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On the Demise of the Proto-Tibeto-Burman Mid Vowels

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On the Demise of the Proto-Tibeto-Burman Mid Vowels

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チベット・ビルマ祖語の中母音の終焉

ジェイムズ・A・マティソフ

近年N. Hill氏はチベット・ビルマ歴史言語学では確立された音対応、文語チベット語-o(-) : 文語ビルマ語-wa(-), に疑義を唱える論考を発表した。この根底には、文字を持つ古い言語に依拠する文献学的研究傾向と、文字を持たない現代の言語をベースとするフィールドワーク言語学との相剋があると思われ、私はHill氏の論旨に反対の立場をとる。だが、小稿は単なる反論ではなく、私はこれを機に上記の音対応に関わる事象をチベット・ビルマ祖語との関連において総ざらいし、*-e(-)と*-o(-)をチベット・ビルマ祖語の母音体系から外し、代わりに-ay(-) / -ya(-)と-aw(-) / -wa(-)を立てるべきであることを発見した。以下はそのプロセスを詳細に述べたものである。

1 Introduction: the “neo-philological” assault on fieldwork-based historical research

The immediate impetus for writing this paper was a confused article by Nathan W. Hill of SOAS (2011), which, *inter alia*, purported to turn the interpretation of an established Tibeto-Burman sound correspondence, Written Tibetan -o(-) / Written Burmese -wa(-), on its head¹). This reinterpretation can easily be shown to be wrong, though this is of little importance compared to certain wider issues this article raises. At the risk of being accused of *necrohippomachy*, or fighting with a dead horse, I will mention a few:

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Key Words : Proto-Tibeto-Burman, mid vowels and diphthongs, Mon and Burmese orthography

キーワード : チベット・ビルマ祖語, 中母音と二重母音, モン語とビルマ語の正書法

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The false dichotomy between philology and fieldwork

Hill, a Tibetologist, shows a rather archaic contempt for non-written or non-anciently attested languages:

“Indo-Europeanists do not customarily give full consideration to the evidence of the Nuristani languages²⁾ before directly comparing Sanskrit to other ancient languages such as Greek. Full consideration of Loloish languages before employing Old Burmese in the reconstruction of Tibeto-Burman is no more necessary.” (2011: 717)³⁾

Of course nobody doubts the huge diachronic importance of Written Tibetan (WT), attested since around A.D. 600, or the fact that it is conservative in many respects, e.g. its lack of contrastive tone and its preservation of a large array of prefixes. On the other hand, there are many lexical and phonological traits that Tibetan can be shown to have innovated, and not retained from an earlier stage of Tibeto-Burman (TB), e.g.:

- Lexical innovations like **bdun** ‘seven’ (vs. reflexes of PTB ***s-nis** elsewhere); **khrag** ‘blood’ (vs. reflexes of PTB ***s-hywəy** elsewhere).
- Fricativization of liquids before high-front vowels or **-y-**, e.g. ‘four’ WT **bzi** (< PTB ***b-ləy**); ‘day of 24 hours/spend the night’ WT **zag** (< PTB ***ryak**).
- Replacement of medial ***-w-** by **-y-**, e.g. ‘dog’ WT **khyi** < PTB ***kwəy** (cf. Written Burmese [WB] **khwê**); ‘yam’ WT **skyi** < PTB ***kywəy** (cf. WB **kywê**).
- Loss of some double glides. WT lacks the double glides **-rw-** and **-yw-**, which both exist in WB and are necessary to reconstruct for PTB⁴⁾.

It is always tempting to assume that the language one knows the best is the most “important”—but Tibeto-centrism is just as ill-advised as, e.g., Lahu-centrism would be! In fact the entire dichotomy between “great” languages and humble unwritten ones is old-fashioned and counterproductive.

Hill places his faith in philological evidence above all. Yet it turns out that his claim that WT **-o(-)** is a retention while WB **-wa(-)** is an innovation is based on a faulty interpretation of Old Burmese (OB) orthographical evidence. See below, §4.

The mechanistic attitude toward reconstruction

Hill recognizes that his turning the WT **-o(-)** / WB **-wa(-)** correspondence on its head gives rise to a difficulty:

“If one reconstructs ***o** in cases where Matisoff reconstructs ***wa**, one must provide some alternative account for those cases which Matisoff reconstructs as ***o**. This can be done by distinguishing ‘that **o** in OB which has today become **wa**’ from those instances of **o** which remain in WB⁵). I mechanically represent these vowels respectively as **o¹** and **o²** in OB...” (p. 711)

Regularity and variation

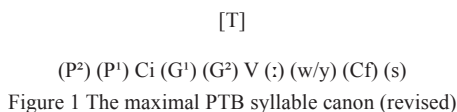
Hill’s article shows a misinterpretation of my views on the subject of regularity and variation, a topic about which I have written repeatedly (1975; 1978; 1982; 1994). His casually dismissive phrases like “The willingness of TB historical linguists following in the tradition of Benedict (1972) and Matisoff (2003) to eschew the search for exceptionless sound correspondences...this reticence to embrace sound laws...” (p. 707) reveals a deep misunderstanding of my empirically grounded approach to reconstruction, as well as Hill’s own rather simple-minded neogrammarian outlook. Hill’s criticism of Benedict and me is all the stranger coming from someone who to my knowledge has never come up with an original etymology at the TB level, or indeed at the Proto-Bodic level. Far from discovering exceptionless sound laws, he has hitherto discovered nothing at all.

Yet for all its flaws, Hill’s article has served a useful purpose. It has motivated me to rethink the entire question of the marginal TB mid vowels ***-e(-)** and ***-o(-)**, thus causing some changes in the reconstruction of many PTB etyma (below, §5), as well as the recognition of several new variational patterns: ***-wak** ⋈ ***-awk**; ***-wan** ⋈ ***-awn**; ***-yak** ⋈ ***-ayk**; ***-yan** ⋈ ***-ayn**⁶.

Without a PTB ***-o(-)** in the system it is hard to see what sense can be made of Hill’s idea that the correspondence of WT **-o(-)** to WB **-wa(-)** should be reconstructed as ***-o(-)**.

2 The Proto-Tibeto-Burman syllable canon and vowel system

The PTB vowel system is usually⁷⁾ reconstructed with more diphthongs than monophthongs, a pattern also characteristic of many varieties of English as well as underlying the system of Beijing Mandarin⁸⁾. The maximal TB syllable canon with which I am now operating is shown in Figure 1:



This represents a slight revision of the previous canon (see HPTB: 12, 82) in that it provides for the possibility of a semivowel post-vocally before a final consonant, yielding combinations like **-wk**, **-yk**, **-wŋ**, **-yŋ**. If two prefixes precede the initial consonant (either in a protoform or in a modern language), the outer one (P²) is deemed to be less ancient than the inner one (P¹)⁹⁾. The glides in prevocalic position are the semivowels and liquids /-w-, -y-, -r-, -l-/, with combinations of two of them possible (below, §3.3). Postvocally only **-w-** or **-y-** can occur before a final stop or nasal. The proto-status of tone is still controversial.

Note that this syllable canon goes beyond the simple monosyllable, since a schwa-like vowel often occurs between a prefix and the root initial, giving rise to what I have been calling “sesquisyllables” (Matisoff 1973b). In the Indexes to HPTB the PTB roots are listed with their affixes stripped off.

The PTB rhyme system in open syllables is displayed in Figure 2 (see HPTB: 159–160). Low frequency open-syllable rhymes are in parentheses:

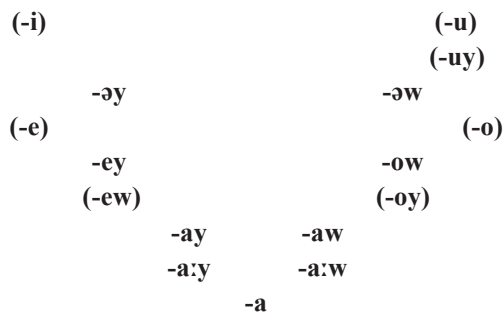


Figure 2 PTB rhymes in open syllables, as presented in HPTB

The only monophthong of high frequency is ***-a**. Although ***-i** and ***-u** (especially ***-u**) are reconstructible, in many languages they have merged with ***-ey** and ***-ow**, respectively. Evidence for monophthongal ***-e** and ***-o** is very weak (below, §5.1)¹⁰⁾. The core of the system is ***-a** plus a set of falling diphthongs.

The new system of open-syllable PTB rhymes to be presented in this paper is

displayed in Figure 3:

(-i)		(-u)
		(-uy)
-əy		-əw
-ey		-ow
(-ew)		(-oy)
-ay	-aw	
-a:y	-a:w	
	-a	
-ya	-wa	

Figure 3 The new system of PTB rhymes in open syllables advocated in this paper

3 Aspects of Written Burmese phonology

“Old Burmese” (OB) is the language reflected in several centuries of early Burmese inscriptions, notably the famous quadrilingual Myazedi Inscription of A.D. 1111/1112¹¹). This language retains several archaic features, notably medial **-l-**, which have disappeared or changed by later times. However, the spelling of OB is not entirely consistent, largely due to influence from the Mon writing system (see §4, below).

“Written Burmese” (WB) is an imprecise term, usually used to refer to the spelling of Burmese from about the 14th century to the present day, as reflected both in inscriptions and in books. WB may be subdivided into “Middle Written Burmese” (13th–14th to 16th–17th centuries, and “Later Written Burmese” (standardized in the 18th and 19th centuries, with some “reforms” in the 20th).

“Modern Burmese” (MB), in the loose sense may refer to any of the modern living dialects of Burmese. In the narrow sense it is often used to refer to the standard language of present-day educated Rangoon speakers.

3.1 Various views of Later Written Burmese open syllable rhymes

(a) As presented in Benedict/Matisoff, eds. 1976: iv (RDWB):

-i	-u	-ui
-e		-o = -au
-we		
-a		-ai
-wa		-wai

Figure 4 WB open syllable rhymes

The exact nature of the rhyme here transcribed “-ui” has been quite controversial, with various authors preferring /iu/ or /i¹²). It is now written with a compound

symbol comprised of a superscript “i” and a subscript “u” ($\overset{i}{\underset{u}{\circ}}$)¹³, and has become /ou/ in Modern Burmese. In the Benedict/Matisoff system it derives from PTB *-əw.

Most recently, the Belgian linguist Frédéric Pain (2014) has reexamined this WB rhyme **-ui**, interpreting it as *-o (> Mod. Bse. **-ou**). This has the advantage of making it parallel to WB **-e** (> Modern Burmese **-ei**). That is, PTB *-əw > WB **-ui** (Pain’s **-o**), just as PTB *-əy > WB **-e**. While previous studies (e.g. Bradley 1985) had already arrived at this conclusion, Pain goes further by finding a sociolinguistic reason for a variation between two different Burmese adaptations of the Old Mon “-uiw” graph. According to his analysis, it was used primarily to transcribe the Burmese diphthong /-ow/. In addition, however, the “Monized” upper classes used it to transcribe the OM diphthong /Λw/, non-existent in OB, which occurred in many loanwords from Mon. In any case, Sawada (2013) points out that the super-cum-subscript graph for this rhyme is extremely rare in Old Mon inscriptions, and varies with several others (-ei ~ -i/ii ~ -u/uu). Sawada explains (p. 31) that it became much more frequent in Middle Mon due to the centralization of /-i/ and /-u/. Perhaps in this case it was Burmese writing which actually influenced Mon¹⁴.

(b) The reinterpretation of “ui” as /o/ now permits a more symmetrical inventory of WB rhymes:

-i		-u
-e		-o (“ui”)
-we		
	-ai -a -au (“o”)	
	-wai -wa	

Figure 5 WB open syllable rhymes (“ui” as /o/)

(c) Finally, these WB rhymes may be displayed in such a way that the mid vowels are treated as falling diphthongs consisting of schwa plus semivowel, an interpretation which makes them identical to their presumed PTB origins:

-i		-u
-əy		-əw (“ui”)
-we		
	-ai -a -au (“o”)	
	-wai -wa	

Figure 6 WB open syllable rhymes (mid vowels as diphthongs)

The WB rhyme **-we** deserves special comment. It often derives from PTB *-əy (e.g. ‘dog’ PTB ***kwəy** > WB **khwê**), but in five rock-solid cases it derives rather from PTB ***-ul** (with some variation with WB **-un**):

	<i>PTB</i>	<i>WT</i>	<i>WB</i>	<i>Other</i>
‘hair/fur’	*s-mul	—	mwê × pâ-mûn ¹⁵	Mizo hmul
‘silver’	*d-ŋul	dŋul	ŋwe	Chinese 銀 (OC ŋiɛn)

‘snake’	*s-b-rul	sbrul	mrwe	Lahu vì
‘sweat’	*s-krul ⚡ *s-ŋrul	rŋul	khrwê	Lahu kī
‘twenty/all’	*m-kul	—	ʔəkun ‘all’	Jg. khun , Garo khoh

In this rhyme, therefore, the labial semivowel in Burmese is indeed secondary, and WT may be said to be conservative.

3.2 Medials in Old/Inscriptional and Written Burmese

Although there are many exceptions and much variation, in general OB **-l-** becomes WB **-y-** after velars, and **-r-** after labials¹⁶⁾, e.g.:

	<i>OB</i>	<i>WB</i>
‘loosen/release’	khlwat	khywat
‘silver’	phlu	phru
‘grandchild’	mliy	mrê

Many TB languages, notably including Burmese, have double glides, so that it is necessary to reconstruct several of them for Proto-TB: ***-rw-**, ***-ry-**, ***-lw-**, ***-ly-**, and ***-yw-** (HPTB: 82–86). Of these, **-yw-** is the most frequent. Some examples:

	<i>PTB</i>	<i>WT</i>	<i>Jingpho</i>	<i>WB</i>	<i>Lahu</i>
‘slave/servant’	*k(y)wal ⚡ *g(y)wal	khol-po	—	kywan	cè
‘yam’	*kywəy	skyi-ba	kywê	—	
‘be free/loose’	*g-lwat	glod-pa ‘loosen’	lòt	lwat; kywat	lê?
‘set free/release’	*s-lwat	hlod-pa ‘relaxed’	šəlòt	hlwat; khywat	
‘daughter-in-law’	*krwəy	—	khri	khrwê	ḷ-khī-ma

- WT lacks the double glides **-yw-** and **-rw-**.
- In the set for ‘slave/servant’, it seems obvious that WB **-ywa-** is more ancient than WT **-o-**; one can easily imagine a development ***-ywa-** > **-wa-** > **-o-**, but the opposite scenario (***-o-** > **-ywa-**) seems highly implausible.
- There is an excellent Chinese comparandum to the ***g/s-lwat** etymon, 脫 ‘peel/take off/let off’, Mand. **tuō** ⚡ **duó**, reconstructed variously for OC and MC:

Karlgren [GSR #324m] OC **t’wât** ⚡ **d’wât**, MC **t’uât** ⚡ **d’uât**
 Schuessler [2007: 504, 2009: 242] “Minimal Old Chinese” **lhôt** ⚡ **lôt**, MC **t’wât** ⚡ **dwât**

Baxter/Sagart [2011] OC ***mə-ʎ’ot**, MC **thwat**

In my new system, many more etyma are now reconstructed with double glides.

3.3 Labialized rising diphthongs in Written Burmese

Medial **-w-** in WB occurs only before the vowels **-a-** and **-e-**. While the sequence **-wa(-)** occurs in both open and closed syllables, the much rarer sequence

-we appears only in open ones. The total repertoire of WB labialized rhymes is shown in Figure 7:

-wa	-wak	-waŋ	-we
-wai	-wat	-wan	
	-wap	-wam	

Figure 7 WB labialized rhymes

Considering all these prelabialized rhymes together¹⁷⁾, we may chart the large number of permissible WB initial consonant-plus-**w** combinations:

k-	c-	t-	p-	r-	s-
kr-	ch-	th-	ph-	hr-	h-
ky-	ñ-	n-	pr-	l-	
kh-	hñ-	hn-	m-	hl-	
khr-			hm-	y-	
khy-			mr-		
ŋ-			hmr-		

All of these rhymes may also occur after zero-initial, i.e. they may all begin a syllable.

It is thus quite clear that **-w-** in Burmese is a feature of the rhyme, not the initial¹⁸⁾. This medial **-w-** is to be sharply distinguished from two other types of syllable where a labial semivowel is involved: (a) “extrusional” cases where some languages have labial stops while others have **w-**, usually in etyma with the nuclear vowel **-a(-)**, e.g. ‘pig’ WT **phag**/WB **wak**, where I reconstruct initial ***p^w-** (see Matisoff 2000); and (b) true labiovelar etyma reconstructed at the PLB level, where some LB languages have labial stops while others have velars, e.g. ‘star/moon’ PST ***s-ŋ^wyat** (Matisoff 1980), ‘chew’ PLB ***n-g^wya** (Matisoff 1986), ‘dog’ PLB ***k^wəy²** (WB **khwê**, Lahu **phî**)¹⁹⁾.

3.4 Evidence from humble unwritten languages

Far from being useless in establishing detailed etymologies, humble unwritten languages often furnish crucial evidence. For example, the Loloish languages, phonologically eroded as they are, are extremely sensitive to the influence of neighboring segments. Figure 8 shows what regularly happens to the PTB/PLB nuclear vowel **-a(-)** in Lahu:

<i>PLB</i>	<i>Lahu</i>	<i>PLB</i>	<i>Lahu</i>	<i>PLB</i>	<i>Lahu</i>
*-a	-a	*-ak	-aʔ	*-aŋ	-ɔ
*-wa	-u	*-wak	-ɔʔ	*-an	-e

*-ya	-ε	*-yak	-εʔ	*-am	-o
		*-at	-eʔ		
		*-ap	-oʔ		

Figure 8 Lahu reflexes of rhymes with *-a(-)

4 Misuse of philological evidence: Old Mon influence on Written Burmese orthography

Hill places great emphasis on philological evidence, which led him to interpret the WT **-o(-)** / WB **-wa(-)** correspondence as a WT retention and a WB innovation. His evidence lies in the fact that there exist alternate spellings in OB where the vowel symbol for “o” (the circumfix ၀) is used instead of the more usual symbol for “wa” (which involves a subscript circle: ၀)

However, Hideo Sawada’s invaluable study (2013) has demonstrated that the alternate or “non-canonical” spellings of **-o(-)** instead of **-wa(-)** is due to Mon influence. (It is well-known that Burmese writing was adapted from the Mon system.) According to Sawada, these non-canonical rhyme notations were of two major types: (a) those influenced by contemporary Mon writing; (b) those which attempted to transcribe allophonic variants in Old Burmese. Thus spellings of different origins co-existed in the Burmese inscriptions of the Bagan (= Pagán) period (9th–13th centuries).

These non-canonical spellings were already noticed in Ba Shin (1962: 25–29), who described “the use of **-o-** for subscript **-w-**”, as well as by Y. Nishi (1999a: 24), who discussed spelling variations like **-yaC ~ -eC** and **-waC ~ -oC ~ -woC**²⁰.

4.1 Rhymes with Written Burmese medial **-w-** showing Mon graphic influence

(1) Canonical **-wan** vs. non-canonical **-on**²¹

	<i>Canonical</i>		<i>Non-canonical</i>	
‘slave’	kywan	ကျန်	kyon, kywon	ကျောန်, ကျောန်
‘go beyond/excel’	lwan	လွန်	lon	လောန်
‘pour out’	swan	သွန်	son	သောန်
‘point out/show’ ²²	(h)ñwan, (h)ñwân	ညွန်	(h)ñon, (h)ñôn	ညောန်

(2) Canonical **-wat** vs. non-canonical **-ot**

	<i>Canonical</i>		<i>Non-canonical</i>	
‘get free’ ²³	lwat	လွတ်	lot	လောတ်
‘send/release’	hlwat	လွတ်	hlot	လောတ်
‘release’	khlwat	လွတ်	khlot	လောတ်
‘pinnacle/apex’	(ʔ)thwat ²⁴	(အ)ထွတ်	(ʔ)thot	(အ)ထောတ်
‘stoop’	ñwat ²⁵	ညွတ်	ñot	ညောတ်

(3) Canonical **-waŋ** vs. non-canonical **-oŋ**

Sawada (p. 15) gives an example of the homography of the rhymes **-waŋ** and **-oŋ** in the inscriptions of the famous Lokatheikpan temple (Ba Shin 1962), where the words ‘mountain’ (WB **tauŋ** တောင်)²⁶⁾ and ‘hole/pit’ (WB **twâŋ** တွင်း) are written identically as **toŋ** တောင် due to the influence of Old Mon orthography.

(4) Canonical **-waa** vs. non-canonical **-wo(h)**²⁷⁾

	<i>Canonical</i>	<i>Non-canonical</i>
‘village’	rwa	rwoh
‘go’	swaa	swo, swoh

If the most eminent scholars of Mon-Khmer historical phonology are to be believed, Monic underwent the same development from Proto-Monic ***-ua-** to Modern Mon **-o-** that we have been positing for the evolution of PTB **-wa(-)** > WT **-o(-)**. Ferlus (1983), summarized in Sawada (pp. 12, 15), cites data from both Mon and its conservative sister language Nyah-Kur, spoken in the former Dvāravatī kingdom in what is now Thailand (see Diffloth 1984):

	<i>Proto-Monic</i> ²⁸⁾	<i>Old Mon</i>	<i>Middle Mon</i>	<i>Modern Mon</i>	<i>Nyah-Kur</i>
	*-ua-	-ua-	-uo-	-o- ~ -ò-	-ua- ~ -uà- ~ -ṽ-
‘faint away’	*luat	luat	luot	lòt	luát
‘child’	*kuan	kuan	kuon	kon	kuan
‘body hair’	*suak	suak	suok	sok	sṽk

4.2 Rhymes with Written Burmese medial **-y-** showing Mon graphic influence

(1) Canonical **-yaŋ** vs. non-canonical **-(y)eŋ**

	<i>Canonical</i>		<i>Non-canonical</i>	
‘verily/indeed’	hlyaŋ	လျှင်	hleŋ ~ hlyeŋ	လှိုင် ~ လှိုင်
‘mutually’	khyâŋ	ချင်း	kheŋ	ခင်
‘shit’	kyaŋ	ကျင်	keŋ	ကင်
‘wish/desire’	khlyaŋ (> khyaŋ)	ချိုင်	khleŋ	ခွိုင်
‘practice’	kyaŋ	ကျင်	kyeŋ	ကျိုင်

(2) Canonical **-yak** vs. non-canonical **-(y)ek**

	<i>Canonical</i>		<i>Non-canonical</i>	
‘day of 24 hours’ ²⁹⁾	ryak (> rak)	ရက်	rek, ryek	ရက်, ရျက်
‘continuative affix’	lyak	လျက်	lek, lyek	လက်, လျက်
‘destroy’	phyak	ဖျက်	phyek	ဖျက်
‘cook’	khyak (< PTB *klak)	ချက်	khyek	ချက်

(3) Canonical **-yat** vs. non-canonical **-(y)et**

	<i>Canonical</i>		<i>Non-canonical</i>	
‘love’	khyat (> *kyit) > khyac	ချတ်	khyet	ချတ်
‘eight’	hyat (> *hrit) > hrac	ယုတ်	het, hyet > hrec	ဟေတ်, ဟျေတ်

These last two examples are particularly interesting because they illustrate another aspect of Mon-Khmer influence on Burmese. Palatal final consonants are alien to TB, but very common in MK. Written Burmese developed the rhymes **-ac** and **-añ** from PTB ***-ik/*-it** and ***-iŋ/*-in**, respectively, undoubtedly due to Mon influence³⁰⁾³¹⁾.

Again, Ferlus (1983) traces the development of Proto-Monic ***-iaŋ**, ***-iat**, and ***-ian** to Modern Mon and Nyah Kur reflexes that have mid vowels replacing or combining with the yod, in quite a similar manner to the fate of Proto-Monic ***-ua-**, above:

	<i>Proto-Monic</i>	<i>Old Mon</i> ³²⁾	<i>Middle Mon</i>	<i>Modern Mon</i>	<i>Nyah-Kur</i>
	*-iaŋ	-iaŋ	—	-eaŋ ~ -eàŋ	-iè ~ -iè
‘buffalo’	*priaŋ	priaŋ		preaŋ	prièŋ
‘align’	*riaŋ	riaŋ		rèaŋ	—
	*-iat	-eat	-eet	-et ~ -èt	-ièt ~ -ièt
	*-ian	-ean	—	-en	-ien
‘take/seize’	*ciat	keat	keet	ket	cièt
‘kindle’	*tdian	tdèan	—	ḍen	dièŋ

Old Mon **-en -et** (***-ean, *-eat**) were introduced to write OB **-yan** and **-yat**.

4.3 Canonical -u vs. non-canonical -o

It is a feature of the phonology of many modern Lolo-Burmese languages that the mid vowels are pronounced quite high, so that they are often confusable or variable with the corresponding high vowels. This is the case in Lahu, where there is considerable variation between /i i u/ and /e ə o/³³⁾. One of the sources of Inscriptional Burmese **-o** is simply PLB ***-u** < PTB ***-u**, evidently an attempt to write a lower allophone than cardinal [u]:

	<i>PLB</i>	<i>WB Canonical</i>		<i>Insc. Bse. Non-canonical</i>	
‘take’	*yu¹	yu	ယူ	yo	ယော
‘white’	*plu¹	phlu > phru	ပူ	phlo	ပော
‘person/he’	*su¹	su	သူ	so	သော
‘alms’	*slu¹	?əhlu	အလှူ	?əhlo	အလှော
‘person’	*lu¹	lu	လူ	lo	လော

5 Reconstructions of PTB mid vowels and how to revise them

5.1 Mid vowels at the subgroup vs. the proto-level

Although we are about to banish the mid monophthongs from our PTB reconstructions, it is perfectly reasonable to reconstruct them at certain subgroup levels, including Proto-Northern Naga (French 1983) Proto-Tani (J. Sun 1993), and Proto-Karen (Luangthongkum 2014)—but not, e.g., for Proto-Lolo-Burmese or Proto-Central Naga.

5.2 Mid vowels in closed vs. open PTB syllables

Even though STC/HPTB recognize the marginal status of the mid vowels in open syllables, there remain a large number of closed syllables in these standard works where mid vowels appear in PTB reconstructions. While there is nothing contradictory *per se* in having more vowel contrasts in closed than in open syllables, the present study has persuaded me that it is feasible to reinterpret virtually all these closed syllable cases as involving proto-diphthongs, rising or falling, rather than mid monophthongs.

In sum, I am offering a unified reinterpretation of the mid vowels both in open and closed syllables, according to which etyma previously reconstructed with **-e(-)* are now reconstructed with **-ya* or **-ay*, while those formerly reconstructed with **-o(-)* are now reconstructed with **-wa* or **-aw*.

These revisions require a slight revision to the PTB syllable canon (§2, above), in that they recognize new codas: **-awŋ*, **-awk*, **-ayŋ*, **-ayk*³⁴.

The chart in Figure 9 reviews the reflexes of PTB falling diphthongs in some key TB languages³⁵.

PTB	WT	Jingpho	WB	Garó	Dimasa	Mizo
<i>*-aw</i>	-o	-au	-au	-o	-au	-ou
<i>*-a:w</i>	-u/-o	-au	-au	-o	-au	-au
<i>*-ow</i>	-o	-u/-au	-u	-o	-au	-ou
<i>*-ay</i>	-e ³⁶	-ai	-ai	-e	-ai	-ei
<i>*-a:y</i>	-e	-ai	-ai	-e	-ai	-ai
<i>*-ey</i>	-e	-i	-i	-e	-ai	-ei

Figure 9 Reflexes of PTB falling diphthongs (HPTB: 202)

5.3 Open syllables: **-wa* and **-ya*

(a) *Confirming standard etymologies:*

**-wa*

	PTB	WT	Jingpho	WB	Lahu ³⁷
‘cattle’	<i>*ŋwa</i>	—	ŋā	nwâ	nû
‘handspan’	<i>*twa</i>	mtho	—	thwa	thu
‘tooth’	<i>*swa</i>	so	wā	swâ	-šū

/If the PTB reconstruction were **so*, as Hill would have it, how could one explain the Jingpho form?/

**-ya*

	PTB	WT	WB	Lahu	Other
‘bee/bird’	<i>*bya</i>	bya	pyâ	pê	Lisu byæ; Sani dla-ma
‘swidden’	<i>*hya</i>	—	ya	hε	Daai Chin jah

(b) Revising the etyma formerly reconstructed with mid vowels in open syllables

	Old	New	STEDT Etymon No.
‘bean’ ³⁸⁾	*be	*bay	#2155
‘boiled till soft’	*pryo	*pryaw-k	#2577
‘break off a piece’	*pe Ꝟ *be	*pay Ꝟ *bay	#3487
‘delight’	*pro	*praw Ꝟ *pyaw	#2572
‘dig up/scoop out’	*r-ko-t Ꝟ *r-go-t	*r-kwa-t Ꝟ *r-gwa-t	#2325
‘emerge’	*s-pro-k	*s-prwa-k	#2573
‘give’	*pe-k	*s-bəy-n Ꝟ *s-bəy-k	#2158
‘high’	*m-to-n	*m-twa-n	#2702
‘nail/claw’	*m-tsyə	*m-tsyey	#515
‘neck’	*s-ke-k Ꝟ *m-ke-k	*s-key-k Ꝟ *m-key-k	#481
‘related (as kin)’	*do	*daw	#2198
‘slip’	*ble	*b-lyə-l Ꝟ *p-lyə-l	#2159
‘throat’	*gre-k	*grey-k	#491

• Here is an example of *w- functioning as a root-initial (cf. HPTB: 163):

‘trap’ PTB *wa > Lahu va, Tamang wa, Milang o, Kulung wo-mo.

• A new example:

*s/r-ŋwa-l #1192 ‘forepart/front’ > WT ŋo ‘face, countenance’, sŋo ‘before, soon, early’; Proto-Karenic *hja^A

• There is an etymology (see HPTB: 205) which seems to illustrate a variation between PTB *-aw and *-əw:

‘proper/harmonious’ Jg. dzyò (< PTB *dzyaw) / Lahu cĥ (< PTB *dzyəw).

The WT and WB reflexes of the PTB diphthongs in which we are particularly interested are tabulated in Figure 10:

PTB	WT	WB
*-wa	-o	-wa
*-aw	-o	-au
*-ya	-ya	-ya
*-ay	-e	-ai

Figure 10 WT and WB reflexes of some PTB rising and falling diphthongs

As Figure 10 shows, WB is more conservative than WT with respect to these rhymes.

5.4 Closed syllables

In this section I present my revisitation of some representative etymologies which were formerly reconstructed with mid vowels in closed syllables. This is not

a purely mechanical substitution of proto-forms, but in most cases has been based on perceived disparate vocalic reflexes. Thus when some supporting forms for an etymology show reflexes with **-u-** while others have reflexes with **-a-**, that is strong evidence for reconstructing ***-wa-**; similarly, when reflexes vary between **-i-** and **-a-**, that encourages the reconstruction ***-ya-**³⁹⁾.

5.4.1 Nasal-final syllables

<i>Old monophthongal mid-vowel *rhymes</i>	<i>New diphthongal *rhymes</i>
-om	-wam
-on	-wan
-oŋ	-awŋ; -waŋ
-em	-yam
-en	-yan
-eŋ	-ayŋ; -yaŋ

Of all these rhymes ***-oŋ** (= ***-awŋ**) is by far the most frequent.

(a) Revising reconstructions of etyma with mid vowels in syllables with **-ŋ**⁴⁰⁾

	<i>Old</i>	<i>New</i>	<i>STEDT Etymon No.</i>
‘alive/green/raw’	*s-riŋ ✕ *s-raŋ	*s-ryaŋ ⁴¹⁾	#71
‘bladder’	*poŋ/k ✕ boŋ	*pwaŋ ✕ bwaŋ	#778
‘blind’	*doŋ ✕ *dok	*dwaŋ ✕ *dwak	#1253
‘boat’	*m-loŋ	*m-lawŋ	#2416
‘buffalo/wild yak’	*broŋ	*brawŋ	#2170
‘cart’	*s-le:ŋ	*s-lyaŋ	#4998
‘cheek’	*baŋ ✕ *boŋ	*bwaŋ	#263
‘deaf’	*toŋ	*twaŋ ✕ *tawŋ	#1412
‘flat surface’	*bleŋ ✕ *pleŋ	*blyaŋ ✕ *plyaŋ	#707
‘guard/tend cattle’	*s-gyoŋ	*s-klawŋ	#2378
‘hips/buttocks’	*boŋ ✕ *baŋ	*pwaŋ ✕ *bwaŋ	#404
‘leg/foot’	*r-kaŋ ✕ *keŋ	*r-k(y)aŋ	#336
‘nose’	*k/goŋ ✕ *k/gwaŋ	*kywaŋ ✕ gywaŋ	#809
‘onion’	*b-tsoŋ	*b-tswaŋ	#141
‘peacock’	*m-daŋ ✕ *m-doŋ	*m-dwaŋ	#2200
‘penis/clitoris’	*teŋ	*tyaŋ	#3421
‘red/blushing’	*kyeŋ	*s-kyaŋ	#2377
‘skin’	*koŋ ✕ *kwaŋ	*kwaŋ	#780
‘squirrel’	*s-reŋ ✕ *s-rey	*s-ley/ŋ ✕ *s-rey/ŋ	#2663
‘thousand’	*s-toŋ	*s-tawŋ	#2703
‘wildcat/cat’	*s/k-roŋ	*m-rwaŋ ✕ *s-rwaŋ	#2618 / #6099
‘wing’	*daŋ ✕ *doŋ	*dwaŋ	#711

New etymon:

‘tiger’ ***kwaŋ** > rGyalrong **khuŋ**, Nungish **khaŋ** #5702

(b) *Revising reconstructions of etyma with mid vowels in syllables with -n*

	<i>Old</i>	<i>New</i>	<i>STEDT Etymon No.</i>
‘blow’	*hon	*hywan	#1740
‘fart’	*pyeŋ ⌘ *pyet	*pya-n ⌘ *pya-t ⌘ *pya-s	#311
‘go/come’	*byon	*bywan	#2190
‘know’	*m-kyeŋ/n	*m-kyan ⌘ *m-kyan	#1229
‘line up/align’	*s-ren	*s-ryan	#2603
‘mole/wen’	*s/r-men	*s/r-myán	#2447
‘nauseated/vomit’	*ʔon	*wan	#1796
‘oppress/punish’ ⁴²⁾	*nye-s ; *s-nyen	*s-nya-s ⌘ *s-nyan	#181 / #182
‘pus/boil (n.)’	*m-pren ⌘ *m-bleŋ	*m-blyan	#1292 / #5497
‘ride’	*dzyon	*dzywan	#2222

(c) *Revising reconstructions of etyma with mid vowels in syllables with -m*

	<i>Old</i>	<i>New</i>	<i>STEDT Etymon No.</i>
‘cock’s comb’	*p-rem ⌘ *p-rep	*pryam ⌘ *pryap	#2016
‘finger’	*brep ⌘ *brem	*bryam ⌘ *bryap	#326
‘soft/low’	*s-nem ⌘ *s-nyam	*s-nyam	#46
‘taste’	(PKC) *tsam ⌘ *tsom	*tswam	#4569

5.4.2 Stop-final syllables

*Old monophthongal mid-vowel *rhymes* *New diphthongal *rhymes*

-op	-wap
-ot	-wat
-ok	-awk ; -wak
-ep	-yap
-et	-yat
-ek	-yak

(a) *Revising reconstructions of etyma with mid vowels in syllables with -k*

	<i>Old</i>	<i>New</i>	<i>STEDT Etymon No.</i>
‘able/can’	[PLB] *C-prek	*C-pryak	#1820
‘fear/frighten’	*k/grok ⌘ *k/grak	*s-krwak ⌘ *d-krwak	#2249
‘filthy/excrement’	*s-n(y)ik ⌘ *s-n(y)ek	*s-nyak	#2520
‘jump’	*p(r)ok	*p(r)wak	#6707
‘kidney’	*r-kek	*kyak	#1326
‘kick’	*r/g-dek	*r/g-tyak ⌘ *r/g-twak	#6706
‘ladle/poker’	*s-k-yok	*s-k-ywak	#2792
‘partridge/pheasant’	*s-rik ⌘ *s-ryak	*s-ryak	#2610 ⁴³⁾
‘ravine/valley’	*grok	*grawk	#1277

‘skin/bark’	*s/r-kok ⌘ *(r)kwak	*s/r-kawk ⌘ *s/r-kwak	#586
‘testicle’	*r-lek	*r-lik	#1286
‘time/occasion’	*s-pok	*s-pwak	#5562
‘tooth’	*bak ⌘ *bok	*bwak	#1176
‘wet’	*s-nek	*s-nyak	#3567
‘white’	*bok	*bawk	#1230

(b) Revising reconstructions of etyma with mid vowels in syllables with *-t*

	Old	New	STEDT Etymon No.
‘antelope/sambar deer’	*tsot	*g-ts(w)at	#2739 ⁴⁴⁾
‘heart/mind’	*m-yet ⌘ *b-yet	*m-yit ⌘ *b-yit	#1383
‘light/shine’	*hwat	*hwat ⌘ *hwan	#2271 ⁴⁵⁾
‘scratch’	*m-kret	*m-kryat ⌘ *m-krak	#6131 / #1465
‘stomach’	*grwat	*grwat ⌘ *b-rwat	#2112
‘vagina’	*b(y)et	*b(y)at	#662
‘waist/loins’	*kret ⌘ *kren	*kryat ⌘ *kryan	#217
‘womb/mouth’	*s-not	*s-nwat ⌘ *s-nut ⁴⁶⁾	#471

(c) Revising the etyma formerly reconstructed with mid vowels in syllables with final *-p*

	Old	New	STEDT Etymon No.
‘butterfly’	*lep	*lyap	#352
‘calf (of leg)’	*bop	*bwap	#1317
‘cousin (levirate)/ sororate spouse’	*ŋwap	*ŋwap	#2539
‘die/dead’	*s-pup ⌘ *s-pop	*s-pwap	#1861
‘fold/repeat/layer’	*tap	*g/l-t(y)ap	#2692 ⁴⁷⁾
‘hatch’	*gop ⌘ *kop	*gwap ⌘ *kwap	#1233
‘hole/crack’	*pop	*pwap	#2081
‘lac insect/pitch pine’	*s-krep	*s-kryap	#2331 ⁴⁸⁾
‘scale (fish, snake)’	*sep	*syap	#1454
‘slice’	*s-lep	*s/g-lyap	#2401
‘snail’	*bop ⌘ *bap	*bwap	#6106
‘suck/kiss’	*dzo:p	*dz(y)wa:p ⌘ *ts(y)wap	#5541
‘thin/flat’	*lep ⌘ *lyap	*lyap	#2432

5.4.3 Liquid-final syllables

(d) Revising reconstructions of etyma with mid vowels in syllables with final liquids

	Old	New	STEDT Etymon No.
‘count/read’	*wel	*wyal	#3552
‘distribute’	*hor	*hwar	#5470

‘dry’	* he:r	* hyar	#400, #426
‘face’	* s-myal ⋈ * s-mel	* s-myal	#1188 / #5473
‘fall’	* hol-s	* hwal-s	#3507
‘finish/loose/relax’	* ʔo:l ⋈ * gro:l	* g-r-wal	#2543
‘flat/thin’	* pe:r	* pyar	#2557
‘fly’ (v.)	* byer	* byar	#2189, #2580 ⁴⁹⁾
‘goat’	* kye:l ⋈ * kyi:l	* gyal ⋈ * kyal	#2306
‘hail/sleet’	* ser	* syar	#671
‘mix/stir’	* hwel	* s-nywal	#3524
‘overbearing’	* grol	* grwal	#5392
‘slave/servant’	* g(y)wal ⋈ * k(y)wal	* g(y)wal ⋈ * k(y)wal	#5524
‘sleepy’	* myel	* m/s-nyal	#129
‘snore’	* s-ŋor	* s-ŋwar	#1784
‘throat’	* ʔol ⋈ * ʔor	* wal ⋈ * war	#490
‘wash/clean’	* gro:l	* grwa:l	#5579

6 Concluding remarks

In the abstract, a sound change from ***o** > **wa** might seem just as likely as one from ***wa** > **o**, although one could probably claim that the former involves two steps and the latter only one⁵⁰⁾. In any case, syllables with medial **-w-** are felt to be salient in Sino-Tibetan languages, as witness the major distinction made in Chinese etymological dictionaries between *kāikōu* 開口 ‘non-labialized’ (lit. “open-mouth”) and *hékōu* 合口 “labialized” (lit. “closed-mouth”) syllables.

It turns out that Hill’s article has proven to be more useful than one might have expected, since it has motivated me to reexamine the whole question of the PTB mid vowels, and ultimately to remove ***-e(-)** and ***-o(-)** from STEDT reconstructions altogether. Now substituting for these poorly attested mid vowels are the falling and rising diphthongs **-ay(-)** / **-ya(-)**, and **-aw(-)** / **-wa(-)**, respectively. Far from being merely mechanical changes, these reinterpretations—which represent the biggest revisions of PTB reconstructions since HPTB—have led to the discovery of new variational patterns in TB word families.

One final example of **-aw-** ⋈ **-wa-** within a single Burmese etymon:

‘body/corpse/discarded object’ WB **(h)laŋ** or **(h)loŋ**⁵¹⁾ ~ **(h)lwaŋ**’ (with tone-change to creaky) (STEDT #1801).

Notes

- 1) By the notation “**-o(-)**” I mean “**o** in both open and closed syllables”; similarly “**-wa(-)**” means “**wa** in both open and closed syllables”.
- 2) The Nuristani languages, spoken in Eastern Afghanistan, are the only Indo-Iranian languages to

- preserve affricates from the Proto-Indo-European *palatal-velars /k̑ ǵ ǵh/; other languages in the group have stops or fricatives (p.c., Chundra A. Cathcart).
- 3) Perhaps the fact that the Endangered Languages Documentation Project (ELDP) is also located at SOAS will ultimately have a salutary effect on Hill's outlook.
 - 4) Our reinterpretation of some of the PTB *mid vowels as sequences of *semivowel* + *a* further increases the number of reconstructions with double glides. See §3, below.
 - 5) Hill observes in his footnote #2 that I actually write WB "o" as "au" in closed syllables, but doesn't seem to realize that in Matisoff 2003 (HPTB) I write it that way in open syllables as well.
 - 6) The symbol "⌘" between two items indicates that they are considered to belong to the same word-family, or, in STEDT parlance, that they are "allofams" of each other. This symbol does not imply anything about the relative antiquity of the variants.
 - 7) By "usually" I mean in the Benedict/Matisoff system, now increasingly being referred to in China as the "Bai-Ma" 白馬 system, from the first syllables of our names in Chinese (Bái Bǎoluó 白保羅 and Mǎtisuǒfū 馬提索夫).
 - 8) Hockett (1947) analyzed Beijing Mandarin as having only two underlying monophthongal vowel rhymes, *-a(-) and *-ə(-).
 - 9) Thus the Tangkhul Naga verb **khəmōlek** 'lick' consists of the root **-lek** (< PTB ***lyak**), preceded by an ancient nasal prefix that appears in several branches of TB (e.g. Jingpho **mətáʔ**, Chungli Ao **mónák** ~ **mzək**, Akha **myəʔ**), which is in turn preceded by a historically secondary velar prefix which now appears before virtually all verbs in Tangkhul. See HPTB: 137.
 - 10) This paucity of examples holds for many subgroups as well, including Central Naga: "[T]here are no known Proto-Central Naga reflexes of the PTB secondary monophthongs *-e and *-o" (Bruhn 2014: 332).
 - 11) The four faces of this inscription are in Pali, Mon, Burmese, and Pyu, the latter an extinct TB language still undergoing decipherment.
 - 12) See Pulleyblank 1963.
 - 13) In OB it was written with a trigraph **-uiw** borrowed from Old Mon, with the symbol for /w/ added after the consonant with superscript /i/ and subscript /u/ ($\begin{smallmatrix} i \\ \text{ } \\ u \end{smallmatrix}$).
 - 14) For further aspects of the influence of Old Mon on WB that are crucial to the main point of this paper, see below, §4.
 - 15) This second WB form means 'whiskers' (**pâ** 'cheek').
 - 16) See Nishi 1976.
 - 17) The most efficient way of doing this is by using Benedict, ed., 1976.
 - 18) This is often a crucial issue in Lolo-Burmese. For example PLB ***wak**^L 'pig' (where ***w-** is the root-initial) > Lahu **vàʔ**, but PLB ***ʔtwak**^H 'emerge' (where ***-w-** is medial) > Lh. **tʂʔ**.
 - 19) At least 6 solid PLB etyma are reconstructible with labiovelar initials: CHEW, COMB, DOG, NEST, STAR/MOON, TRUMPET. See Matisoff 1986 and HPTB: 24–26.
 - 20) Although it is beyond the scope of this paper, Nishi (Nishi 1999b: 48–50) also treats the variation among WB **-uiC** ~ **-iC** ~ **-eiC** ~ **-uC**. For a discussion of WB "ui", see §3.1, above.
 - 21) Sawada tabulates the number of occurrences of all of the canonical vs. non-canonical forms in his database (e.g. more than 2000 occurrences of **kywan** 'slave' vs. 63 of **kyon**), although we do not include these statistics here.
 - 22) Sawada cites these forms as **n̄wan**/**n̄on** (in the creaky tone, and with unaspirated initials), although these are not to be found in Judson or RDWB.
 - 23) The first three items in this group are variants of the same etymon (co-allofams). **lwat/hlwat** form a simplex/causative pair (the latter < PTB ***s-lwat**), along with a doublet OB **klwat/khlwat** > WB **kywat/khywat**, with velar prefix (< PTB ***g-lwat**). WT also has a doublet here (**glod-pa**, **hlod-pa**), and there is also an excellent Chinese cognate. See §3.2, above.
 - 24) In modern dictionaries (e.g. Judson 1966: 55–56) this word is spelled with a rare final letter, usually used to transcribe retroflex **ʈ** in loanwords from Sanskrit/Pali. (This word didn't make it into RDWB.)
 - 25) There is also a causative allofam, **h̄nwat** 'bend sthg'.
 - 26) There is no contrast in WB between the rhymes **-auŋ** and **-oŋ**, or between **-auk** and **-ok**. Different authors transcribe them one way or the other, but I now prefer the diphthongal interpretations, /-awŋ/ and /-awk/. They are transcribed this way in HPTB.

- 27) Sawada (p. 13) is reluctant to invoke Mon influence for this open-syllable variation, although it still seems to me to be a reasonable explanation.
- 28) Prof. Bauer (p.c.) points out that Ferlus and Diffloth, relying on the Old Mon forms cited in Shorto 1971, failed to take account of many other variant OM spellings discovered since then. Bauer prefers to reconstruct *-o- rather than *-ua- for the OM stage. By the Middle Mon period many forms with medial labials have made their appearance, e.g. ‘child’ MM **kon** ~ **kwon** ~ **kwan**.
- 29) The Lahu cognate is **há**, not ***hé**, so we need to reconstruct a PLB variant ***rak**; i.e. we should reconstruct PLB ***r(y)ak**.
- 30) See HPTB: 276–284, 343–352. It is noteworthy that this development did not occur elsewhere in the Burmish group (e.g. Zaiwa [Atsi], Langsu [Maru], Leqi [Lashi]), since these languages escaped MK influence, and belong rather to the “Jingpho-sphere.”
- 31) Still another feature of the WB rhyme system that has been plausibly ascribed to Mon influence are the rhymes **-uik** and **-uiŋ** (Mod. Bse. **-aiʔ** and **-āi**, respectively). There are, however, a few good cognate sets with these WB rhymes (notably ‘sit’ WB **thuiŋ**, Jg. **dūŋ**, Sulung **toŋ**; see HPTB: 288, 523), which are conventionally reconstructed with long vowels as PTB ***-u:k** and ***-u:ŋ** in the “Bai-Ma” system. For a detailed discussion of these rhymes, see F. Pain 2014.
- 32) Again, Bauer here prefers to reconstruct monophthongal ***-e-** at the OM level, contrasting the forms cited here with another set where OM ***-ia-** should be reconstructed:
- | | | |
|---------------|---------------------------|----------------------------------|
| | <i>OM</i> | <i>Spoken Mon</i> |
| ‘hear’ | rmeŋ ~ rmiŋ | mòŋ |
| ‘king/prince’ | smeŋ ~ smiŋ | hmoŋ [not in Shorto 1971] |
- 33) See Matisoff 1973a/1982, p. 10. This is also a feature of the phonology of Naxi and its close relatives in the “Naish” group (p.c., Liberty Lidz).
- 34) Cf. ‘skin/bark/outer covering’ (below §5.42), which illustrates both ***-awk** and the newly recognized variational pattern ***-awk** × ***-wak**.
- 35) The non-controversial rhymes ***-ey** and ***-ow** will not be discussed further.
- 36) This WT reflex of PTB ***-ay** was discussed in detail in Matisoff 1985.
- 37) D.W. Bruhn (2014: 108) has just shown that Proto-Ao ***-wa** had a similar development in the Ao Chungli dialect: PAo ***-wa** > Mongsen Ao **-a**, Chungli Ao **-u**.
- 38) This is evidently a loanword into Burmese from Mon-Khmer; cf. Mon **boa** ‘bean, pea, one-sixteenth of a tical’, Khmer **pèy** ‘obsolete small coin’, Sre **rəbay** ‘pea’. See Shorto 2006, set #1489.
- 39) An alternation between the stopped finals ***-ik** and ***-yak** has been recognized for a long time (cf. STC, sets #402–#404, and VSTB, pp. 40–41), with the most important example being ‘eye’ PTB ***mik** (> WT **mig**) × ***myak** (> WB **myak**). A recently discovered new example before a nasal final is ***sya-n** (#34) × ***sin** ‘body’ (#318).
- 40) Note that changes other than these involving mid vowels have been made in the new etymologies.
- 41) While this etymology does not involve a mid vowel *per se*, it is included here to show that the semivowel approach can easily handle cases of perceived ***-i-** ~ ***-a-** variation. Alternatively we could set up the allofamic reconstruction ***s-riŋ** × ***s-ryan**, which would then show the same variational pattern as EYE and PHEASANT.
- 42) I am here combining two etyma formerly kept separate; see STC #’s 193 and 252.
- 43) Cf. WT **sreg-pa**, West Tibetan **śrag-pa** (STC #403).
- 44) Cf. WB **chat**.
- 45) Cf. WT **hōd**, Thado **wat**.
- 46) Variation in rhyme must be posited for this etymon, since the WB cognate is **hnut** ‘mouth’ which cannot be from ***s-nwat** (which would have yielded WB **hnwat**). If this variational pattern of **-wa-** × **-u-** proves to be valid, it would be nicely analogous to the well-established pattern **-ya-** × **-i-**, as in EYE (above, n. 39).
- 47) Cf. WT **ldeb-ba** ‘bend round or back’, **ltab-ma** ‘a fold’, **ldab-pa** ‘do again, repeat’.
- 48) Cf. Rawang **rap** ~ **rip**.
- 49) A fuller reconstruction would be ***pur** × ***pir** × ***byar**, showing two well-established variational patterns (**-u-** × **-i-** and **-i-** × **-ya-**), which make this etymon exactly analogous to ‘body hair’ PTB ***s-mul** × ***s-mil** × ***s-myal**.
- 50) Personal communication, John Ohala (Jan. 2014).

- 51) As explained above (notes 5, 26), the transcriptions **-auŋ** and **-oŋ** for this WB rhyme have been used interchangeably, although the former is now clearly preferable, as already recognized in HPTB.

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