

<b>Citation</b>	Yoshio NISHI. 2016. Proto-Lolo-Burmese and Old Burmese Sources of Written Burmese <i>-ac</i> . <i>Journal of the Southeast Asian Linguistics Society</i> 9:97-129
<b>URL</b>	http://hdl.handle.net/1885/107171
<b>Reviewed</b>	Received 15/3/16, revised text accepted 18/7/16, published August 2016
<b>Editors</b>	Editor-In-Chief Dr Mark Alves   Managing Eds. Dr Nathan W. Hill, Dr Sigrid Lew, Dr Paul Sidwell
<b>Web</b>	http://jseals.org
<b>ISSN</b>	1836-6821



www.jseals.org / Volume 9 / 2016 / Asia-Pacific Linguistics, ANU  
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## THE PROTO-LOLO-BURMESE AND OLD BURMESE SOURCES OF WRITTEN BURMESE -AC\*

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### Original English Abstract

It is a notable fact that some Written Burmese (WrB) morphemes in *-ac* are rather consistently spelt with *-at* when the initials are, or are interpretable as, with medial *-y-*. Thus WrB *hrac* 'eight' is written in some early Pagan inscriptions as *hyat* or *het*. Similarly, we find Old Burmese (OB) *ñhat* for WrB *hñac* 'to squeeze', OB *cat* for WrB *cac* 'to examine, investigate', OB *khyat* for WrB *khyac* 'to love' and OB *mryat* for WrB *mrac* 'root'. On the other hand, the majority of the WrB morphemes in *-ac* are more consistently spelt with *-ac* or *-ec*. To give only a few examples, OB *phlac*, *phlec* for WrB *phrac* 'to be become', OB *tac*, *tec* or even *tic* for WrB *tac* or *ta-* (in composition with classifiers and in some other phrases) 'one', OB *nhac* or *nhec* for WrB *hnac* or *hna-* (in composition with classifiers) 'two', OB *(ʔa-)nhac* for WrB *(ʔa-)hnac* 'year', OB *nhac* for WrB *hnac* 'heart', OB *ʔac-* or *ʔec-* for WrB *ʔac-* ('older sibling') in WrB *ʔac-kúi* 'elder brother' and *ʔac-ma* 'elder sister'. Side by side, with OB *hyat* or *het* and OB *khyat*, however, we encounter variant spellings such as OB *rhec* and OB *khyac*. Likewise, *phlet* and *ʔat-* are variant forms of OB *phlac* ~ *phlec* and OB *ʔac-* ~ *ʔec-*. In spite of this, it is not inconceivable that WrB *-ac* would be the result of merger of two distinct OB finals.

However, OB evidence alone should not be considered sufficient to lead to any definitive conclusion on this matter. It is necessary that our assumption should be supported by the comparative studies of the modern Burmese dialects and the related (Lolo-Burmese) languages. Unfortunately, all the modern Burmese dialects, to my knowledge, seem to have lost the distinction, if ever, between these finals, as WrB did. The only remaining way is then to have recourse to the related languages.

\* As a scholar of the Tibeto-Burman language family, Professor Yoshio Nishi has made significant contributions to the study and understanding of numerous languages including Akha, Tibetan, Tamang, and a variety of languages spoken in the Himalayas. However, Burmese is the language that he particularly revisited in his career. At his retirement most of his research on Burmese was anthologized in *Four Papers on Burmese* (Tokyo, 1999), a book that remains the definitive handbook on questions of Burmese historical phonology. Nonetheless, two of his early papers, because they were written in Japanese, were excluded from that anthology. *JSEALS* here partly rectifies this lacuna by providing an English translation of one of these articles, namely "ビルマ文語の-ac について Birumabungo no -ac ni tsuite" [On -ac in Burmese] 東洋学報 *Tōyō gakuhō* / *The Journal of the Research Department of the Toyo Bunko* 56.1 (1974): 01-43. Although *JSEALS* prefers short footnotes, Nishi's extensive and insightful endnotes are here retained. In addition, Nathan W. Hill (SOAS, University of London) has added editorial footnotes to provide references to relevant publications. The ignorance of this article among Anglophone experts in (Lolo-)Burmese historical phonology amply demonstrates the need for its translation. For example, Matisoff reconstructs Proto-Lolo-Burmese \*ʔ-rit<sup>1</sup> 'eight' (*Handbook of Proto-Tibeto-Burman*, Berkeley, 2003, p. 56) on the basis of Written Burmese *rhac*, showing no awareness of Old Burmese *hyat* and *het* nor of Nishi's paper, let alone his argument for the reconstruction of the rime \*-yat in this etymon. One can hope that the availability of the article in English will forestall such oversights in the future.

The editors of *JSEALS* here acknowledge the kind permission of the Toyo Bunko to publish this translation. We also thank Ulatus for preparing the translation under the auspices of the European Research Council funded project "Beyond Boundaries: Religion, Region, Language and the State" (ERC Synergy Project 609823 ASIA).

In the present study, I have aimed to show primarily on a comparison of OB and WrB with Akha that *\*(y)at* may be set up for Proto-Lolo-Burmese as the source of OB *-(y)at* and hence WrB *-ac* being derived from at least three distinct PLB finals: *\*-ik*, *\*-it* and *\*(y)at*.

As a corollary of this, we have to assign a twofold value to OB *c-* and *ch-* as either an alveolar or an (alveo-) palatal affricate according to their original value in the earlier stage, which eventually merged into an (alveo-) palatal in WrB.

Although I have treated it subsidiarily in the present paper, there is further OB evidence that warrants the assumptions set forth therein. In parallel with the OB distinction between *-ac* ~ *-ec* and *-(y)at* we also note that WrB *-aṇ* is written as *-aṇ* ~ *-eṇ*, *-e(h)* ~ *-aṇ*, or *-(y)an* in OB. By and large, the OB distinction between the first two and the last seems to be still well preserved as oral : nasal final throughout the modern Burmese dialects. The WrB orthographic tradition had curiously failed to reveal it until quite recently a reform of the orthography introduced *-aṇ<sup>s</sup>* (*ṇ-ngè*) to represent the WrB forms whose corresponding CB forms had the nasal final /-in/. Accordingly, this distinction might be restored to OB (and PB) even on the basis of the modern Burmese dialects alone. In spite of the difficulties (which may be considered only accidental due to the paucity of data) to establish such sets of the LB cognate forms whose final corresponds to WrB *-aṇ<sup>s</sup>*, as ‘sour’ WrB *khyáṇ<sup>s</sup>* Ark. *tchaí* RKS : Tav, *cī* PMT, *chin* ~ *šin* NT; Bis *khjén*; Akh *yɔ cɛv* PL, *jo-tshé* NT; Lis *ché3* JOF, *kjyh* NT; Lah *(-shi)* *tseh* NT, I have tentatively set up PLB *\*(y)an* in parallel with *\*(y)at* in view of the resulting symmetry of the PLB phonological system.

**Keywords:** Old Burmese, historical phonology, Burmese epigraphy, Lolo-Burmese, Tibeto-Burman

**ISO 639-3 codes:** akh, atb, bur, bzi, lhu, lis, mxh, obr.

## 1 The philological evidence for distinguishing *-yat*

It is a conventionally recognized fact that certain morphemes with a final spelled as *-ac* in Written Burmese (WrB) are written as *-at* in Old Burmese (OB).<sup>1), 2)</sup> In such cases, the OB *-at* initial either includes (or can be interpreted to include) the medial *-y-* from which it is presumed that the medial *-y-* is a condition for OB *-at* > WrB *-ac*.

1. OB *yhat* (LEM no. 41=pl. 134a/31), *het* (EM no. 3=pl. 364a/2, 3): WrB *hrac* ‘eight’
2. OB *ṇhat* (/hnyat/) (EM no. 41=pl. 134a/4): WrB *hṇac* ‘to squeeze’
3. OB *cat* (/tsyat/) (EM no. 31=pl. 78a/33): WrB *cac* ‘to examine, investigate’
4. OB *khyat* (EM no. 5=pl. 5/13-14 (personal name); EM no. 3=pl. 73/21): WrB *khyac* ‘to love’
5. OB *mryat* (GHL II, p. 34, Chittagôn Votive Tablets pl. 43; EM no. 5=pl. 5/9-10: (personal name): WrB *mrac* ‘root’

On the other hand, in WrB a majority of morphemes ending in *-ac* are written rather consistently in OB as *-ac* ~ *-ec*.

1. OB *phlac* (EM no. 2=pl. 110/15; etc.) ~ *phlec* (EM no. 1=pl. 303/ 1, 17, 18; etc.) : WrB *phrac* ‘to be, exist’
2. OB *tac* (EM no. 1=pl. 303/2, 4, 8-9, etc.; etc.) ~ *tec* (EM no. 1=pl. 303/6, 8; etc.) ~ *tic* (EM no. 4=pl. 111/6-7, 72, 83, etc.; etc.): WrB *tac* ~ *ta-* (when coupled with a classifier) ‘one’
3. OB *nhac* (EM no. 3=pl. 364a/2, 13, etc.; etc.) ~ *nhec* (EM no. 1=pl. 303/2, 6, 4; etc.) : WrB *hnac* ~ *hna-* (when coupled with a classifier) ‘two’
4. OB *(ʔa-)nhac* (EM no. 3=pl. 364a/1, 22, 132; etc.) : WrB *(ʔa-)hnac* ‘year’
5. OB *nhac* (EM no. 3=pl. 364a/21; etc.): WrB *hnac* ‘heart’ (sometimes also written as *hna-* in compound words, as in *hna-lûm* ‘id.’)
6. OB *ʔac* (EM no. 31=pl. 77/2; etc.) ~ *ʔec* (EM no. 20=pl. 13/20; etc.) : WrB *ʔac-* ‘older sibling’ (appears in *ʔac-kúi* ‘elder brother’, *ʔac-mà* ‘elder sister’.)

From yet another angle, however, along with OB *hyat* ~ *het* and *khyat*, one can also witness such instances as OB *rhac* (EM no. 1 = pl. 303/3) and *khyac* (EM no. 14 = pl. 29/17 (personal name)) and contradictory variants can also be found in relation to OB *phlac* ~ *phlec*, *ʔac* ~ *ʔec*, as in OB *phlet* (UM I, p. 46, Chittagôn Votive Tablets, pl. 55), *ʔat* (EM no. 34 = pl. 138/11). Regardless of these mutually contradictory variants, the distinction in OB between *-(y)at* and *-ac* is generally quite consistent; originally there existed two distinct

finals that corresponded to this written distinction, these finals later (probably in late OB) fully merged, a fact that seems to be reflected in WrB *-ac*.<sup>3)</sup> If it were possible to juxtapose a chronological array of all variants of OB corresponding to the morpheme written as *-ac* in written language, only then might we be able to draw a conclusion with a certain degree of confidence. However, at present, besides the fact that such an exhaustive array of OB variants is practically impossible, more importantly, it is impossible to come to a decisive conclusion regarding this problem solely depending on the spelling used for OB. Therefore, the comparative study of dialects of contemporary Burmese and Proto-Lolo-Burmese (PLB) becomes necessary. Unfortunately, even if the two finals were once phonologically distinguished, they have become fully integrated in contemporary Burmese dialects, just as in written language, and the distinction appears to have been completely lost. Accordingly, the only method left is to rely on a comparison between Burmese and the relatively closely associated Lolo-Burmese (LB).<sup>4)</sup>

In what follows, focusing chiefly on a comparison between Akha and OB/WrB, I attempt to show that OB *-(y)at* had its origins in PLB *\*(y)at* and therefore WrB *-ac* derives from at least three different PLB finals.

## 2 The comparative evidence for distinguishing *-yat*

In relation to WrB *-ac*, the following general correspondence rules may be posited for Akha finals:<sup>5)</sup>

### (1) WrB *-ac* : Akh *-əʔ* PL, *-ɾ* NT

1. 'to twist, sprain' WrB *kyac* 'to twist, tight and, braid'; Akh *gě^* 'to sprain something'<sup>6)</sup>
2. 'to notch' WrB *thac* 'to notch', *ʔa-thac* 'a notch'; Akh *sɛ̌.tě̌* 'a notch', *sɛ̌.tě̌.tě̌* 'to make notches' PL
3. 'to cut' WrB *tac* 'to cut in pieces', *ʔa-tac* 'a piece, bit'; Akh *dě^* 'to cut in a hacking motion, usu. with a machete' PL, *dɾ tshe* 'to cut' NT
4. 'to exist' WrB *phrac* 'to be, exist, become; to be prach-cable', Akh *pyě̌* 'to be, exist' PL
5. 'to shoot' WrB *pac* 'to throw, cast, shoot'; Akh *bě^* 'to shoot' PL, *pɾ* 'id.' NT
6. 'pheasant' WrB *rac-*; Akh *gě^* NT<sup>7)</sup>
7. 'to twist, wind' WrB *rac* 'to wind around, encircle'; Akh *yě̌.* 'to twist', *yɔ̌yě̌* 'to be twisted' PL, *jɾ* 'to twist' NT

### (2) WrB *-ac* : Akh *-iʔ* PL, *-u* NT

1. 'joint' WrB *ʔa-chac* 'a joint', *pu-chac* 'a knee'; Akh *a~ tsĩ^* 'a joint in bamboo, sugarcane, etc.', *yö̌ tsĩ̌* 'the joints (in a body)', *lǎ tsĩ̌* 'the elbow', *ǎ kĩ̌* 'the knee' PL, *lã tsu* 'elbow', *ʔa-khú* *po-tsu* 'knee' NT
2. 'to be new' WrB *sac* 'to be new, not old', *ʔa-sac* 'new'; Akh *yɔ̌ šĩ̌* 'new' PL, *jo-šù* 'to be new' NT
3. 'elder sibling' WrB *ʔac-* ('elder sibling') *ʔa-kúi* 'elder brother', *ʔa-mà* 'elder sister'; Akh *ǎ yĩ̌* 'older brother, older sister'

### (5) WrB *-ac* : Akh *-iʔ* PL, *-i* NT

1. 'one' WrB *tac*; Akh *tĩ̌* PL, *tĩ* NT
2. 'two' WrB *hnac*; Akh *nyĩ̌* PL, *nĩ* NT
3. 'seven' WrB *khu-hnac* ~ *khu-nac*; Akh *šĩ̌* PL, *šĩ* NT

### (8) WrB *-ac* : Akh *-ɛʔ* PL, *-e* NT

1. 'to scratch' WrB *kyac* 'to scratch earth out of a hole in the ground, as an animal'; Akh *jɛ̌* 'to scrape, rake, shave away' PL

2. 'to examine, compare' WrB *cac* 'to examine, investigate, scrutinize'; Akh *yɔ̌cɛ̌* 'to compare the height of two people by having them stand together', *yɔ̌cɛ̌hɔ̌* 'to take and compare two things' PL
3. 'to squeeze, catch' WrB *hñac* 'to squeeze, as if to extract something, to squeeze and express'; Akh *nyě* 'to catch with hands', *nyěʔ* 'to squeeze, into', *nyětɛ̌* 'to hold on without letting go' PL, *ñe* 'to catch' NT
4. 'to be drunk' WrB *yac* 'to be drunk, intoxicated'; Akh *yɛ̌* 'to be full of anything you drink' PL, *jè* 'to get drunk' NT
5. 'eight' WrB *hrac*; Akh *yě* PL, *je* NT

What we first notice here is that the OB forms for WrB *cac* 'to examine,' *hñac* 'to squeeze,' and *hrac* 'eight' indicated in our WrB-Akha correspondence rule (8) are respectively *cat*, *ñhat*, and *yhat* ~ *het* (~*rhac*), and when considered inclusively of the OB form, this general rule could be posited as OB *-(y)at* (WrB *-ac*) : Akh *-ɛ̌* PL, *-e* NT. This fact is further clarified by comparing with the following parallel general correspondence rule:

(7) WrB *-at* : Akh *-ɛ̌* PL, *-e* NT

1. 'spirit' WrB *nat*; Akh *nɛ̌* 'a spirit' PL, *ne* 'ogre, spirit' NT
2. 'solid substance' WrB *ʔa-phat* 'what remains of a thing after the liquor or juice is extracted'; Akh *dzav pɛ̌* 'a solid food' PL
3. 'sambar deer' WrB *chat*; Akh *xǎtɛ̌* PL, *tɛ̌* NT
4. 'to break, be brittle' WrB 'to be brittle, easily broken'; Akh *tɛ̌* 'to break off/apart' PL
5. 'to kill' WrB *sat*; Akh *sɛ̌* PL, *sè* NT

(9) WrB *-wat* : Akh *-ɛ̌* PL, *-e* NT

1. 'to be hungry, thirsty' WrB *mwat*; Akh *mɛ̌* PL, *me* NT
2. 'leech' WrB *krwat*; Akh *ǎyɛ̌* PL
3. 'flower' WrB *wat-chám* 'the stamen, anthler and pollen of a flower'; Akh *ǎyɛ̌* PL, *ʔa-bó je* NT
4. 'to pour' WrB *swat* 'to put into, generally implying a small opening'; Akh *ʃɛ̌* *ā̌* 'to pour into', *ʃɛ̌byā̌* 'to fill up to the brim' PL

For correspondence rule (7), the fact that we could set PLB\*-at is somewhat certain even without referring to other LB languages. In line with this, we could also set PLB \*-yat and \*-wat for correspondence rules (8) and (9).

In correspondence rule (5), while the equivalent forms in Akha are respectively *-ǐ* PL and *-i* NT, there are also examples of these Akha finals that correspond to WrB *-it*; conversely, there are also examples in which WrB *-it* corresponds to Akha *-ǐ* PL and *-u* NT.

(3) WrB *-it* : Akh *-ǐ* PL, *-i* NT

1. 'to close eyes' WrB *hmit* 'to shut (the eyes), wink with the eyes'; Akh *myǎnĩ̌* *.mǐ* 'to close one's eyes' PL
2. 'to extinguish' ?WrB *hmit* 'not to appear, as color'; Akh *mǐ-ǐ* 'for a fire to go out', *lǎmǐ* 'to put out a fire' PL *mì dzà lá mí* 'to extinguish a fire' NT
3. 'goat' WrB *chit*; Akh *cǐmyɛ̌* ~ *cǐmɛ̌* PL

(4) WrB *-it* : Akh *-ǐ* PL, *-u* NT

1. 'to pinch' WrB *chit*; Akh *tsĩ̌* PL, *tsǔ* NT
2. 'beard, moustache' WrB *mut-chit* ~ *mu-chit*; Akh *mɛ̌cǐ* PL (<\*mɛ̌tsĩ̌<sup>8</sup>) cf. Lis *mũ̌* - *tsĩ̌*<sup>3</sup> JOF, *mìh-tsǔ* NT

For correspondence rules (3) and (4), we could posit PLB\*-it. In Akha, although this \*-it is split into (3) -i? PL, -i NT and (4) -i? PL, -u NT, the conditions for this divergence are clear. Moreover, we may postulate that correspondence rule (5) has its origins in this PLB \*-it. In that case, the split into -ac or -it depends on whether the initial consonant is an alveolar stop or an alveolar nasal. For the remaining correspondence rules (1) and (2), the PLB forms that we might respectively posit are not sufficiently clear just from a comparison between WrB and Akha. In addition, I will now expand the scope of our comparison a little in order to verify the PLB forms posited earlier.

(1) WrB -ac : Ats -ik : Mar -ak : Bis -r : Akh -ě? PL, -r NT : Lis -i JOF : Lah -í JAM

1. 'to twist, sprain' WrB *kyac*; Akh *gě^* PL<sup>9)</sup>
2. 'to notch' WrB *thac*; Akh *tě^* PL
3. 'to cut' WrB *tac*; Akh *dě^* PL, *dɾ* NT
4. 'to exist; to be able' WrB *phrac*; Akh *pyě^* PL, Lah *pí* 'to be able, skilful at' JAM
5. 'to shoot' WrB *pac*; Ats *pik*; Mar *pàk*, Bis *pɾ*, Akh *bě^* PL, *bɾ* NT
6. 'pheasant' WrB *rac*; Akh *gě^* PL
7. 'to twist, wind' WrB *rac*; Akh *yě^* PL, *jɾ* NT; Lis *shí<sup>d</sup>* JOF, Lah *śí* JAM<sup>10)</sup>

(2) WrB -ac : Ats -ik : Mar -ak : Bis -u : Akh -i? PL, -u NT Lis -i/-i ~ -i/-i JOF, -u NT : Lah -i?/-i/-i JAM

1. 'heart' WrB *hnac*; [? Akh *nī ma* PL, *nuu-ma* NT]; Lis *ní<sup>2</sup>-ma<sup>3</sup>* JOF, *ň-ma* NT; [? Lah *ni-ma-* JAM]<sup>11)</sup>
2. 'joint' WrB *chac*; Mar *tshák*; Bis *-tshù*; Akh *-tsi^* PL, *-tsu* NT; Lis *-tsi<sup>3</sup> ~ -tsi<sup>3</sup>* JOF, *-tsu* NT; Lah *cí* NT<sup>12)</sup>
3. 'tree, wood-' WrB *sac*; Ats *sik*; Mar *sák*; Lis *-si<sup>2</sup> ~ si<sup>2</sup>-* JOF *š<sup>13</sup>* NT; Lah *š<sup>13</sup>*-JAM<sup>13)</sup>
4. 'to be new' WrB *sac*; Ats *sik*; Mar *sák*; Bis *šù*; Akh *-š<sup>14</sup>* PL, *-š<sup>14</sup>* NT; Lis *shí<sup>6</sup>* JOF, *-š<sup>14</sup>* NT; Lah *śí* JAM<sup>14)</sup>
5. 'elder sibling' WrB *ɾac-*; Akh *-y<sup>15</sup>* PL; Lis *-yi<sup>6</sup>* JOF; Lah *-ví* JAM<sup>15)</sup>

(3) WrB -it : Akh -i? PL, -i NT : Lis -i/-i/rgh JOF : Lah -i?/-i? ~ ɔ?/-e? JAM

1. 'to give, bestow' Akh *bi^* PL, *bì* NT; Lah *pè<sup>16</sup>*
2. 'goat' WrB *chit*; Akh *ci^* PL Lis *-hchi<sup>6</sup>* JOF, *-tshì* NT; Lah *-chè<sup>17</sup>* JAM<sup>17)</sup>
3. 'to move' Akh *ji^* PL; *chi<sup>3</sup>* JOF; Lah *jí<sup>18</sup>* JAM<sup>18)</sup>
4. 'to extinguish' [?WrB *hmit*]; Akh *mí* - FL, *mí* NT<sup>19)</sup>
5. 'to close eyes' WrB *hmit*; Akh *mi^* PL
6. 'to reap, harvest' WrB *rit* 'to reap, mow, shave'; Lis *rgh<sup>6</sup>* 'to cut, reap, as paddy' JOF; Lah *yi<sup>20</sup> ~ ɣɔ<sup>20</sup>* 'to cut, as with a sickle, harvest' JAM<sup>20)</sup>

(4) WrB -it: Akh -i^ PL, -u NT; Lis -i/-i JOF, -u NT; Lah -i? JAM

1. 'to pinch' WrB *chit*; Akh *tsi^* PL, *tsù* NT; Lis *htsi<sup>6</sup>* JOF; Lah *chì<sup>21</sup>* JAM<sup>21)</sup>
2. 'beard, moustache' WrB *-chit*; Akh *-ci^* PL (< \*-tsi^); Lis *-tsi<sup>3</sup>* JOF, *-tsu* NT; Lah *-cì<sup>22</sup>* JAM<sup>22)</sup>

(5) WrB -ac : Ats -it : Mar -at : Bis -it : Akh -i? PL, -i NT : Lis -i JOF, -i NT : Lah -i JAM

1. 'one' WrB *tac*; Akh *ti^* PL, *tì* NT<sup>23)</sup>



2. 'two' WrB *hnac*; Akh *nyi*<sup>23)</sup> PL, *ni* NT<sup>23)</sup>
  3. 'seven' WrB *-hnac* ~ *-nac*; Ats *nʔyit*; Mar *nʔat*; Akh *ši*<sup>23)</sup> PL, *ši* NT<sup>23)</sup>
  4. 'to kick' Lis *hti*<sup>2)</sup> JOF; Lab *thê*<sup>2)</sup> JAM
- (6) WrB *-ip* : Mar *-ap* : Bis *-u* : Akh *-u*<sup>2)</sup> PL, *-u* NT : *-i* JOF, *-i* NT: Lah *-i/-i*<sup>2)</sup> JAM
1. 'top, summit' WrB *thip* 'a top, summit'; Akh (Verb) *tu*<sup>2)</sup> 'to the very top' [*mʔtu*<sup>2)</sup> 'to have worked on a strip of field right to the top'] PL
  2. 'to lie down, sleep' WrB *ʔip*; Mar *yàp*; Akh *yu*<sup>2)</sup> PL, *ju* NT; Lis *yi*<sup>6)</sup> JOF, *jì* NT; Lah *yi*<sup>24)</sup>
  3. 'to be thirsty' WrB *mwat-sip* 'to be hungry or thirsty'; Akh *mɛ̃ə šu-ě* 'to suffer famine' PL; Lis *sí*<sup>6)</sup> 'to be thirsty' JOF; Lah (*í-kâ*<sup>2)</sup>) *śí* 'to be thirsty' JAM<sup>25)</sup>
- (7) WrB *-at* : Ats *-at* : Mar *-e*<sup>2)</sup> : Bis *-ɛ* : Akh *-ɛ*<sup>2)</sup> PL, *-e* NT : Lis *-ye/-ē* JOF, *-e* NT : Lah *-e*<sup>2)</sup> JAM
1. 'spirit' WrB *nat*; Phn *dat* (<\*nat); Akh *nɛ*<sup>2)</sup> PL, *ne* NT<sup>26)</sup>
  2. 'solid substance' WrB *phat*; Akh *-pɛ*<sup>2)</sup> PL; ?Lah *ə-phâ*<sup>2)</sup> 'second dish' JAM<sup>27)</sup>
  3. 'to vomit' Ats *phat*; Bis *phé*; Akh *pɛ*<sup>2)</sup> PL, *phè* NT; Lis *hpé*<sup>6)</sup> JOF, *pe*<sup>2)</sup> RB; Lah *phè*<sup>2)</sup> JAT<sup>28)</sup>
  4. 'to live, be alive' Akh *dɛ*<sup>2)</sup> 'to live, have a life' PL; Lah *tè*<sup>2)</sup> JAM<sup>29)</sup>
  5. 'sambar deer' WrB *chat*; Ats *tshat*; Mar *tshe*<sup>2)</sup>; Bis *tshe*; Phn *tchat*; Akh *xatse*<sup>2)</sup> PL, *tse* NT; Lis *htsyé*<sup>2)</sup> JOF<sup>30)</sup>
  6. 'to break, be brittle' WrB *chat*; Akh *tse*<sup>2)</sup> PL; ?Lis *hchē*<sup>6)</sup> 'to break, as pitcher' JOF; Lah *chê*<sup>2)</sup> 'to break into two'<sup>31)</sup>
  7. 'to bite, clump; bark' ?Bis *tshé* 'to bite'; Akh *tse*<sup>2)</sup> 'for an animal to carry some kind of food into mouth', *a<sub>1</sub>kī<sub>v</sub> tse*<sup>2)</sup> for a dog to bark' PL, *ʔa-khu<sup>2)</sup> tshe* 'to bark' NT; Lah *chê*<sup>2)</sup> 'to bite into' JOF<sup>32)</sup>
  8. 'to kill' WrB *sat*; Ats *sat*; Mar *se*<sup>2)</sup>; Bis *sè*; Phn *sat*; Akh *sɛ*<sup>2)</sup> PL, *sè* NT; Lis *sye*<sup>6)</sup> JOF, *se* NT<sup>33)</sup>
- (8) WrB *-ac* (OB *-(y)at*) : Ats *-it* : Mar *-e*<sup>2)</sup> : Akh *-ɛ*<sup>2)</sup> PL, *-e* NT : Lis *-i/-ye* JOF, *-i/-e*<sup>2)</sup> RB, *-e* NT; Lah *-í/-í* JAM
1. 'to love' WrB *khyac* (OB *khyat*); Ats *-cʔit*; Lah *cí* JAM<sup>34)</sup>
  2. 'to scratch' WrB *kyac*; Akh *jɛ*<sup>2)</sup> PL
  3. 'to run' Akh *cɛ*<sup>2)</sup> PL; Lis *hchye*<sup>2)</sup> JOF<sup>35)</sup>
  4. 'to examine, compare' WrB *cac* (OB *cat* /*tsyat*/); Akh *cɛ*<sup>2)</sup> PL
  5. 'to squeeze, catch' WrB *hñac* (OB *ñhat* /*hnyat*/); Akh *nyɛ*<sup>2)</sup> PL, *ñe* NT; Lis *nyi*<sup>1)</sup> 'to press' JOF; Lah *ní* JAM<sup>36)</sup>
  6. 'root' WrB *mrac* (OB *mryat*); Ats *ămyit*<sup>37)</sup>
  7. 'to be drunk' WrB *yac*; Akh *yɛ*<sup>2)</sup> PL, *je* NT; Lis *yi*<sup>6)</sup> JOF<sup>38)</sup>
  8. 'eight' WrB *hrac* (OB *yhat* ~ *het* ~ *rhac* /*hryat*/); Ats *śit*; Mar *śé*<sup>2)</sup>; Akh *yɛ*<sup>2)</sup> PL, *je* NT; Lis *h'i*<sup>6)</sup> JOF, *he*<sup>2)</sup> RB, *he* NT; Lah *hí* JAM<sup>39)</sup>
- (9) WrB *-wat* : Mar *-e*<sup>2)</sup> : Bis *-ɛ/-et* : Phn *-at* : Akh *-ɛ*<sup>2)</sup> PL, *-e* NT: Lis *-é/-rghe* JOF, *-e/-u* NT; Lah *-e*<sup>2)</sup>/*-ə*<sup>2)</sup>

1. ‘to be hungry, thirsty’ WrB *mwat*; Bis *bε*; Phn *bat*; Akh *mε<sub>Λ</sub>* PL, *mè* NT; Lis *mrghe*<sup>6</sup> ‘to be hungry’ JOF, *mù* NT; Lah *màʔ* JAM<sup>40</sup>
2. ‘leech’ WrB *krwat*; Mar *wʔeʔ*; [ʔPhn *hăt*]; Akh *a<sub>Λ</sub>yε<sub>Λ</sub>* PL; Lis *vε*<sup>6</sup> JOF, *weʔ* RB; Lah *vèʔ* JAM<sup>41</sup>
3. ‘flower’ WrB *wat*; Bis *-wε*; Phn *-vôât*; Akh *-yε<sup>Λ</sup>* PL, *-je* NT; Lis *-vε*<sup>3</sup> JOF, *-wê* RB; Lah *-vêʔ*<sup>42</sup>
4. ‘to pour’ WrB *swat*; Bis *šêt*; Akh *šē<sub>Λ</sub>* PL; Lah *šêʔ*<sup>43</sup>

In view of this (LB) correspondence rule ( $\supset$  (WrB-Akha) correspondence rules), for correspondence rule (2), we could posit PLB\*-ik. Similarly, in correspondence rule (6), although there are few examples, we can posit PLB\*-ip. Accordingly, it becomes possible to integrate \*i into all of PLB’s three stopped finals (\*-k, \*-t, and \*-p). While it looks as though we can hypothesize \*-ik in correspondence rule (1) as well, there are many problems inherent in doing so.

Matisoff reconstructs PLB’s stopped finals as presented in table 1:

**Table 1:** Matisoff’s reconstruction of PLB stopped finals.

1. *a: *ak, *at, *ap	4. *e: *ek, *et
2. *i: *ik, *it, *ip	5. *o: *ok
3. *u: *uk, *ut, *up	6. *ö: *ök

Of these, on the basis of the reflexes in the Lahu(na) language, 1, 2, 3, and 5 do not seem especially difficult, except for the issue of whether we should distinguish between PLB \*-uk and \*-ok. (However, in some cases, I do not find that I necessarily agree with the reconstruction of individual rhymes or the identification of all cognates.) The problems associated with correspondence rule (1) concern the three finals consisting of \*-ek and \*-et in 4 and \*-ok in 6. Therefore, let us examine these particular finals in more detail.

First, let us consider how Matisoff reconstructs PLB forms with these finals (JAM 1972):

**Table 2:** Matisoff’s PLB \*-ek > Akh-PL *-iʔ/-εʔ* : Lis-JOF *-i/-ye* : Lah-JAM *-eʔ/-εʔ/-i/-i* : Nyi *-i* : Ahi *-i/-a* : WrB *-ac*

	PLB	Akh-PL	Lis-JOF	Lah-JAM	Nyi	Ahi	WrB
1.	*bek ‘give, bestow’ (no. 3)	bi <sup>Λ</sup>		pèʔ			
2.	*tek ‘kick v.’ (no. 14)		hti <sup>2</sup>	thêʔ			<i>cac</i>
3.	*trek ~ *ʔtrek ‘thunder, lightning’ (no. 67)			thεʔ/ti			
4.	*ʔbrek ~ *brek ~ *ʔ-prek ‘be, exist; be able’ (no. 68)	pyë <sub>Λ</sub>	hpye <sup>6</sup>	phéʔ/pí	dí <sup>22</sup>	dí <sup>44</sup> - dí <sup>22</sup>	<i>phrac</i>
5.	*(s-)nek ‘wet’ (no. 150)			néʔ	na <sup>44</sup>		
6.	*(r-)lek ‘testicle’ (no. 170)	lε <sub>Λ</sub>					

**Table 3:** Matisoff’s PLB \*-et > Akh-PL *-εʔ* : Lis-JOF *-i* : Lah-JAM *-εʔ* : Nyi ? *-a* : Nasu *-i* : WrB *-ac*

	PLB	Akh-PL	Lis-JOF	Lah-JAM	Ahi	Nyi	Nasu	WrB
1.	*b(y)et ‘vulva’ (no.5)	bε <sub>Λ</sub>	bi <sup>6</sup>	péʔ				
2.	*ʔ-ket ‘break off a piece/chip off’ (no. 25)	xε <sub>Λ</sub>		qheʔ	ʔq’a <sup>22</sup>			
3.	*kret ~ *Nkret ‘scratch <sub>2</sub> /scrape/rasp’ (no. 97)	jε <sub>Λ</sub>		gêʔ			tš’i <sup>22</sup>	<i>khrac/kyac</i>

**Table 4:** Matisoff's PLB \*-ök > Bis -ɾ/-ɾk : Akh-PL -ëʔ/-iʔ : Lis-JOF -aw/-á : Lah-JAM -ôʔ : Ahi -i/-a : Nyi -ɪ : Nasu -ə : Hani -ə : WrB -ok

	PLB	Bis	Akh-PL	Lis-JOF	Lah-JAM	Ahi	Nhi	Nasu	Hani	WrB
1.	npök ~ *ʔpök/*ʔböök 'shoot' (no. 108)	pɾ	bë^	paw <sup>3</sup>	bôʔ	ba <sup>44</sup>		b'ə <sup>32</sup>		pok/phok
2.	*sök 'scrape' (no. 117)		së^		šôʔ					
3.	*ʕ-krök 'stir/mix' (no. 36)		kë^	chyá <sup>6</sup>	khôʔ					
4.	*ʔpök 'jump' (no. 55)	pɾk			pòʔ	pi <sup>44</sup>	pi <sup>44</sup>		pə <sup>33</sup>	
5.	*ntök ~ *ʔtök 'cut by a blow/hack away at' (no. 101)		dë^		dôʔ/tôʔ	da <sup>44</sup>				tok
6.	*ngyök ~ *nkyök 'beat/shake' (no. 87)		jï^		jôʔ/jôʔ					

On the whole, the reconstruction of these finals relies on a correspondence between Akha and Lahu. Moreover, not only is it impossible to distinguish the finals of \*-ek and \*-et solely on the basis of the corresponding forms of LB languages, but the type of vowel to postulate is also unclear. Matisoff proposes to resolve this lack of clarity by citing similar roots from other Tibeto-Burman (TB) languages in support of his argument as follows:

1. The example of \*-ek

1. PLB \*bek 'give/bestow'; Proto-Kukish \*pe-k (Benedict's reconstructed form)
2. PLB \*tek 'kick'; Written Tibetan (=WrT) *rdeg(s)-pa* 'to beat, strike, smite; to push, thrust, kick'; Garo (=Gar) *ga-tek*; Tang-khul Naga (TNag) *kəkəthək*
3. PLB \*trek ~ \*ʔtrek 'thunder, lightning'; Lushai (=Lus) *trêek* 'lightning'
4. PLB \*(r-)lek 'testicle'; WrT *rlig-pa* 'testicle, stone'

2. The example of \*-et

3. PLB \*kret ~ \*Nkret 'scratch<sub>2</sub>/scrape/rasp'; Kachin (=Kac) *khrẽt* 'to rasp, grate', *ʔəkhrẽt* 'to gnaw, as a mouse', *ʔəgrẽt* 'to scratch, as a thorn'; to graze, as a bullet', *makhrẽt* 'to mark, as with a finger; to strike, as a match'

First, while PLB \*bek 'give/bestow' is compared with Proto-Kukish \*pe-k, judging from the correspondence rules for LB languages, it should rather be PLB \*Pit (as in our correspondence rule (3)). This PLB form is compared with WrT *shyin-pa* 'to give, bestow' (pf. and imp. *byin*); PTam<sup>44</sup>, \*pin-pa 'to give,' and so on (cf. PB 1972, (no. 427) TB \*biy 'give'). Similarly, according to correspondence rule (4), PLB \*tek 'kick' should be PLB \*Tit. Although \*Tit may be considered here to have the same root form as WrT *rdeg(s)-pa* (pf. *(b)rdeg*s, fut *brdeg*, imp. *(b)rdeg(s)*) cited by Matisoff, the change \*-k > \*-t could also be considered an assimilation of the suffix \*-s (cf. WrB *khyac* (OB *khyat*) 'to love' < PLB \*Kyat < \*\*Kyaks; WrT *chags-pa* 'to love').<sup>45</sup> To reconstruct PLB \*(r-)lek 'testicle' on the basis of Akh *le^* and WrT *rlig-pa* seems doubtful. If we were to insist on such a reconstruction, this would show a correspondence between PLB \*-ek and WrT *-ig*, which is unparalleled. In the case of 'scratch<sub>2</sub>/scrape/rasp,' apparently, the root that Matisoff posits should be divided into two: (1) WrB *kyac*, Akh *je^* and (2) WrB *khac*, Lah *gêʔ*, with PLB initials \*Ky- and PLB \*Kr- respectively. Therefore, *khrẽt* and similar terms in the Kachin language may be compared with group (2). Similarly, PLB \*Nkak ~ \*ʔkak 'graze, as cattle,' Akh *ga^*; Lah *qâʔ* (JAM 1972, no. 105) is a case in which Matisoff seems to have neglected the medials. While Akh-PL *g-* derives from PLB \*Kl-/ \*Kr-, Lah-JAM *q-* derives from PLB \*K-, and it seems doubtful that both these forms share the same root. In comparison to Akh-PL *ga^*, we may cite WrB *kyak* (OB *klak*) 'to go out to feed, as cattle in a pasture,' for which we can postulate PLB \*Klak. In addition, since PLB \*Pl- is available as a reconstruction for WrB Pr- : Akh-PL Py- : Lis-JOF P- : Lah-JAM P-, we should reconstruct PLB \*Pl- for 'be, exist; be able to,' rather than \*Pr-. When we begin investigating along these lines, the very possibility of creating a reconstruction that distinguishes \*-et and \*-ek in PLB becomes doubtful. When we look at the remaining corresponding examples, we must first note that in the case of PLB \*ʔbrek ~ \*brek ~ \*ʕ-prek 'be, exist, be



able to' (the medial, as discussed previously, should be \*-l-, cf. OB *phlac*), this would be Akh-PL -ě? rather than -ε?. For the correspondence between Akh-PL *pyë* and Lah-JAM *phē* 'be, be able,' we have the following parallel examples:

PLB \*m-lyak ~ \*?lyak (causative) 'lick, cause to lick' (JAM 1972. no. 179), Akh *myë*, PL; Lah *lê?/lê* (causative) JAM (; WrB *lyak*; Ats *yo?*; Mar *yò?*; Bis *bé*; Akh *mjè* NT; Lis *lrg<sup>h</sup>* JOF, *lù* NT; Nyi: *lha<sup>22</sup>*), cf. also WrT *ljags* 'tongue'; Lepcha *lyak* 'to taste, try'; Gar *srak* 'to lick'; Lus *liak*; Mikir *ijlek*; TNaga *khāmālek* (cf. PKB 1972, (no. 211) TB \*(m-)lyak ~ \*(s-)lyak 'lick; tongue')

While I have no objection to positing PLB \*Lyak here, the change PLB \*-ak > Akh -ě? PL, -e NT is exceptional, the more typical correspondence is PLB \*-ak > Akh -a? PL, -a NT.

1. 'eye' WrB *myak*; Ats *myo?*; Mar *myò?*; Bis *mé*; Akh *mya<sup>^</sup>* PL, *mjà* NT; Lis *myá<sup>3</sup>* JOF, *mia* NT; Lah *mé?* JAM; Nyi *ne<sup>44</sup>*; Ahi *nie<sup>44</sup>*; Hani *ma<sup>55</sup>*; Nasu *na<sup>32</sup>* (JAM 1972, (no. 145) PLB \*(s-)myak 'eye'), cf. also WrT *mig*, PTam \*mik, Chepang *mik*, Kac *ṛə?myí?* NT, *myí?* RB; Gar *mik*; Mikir *mek*; Lus *mìt*; Nung *mē ~ nē* (cf. PKB 1972, (no. 402) TB \*mik ~ \*myak 'eye').
2. 'day (24 hours); night; to spend overnight' WrB (*ṛa-*)*rak* 'a complete day. of 24 hours' (OB *ryak*) Akh *ya<sup>^</sup>* 'to camp overnight' PL; Lis *h'yá<sup>6</sup>* 'day' JOF; Lah *há* 'to spend overnight', *ḁ-há* 'night'; Ahi *xie<sup>44</sup>*; Nyi *he<sup>22</sup>*; Nasu *xan<sup>24</sup>* (JAM 1972, (no. 174) PLB \*?rak 'night/spend overnight'), cf. also WrT *žag* 'a day, the time from one sunrise to another' Tamang *ret* < \*ryak 'day'; Kac *ya?* 'a natural day of 24 hours' JAM; Lus *riak* 'to spend overnight' (cf. PKB 1972, (no. 203) TB \*(s-)ryak 'day (24 hours)') (In the PLB form, we should add the medial \*-y-)

Furthermore, the -ye of Lis-JOF *hpye<sup>6</sup>* 'to become' may be thought to derive from PLB \*-yat/\*-at (cf. PLB \*-ak > Lis-JOF -a ~ -á). Accordingly, it seems that we can envisage three possibilities for the reconstruction of the PLB form of 'be, exist; be able':

1. We acknowledge this as a regular correspondence and assign its own final.
2. We acknowledge an alternate form in the root word and consider it in a manner similar to PLB \*Plik (> WrB *phrac*, Akh *pyë<sup>^</sup>* PL, Lah *pí* JAM) ~ \*Plyak (> Lah *phē?*) ~ \*Plyat (> Lis *hpye<sup>6</sup>*).
3. We acknowledge either possible alternate form as the PLB form and regard any derivatives of the remaining alternate forms as conditional or exceptional changes.

Under these conditions, it seems that we cannot deny any of these possibilities. However, correspondence rule (1) has the lowest probability. Furthermore, there is a possibility of positing PLB \*Nyak for Lah *nē?* JAM : Nyi *na<sup>44</sup>*. Let us refer to 'to lick' above as well as the following example:

'next' Lah *né-qhò?* 'next year'; Nyi *na<sup>44</sup>* 'next' (; Akh *na<sup>^</sup>ya<sup>^</sup>xo<sup>^</sup>* PL, *na ja xò* NT 'next year'; Lis *ká<sup>1</sup>-ná<sup>1</sup>* 'after' JOF) (JAM 1972, (no. 151) PLB \*?nyak)

However, there is also 'sticky' Lah *né*: Nyi *ñē<sup>22</sup>* (JAM 1972, (no. 154) PLB \*?nyak). In relation to this example, it follows that while we cannot deny the possibility of being able to posit a final such as PLB \*-ek, there is a possible risk of postulating a PLB final solely on the basis of correspondent forms in Lah-JAM and Nyi. For the PLB form of 'vulva,' there is the possibility of positing \*Pyat (> Akh *bē<sup>^</sup>* PL, Lis *bi<sup>6</sup>* JOF) ~ \*Pyak (> Lah *pē?* JAM). Thus, there are very few reliable examples to underpin PLB \*-ek or \*et. Moreover, examples in which we can posit \*-e/\*-e- for finals other than PLB stopped finals seem almost non-existent. Therefore, it will be necessary to further investigate the remaining examples.

Although Matisoff cites the examples WrB *-ok* as reflexes of PLB \*-ök, rather than WrB *pok* 'to go off accidentally, as a gun,' *phok* 'to fire, as to discharge a gun, in order to empty the barrel,' and *tok* 'to fillap; to cut by a single light blow,' as cognates to Akh *bē<sup>^</sup>* PL (*br* NT); Bis *pr* 'to shoot' Akh *dē<sup>^</sup>* 'to cut in a hacking motion,' we could instead compare these with WrB *pac* and *tac*, as indicated in our correspondence rule (1). In particular, since we can cite the etyma given below for WrB *pok* and *phok*, it is clear that we cannot compare them with Akh *bē<sup>^</sup>* PL; furthermore, Lis *paw<sup>3</sup>* 'to shoot' and *paw<sup>3</sup>* 'to explode' may be considered the selfsame morpheme.

‘to explode, pop’ WrB *pok, phok* ‘to cause to explode’ (*pok-pok* ‘pop-corn’), Akh *bo^* ‘to pop, as rice’ PL; Lis *paw*<sup>3</sup> ‘to explode, shoot’ JOF; Lah *pô?* ‘to crack, snap, explode’ JAM (cf. JAM 1972, (no. 103) PLB \*Npuk ~ \*ʔpuk ‘explode/pop’)

Although Matisoff cites WrB *prok-prok* ~ *byok-byok* ‘crackingly’ and *bok* ‘a kind of plant... so called because its seed makes a cracking sound when pressed,’ the former, in particular, is suspect. Nonetheless, overall, the correspondence Akn -ě? PL : Lah -ɔ? JAM seems fairly certain, and I have no objection, for the moment, for positing a PLB final to explain this.

As shown above, if considered only on the basis of the corresponding examples found to date in relation to our correspondence rules (1) and (2), the fact that we can define the divergence conditions for Akha, even if only in the form of a list, means that we can posit \*-ik. Nevertheless, there are problems attesting common roots in the corresponding examples in correspondence rule (1), and examples may be included that could possibly fall under other correspondence rules. On these points, further examination will be necessary. As additional cognates are assembled in the future, it may indeed become necessary to postulate separate finals for each of the respective correspondence rules.

Reflecting on the correspondence between OB/WrB and Akha, it seems possible to arrive at the following conclusion:<sup>46)</sup> OB -ac ~ -ec reflects at least two contrasting PLB finals (\*-ik, \*-it), whereas OB -(y)at reflects PLB \*(y)at. These two contrasting OB finals merge in WrB (in fact, probably in late OB) as -ac.

### 3 Resolving some remaining complications

According to aforementioned conclusion, the OB form for the WrB for the OB form itself cited in correspondence rule (8) could be interpreted as follows. 1. OB /\*kyat/ (WrB *kyac*) ‘to scratch,’ 2. OB /khyat/ (OB *khyat*, WrB *khyac*) ‘to love,’ 3. OB /hnyat/ or /hñat/ (OB *hñat*, WrB *hñac*) ‘to squeeze,’ 4. OB /cyat/ (/c/=ts) or /čat/ (/č/= te or tʃ) ‘to examine,’ 5. OB /mryat/ (OB *mryat*, WrB *mrac*) ‘root,’ 6. OB /\*yat/ (WrB *yac*) ‘to be drunk,’ 7. OB /\*hryat/ (OB *rhec* ~ *het* ~ *hyat*, WrB *hrac*) ‘eight.’ With respect to OB /hny-/ or /hñ-/ , /cy-/ or /č-/ , and /\*hry-/ , I shall mention each of these in turn, but for now, advancing the discussion in line with our interpretation, when OB -at is preceded by -y- or an (alveo-)palatal consonant, it will merge in WrB with OB -ac ~ -ec and receive expression as -ac. However, for example, in Judson’s *Burmese-English Dictionary*, we find the following examples listed, which, at a glance, might be thought to run contrary to our conclusion, if only slightly.<sup>47)</sup>

1. *kyat-* (only in comp.), e.g. *kyat-mré* ‘blue, clay’, etc.
2. *chat* ‘a large species of deer, the sambur’
3. *chat* ‘to be brittle, easily broken’
4. *chat* ‘to be quick, sudden in motion; to be irritable, snappish, quick-tempered’
5. *chat=chac* ‘to hew (stone)’
6. *chat* ‘to peck (a flint); to pound rightly and gently in a mortar’
7. *chat-khyé=khyé chat* ‘to sneeze’
8. *chat-swâ* ‘the sail-leaf screw pine’
9. *chat-chat* ‘distinctly’
10. *phyat* ‘to be quick in speech, fluent’
11. *phyat-phyat lû* ‘to toss from side to side’

#### 3.1 Some internal variation in WrB

If, according to the aforementioned conditions, OB -at > WrB -ac holds, then all these forms ought to have been spelled with -ac. Nonetheless, with regard to the WrB forms, in fact, we must take the following points into account.

- (1) The OB medial -l- in late OB or WrB is split and integrated with medials -y-(OB Kl-/Kly-) or -r-(OB Pl-/Ml-). Furthermore, by the time we reach CB, WrB r will have been integrated with y. This results in confusion in the use of r and y in WrB spelling, which has continued to the present day. For example, Judson’s dictionary lists a considerable number of forms that recognize *r* ~ *y* variants.

Examples: *kyô* ~ *krô* ‘the back’, *kyô* ~ *krô* ‘to fry’, *khyáñ* ~ *khráñ* ‘thread’, *khywê* ~ *khrwê* ‘sweat’,

*pyac* ~ *prac* ‘to weave (thatch)’, *pyó* ~ *pró* ‘to be quite ripe, very soft’, *phyân* ~ *phrân* ‘to sprinkle, scatter a liquid’, *phyac* ~ *phrac* ‘to sputter, crackle, snap, crepitate’, *myú* ~ *mrú* ‘a liquid measure of various capacity’, *myô* ~ *mrô* ‘to faint away’, *hmyón* ~ *hmrón* ‘to fasten on lengthwise’, *hmyuik* ~ *hmruik* ‘to singe, scorch, burn slightly’, *yì* ~ *rì* ‘to be rotten, as cloth’, etc.

Furthermore, when we compare with dictionaries other than Judson’s, not only does the certification of these variants differ but there are also cases where *y* is recognized even while *r* is recognized elsewhere. Here, comparing Judson’s dictionary with examples taken from Chen Ruxing’s 模範緬華大辭典 *Mofan mian hua da cidian* (Rangoon, 1962; reprinted at the Tôyô Bunko: Tokyo, 1970), we are presented with the following examples.

Examples:

1. Judson	Chen
<i>kyô</i> ~ <i>krô</i> ‘the back’	<i>kyô</i>
<i>kyô</i> ~ <i>krô</i> ‘to fry’	<i>krô</i>
<i>khywê</i> ~ <i>khrwê</i> ‘sweat’	<i>khywê</i>
<i>pyô</i> ~ <i>prô</i> ‘to be quite ripe’	<i>pyô</i>
<i>phyân</i> ~ <i>phrân</i> ‘to splinkle’	<i>phyân</i>
<i>phyac</i> ~ <i>phrac</i> ‘to sputter, crackle’	<i>phyac</i>
<i>hmyón</i> ~ <i>hmrón</i> ‘to fasten lengthwise’	<i>hmrón</i>
<i>yì</i> ~ <i>rì</i> ‘to be rotten’	<i>rì</i> ( <i>yì</i> = a copying error for <i>rì</i> )
etc.	
2. <i>phyán</i> ‘to separate (enemies)’	<i>phrán</i>
<i>myok</i> ‘monkey’	<i>mrok</i>
etc.	

Note that with WrB verbs, in some cases, transitive and intransitive (causative) verbs are differentiated on whether their initial consonants are voiced or unvoiced or aspirated or non-aspirated, and although there are only a few examples, some transitive forms (aspirated/unvoiced) recognize *r* ~ *y* variants.

Examples:

*krok* ‘to be afraid’: *khrok* ~ *khyok* ‘to make afraid, frighten’  
*krwé* ‘to fall off’: *khrwé* ~ *khywé* ‘to cause to fall’  
*mruik* ‘to be singed’: *hmruik* ~ *hmyuik* ‘to singe’  
*yut* ‘to be inferior, mean’: *hrut* ‘to put down’ (~ *hyut* Chen)  
 etc.

In such cases, we might consider several ways of ascertaining whether *y* or *r* is the correct form: 1. Refer to the OB form of the problematic WrB form. 2. Look for equivalent forms in Burmese dialects (e.g., Arakanese). 3. Reconstruction by comparison with equivalent forms in other LB languages. 4. Comparative study of WrB documents and texts similar to the orthographic dictionaries (*sat-púm kyâm*).<sup>48)</sup>

- (2) Similar to the cases of *-y-* and *-r-*, the distinction between the WrB form of the final sounds *-t* and *-p*, which is caused by the phased merger of final stops in WrB, seems to have become obscured. Nonetheless, in the following examples, there are very few examples of confusion as compared with the cases of *-y-* and *-r-*.

Examples

1. *kyap* ‘a kind of spirit, an elf, a goblin’ (Judson) / *kyat* (Chen)
2. *cok-pat* ‘the labia pudenda’ (Judson) / *cok-pap* = *?a-pap* (Chen)<sup>49)</sup>  
 cf. also *pap* ‘to be a crevice, chap, crack open; to be chapped, as the face, lips, or hands’; *?a-pap* ‘a fold of certain trees, whether constituting the stalk, as in the plantain, or otherwise, as in the bamboo, the cane, etc.; the calyx of a flower’ (Judson)

3. *cup-tám* ‘a writing brush’ (MTA; cf. NT 1972, no. 601) / *cut-tám* (Judson, Chen)
4. *ta-chip* ‘one hao (unit of measurement)’ (MTA; cf. NT 1972, no. 651) / ? *ta-chit*, a pinch, a small quantity’ (Judson, Chen)
5. *ʔa-chup* ‘the lungs’ (MTA; cf. NT 1972, no. 541) / *ʔa-chut* (Judson, Chen)
6. *grwat* ‘a kind of mineral’ (Tha Myat) / *krwap* (~ *gywat*) ‘bismuth’ (Judson, U Wun, Chen)<sup>50)</sup>

Accordingly, from these two perspectives, we first need to consider examples 1–11. Unfortunately, with the exception of examples 2 and 4, for which we can cite cognates in LB languages, we lack the required evidence. Nevertheless, we may conjecture that examples 1 and 10/11 could derive from \*klat and \*phrat, respectively.

### 3.2 An alveolar versus (alveo-)palatal distinction in OB initials

Examples 2–9 are further complicated by the issue of the phonetic values of *c-* and *ch-* in OB/WrB. For example, from the linguistic correspondence between Akha and Lisu, we can conjecture that *c-* and *ch-* in OB/WrB incorporate the integration of two (alveo-)palatal and alveolar series in PLB.<sup>51)</sup> However, in most dialects of contemporary Burmese including CB, these have respectively become *s-* and *s<sup>h</sup>-* (while Burling hardly offers any examples of forms in Atsi and Maru that derive from PLB \*Tsy-, the two languages maintain the opposition of the two series.<sup>52)</sup> If we were to speculate on the phonetic value of OB/WrB *c/ch* from this fact alone, we should be able to interpret *c-* and *ch-* as having been either alveolar (*ts-*, *tsh-*) or (alveo-)palatal (*tš-*, *tšh-*). However, this does not necessarily mean that there is absolutely no reason why we cannot claim that it is (alveo-)palatal in WrB. For example, while Nishida postulates *tš-* and *tšh-* as possibilities according to the Chinese transcriptions in Mien-tien Language A (MTA), a 15th century Burmese dialect conjectured to have been closely related to WrB, he claims that there are no possibilities for *ts* and *tsh*.<sup>53)</sup> Except for the medials, we can consider this dialect and the one that enabled WrB to have had an extremely close relationship; therefore, there is likely a possibility of their having been (alveo-)palatal in WrB as well. Moreover, it seems possible that this can be supported by later transcriptions of Burmese by foreigners.<sup>54)</sup> By analogy, as in OB, it seems that we might be able to conclude that *c-*, *ch-* in PLB did not represent an opposition between (alveo-)palatal : alveolar but that they were both (alveo-)palatal. However, from the discussion in (I) above, depending on the initial *y* or (alveo-)palatality of the transition OB *-at* > WrB *-ac*, it seems highly likely that some conditions applied. If we can be certain of the correspondence in (II) OB *cat* : Akh *cε<sup>^</sup>* PL, the corresponding form in PLB may be considered to have had a \*(alveo-)palatal affricate initial. From the above examples of *chat* in 2–4 and 6–9 (5 remains unclear), at least two examples (2) *chat* ‘sambar’ and (3) *chat* ‘to be brittle’ (some doubt remains regarding this example) correspond to Akh *-tse<sup>^</sup>* PL, *-tse* NT, and Akh *tse<sup>^</sup>* ‘to break off’, as demonstrated in correspondence rule (8), and the initials of their PLB forms will be postulated as \*alveolar affricates. From these two points, I believe that it is possible to infer the following conclusion: in OB (probably early OB), both *c-* and *ch-* expressed two contrasting alveolar and (alveo-)palatal initials. After the finals *-at* and *-ac* ~ *-ec* merged, the alveolar initial merged into the (alveo-)palatal initial. This merger was probably complete by late OB).

This ostensibly contradictory conclusion drawn under the same conditions as OB *-at* > WrB *-ac* also explains the parallel presence of OB *-an* > WrB *-añ<sup>s</sup>* > CB */-in/* (see note 3), exemplified by WrB *càn* ‘to be stretched out straight’ > CB */sàn/*, WrB *chàn* ‘to stretch-out’ > CB */shàn/*, etc. for OB *ʔa-can-can* ‘a succession of’ > WrB *ʔa-cañ<sup>s</sup>-cañ<sup>s</sup>* > CB */ʔəsínzín/*. Following this inference, we may now provisionally separate written *c-* and *ch-* in OB into (alveo-)palatal: */cy-/* or */č-/* and */chy-/* or */čh-/* and alveolar: */c-/* and */ch-/*.<sup>†</sup>

### 3.3 The OB word for ‘eight’

In Nishida’s study of the Burmese portion of the so-called Myazedi inscription, he conjectures */çæt/* as the phonetic value of *het* ‘eight’, which he interprets as */çät/*.<sup>55)</sup> Particles such as *-teh* ‘suffix to designate an

<sup>†</sup> [Editor’s note: For other discussions of *c-* and *č-* merging in Burmese see James A. Matisoff (1968), ‘Review of Robbins Burling, Proto-Lolo-Burmese.’ *Language* 44.4: 879-97, esp. 889-891, Yoshio Nishi (1999), *Four Papers on Burmese: Toward the history of Burmese (the Myanmar language)*, Tokyo: Institute for the study of languages and cultures of Asia and Africa, Tokyo University of Foreign Studies, esp. pp. 57-58, and Nathan W. Hill (2013) ‘The merger of Proto-Burmish \*ts and \*č in Burmese.’ *SOAS Working Papers in Linguistics* 16 . pp. 334-345.]



object' and *leh* 'nominative affix' he considers [tæfi] and [læfi] and interprets as /täfi/ and /läfi/ respectively. However, *-lhey*' (l. 22<sup>2</sup>), in comparison with WrB, *hloy* 'to be numerous' he interprets as /-eŋ/. R. Shafer ('Further Analysis of the Pyu Inscriptions,' *Harvard Journal of Asiatic Studies* 7.4 (1942/43), 313-367), in contrast, states that (1) from the fact that *-wa-* in Early Modern Burmese (=WrB) appears as *-o-* in this inscription, *-ya-* in contemporary Burmese can be expected to appear as *-e-* in this inscription, and (2) in the late 13th century Bhodh Gaya inscription 'eight' was *hyat*; therefore, a vocalic change or the period of the convention for inscribing this vowel phoneme can be fairly closely established. In addition, he claims that *-lhey*', in parallel to *hyat*, he compares with *-hlyan* in contemporary Burmese (pp. 326-27, fn. 31). Although some problems remain with the comparative hypothesis, similar to the case for *-lhey*', as pointed out by Prof. Luce, *henbuiw* (l. 31),<sup>Supp. 1)</sup> one of the names for the three slave villages listed on the Myazedi inscription, can be compared with *hyanbuw* (pl. 111/24) in the Sangrib ŋatilat saŋ' inscription (pl. 111, 112; 482s./1121 A.D.). Accordingly, (1) it is difficult to link OB *-eŋ* to WrB *-oŋ* as Nishida proposes, (2) Myazedi *-e-* seems to correspond to *-ya-* in other inscriptions, (3) particle usage in OB, including the use of *lhyan*, is not necessarily consistent with particle usage in WrB, (4) in light of the scattered variants of OB *lhyan* such as *lhyan*' (e.g. *thuiw-suiw*' *lyak-lhyan*' 'even so' (EM no. 31=pl. 78b/8),<sup>Supp. 2)</sup> *-lhey*' may be compared with WrB *lhyan* rather than WrB *hloy*, and I would like to think that the creaky tone in Myazedi *-lhey*' (absent in WrB *lhyan*) represents a type of emphatic use. Thus, the phonetic value of *-e-* in this inscription based on the condition that all are [ɛ] or [æ] could either be interpreted as /e/ in the language (or dialect) of this inscription or as /ya/. According to either interpretation, we can say that *-et* and *-ac* are distinct in this inscription. Conversely, 'eight' is *rhec* in the Pótómú bhurâ inscription (EM no. 1=pl. 303), and since we are able to interpret from the places where variants are recognized (*tec* ~ *tac* 'one', *nhec* ~ *nhac* 'two', *phlec* ~ *phlac* 'to be, exist') that all these forms in the language (or dialect) of this inscription contained /ec/, we can infer that with regard to 'eight,' the merger of *-ec* ~ *-ac* had been already completed. Furthermore, besides the fact that 'eight' is *hyat* (l. 31) in the late OB Símtó bhurâ inscription, (EM no. 41=pl. 134; 601s./1239 A.D.,<sup>56)</sup> there are examples of *ñhat* (l.4) 'to milk, squeeze' and *khyat* (l. 10) (personal name). Since those examples are distinguished from *-nhac* 'year' and *-phlac* 'to be, exist', we may consider that the opposition *-(y)at* (/-(y)at/) : *-ac* (/ac/) was maintained. Both the aforementioned Myazedi and Pótómú bhurâ inscriptions were discovered in the Pagan district, whereas the Símtó bhurâ inscription was from the Kyaukse district. Hence, it is not impossible that these differences can be discounted as dialectal differences. However, no examples of variant forms with *-et* and *-ec* in OB, except for 'eight', have been found so far in usable OB documents. In addition, examples with comparatively high frequency such as *khyat* 'to love' (including personal names) take the *khyat* form through early and late OB (cf. the Mân ʔanantasū inscription (EM no. 31=pl. 73/21; 585s./1223 A.D. (Pagan district)). Nonetheless, because *-khyac* (personal name) also appears in the Móngma cô khán mĩŋáy inscription (EM no. 14=pl. 29/14; 568s./1206 A. D. (Pagan district)), it seems that there was no distinction between *-(y)at* and *-ac* in the dialects of the Pagan district irrespective of the written characters used.

While the facts in connection with OB *-(y)at* are not necessarily consistent, seen comprehensively, we may infer the following:

- (1) For the OB form of 'eight', there is a problem of whether *rhec* or *het* can be regarded as representative.
- (2) Furthermore, taking the example of 'eight,' it is difficult to argue that it is representative of all OB forms taking the final *-(y)at*.
- (3) It is possible to postulate PLB *\*(y)at* > OB *-(y)at*, including for 'eight.'
- (4) We could also regard the presence of variants in early OB such as *het* ~ *rhec* 'eight' and *khyac* 'to love' as evidence of the early, piecemeal merger with forms normally taking *-ac*. In OB, this could be interpreted to suggest the prior existence of dialectal differences; more specifically, at least two dialects—one from the Pagan district and the other (more archaic) from the Kyaukse district.

In addition, the fact that with OB *-ac* ~ *-ec*, the variant *-ec* is also found in rather early inscriptions leaves us with the question of phonological interpretation.

We could also make the same inference for the interpretation of initials for OB *rhec* ~ *het* ~ *hyat*. Notably, Nishida, on the basis of the correspondence among the Myazedi inscription *het*, MTA *hsyac* [seʔ] (a transcription of the Chinese character *sè* 色), and CB [eiʔ] /šiʔ/, states that “この碑文に代表される 12 世紀の言語では、無声硬口蓋摩擦音「ç-」を定立するのが、もっとも妥当であると考えられる in the twelfth century languages represented in this inscription, it seems most reasonable to posit the voiceless palatal



fricative [ç-].” In addition to noting the possible preservation of *hr-* / *h-* in Burmese of the period spoken outside the Pagan district or among a different social class within the Pagan district, he compares *het* in the same inscription with *hruy* ‘gold’ and *puhra* ‘Buddha’, discriminating between [ç-] and [hr-] and stating that “「ç-」および「hr-」がのちのビルマ語で、同じく hr-によって表記されるようになったのは、後のある時期に、両者「ç-」と「hr-」が同じ音素あるいは極めて近似した弁別的でない音に変わった ためであろうと考えられる。the fact that both [ç-] and [hr-] came to be similarly expressed as *hr-* in the Burmese of a later period seems likely to have been due to the fact that in the later period both [ç-] and [hr-] changed to the same sound or to sounds so similar that they were not discriminated” (NT 1972, p. 246). In contrast to this view, without raising any particular objection,<sup>57)</sup> we could consider the variants *rh-* ~ *h-* ~ *hy-*, with the OB form of ‘eight’ seeming permissibly representative of */\*hryat/* (see below). Note that Nishida himself posits *\*hryat* for Proto-Burmese [=PBsh].

#### 4 The interpretation of palatal initials as palatalized velars

It is a well-known fact that the OB form for WrB *ñi* is *ñi* ~ *ŋi*.

1. OB *ñi* ~ *ŋi* : WrB *ñi* (CB/ñi/) ‘younger brother’
2. OB *ñi-ma* ~ *ŋi-ma* ~ *ŋim-ma* : WrB *ñi-má* (CB/ñimà/) ‘younger sister’
3. OB *ŋi*, *ŋi-ñwat* : WrB *ñi*, *ñi-ñwat* (CB/ñiñu?) ‘to accord’
4. OB *ŋhi* : WrB *hñi* (CB/hñi/) ‘to kindle’

Moreover, with the exception of WrB *ñit* ‘to nod’ and *hñit* ‘to cause to nod’ (for which the OB form is unknown), there are no examples of *ñ-* appearing in front of *-iC* or *-e < OB -iy*.

Similarly, a few variants of *ŋ(y)* ~ *ñ-* are also found before other OB finals.

1. OB *ŋhyap* : WrB *hñap* (CB/hñā?) ‘to pinch, compress between two’
2. OB *ŋhan-chay* [sic!] ~ *ñhan-chay* : WrB *hñân<sup>s</sup>-chây* (CB/hñîn-shé/) ‘to oppress’

At present, although it applies solely to the following one example, there is the correspondence OB *ŋr-* : WrB *ŋr-* (CB/ñr-), for which one may posit OB */ŋr-/* (OB *ŋrim* : WrB *ŋrīm* (CB/ñêin/) ‘to extinguish; to be extinguished’).<sup>58)</sup>

Conversely, while it is conceivable to posit OB/WrB alveolar stop + medial (TM) as a secondary/marginal system for borrowed language or a few forms of obscure derivation, from a monosystemic perspective, we may interpret these as rather */TəC-/*

Examples:

OB *tryā* ~ *trā* ~ *taryā* : CB */təyâ/* ‘law’  
 WrB *ní tyá tyá* : CB */ní tərā tərā/* ~ */ní təyá təyá/* ‘bright red’<sup>59)</sup>  
 WrB *tyak tyak má* : CB */təre? təre? má/* ~ */təye? təye? má/* ‘very hard’

In addition, OB/WrB *sy-* ~ *shy-* may be interpreted as */hr-/* in OB owing to the existence of the spelling variants *rh-* and *yh-*.

Examples:

OB *(?a-)rhaŋ* ~ *(?a-)syaŋ* ~ *(?a-)shyaŋ* : WrB *(?a-)hráŋ* ~ *(?a-)hsyáŋ* : CB */(?ə)šin/* ‘lord’  
 OB *ŋo-ryat-sī* : WrB *ŋup-rhac-sī* ~ *ŋu-hsyac-sī* : CB */ŋou?ši?əi/* ‘bael fruit’  
 OB *rhec* ~ *het* ~ *hyat* ~ *shyac* (found in non-original inscriptions) : WrB *rhac* : CB */ši?/* ‘eight’

On the basis of the above facts and interpretations, OB *ñ-* ~ *ŋ(y)* could be interpreted as */ñ-/* or */ŋy-/*.

Furthermore, it is highly likely that OB lacked the distinction *Ki(-)* : *Kyi(-)*. WrB *Kyi(-)* and *Kye* (< OB *-iy*) may be thought to be either a secondary palatalization (although it is unclear whether it was distinctive) or to originate from the transition *-l- > -y-* in the medial.

Examples:

I. OB *Ki(-)* : WrB *Kyi(-)*, *Kye*

1. OB *kī* : WrB *kyi* (CB/ci/) ‘granary’
2. OB *khī-paŋ* : WrB *khyi-pàŋ* (CB/chîbin/) ‘to assist, exalt’
3. OB *khiy* : WrB *khyê* (CB/chî ~ chêi/) ‘to borrow, lend’

4. OB *khin* : WrB *khyín* (CB /chéin/) ‘to weigh’
5. OB *kip* : WrB *kyip* (CB /ceiʔ/) ‘ten’

## II. OB *Kli(-)*: WrB *Kyi(-)*

1. OB *khliy* : WrB *khyê* (CB /chî/) ‘excrement, fœces’
2. OB *klit* : WrB *kyit* (CB /ceiʔ/) ‘Job’s tears (Coix Lachrymae)’

Although I cannot offer OB forms for all words that take the shape *Kyi(-)* or *Kye* in WrB, it is almost certain that *Kyi(-)* itself does not occur in OB. While, doubts also remain regarding other initials and about forms such as *chit* ‘goat’ (< \*Tsyit), which derives from PLB \*(alveo-) palatal, and *chit* ‘to pinch’ (< \*Tsit), which derives from the \*alveolar, we can presume that there was typically no distinction between *-i* versus *-yi*.

Thus, if we interpret OB  $\tilde{n} \sim \eta(y)-$  as /ŋy-/, it should follow that OB  $\tilde{n}i \sim \eta i$  and  $\eta hi$  are /ŋi/ and /hŋi/, respectively.

If we consider that the distinction *i* : *yi* did not exist in OB, then it becomes possible to posit as follows. For example, rather than theorizing a cyclic change such as PLB \**Kyi(-)* > OB *Ki(-)* > WrB *Kyi(-)*, it is better to propose PLB \**Ki(-)* > OB *Ki(-)* > WrB *Kyi(-)*. Accordingly, rather than positing PLB \**Yip* ‘to sleep, lie down’ (Mar *yàp*; Bis *jù*; Akh *yu*, PL, *jù* NT; Lis *yi*<sup>6</sup> JOF; Lah *yìʔ*, etc.) > OB/WrB *ʔip* (CB /ʔeiʔ/), we may consider PLB \**Hip*<sup>60</sup> > OB/WrB *ʔip* and regard *y-* in LB languages as an artifact of secondary palatalization. For Matisoff’s \**yit* ‘to be drunk’ and \**ʔkyit* ‘to love’, the argument here for \**Yat* and \**Kyat* suggests the possibility of establishing new reconstructions for other examples also (e.g., PLB \**ʔkyik* ~ \**ʔgyik* ~ \**gyik* ‘little bit’ (JAM 1672, no. 70); PLB \**kyit* ‘hot (enough) to burn’ (JAM 1972, no. 13), etc.) as well as other possibilities that may be attributed to errors in the establishment of etyma.

The foregoing discussion contains many points that still lack sufficient corroboration and includes many facts that are merely inferred. Moreover, while my argument was assembled by mostly referring to Burmese and Akha, further modification remains likely in the event of a successful development of the corpus of other LB languages in future, and I have consciously refrained from conclusive assertions. Given the countless ways in which the study of OB/WrB might be problematized in future, I believe that I have sufficiently accomplished my aim. (February 1974)

(I would like to express my gratitude to Professor Tatsuo Nishida of Kyoto University, Professor Hajime Kitamura and Mr. Shigeru Tsuchida of the Research Institute for Languages and Cultures of Asia and Africa, and Mr. Sueyoshi Toba of the Summer Institute of Linguistics [Nepal], who provided me with most of the materials used in the preparation of this paper).

## Bibliographic Abbreviations

BH = B. Houghton 1897

DB = D. Bernot 1972

DWD = D. W. Dellinger 1968

EM = E Maung 1958

GHL = G. H. Luce 1969-1970

JAM = J. A. Matisoff 1967

JIF = Ruì yǐfū 1948

JOF = J. O. Fraser 1922

LFT = L.F. Taylor 1922

LSI = Grierson 1928

NT = Nishida Tatsuo 1955/56

PKB = P. B. Benedict 1972

PL = P. Lewis 1968a

PMT = Pe Maung Tin 1933

RB = R. Burling 1967

RS = R. Shafer 1952

UM = U Mya 1961

RKS = R. K. Sprigg 1963

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<sup>1</sup> Abbreviations: OB=Old Burmese, WrB=Written Burmese, CB=Central Burmese (Rangoon-Mandalay dialect), Ark=Arakanese, Tav=Tavoyan (=Dawè dia-lect), Ats=Atsi, Mar=Maru, Bis=Bisu, Phn=Phunoi, Akha=Akh, Lis=Lisu, Lah=Lahu, LB=Lolo-Burmese, PLB=Prot-Lobo-Burmese, PBsh=Proto-Burmish (=Proto Burmese NT), PB=Proto-Burmese (=Archaic Bu-rmese NT), PLsh=Proto-Loloish. Abbreviations for other languages have been indicated where necessary. For abbreviations of the studies and authors cited in this paper, please refer to the References section and the following notes.

*Transcription and notation:* While I have followed C. Duroiselle's format with respect to OB forms ('Literary Transliteration of the Burmese Alphabet,' *Journal of the Burma Research Society* 6 (1916), 81–90), I have added ?- to both OB and WrB forms that begin with a vowel. In the case of WrB, I diverge from Duroiselle's format on several points. (1) For *mh-*, *nh-*, etc., I use *hm-*, *hn-*, etc. (2) I use *-ay* for both *-ai* and *-ay*. (3) To discriminate between *ñ* and *ñ-ngè*, I follow the convention of writing these differently as *ñ* and *ñ<sup>s</sup>*. (4) I have adapted the tone marks employed for CB for use with WrB, changing them to marks for long vowel symbols and numbers to indicate tone in WrB, etc. However, WrB forms are CV-, and I have not shown tone marks where the corresponding CB forms are atonic. In addition, I have used *ŋ* instead of *ng* and *n̄*. While I have largely followed W.S. Cornyn ('Outline of Burmese Grammar', *Language* 20:4 [1944] supplement [Language Dissertation No. 38]) for GB phoneme notation, I differ on the following points: (1) I indicate abrupt onset with /ʔ/, (2) I write /ny/ as /ñ/, (3) I indicate a light tone /a/ as /ə/, and (4) I indicate nasal or nasalized syllabic finals and stopped finals as /-n/ and /-ʔ/, respectively. For phonological and vocal notation in other languages and dialects, please refer to the studies indicated in References and Notes. Where necessary, I have enclosed phonemic notation with slashes (/) and phonetic notation with square brackets.

*OB and WrB:* By general convention, OB refers to the form of Burmese mainly recorded in inscriptions dating to the Pagan Dynasty (approximately late 11<sup>th</sup>–late 13<sup>th</sup> C). The OB period could be divided into early and late periods,



with a boundary sometime in the 12th or 13th century marked by phonological changes such as /-iy/ > /-ei/, /-uy/ > /-wei/ (/ʔuy/ > /wei/) that have been posited according to spelling variations. Nishida estimates the period of transition marked by /-iy/ > /-ei/, /-uy/ > /-wei/ to have occurred in the late 13th century (NT 1972, p. 255, fn. 19). However, it may also be possible to move this date back by at least half a century. From the fact that -o- and -o (e.g., pl. 303; pls. 364a, 364b; pls. 111, 112) were used for -wa-, -u (e.g., pls. 4, 5; pl. 16; pl. 13, etc.) in early inscriptions in the early OB period, we should note that while it seems that OB itself could be further divided into two periods, I believe that there is still scope for a comparative study on whether these textual variations actually reflected contemporary phonological distinctions. Although Nishida has attempted a reconstruction of the OB phonological system in his study of the Myazedi inscription (NT 1955/56), he has introduced substantial changes in his more recent publications on the Burmese-Chinese vocabulary (*Mien tien-kuan*) and ancient Burmese (NT 1972). On the basis of Nishida's study of the Myazedi inscription, R.A. Miller has added some phonological interpretations that differ in many respects with regard to the OB vowel system ('The Phonology of the Old Burmese Vowel System as Seen in the Myazedi Inscriptions,' *The Transactions of the International Conference of Orientalists in Japan* 2 (1957), 39-43). Note that Nishida's reading of the Myazedi inscription contains a number of instances that are open to alternative readings in terms of spelling or comparison with WrB forms, and according to these alternative readings, there is no need to dwell substantially on the question of variations in tone between OB and WrB forms. OB orthography does not consistently discriminate between WrB and CB tone marks / ˊ / and / ˋ / (although, as pointed out by Prof. Luce, both tones are differentiated in the *Ajāwlat* [=Dhammaramkri] inscription [pls. 4, 5], such as with -ī: WrB-í, -ih: WrB-î; this is a unique example). Moreover, looking at OB overall, there seems no reason to deny the notion that the distinction between the two tones basically stemmed from pitch. For example, in the Myazedi inscription, WrB *rwá* "village" appears as *rwoh*, which therefore, rather than suggesting that -h (in even later periods, this was also represented with symbols such as the *visarga*) indicates phonological characteristics for / ˊ /, indicates that we should consider this to represent the distinction in WrB and CB between glottalized / ˊ / and non-glottalized / ˋ / and / ˊ /. Even if we consider that, including the light tone, the distinction among the five tones of CB had already been established in the OB period, I do not think that this really presents us with a problem. The interpretation of the OB corpus also includes problems that are antecedent to the application of linguistic theory. In addition, the appearance of the 'register tone' in LB languages (perhaps, for TB languages as a whole), unlike the case of 'contour tone,' may basically be thought to derive from differences in the initial consonant or consonant group, as Nishida and J.A. Matisoff have argued in numerous articles. Although an extremely interesting new theory regarding the appearance of tones in Burmese has been proposed by La Raw Maran ('Burmese and Jingpo: A Study of Tonal Linguistic Process' *Occasional Papers of the Wolfenden Society on Tibeto-Burman Linguistics* Vol. IV (Publication of the Center for Asian Studies, the University of Illinois) Urbana, 1971), the above perspective makes it difficult to accept it. E.G. Pullyblank ('An Interpretation of the Vowel Systems of Old Chinese and Written Burmese,' *Asia Major* (new series) 10 (1963) 200-221) has also proposed a system of finals for 'Literary Burmese,' which is based on the same Myazedi inscription used by Nishida and Miller and may, in fact, be regarded as a system of finals for Old Burmese (or what Nishida calls 中古 *chūko* or "Middle" Burmese).

The OB phonological systems of the above three scholars all contain important points, and while I do not think that they demonstrate any major differences when they are further considered in light of the OB corpus, from an empirical perspective, however, we might think that positing an early OB phonological system would require an examination of all types of inscriptions and votive tablets prior to the accession of Caṅsū II in 1174 AD (see GHL I, pp. 107-115) as well as all the major inscriptions up to at least 1200 AD.

Overall, OB spelling, aside from the loanwords and except for the earliest (cf. pl. 303) and non-original inscriptions, may be said to be rather uniform throughout the entire period. We may also regard the disambiguation of -', -h, -v versus -v and spelling variants such as *ñ-* ~ *ṇ-/ṇy-*, -at ~ -ac, and -e ~ -aṇ as rather exceptional. For example, even though variants such as -iy ~ -e (~ -eiy) become apparent around 1200 AD, these were generally spelled -iy until the end of the OB period. To postulate phonological changes, the existence of variants is, needless to say, crucial, and there are some examples that enable us to infer the processes of phonological changes. For example, as indicated by C. D. Blagden, the variant *klyā* for OB *klā* can be interpreted in a form [kɭ-] that shows the process of change (/kɭ-/ > /ky-/) to WrB *kyā* 'tiger'. (Still, /Kɭ-/ and /Kɭy/ are to be considered distinct in the early OB period. For example, the corresponding OB form of WrB *khyāṇ* "to-want" is /khɭyaṇ/. However, at present, there are hardly any forms for which we can postulate OB /Kɭy-/).

However, as seen in the typical characteristics of languages transcribed into other script systems, it is often the case that phonological and phonetic changes do not find expression as spelling variants, at least until after a significant lapse of time. In this sense, the reconstruction from the 華夷記語 *Huá-yí yì-yǔ* (細甸館記語 A= MTA), a dialect of 15th century Burmese that followed the OB period (posited by Nishida as the Awa dialect), is extremely important as it is based on Chinese transcription. Nishida's study of MTA has also raised many issues that we have not yet been able to fully consider. Of particular importance are those related to the existence of dialects in OB and the validity of the conventional view (which remains to be proven) that considers WrB to be representing a language



midway between OB and CB. With regard to the former, looking only at the OB corpus, currently, we can reach no decisive conclusions, and in future, too, we will likely have to resort to relying, to some degree, on inferences from the studies of the *Hua-yi yi-yü* and modern dialects. As for the latter, we can only await the results of extensive documentary, dialectical, and other surveys starting from the OB period to the time of establishment of WrB. However, from the following perspective, in line with the conventional view, it does seem possible to move the discussion forward.

In other words, aside from the MTA language (or dialect), the spelling used (i.e., orthography) is somewhat close to the standard spelling used at the time (while OB/WrB spelling uses characters that express voiced sounds in borrowed terms as well as in the native stock of Burmese language, these are not used in MTA at all). Such points are considered to be different from the standard orthography of the time. This standard orthography, following the contemporary state of its base dialect, was obtained by slightly modifying OB orthography, and after being reformed several times, has led to the establishment of WrB orthography as it now stands. In addition, when representing Burmese forms using WrB, the WrB forms show the form of a dialect of the period that followed late OB (which may also have, in fact, lasted beyond the Pagan period), and not the form of a dialect of a period when this WrB orthography began to emerge, at roughly around the same time as the orthography of today (except for minor distinctions such as -ñ and -ñ<sup>s</sup> and changing -o to -o and -uiw to -ui, which probably took place during the 17th and 18th centuries).

The most significant difference of the phonological system of dialects deduced only on the basis of spelling, i.e., the phonological systems of WrB and OB, is that the medial -l-, subject to certain general conditions, changed to -r- or -y-. The condition for this split resulted in -y- when the initial sound was velar (as described above, in fact, the presumed developmental process is OB -l- > -λ- (palatal) > WrB -y-) and -r- when it was labial. However, while we cannot say that there are absolutely no exceptions, given examples such as OB *ʔa-mluiw* ~ *ʔa-mlyuiw* (for which the WrB form does not take the predicted form of \*ʔa-mrui but rather *ʔa-myui* ‘race, lineage; kind’) and other examples that recognize both forms such as the WrB form of ‘sweat,’ which appears as *khwrê* ~ *khwyê* in Judson’s *Burmese-English Dictionary* (for which PLB \*Kruy is deduced on the basis of its OB form *khruy*), we can regard the above correspondence rules as being regular to an extent.

In fact, the biggest difference between the phonological system for MTA reconstructed by Nishida and the phonological system that has been inferred from WrB spelling also lies with this medial. Unlike WrB, in MTA -l- corresponds to -l- and -y- in OB. Notable, however, is that MTA orthography, as described earlier, inherits the tradition of OB orthography, and we can think of it as being based on the orthography of the period, and that therefore the aforementioned rules of correspondence can be applied between OB medials and the orthographic medials (the following two examples, however, represent exceptions — MTA *hañ-mruiw* : WrB *hāñ-myui* ‘the different kinds of fish and flesh eaten in curries’ [cf. NT 1972, p.131, no. 457] and MTA *si-khraj si* : WrB *si-khyāñ si* ‘to sing a song’ [cf. NT 1972, p.141, no. 618]. In addition the -mruiw of MTA *hañ mruiw* is a morpheme that corresponds to -mluiw ~ -mlyuiw in OB *ʔa-mluiw* ~ *ʔa-mlyuiw*, and it is noteworthy that this *mr-* occurs regularly for OB *mluiw*). Nishida’s reconstruction uses -l- rather than the MTA -r- because when transcribing into Chinese characters, the 日母 initial is used for r-, whereas the 見母 initial is used for medial -r-. If we can posit that this distinction in the Chinese character transcription was intended to represent a phonetic distinction between, e.g., r- = [ɹ]/[ʒ] and -r- = [r], then it is also possible to interpret both the characters r- and -r- in MTA as /r/. This problem with this account is MTA *khri* : WrB *kharî* ~ *khri* ‘road’ (cf. NT 1972, p. 88, no. 56; p. 90, no. 90; p. 124, no. 404: /khlii/), MTA *khram sî* : WrB *kharâm-sî* ‘eggplant’ (cf. NT 1972, p. 97, no.147: /khlan sii/), MTA *trā-cwā* : WrB *tarā-cwā* ~ *trā-cwā* ‘equitable’ (cf. NT 1972, p. 114, no. 345; p. 114, no. 347: /tlaa tswaa/), where we have CəM- (M = medial) rather than CM- in CB, as seen in the pronunciations /khəyî/, /khəyāñdî/, and /təyā/, respectively; this phenomenon deserves to be described in detail. If the interpretation of r- and -r- spelling in MTA as /r/ is permissible, then the MTA language in effect may be regarded as a sub-dialect of the language of WrB.

While a majority of the OB forms cited here are taken from inscriptions in EM 1958, other forms have been cited from research by Prof. G.H. Luce and Pe Maung Tin. The early OB inscriptions included in EM 1958 are as follows: 1) pl. 303 (undated), 2) pls. 364a, 364b (A.D. 1113) (the so-called Myazedi inscription), 3) pls. 111, 112 (A.D. 1121), and 4) pls. 4, 5 (Ajawlat inscription) (A.D. 1165-6). While Prof. E. Maung also considers pl. 110 (B.E. 1625/443s [A.D. 1081-82]) to be original (even leaving aside the style of the characters), its orthography dates from a rather later period. Although no date is given, we cannot deny the possibility that pl. 303 is even later than pl. 364. Although a widely recognized fact, it is a complete mystery to me why this has not been the subject of a more systematic study, together with the case of OB -(y)an > WrB -añ mentioned in Note 3. First, this could be attributed to the fact that it is customary among many Tibeto-Burman comparativists to cite the WrB forms of Burmese rather than the OB forms. Of course, I expect this is because, given the nature of the inscriptions, there are many cases in which we have no choice but to use WrB forms owing to the extremely limited number of OB forms; moreover, because of the many mutually contradictory variants in OB spelling, there are those who would try to risk ignoring it in the belief that it lacks reliability (cf. Paul K. Benedict’s view of the medial -l- [PKB 1972, p. 41, fn. 134].

Ironically, Benedict infers TB \*mlyəw on the basis of the most doubtful OB *mlyui* ‘to swallow’ [WrB *myúi*]. This inscribed form is cited directly from PMT 1933. Nonetheless, there also an OB variant *myuiw*, and from the fact that the WrB form is *myúi*, a literal interpretation on the basis of its spelling is doubtful. Despite the fact that J.A. Matisoff also, for the most part, ignores \*-l- in his reconstruction of PLB, he surprisingly argues for the possibility of \*-l- for ‘to swallow’, thus perpetuating Benedict’s mistake’ [JAM 1972, no. 137]). However, subject to the attestability of a form in OB, surely we should consult OB as much as possible.

Paralleling the *phonological* integration of OB -(y)at and OB -ac ~ -ec in WrB -ac, OB -(y)an, OB -aĩ ~ eĩ, and OB -e(h) ~ -aĩ are also integrated *orthographically* in WrB -aĩ.

Examples:

1. OB *ʔa-can-can* : WrB *ʔa-cáĩ-cáĩ* = *ʔa-cáĩ<sup>s</sup>-cáĩ<sup>s</sup>* : CB /ʔasínzín/ ‘a succession of’

OB *-pyā* : WrB *pyáĩ* = *pyáĩ<sup>s</sup>* : CB /pyín/ ‘a plank, board’

OB *ñan* : WrB *ñáĩ* = *ñáĩ<sup>s</sup>* : CB /ñin/ ‘might’

OB *ñhan-chay* ~ *ñhan-chay* : WrB *ñhāĩ-chây* = *ñhāĩ<sup>s</sup>-chây* : CB /ñhîn-shê/ ‘to oppress’

OB *ʔa-yan* : WrB *ʔa-yáĩ* = *ʔa- yáĩ<sup>s</sup>* : CB /ʔəyín/ ‘tame’

2. OB *praĩ* : WrB *práĩ* : CB /pyí ~ pyéi/ ‘country, capital’

OB *plaiĩ* ~ *pleĩ* : WrB *práĩ* : CB /pyèi ~ pyì/ ‘to be full’

OB *maĩ* : WrB *máĩ* : CB /myí/ ‘to be named’

OB *rhaiĩ* ~ *rheĩ* : WrB *hráĩ* : CB /šéi/ ‘to be long’

OB *chaiĩ* : WrB *cháĩ* : CB /shé/ ‘irrigation dam’

3. OB *teh* ~ *te* ~ *taĩ* : WrB *tāĩ* : [CB /tí/ (Reading Pronunciation)] (particle)

OB *nhe* : WrB *nāĩ* : [CB /ni/ (Reading Pronunciation)] (particle)

OB *leh* ~ *le* ~ *laĩ* : WrB *lāĩ* : CB /lê/ (particle)

(Note that there are also a few examples where OB -aĩ ~ -eĩ corresponds to WrB -e.

OB *klaĩ-jũ* ~ *klaĩ-cũ* : WrB *kyê-jũ* : CB /cêizũ/ ‘favor’

OB *kl(w)aĩ* ~ *kl(w)eĩ* : WrB *kywê* : CB /cwêi/ ‘to feed, nourish’ The reason -w- is frequently dropped from *kl(w)aĩ* ~ *kl(w)eĩ* is owing to space constraints and has no phonological significance whatsoever).

Generally, the distinction between OB -(y)an and two other finals, even in modern Burmese dialects, is well preserved as a nasal : oral distinction (cf. the CB forms in the examples above), and leaving spelling aside, are phonologically distinct. In WrB as well, the customary written distinction of the WrB form -aĩ as -aĩ<sup>s</sup> corresponding to CB /-in/ has been established only recently (while it is not known exactly when, it seems most likely that it was at the beginning of the 20th century). Owing to a lack of source materials a LB etymon corresponding to a WrB form with the final -aĩ<sup>s</sup> is found only in the following examples:

‘to be sour’ WrB *khyáĩ<sup>s</sup>* (CB /chín/: Ark -tchāĩ RKS: Tav /chín/ ~ /šin/ NT, ei PMT); Bis khjén NT; Akh yocē<sup>v</sup> PL, jo-tshé NT; Lis chē<sup>3</sup> JOF, kjiy NT; Lah (-shi) tseh NT. (PLB \*Kyan).

cf. ‘husked rice; paddy’ WrB *chán*; Bis tshen; Akh cē<sup>v</sup> (PLB \*Tsyān)

and ‘kite, hawk, eagle’ WrB *cwán*; Akh xa<sup>v</sup> dze<sup>v</sup> PL, xa<sup>v</sup> dzé NT; Lis dzyē<sup>4</sup> JOF; Lah á-cè JAM (PLB \*Tswan).

Despite there being only one example, it seems permissible to posit \*(y)an in parallel with PLB \*(y)at and consider that OB -(y)an is derived from \*(y)an. In addition, I will offer another example in which, since the OB form is unclear, it is difficult to establish the shape of the original etymon.

OB *miy-ma* ~ *mī-ma* ~ *mim-ma*: WrB *mîn-ma* (CB /mêinmā/: Ark māmā LSI: Tav mī-ma LSI) ‘woman’; Ats myivè ‘woman’ RB; Mar myiyē ‘id.’ RB;

This set of OB variants shows that the WrB form *mîn-mà* derives from *miy-ma*. Nasalization does not occur in either Arakanese or Tavoyan. Additionally, in MTA:

(no. 300) *mîn-ma* 敏馬 ‘gossipy women’

(no. 317) *mîn-ma lyaa* 美馬量 ‘eunuch’

Although Nishida infers [mĩ~ mā] for the former and [mei~ mā] for the latter, and states that the transcription of the latter “実際の形「mei-ma」をより明瞭に表記しようとしたものである was an attempt to more clearly represent the actual form [mei~ mā]” (NT 1972, p. 361), but we cannot deny the possible existence of alternate forms *mĩma* ~ *meima* (incidentally, this would be OB *miy* > WrB *me* > CB /mei/). This OB variant, as well, would not need to be thought of as *miy-ma* > *mim-ma* (the fact that these are spelled with -n in both WrB and MTA means the loss of the distinction between -m and -n was already complete in WrB; we can assume that some forms that were originally spelled -m came to be spelled with -n. Note that forms that end in -n in WrB have fewer constraints on distribution when compared to those that end in -m; even when the -l and -r of -al and -ar are nasalized in terms borrowed from languages like Pali and rewritten as Burmese expressions (*mrán-má hmù*), there is a convention to use -n rather than -m); we could also consider the existence of the alternate form *miy-ma* ~ *mim-ma*. The following examples will also serve as reference.

OB *ñi-ma* ~ *ñim-ma* : WrB *ñĩ-mà* ‘a woman’s younger sister’, cf. MTA (no. 213) *ñin-ma* 膩馬 [shěĩ] ‘wife of father’s younger brother’ [ñii-ma] (CB /ñimā/: Ark -ñi mà šē LSI).

For OB *miy-* : Ats *myì-* : Mar *myì-*, we can posit PLB \**Miy* ‘woman, wife’. In addition, while we could interpret the first morpheme of ‘wife’ OB *mī-yā ~ mī-yā ~ myā* : WrB *ma-yâ* (CB /məyâ/) as having derived from PLB \**Miy*, in this case, I will reserve judgment, since it is possible that the *y*-glide was produced by the effect of the initial consonant *y-* of the next syllable. Burling compares the Atsi and Maru forms above with examples such as Akh *za\_mì\_za* ‘woman, wife’ [za\_mì\_ ‘wife’ PL, zà mì zà ‘woman’, mì zà ‘wife’ NT]; Lis *řàmàřa* ‘woman’ RB [ra<sup>5</sup>-mrgh<sup>4</sup> ‘wife’, ra<sup>5</sup>-mrgh<sup>4</sup>-ra<sup>5</sup> ‘woman’ JOF]; and Lah *yâmî* ‘woman’ RB [yâ-mî ‘girl’, yâ-mî-qhē? ‘woman’ JAM] and suggests PLB \**myi*, positing PLB \**mī* ‘wife’ for Ats *myì* ‘wife’ Mar *mī* ‘id.’ However, in the latter case, while Ats *myì* conceivably belongs to the same formal system as the *myì-* of *myiŷē*, Mar *mī* ‘wife’ likely has the same root as *mī ~ mih* : *mî* of OB *sa-mī ~ smi ~ smih* : WrB *sa-mî* (CB /əəmî/) ‘daughter’ and should rather be compared with examples such as Akh *-mî* PL, *-mî* NT; Lis *-mà* RB, *-mrgh<sup>4</sup>* JOF; Lah *-mî* RB, *-mî* JAM as well as *-bì* < \**mī* in Bis *jà-bì* ‘young woman’. While the *-mî* of Lah *ò-mî-ma* ‘wife’ could derive from either PLB \**Miy* or PLB \**Mi*, the resemblance of the formative structure to WrB *mî-mà* < OB *miy-ma* suggests that we could also consider it to derive from \**Miy*.

As an aside, when we re-examine Atsi and Maru in Burling’s sources in this manner, we arrive at the following conclusion: the labial was palatalized before \**-iy* and \**-i* in Atsi and only before \**-iy* in Maru, or to put it differently, under these conditions, the medial *-y-* developed after the labial. As in the following example:

PLB \**Piy* ‘(great-) grandfather/mother’ [cf. PBsh \**phyei* ‘grandmother’ RB], WrB *řa-bhê-mà ~ bhê-mà* ‘great-grandmother’ (OB *řa-phyi*); Ats *á phyi* ‘grandmother’ RB; Maru *phyit* ‘id.’ RB; Bis *řa-phi* ‘id.’; Akh *a\_pì* ‘id.’ PL, *řa-phi* ‘id.’ NT; Lis *a<sup>5</sup>-hpi<sup>2</sup>* ‘great-grandfather’, *a<sup>5</sup>-hpi<sup>2</sup>-ma<sup>3</sup>* ‘great-grandmother’ JOF; Lah (-Shi) *řa-pí* NT.

(The palatalization of initial consonants in Atsi and Maru could be handled more generally by a rule of thumb. Cf. PLB \**Ki* ‘granary’ (OB *ki* : WrB *kyi*) > \**Kyi* > Ats *cʔi*, Mar *cʔi* [PBsh \**cʔi* RB]; PLB \**Kiy* ‘to borrow, lend’ (OB *khiy* : WrB *khyê*) > \**Kyi* > Ats *cʔi* [PBsh \**cʔi* RB]; PLB \**Niy* ‘penis’ > \**Nyi* > Ats *nʔyi*, Mar *nʔyi* [PBsh \**nʔyi* RB]; etc.) (See Note 52).

- <sup>4</sup> LB languages and dialects are discussed in greater detail in NT 1972, pp. 226–238. For their subclassification, cf., e.g., RS 1966, p.4; RB 1967, pp. 1–3; JAM 1971, pp. 2–26, and NT 1972, pp. 226–241.

Looking principally at the various languages cited below, it does not seem that there is any argument whatsoever about the grouping of Burmese, Atsi (Zaiwa), Maru (Lawang), and Lashi (Letsi) as a linguistic sub-group or sub-family. Shafer further divides this linguistic sub-group—the Burma Branch of the Burmish Section of the Burmic Division—into the Southern Unit (the so-called Burmese dialects) and the Northern Unit (Atsi, Maru, Lashi, etc.). Burling and Matisoff refer to this linguistic subgroup as Burmish (sub-family), and I use this name here as well. Nishida refers to these as “Burmish-based languages” (ビルマ語系諸語 *Biruma-go-kei shogo*) and, like Shafer, divides them further into a Burmese dialect group and another group that contains Atsi, Maru, and Lashi.

Apart from Nishida, scholars consider languages such as Lisu, Lahu, Nyi (Sani), Ahi, Hani, and others including Akha and Bisu as *Loloish* rather than *Burmish* languages. In other words, Shafer considers these as the Lolo Branch of the Burmish Section and further subclassifies these into the Southern, Central, Northern, and Tonkin Units or into other Unclassified Units such as Menyak and Moso. Burling, in a parallel manner, considers Lahu, Akha, Lisu, and Lahu as *Loloish* (Sub-family). Matisoff discusses Akha, Lisu, Sani (Nyi), Ahi, Hani, Bisu, Woni, Nasu, Lolomaa (Lùquàn dialect), Qiang, and Moso (Naxi) as *Loloid* (Loloish languages and dialects) in JAM 1971. These and other languages are broadly divided into *Loloish* and *Mosoid* (Qiang and Moso) according to whether the syllables in each language presumed to derive from stopped syllables in PLB and have distinct tones due to differences in PLB’s syllabic initials (±prefix element [\*s-, \*C-, \*V-, \*N, etc.] + initial consonant). Languages belonging to the former category are divided into (1) languages where high tones correspond to high tones in most languages and whose low tones similarly correspond to low tones (Lahoid) and (2) languages that show the reverse correspondence (Nasoid: Nasu, Lolomaa). Lahoid languages, according to how the initial consonants posited for PLB (e.g., labial stops: \*p, \*b, \*ʔp, \*ʔb, \*mp, \*mb) have transitioned in each language, are further divided into Bisu-Lahoid and Lisu-Lolo, with the former being subdivided into Bisoid (Bisu, Phunoi, Pyen), Wonoid (Woni, Hani), Black Lahoid (Lahuna, Red Lahu, Lahu-sheleh), and Lahushi, and the latter subdivided into Lisoid (Akha, Lisu, Sani) and Ahi.

Nishida’s classification scheme differs from those of other scholars in that he regards Akha, Bisu, Phunoi, and Pyen as Akha-based languages, which he considers to have branched directly from PLB along with Lolo- and Burmese-based languages. (Shafer includes Akha, Phunoi, and similar languages in the Southern Unit of his Lolo Branch along with languages such as Lahu [Lahuna, Lahushi, Kui] and Woni). On the basis of this classification, Nishida proposes a procedure for the reconstruction of PLB as follows:

Step 1: Comparison of Burmese, Atsi, Lashi, and Maru (Burmese-based languages) [Reconstruction of Proto-Burmese]

Step 2: Comparison of Burmese, Akha, and Bisu (Akha-based languages) [Reconstruction of Proto-Bisu-Akha]

Step 3: Comparison of Burmese, Lahu, and Lisu (Lolo-based languages) [Reconstruction of Proto-Lisu-Lahu]

Step 4: Comparison of (Burmese,) Lolo (Nyi, Ahi, Nasu), and Hani (Lolo-based languages) [Reconstruction of Proto-Lolo]

## Step 5: Reconstruction of PLB-1

By analyzing the results of Steps 1 through 4, [which theoretically means the reconstructing a higher-order Proto-Lolo-2 after Step 4 through comparison between Proto-Lolo-1 and Proto-Lisu-Lahu, and then comparing Proto-Lolo-2 with the proto-languages in Step 1 and Step 2], collating these with Minor Languages, modifying them, and further comparison with other languages such as Moso, Mi, and Mi-nyak, we are able to reach Step 5. At each stage, Burmese is used as an indicator.

While the details may differ for each researcher owing to their differing opinions about subclassification, the necessity of such a procedure is clear. However, in view of the sources available at present, it seems to me that they are insufficient for attempting a reconstruction following such a procedure. The one reason that I have been forced to rely largely for a comparison between Burmese and Akha is the lack of materials in other languages. Fortunately, both these languages are essential for the reconstruction of PLB finals and stopped finals in particular. Even though I have omitted the above process in connection with the themes elaborated in this paper, I do not consider this to be overly problematic.

<sup>5</sup> Lewis indicates laryngealized vowels in Akha as Vʔ (e.g., iʔ, uʔ, etc.).

Next, I note the tone correspondences among the various languages cited herein. *Regular* correspondences in the tones of WrB/CB, Bisu, Akha, Lisu, and Lahu are as follows (cf. RB 1966, pp. 56–65, p. 69; JAM 1970, p. 15; JAM 1971, p. 26, p. 30).

Non-laryngealized vowels (oral vowels) for Akh-PL

WrB/CB	Bisu	Akha		Lisu	Lahu
/ʰ/	high	high PL, high NT		{ <sup>4</sup> <sub>3</sub> JOF, {mid(non-laryngealized) mid(laryngealized) NT	{/ʰ/ JAM mid
/ˊ/	mid	mid PL, mid NT	3 JOF, mid (laryngealized/non-laryngealized) NT		mid JAM
/ˋ/	low	low PL, low NT		{ <sup>5</sup> <sub>1</sub> JOF, {low (non-laryngealized) high NT	{/ˊ/ JAM /ˋ/

Laryngealized vowels (laryngealized/faucalized/glottalized vowels) for Akh-PL

WrB/CB	Bisu	Akha		Lisu	Lahu
stopped final/-ʔ/	mid	mid PL, mid NT		{ <sup>3</sup> <sub>2</sub> JOF, {mid(laryngealized) rising NT	/ˊʔ/ JAM
stopped final/-ʔ/	low	low PL, low NT		{ <sup>1</sup> <sub>6</sub> JOF, {high low (laryngealized) NT	{/ʰ/ JAM /ˊʔ/

It is accepted that a distinction between laryngealized and oral (which I will refer to here as non-laryngealized) exists for most vowels in Akh-PL. In Akh-NT, laryngeality is a phonetic characteristic of the mid tone, and no distinction due to laryngeality is recognized among vowels. Three tones with phonological distinctions among high, mid, and low are recognized in both languages.

In Akh-PL, the distinction between laryngealized and non-laryngealized is written together with the tone distinction

Akh-PL (non-laryngealized vowels)

high tone /ʰ/ (Akh-NT /ʰ/)

mid tone (unmarked) (Akh-NT [unmarked])

low tone /ˋ/ (Akh-NT /ˋ/)

Akh-PL (laryngealized vowels)

mid tone /ˊʰ/

low tone /ˋʰ/

In Lis-JOF, tones 2 and 6 are ‘abrupt’ tones, whereas in Lis-NT, a distinction between laryngealized and non-laryngealized is accepted for simple vowels with mid and low tones. Next, I will show the basic correspondences among Lis-JOF, Lis-NT, Lis-RB, and Lis-JIF.

Lis-JOF	Lis-NT	Lis-RB	Lis-JIF
tone 1	high tone /ʰ/	/ʰ/	55
tone 2	mid-rising /ˊʰ/	/ˊʰ/	35
tone 3	mid (laryngealized) (unmarked)	/ˊʰ/ (glottalized)	33
tone 4	mid (non-laryngealized) (unmarked)	/ˊ/	12, 33
tone 5	low (non-laryngealized) /ˋ/	/ˋ/	11



tone 6      low (laryngealized) /ˀ/      /-ʔ/      1 (low abrupt), 11

In Bisu, in most cases, \*stopped finals are transitioning to open finals. Consequently, laryngealized vowels in Akh-PL that derive from \*stopped finals normally correspond to open finals in Bisu. However, stopped finals also exist in Bisu, and there are few examples where these correspond to laryngealized vowels in Akh-PL (while several distinctions are made among the three high, mid, and low tones for open/nasal finals, only one distinction between high and low tones is recognized for stopped finals).

Examples:

‘below’ Bis ʔaŋ —ʔək NT; Akh la.oˀ PL, dà-ʔo NT; cf. ‘to wear on the head’ Bis khə : Akh xoˀ PL, xo NT

‘to pour’ Bis šēt; Akh šēˀ PL; cf. ‘to kill’ Bis sē; Akh sēˀ PL

‘to tear’ Bis tšhit; Akh ciˀ ‘to pluck’ PL.

(I regard this third as cognate with WrB *chut* ‘to tear’, *cut* ‘to be torn’; Lis *chi*<sup>2</sup> ‘to tear’ JOF; Lah *ci*<sup>2</sup> ‘to pluck, pick’ JAM. For the reflexes of PLB \*-ut, let us compare the following examples: ‘to wipe’ WrB *sut*; Akh *si*<sup>1</sup> PL; Lis *si*<sup>2</sup> JOF; Lah *ši*<sup>2</sup> JAM, ‘lungs’ WrB *chut*; Lah *ə-chi*<sup>2</sup>. Note that I differ from Matisoff with respect to the certification of the common root form for ‘to tear’. Matisoff considers the situation as follows:

PLB \*ʔcwat ‘pluck<sub>2</sub>’, WrB *chwat* ‘to pluck, gather, as flowers or fruit’; Akh *ci*<sup>1</sup> ‘to pluck’ PL; Lah *ci*<sup>2</sup> (JAM 1972, no. 57)

PLB \*<sub>N</sub>dzit ~ \*<sub>N</sub>tsit ‘split’, WrB *cit* ‘to split into two’; Akh *cē*<sup>1</sup> ‘to split’ PL; Lah *ji*<sup>2</sup> ‘to split longitudinally’ (JAM 1972, no. 88)

PLB \*<sub>N</sub>jut ~ \*ʔjut ‘tear/rip’, WrB *chut* ‘to tear’, *cut* ‘to be torn’; Akh *ji*<sup>1</sup> ‘to tear something’ PL; Lis *chi*<sup>2</sup> ‘to tear’ (JAM 1972, no. 110)

Hence, there is still much that remains unclear regarding the etymological identifications)

On the whole, stopped finals are found in many loanwords from other languages such as Thai (Nishida regards tšhit ‘to tear’ as another loanword from Thai). However, when loanwords have stopped finals, the fact that they are extensively borrowed can be interpreted to mean that the Bisu phonological system allows stopped finals. Thus, even though there are few examples, Bisu stopped finals may be considered to derive from \*stopped finals. Besides these, and despite its many still puzzling points, Bisu in conjunction with Phunoi could play a large role in the reconstruction of PLB. More studies in future are desirable in this regard.

Next, I would like to briefly discuss some other issues, including tonal sandhi and alternants with differing tones that are found in these languages.

In Akh-PL, there is held to be no restriction on the combination of tones in polysyllabic words (as with Akh-NT, one- and two-syllable words form the foundation of the vocabulary, whereas the majority of words with three, four, or more syllables are either products of partial or total reduplication or the affixation of qualifying morphemes) and phonological tonal sandhi (and phonetic variation) is acknowledged only for some three- and four-syllable words. However, in practice, it is reasonable to say that tonal sandhi is barely acknowledged at all. Moreover, according to Lewis, [even between dialects] “there does not appear to be as much free variation or drift in tone as there is in the consonants and vowels.” Setting aside the phenomenon of tonal sandhi, variants with different tones and free alternants are recognized to some degree (e.g., ‘easy’ /-ɔ̃/-/ɔ̃/ [ʔɔ̃-ɔ̃/ ‘easy’ [cf. /jõ-ɦõ/ ‘to be easy’ NT], /ɔ̃-ɔ̃/ lã-ɛ̃/ ‘easily [without any trouble]’; /kãpyɔ̃/ ~ /kãpyɔ̃/ [~ /gã pyɔ̃/ ‘a wall’ [cf. /kà-phjó/ ‘wall’ NT]). However, compared with Akh-NT, the situation becomes quite different. Nishida discusses tonal sandhi with particular reference to two-syllable words in Akh-NT. For example, he remarks that for Type A two-syllable words composed of words other than verbs, tonal sandhi is limited to the combinations low-high, low-mid, mid-mid, mid-low, and high-low. This is interpreted as a transitional process from “high-accented syllables” to “high-accented words” (NT 1966, pp. 7–9; p. 37 [supplementary note]). Regarding a similar phenomenon found in Lahushi, Nishida argues that this represents a transition from a “high-toned syllabic” system to a “high-toned word” system (NT 1969b, p. 9). Provisionally, I will call the former a *tonal* system and the latter an *accented* system. As examples of the latter, we could cite the Lhasa dialect of modern Tibetan and Gurung. However, in these languages, the accented area does not stop with words but extends to phrases containing postpositional particles. In the case of Akh-NT, e.g., šē<sup>(11)</sup> ~ šē<sup>(55)</sup> of šē<sup>(11)</sup>-mó<sup>(55)</sup> ‘louse’ (šē<sup>1</sup>mɔ̃-PL) and khù<sup>(11)</sup>-šē<sup>(55)</sup> ‘flea’ (kì<sup>1</sup> šē<sup>1</sup> PL) are interpreted as a case where two syllables that originally had the same tone came to have different tones depending on their respective positions in these words, with šē<sup>(11)</sup> in the phonetically non-stressed position being considered as having the basic tone. However, the rules governing the shift from basic tones to tonal sandhi are not very strictly established. As a result, e.g., in the case of forms such as /ʔi-lú/ that appear as tonal sandhi forms, even when applied only to the basic form - /ʔi-lú/ ‘wave’, this results in the derivation of two forms: /ʔi-lú/ and /ʔi-lú/. In addition, as examples of the straight adoption of the same morphemic alternants, we have /ná me/ ‘nose’ (cf. /nã mē/ PL), /ná me bòn/ ‘nostrils’, and /má-ma/ ‘to dream’ (cf. /mã mã/ PL) [overlapping]. If we were to cite only the basic forms, it would be necessary to formulate stricter rules governing the shift from basic tones to tonal sandhi, and in case this is impossible owing to lack of sources, I think it would be alright to simply show the tonal sandhi forms as they are. Furthermore, I think there are other problems with the certification of these basic tones from a diachronic perspective. Generally, rules of



thumb similar to those I described earlier are established between (basic) tones in Akh-NT and Akh-PL. However, in a case such as /šè/ ~ /šé/ ‘louse, flea’ (cited earlier), if we were to choose the basic form /šè/, the tone correspondence would be irregular (there are other examples including Akh-NT /sè bò/ ‘garlic’ : Akh-PL, /šé˥˥/ ‘onion’ Akh-NT/là ʔo/ : Akh-PL /la˥˥/ ‘door’). Hence, although we could see that the certification criteria for basic forms are erroneous, when we try broadening the comparative frame to other LB languages, the task does not seem to be quite so simple.

‘louse’ Akh šè-mó NT, šé˥˥ PL (‘flea’ khùì šè NT, kī šé˥˥ PL); Bis šén; Lah še JAM; WrB sán

In light of the aforementioned tonal correspondence rules, Akh-PL šé˥˥ corresponds regularly to Bis šén, Lah še, whereas Akh-NT šè (basic form) corresponds regularly to WrB sán (CB /θân/). Conversely, the tonal variant of Akh-NT šé (the šé of khùì šè) corresponds regularly to its corresponding forms in Akh-PL, Bisu, and Lah-JAM with respect to tone. If we were to see the irregular correspondence of tones for WrB and other LB forms as reflective of alternate or variant forms in the proto-language, it would not be completely impossible to imagine the replacement of šè ~ šé in Akh-NT as reflective of this. In fact, it seems that some terms of a similar nature are included among those with alternate forms reconstructed by Matisoff. However, following a step-by-step reconstruction similar to the one proposed by Nishida, if we consider Proto-Bisu-Akha from a comparison of Akha (actually, we could use Proto-Akha) and Bisu, the replacement in Akh-NT šè ~ šé, rather than as being reflective of the existence of alternate forms in the proto-language, would be considered a case where \*syán (high tone) > Proto-Akha \*šé (high-tone) had split by virtue of some condition into Akh-NT šè and šé, and in that case, it should probably be considered to have escaped the general splitting condition. For reasons such as this, positing alternating forms in the proto-language does not necessarily seem correct when attempting a reconstruction that ignores the step-by-step method and that relies solely on a single dialect of each language simply by virtue of irregularities between elements with corresponding forms. Thus, even more elaborately descriptive studies of each language and dialect are desirable in order to avoid such errors.

In Bisu, except for the enclitic syllable /-ŋé/ (which could also in fact be considered tonally neutral) and examples such as (55)+(55) → (44)+(55), (11)+(55) → (22)+(55), (11)+(11) → (22)+(21), which are considered phonetic tonal variations, we find phonological tonal sandhi such as mid (33)+low (21) → low (11)+mid (33) → (low (22)+mid (33) ~) low (22)+low (11). As with the case of Akh-NT, only the basic forms are shown, but there are also inconsistent examples.

/mèn hmú/ ‘beard’ vs. /ʔaŋ-hmù/ ‘feather’, /mè khjáw hmù/ ‘eyelashes’

/kà-bà já/ ‘woman’ vs. /ʔaŋ-jà/ ‘son’ /kà-phà já/ ‘man’

/pjà-ba/ ‘id.’ vs. /pja/ ‘bee’

In addition, the example of /tú-/ from /tú-hla/ ‘one month’ vs. /tù-/ from /tù-hnuŋ/ ‘one day’ seems to suggest the possibility the phenomenon of tonal sandhi on a broader level.

In Lis-NT too, there are alternants:

/tshòh/ of /tshò<sup>(11)</sup>-pá<sup>(55)</sup>-zà<sup>(22)</sup>/ ‘man (male)’ (cf. *htsaw*<sup>4</sup>-*pa*<sup>3</sup>-*ra*<sup>5</sup> JOF, *ts’o*<sup>12</sup>-*pa*<sup>33</sup>-*ra*<sup>11</sup> JIF) vs. /tshóh/ of /tshóh<sup>(55)</sup>-nòh<sup>(11)</sup>/ ‘old person’, /lâh<sup>(11)</sup>-tshóh<sup>(55)</sup>/ ‘human’ (cf. *la*<sup>5</sup>-*htsaw*<sup>4</sup> JOF, *la*<sup>11</sup>-*ts’o*<sup>12</sup> JIF)

(While Nishida regards the /tshòh/ of /gua<sup>(33)</sup>-tshòh<sup>(11)</sup>/ ‘friend’ (cf. *hchaw*<sup>5</sup>-*hpá*<sup>2</sup> JOF; WrB *ʔa-khyân*) as having the same form as this /tshóh/ ~ /tshòh/ ‘man’, this is a homonym resulting from the integration of all /tsh-/ that have lost the distinction between \*tsh and \*tsh-, and represents a separate morpheme from that of /tshóh/ ~ /tshòh/ ‘man’). Here, /tshóh/ is provisionally regarded as the basic form. Conversely, /guá/ and the /gua/ of /mòh<sup>(11)</sup>-gua<sup>(33)</sup> guá-/ ‘to sing’ (cf. *mu*<sup>2</sup>-*gwa*<sup>5</sup> *gwa*<sup>5</sup> JOF) are regarded as separate forms since they indicate a functional distinction. Aside from such individual tonal sandhi forms, as well, tonal sandhi is also found in those such as verbs that take the particle /-ʔah/ (whose basic form links the negative prefix /màh-/ with the completion particle /ʔo-/). In fact, the phenomenon of tonal sandhi is probably found even more broadly. While the basic form of the aforementioned /tshóh/ ~ /tshòh/ is held to be /tshóh/, from a diachronic perspective, the original tone is rather represented by /tshòh/, in light of Lis-JOF *htsaw*<sup>4</sup> and Lis-JIF *ts’o*<sup>12</sup>. As with the case of Akh-NT, where it is difficult to posit rules governing the shift from basic forms to tonal sandhi, it would be desirable simply to record tonal sandhi as it occurs.

In Lis-JOF, tone seems to generally be fixed for each morpheme, though this does not mean there are not any examples of morphemes with tonal alternants.

Examples:

hti<sup>5</sup> ‘one’ ~ ti<sup>1</sup> (hti<sup>4</sup>-ti<sup>1</sup> ‘eleven’; cf. thèh ~ tíh NT, t’i<sup>11</sup> ~ t’i<sup>55</sup> JIF)

(ra<sup>5</sup>-) mrgh<sup>4</sup> ‘wife’ (cf. ra<sup>11</sup>-mu<sup>12</sup> JIF) ~ (ra<sup>5</sup>-) mrgh<sup>5</sup> (-ra<sup>5</sup>) ‘woman’ (cf. ra<sup>11</sup>-mu<sup>11</sup>-ra<sup>11</sup> JIF)

si<sup>2</sup>(-dzi<sup>3</sup>) ‘tree’ (cf. sũ-dzu NT, ei<sup>35</sup>-dzi<sup>33</sup> JIF) ~ si<sup>3</sup>(-ré<sup>3</sup>) ‘flower’ (cf. sũ-rè NT, ei<sup>33</sup>-re<sup>33</sup> JIF)

myá<sup>5</sup> ~ (a<sup>5</sup>-)myá<sup>2</sup> ‘many’ (cf. ah-miá NT, a<sup>11</sup>-mia<sup>35</sup> JIF)

The prefix a- has the forms a<sup>1</sup>-, a<sup>3</sup>-, a<sup>5</sup>-, and while there is no need to regard them diachronically as having all derived from a single ancestral form, synchronically we can also think of them as alternants of the same morpheme. In Lis-NT, as well, the corresponding prefix /ʔah-/ (basic form) has the alternants /ʔá/ and /ʔàh/. This replacement can be roughly defined by the tone of the next morpheme. However, there is no such condition in Lis-JOF (cf. -a<sup>1</sup>-

*ra*<sup>5</sup> ‘grand-mother’, *a*<sup>3</sup>-*waw*<sup>5</sup> ‘great-grandfather’, *a*<sup>5</sup>-*ba*<sup>5</sup> ‘father’). Looking at Fraser’s materials alone, we find almost no tonal sandhi in this dialect.

In Matisoff’s Lahu (na) (JAM 1967), although there are examples of alternants for individual morphemes, there are no restrictions as to tone combinations. This means we find variants such as the following:

/’/ ~ /’ʔ/, e.g. *vên-bá* ~ *vên bâʔ* ‘sin’

/-/ ~ /’ʔ/, e.g. *šɛ-ni* ~ *šɛʔ-ni* ‘three days’

/-/ ~ /’/, e.g. *ð-dɛ-go* ~ *ð-dé-go* ‘tube’

In addition, as an example of tonal sandhi in the case where morphemes in specific grammatical categories are bound to other specific morphemes, we have examples such as the following

(mid) → /’/ (‘stative’ verb+/ɛ/), e.g. *pho* ~ *phu* ‘silver, money; something white’ *phó* ~ *phú* ɛ (ve) ‘be white, whitish’ ‘ma-class’

X → (mid) /mâ/ ‘many’, /i/ ‘big’, /šî/ ‘long’/ *vî* ‘far’, from which are derived extensive : /-ma/, /-hi/, /-ši/, /-fi/.

(mid) → /’/ (‘ma-class’ Extensive+/ɛ/), e.g., *chi mái* ‘such a small amount’, *chi híi* ‘such a small size’, *chi híe* ‘as small as possible’, *chi šie* ‘such a short length’, *chi fíe* ~ *chi fíi* ‘such a short distance’

In Nishida’s Lahu (shì), tonal sandhi is found as high /’/+high → low /’/+low, and as in Akh-NT, tonal combinations have become significantly limited. In other words, this is to say that the dialect is in the process of transitioning from a tonal system to an accented system.

In this way, the situation for each dialect of each language varies considerably with regard to the phenomenon of tonal sandhi and alternants and free alternants with different tones. While it behooves us to pay sufficient attention to tonal sandhi forms at each stage of the description of each dialect in the case of LB languages, for which tones are considered to reflect differences in initial vowels or vowel groups, or finals in the proto-language, on such occasions it will likely be necessary to set strict rules governing the shift from basic forms to tonal sandhi.

Other than touching somewhat on methods for reconstructing medials, I do not touch at all on the reconstruction of initials, nor do I hereinafter. When presenting the reconstructed forms of PLB, I have shown the core consonant of initials, excepting medials, with a ‘cover symbol’ (using capital letters). For instance, in examples such as \*K-, \*T-, and \*P- I respectively show velar, alveolar, and labial stops, and do not distinguish other phonological characteristics. I have also used cover symbols (where necessary) when discussing non-reconstructed forms as well. For a detailed discussion of this method for reconstructing initials, please cf. especially NT 1969a and JAM 1971, 1972. Next, I will try presenting the reconstruction methods of both scholars, taking the series of velar stops as an example.

PLB			WrB	Ats/Mas		Akh		Lis		Lah	
NT	JAM			NT	RB	NT	PL	NT	JOF	NT	JAM
S <sub>1</sub>	*kh	*k(h) <sup>H</sup> /*Ck(h) <sup>L</sup>	kh	kh	kh	kh	k	kh	kh	kh	qh/kh
S <sub>2a</sub>	*K		k	k		k		k			k
S <sub>2b</sub>	*Kh <sub>2</sub>	*ʔk <sup>H</sup> /*ʔg <sup>L</sup>	kh	k	kʔ	kh	k	k	k	k	q/k
S <sub>3a</sub>	*g <sub>2</sub>	*g <sup>L</sup> /*Cg <sup>L</sup>	k	g	kʔ	g	g	g	g	k	q/k
S <sub>3b</sub>	*g	* <sub>N</sub> k(h) <sup>H</sup> /* <sub>N</sub> g <sup>L</sup>	k	g	k	g	g	g	g	g	g

(H=high tone class, L=low tone class) (Note that this correspondence table is intended as a schematic only, and in reality there are also cases expressed as fricatives and affricates). This correspondence table is based on the correspondence table on Nishida 1969a, p. 211 with reference to JAM 1971 and 1972. (However, since Matisoff only discusses the initial vowel groups of syllables ending in stopped finals, there may actually be some problems with this manner of presentation). When we examine these sample correspondences individually, we find that they include extremely doubtful examples such as S<sub>2a</sub>. Taking the sample correspondences from the S<sub>2a</sub> line of velars, we could cite:

‘branch’ WrB *ʔa-kúij* ‘a large branch of a tree, bough of a tree, larger than *ʔa-khak*’; Mar *-kàuj* NT; Lis *-káh* NT; Lah (*shi/na*) *-kǎ* NT

Nonetheless, Lishu and Lahu forms both correspond to WrB *ʔa-khak* ‘a branch of a tree, smaller than *ʔa-kúij*’, which therefore brings us to the following:

‘branch<sub>1</sub>’ WrB *ʔa-khak*; Ats *ǎkʔoʔ* RB, *ǎkʔoʔ* RB; Lis *-káʔ* JOF, *-káh* NT; Lah *-qá* JAM, *-kǎ* NT, cf. JAM 1972, (no. 43) PLB \*ʔgak ‘branch’

‘branch<sub>2</sub>’ WrB *ʔa-kúij*; Mar *-kàuj* NT

As a result, we are able to regard “branch<sub>1</sub>” as an example that corresponds with S<sub>2b</sub> and “branch<sub>2</sub>” as an example corresponding with S<sub>3a</sub>. Moreover, the corresponding forms in Akha are unknown. Beyond the velar stops, in the stops/affricates series, as well, other than in the row for alveolar stops, there are no corresponding examples for S<sub>2a</sub> and what’s more, the only possibility, currently, is the following (irregular correspondence).

‘to beat, pound’ WrB *té* ‘to beat, pound, otherwise than in mortar’; Akha *te* ‘to beat on something or someone with the side of one’s fist’ PL; Lisu *ti* ‘to pound (as paddy); to beat (with a stick) JOF; Lahu *te ~ tẽ* ‘to pound, crash’ JAM

Thus, this correspondence is not thought to be “regular.”

In Burling’s Atsi and Maru, the distinctions aspirated : unaspirated and glottalized : non-glottalized of initial consonants are acknowledged as phonological distinctions, whereas the distinction voiced : unvoiced is considered a phonetic characteristic. Nishida acknowledges the distinctions voiced : voiceless and aspirated : non-aspirated for initial consonants and attributes distinctions of glottalization to vowels. Denis Bernot’s Maru, although based on the same interpretation as Burling, also includes the following examples that are inconsistent with Burling’s Maru on the point of glottalization.

‘sec’ [‘dry’] *kʔyu* RB, *kyao* DB (WrB *khrok*)  
 ‘moustique’ [‘mosquito’] *kʔyà* RB, *kyoŋ* DB (WrB *khraŋ*)  
 ‘sucer’ [‘suck’] *cʔap* RB, *chap* DB (WrB *cut* < \*cup)  
 ‘igname’ [‘yam’] *mʔyok* RB, *myok* DB (WrB *myok*)

Burling’s method for reconstructing initial consonants is unique in his acceptance that the glottalized: non-glottalized distinction existed in the proto-language. His method was further developed by Matisoff, leading him to arrive at a reconstruction method like the one described above. However, according to Bernot, there is some possibility that the correspondence between glottalized initial consonants in Maru and initial consonants in WrB may not be as simple as indicated by Burling (Maru Cʔ-; WrB C<sup>h</sup>-). (Bernot summarizes the correspondence as follows:

Maru Cʔ- : WrB C<sup>h</sup>- (Unrelated to tone)

e.g., ‘chien’ [‘dog’]	Maru	<i>lakʔa</i> DB ( <i>lăkhā</i> RB)	:	WrB	<i>khwê</i>
‘crapaud’ [‘toad’]		<i>pʔa</i> -DB ( <i>pʔō</i> RB)	:		<i>phā</i>
‘oiseau’ [‘bird’]		<i>ŋʔɔʔ</i> DB ( <i>ŋʔo</i> RB)	:		<i>hyak</i>
‘bateau’ [‘boat’]		<i>lʔa</i> DB ( <i>lʔā</i> RB)	:		<i>hlé</i> , etc.

Maru Cʔ- : WrB C- (In the case of /ʔ/ and /ʕ/)

e.g., ‘tissage’ [‘weaving’]	Maru	<i>kʔuŋ</i> - ( <i>-kin</i> RB)	:	WrB	<i>kāŋ</i>
‘manger’ [‘eat’]		<i>sʔɔ</i> - ( <i>tsō</i> RB)	:		<i>cā</i>
‘lune’ [‘moon’]		<i>lʔɔ</i>	:		<i>lā</i> , etc.

Bernot’s materials are extremely meager, however, and there may be some problems in terms of their reliability). For Maru and Atsi, there is a need for further investigation in future.

While Matisoff’s glottalized series for PLB originally found its basis in Burling’s glottalized series, Matisoff’s reasoning has more recently moved to correspondences with TB languages other than LB (especially WrT) and tonal correspondences between LB languages. This acceptance of the glottalized series is a key point of his “doubled glottalization” theory with regard to the production of the /ʔ/ (high-rising) in Lahu. While there are other conceivable correspondences aside from those listed in the table above, such as among stops and affricates, since establishing correspondences for S<sub>2a</sub> would be difficult if only these correspondences are regarded as *regular* correspondences for the moment, Nishida’s reconstruction method does not accept \*k, and is missing ‘unmarked’ stops and affricates in terms of the aspirated : unaspirated and voiced : voiceless distinctions among its PLB stops and affricates. We could say that it is for this reason Matisoff accepts distinctions due to voice as phonological distinctions in PLB, and regards aspiration as the phonetic characteristic of the voiceless consonants. Further, positing a series of pre-nasalized consonants for S<sub>3b</sub> is based on the fact that the corresponding forms in Nasu and Lolomaa are respectively pre-nasalized (voiceless) aspirated and voiced aspirated, and the forms belonging to the corresponding series in other TB languages are frequently accompanied by a nasal prefix. Viewed overall, the reconstruction of initials not only in PLB but in PTB as well seems to involve even more problems.

Finally, I will discuss the identities of the various dialects of Akha, Lisu, and Lahu discussed here.

Akh-PL: A Puli (jě\_yõ\_) dialect spoken in the central and central eastern portions of the Kengtung District of the Shan State in Burma. Generally regarded as standard Akha. However, a number of forms from other dialects are included among the Akha vocabulary in the dictionary compiled by Lewis. In addition, it seems that there are some examples in which differences due to “age” group have been recorded, such as the /dzu~/ and /ju~/ of /dzu~za./ ‘to crouch and hide’ and /ju~za./ ‘to go hide (usually when children are playing)’ (note that Dellinger, who includes several examples, offers an erroneous interpretation, cf. DWD 1968, p. 18)

Akh-NT: A dialect recorded in the village of Ban Saen Chai in Chiang Rai Province in Thailand. The residents of this village are said to have moved here from Burma in the relatively recent past.

Lis-JOF: Based primarily on a dialect from Tengyue (now Tengchong) in China’s Yunnan Province. While Fraser states that “it must be borne in mind that much in this handbook is subject to differences of dialect,” an examination of the vocabulary reveals something close to homogeneity.

Lis-NT: A Lisu dialect from around Nikhom in Tak Province, Thailand.

Lab-JAM: A Lahuna dialect from around Chiang Mai in Chiang Mai Province.

Lah-NT: Lahushi from around Nihom, Mae Chan District, Chiang Rai Province, Thailand. Note that Lahuna sources surveyed by Nishida from Doi Mussuh in Tak Province, Thailand are also partly presented in NT 1968.

<sup>6</sup> Here, I postulate PLB \*K1- based on the correspondence WrB Ky- : Akh-PL K-.

<sup>7</sup> Here, I posit PLB \*(K)r-. Cf. WrT *sreg-pa* 'partridge'; Gar *grik* 'pheasant' (cf. PKB 1972, (no. 403) TB \*s-rik ~ \*s-ryak 'pheasant').

<sup>8</sup> While PL 1968a and DWD 1968 make minor mention of differences between Akha dialects, Lewis argues that the distinction between alveopalatal /c/, /j/, /š/, /y/ and alveolar /ts/, /dz/, /s/, /z/, as well as between /h/ and /x/ have been lost in Akha dialects in the southern areas of Burma, where they have been respectively integrated as /c/, /j/, /š/, /y/, and /h/. He notes the above trend can also be seen in children's speech in the central dialects. Conversely, in Lis-JOF, the alveolar series (ts /ts/, hts /tsh/, dz /dz/) is distinguished from the alveopalatal (ch /c/, hch /ch/, j /j/), each being considered as separate phonemes, and this distinction, as in the case of Akh-PL, is considered to be reflective of a distinction in PLB. Accordingly, since this case occurs as *mü<sup>5</sup>-tsi<sup>3</sup>* in Lis-JOF, it is expected to take a form like /*mē<sup>5</sup>tsi<sup>3</sup>*/ in Akh-PL as well. We could consider the /*mē<sup>5</sup>ci<sup>3</sup>*/ form recorded by Lewis to be a dialect in which the alveolar : alveopalatal distinction has been lost, a borrowed usage from such a dialect, or reflective of the fact that the trend toward the loss of this distinction was also becoming typical in Puli dialects. Note that the alveolar : alveopalatal distinction in Lis-NT, as noted earlier (in Note 5), has already been lost for affricates, and Fraser also states that affricates for the two series that precede a, o, and u in Lisu dialects in Burma have all become ts, hts, and dz. In Lah-JAM, as well, no alveolar : palatal distinction exists for either affricates or spirants. When establishing correspondence, it is also necessary to give sufficient consideration to the possible existence of varying phonological systems between dialects as well as within a single dialect. As similar cases we could cite examples such as Akh /a<sup>5</sup>dzi/ 'sap in a tree' PL: /*ʔa-dži-yə*/ 'rubber' NT (while 'rubber' in Akh-PL is /*ʔo<sup>5</sup>ji<sup>3</sup>o<sup>5</sup>yē<sup>3</sup>*/, the Akh-NT form should be compared, rather, with \*a<sup>5</sup>dzi<sup>3</sup>+yē<sup>3</sup>) and cf. Lah-JAM /*ə-cī*/ ([*-tsɿ*]) 'juice'. Here we can set Akh \*-dzi. Further, although not mentioned by either Lewis or Dellinger, comparison of Akh-PL and Akh-NT reveals some examples where it seems that the alveolar : palatal distinction has also been lost in front of /i/ for nasals as well.

'few' Akh *-nyi* PL : *-ní* : NT (cf. Bis *ní* : Lis *ní<sup>1</sup>* JOF)

'two' Akh *nyi* ~ *nyi* PL : *ní* NT (cf. Bis *ní* : Lis *nyi<sup>5</sup>* JOF)

<sup>9</sup> Benedict compares WrB *kyac* with examples such as WrT *hkhuyig-pa* 'to bind', Proto-kukish \*d-khik (PKB 1972, [no. 484] TB \*kik 'bind, twist, tie'). While Matisoff states that WrT *hkhuyig-pa*, WrB *kyac*, Kac *k(h)ri(ʔ)*, *makhri(ʔ)*, and others are related to the PLB form (no. 7) 'to twist, wind' from our correspondence rule (1) (in JAM 1970, [no. 61] PLB \*s-rik? 'twist'), he does not refer to this at all in JAM 1972 (no. 130). If this WrT form is held to reflect the common root form, this would preclude comparison with Akh-PL *gě*.

<sup>10</sup> Cf. JAM 1972, (no. 130) PLB \*r-sik ~ \*s-yik 'twist'. Doubts remain regarding the reconstruction of this initial.

<sup>11</sup> Cf. RS 1952, (11-3) PLB \*hnik 'cœur'; RB 1967, PLsh \*ma<sup>3</sup> 'heart' (an odd reconstructed form that mistakenly takes the suffix -ma as a stem); JAM 1972, (no. 146) PLB \*s-nik ~ \*s-nij 'heart' Matisoff posits PLB \*-ik for WrB *hnac*, Lis *ni<sup>2</sup>-ma<sup>2</sup>* JOF, Ahi *ni<sup>44</sup>-ma<sup>22</sup>*, Nyi *n<sup>44</sup>*, etc. and PLB \*-ij for Bis *nun<sup>5</sup>-ba*, Akh *nī ma* PL, Lah *nī-ma* JAM, Hani *nu<sup>33</sup>*. However, PLB \*-ij > Akh *-ā* PL, *-on* NT is expected: (1) PLB \*Plin 'to be full', WrB *prāñ* (OB *plañ* ~ *pleñ*); Ats *pyñ*; Mar *pyāñ*; Bis *plun*; Akh *byā* PL; Lis *bi<sup>3</sup>* JOF, *bī* RB, *bih* NT; Lah *bī* JAM (RS 1952, (19-4) PLB \*prin 'remplir, plein'; RB 1967, \*pyin<sup>3</sup> 'full'), cf. also WrB *phrāñ*/OB *phlañ* 'to fill'; PTam \*plin 'to fill'; Mikir *pleñ* 'full', *pepleñ* 'fill' (cf. PKB 1972, (no. 142) TB \*bliñ ~ \*bliñ 'full; 'fill'), (2) PLB \*Krin 'thread', WrB *khrañ* (OB *khrañ*); Bis *khun*; Akh *-kā* PL, *-khón* NT; Lis *hchi<sup>3</sup>* JOF, *tshuh-* NT; Lah (*shi*)-*kheh* NT, (3) PLB \*Min (~ \*Myan) 'name; to (be) name(d)', WrB *ʔa-māñ* 'name', *māñ* (OB *mañ* 'to be named', *hmāñ* 'to name'; Ats *myñ* 'name', *mʔyñ* (v.); Mar *māñ* 'name'; Bis *ʔay-hméñ* 'name', *hméñ* 'to name'; Akh *tsə<sup>3</sup> myā<sup>3</sup> myā<sup>3</sup>* 'to name someone', *za<sup>3</sup> myā<sup>3</sup> myā<sup>3</sup>* 'to give a child a name' PL, *tšə<sup>3</sup> mjon* 'name' NT; Lis *mye<sup>3</sup>* 'name' JOF, *myə* 'id.' RB, *jib-my* 'id.' NT; Lah *ə-mə* 'name', *mə* 'to name' JAM. While there are few parallel examples in the case of Lab-JAM, which remains quite unclear, it may be derived from \*-ik for similar reasons. Although the conditions are unclear, when Bisu-Akha is posited, it is not impossible to speculate a transition such as \*\**nuk-ma* > \**nun<sup>5</sup>-ma*

↗ Bis *nun<sup>5</sup>-ba*  
↘ Akh *nū-ma* (= *nīma*). We may also consider that Bis *nun<sup>5</sup>-ba* could also be derived from PLB \*Nik.

<sup>12</sup> Cf. RS 1952, (11-6) PLB \*ts(')ik 'articulation'; RB 1967, PBsh \*tshik 'joint', JAM 1972, (no. 45) \*ʔdzik 'joint'.

<sup>13</sup> Cf. RS 1952, (11-9) PLB \*sik 'arbre, bois'; RB 1967, PBsh \*sik 'tree<sub>1</sub>', PLsh \*su<sup>2</sup> 'tree<sub>3</sub>'; JAM 1972, (no. 118) PLB \*sik ~ \*siñ 'tree'. PLB \*siñ is based on Bis *tsuñ*; Hani *sə<sup>21</sup>*; and Lolomaa *se<sup>33</sup>*. Here, we can further add Akh *sā* - (*sā<sup>5</sup>nyo* 'the core of a tree or branch' and *ā<sup>5</sup>nyi* 'a tree stump') PL.

<sup>14</sup> Cf. RB 1967, PBsh \*sik. 'new'; JAM 1972, (no. 126) PLB. \*C-šik/\*V- šik 'new'.

<sup>15</sup> Cf. JAM 1972, (no. 172) PLB \*ʔwyik 'elder sibling'.

<sup>16</sup> Cf. JAM 1972, (no. 3) \*bek 'give'. PLB \*Piy can be posited as an alternant of the open syllable: WrB *pē* (OB *piy*); Ats *pyí*; Lah *pī* JAM. Both possibilities exist for Bis *pì*, cf. RS 1952, (3-23) PLB \*bi\ 'donner'; RB 1967, PLB \*pei2 'give'. On the basis of Bisu-Akha we get \*Pit > Bis *pì*.



- <sup>17</sup> Cf. RS 1952, (12-1) PLB \*ʔ it 'chèvre'; JAM 1972, (no. 27) PLB \*V-cit 'goat'.
- <sup>18</sup> Cf. JAM 1972, (no. 112) PLB \*kyit ~ \*Nkyit ~ \*ʔgyit.
- <sup>19</sup> Cf. RS 1952, (12) PLB \*ʔ it 'éteindre' [Phn *bi-mit*-éteindre'; Akh *mì\tsá\ mi/ǎ̃*]. On the other hand, Matisoff compares this with WrB *hmut* 'to blow, as with the mouth'; Ats *mut*; Mar *màt*; Lis *mū<sup>3</sup>* JOF; Lah *mā<sup>2</sup> ~ mi<sup>2</sup>*, etc. (JAM 1972, (no. 143) PLB \*s-mut 'blow'), but this is in fact an error. Shafer distinguishes it correctly from the fact that the latter corresponds to Phunoi *mūt*-. Cf. PKB 1972, (no. 374) TB \*mit 'extinguish'; (fn. 231) TB \*(s-)mut 'blow (mouth, wind)'. The WrB form is dubious.
- <sup>20</sup> Cf. JAM 1972, (no. 169) PLB \*ri-t 'reap/cut with sickle'. Based on Lus *rīt*, Matisoff proposes \*-i-t, but other than this there are no other PLB forms that point to \*-i-t. In addition, from the corresponding forms in LB languages, there is some doubt as to whether or not we can distinguish between \*-it and \*-i-t. A point to take note of in the reconstruction of PLB is that when restoring a given distinction to PLB that relies on correspondences with languages other than LB, it is first necessary to carefully examine whether or not this distinction is backed up by corresponding forms (reflexes) in LB languages. In the case that it cannot be backed up, it is better to consider that the distinction had already been lost at the stage of PLB. Although, we can also think of similar cases in which the OB form is unclear and thus it is impossible to restore the distinction between \*-ac and \*-(y)at in PB (Nishida's Archaic Burmese) solely on the basis of the dialects of modern Burmese, nonetheless as a rule, we should probably attribute the distinction in question to a pre-LB stage. Cf. also PKB 1972, (no. 371) TB \*ri-t 'reap, cut, scrape'.
- <sup>21</sup> Cf. JAM 1972, (no. 32) PLB \*ʔ-tsit 'pinch'.
- <sup>22</sup> Cf. RS 1952, (14-3) PLB [\*ʔit] 'barbe'. Cf. Note 8.
- <sup>23</sup> 'one', cf. RS 1952, (11-1) PLB \*t(ʔ)ik 'un', (2-4) PLB \*t(ʔ)ǎ 'un'; JAM 1972, (no. 31) PLB \*C-tik ~ \*ti 'one'/\*ʔdik 'only'.  
'two', cf. RS 1952, (11-2) PLB \*hnik 'deux'; RB 1967, PLsh \*nyi<sup>2</sup> 'two'; JAM 1972, (no. 160) PLB \*nit ~ \*ni ~ \*ʔnit 'two'.  
'seven' cf. RB 1967, PBsh \*nʔit, PLsh \*sei<sup>2</sup> 'seven'; JAM 1972, (no. 128) PLB \*snit > PBsh \*ʔnit, PLsh \*N-šit ~ \*ši<sup>2</sup> 'seven'.

While Matisoff posits 'open syllable' variants for each of these, we can show the correspondences on which these rely by contrasting them with stopped syllable variants as follows:

	WrB	Ats	Mar		Bis	Akh-PL	Lis-JOF	Lah
'one'	tac			[	*-VC tù- *-V ti̯-	ti̯-	hti <sup>5</sup> ~ -ti <sup>1</sup>	tê (Hani, Woni)
'two'	hnac			[	*-VC ni̯- *-V ny̯i̯-	ny̯i̯-	ny̯i <sup>5</sup> ~ ny̯i <sup>5</sup>	nî (Woni, Lolomaa) (Ahi, Nyi, Hani)
'seven'	khu-hnae	nʔyit	nʔat	[	*-VC *-V ši̯-	ši̯-	shi <sup>5</sup>	ši (Hani, Lolomaa)

In fact, the Bis form is *tù-* (~ *tú-*) (see Note 5). This alone does not allow us to assert a derivation from \*-VC. If we think in parallel with Akha, *tù-* ~ *tú-* is used only when integrated with a classifier (in isolation, *nùŋ* is used, a Thai loanword). Therefore, it may be thought to correspond to Akha *ti̯-*. With Akha, *ti̯-*, and in isolation, *ti̯-*, are used when integrated with classifiers. While they are *ti̯* 'one', *ni̯* 'two', *ši̯* 'seven' in Akh-NT, when integrated with classifiers, they all take a low tone (11). In WrB, as with *tac* ~ *ta-*, *hnac* ~ *hna-*, and *khu-(h)nac* ~ *khu-(h)na-*, when integrated with a classifier, they may be thought of as having already taken a light tone (cf. NT 1972, p. 216). However, with OB, at least in early OB, there does not seem to have been a mechanism to confer a light tone. Such a fact, as we might expect, inspires doubt as to whether *ti̯*, *ny̯i̯* and *ti̯-*, *ny̯i̯-* in Akh-PL should be conceived of as each being a separate root form. In other words, I find it reasonable to believe that this has resulted in forms derived from the PLB form with the original \*-VC final in (Bisu-) Akha according to the conditions listed earlier to have alternants of -V̯-. We could also consider the fact that Bisu *tù-* ~ *tú-* 'one' and *ni̯-* 'two' were not replaced by loanwords only in cases where they are integrated with classifiers, perhaps because they had already taken a different form when used in isolation. I do not think it impossible that the rhymes in Lisu (in which *-ti<sup>1</sup>* is an alternant used only for *hst<sup>4</sup>-ti<sup>1</sup>* 'eleven') and Lahu are also derived from the original \*-VC. Positing alternates and variants for the proto-language is something that requires further investigation. Note that the TB finals that correspond to these three numbers are not necessarily clear. Cf. PKB 1972, (fn. 271) TB \*(g-)tyik 'one'; (no. 4) TB \*g-ni-s 'two'; (no. 5) TB \*s-nis 'seven'; cf. also PTam \*g(r)i: 'one', \*ŋhi: 'two', \*ŋis 'seven' (PTam \*-i : <\*\*\*-it). While it is certain that the LB forms cited for 'seven' share a common root, there are still problems with the reconstruction of their initials.



- <sup>24</sup> Cf. RS 1952, (13-1) PLB [\*?ip] ‘se coucher, dormir’; RB 1967, PLB \*yup<sup>1</sup> ‘sleep’; JAM 1972, (no. 180) \*yip ‘sleep’/\*?yip ‘put to sleep’ (WrB *sip* ‘to put to sleep’; Lah *i* JAM; Nyi *šr*<sup>55</sup>). Nishida holds that “ビルマ語の書写形式-ip, -im は、中古ビルマ語 [= OB] -ip, -im に遡るがこの共通形式の設定には、決定的基準はない。while the transcribed forms of Burmese -ip and -im date back to Middle Burmese [=OB] -ip and -im, there is no decisive criterion for positing their inherited shapes” (NT 1969a, p. 887). However, with ‘to lie down, sleep’, I think it best to propose \*-ip (see Section 4, Note 60). Note that in both Akha and Bisu, \*-ip and \*-up and \*-im and \*-um are respectively merged as \*-up and \*-um, a point that I believe to be sufficient evidence for positing a Bisu-Akha subgroup.
- <sup>25</sup> Cf. JAM 1972, (no. 129) PLB \*C-sip ‘thirsty’. While Akh-PL \*su<sub>x</sub> is expected, an interpretation similar to that for Akh-PL *mɛ ci* ‘beard’ < \*-tsĩ (discussed in Note 8) seems permissible. When viewed in comparison with the WrB form, we find that this correspondence has a high degree of certainty.
- <sup>26</sup> Cf. RS 1952, (10-7) PLB \*nat ‘génie, esprit’; RB 1967, PLB \*nat ‘spirit’; JAM 1952, (no. 136) PLB \*nat~\*nan (Lis *ni*<sup>5</sup> JOF; Lah *nê*; Nyi *ni*<sup>55</sup>) ‘spirit/animistic deity’. While Matisoff proposes alternates for the nasal final, it is necessary to investigate whether or not \*-an may be posited for Lis -i : Lah -e : Nyi -i.
- <sup>27</sup> WrB *ʔa-phat* (< *phat* ‘to be dry, free from liquid (obsolete) opposes *ʔa-rān* ‘liquid’, which conveys an opposition like that between ‘broth’ and ‘dumplings’ (the non-liquid part of a soup). As the WrB form of the next example, ‘vomit’, Matisoff cites *phat*. While he is probably thinking here of -*phat* from WrB *ʔán-phat* ‘matter ejected from the stomach’ (*ʔán* ‘to retch, vomit’), this -*phat* seems to be the -*phat* from *ʔa-phat*, and therefore does not share a common root with ‘vomit’.
- <sup>28</sup> Cf. RB 1967, PLB \*phat<sup>2</sup> ‘vomit’; JAM 1972, (no. 38) PLB \*C-pat ‘vomit’ (see Note 27).
- <sup>29</sup> Cf. RB 1967, PLsh \*deʔ<sup>1</sup> ‘alive’; JAM 1972, (no. 1) PLB \*dat ‘be alive’.
- <sup>30</sup> Cf. RS 1952, (10-8) PLB \*tsʔat ‘cerf, daim’; RB 1967, PBsh \*tshat ‘deer (sa-mbhur)’; JAM 1972, (no. 10) \*tsat ‘deer’.
- <sup>31</sup> Cf. JAM 1967, (no. 40) PLB \*tsat ~ \*ʔ-tsat ‘break in two/cut through/conclude’. While other examples such as Bis *jè* ‘to cut’ are cited as ‘possibly related, etyma’, Bis *jè* is also compared with Akh *yɛ* ‘to cut, as to saw wood, harvest rice’ PL (cf. also *yɛ ma* ‘asaw’ PL : *jè-ma* ‘id.’ NT). Although there are many possibilities for this PLB form, it is not impossible to reconstruct this as \*Ryan and regard it as an alternant for PLB \*Rit ‘to reap, harvest,’ cited in correspondence rule (3).
- <sup>32</sup> Cf. JAM 1972, (no. 24) PLB \*ʔ-tsat ‘bite down on’.
- <sup>33</sup> Cf. RS 1952, (10-5) PLB \*sat ‘tuer’; RB 1967, PLB \*sat<sup>1</sup> ‘kill’; JAM 1972, (no. 124) PLB \*C-sat ‘kill’.
- <sup>34</sup> Cf. RB 1967, PBsh \*cʔit ‘love’; JAM 1970, (no. 12) PLB \*ʔkyit ‘love’.
- <sup>35</sup> Cf. JAM 1972, (on. 18) PLB \*kyat ‘run’. In JAM 1972, Matisoff posits PLB \*-yat on the basis of this example alone.
- <sup>36</sup> Cf. JAM 1972, (no. 159) PLB \*nip: (>WrB, *nip* ‘to be kept down, oppressed) ~ \*ʔnip (>WrB *hnip* ‘to crush, oppress’) ~ \*ʔnyit (>Akh, Lis, Lah, Nyi *ñe*<sup>44</sup> WrB). This cognate set is said to be ‘closely related’ to (no. 147) PLB \*(s-)nyap (WrB *ñap* ‘to be pinched, squeezed between; *hñap* ‘to squeeze, press between two objects’; Lis *hchi*<sup>3</sup>-*ni*<sup>3</sup> ‘shoes’ JOF; Lah *nôʔ* ~ *nûʔ* ‘to pinch, squeeze’, *khí-nôʔ* ‘shoes’, etc.) ‘shoes/pinch as in a vise’ (to the latter, we can add Akh *cí nyɔ*<sup>^</sup> ‘metal tongs’). However, it is clear that his \*nip ~ \*ʔnip should be distinguished from \*ʔnyit, and I cannot think that the latter is closely related to his \*(s-)nyap.
- <sup>37</sup> Cf. RB 1967, PBsh \*myit ‘root’. This word likely has the same origin as Spoken Mon /rɜh/ (spelled: *ruih*) ‘root’ (H.L. Shorto, *A Dictionary of Spoken Mon*. Oxford Univ. Press: London, 1962); Proto-Jeh-Halāng \*riayh ‘root’ (Jeh riayh: Halāng riah) (D. Thomas and Marilyn Smith, ‘Proto-Jeh-Halāng,’ *Zeitschrift für Phonetik, Sprachwissenschaft und Kommunikationsforschung* 20 (1967), 157–75), among others. However, the borrowing relationship is not clear.
- <sup>38</sup> Cf. RS 1952, (11-5) PLB \*yik ‘envré’; RB 1967, PLsh \*yut<sup>1</sup> ‘drunk’; JAM 1972, (no. 163) PLB \*yit ‘drunk’.
- <sup>39</sup> Cf. RB 1967, PBsh \*slit, PLsh \*hyeʔ<sup>1</sup> ‘eight’; JAM 1972, (no. 171) \*ʔrit ‘eight’.
- <sup>40</sup> Cf. RS 1952, (10-2) PLB \*mwat ‘avoir faim’; RB 1967, PLB \*mut<sup>1</sup> ‘hungry’; JAM 1972, (no. 132) PLB \*mwat ‘hungry’.
- <sup>41</sup> Cf. RS 1952, (10-6) PLB \*-wat ‘sangsue’; RB 1967, PLB \*ʔwʔat ‘leech’; JAM 1972, (no. 167) PLB \*k-r-wat ‘leech’.
- <sup>42</sup> Cf. RS 1952, (10-4) PLB \*wat ‘fleur’; RB 1967, PLsh \*weʔ<sup>2</sup> ‘flower<sub>2</sub>’; JAM 1972, (no. 185) PLB \*sə-wat ‘flower’.
- <sup>43</sup> Cf. JAM 1972, (no. 114) PLB \*šat ‘pour’. This should be compared with WrB *swat* and a \*-w- can be posited. In addition, Akh-NT *sê* ‘to pour’ compares with Akh-PL *šɛ* ‘to pour’, WrB *swân* ‘to pour upon, as from a small aperture and with care and ceremony’. These two cognate sets are closely related.
- <sup>44</sup> PTam = Proto-Tamang is a reconstruction based on Western Tamang (= Murmi), Gurung, and Thakali (= Thaksya). These languages are classified by Shafer as the Gurung Branch of the Bodish Section of the Bodish Division. However, since Tamang is the most archaic in nature, and speakers of Tamang represent an overwhelming majority,

I call these the Tamang languages, and refer to the proto-language Proto-Tamang. Regarding its reconstruction, please refer to:

1. Richard Pittman and Jessie Glover, 'Proto-Tamang-Gurung-Thakali; Tone Systems of Tibeto-Burman Languages in Nepal, Part II, pp. 9-22, *Occasional Papers of the Wolfenden Society on Tibeto-Burman Linguistics*, Vol. III, Publications of the Department of Linguistics, the University of Illinois, Urbana, 1970.
2. Yoshio Nishi, 'Remarks on Reconstructions of Some Proto-Tamang Rimes,' 1972 (presented at the 18th Annual Meeting of the 日本藏学会 Japanese Association for Tibetan Studies).

The reconstruction method later underwent several changes, and there are plans for future presentations as materials are assembled. [Editor's note: For Nishi's published work on Tamang see 'Tamang 祖語の再構をめぐるいくつかの問題について-1-[several issues surrounding the reconstruction of proto-Tamang]' 鹿児島大学史学科報告 Kagoshima Daigaku Shigakuka hōkoku 26 (1977): 53-68 and 'タマン諸語の声調について On the tones of Tamangic languages' アジア・アフリカ語の計数研究 *Computational analyses of Asian & African languages* 8 (1978): 1-16]

- <sup>45</sup> Nishida holds the TB form of this to be \*khyags (> OB *khyac* > MTA *khje?*) (NT 1972, p. 360). In addition, I believe WrT *chu* 'water, river' to most likely derive from \*Kyu (cf. PTam \*kyu 'water; river'; Chepang *kyú* 'river' [Hodgson]). The change \*\*ks > \*-t is not raised as anything more than a possibility. [Editor's note: A further objection to Matisoff's comparison of WrT *rdeg(s)* to WrB *cac* is that according to Dempsey's law no Tibetan words with the rhyme *-eg* are inherited (cf. Hill, Nathan W., 2014, 'Some Tibetan verb forms that violate Dempsey's law.' *Revue d'Etudes Tibétaines* 29, pp. 91-101)].
- <sup>46</sup> This conclusion is specified in more detail in the next section. Note that, as a possibility, we could consider positing (Burmish)-(Bisu-Akha) as a subgroup. If we consider this possibility, this conclusion would be supported, at least in so far as it concerns this language group. Although we do not sufficiently understand how broadly the range of LB languages extends, depending on the results, it may prove that \*(y)at also represents the merger of several originally distinguished finals. However, even if this were the case, I am sure that the conclusion reached here is sufficiently applicable to a proto-language at a level perhaps lower than PLB. In particular, I believe it to be important that doing so will lead to the clarification of the conditioning of splits/mergers for multiple finals in a lower-level proto-language.
- <sup>47</sup> This excludes loanwords. Note that examples of WrB -(y)an include the following: 1. *kyán* 'to remain, be left'; 2. *kyân* 'to be well, healthy'; 3. *kyân* 'to be turbulent, rebellious'; 4. *khyán* 'to leave, let remain'; 5. *cân* 'to be stretched out straight'; 6. *chan* (< PLB \*Tsan) 'husked rice'; 7. *chán* 'to go up (a river), go against (the wind, tide); to contravene authority'; 8. *chàn* (Chen) 'similarity; resemblance (of outer surface, character, etc.)'; 9. *chân* 'to stretch out straight from a bent or curved position'; 10. *chàn* 'to be contrary, opposite'; 11. *chân* (cf. Akh *a<sub>v</sub>gi* tse<sub>v</sub> 'for stars to shine', *ba la tse<sub>v</sub>* 'for the moon to shine') 'to advance, wax, as the new moon'; 12. *chân* 'to exceed others, be extraordinary'; 13. *chân* (verb suffix) 'just that and no more'; 14. *phyán* 'to separate (enemies)' (Chen *phrán*); 15. *phyán* 'a kind of plant with a bulbous root, which is sometimes cooked for food'; 16. *phyân* ~ *phrân* 'to sprinkle, scatter a liquid' (Chen *phyân*); 17. *phyân* ~ *phrân* 'to flush through the body, as blood, air, or horripilation'

These various examples also require scrutiny like that given in his paper for other examples. Nonetheless, I believe that we can establish -(y)an<sup>s</sup> < OB- (y)an, which has a considerable number of examples, without as much examination as these other examples. The same change is accepted for the following loanwords.

1. OB *pan-thyan* : WrB *pan<sup>3</sup>-tañ<sup>3</sup>* (CB /bədīn/) 'a brazier, coppersmith'
2. OB *ṛuyān* (Pāli *uyyāna*): WrB *ṛüyyāñ<sup>s</sup>* (CB /ṛüyín/) 'orchid, garden'.

- <sup>48</sup> I shall offer some examples that can be affirmed or postulated with such methods:

1. WrB (*khyāñ* ~) *khrañ* 'thread, ray of light' < OB *khrañ*, cf. also Akh *sa<sub>v</sub>kā* PL, *sà khón* NT 'cotton thread'
2. WrB *khywē* (~ *khre*) 'sweat' < OB *khruy* (Akh *ku<sub>v</sub>pyu* PL, *khù phjù* NT; Lis *chì<sup>d</sup>* JOF; Lah *ki* JAM; Hani *k'ə<sup>21</sup> pu<sup>55</sup>* KHN; cf. also Arakanese *teṭṭi* RKS, *kwi* ~ *chwi* LFT; Tavoyan *kuēy* ~ *cuēy* NT, *khwi* PMT, *kwi* LFT)
3. WrB *mruik* 'to be singed' < OB *mliuk* (cf. also Akh *myō<sub>h</sub>* 'for a fire to scorch someone or something'), (*hmyuik* ~) *hmruik* 'to singe' < OB \*hmliuk
4. WrB *myok* (Judson) ~ *mrok* (Chen) 'monkey' (Arakanese *mrauk* LFT; Tavoyan *myo?* NT, *mjo?* PMT, *myok* LFT) < ?PLB \*Mluk (Ats *myu?*; Mar *myòk*; Akh *myo<sub>h</sub>* PL). At present, there is no language with direct evidence of -l- for 'monkey': cf. Mru *yuk* (Löffler), PTam \*ti-myuk/\*ti-myu, Nepal Kham *yu:h* (Watters), Chepang *yuk* (Caughley); cf. also; PKB 1972, (no. 112) TB \*mruk 'monkey'

- <sup>49</sup> If, as Judson indicates, this is *cok-pat*, we could compare with Akh *a<sup>h</sup>be<sub>a</sub>* 'the vulva' PL. However, it seems more likely that it is *-pap*.

- <sup>50</sup> Cf. Tha Myat 1961, *Mrán-má-cá rê-sûm-kyâm*, Rangoon; U Wun (ed.), *Takkasuil Mrán-má ṛabhidhān*. (Part I: kà-ṛakkharā).

- <sup>51</sup> See Note 8. R. Shafer regards this as (tś-, tsh-). P.K. Benedict regards it as (ts-, tsh-). However, as described below, whereas whether the OB form is (alveo-)palatal or alveolar is unclear from the notation, since the WrB form seems

to be (alveo-)palatal, it seems best to use the conventional method of transcription, and use c-, ch- for both OB and WrB.

- <sup>52</sup> I here provide a simple summary of -y- in Burling's Atsi and Maru and the derived palatals and affricates. Note that where I indicate using a 'cover symbol', examples are indicated with capital letters (e.g., Tsy-, Ny-, Sy-) even though phonologically, they represent a single phoneme. In the case of Atsi and Maru, these can be interpreted respectively as /c-/, /cʔ-/, /ch-/, /ny-/, and /š-/. Though there are no actual examples, \*Ni > Ats \*Nyi, Mar \*Ni, etc. is predicted. In addition, while Ats Pyik and Mar Pak are predicted for \*Pik, in fact, PLB \*Pik 'to shoot' > Ats *pik*. PLB \*Mik 'bamboo shoot' (>Ats *myik*, Mar *màk*) becomes WrB *hmyac* (CB *hmyiʔ*), and in addition to Houghton recording the Arakanese as 'naik (?=hmaiʔ), there seem to be spellings that reflect palatalization in early modern Burmese such as OB *pac* > CB *pyiʔ*, OB *mañ* > CB *myí*, etc. (there are also loanword examples). Moreover, while WrB *pac* (OB *pac*) 'to shoot' is sometimes spelled *prac*, this is thought to be a case where -r- is used in place of -y-, and which indicates the palatalization noted above. Though I will not list all of the correspondence examples for want of space, I encourage readers to refer to the cognate sets in RB 1967 and Note 3.

<i>PB</i>	<i>OB</i>	<i>WrB</i>	<i>CB</i>	<i>Atsi</i>	<i>Maru</i>
*Kl-	Kl-	Ky-	Tsy-	Ky-	Ky-
*Pl-	Pl-	Pr-	Py-	Py-	Py-
*Ml-	Ml-	Mr-	My-	My-	My-
*Kr-	Kr-	Kr-	Tsy-	Ky-	Ky-
*Pr-	Pr-	Pr-	Py-	Pr-	Py-
*Mr-	Mr-	Mr-	My-	My-	My-
*Ky-	Ky-	Ky-	Tsy-	Tsy-	Tsy-
*Py-	Py-	Py-	Py-	Py-	Py-
*My-	My-	My-	My-	My-	My-
*Tsy-	*Tsy-	Tsy-	S-	Tsy-	Tsy-
*Ny-	Ny-	Ny-	Ny-	Ny-	Ny-
[*Ts-	*Ts-	Tsy-	S-	Ts-	Ts-
[*N-	N-	N-	N-	N-	N-
*Ki	Ki	Kyi	Tsyi	Tsyi	Tsyi
*Kiy	Kiy	Kye	Tsyi ~ Tsyei	Tsyi	Tsyi[t]
*Niy	Niy	Ne	Nei	Nyi	Nyi
*Nit	Nac	Nac	Niʔ	Nyit	Nat
*Piy	Piy	Pe	Pei	Pyi	Pyi[t]
*Pik	Pac	Pac	Pyiʔ	?Pyik	Pak
*Mi	Mi	Mi	Mi	Myi	Mi
*Miy	Miy	Me	Mei	Myi	Myi[t]
*Mik	Mac	Mac	Myiʔ	Myik	Mak
*Minj	Mañ	Mañ	Myi	Myinj	Manj
[*Sy-	s-	s-	-	sy-/s-	sy-/s-
[*S-	s-	s-	-	s-	s-

<sup>53</sup> Cf. NT 1972, p. 51.

<sup>54</sup> Cf. Pe Maung Tin 1922. 'Phonetics in a Passport' *Journal of the Burma Research Society* 12, 127–132. [Editor's note: Also on the transcription of Burmese by foreigners see Ohno Toru (1966), '十八世紀末期のビルマ語 -ヨーロッパ人の記録を中心として [The Burmese language at the end of the 18th century - seen in the records of European visitors], 大阪外国語大学学報 *Osaka Gaikokugo Daigaku gakuhō* (Journal of the Osaka University of Foreign studies) 16, pp. 179–228.]

<sup>55</sup> Cf. NT 1955/56, NT 1972. Herein, I rely mainly on NT 1972 (pp. 245–247, pp. 250–251, p. 261).

<sup>56</sup> Since I do not have a conversion table at hand, this date (1239 AD) and the date given to the 'Mânj ʔanantasū' inscription (1206 AD) were calculated without regard for the year cycle by adding 638 to the Sakkarāj with an error of +1.

<sup>57</sup> Although the initials of the following two examples have been confused with *hr-* in WrB, it seems to me that they had /hy-/ in OB and would never have been spelled *sy-* ~ *shy-* unlike cases of /hr-/.

1. OB *yhum* : WrB *hrûm* : CB /šôun/ 'to fail, lose, be defeated'
2. OB *yhan* ~ *hyan* ~ *yhyān* : WrB *hyāñ* ~ *hrāñ*<sup>s</sup> : CB /šin/ 'to put together side by side or laterally'.

This fact, as well as indicating the possibility that /hy-/ and /hr-/ were distinguished in at least some dialects of OB, also shows that they merged in WrB with initials deriving from /hr-/.

<sup>58</sup> In fact, this is WrB *hṛīm* 'to extinguish', *ṛīm* 'to be extinguished' (Judson indicates only *ṛīm*). The OB form for the former would have been \*ṇhrim (cf. U Wun, op. cit.). When we investigate the CB forms closely we find that the distinctions among /hm-/ : /m-/ , /hn-/ : /n-/ , etc. has become considerably confused. Here, even where distinguished in writing, word-medially such confusion is normal, for example, for WrB *myak-hná* 'face' becomes CB /myeʔná/, and may even be spelled *myak-ná* by a writer not particularly conscious of orthographic rules. Conversely, when WrB *lyak* 'to lick' (CB /yeʔ/) and *lyò* 'to decrease (vi)' (CB /yò/) are read as they are written, as far as I know, most people pronounce these with initial /hly-/ ~ /hləy-/ . WrB *lyáṇ* 'fast', though also used in spoken language to mean 'clever', will be CB /hlyín/. Although exceptional, there are some who pronounce *nè-láy cá* 'lunch' as /hnèilè sá/. Even looking at OB and WrB, in the case of nasals and laterals, it is widely recognized that this voiced : voiceless (or unaspirated: aspirated) distinction is unclear. For example, while 'arrow' is OB *mā* ; WrB *mrā* ~ *hmrā*; and CB /hmyā/, in the absence of sources such as Tavoyan *hmyā* (NT), we would be unable to determine whether this would have been /ml-/ or /hml-/ in OB (note that when writing the OB form, the consonant symbol -h- is frequently dropped). Future research should pay close attention to this fact, including the details of the spoken language.

<sup>59</sup> There are many ambiguities regarding the readings of WrB *Ty-* and *Tr-*. However, actually, with words used in spoken language (I do not think there is any example of *Ty-*), *Tr-* becomes /Təy-/ ~ /Tər/, as in the examples WrB *trigán* /tərigán/ 'triangle' and *yàtrá* /yàdəyá/ ~ /yédəyá/ 'certain magical observances'. In the cases cited here of *tyá* *tyá* and *tyak*, while we did have them pronounced by a monk, whether to read /tər-/ or /təy-/ did not seem to constitute much of a question. What is important is the fact that it is only ever pronounced /TəC-/. Although R. B. Jones and U Khim (1957, *The Burmese Writing System*. Washington) state that "the combinations *ty-* and *tr-* occur in a very few words pertaining to music or musical sounds. The pronunciation varies between *ty-*, *t-*, and *tar-*" (p. 24) it is doubtful whether there are any who pronounce this /ty-/ and even if there were someone who used such a pronunciation, this would be the same as a Japanese speaker who knew English pronouncing 'street' as [str-] without saying [sūtor-].

I should note that I am not convinced such words can be used for comparison and then regarded as a rationale for positing \*dy- (cf. JAM 1972, (no. 4) PLB \*dyak 'very/truly/intensive').

<sup>60</sup> H- is a cover symbol for laryngeals. One reason why I consider 'to sleep, lie down' as PLB \*Hṛip/\*Yṛip and not PLB \*Hṛup/\*Yṛup is that I am considering this possibility. In other words, when postulating H- for this PLB form, in addition to the fact that any explanation of the change \*-up > -ip needs to depend solely on dissimilation, it is difficult to arrive at a phonetically plausible explanation for \*H- > \*y- (e.g., Bisu-Akha \*yup > Bis *jù*; Akh *yu*. PL, *jù* NT). Also, even had I posited PLB \*Y-, WrB has forms like *yut*, *yún*, and *yúm* for ʔip, and as long as these forms are not assumed to have been borrowed after the transition \*Y->ʔ-, it would become impossible to stipulate the conditions for a split. With regard to 'house' as well, although the initial of the PLB form cannot be posited with sufficient certainty, there is no problem proposing \*H-/ \*Y- for the PBsh form (OB/WrB *ṛim* : Ats *yúm* : Mar *yàm*, cf. also Bis *júm*; Akh *ym* ~ *nym* PL, *ñm* NT; Lis *h<sup>i</sup>ʔ* JOF, *h<sup>i</sup>h* NT; Lah *yé* NT), and this could be considered in parallel with \*Hṛip/\*Yṛip.

*Supplementary Note 1*) Prof. Luce writes that "Somewhere near Rangoon must have been, I think, Yanpuiw Sanaphawchip [the Henbuiw of the Myazedi], the chief seaport of Burma during the Pagan Dynasty" ('Monks of the Pagan Dynasty,' *Journal of the Burma Research Society* 34 (1953), p. 8), and further cites the examples of place the same place names found in inscriptions (GHL-I 1969, p. 108, fn. 32).

*Supplementary Note 2*) Depending on the inscription, there are many examples where this symbol (-'), which is considered to have indicated glottalization, are completely omitted or are sometimes used and sometimes omitted in the same inscription. In fact, we can presume that there were even more instances of the example of *lhyāṇ*'.

*Supplementary Note 3*) There does not seem to have been any distinction \*i: \*yi in Proto-Tamang either. However, while the distinction *mi*(-) : *myi* (-) seems to have existed in Old Tibetan, e.g., (cf. Róna-Tas 1966, *Tibeto-Mongolica*. (Indo-Iranian Monographs II) The Hague, p. 124 text pp. 124–125, and fns 102–105), if we were to posit \*-ya- in Proto-Tibetan (=PT), we could consider the transition \*-ya- > OT -yi-.

1. PT \*myaṇ 'name' > OT *myiṇ*: WrT *miṇ*: Lhasa *miṇ* Goldstein: Balti *miṇ* RKS: Golok *mṇaṇ* RKS; cf. PLB \*Miṇ/\*Myaṇ; PTam \*min; PKB 1972; (no. 83 and fn. 99) TB \*r-miṇ.
2. PT \*Cmyag 'eye' > OT *dmyig*: WrT (*d*)*mig*: Lhasa *mī* Goldstein: Balti *mik* (Read): Golok *ṛñik* (Röerich); cf. PLB \*Myak; PTam \*mi: < \*mik; PKB 1972, (no. 402) TB \*mik ~ \*myak.

That said, as there are also examples such as OT *myoŋ*- < \**myaŋ*- (WrT *myoŋ*, pf. *myaŋs* ~ *myoŋ*, fut. *myaŋ*) ‘taste’ cf. also PTam \**mfiyaŋ*-; Chepang *yaŋ*-; WrB *mráñ* (< \**Mriŋ*? < \*\**Mryaŋ*?)) and because it would be difficult to prove \*-*ya*- > \*-*yi*- at the current stage, it seems that we cannot deny the possibility of the secondary production of at least some instances of *-yi*. We should also give due consideration to the possibility that examples such as WrT \**Kyi*(-) could be derived from \**Ki*(-). With these kinds of problems, as long as the opposite possibility cannot be logically denied, it does not seem erroneous to indicate the TB form by \**k(y)i*(-). [Editor’s note: Róna-Tas somewhat overstates the certainty that OT distinguishes *mi*- and *myi*-. Potentially then, there is no need for Nishi’s proposal \*-*ya*- > *-yi*- in Tibetan.]