessarily the WB form). A number of these reconstructions differ with the reconstructions given in TSR.
²⁵ Clearly forms such as PLB *k-lok > WB kyok 'stone' do not fit into this category and have come from other sources.
The \(^k\)-prefix

<table>
<thead>
<tr>
<th>PLB</th>
<th>Written</th>
<th>PL</th>
<th>Burmese</th>
<th>Akha</th>
<th>Lisu</th>
</tr>
</thead>
<tbody>
<tr>
<td>(^k)-nik</td>
<td>hnae-lum</td>
<td>nui-ma</td>
<td>ni-(^2)ma(^2)</td>
<td>'heart(^25) TRS #146'</td>
<td></td>
</tr>
<tr>
<td>(^k)-r-wak</td>
<td>krvak</td>
<td>ho ca((_\star))</td>
<td>h'((_a))</td>
<td>'rat, rodent TRS #188'</td>
<td></td>
</tr>
<tr>
<td>(^k)-(\sim)p-rwak</td>
<td>parwak</td>
<td>a-ho</td>
<td>'ant TRS #183'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(^k)-rap</td>
<td>?ap</td>
<td>a.g'aw((_\star))&lt;(^k)-rap</td>
<td>waw(^2)</td>
<td>'needle TRS #191'</td>
<td></td>
</tr>
<tr>
<td>(^k)-(\eta)ak</td>
<td>h(\eta)ak</td>
<td>nga-beh'a'ji'</td>
<td>ny((_a))</td>
<td>'bird TRS #141'</td>
<td></td>
</tr>
<tr>
<td>(^{(s-)})(\eta)ak</td>
<td>h(\eta)ak-pyo-si</td>
<td>nga (^2)ng((_a))si(^3)</td>
<td>'banana TRS #139'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(^k)-rak</td>
<td>krak</td>
<td>ya((_\sim)za)</td>
<td>a-rgha(^1)&lt;(^s&gt;-?</td>
<td>'chicken; fowl TRS #184'</td>
<td></td>
</tr>
<tr>
<td>(^k)-(\alpha)-lok</td>
<td>kyok</td>
<td>lo</td>
<td>'stone, rock(^7) TRS #190'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(^k)-lok</td>
<td>lok</td>
<td>ho(^5) (Anonymous)</td>
<td>'maggot TRS #186'</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

and Jim Matisoff have repeated the suggestion\(^28\). The borrowing hypothesis is supported by Kenneth D. Smith’s (1975) article “The velar animal prefix relic in Vietnam languages” which presents evidence that a \(^k\)-animal prefix is a wide-spread and native element in the Mon-Khmer languages of Vietnam.

This prefixal \(^k\)-appears relatable to WB kauŋ 'body, animal body' which serves a dual function as either a full noun or as a post-nominal animal classifier. WB kauŋ itself comes from an old and reasonably well-established Sino-Tibetan root\(^29\) with the following forms (Benedict, 1972: 181–182, footnote 479): Archaic Chinese\(^30\) \(^k\)j\(\ddot{o}\)/k\(\ddot{u}\)ŋ 'body, person', PTB \(^k\)uy, PLB \(^k\)uy\(^1\) or

\(^{25}\) The Akha form for 'heart' nui-ma is not from a \(^*\)-ig rhyme. The regular reflex of an \(^*\)-ig rhyme is -\(\alpha\)h, while -\(\alpha\)i is a regular Akha reflex of the \(^*\)-ik rhyme.

The WB form hnae-lum: could also be from \(^*\)-nik.

\(^{26}\) The Lisu tone comes from a proto-Loloish \(^{(s-)\} prefix. This is the regular Lisu reflex for \(^{(s-)\} prefixed checke8 forms which originally had voiced initials.

\(^{27}\) The Akha final is the regular reflex of an \(^*\)-ok rhyme.

\(^{28}\) Alton Becker and John Oteill have suggested that WB kauŋ might be a Mon-Khmer borrowing, but given the sets assembled below it would have to be an extremely early borrowing.

\(^{29}\) Benedict’s forms have been augmented by my own.

\(^{30}\) Ultimately from Karlgren’s Grammata Serica.
Rāwang *guy 'body, animal, self', Mutwang dialect gog 'body', Asi *kuy, Lisu (Fraser) gaw, Akha g'aw, Sani kow 33, Nasu gγ 21, Ahi ky 22, and Lahu -qd. The most obvious hypothesis is that the prefixal *k- represents the reduction of an earlier full morpheme of the general shape *guŋ, while the fuller forms, which occur both as nouns and as noun classifiers, represent an unreduced form of the same morpheme. Alternately, of course, it is possible to view the *k- prefix and the WB form kauŋ as completely unrelated with the first being a Mon-Khmer borrowing and the second a native root.

2.0 The Lisu Tones

Lisu tones have three pitch levels (low, mid, and high) each of which may or may not be accompanied by laryngealization on the vowel. The Fraser, Anonymous, and Burling works use a six tone analysis, while the Hope analysis factors out the laryngealization and thus views Lisu as having just three tones. Hope's three tone analysis is the most useful from a diachronic perspective.

2.1. Laryngealization. Two clear sources of laryngealization on Lisu vowels exist. The chief source is the loss of root final consonants. The syllable structure in Lisu is CV(?) plus a tone. Other

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21 Bradley (1975: set #497) equates WB kauŋ and Lahu khe, but these are clearly not phonologically cognate.

22 This hypothesis necessitates an explanation of why *guŋ serves as a preposed nominal classifier at one stage, but as a postposed nominal classifier at another. In defense of the claim that a single morpheme has occurred in both positions, it must be noted that such pre- and post-head distributions reflecting earlier word order changes are found throughout Tibeto-Burman.

Three examples which come quickly to mind are given below. One, in Bauman (1975b, 1976) we find that Tibeto-Burman subject and object agreement markers occur both pre- and post-verbally. Two, in Matišoš’s (1975: 78) discussion of Lahu versatile verbs we find that “about a dozen occur regularly before their head-verb, while all the others come after their head. In the Maru language of East Bengal (a divergent member of the Kukiish branch of TB), Lorenz Lößler reports that the semantic equivalents (and sometimes the etymological cognates) of Lahu pre-head auxiliaries typically occur after the verb-head, and vice versa.” Three, in the Karenic subgroup, the basic word order is SVO, while elsewhere in Tibeto-Burman the typical word order is SOV.
than the glottal stop no final consonants have been retained. In the proto-system however, the root-final stops *-p, *-t, and *-k were present. Although in some cases even this laryngealization has subsequently been lost, it is quite clear that the loss of the finals *-p, *-t, and *-k resulted in a laryngealized vowel:

*lak Li(A) la⁶ Li(B) laʔ Li(F) lá⁶ Li(H) laʔ 'hand'
*myok mi⁶ myoʔ mye⁶ mywë⁶ 'monkey'

Notice that the laryngealization (symbolized by [−]) has been lost from the Lisu (A) form la⁶ 'hand'. Except for this type of loss, all proto-checked syllables other than those with a high tone reflex have modern laryngealized vowels.

The other clear source of laryngealization is proto-tone 3 forms which usually have laryngealized Lisu reflexes.  

2.2. Tonal reflexes of non-checked rhymes. Three Lolo-Burmese proto-tones are reconstructed. Robert Shafer and Stuart Wolfenden, pioneers in Sino-Tibetan studies, argued that the tones are ultimately phonologically conditioned, but for the first two tones all the conditioning factors are lost by the Lolo-Burmese period. The third tone, typified by the Burmese ‘creaky’ tone, despite only being found in the Lolo-Burmese subgroup of Tibeto-Burman and despite being largely of secondary origin, must also be reconstructed at the Lolo-Burmese level. The origins of this third tone have recently been clarified in Thurgood (1976). In short three open tones must be reconstructed for Lolo-Burmese.

The phonologically conditioned distribution of the original three proto-tones set forth in Table 1 is essentially identical with that found in Burling (1967): a high tone ['], a mid tone [with and without laryngealization [−]], and a low tone ['']. These same tones are also included among the reflexes of stopped proveniences. Several languages still retain a three-tone system with no evidence

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33 Other sources of laryngealization exist. Pre-spirantization of proto-tone 1 words, prefix pre-emption of tone 1 words, and the former presence of a prefix before proto-tone 1 words all appear to affect laryngealization, but a paucity of examples exists. Disyllable compounds often have otherwise unexpected laryngealization on the first constituent.
of the effects of prefixes on tones; thus, for Burmese, Akha, Phunoi, and Bisu the tonal correspondences are monotonously straightforward.34

<table>
<thead>
<tr>
<th>PLB</th>
<th>Written Burmese</th>
<th>Akha</th>
<th>Phunoi</th>
<th>Bisu</th>
</tr>
</thead>
<tbody>
<tr>
<td>*1</td>
<td>(unmarked)</td>
<td>&quot;</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>*2</td>
<td>&quot;^&quot;</td>
<td>&quot;^&quot;</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>*3</td>
<td>&quot;^&quot;</td>
<td>(unmarked)</td>
<td>33</td>
<td>33</td>
</tr>
</tbody>
</table>

In other languages, however, certain proto-tones split and frequently the split was conditioned by the presence or absence of a *-s- prefix.

2.3. Tonal reflexes of checked syllables. Two basic principles pertain to tonogenesis, the development of tones: root initial segments affect the pitch height (registre, hauteur), and root final segments affect the contour (inflexion).35 Predictably Lolo-Burmese prefixes affect the pitch height but not the tonal contour.36 Within Lolo-Burmese the tonal reflexes of checked proveniences can be viewed as solely secondary developments; it is not necessary to posit any tonal contrasts at the Lolo-Burmese level.37 Instead all the tonal reflexes of checked proveniences can be explained in terms of phonetic conditioning. It is a well-known acoustic fact that a vowel following a voiced consonant has a lower pitch than a vowel following a voiceless consonant. This principle is the foundation for the distribution of tones in Lolo-Burmese. The major division among reflexes of checked proveniences is between those with originally voiced initials and those with originally voiceless initials. Disregarding the effect of various prefixes for a moment, the basic tonal distribution in Lisu is:

34 The Akha tones are indicated with the hašk above the line indicating high tone and on the line indicating low tone. The numerals are Chao tone numbers where higher pitch is indicated with higher numbers and lower pitch with lower numbers, on a 1 to 5 scale.
35 Haudricourt (1954) illustrates these for Vietnamese.
36 The Lahu high-rising tone requires the interaction of both an initial and a final.
37 Some minor debate exists concerning the exact level the tonal split occurred at, but this does not affect the basic argument.
<table>
<thead>
<tr>
<th>Proto-Tone</th>
<th>Initial Class</th>
<th>Written Burmese</th>
<th>Lahu (Matisoff)</th>
<th>Lisu (Standardized)</th>
<th>Akha</th>
</tr>
</thead>
<tbody>
<tr>
<td>*1</td>
<td>*voiced</td>
<td>☐ unmarked (low)</td>
<td>⟨low-falling⟩</td>
<td>☐ unmarked (mid)</td>
<td>Burling: Lewis:</td>
</tr>
<tr>
<td></td>
<td>*voiceless</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>*spirantal prefix</td>
<td></td>
<td></td>
<td></td>
<td>(high)</td>
</tr>
<tr>
<td>*2</td>
<td>*voiced</td>
<td>^ (breathy)</td>
<td>⟨high-falling⟩</td>
<td>⟨low⟩</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*voiceless</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>*spirantal prefix</td>
<td></td>
<td></td>
<td></td>
<td>(low)</td>
</tr>
<tr>
<td></td>
<td>*spirantal prefix</td>
<td></td>
<td></td>
<td></td>
<td>(low)</td>
</tr>
<tr>
<td>*3</td>
<td>*all initials</td>
<td>♀ (creaky)</td>
<td>☐ unmarked (mid)</td>
<td>☐ (laryngealized)</td>
<td>☐ (mid) ☐ unmarked</td>
</tr>
</tbody>
</table>
The high-rising tone comes exclusively from checked proveniences. Diachronically it comes from old voiceless initials and the low tone results from old voiced initials.

Forms which would be expected to appear laryngealized as the high-rising tone ['] and the low tone ["] occasionally lose their laryngealization and thus become a simple high tone [’] or a simple low tone [’], respectively.

2.4. Prefixes and tone height. Matisoff’s *The Loloish Tonal Split Revisited* quite clearly set forth principles underlying the Loloish tonal split in checked syllables: voiceless consonants induced a higher pitch on the following vowel than did voiced consonants, but the tonal reflexes were not determined just by the voiced or voiceless character of the proto-initial. In addition the proto-system had a number of prefixes whose properties also affected tone height. These are still largely preserved in Written Tibetan and consist of voiced and voiceless stops, nasals, spirants, and at least one vocalic prefix. The general effect of this prefixation is predictable: voiced prefixes tend to result in a lowered tone height and voiceless prefixes tend to result in a raised tone height.

2.5. Lisu tonal reflexes: the checked syllables. Lisu has four distinct tones resulting from the interaction of the root-initial consonants, the prefixes, and the former checked syllables. Three distinct tone raising prefixes are found in the Lisu evidence: *s-*, the *k-*, and the *(s-)*. By definition, the *s-* is reconstructed to the PLB level, while the *(s-)* only reconstructs to the proto-Loloish level. Frequently the *(s-)* is the reduction of the former full morpheme *sya* ‘flesh; animal’; it occurs most often with animal names and parts of the body. Like the pair of *s- prefixes, the *k- sometimes
reconstructs to the PLB level and sometimes only reconstructs to the Loloish or even a smaller subgrouping level; thus, with some forms the WB, Lisu, and Akha forms all reflect a *k-, but with others only the Akha form may reflect an earlier *k-. Two distinct tone lowering prefixes can be distinguished on the basis of their Lisu reflexes: the *C- & *V- and the *m-. The *C- & *V- act identically; the effect of both is to lower an item from the high to the low tone class. The *m- prefix lowers an item from the high-rising class to the mid tone class while voicing the initial. All three tone raising prefixes are distinct in front of forms from an original voiced root-initial consonant. The *s- prefix raises tones from the lowest tone class to the highest tone class before nasals, voiced stops, and *l- initials; the *s- also pre-empts a root-initial *r-, *w-, or *y-. The *k- prefix raises forms with a voiced initial into the high-raising class. The *(s-) prefix raises items to the mid tone class.

Two distinct stopped sources exist for the mid tone laryngealized reflex: a nasal prefix before a former voiceless stop and a spiranral prefix before either a voiced nasal or stop. While correlating specific changes with specific prefixes can be done some confidence, the mechanisms for these changes are somewhat more speculative. The *m-, the nasal prefix, voiced the root-initial before subsequently dropping and the newly voiced root-initial caused the tone to lower. [t*m-tak ‘ascend’ Li(F) dá³; *m-tsik ‘angry’ Li(F) dz³; *m-puk ‘write’ Li(F) baw³; *m-krit ‘grind’ Li(F) je³; *m-twak ‘emerge’ Li(F) daw³; *m-pup ‘satiated’ Li(F) bi³].

The Loloish spirantal prefix, a prefixed full morpheme at the earliest stages of Loloish, had the effect of raising a voiced nasal from the low-tone laryngealized class into the mid-tone laryngealized class. [t*(s-)nak ‘black’ Li(F) ná³; *(s-) mak ‘dream’ Li(F) myá³; *(s-) myak ‘eye’ Li(F) myá³; *(s-)nök ‘bean’ Li(F) a¹naw³; *(s-) mut ‘blow’ Li(F) mû³].

I suspect that the prefix devoiced the root-initial nasal before subsequently dropping, the voiceless nasal caused the tone to raise, and then the voiceless nasal revoiced. A parallel change occurred when the Loloish spirantal prefix preceded a voiced

---

38 *C- is a cover symbol for the voiced prefixes *b-, *r-, *d-, and *g-.
Table 2. The influence of prefixes on tone height; the Lisu reflexes of PLB checked syllables

<table>
<thead>
<tr>
<th>Initial type</th>
<th>reflex</th>
<th>tone lowering prexes</th>
<th>tone raising prefixes</th>
</tr>
</thead>
<tbody>
<tr>
<td>unprefixed voiceless initials</td>
<td>'High tone (1)(^{39})</td>
<td>'High-rising (2) (laryngealized)</td>
<td>*C- &amp; *V-  *m-</td>
</tr>
<tr>
<td></td>
<td>- Mid tone (3) (laryngealized)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>unprefixed voiced</td>
<td>- Low tone (6) (laryngealized)</td>
<td>-</td>
<td>*s-  *k-  *(s)- (PLB)  'flesh'</td>
</tr>
</tbody>
</table>

Prefixes which do not affect the tone height of the reflex are not shown on the chart above.

Stop or resonant. \([*(s-)*pök 'explode; gun' Li(F) paw\(^3\); *(s-)* gyit 'move to' Li(F) chi\(^3\); *(s-)*gak 'branch' Li(F) si\(^3\)la\(^6\)ka\(^3\); *(s-)* gyak 'cubit' Li(F) cha\(^3\); *(s-)* wat 'flower' Li(F) si\(^3\)vē\(^8\); *(s-)* dzak 'boil (cook)' Li(F) tsa\(^3\); *(s-)* dzik 'joint' Li(F) tsit\(^8\)si\(^3\).\] In contrast to the initial nasal which revoiced, the initial stop remained voiceless.

The major source of the high-rising tone (phonetically 3–5) is those checked proveniences with voiceless initials. Those forms

\(^{39}\) The number in parentheses is the Anonymous and the Fraser tone number for the Lisu reflexes.

\(^{40}\) The *(s-)* only reconstructs to the proto-Loloish level.
beginning with unprefixe voiceless stops had an aspirated reflex in modern Lisu. [kak 'basket' Li(F) hka\textsuperscript{a}tu\textsuperscript{a}; pyak 'destroy' Li(F) hpy\textsuperscript{a}2; sul 'sweep' Li(F) si\textsuperscript{2}; šak 'separate; tear' Li(F) hha\textsuperscript{a}. A spirantal prefix before a form beginning with a voiceless root-initial stop produced modern unaspirated initials. [s-tak 'carry' Li(F) t\textsuperscript{a}2; s-tit 'sink' Li(F) ti\textsuperscript{2}; s-kroko 'frighten' Li(F) chaw\textsuperscript{2}; s-tsak 'drop' Li(A) ts\textsuperscript{2}]. All of the above are reconstructed with *s- since there is no way to differentiate between the PLB and the proto-Loloish prefix before a voiceless provenience. An additional source for high-rising reflexes of checked proveniences exists: the *k- prefix which raises the tone from an expected low-tone laryngealized to a high-tone laryngealized reflex. In a number of cases the *k- prefix can be identified with the voiceless velar animal prefix, but in other cases its significance is now lost. Of particular interest in identifying the exact phonetic nature of the prefix is the pair of Lisu forms Li(F) kaw\textsuperscript{3} and Li(H) w\textsuperscript{w} both meaning 'ladle'. 'Ladle' is reconstructed PLB k-yok (cf. WT skygos); the Hope form has the expected tonal reflex, but it is the Fraser form where the prefix has pre-empted the initial that is interesting because of the retention of the k- prefix. [ka-rap 'needle' Li(F) waw\textsuperscript{4}; k-nyap 'pinch' Li(H) nyw\textsuperscript{w} (for further examples see 'The *k- prefix' section above)].

While for Lisu the above items clearly must be reconstructed with the *k- prefix, it is clear that this *k- prefix varied with the *s- prefix within Loloish. Semantically it makes sense for the velar animal prefix and the *s- flesh prefix to vary and extraloloish evidence shows such variation (cf. Written Tibetan snyig 'heart' where the Lisu evidence indicates a *k-nik 'heart' reconstruction).\textsuperscript{41} Because of the Lisu and/or Akha evidence I reconstruct a *k- prefix for a number of words, but for non-Lisu, non-Akha forms the prefix may well have been an *s-.

Two related sources of high tone reflexes of stopped proveniences exist. Neither has been noticed previously. The PLB spirantal prefix before a voiced initial—nasal or non-nasal—produced a high tone reflex. [s-gak 'branch' Li(A) si\textsuperscript{2}ka\textsuperscript{2}; s-brik

\textsuperscript{41} Similarly on the basis of Akha tonal evidence the *k- prefix may be reconstructed. The *k- prefix before a voiced checked provenience in Akha produced a mid tone unlaryngealized tone. [cf. *k-nik 'heart' Akha a-nul M-M].

\textsuperscript{11} Acta Orientalia, XXXVIII
'able' Li(H) pó; *s-dok 'burn' Li(F) a1taw1; *s-gyak 'cook' Li(F) cya1; *s-dzak 'join' Li(F) tsa1; *s-grip 'lac' Li(A) ci1; *s-gylit 'move' Li(A) {ja1; *s-dok 'poison' Li(F) taw1; *s-lak 'youth' Li(F) ra5gu4la1}. Likewise a PLB *s- before a nasal produced a high tone reflex. [*s-nak 'deep' Li(F) ná1; *s-nyit 'squeeze' nyí1]. Similarly the PLB spirantlal prefix before a resonant initial not only produced the high tone reflex but also frequently pre-empted the initial. [*s-yip 'cause to sleep' Li(F) shí1; *s-rak 'shameful' Li(F) shâ1taw²].

2.6. Matisoff's prefixes. In his discussion of prefixal influences on Loloish tonal reflexes, Matisoff (1972) established the following prefixes:

*\( ^m \)- 'a nasal prefix'
*\( ^c \)- 'a voiced consonantal prefix'
*\( ^v \)- 'a vocalic prefix'
*\( ^s \)- 'a spirantal prefix'
*\( ^h \) (\( ^\? \))- 'a glottal prefix'

Specific sets of correspondences correlate with the *\( ^m \)-, the *\( ^c-\)/*\( ^v-\), the *\( ^s \)-, and the *\( ^h \) (\( ^\? \))- prefixes.

Despite the fact that a large amount of additional research has been published since (1972) The Loloish Tonal Split Revisited (TSR) was published, Matisoff's work remains largely unaltered. Thus far it only needs to be augmented in two minor ways. First, several of the anomalous Lisu and Akha forms in TSR can now be explained in terms of the Loloish *k- 'animal' prefix. Second, where Matisoff reconstructs both *\( ^h \) (\( ^\? \))- and *\( ^s \)- at the Lolo-Burmese level, I reconstruct the former as PLB *\( ^s \)- and the latter as PL (proto-Loloish) *\( ^s \)-, My changes are relatively minor; the replacement of *\( ^h \) (\( ^\? \))- by PLB *\( ^s \)- is a change in the phonetic nature of the prefix posited and, the PLB *\( ^s \)- being replaced by a PL *\( ^s \)- is only a minor change in the level of the reconstruction. The actual correspondence sets are virtually unchanged.

For proto-Lolo-Burmese, only a single 'glottalizing' prefix, the *\( ^s \)-, needs to be reconstructed. Matisoff (1972) posits two, the *\( ^s \)- and an *\( ^\? \) (\( ^h \))-,
Burmese level there is no contrast between the *s- and *?- prefixes; instead Matisoff’s correspondence sets reflect the contrast between a PLB *s- and a PL (proto-Loloish) *s-.

Further, it can be demonstrated that the single PLB glottalizing prefix should be reconstructed as an *s- not a *?- (*H-).

First, the correspondence sets only require the reconstruction of a single glottalizing prefix—it is not necessary to reconstruct both an *s- and a *?- (*H-). Matisoff’s *?- and *s- prefixes contrast only minimally (1972: 18):

In fact, there is every reason to believe that before stop-initialled roots the *s- and *H- [*?-] prefixes had merged completely by PLB times.

This PLB contrast is exemplified only before nasal or resonant initials.

The careful reexamination of the actual correspondence sets used to establish Matisoff’s PLB *s- reveals that his PLB *s- is better reanalyzed as a PL (proto-Loloish) *(s-). These sets represent the reduction of a full morpheme PLB *sya to a prefix at the PL stage (or later); note that the sets pattern tonally exactly like TSR #185 *(s-o-) wat ‘flower’; WB *wat-cham, Lahu ši-üʔ, Lisu sʔuё where the full morpheme is still overtly retained. If we examine the nine nasal initial roots found in The Loloish Tonal Split Revisited (supplemented by additional Lisu (Fraser) forms not found in TSR), we discover that at least 8 of the 9 sets have a prefix restricted to Loloish.

Matisoff explicitly notes that the *(s-) is found only in Loloish for 4 of the 9 sets. With these four he uses the parenthesized *(s-) to indicate the exclusively Loloish nature of the prefix; with these, the WB cognate has a plain rather than the aspirated nasal which an *s- prefix would have produced. Thus, in these instances the *(s-) is uncontestably restricted to Loloish:

48 Following the convention established in Matisoff's The Loloish Tonal Split Revisited (1972), a PLB *s- indicates an *s- prefix reconstructed for proto-Lolo-Burmese while a *(s-) indicates that the *s- prefix is only found in the Loloish subgroup.
For another four of the nine nasal sets the Lisu and/or the Akha tonal reflexes explicitly indicate their proto-root was *k- prefixed—not *s- prefixed—at the earlier stage relevant to the modern tonal reflex:

Finally, this leaves only a single nasal initial root with the desired Written Burmese/Loloish correspondence:

Since only this set supports positing the correspondence at the PLB level rather than the PL level, and since it is quite possible that the aspirated initial in WB is unconnected with the Loloish tonal reflexes, the *s- should be reconstructed as a PL rather than a PLB prefix.

The resonantal initialled roots readily succumb to a similar

---

TSR reconstruction should be *(s)-nok not *(s)-nok (Matthew, personal communication).

The Akha vowel descends from an earlier *(h)-k rhyme contra TSR which reconstructs a *(h)-g rhyme.
The forms Matisoff reconstructs with a PLB *s- continue to be reconstructed with a PLB *s-:

\*s-rak WB hrak Lisu\(^{46}\) shá\(^{2}\)taw\(^{3}\) Akha 'ashamed TSR ≠182’
shā\(^{3}\)daw\(^{*}\)

\*s-rik WB rac 47\(\text{Lisu shi}^{1}\) Akha yeu\(^{4}\) ‘twist TSR ≠130’

The forms reconstructed with a prefixed \*?- should also be reconstructed with a PLB *s-. In the first two examples, this is clear from the preservation of the spirantal prefix in the modern root-initial consonant:

\*s-yik WB ?ac-kui Lisu shi\(^{1}\) ‘elder sibling TSR
\*ʔu-yik Lisu \(\text{a'yī}^{6}\) Akha a\(_{y}u\), ≠172 & Appendix’
\*s-yip WB sip Lisu shi\(^{1}\) Sani \(\text{šī}^{3}\) 55 ‘cause to sleep; sleep
\*yip WB \(\text{γi}^{p}\) Lisu yi\(^{9}\)la\(^{1}\) Sani ji 22s TSR ≠180’

In the other examples, no phonological residue identifies the prefix as spirantal rather than glottal, but the tonal reflexes pattern identically with both of the posited prefixes; consequently, either PLB *s- or \*ʔ- should be posited, but not both.

Second, given that only one glottalizing prefix needs to be reconstructed at the PLB level, there are compelling arguments for reconstructing an *s- rather than a *ʔ- (*H-). Fossil forms, the phonetics, and historical evidence all argue for positing an *s-.

Fossil forms found both in Written Burmese and Loloish languages preserve a spirantal initial; this is particularly instructive in the case of simplex/causative pairs since it is known that causation was originally marked by the TB *s- prefix:

\*s-yip WB sip Lisu shi\(^{1}\) Sani \(\text{šī}^{3}\) 55 ‘cause to sleep TSR ≠180’
\*yip WB \(\text{γi}^{p}\) Lisu yi\(^{9}\)la\(^{1}\) Sani ji 22s ‘sleep TSR ≠180’
\*s-dza\(^{2}\) WB cā Lisu dzā\(^{5}\) Akha dzā\(^{5}\) ‘eat’

\(^{45}\) Except for TSR ≠171 ‘eight’, ≠174 ‘night/spend the night’, ≠175 ‘stand’, and ≠176 ‘stomach’ which are discussed in section 3.2.8.

\(^{46}\) Contra TSR, the Lisu reflex is completely regular.

\(^{47}\) The Lisu doublet necessitates positing both a prefixed and an unprefixed provenience.
A number of other forms have preserved evidence of an earlier spirantal prefix:

\[ ^*s\text{-}yik \quad Lahu \text{ vi} \quad Lisu \, shï³ \text{~} \quad \text{‘elder sibling TSR} \]
\[ a¹yï⁴ \text{ ~}<^*yïk \quad #172‘} \]
\[ ^*s\text{-}rak \quad Lisu \, shï³\text{-}taw³ \]
\[ \text{Akha shñä\text{daw}‘} \quad \text{‘ashamed TSR #182’} \]
\[ ^*s\text{-}ra² \quad WB \, hrâ \quad Lahu \, hâ \quad Lisu \, shï³ \quad \text{‘poor'} \]
\[ ^*s\text{-}ray¹ \quad WB \, hrwe \quad Lahu \, shi \quad Lisu \, shï³ \quad \text{‘gold; yellow'} \]
\[ ^*s\text{-}rik \quad WB \, râc \text{ ~}<^*rik \quad Lisu \, shï³ \quad Lhä \quad \text{‘twist TSR #130’} \]
\[ ^*(s)\text{-}ra¹ \quad WB \, ra\text{‘} \quad Lahu \, shä \quad Lisu \, shï³ \quad \text{‘collect'} \]
\[ ^*s\text{-}ra¹ \quad WT \, srä\text{-}ba \quad Lahu \, hä \quad Lisu \, shï³ \quad \text{‘difficult; hard'} \]
\[ ^*s\text{-}riñ¹ \quad WB \, hrâñ \quad Lahu \, shì\text{-}yì \text{ ~}<^*riñ¹ \]
\[ \quad Lisu \, shï³ \quad \text{‘long'} \]

Historically, little wide-spread comparative support for a TB glottal prefix has been found, but the PTB \(^*m\)- ‘stative’ and the \(^*s\)- ‘causative/transitive/directive’ prefixes are widely-attested. Matisoff (1969, 1970) does argue that WT \(h\)- was a glottal stop which ultimately correlates with the preglottalization that contributed to the development of the Lahu high-rising tone, but the evidence is not persuasive. Once it is discovered that only a single glottalizing prefix is needed at the PLB level, it is much more reasonable to simply posit the widely attested \(^*s\)-.

Phonetically, arguments can be made for an \(^*s\)- prefix over a \(^*?\)- prefix. Matisoff (1972: 18) writes:

\[ \ldots \text{ evidence from WB and Lahu simplex/causative verb pairs allows us to set up } \text{glottalization as the marker of} \]
\[ \text{causitivity at the PLB stage. [italics Matisoff’s].} \]

Specifically, Matisoff suggests that in most environments PLB \(^*s\)- and \(^*?\)- (\(^*H\)-) had merged to \(^*?\)- by PLB times; but this hypothesis faces several problems. First, the phonetic change of \(^*s\)- to \(^*?\)- is implausible. Second, positing (1972: 18) ‘glottalization as the marker of causitivity at the PLB stage’ forces Matisoff to propose the following temporally ordered sequence of steps (1975: 97): \(^{*s}\text{-}yip \; > \; ^{*?}yip \; \text{‘put to sleep TSR #180’} \; > \; \text{WB } sip \text{ and Sani} \]
Li 55. Here, rather than *s- > *?- > WB s- and Sani _BOTH, it is far more likely that the *s- remained an *s- throughout.

Undoubtedly, a consideration behind Matisoff's decision to posit a prefixal glottal stop (descended from an earlier *s-) is the overt glottalization found on the vowels of Atsi and Maru forms which had an earlier *s- prefix, e.g. Atsi nʔap and Maru nʔeʔ 'snot' < PTB *s-nap (STC #102). Thus, at this point it is extremely important to note precisely what Burling's glottalized series of initial stops designates. The following passage makes it clear that, more than anything else, the designation indicates a vowel quality difference (1967: 18):

The middle series of stops, those marked on the chart as 'glottalized' have less familiar phonetic characteristics. These stops are unaspirated and unvoiced, but the more striking phonetic characteristic of the series is the quality which they impose upon the following vowel. These vowels have the voice quality which has sometimes been termed 'creaky' in southeast Asian languages . . .

However, if etymologically induced terminological similarities are ignored, the creaky vowel quality of the Atsi and Maru vowels is as easily attributed to an earlier *s- prefix as to an earlier *ʔ- prefix; PLB creaky tone is itself an excellent example of creakiness derived from an earlier *s- prefix. Similarly, Matisoff's (1970) glottal dissimilation, an analysis of the origins of the Lahu high-rising tone, can be readily reformulated for an *s- prefix instead of a glottal prefix. Despite the fact that the *s- is not phonetically 'glottal', it is the quality of the *s- which produces glottalization or creakiness on the vowel that seems relevant to the origins of the Lahu high-rising tone; thus, the Lahu high-rising tone developed from *s- prefixed checked syllables with originally voiced initials.

Benedict presented what I believe to be the correct solution in the Conspectus (1972: 35, fn. 115):

It now seems that the *s- prefix served rather to glottalize the following initial at the PLB stage, e.g. Atsi nʔap, Maru nʔeʔ 'snot' < TB *s-nap . . .
The writer prefers to regard glottalization and aspiration here as alternative developments from TB prefixed *s-, since a series such as [W]B \textit{hnap} < *n\textit{ap} < *s-nap seems unlikely.

While it is not clear phonetically why it is so, the *s- prefix correlates with the glottalized or creaky vowel quality throughout Lolo-Burmese.

2.7. Summary. The above argumentation and evidence may be summarized by the following chart:

Matisoff's PLB *H- (*ʔ-) is replaced by PLB *s-
Matisoff's PLB *s- is replaced by PL *s(–)

With the few exceptions noted above, the correspondences are still the same, and the alteration of the schema found in TSR is minor. The positing of two separate spirantal prefixes, one at the PLB level and one at the PL level, accounts for the patterns of the correspondence sets without forcing one to posit a PLB glottal prefix. In particular, it allows the positing of the *s-/*m- alternation to mark causative/simplex verb pairs, a probability supported by a great deal of evidence.

3.0 Initials

Lolo-Burmese may be reconstructed with just a voiced and a voiceless series of initials:

\[
\begin{array}{cccccc}
*p- & *l- & *ls- & *c- & *k- \\
*b- & *d- & *dz- & *dž- & *g- \\
*m- & *n- & & & *q- \\
\end{array}
\]

In addition there were various clusters including a velar series:

\[
\begin{array}{c}
*ky-/*kl-/*kr- \\
*gy-/*gl-/*gr- \\
*kw- \\
\end{array}
\text{Lisu \textit{ch-}}
\text{Lisu \textit{f-}}
\text{Lisu \textit{k-}}
\]

A series of palatalized bilabials as well as *ny- and *ly- clusters also existed.
In various languages this two-manner series has developed into a three-manner (or, in Nasu, a four-manner series) through the influence of prefixes on the root-initial consonants. If we examine the reflexes of the original proto-series in Written Burmese, Lahu, Lisu, Nasu, and Akha the relationship between root-initials and prefixes becomes clear. Without prefixal interference the original proto-series would result in the following reflexes redistributed in Akha and Written Burmese. In Akha, some of the original voiced stops are now voiceless and some of the original voiceless stops are now voiced. In WB, unprefixixed voiceless stops became voiceless aspirated and unprefixxed voiced stops became voiceless unaspirated; however, due to the interaction with prefixes, some former voiceless stops are now voiceless unaspirated, while some former voiced stops are now voiceless aspirated. Nasu has a four-manner series which distinguishes unprefixxed voiced, unprefixxed voiceless, *m- prefixed, and *s- prefixed proveniences. Lahu has a modern voiced series descended largely from the *m- prefixed initials, a voiceless unaspirated series from the merger of the old voiced series with the *s- prefixed proveniences, and an aspirated series descended from old voiceless unprefixxed proveniences. Lisu merges the old voiced series with the *m- unprefixxed reflexes while keeping the *m- and *s- prefixxed reflexes separate.

<table>
<thead>
<tr>
<th>PLB</th>
<th>Written Burmese</th>
<th>Lahu</th>
<th>Lisu</th>
<th>Nasu</th>
<th>Akha</th>
</tr>
</thead>
<tbody>
<tr>
<td>*b</td>
<td>p</td>
<td>p</td>
<td>b</td>
<td>b</td>
<td>b</td>
</tr>
<tr>
<td>*p</td>
<td>ph</td>
<td>ph</td>
<td>ph</td>
<td>ph</td>
<td>p</td>
</tr>
</tbody>
</table>

Without prefixes a simple two-stop series has emerged. However, the introduction of prefixes considerably complicates this picture. The *m- prefix and the *s- prefixes have also had their effect:

---

48 WB also has a small number of voiced initials through the voicing of certain initials in various types of juncture.

49 Aspirated and non-aspirated stops are in complementary distribution in Akha. The aspirated stops occur with non-laryngealized vowels and the unaspirated with laryngealized vowels.
<table>
<thead>
<tr>
<th>PLB Burmese</th>
<th>Written Lahu</th>
<th>Lisu</th>
<th>Nasu</th>
<th>Akha</th>
</tr>
</thead>
<tbody>
<tr>
<td>*b</td>
<td>p</td>
<td>p</td>
<td>b</td>
<td>b</td>
</tr>
<tr>
<td>*m-b</td>
<td>p</td>
<td>b</td>
<td>b</td>
<td>b’</td>
</tr>
<tr>
<td>p</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>*s-b</td>
<td>ph</td>
<td>p</td>
<td>p</td>
<td>p</td>
</tr>
<tr>
<td>p</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>*p</td>
<td>ph</td>
<td>ph</td>
<td>ph</td>
<td>ph</td>
</tr>
</tbody>
</table>

As the chart shows the aspirated series comes from the proto-voiceless series, the unaspirated series comes from a spirantal prefix before either a proto-voiced or a proto-voiceless initial, and the voiced series comes from both the old voiced series and the effect of the nasal prefix on the old voiceless series.

Thus from the earlier PLB two-manner series\(^{50}\) came a modern Lisu three-manner series:

\[
\begin{align*}
\text{p-} & \quad \text{t-} & \quad \text{ts-} & \quad \text{c-} & \quad \text{k-} \\
\text{ph-} & \quad \text{th-} & \quad \text{tsh-} & \quad \text{ch-} & \quad \text{kh-} \\
\text{b-} & \quad \text{d-} & \quad \text{dz-} & \quad \mathbf{j-} & \quad \mathbf{g-}
\end{align*}
\]

As the chart shows the aspirated series comes from the proto-voiceless series, the unaspirated series comes from a spirantal prefix before either a proto-voiced or a proto-voiceless initial, and the voiced series comes from both the old voiced series and the effect of the nasal prefix on the old voiceless series. In addition Lisu has a number of secondary sources of stop initials, but there are too few examples to make the sources clear.

3.1. **Spirants.** At the proto-Lolo-Burmese (PLB) stage three spirants are reconstructed: *s-, *ś-, and *z-. For the most part

\(^{50}\) Phonetically the PLB two-manner series undoubtedly had aspirated and unaspirated voiceless stops in complementary distribution with the aspirated stops occurring initially and the unaspirated after certain prefixes.
these not only have different reflexes in Lisu, but also different reflexes depending on the dialect of Lisu. Nonetheless the distinction between dental and palatal spirants can be recovered from the patterning of Lisu reflexes. In addition to the spirantal initials a PLB and a proto-Loloish spirantal prefix also existed. In some instances the PLB *s- is apparently distinguishable from the proto-Loloish *(s-).

3.1.1. The *s- reflexes. Here the correspondences are relatively clear:

<table>
<thead>
<tr>
<th>Anonymous</th>
<th>Burling</th>
<th>Fraser</th>
<th>Hope</th>
</tr>
</thead>
<tbody>
<tr>
<td>*s-</td>
<td>s-</td>
<td>s-</td>
<td>sh-/sy- sy-</td>
</tr>
<tr>
<td>*s-</td>
<td>s-</td>
<td>s-</td>
<td>sy-</td>
</tr>
<tr>
<td>*s-</td>
<td>s-</td>
<td>s-</td>
<td>s- elsewhere</td>
</tr>
</tbody>
</table>

The cases where the *s- has a ʃ- reflex represent palatalization. The *-ak and *-at rhymes became the front vowels -e and -e during the loss of their finals; subsequently these front vowels served to palatalize *s- in some contexts.

3.1.2. The *ʃ- reflexes. These split beautifully depending upon whether the *s- preceded a back vowel or a front vowel.

<table>
<thead>
<tr>
<th>Anonymous</th>
<th>Burling</th>
<th>Fraser</th>
<th>Hope</th>
</tr>
</thead>
<tbody>
<tr>
<td>*ʃ-</td>
<td>ʃ-</td>
<td>ʃ-</td>
<td>sh-/sy- sy-</td>
</tr>
<tr>
<td>*ʃ-</td>
<td>x-</td>
<td>x-</td>
<td>hh-/hw- h-</td>
</tr>
</tbody>
</table>

This is illustrated by the following sets:

- *ʃam¹ xo² xwō haw⁴ 'iron'
- *ʃa² xua⁵ xwà hwà⁶ xwà 'meat'
- *g-ʃak hha⁶ 'pluck'
- *ʃak xa² hha² xá 'tear; separate'

These appear to be assimilatory changes.

51 Akha is an excellent source for the *s- and *ʃ-. The *s- goes to s- in Akha and the *ʃ- goes to ʃ-. It should be noted, however, that some Akha ʃ- initials come from prefix pre-emption of the root initial by a spirantal prefix [cf. *ʃ-dza² 'eat' Akha sha M].
3.1.3. The *z- reflexes. This initial has distinctly different reflexes in each of the dialects of Lisu, but the key to understanding the nature of the fluctuation is Burling’s description of ḫ, the reflex of *z- in his Lisu work (1967:23): ‘‘/f-/> varies from a voiced apical rill spirant to a voiced retroflex continuant’’. This variation is seen in the modern reflexes.

<table>
<thead>
<tr>
<th>Anonymous</th>
<th>Burling</th>
<th>Fraser</th>
<th>Hope</th>
</tr>
</thead>
<tbody>
<tr>
<td>*z-</td>
<td>z-</td>
<td>r-</td>
<td>y-</td>
</tr>
<tr>
<td>*z̃-</td>
<td>z̃-</td>
<td>ř̃-</td>
<td>r̃-</td>
</tr>
<tr>
<td>*z̄-</td>
<td>z̄-</td>
<td>rz̄-</td>
<td>ź̄-</td>
</tr>
</tbody>
</table>

Examples of this correspondence include:

*żak ze⁶ rz̄ devastation
*za² za⁶ ř̃ son; person; child
*żum⁵ ze⁶ rzè use
*żay⁵ zu⁵ rzù wheat

From the pattern of reflexes in the Lisu data it is possible to recover the nature of the proto-initial. In fact, just from the Anonymous data alone it is possible to tell exactly what sibilant a given item began with.

3.1.4. The spirantal prefixes: PLB *s- and PL *s(s)-. In a large number of cases, the spirantal prefixes PLB *s- and proto-Loloish *s- pre-empted an initial *r- or *y-. Before front vowels no difference exists between the reflexes of the two prefixes, but before back vowels with a *r- as the root-initial they are distinct.

<table>
<thead>
<tr>
<th>*s-/s(s)-</th>
<th>f-</th>
<th>ř-</th>
<th>sh-</th>
<th>sy-</th>
<th>*front vowel</th>
</tr>
</thead>
<tbody>
<tr>
<td>*s-</td>
<td>f-</td>
<td>sh-</td>
<td>s-</td>
<td>*back vowel</td>
<td></td>
</tr>
<tr>
<td>*(s-)</td>
<td>x-</td>
<td>hw-</td>
<td>x-</td>
<td>*ra</td>
<td></td>
</tr>
</tbody>
</table>

Examples of a pre-empting *s- prefix before front vowels include:

*s-rey⁴ jo³ sığ sh³ syi gold; yellow
*s-yip sh³ syi put to sleep
*s-riy⁴ jo³ sh³ syi long
*s-ylk sh³ syi twist, turn
The two prefixes are distinct before *ra with *PLB *s- remaining a sibilant and PL *s(s-) becoming an x-. Perhaps this is due to the fact that the *ra had become *ya by the time that the proto-Loloish *s- pre-empted it.

*s-rak    shá²taw³    sá-tú    ‘shameful’
*s-ra³    šua³    sha³    ‘collect’
*s-ra³    šua¹(xua¹)    shá¹    ‘difficult; hard’
*s-ra³    šua¹    shá¹    swá    ‘poor’
*(s-)ra²    xuá¹    hwá¹    xwá    ‘win’
*(s-)ra¹    xuá³    hwá³    xwa    ‘seek’

Notice that ‘poor’ and ‘win’ form an etymological minimal pair.

3.2. Resonantal reflexes. Some of the most interesting correspondences are found among the resonants. Reflexes of *y-, *w-, *r-, and *l- exist.

3.2.1. The *y- reflexes. The *y- has quite regular reflexes in Lisu.

<table>
<thead>
<tr>
<th>Anonymous</th>
<th>Burling</th>
<th>Fraser</th>
<th>Hope</th>
</tr>
</thead>
<tbody>
<tr>
<td>*y-</td>
<td>Ø³</td>
<td>y-</td>
<td>y-</td>
</tr>
<tr>
<td>*y-</td>
<td>z-</td>
<td>y-</td>
<td>y-</td>
</tr>
</tbody>
</table>

Thus:

*yip  e⁶    yiʔtá    yi⁰tá¹    ?l-tá    ‘sleep’
*yit  zì⁶    yi⁰    yi⁰    ‘drunk’
*s-kyok    *kyok    *k-yok    ?wé    ‘ladle’
*yik  zì³zä⁴    a¹yi⁰    ‘younger sibling’

The form in the ladle example, despite the notation ?wé, is before a modern front vowel.

Reflexes of *y- before a back vowel are quite similar to the pattern for *z-, and in the case of *ʔzay¹ the initial patterns itself exactly like a *y- initial before a back vowel does, despite the fact that clearly it must be reconstructed *ʔzay¹. The pattern for *y- before back vowels is:

52 This symbol indicates that the initial disappears. If there were no examples the space would have been left blank.
Examples include:

\*\( yu^1 \) \( zu^4 \) \( ru^4 \) \( zwu \) ‘seize; carry; take’
\*\( sa-yok \) \( zo^3 \) \( \check{\rho} \) \( raw^3 \) ‘person, clt.’
\*\( ya\check{p}^1 \) \( \hat{a}-\check{\rho} \) \( a^3raw^3 \) ‘sheep’
\*\( sa-z\check{\rho}^1 \) \( zo^3 \) \( raw^3 \) \( z\check{u} \) ‘little’

3.2.2. The *w- reflexes. The *w- provenience has multiple reflexes in modern Lisu, and many of the modern Lisu w- initials come from other sources. The modern Lisu w- has two distinct allophonic variants: [v] before front vowels and [w] before back vowels. The normal Lisu reflex of *w- is /w-/. Before the following rhymes *w- went to γ-: *-\( \check{\gamma} \), *-ik/t, and *-an. The respective examples are:

\*\( w\check{\alpha}^2 \) \( \gamma\check{\alpha}^5 \) \( rgh^5 \) ‘far’
\*\( w\check{\alpha}^1 \) \( \gamma\check{\alpha} \) ‘complementizer, imperative’
\*\( wik/t \) \( rgh^6 \) ‘wear’
\*\( wan^1 \rightarrow \*we \) \( rghe^4 \) ‘load; burden’

While the first three examples are obvious since the *w- goes to γ- before a front vowel, the last one requires an explanation. Here the *-an regularly has a front vowel reflex of e. Thus for *wan^1 ‘load; burden’ the *-an rhyme goes to -e, the *w- goes to γ- as expected, and a front vowel after γ- regularly becomes a schwa.\(^{53}\)

Another fascinating set of examples exists:

\*\( k-rap \) \( \gamma\check{\alpha}^6 \) \( waw^2 \) ‘needle’
\*\( sa-rap \) \( \gamma\check{\alpha}^3 \) ‘embrace’
\*\( d-wan^1 \) \( \gamma\check{\alpha}^4 \) \( w\check{\alpha} \) \( waw^4 \) ‘bear’

Here the Anonymous dialect has a γ- corresponding to the w-initials in the Burling and Fraser dialects. In all three cases the

\(^{53}\) I suspect that after a γ- Lisu front vowels are always reduced to a schwa. In both Burling and Hope the phonemicization reflects this directly, but the notation in Anonymous and Fraser tends to obscure this.
expected Anonymous reflex is a w-initial; the *w-initially goes to w-before back vowels and the *r-initials also go regularly to w-before back vowels. Even in the Anonymous dialect all *r-initials before back vowels go to w-reflexes except in the above cases. The conditioning factor is obviously the *-ap and *-am rhymes since both go to an -o reflex. The major significance of the three examples above is that they represent the only exceptions to two otherwise general rules: *w-initials go to γ-only before certain front vowels and all *r-initials go to w-before back vowels. Notice the *r- and *w- merger involved.

3.2.3. The *r-reflexes. The *r-initial has several distinct reflexes in Lisu, but nowhere does it have a r-reflex in modern Lisu. The modern Lisu r-found in Fraser’s grammar descends from the *z- and *y-initials not from the *r-initials! The reflexes of *r-are γ-, w-, and in one case, γ-.

The *rak rhyme ‘loom’ gives the modern Lisu forms: Li(B) ya, and Li(F) ya. Here the *-ak rhyme has served to palatalize the *r-initial. Note that this set of examples parallels the set discussed under the *z-initials where *zak ‘descend’ goes to Lisu (Hope) yaγ under the influence of the *-ak rhyme.54

The *r-initial goes to γ-before all -a reflexes in the modern Lisu high tone. Thus *kə-rak > *ʔə-rak ‘chicken’ (LiA) a1γa1, Li(F) a1rghə1, and Li(H) ʔ-γá as well as *b-rak > *ʔə-rak ‘stone’ Li(A) γa1, Li(F) rghə1hɕi, and Li(H) ɣá both have the γ-reflex and a modern high tone. With these exceptions, all the *r-initials went to w-before back vowels:

\[
\begin{align*}
*\text{ruŋ}^1 & \quad u^5 & \quad wu^5 & \quad vwù & \quad \text{‘sell’} \\
*\text{raŋ}^1 & \quad wą^2 & \quad wə & \quad \text{‘get; obtain’} \\
*\text{rəw}^2 & \quad waw^6law^4 & \quad \text{‘bone’} \\
*\text{sə-ruŋ}^2 & \quad wu^1 & \quad \text{‘crazy’} \\
*\text{raŋ}^2 & \quad o^6phyə^5 & \quad waw^6 & \quad vwù- phyə & \quad \text{‘vegetable’}
\end{align*}
\]

Although this is not an exhaustive list of examples, the pattern is clear. Notice that in the Anonymous dialect there are no w-

54 The *-ak rhyme also serves to palatalize the *s-reflexes. See the sections above.
initials before the back vowels -u and -o. It is not clear whether this is a function of the transcription or a real dialectal difference.

Before front vowels *r- went to γ-. Notice that *w- initials also went to γ- before front vowels.

\[
\begin{array}{cccc}
\ast r\dot o^2 \\
\text{tho}^6 - \gamma\alpha^6 \\
\ast r\dot o^2 \\
\text{htaw}^5 \cdot \text{rghe}^5 & \gamma\dot o \\
\end{array}
\]

'run'

Here only a pair of good examples has been left in tact by subsequent changes in Lisu, but the parallels with *w- initials and the sets themselves allow the correspondence to be set up with confidence.

In short, the *r- rhyme went to γ- before front vowels and w- before back vowels with only three rather well-defined exceptions. The exceptions involve the palatalizing of the *r- to γ- before the *-ak rhyme, the *r- going to γ- before the reflexes of the *-ap rhyme, and *r- going to γ- before those proveniences (*γɔ-rak) which have the high tone modern Lisu γá reflex.

3.2.4. The merger of *w- and *r- reflexes. With the exception of the well-defined cases already documented above the reflexes of *r- and *w- have totally merged in Lisu. Before front vowels both the *r- and *w- have gone to γ- and before back vowels both *r- and *w- have gone to w-. Indeed, one suspects after trying to determine the order of the various historical changes that a form like *way⁴ 'buy' went through a series of changes whereby it went from having the *w- initial, to a stage where it had a γ- initial, to a modern reflex where it is written wù. Regardless of whether *way⁴ 'buy' followed this particular path or not, it is clear that the *r- and *w- initials underwent a merger which left only a subset of residue forms reflecting the original distinction.

3.2.5. The f- reflex. Obviously f- is not a resonant, but it has been included in this section because of its apparent resonant-like parentage. No f- initials occur in Fraser (1922), and most of the f- initialled forms are Chinese borrowings. Two sets with good etymologies do exist, but the f- still appears largely due to Chinese
influence. Its occurrence is restricted to forms which, aside from the borrowings, had a laryngealized w- or u- initial at some point in their derivation.

\text{*u\textsuperscript{2}}  \text{a\textsuperscript{1}fu\textsuperscript{3}}  \text{á-yá-fu}  \text{hu\textsuperscript{3}}  \text{fu\textsuperscript{u}}  'egg'
\text{*ru\textsuperscript{1\textsuperscript{2}}}  \text{hu\textsuperscript{3}}  \text{fu\textsuperscript{u}}  'snake'

In the last example the *r- goes to w- before the -u, and the laryngealization comes from the loss of the final -l. Note the f- does not appear as the initial in Fraser, the oldest transcription.

3.2.6. The *l- reflexes. With the sole exception of three forms every *l- and *s-l- initial has a modern Lisu l- reflex.

3.2.7. The *k- prefix as a source of h- reflexes. Normally all *l-initials, pre-spirantized or not, go to the modern Lisu l-, but three clear cases exist where an *l- initial goes to h-.

\text{*k-luk}  \text{ho\textsuperscript{2}}  'maggot'
\text{*k-la\textsuperscript{2}}  \text{ha\textsuperscript{4}ba\textsuperscript{4}}  \text{hā-bā}  \text{h'a\textsuperscript{4}ba\textsuperscript{4}}  'moon'
\text{*k-lay\textsuperscript{1}}  \text{he\textsuperscript{4}}  \text{-h'i\textsuperscript{4}}  \text{-hi}  'wind'

Obviously the *k- prefix results in the h- reflex. The *k- prefix is supported by the tone of Li(A) ho\textsuperscript{2} 'maggot' and extra-Lolo-Burmese evidence (Benedict, 1972). This change has both Akha and Lahu correlates. In addition the *k- prefix before a *y- and *r- also has an h- reflex.

\text{*k-yim\textsuperscript{1}}  \text{he\textsuperscript{4}}  \text{h'i\textsuperscript{4}}  \text{hi}  'house'
\text{*k-r-wak}  \text{he\textsuperscript{2}phu\textsuperscript{5}}  \text{h'a\textsuperscript{3}}  \text{-hi}  'rat; rodent'

The k- prefix can be seen in the Written Tibetan form khyim 'house'.\textsuperscript{55}

3.2.8. *ry- clusters and their reflexes. The tonal and the initial reflexes of *ry- pattern uniquely in Loloish:

\textsuperscript{55} This is another clear example of a cluster-initial consonant being reanalyzed as a prefix plus an initial.

\text{Acta Orientalia, XXXVIII}
The unique patterns indicate that the reflex initials result not from the effect of an old spirantal prefix, but correlate with the unique \*ry- initial. The initial patterns and tonal patterns are unique to this initial cluster and to \*rw- in \*rwa⁴, 'rain', which underwent a similar development.⁵⁶

Speculatively, what occurred was what Boodberg (1937) termed dimidiation. The root initial r- in the ry- or rw- developed into a 'prefix', a phonologically independent syllable and this 'prefix' affected the root initial before dropping. The process provides an interpretation for the unique initial and tonal reflexes. The \*r- affected the initials like a prefix might be expected to, but affected the tonal reflexes in an unusual way; in certain languages the reflexes pattern like the unprefixed roots. Whether or not the above serves as an 'explanation', the odd reflexes correlate with the \*ry- and \*rw- initial clusters.

4.0 Rhymes

The rhymes are neither as clear nor as exceptionless as the initials and tones, but the outline is quite clear. The rhymes are divided

⁵⁶ The Old Burmese forms and the original observation that such rhymes pattern uniquely comes from Yoshio Nishi's paper "About OB ry-"; the Old Burmese forms are also noted in Bradley (1971: 9).
⁵⁷ The s- in Atsi sìt and Maru se? 'eight' may be the original \*s- prefix or they may be a regular development from a voiceless r- initial.
⁵⁸ The set Lahu ʣ-fí-qó, Sani ʰl'-maa 22s–33, and Lisu ʰlʰe⁶hi⁴ 'stomach' TSR #176 does not fit into this schema without additional data.
into open rhymes, nasal rhymes, and checked rhymes depending on the nature of the final on the provenience.

4.1. **Open rhymes.** Eight open vowel rhymes are reconstructed for Lolo-Burmese:

\[ *-i \quad *-\text{ay} \quad *-u \quad *-\text{ow} \]

\[ *-\text{ay} \quad *-\text{aw} \quad *-\text{a} \quad *-\text{ul} \]

Several of these have multiple reflexes in Lisu.

4.1.1. **The *-a rhyme.** The *-a rhyme goes to an -a reflex without exception.

4.1.2. **The *-aw and the *-u rhyme.** These rhymes have been set up traditionally as separate. However, a strong complementary distribution exists between those sets reconstructed for *-aw and those for *-u. The *-aw rhyme goes to -o except after velars where the normal reflex is -u. The *-u rhyme invariably has a -u reflex, but restricted distribution.

4.1.3. **The *-ow rhyme.** This fascinating rhyme has multiple Lisu reflexes about which several generalizations might be made. The reflexes of *-ow are several types of high unrounded vowels, -u, and -o. In terms of the Lisu reflexes, following a bilabial or palatal initial one of the high unrounded vowels is the reflex, but after the dental and the velar reflexes one of the rounded back vowels is the reflex. However, one exception does exist to the generalization. The form *məw² 'sky' has the forms: Li(B) mʊ and Li(F) mû. This may, in part, be a function of the tone, but that is not clear. Similarly, the tone appears to be important in the case of differentiating between the -u and -o reflexes. The cases of -o are all tone 2 proveniences. Quite obviously a number of questions about the *-aw rhyme remain to be answered, and in addition the actual nature of the form we reconstruct as *-ow remains a mystery. The sets are:

12*
The above sets have velar reflexes. Only the Hope form chì ‘smoke’ does not have a velar reflex. Here, something caused the form to palatalize, but it is not clear what.

The primary conditioning factor for the distribution of *-aw reflexes in Lisu is obviously the place of articulation of the initial consonant in modern Lisu rather than the place of articulation of the proto initial. The examples after the palatal initials:

*šəw²
*raw²
*ʒəw¹
*kaω²
*aω²

nyi¹
hchi²
hchi³
zi⁴
yi⁴

The only dental example is:

*təw²
tho⁶
htaw⁵
thù

‘book; paper’

The bilabial examples are:

*pəw²
*pəw²
*bəw²
*s-əw¹
*məw²

phù
hpū⁵
phwì
bù
bi⁵
mù
mù⁵
mò

‘price’
‘great grandfather’
‘long’
‘mushroom’
‘sky’

These reflexes are fascinating even if not what one would expect. The pattern is there, but I have no explanation of it.

4.1.4. The *-i, *-oy, and *-ay rhymes. The most typical reflex of all these rhymes is a modern Lisu -i. An m- or y- tends to produce an -a reflex, while after modern aspirated velars, palatais, and spirants a high unrounded back vowel like -u is common.
Although the comments above hold with a large degree of accuracy, a great deal of unexplained variation does exist.

4.1.5. The -u reflexes of *-ay, *-i, and *-ay rhymes. This is one of the more fascinating reflexes found in Lisu.

\[\begin{array}{llll}
    \text{Lisu} & \text{Proto Lolo-Burmese} & \text{Lisu} & \text{Proto Lolo-Burmese} \\
    \text{k-rî}^2 & u^5 & \text{wu}^5 & \text{wù} & \text{‘big’} \\
    \text{ray}^2 & wu^1 & \text{‘hold’} \\
    \text{sa-rî}^1 & ã^3 & \text{‘count’} \\
    \text{s-zay}^2 & zo^9 & \text{raw}^3 & \text{zu} & \text{‘little’} \\
    \text{sway}^1 & u^4 & \text{wu}^4 & \text{wu} & \text{‘buy’} \\
    \text{zay}^3/l & zu^3 & \text{ruz}^3 & \text{‘wheat’} \\
\end{array}\]

All of these sets have a back vowel reflex where a front vowel reflex would normally be expected. Unfortunately I have no explanation of this set of reflexes.

4.1.6. Reflexes of the *-ul rhyme. This rhyme needs to be reconstructed not because any cases exist where the final -l is retained, but because these rhymes have a distinct pattern of reflexes. These rhymes have an -ol or -ul rhyme in Written Tibetan but the -l final is found nowhere in Lolo-Burmese. The only consistent reflex of the *-ul rhyme is the Written Burmese -we. In Lisu the range of reflexes is considerable.

\[\begin{array}{llll}
    \text{Lisu} & \text{Proto Lolo-Burmese} & \text{Lisu} & \text{Proto Lolo-Burmese} \\
    \text{m-rûl}^1 & hu^3 & \text{fû} & \text{‘snake’} \\
    \text{r-mul}^1 & mû^3 & \text{‘body hair’} \\
    \text{r-kul}^2 & tû^1 & \text{cû}^1 & \text{‘sweat’} \\
\end{array}\]

There is nothing unusual about the range of reflexes for this particular rhyme; the *-øy and *-aw rhymes have equally diverse sets of reflexes. Clearly the *-ul rhyme or some equivalent must be established.

4.2. Nasal rhymes. Eight nasal rhymes are clearly reconstructed at the proto Lolo-Burmese level:

---

59 An almost perfect parallel exists in Lahu where *-øy goes to -o after an *l-initial that was preceded by a spirantal prefix at an earlier point in its history.
Not surprisingly, there is an uneven distribution of proto-proveniences. The *-aŋ rhymes, for example, are easy to find while the *-in rhyme has only one clear Lisu example.

4.2.1. The *-in, *-iŋ, and *-im rhymes. Tibeto-Burman *-in and *-iŋ both merged throughout Lolo-Burmese to *-iŋ, while Tibeto-Burman *-i.n became Lolo-Burmese *-in. However, this difference is not reflected at all in the Lisu reflexes, and for all of these the commonest reflex is a high unrounded vowel.\footnote{In Written Burmese these differences are directly reflected. TB *-in and *-iŋ > WB -aŋ, but TB *-i.n goes to WB -in. Similarly, TB *-i.t and *-i.k > WB -ae, but TB *-l-t goes to WB -it.}

4.2.2. The *-uŋ, *-ay, and *-am rhymes. These have gone to -o and -u vowels. In Fraser’s grammar he talks about the difficulty of keeping the vowels -o and -u separate while Hope simply treats them both as allophones of the phoneme /-u/. In the diachronic data, the -u occurs as a reflex after velars and the -o occurs elsewhere (except in Hope, of course).

4.2.3. The *-un rhyme. Only three examples of this rhyme, all of the form *guŋ1 go to Lisu gwu, exist. Because these sets are suspicious, this rhyme has not been set up.

4.2.4. Basic Table of Nasal Rhyme Reflexes. Aside from the exceptions listed in the text above, this chart is accurate. Sets which deviate from this chart, but where the deviation is conditioned by a reconstructed y-medial are not included.
4.2.5. The *-an rhyme. This rhyme produces a front vowel, reflex, typically an -e or -ě. Quite interestingly it patterns just like the *-at rhyme in this respect indicating that it is the place of articulation of the final rather than its nasality which governs the nature of the reflex.

4.2.6. The *-um rhyme. Examples exist, but not enough to establish a pattern. The reflexes are -we, -y, and -u.

4.3. The Checked Rhymes. In contrast to some of the nasal rhymes just discussed, the checked rhymes (stopped) have clear reflexes in modern Lisu. In addition, the reflexes of the *-ak rhyme represent a difficult to explain sound change. The stopped rhymes set up at the Lolo-Burmese level are those found in Matisoff’s *The Loloish Tonal Split Revisited.*

\[
\begin{array}{cc}
*ik & *it (*-i.t) \\
*ip & *uk *-ut \\
*im & *-up \\
*ak *-at *-ap \\
wak & *-ok *-ök \\
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*ik & *-it (*-i.t) \\
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*ak *-at *-ap \\
wak & *-ok *-ök \\
\end{array}
\]

Not surprisingly some of these are far more sparsely attested than others, but all of them appear to be sound and necessary.

Aside from the specific set of conditioning factors underlying the *-ak to -æ and -a split, discussion of the stopped rhyme reflexes is unnecessary since the data is found in the source above.
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4.3.1. The *-ak rhyme. The *-ak rhyme has two distinct reflexes in Lisu:⁶¹ -æ and -a. The basic conditioning factor is the relative frontness or backness of the proto-consonant which they followed. With the exceptions to be noted below, *-ak rhymes following bilabial or dental initials have -æ reflexes, and *-ak rhymes following palatal or velar initials have -a reflexes. The data contains 20 examples of the first situation, and 19 examples of the second situation.

Three classes of ‘exceptions’ to the above front to -æ and back to -a generalization exist. When a proto-bilabial cluster like *my- or *py- results in a Lisu reflex with a -y-medial a unique pattern emerges:

*my-  Liₐ -ye  Li₂ -ya  Li₃ -ya  Li₄ -a
*py-  Li₅ -a

(The medials are from the proto-medial). Here only four sets exist, but they are well-established. The second set of ‘exceptions’ deals with *r- initials. After *ry- the reflex is the expected -æ, but after *r- the reflex is -a. The third set of ‘exceptions’ has to

⁶¹ The Anonymous reflex is actually -ë rather than -æ.
do with dental affricates. After dental affricates the *-ak rhyme again patterns uniquely:

*dz- Li_A-ε Li_F-a

Here, only three examples are found, but they are well-established.

The *-ak rhyme has either a -ε or -a reflex in Lisu conditioned by the nature of the proto-initial. Essentially, the distinction follows a front-back distinction with the qualifications stated above.

4.3.2. The *-yak and *-yok rhymes. Strictly speaking these may not be rhymes, but rather combinations of *-ak and *-ok rhymes with a y-initial or a y-medial, but from the standpoint of exposition it is most convenient to classify them as rhymes.

4.3.3. The rhymes with -i reflexes. Here, the -i reflex is meant to symbolize a conditioned high unrounded vowel. All five of these rhymes have good, clear sets supporting the reconstruction and the Lisu reflex. Here they are grouped together not because there was a paucity of examples, but rather because the merger was so complete. The reflexes are subject to the same fluctuation that all -i reflexes are subject to. That is, for example, after ch- the -i becomes -i.

4.3.4. The rest. A number of rhymes are not included on the table. Particularly, *-ek, *-et, *-i.t, and *-ok are not listed. In Lisu, the reflexes of these cannot be differentiated from *-ik, *-it, *-it, and *-ok, respectively.

5.0 Conclusions

In one sense the conclusions of a paper like this are stated throughout the whole—not at the end. But, in another sense, it is useful to summarize what Lisu contributes to Lolo-Burmese reconstruction. Lisu illustrates the interconnection between prefixes and tone height while providing evidence for the s- and k- prefixes where they were not seen before. Lisu preserves spirantial and affricate differences which are merged in many other languages as well as suggesting a modification of the system of proto rhymes.
In terms of Lisu historical phonology, the relationship between Lisu and proto Lolo-Burmese has been outlined here. An attempt has been made to set forth the initial, tonal, and rhyme correspondences in an explicit manner wherever that seemed reasonable. This study is 'preliminary', but only in the sense that further work in Lolo-Burmese has to modify some of the conclusions reached here. One thing this study points out clearly is that Lolo-Burmese reconstruction is still in its infancy—a tremendous amount of work remains to be done.

*Standardization:*

Data from four authors, each with his own notation, is used in this study. For comprehensibility, the data has been standardized. This was done only to the extent that such standardization could be done mechanically. For several things, Fraser (1922) seems to have used one symbol in complementary distribution to stand for more than one sound. This is noted.

*Tones.* These may be mechanically translated from one system to the other. Hope has one additional tone, a high-fall tone symbolized by †, but this is clearly a sandhi tone originating from a mid tone in sentence final position.

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*Consonants.* Hope indicates the palatal series by the use of a -y-. Fraser's sh- and sy- appear in what is essentially complementary distribution and thus they have been treated as allophones of the same phoneme /š-/ . Likewise, his w- and y- have been phonemicized into /w-/ .
Fraser’s hh- versus h- distinction has been standardized on the basis of the reflexes in the other dialects.

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| Vowels |  |  |  |  |
| àe      | æ        | á        | aë     |
| e-      | ye       |          |        |
| i-      | u        | ì        | i      |
| o-      | o        | aw       |        |
| u-      | u        | ü        |        |
| we      | ć        | we       |        |

The data
A modern Lisu form normally only has three parts: a tone, an initial, and a final. Thus there are only three things which can fail to correspond as expected. Items which deviate from the expected form by more than one feature have not been included. Deviant initials are marked by a superscript I, deviant finals by F, and deviant tones by T.

Reconstructions designated with RB (for Robbins Burling’s *Proto-Lolo-Burmese*) represent a thorough reworking of Burling's
early reconstructions in light of subsequent discoveries and in light of the Written Burmese evidence. In addition, missing Lisu forms have been added. Reconstructions found in James A. Matisoff's The Loloish Tonal Split Revisited (TSR) are generally not included below. Such reconstructions are only added in order to supply a missing form or to voice a disagreement with some aspect of the analysis found there.

The sets:

ABLE *s-brik (TSR 68) WB phrac Lh pí LiH pó Ak pyeu LS
BE AFRAID/FRIGHTEN (TSR 104) *s-krok LiF cà *grok WB
krok LiA jò Ak gu LS
The *grok is an additional form necessary to account for the Anonymous and the Akha forms.
AFTERWARD/NEXT ONE *s-nak (TSR 151) WB nak-phran 'tomorrow' LiA ká-nê LiF kë-nte Ak na-ya-k'o LS-LS-LS
Lh né-qhà? 'next year' and Sàni na 44 'next' come from a variant with a medial -y-, *s-nyak.
ANGRY *m-tsiš (TSR 77) LiF dzi

ANIMAL see CHILD
ANT *p-rwak (TSR 183) WB parwak Lh pú-γô? LiB bò- LiF
bò-lo' Ak a-ho H-M
ANTELOPE *hya² RB Lh hà LiB hyà LiF h'yè LiH hyà Ak ha L
ASCEND *m-tak (TSR 98) LiF dê *s-tak 'carry' LiF tê

ASHAMED see SHAMEFUL
ASK *s-na¹-nya³ RB Lh na-ni LiA ng-ni LiB ng-nyi LiF ng-ni
LiH na-nya Ak na-ha H-L
AWAKEN *s-now² RB hrui Lh nô LiF γl-nyí gi Ak noe L
BAMBOO *wa² RB WB và LiH vàh Ak za L
BANANA *(s-*)γak (TSR 139) LiA γg LiB γg-sù LiF γg-sí⁸
LiH γa-ma Ak γa M < *k-γak WB hγak-pyo-sí
BARK OF A TREE *s-kuk (TSR 71) WB khok LiF kò Ak
a-h'ô H-HS
BARKING DEER *kya⁴ RB WB khye Lh chi LiB chê LiF
chi LiH chi Ak ci-ha H-L
BASKET *kak (TSR 7) LiF khà-tê
BEAN *(s-)nök (TSR 140) WB nök Lh nò? Liₐ á-nq Liₐ á-nq Liₐ á-nq Ak a-nui H-HS
A parenthesized s- indicates that the WB cognate has a plain rather than aspirated nasal; i.e., the s-prefix only in Loloish, not Burnish. This form was reconstructed *(s)-nok in TSR, but the Akha form shows the *(s)-ok rhyme.
BEAR *(d-wam) WB wam Lh yë Liₐ yo-phà Liₐ wo-phà Liₐ wo-phà Ak hm H
BEE *(bye) RB WB pyâ Lh pë Liₐ á-byë Liₐ byà Liₐ byà Liₐ byà Ak bya L
BELOW *(ok) (TSR 173) Liₐ ò-s₄ Liₐ wù-pó Ak la-o L-LS
In TSR not this variant but rather *(y)ok is set up. The Lisu forms show the need to set up the *(y)ok variant as well as showing that the Akha forms cited as variants of the *(y)ok provenience could simply be from different proveniences.
BIG *(k-rí) RB WB kř Líₐ ú Liₐ wù Líₐ wù Akha hui L. The *(k- prefix is dropped in Lisu and Akha.
BIRD *(s-)nak (TSR 141) WB ṭak *(k-nak Lh ṭā? Liₐ nyë Liₐ nyë Liₐ nyë Liₐ nyë Ak nga-ceh M-H
The initial is not irregular, but regular with the *(y)-palatalizing before the *(ak rhyme. In addition, in TSR the Lolo-Burmese prefix is reconstructed *(s)- on the basis of Written Tibetan srgb ‘sing; voice’, but I reconstruct a *(k- on the basis of the tonal reflex in Lisu. The *(k- is certainly plausible since it could be the Lolo-Burmese voiceless velar animal prefix found before the names of animals. Compare *(k-lok ‘maggot’, *(k-rak ‘chicken’, and *(k-rwak ‘rat, mouse’. Compare also Akha k’a L found in front of the animal names.
BITE *(C-kwap. (TSR 90) WB kwap Liₐ kh pérd Liₐ kh pérd Liₐ kh pérd Ak kaw LS
The suggested *(C-kwap version would be palatalized in Lisu.
BITTER *(k₄ RB
WB khâ Lh qhâ Liₐ khwâ Liₐ khwâ Liₐ khwâ Liₐ khwâ Ak k’a L
BLACK *(s-)nak (TSR 142) Liₐ nê Ak na HS WB nak
BLANKET *(M-pap (TSR 78) Lh á-bô? Liₐ zî-bu Liₐ yi-bu F
The Fraser form is incorrectly cited in TSR. The set is tentative
due to the large number of Lisu forms meaning cape, clothing, blanket, etc., and the irregular Lisu finals.

**BLOOD** *sway² RB WB swè Lh ši Liᵦ šù Liᵦ sì Liᵦ ši Ak shi L
**BLOW** (s-)mut (TSR 143) WB lmn̥t Liᵦ mn̥ Ak mi HS

**BLUNT** *dum² RB WB tūm Liᵦ dū-le Ak yaw-dṁ M-L
**BOAT** *slay¹ WB a-hłe Lh ḫa-l̤-ʔ-qō Liᵦ ḫ

It is the first syllable of the Lahu form which is cognate.

**BODY** *gn¹ WB a-kōŋ Liᵦ gə Ak g'aw H

A g' (voiced velar fricative) is the regular reflex of *g- without a r- or w- glide in Akha.

**BOIL** *s-tsu¹ RB WB tʃu Liᵦ t̥s̥g Liᵦ t̥s̥g

The Fraser form was incorrectly cited under *s-gyak 'cause to boil' in TSR.

**BOIL** see COOK

**BOLD** *ray² WB rāi Liᵦ n̥-wù

**BONE** *rw² RB WB ṛuí Lh -γ̃ Liᵦ ṛọ Ak yoc L

**BOOKS/PRINTED MATTER** *taw²; READ *tay¹ WB thūi; ṛè Lh thō-γ̃eʔ Liᵦ thō-γ̃ Liᵦ thō-γ̃ thū-γ̃ 'paper'

The second syllable of the Lahu form is not related to WB ṛè 'read', but may be related to WB ræ 'wind around, encircle'.

**BORROW** *kwa² RB WB khvē Lh čʰ Liᵦ čʰ Liᵦ čʰ

**BOWELS** *u¹ RB WB u Liᵦ wu Liᵦ wu Ak u² L

**BRAIN** *s-nok (TSR 156) WB ̀-hnok Liᵦ wû-ń

In TSR this form was listed under the open tone variant. Actually it could fit with either form, but in either case the final is not quite what is expected.

**BRANCH** (TSR 43) *s-gak. WB a-khαk Lh qá Liᵦ sī-ká *(s-)gak. Liᵦ sī-ł̤-kα

Here the difference between the Anonymous and Fraser forms requires that two different proto-forms be set up. In TSR the Fraser form is cited under *s-gak, but it should be under *(s-)gak.

**BREAK IN TWO/BRITTLIÉ (TSR 40) *tsat or cat. WB tshat Lh čʰʔ Liᵦ chvē Ak tsih HS *C-tsat or *C-cat. Liᵦ chvē

Note that the Akha and Lisu initials do not agree. Normally both Akha and Lisu preserve the distinction between the dental and palatal affricates, but before some rhymes with front vowel reflexes there is disagreement.
BRIDGE *jam RB Lh cò Li_F gò-jé Ak dzm H
Again, both Lisu and Akha disagree.
BUMP/COLLIDE (TSR 80) *gruk Li_H jwù *N-kruk. Lh gû? Li_F jwe_f
The Hope form necessitates the *gruk variant. The Fraser form makes the -r- medial necessary rather than just hypothetical.
BUNCH *way Lh wì Li_A yi Li_F xa_f
BURN/CAUSE TO BURN (simplex-causative; TSR 62) *duk WB tok Lh tò? Li_A dò Ak do LS *s-duk Li_F á-tó Li_H á-tú 'fire'
BUY *way RB WB wai Lh vi Li_A u Li_B wu Li_F wu Li_H wu Ak zeu H
CALL *kwaw RB WB khau Lh qho Li_A khû Li_B khu Li_F khu Li_H khwu Ak ku H
The laryngealization in the Anonymous is unexplained.
CARRY see ASCEND
CAT *k-ruŋ WB kroŋ
CATCH see SEIZE
CAUSE *sø-dzoy RB ?ø-tse Lh ci Li_A tsï Li_F tsï
CAVE/GROTTO see STONE
CHAFF *pway RB phwâi Lh wà* phi Li_H dza-phi Ak pui L
CHANGE INTO *s-lay RB hlâi Li_F ë Li_H lwï
CHASE *m-rak (TSR 162) Lh yà? Li_A gà Li_F gà Li_H gà Ak g'a LS 'hunt'
Here the initial and the nasal prefix fused giving the Lisu g-initial. The Lahu and Akha initials show no trace of the *m-prefix.
CHICKEN *ko-rak > *æ-rak (TSR 184) WB krak Lh yà? Li_A á-yá Li_F á-yá Li_H á-yá Ak ya M~za M
The -æ is necessary to prevent the initial *r- from becoming an h-. In both the Lahu and WB forms the *k- remained a *k-but in Lisu it progressed to a *?æ-. The Akha tone is regular.
CHILD *za RB WB sà Lh yà Li_A zà Li_B ë Li_F ò-nwë Li_H zà-nwë Ak za L
The second syllable of the Fraser and Hope forms means 'shoot, sprout' and is from *s-nyok. The *za means 'child, man, person, young animal, etc.'.
CHIN/CHEEK *ba RB WB pà Lh pà- Li_B bà- Li_H bà- Ak bà L
CHOOSE *søy¹ WB sîy Lh ñi Liₐ si LiᵢF sî
CLEAR/PURE *søy² WB sãi LiᵢF sî-sã (first syllable)
CLEAR WEATHER *m-ba³ WB pa’ Lh ba LiᵢF bã LiᵢH ba Ak ba ‘shine’
COLD *grak (TSR 99; Sino-Tibetan Conspectus fn. 124) LiᵢF jỳà
COLLECT/GET/OBTAIN *ra³ ‘get, obtain’ WB ra’ Lh γa Liₐ wà LiᵢH wà Ak zà M *⁹(s)-ra³ ‘collect’ WB ra’ Lh šø Liₐ šwà LiᵢF ša
COMFORTABLE/PLEASANT/EASY *sà¹ RB WB sa Lh ša Liₐ sa LiᵢF sa LiᵢH sa Ak sa H
COME *la¹ RB WB la Lh là Liₐ la LiᵢB la LiᵢF la LiᵢH la Ak la H
COMPLEMENTIZER, IMPERATIVE *way¹ Lh vi; vø LiᵢH γø
COOK *s-gyak (TSR 61) WB khyak Lh cà Liₐ cà LiᵢF cû LiᵢH cà
Neither of the Lisu forms cited in TSR is correct. The tšû form
goes with *tsu¹ ‘boil’ and the tsa form presumably comes from
*⁹(s)-dzak.
COPPER *gray² RB WB krê Lh kî Liₐ jî Ak gui L
COUNT *sə-ray¹ WB œ-re Liₐ u
CRAZY *sə-ru² WB œ-rû Lh γû LiᵢF wû Ak u L
The Lahu form is not preglottalized.
CROOKED/WINDING *gok (TSR 2) WB kok Lh qò? Liₐ gò
LiᵢF gø Ak g’o LS GIVE BACK/RETURN *C-kok (TSR 34) Lh
Lh qhø? LiᵢF khò Ak k’o LS
CRY see WEEP
CUBIT *⁷(s-)gyak (TSR 100) LiᵢF cã
CUSTOM/HABIT/LAW *løy² WB le’⁵ Lh ñ-li LiᵢH yî-nil
DAY *nøy² RB WB ne’ Liₐ ni LiᵢF nyî Ak nah M
DAY/SPEND THE NIGHT *ryak (TSR 174) OB ryak WB rak
Lh hà LiᵢF hyè Ak ya LS Sa he 22s Na xà 34
DECAY/PUS *cway² WB tshwè LiᵢF bl-chî LiᵢH chî
The first syllable of the Fraser form comes from *bup ‘rot; pus’.
DEEP *s-nak Lh nà Ak na LS Sa ne 55 LiᵢF nà
DEER see ANTELOPE
DESCEND *zak (TSR 121) Liₐ zè LiᵢF řè LiᵢH yè
DESTROY *pyak (TSR 64) LiᵢF phyè
dIE *søy¹ RB WB se Lh ši Liₐ ši LiᵢB šu LiᵢF ši LiᵢH ši Ak shi H
DIFFICULT/POOR/SAD *s-ra² WT sra-ba WB hrà ‘be scarce’
Lh hā Liₐ swá Liᵢ ṣá Liₜ swá Ak sha L Sani ṣá 55
DIG *m-du² RB WB tū Lh dū Liᵢ dū Ak du L
DIVIDE/APPORTION (simplex-causative) *bum¹ WB ṣa-pu
Lh pē 'to share; divide' Liₐ hy² Liᵢ bwe Liₜ bwe *s-bum¹ WB
ṣa-plum 'sort' Liₐ py Liᵢ pwe
DOG *kwɔy² RB WB khwę Lh phê Liₐ kh-li-gà Ak kui L
DOVE *m-krow² RB WB khrúi; khyńu Lh gú Liᵢ á-gà Ak gu L
As far as the Lisu form is concerned this form could also be
reconstructed with the ṣky- initial. Either initial normally
palatalizes in Lisu. The nasal prefix seems to fuse with the
initial to produce a voiced velar stop. Compare 'chase'.
DREAM *(s-)mak (TSR 144) WB mak Lh mā? Liᵢ myr Liᵢ
myr Ak ma HS
The emergence of the ṣ- in the Lisu forms apparently
represents a secondary palatalization paralleling the normal
development in Lepcha and the occasional development in Tibetan (WT)
(Paul Benedict, personal communication).
DRINK *m-day¹ RB Lh dò Liₐ do Liᵢ do Liᵢ do Liₜ du Ak
daw H
DROP (TSR 82) *m-tsak WB ṣa-tsak Lh jā? Ak dza HS *s-tsak
Liₐ tség²
DRUNK *yit (TSR 163) WB yac Liₐ ẑi Liᵢ yël Liᵢ yël Ak yeh
LS
DUNG *kyay² RB WB khyê Liᵢ chè Liᵢ chè Ak ce L
EAR *s-na²,*s-baj¹ RB WB nà Lh nā-po Liₐ nā-po Liᵢ nā-po
Liₜ nā-pu Ak na-baw L-H (< *baj¹)
The second syllable of all the Loloish forms means 'lobe'.
EASY see COMFORTABLE/PLEASANT
EAT/FEED (simplex-causative) *dza² 'eat'. WB tsā Lh cá Liₐ
dzà Liᵢ dzà Liᵢ dzà Liₜ dzà Ak dza L *s-dza² 'feed' Lh cá
Liᵢ cá¹ Liᵢ tsā Ak sha M

EGG *u² RB WB u' Lh u Liₐ -fu Liᵢ -fu Liᵢ x'u Liₜ fwy Ak u² HS
EIGHT *s-ryat (TSR 171) OB hryat WB hrac Atsi sît Maru se?
Lh hi Liᵢ hi Ak yeh LS Sa he 22s Na xê 34
EMBRACE/HOLD IN ARMS *k-rap WB thak-krap *s-o-rap Liₐ
yo *s-rap Liᵢ só
The Fraser form was listed erroneously under 'rub, stroke' in

13 Acta Orientalia, XXXVIII
TSR. Notice the prefixal variation, particularly, the *k- and *s- substitution.
EMERGE *m-twak (TSR 102) Li_f d̪ ŋ
EMPTY *gaj⁵ RB WB kâŋ Lh qœ Li_A gœ Li_B yî-gœ
EXCEL *s-Iwan¹ WB hIwan Li_f myê-le
EYE *(s-)myak (TSR 145) WB myak Li_f mye Ak mya HS
FAR *way⁵ RB WB wê Lh vi Li_A γœ Li_H γœ Li_f γœ
FAT/GREASE *tsi¹ RB WB tshi Li_A tshi Li_B tshi Li_f tshi Li_H
tshi; tshi Ak tsi H
The laryngealization on the Anonymous form is odd. The tones on
the Hope forms are sandhi tones or mistakes.

FEAR see BE AFRAID
FEMALE SUFFIX *ma³ RB WB ma Li_A -ma Li_B -ma Li_f -ma
Li_H -ma Ak ma M

FIELD see GROUND
FISH RB *ña² WB ṇâ Lh ṇâ *s-ña² Li_A ṇwâ Li_B ṇwâ Li_f ṇwâ
FIVE *ña² RB WB ṇâ Lh ṇâ Li_A ṇwâ Li_B ṇwâ Li_f ṇwâ Li_H
γwâ Ak ṇa L
FLOWER *(sa-)wat (TSR 185) Li_f sî-ve
FLY *(sIyam¹ RB WB pyam Li_A bi Li_B byo Li_f be Li_H bywe
FOOT *(s)roy¹ RB WB khre Lh khî-še Li_A chî-phê Li_f chî-phê
Ak kui H
FOUR *(s)الية² WB lé Maru blt Lh ñ Li_A jî⁷ Li_f jî⁷ Ak oe L
There are irregularities with this word throughout Loloish.

FOWL see CHICKEN
FRIEND *(s)kyaŋ₂ *pak WB khyâŋ; phak Lh ñ-chô Li_f chô-phê
Li_H chwê-phê^T
FROG *(s-pa² RB WB phâ Lh pâ Li_A ñ-pâ Li_B wû-pâ Li_f ú-pâ
Ak pa H
FRUIT/SMALL ROUND OBJECT *(s)ea³ RB WB sî Lh ń-sî Li_A
sî-sî Li_B sî-sî Li_f sî Li_H sî Ak a-si H-L
It is the first syllable of the Lisu forms which is cognate.

FULL see SATIATED
GOAT *(s)-V-cit (TSR 27) WB tshit Lh á-chê? Li_A á-chê Li_f á-chê
Li_H á-chê Ak ci LS
All the Lisu forms except Fraser have lost their laryngealization.
GOLD/YELLOW *s-ray¹ RB WB hrwe LH ši Liₐ ši Li₆ šu Li₆ ši Li₆ ši Ak shi H

GRANDFATHER, GREAT *paw² Li₆ phi
GRASS/WEED *mruk (TSR 138) LH mû? Liₐ mû Li₆ mû Li₆ mû Ak mo LS
This set is not related to ‘shoot/sprout’ as suggested in TSR.
GRIND *m-krit (TSR 94) Li₆ jwe
GROUND/FIELD *rya¹-*mray¹ RB OB rya WA ra-ya ‘field’
LH he mi Li₆ ha-mi Li₆ ha; mû Li₆ ha-mi Li₆ mi Ak ya H
GUN/EXPLODE *(s-)bök (TSR 108) WB phok Li₆ pø Li₆ pø Li₆ pø Ak beu HS
HAIL *wa²,*si² LH væ-si Li₆ væ-si
The second morpheme means ‘small round object’ (see ‘fruit’).
HAIR *tsam¹ RB WB tsham Li₆ ó-tsê Li₆ tshê
HAIR OF BODY *r-mul⁰ WB mwêº LH mu Li₆ my Li₆ my
HAND *lak (TSR 166) WB lak Li₆ lë Li₆ lë Li₆ lë Li₆ lë
HAWK/KITE *dzwan¹ RB WB tswan LH â-cê Li₆ dze Ak dze H
HEAD/TOP *sa-u² RB WB ʔo-â Li₆ â-gû Li₆ wû-dy Li₆ wû-dy
Ak u L
HEAR *gra² RB WT sgra ‘sound, noise’ WB krâ LH kâ Li₆
pa-ja Li₆ pa-ja Li₆ bæ-dzâ¹ Ak ga L
HEART *k-nik (TSR 146) WB hnac-îm Li₆ nî-ma Li₆ nî-ma
Li₆ nî-ma Li₆ nî-ma Ak a-nui M-M
Despite the Written Tibetan form snyiḥ ‘heart’, this form is
reconstructed with a *k- prefix and an *-ik rhyme. The Akha
and Lisu tones indicate the *k- prefix, and the stopped nature
of the WB and Lisu forms require a *-ik.
HEAVY *lay² RB WB lë Li₆ li Li₆ li Li₆ li Li₆ li
HELP *m-kra¹ LH ga Li₆ ži-jwa Li₆ ja Ak ga H
HIGH *mray³ RB WB mray⁰ Li₆ mû Li₆ mû Li₆ mû
HOLE/HOLLOW *kun² ‘holec’ LH ʔ-qho Li₆ khu Li₆ khu Li₆ kha Li₆ li
khu Li₆ khyû *-kun² ‘hollow’ WB kûj LH qô
HORN *kraw¹ WB khrui LH ʔ-kho Li₆ wû-chì *kwe³¹ WB
khui Ak coe H
HORSE *mraw³ RB WB mraw Li₆ mû Li₆ mû Li₆ mû Ak mah L
HOT *tsa¹ LH cha Li₆ tsha Li₆ tsha Li₆ tsha Ak tsa H
HOUSE *k-yim WT khyim Liₐ he Liₚ h'i Liₜ h'i
A *yim variant also exists.

HUMAN CLASSIFIER see PERSON, CLASSIFIER
HUNDRED *rya¹ RB OB ryā WB ra Lh ha Liₐ he Liₜ hya
Liₚ h'ye Li₇ hya Ak ya H
I *ya¹ RB WB ya Lh ḥa Liₐ ḥwa Liₘ ḥwa Liₙ ḥwa Liₜ ḥwa
Ak ḥa H
INSECT *bōw² WB pāi Lh p'i Liₙ bù 'silk' Liₘ b-i-dī 'bug'
Ak boe L
INTERROGATIVE MARKER *la² RB WB lā Lh lā Liₐ lā Liₘ lā
Liₜ lā Li₇ lā

INTESTINES see BOWELS
IRON *sam¹ RB WB sam Lh ṣo Liₐ xo Liₘ xo Liₚ xo Ak
shm H
JOIN *s-dzak (TSR 44) WB tsak Lh cā Liₘ tsā Ak tsā LS
Mistakenly marked as tonally deviant in TSR.
JOINT *(s-)dzik (TSR 45) Lh cī Liₚ tsji; tsji Ak a-tsui H-LS

KITE see HAWK
KNIFE *la² WB thā Liₐ á-thā Liₖ thā Liₕ á-thā
KNOT *tum² WB thām Liₘ thwē Li₇ thwē Ak tm L
KNOW *sye² RB WB s' Lh ši Liₐ ši Liₘ ši Liₕ ši Li₉ ši Li₇ ši
LAC *s-grip (TSR 46) WB khrip Lh a-kī Liₐ cī
LADLE *kyok > *k-yok WT skyogs WB yok Liₘ kq Li₇ ṭwā
In the WB neither the s- nor the cluster initial k- was kept.
In Fraser the k- prefix pre-empted the initial after having raised
the word to the mid tone class. In Hope the k- prefix raised
the tone to the high-rising class. The Fraser form is important
in that it preserves the only overt evidence for the k- prefix
aside from tones and altered initials.
LEAF *V-pyak (TSR 29) WB phak Liₐ phyè Liₖ ſi-phyæ Li₇
yi-phyə Ak a-pa H-LS
The Lisu form, marked deviant in TSR, is regular.
LEAK *yow¹ RB WB yui Liₐ ḟi Liₕ y'i Ak yoe H
LEARN *saŋ¹ WB saŋ Liₐ sq Liₕ sq Li₇ su Ak saw H
LEECH *k-r-wat WB krwat (TSR 167)
LEND see BORROW

LEND *s-ŋa² RB WB ḫə̀ Lh ṣā Li₄ ŋwā Li₅ ŋwā Li₆ ŋwā Li₇ ʊ́ Ak ṣa L

LICK *m-lyak (TSR 179) Li₅ ḫə̀ Ak ḫa myeu LS Bisu ḫə̀

LIE DOWN (SLEEP)/PUT TO SLEEP (simplex-causative)

(TSR 180). *yip WB ṣiś Lh yə Li₄ -e-tà Li₅ yə-tà Li₆ yə-tà

Sa ji₂²⁸ Li₃ ḫ-e-tà Ak yu LS *s-yip WB sɨp Lh f Li₅ ḫə̀ Li₇ ḫə̀ Sa

śi 55

The *s-yip provenience was *ṣyip in TSR.

LITTLE *s-zɔy¹ WT ziy Li₄ ḫə̀ Li₅ ḫə̀ Li₆ ḫə̀ ḫu

The pre-glottalized z- patterns like a Lisu y- initial.

A LITTLE *n-yak (TSR 158) WB nyak Li₄ nī

LIVER *siŋ² RB WB sān Lh ø-šə̄ Atsi siŋ Li₅ sɨ-phyè

The second morpheme in the Lisu form looks like *C-pyak 'leaf', but without the tone lowering prefix. Note the form is not laryngealized. Lisu forms which either have a palatal reflex or a reflex with a -y- medial lose their laryngealization.

LOAD/BURDEN *wan¹ WB wan Lh ə-vi² Li₅ ə Ak yə̀ H

LONG *s-riŋ¹ WB hran Lh yə̄; śi Li₄ nī Li₅ nī

The Lahu forms are what one would expect if there was both a prefix pre-empted and a non-prefix-pre-empted variant.

LOOM/WEAVE/SPIN *rak (TSR 192) Li₅ yə̀ Li₆ yə̀

LOSE *C-pyok WB phyok Li₄ phɨ-e Li₅ phɨ-xè

LOUSE *sàn¹ RB Lh še Li₅ xi *sàn² WB sān Ak sheh L

MACHINE *C-cak (TSR 33) WB cak 'wheel' Lh cə̀? Li₄ chə̀

Li₅ chyè Li₇ chà-lə̀

This is an early loan from Sanskrit through Pali. It fits all the correspondence patterns except one: all the other forms with a palatal reflex are delaryngealized.

MAGGOT *k-luk (TSR 186) WB lʊk Lh ðu -lù-qā Li₄ hə̀ Ak a-ŋ H-M

In TSR the Akha form lu-tah HS-L is given, but this must be from *sa-luk since the regular reflex of *kə-luk would be lu M. Notice that the Akha form comes from *kə- while the Lisu comes from a plain *k- prefix.

MANY *mra² RB WB myə̀ Lh mà Li₄ myə̀ Li₅ myə̀ Li₇ myə̀ Ak myə̀ L

Note the Lisu vowel parallels the behavior of *-ak after a -y- medial.
MEAT $ʂa^2$ RB WB sâ Lh $h$-ʂä Li$_A$ xwâ Li$_B$ xwâ Li$_F$ xwâ Li$_H$ xwâ Ak sha L
The Akha sha L is obviously the s-flesh prefix and still is retained as such in Akha.

MILK see SUCK
MONKEY *myok (TSR 133) Li$_A$ mĩ Li$_B$ myg Li$_F$ mywẽ Li$_H$
MOON $k$-la$^3$ WB la' Lh ha-ba Li$_A$ ha-ba Li$_B$ ha-ba Li$_F$ ha-ba
Ak la M ($<$ $t$-la$^3$)
It is the first syllable of these forms which is 'moon'.
MOVE TO (TSR 112) *s-gyit Li$_A$ cį *(s-)gyit Li$_F$ cį *C-kyit Li$_H$
Ch
The Fraser form cį was incorrectly placed under *(s-)gyit in TSR.
Notice that this is exactly the type of word that one would expect to have a number of directional and relational prefixes associated with.
MUSHROOM *s-mongoose RB Li$_B$ mu Li$_F$ mi-chî Ak hm H
WB also has a tone 2 variant hmûi and Lahu has a non-pre-glottalized tone 1 form må.
NAME *s-mi$^3$ RB WB hmań' Lh mœ Li$_B$ myg Li$_F$ myg Li$_H$ mywẽ
*s$-mi$^1$ WB mań Ak mah H
NEEDLE (TSR 191) *kə-rap WB zak Li$_F$ wô $^*$rap Lh $^*$gô?
Li$_A$ $^*$gô Ak a$^*$g'aw L-LS
NOSE *s-na$^1$ RB hna Li$_B$ nə-bi Li$_F$ nə-bwe Ak na-meh H-H
NOT $^*$na$^3$ RB WB ma' Lh må Li$_A$ må Li$_B$ må Li$_F$ må Li$_H$ må
Ak ma L

OBTAIN/GET see COLLECT
OLD (OF PEOPLE) *maŋ$^2$ RB WB måŋ Lh måō Li$_A$ måō Li$_B$
måō Li$_F$ måō Li$_H$ måō Ak må L
ONE *t$^2$ WB thî 'single' Li$_A$ thî Li$_F$ thî Li$_H$ thî Ak ti L
A stopped variant also exists: *C-tîk.
OPEN *pwaŋ$^2$ WB phwə$'$ Lh pə Li$_B$ phə$'$ Ak pə M
OWNER *siŋ$^1$ WB sań Li$_F$ si$p$-hə Ak sań H
OVERTAKE *s-mi$^1$ RB WB hmi Lh $^*$gə$^*$-mî Li$_B$ $^*$gə$^*$-mə Li$_F$
gə$^*$-mî Ak mî H
The first morpheme in the two part examples is 'chase'.
PAIR *dzum¹ RB WB tsum Liₐ dze Li₇ dze *dzum³ LH ce Ak dzm M
PARROT *gyød² RB WB kyê LH cf Li₇ á-jù Ak -je L
PENIS *m-lay² Atsi n²yi Maru n²yi LH ní
PENIS *saw² WB sùi LH sò ‘testicles’ Li₇ x‘ô
PERSON *isaq¹ -(*za³) RB WB tshaq LH cho-yâ Liₐ tshq-zâ
Li₇ tsho Li₇ là-tsho Li₇ là-chu¹ Ak tsaw H-L
PERSON, CLASSIFIER *sə-yok RB WB yok ‘man’ Liₐ ūq
Li₇ ṭq Li₇ ṭq Li₇ ūq
The first morpheme, *sə-, is probably a reduction of *su¹ below.
PERSON, CLASSIFIER *su¹ WB su ‘who’ LH šu Liₐ šu Li₇ šu Li₇ šu
Li₇ swy
PICK UP *k-rok (TSR 187) WB kok LH γô? Liₐ go Li₇ gg
Ak g‘ô HS
In Lahu the prefix dropped after changing the word’s tone.
In Lisu it not only changed the word’s tone class but also
fused with the initial. In WB it pre-empted the initial producing
an original voiced stop. Likewise in Akha it fused with the
initial; a k- prefix would normally put a form into the mid tone
unarynialized class.

PILE see DIVIDE
PINCH/HOLD CHOPSTICKS *k-nyap (TSR 147) WB hnyap
nyap LH nò? Liₐ nò Li₇ nywé
Instead of the *š- prefix in TSR I have set up a *k-. A form
chi-nî was cited here in TSR, but it belongs with *š-nip
’squeeze’.
PLACE/BETWEEN *s-gra³ WB khrâ LH ᵃ-kâ Li₇ -câ
PLENTY *gum¹ WB kum Li₇ gu
PLUCK *pyak (TSR 17a) LH phô² Liₐ pî Ak pya HS

PLUCK see TEAR/SEPARATE/PLUCK
POISON/TO POISON *s-dok (TSR 113) Li₇ tó

POOR/SAD see DIFFICULT
PORCUPINE *s-bru¹ RB WB phru Li₇ pû Li₇ pû Ak pu H
A Lahu form pû comes from an unprefixed variant.
POUR *s-wan² WB swân Li₇ xô Ak sheh L
A stopped variant also exists: *C-sat.
PRICE *paw² RB WB phuí Lh phû Liᵢ phû Liᵢ phû Lh phû
Ak poe L
PUT/PLACE/LEAVE *s-ta² WB thâ Lh tà Liᵢ tà

PUT TO SLEEP see LIE DOWN
RAIN *rwa¹ WB rwa Liᵢ mì ha Sa ha 33
RAT/RODENT *k-r-wak (TSR 188) WB krawak Liᵢ h’ê Ak
ho-ca M-LS

READ see BOOK
REAP *rî.t (TSR 169) WB rît Lh γê? Liᵢ γê Liᵢ γê Lushai rît
The -ê vowel is the normal reflex of a front vowel preceded by
an *r- initial. The only indication of an r- which was in a cluster
is the -ê which it left behind before dropping in many cases.
The Hope data is good for this. The length in the above example
correlates with the presence or absence of the -t in WB; a long
rhyme gives WB -ît and a short rhyme WB -ac.
RED *s-nî¹ RB WB γê-nî Lh nî Liᵢ nî Liᵢ nî Ak ne H
RICE (UNCOOKED) *s-dza¹ RB WB tsa-pâ Lh cà Liₐ dza Liᵢ dza
Liᵢ dza-phu Liᵢ dza
RIDE (A HORSE) *s-dzî² RB WB tsî Lh çî Liᵢ dzx Liᵢ dzx
Liᵢ dzx Ak dzx L
RIPE/GROWN *s-mîŋ³ RB WB hmaû’ Liₐ mì-ê Liᵢ mì Liᵢ mì
Ak myah M
RIVER *s-laŋ¹ RB Lh lën̂ T Liₐ lo-kâ Liᵢ lo Liᵢ lo Ak law H
This root occasionally also means ‘valley’.

ROT/PUS see DECAY/PUS
ROT/PUS *m-bup (TSR 75) WB pup Lh bû? Liᵢ bî-chî Ak
bu LS
RUN *røy² Lh γî Liᵢ γî
see POOR
SALT *tsa² RB WB tsâ Lh thû bo Liᵢ thû-bo Liᵢ thû-bu
The laryngealization in the Hope example may be from the
voicing in the immediately following segment.
SATIATED/FULL *m-pup (TSR 86) Lh bû? Liₐ bî Liᵢ bî
Liᵢ bî Liᵢ bî
SEE *mraŋ¹ RB WB mraŋ Lh mû Lh mo Liᵢ mo Liᵢ mo
Liᵢ mo Ak maw H
SEEK/LOOK FOR *(s-)*ra\(^1\) WB hra \(L_A\) xw\(a\) \(L_F\) xw\(a\) \(L_H\) xwa
Ak sha H
At a higher level of reconstruction this root is undoubtedly *(s-)*ra.
SEIZE/TAKE/CARRY *(y)*u\(^1\) RB WB yu Lh yù \(L_A\) žu \(L_B\) řu
Wil ru \(L_H\) zwu Ak yu H
SELL *(r)*ŋ\(^2\) RB WB rǒŋ \(L_A\) ů \(L_F\) wù \(L_H\) wù

SEPARATE see TEAR
SEVEN *(s)*i\(^2\) RB Lh ši \(L_A\) ši \(L_B\) šù \(L_F\) ši
SHAMEFUL *(s-)*rak (TSR 182) WB h rak Lh yâ?-tö \(L_F\) šé-tq
\(L_H\) sá-tú Ak sha-daw LS-H
Note that this form, too, could be reconstructed *(s-)*rak at a higher level of reconstruction. Lolo-Burmese tends to metanalyze initial clusters as a prefix plus a root initial.
SHARPEN *(a-)*swóy\(^2\) WB **a-swè Lh \(L_F\) ší Ak ší L
SHEEP *(y)*ŋ\(^1\) RB Lh yō \(L_B\) a-řo \(L_F\) a-řo Ak yaw H Sani žo 33
A late loan from Chinese (Paul Benedict).
SHOOT/SPROUT (TSR 148) *(s-)*nyok \(L_H\) yí-nwê *(s-)*nyok \(L_F\) râ-nwē 'child' \(L_H\) nwg 'sprout'; zà-nwg 'child'
WB a-hnyok 'sprout' goes with either of these reconstructions. This set is not related to the set for 'grass/weed' as suggested in TSR.
SHOVE/PUSH *(d)wan\(^2\) WB twân \(L_F\) dwê Ak deh L
SIBLING, ELDER (TSR 172) *(s-)*wyik Lh ĭ-vi \(L_F\) ší \(L_H\) ší
Ak a-yui L LS *(y)*ik WB **a-ciū \(L_A\) žî \(L_F\) á-yî
These forms show no evidence of the -w- medial. The Lisu forms cause the *(s-)* prefix rather than the *(a-)* prefix to be set up. The Akha form fits just as well with either reconstruction.
SIBLING, YOUNGER *(ni)*\(^3\) RB Lh ő-ni-pa \(L_A\) ni-zà \(L_B\) nyî
\(L_F\) nyî \(L_H\) nyî-zà *(ni)*\(^1\) WB nyî Ak nyî H
SICK *(na)*\(^1\) RB WB na Lh â-nâ \(L_A\) na \(L_B\) na \(L_F\) na \(L_H\) na
Ak na H
SINK/SOAK (simplex-causative) (TSR 109) *(s-)*dí \(L_A\) tì 'soak'
*(s-)*dí \(L_H\) tì 'sink' *(s-)*tí \(L_H\) tì *(m-)*tí Ak dwî
HS 'soak in water'
Both of the first two variants must be set up because of the Lisu forms. Again, however, this is the type of word that would be expected to have multiple prefixes.
SKY *mow² RB WB mâu LH mû- Li₁ mî- Li₂ mû- Li₃ mû; mî- Li₄ mô- Ak m L
SLAVE RB *gywan¹ WB kywan LH cê *s-gywan¹ Li₃ cê-pa
SLEEP see LIE DOWN

SMALL ROUND OBJECT see FRUIT
SMOKE *kaw³ RB WB mı-khûi LH mû-qhû Li₃mı-khû Li₄ chî³
In the Hope form something caused the initial to palatalize, although what is unknown.
SNAKE *m-ru¹ RB WB mrwe LH há-vi Li₃ xu Li₄ fwu
In Lahu and Lisu the *m- prefix is dropped without a trace.
SNIFF/SMELL *nam¹ WB nam LH nù Li₃ nwe *nam⁸ WB nâm Li₄ nwê

SON see CHILD
SON-IN-LAW *s-mak (TSR 153) WB sa-mak LH ñ-má Li₁ më Li₄ mwê²
With TSR I set up the *s- initial because of the Lisu reflex's tone, but perhaps the correct reconstruction is Benedict's *z-mak. The reflex is 'odd'.
SPIT *s-twæy² WB thwê Li₃ tî Li₄ tî
SPLIT *kway² WB khwâi Li₁ khî Li₂ khê Li₃ khê Li₄ khê

SPROUT see SHOOT
SQUEEZE (TSR 159) *s-nyît WB hnyac WB hnip 'crush, oppress' LH ní Li₃ nyí Ak nyeh LS *(s-)nip) Li₃ chî-m 'shoes'.
The first syllable of the Fraser form means 'foot'.
STAND *s-tu¹ RB WB ?æthu LH tû Li₂ tû Ak tu H
STAND *ryap (TSR 175) OB ryap WB rap LH hû Li₁ hê Li₃ h¹ Ak yaw LS
The Lisu vowels suggest the Lisu may have come from a *ryap variant reflected in the Nung rip.
STEAL *r-kaw² RB WT rku khûi LH qhû Li₁ khû Li₂ khû Li₃ khû Li₄ khwû Ak k'oe L
STICK RIGHT ON THROUGH/STAB (TSR 21) *tsap LH chô? Li₁ tshó Li₃ tshó Ak tsaw HS. STICK ON *kyap WB khyap Li₃ chwê Ak caw HS
These roots are apparently word-family variants.
STICKY *s-nyak (TSR 154) LH nê Li₃ nô
STIR/MIX *C-krāk (TSR 36) Lh ḷhā? Ak kaw-keu HS-LS
The Lisu examples ṭyā and kyā cited here have finals which are too abberant to be part of the same root.
STOMACH *ʔ (TSR 176) Lh ḷ-ḥi-qō Līf ḷi-či, Sa ḷi-ma 22s–33
STONE *luŋ1 (TSR 190 Jînghpo n-luŋ Mk ar-loŋ LīA lo-tshí)
The Akha form cited under this root in TSR actually comes from *ko-lok (cf. Obklok).
STONE/CAVE/GROTTO/COMPOUND *b-rak > *ʔa-rak (TSR 190) WT brag WB hrak 'compound' Lh há LīA ḷā 'grotto'
LīF ġā LīH ġā
The semantic connection is seen in the full Lahu word há-qō which means 'rock hollow'.
STOP *ma2 RB WB nā 'rest; perch' LīB nā 'rest' LīF nā LīH nā Ak nā L

STUDY see LEARN
SUCK/MILK (TSR 73) *C-cup Lh chō? LīB čuŋ LīF či *s-cup LīF či Ak ču HS
The Lisu Fraser form may go only with the *s-cup variant, although TSR suggests it fits with both.
SUPPORT/PROP UP *s-lok WB thok Lh tō? LīF tō
SWEAT *r-kul2 WT rṇul WB khrwē Lh ā LīA či-zī LīB čū LīF čū Ak ku L
SWEET *syt (TSR 120) LīF sī
SWEET *kwy1 RB WB khyui Lh čhā LīB čhū LīF či Ak cōc H
TAIL *r-mī2 RB WB mī Lh mē LīA ė-mī LīB mō LīF mī’ Ak mī L

TAKE see SEIZE
TEACH *s-ma2 RB WB hma2 Lh mā LīA má LīB má LīF má LīH má Ak mēh’L
TEAR/SEPARATE/PLUCK (TSR 127) *C-šak ‘pluck’ WT gśag-pa Lh šā ‘pluck’ Sani še 22s LīF šā ‘pluck (also cited as ‘tear’)’ *šak ‘tear; separate’ LīA šā LīF šā LīH šā ‘tear; separate’
The only difference in the two sets of forms is the presence of the voiced consonantal prefix g- in the provenience.
TEN *tsa1 RB WB tsc-tshāi Lh čhī LīA tshī LīB tshī LīF tshī LīH tshī Ak tshē H
The rhyme in this form is ‘odd’ throughout Loloish.
THICK *tu¹ RB WB thu Lh thu Lí₁ thu Li₂ thu Lí₃ thu Ak tu H
THIN *ba² RB WB pà Lh pà Lí₁ bà Li₂ bà Li₃ bà Ak ba L
THORN *cu³ RB WB tshù Lh chú Lí₁ tshù Lí₂ chú Lí₃ chú
TIGER *k-la² RB WB kyǎ Lh là Lí₁ là Li₂ là Li₃ là Li₄ là Li₅
là-ma
The laryngealization on the Burling form comes from the next
morpheme. Combined with the low tone on the first syllable
the form has a phonetic glottal stop.
TONGUE *s-lya¹ RB WB hlya Lh ha-te Lí₁ la-cho Ak la H
TOOTH *s-va¹ WB swa
TRAP *tun¹ WB thoŋ the Li₂ wa-thu ‘set a trap’ Ak tahu H
TWIST *s-rik (TSR 130) WB rac (-rik) Lh ʃi Lí₄ ʃi Ak yeu LS
The Lisu form is incorrectly labelled irregular in TSR.
TWO *ni² Lh nì Lí₁ nì Lí₂ nì Lí₃ nì Lí₄ nì Lí₅ nì Lí₆ LS
UNDERSTAND see KNOW
UNRIPE/GREEN *dzim³ WB tšim Lh ɔ-ci⁷ Lí₁ dzì Ak jm L
Notice that the Akha and Lisu initials disagree.
UNTIE/LOOSEN *pray¹ RB WB phrε Lh phi Lí₁ phi Lí₂ phi
Li₃ phi Ak pui H *bray¹ WB pre Lí₁ bi Li₄ bə
This looks like a simplex-causative pair, but at a higher level
of reconstruction.
URINE *zay² WB sè Lh yí Lí₁ ñ
USE *zu⁴ WB sám Lh yë Lí₁ zë Lí₂ fè; rè Lí₃ ñwè Ak zm L
The first Lisu Fraser form is the expected reflex.
VEGETABLE *raŋ² WB rāŋ Lh γ-čä Lí₁ ɔ-phù Lí₂ wò Lí₃
wù-phù Lí₄ Ak g'aw L
WAIST *gyok or *jok (TSR 6) Lh cʔ? Lí₁ jù-tsì Ak jo LS
TSR lists the Fraser form as coming from an open rhyme
variant. While that is possible, it fits quite regularly with the
stopped rhyme variant.
WALK *swa³ RB WB swà Lí₁ ʃy Lí₂ ʃè Lí₃ ʃwè
WARM *lum¹ WB lum Lh ʃì Lí₁ ly Lí₂ lwe Ak lm H *s-lum³
WB hlum ‘warm up’ Lí₁ lwŋ ‘warm up’
Another WB form hlum exists pointing to a *s-lum¹ variant,
and as well another Li₃ form lwè pointing to a *slum³ variant (cf.
Sani myi⁶⁶).
WASH *tsay² WB tshē Lh chi Lí₁ tshi Lí₂ tshi Lí₃ tshi Ak tsi L
WEAR *wik/t (TSR 181) γ₁
WEED see GRASS

WEEN *gaw¹ RB WB yui Liₐ yu Li₉ yu Li₉ yu Ak yoe H
WHEAT/BARLEY *zay⁹ Lh yi Liₐ zui Li₉ ū Sani zi 33
WHITE/SILVER *pru¹ RB WB phru Lh phu Liₐ phu Li₉ phu Li₉ phu Ak pyu H
WIDE *way¹ Lh fē Li₉ h'i

An etymological f-initial in Lahu results only from pre-glottalization of a *w-initial.
WIGGLE (simplex-causative) *(s)-lik WB lac Li₉ lwi *kə-lik Lh hi? Li₉ lwi

The Lahu fits just as well with either Lisu form.
WIN *(s-)ra² WB ra' Lh yâ Liₐ xwá Li₉ xwá Li₉ xwá Ak g'a L (< *ra²); za M (< *(s-)ra²)
The Lahu form is also non-pre-glottalized. The WB 'creaky' tone is unaccounted for.
WIND *k-lay¹ RB WB le Lh hɔ Liₐ -he Li₉ -hi Lh -hi Ak leh H
Neither the WB nor the Akha forms show evidence of the *k-prefix.
WING *duŋ¹ RB WB toŋ Lh tɔ- Li₉ du-là Li₉ du-là Ak dah H
The second morpheme of the Lisu forms means 'hand'.
WOMAN/DAUGHTER *mi²-n RB WB mìn-ma' Lh yâ-mi Li₉ -mè Li₉ rà-mi' rà Li₉ à-mi Ak mi L
The suffixal nature of the -n was pointed out to me by Paul Benedict. No trace of the -n remains in Loloish.
WORK/LABOR *wa² Lh vâ Li₉ wà Li₉ wà Li₉ wà
WORM *di¹ RB WB tì 'earthworm' Lh pù-tì Li₉ -di Li₉ -di
WRITE *m-puk (TSR 89) Li₉ bŋ

YELLOW see GOLD

YOU *naŋ¹ RB WB naŋ Lh nә Liₐ nә Li₉ nә Li₉ nu Li₉ nu Li₉ nwa
Ak nwa H

YOUTH *s-lak (TSR 177) Lh há Li₉ lè Na hla 44
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