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PROTO-KUKI-CHIN INITIALS ACCORDING TO TORU OHNO AND KENNETH VANBIK

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Abstract
Relying on the legacy of Ohno (1965), several scholars have made more recent forays into the reconstruction of Kuki-Chin initials (Khoi 2001, VanBik 2009, Button 2011). A comparison of Ohno's and VanBik's systems permits an overview of progress made so far. VanBik accepts all of Ohno's correspondences, adding a few of his own. Mizo provides a convenient language to contrast their proposals in detail. As the source of Mizo *f*-, Löffler's *dz- has advantages over Ohno's *ź- [ʒ-] and VanBik's *θ-. VanBik's is right to distinguish *s- and *s^{h}, although the phonetic value of *s^{h} is not clear. The evidence for his *pr- and *phr- is unsatisfactory. In light of their importance, I propose to name two sound laws (*kr, *kl > *ṭ-* [ʈ], *tl-* 'Ohno's law' and *r > *g-* 'Shafer's law'). Considering proposals not known to VanBik, there is good evidence for Peterson's *yh- [ɲ̊] (2000), but little for Button's (2011) labio-velars. A number of splits, especially of *r-, require further attention.
Keywords: Kuki-Chin, Trans-Himalayan, historical phonology, reconstruction
ISO 639-3 codes: lus, dao, mwq, mya, bod, csh, ctd, cnk, cnw, cmr, cnh

1 Introduction

The In the opening lines of his study of Proto-Kuki-Chin initials Toru Ohno writes that "所謂「クキ・チン語諸方言」は，チベット・ビルマ系諸言語の比較研究を進めるに当り，重要な資料を提供すると考えられるにも拘らず，その研究は未だ充分とは言い難い[although the so-called 'Kuki-Chin languages' may be thought to furnish important materials for the advancement of comparative research on the Trans-Himalayan language family, it is difficult to say that research on them is as yet sufficient" (1965: 8).[2] Despite Ohno's own efforts, the remaining decades of the 20th century failed to witness an amelioration in the paucity of research on comparative Kuki-Chin.[3] This situation changed in the opening decade of the 21st century, with the completion of an M.A. thesis (Khoi 2001), and two PhD dissertations (VanBik 2009, Button 2011) treating comparative Kuki-Chin reconstruction. Because VanBik's study is of wider scope and incorporates evidence from a larger range of languages than either Khoi (2001) or Button (2011), a comparison of Ohno's and VanBik's reconstructions, with due reference to the works of others, provides a convenient assessment of the *status quaestionis*.

[1] I would like to thank Doug Cooper and David Peterson for help in acquiring rare research materials. I also acknowledge my gratitude to the British Academy for support during the course of this research.
[2] Ohno's チベット・ビルマ translates more precisely as 'Tibeto-Burman', but I have aligned this to the term 'Trans-Himalayan' used here. As a geographic term unburdened by strong implications regarding the place of Chinese on the Stammbaum, 'Trans-Himalayan' has advantages over its competitors 'Sino-Tibetan' and 'Tibeto-Burman' (cf. van Driem 2014).
[3] Solnit (1979) and Ostapirat (1998) are the only two contributions to mention.

2 Toru Ohno

Ohno (1965) bases his study of Proto-Kuki-Chin initials on the following eight languages: Tedim, Ngawn, Hakha Lai, Falam Lai, Anal, Zotung, Khumi-O,[4] Chinbok. He provides a detailed bibliography of the primary sources that formed the basis for his study. Because these resources are not widely known or easily available, this list is reproduced here as an appendix.

In those cases when all languages preserve the inherited value of an initial the segment of proto-Kuki-Chin is uncontroversial (k, kh, ŋ, t, th, d, n, p, ph, b, m, l, h, ʔ). In addition to these obvious retentions Ohno identifies the following sound changes:[5]

1. *hŋ- > *ŋ-* in Tedim and Ngawn
2. *hn- > *n-* in Tedim and Ngawn
3. *hm- > *m-* in Tedim and Ngawn
4. *hl- > *l-* in Tedim and Ngawn
5. *ts-[6] > *t-* in Tedim and Anal, *tsh-* in Khumi-O
6. *tsh- > *s-* in Tedim, Ngawn, and Falam Lai, *th-* in Anal
7. *y- [j-] > *y-* [j-] retained in Khumi-O, *z-* elsewhere
8. *r- > Tedim *g-*, Ngawn *ŋ-* (~ *l-*), Chinbok *g-* (with some complications)
9. *hr- > *h-* in Tedim, Ngawn, Zotung, Khumi-O
10. *ś- [ʃ] > *hl-* in Chinbok, elsewhere *s-*
11. *ź [ʒ] > *f-* in Hakha Lai and Falam Lai, *t-* in Tedim, *ts-* in Ngawn, Anal and Zotung, *tsh-* in Khumi-O, *th-* in Chinbok
12. *kl- > *tl-* in Hakha Lai and Falam Lai, *t-* in Tedim and Ngawn, *ts-* in Zotung, *k-* in Chinbok
13. *khl- > *thl-* in Hakha Lai and Falam Lai, *kh-* in Tedim and Zotung, *ṭh-* in Anal, *l-* in Khumi-O, Chinbok *čh-*
14. *kr- > *ṭ-* [ʈ] in Hakha Lai, Falam Lai, and Anal, *k-* in Tedim and Ngawn, *r-* in Zotung, *v-* in Khumi-O, *th-* in Chinbok
15. *khr- > *ṭh-* [ʈʰ] in Hakha Lai, Falam Lai, and Anal, *kh-* in Tedim and Ngawn, *th-* in Chinbok

Table 1 presents the Proto-Kuki-Chin initials resulting from these proposals. For changes 1 through 9 at least one of the languages used in Ohno's study retains the value that he reconstructs for the Ursprache. Hakha Lai is particularly conservative, maintaining *hŋ-*, *hn-*, *hm-*, *ts-*, *tsh-*, *r-*, *hr-*, and *hl-* unchanged.

Table 1: *The Kuki-Chin initials according to Ohno (1965).*

k-	*kh-*		*ŋ-*	*hŋ-*
t-	*th-*	*d-*	*n-*	*hn-*
p-	*ph-*	*b-*	*m-*	*hm-*
ts-	*tsh-*			
w-	*y- [j]*			
r-	*l-*	*hr-*	*hl-*	
ś- [ʃ]	*ź- [ʒ]*			
h-	*ʔ-*			
kl-	*khl-*			
kr-	*khr-*			

[4] Because there are disagreements about the developments in Khumi, I note Khumi differently for each author, i.e. Khumi-O (Ohno 1965), Khumi-V (VanBik 2009).

[5] Where the outcome in a particular language is not mentioned either it retains the proto-form or the outcome in that languages is not known; the unknown outcomes are: *r- in Khumi-O, *hl- in Khumi-O and Zotung, *tsh- in Zotung, Khumi-O and Chinbok, *kl in Anal and Khumi-O, *khl- in Ngawn, *khr- in Zotung, Khumi-O, and Chinbok.

[6] In order to facilitate the comparison of his work to the work of others I have substituted Ohno's <č> with <ts>. Although this substitution has phonetic implications, to belabor the difference between *č- and *ts- would draw distracting attention to a minor point.

3 Kenneth VanBik

VanBik's study relies on eleven languages: Mizo, Hakha Lai, Falam Lai, Tedim, Thado Kuki, Sizang, Mara, Mindat Cho, Daai, Asho, Khumi-V. In addition, on occasion he also gives Paite forms, but does not include Paite in the tables of correspondences; he treats Paite as close to Tedim. The exclusion of any presentation of these twelve languages in turn, together with the existing scholarly literature devoted to each, renders his work cumbersome in non-specialist hands, as does his near total silence regarding primary sources. A perusal of his bibliography allows one to speculate that he relied on the following sources: Mizo (J. H. Lorrain 1940), Mara (R. A. Lorrain 1951), Tedim (Bhaskararao 1976, Henderson 1965), Thado (Hodson 1905, Krishan 1980, Shaw 1929, Thirumalai n.d.), Sizang (Naylor 1925), Daai (Hartmann-So 1985, 1988, 1999), Mindat Cho (Jordan 1969 ms.), Asho (Houghton 1892), Khumi-V (Peterson 2003 ms.), Paite (Kamkhenthang 1972). VanBik is himself a native speaker of Hakha Lai; it is possible that he provides Hakha Lai forms from his own knowledge.

VanBik tacitly accepts all of Ohno's proposals,[7] in two cases altering the reconstruction: he changes *ź- to *θ- and *ś- to *sʰ-.[8]

1. *hŋ- > *ŋ-* in Tedim, Thado Kuki, Sizang, Mara, Daai, and Khumi-V;
2. *hn- > *n-* in Tedim, Thado Kuki, Sizang, Daai, and Khumi-V
3. *hm- > *m-* in Tedim, Thado Kuki, Sizang, Daai, and Khumi-V
4. *hl- > *l-* in Tedim, Thado Kuki, Sizang, and Khumi-V
5. *ts- > *t-* in Tedim, Thado Kuki, Sizang, and Khumi-V
6. *tsh- > *s-* in Tedim, Thado Kuki, Sizang, Falam Lai, and Mindat Cho, *sʰ-* in Daai, *sh-* in Asho, *th-* in Khumi-V
7. *y- [j] > *y-* [j] retained in Mindat Cho, Daai, Asho and Khumi, *z-* elsewhere
8. *r- > g- in Tedim, Thado Kuki, and Mindat Cho, *ŋ-* (~ *l-*) in Sizang, *ɣ-* in Daai, *r ~ v* in Khumi-V
9. *hr- > *h-* in Tedim, Thado Kuki, Sizang, Asho, and Khumi, *x-* in Daai, *gh-* in Mindat Cho
10. *sʰ-: *sʰ-* preserved in Daai, *hl-* in Mindat Cho, *s-* elsewhere
11. *θ > *f-* in Mizo, Hakha Lai, and Falam Lai, *t-* in Tedim and Sizang, ts- in Thado Kuki and Khumi-V, *ht-* in Mindat Cho, *s-* in Mara, Daai and Asho
12. *kl- > *tl-* in Mizo, Hakha Lai, Falam Lai, and Mara, *t-* in Tedim and Sizang, *hl-* in Thado Kuki, *ki-* in Mindat Cho, *l-* in Khumi
13. *khl- > *thl-* in Mizo, Hakha Lai, Falam Lai, and Mara, *kh-* in Tedim, *ht-* [th-] in Sizang, *hl-* in Thado Kuki, *ch-* in Mindat Cho, *kɣʰ- ~ kʰ-* in Daai, l- in Khumi-V
14. *kr- > *ṭ-* [ʈ] in Mizo, Hakha Lai, and Falam Lai, *k-* in Tedim, Thado Kuki, Sizang, Mindat Cho, and Asho, *ts-* in Mara, *v-* in Khumi-V
15. *khr- > *ṭh-* [ʈʰ] in Mizo, Hakha Lai, and Falam Lai, *kh-* in Tedim, Thado Kuki, Sizang, and Asho, *chh-* [tsh-] in Mara, *ch- ~ kh-* in Mindat Cho, *h-* in Khumi-V

VanBik proposes four additional correspondences, together with their concomitant proto-segments, not offered by Ohno.

16. *s- : s- preserved in all languages
17. *pl- > *tl-* in Mizo, *t-* in Tedim, *pl-* in Mindat Cho, *pl-* in Asho
18. *pr- > ṭ- [ʈ] in Mizo, Hakha Lai, and Falam Lai, *p-* in Tedim, *pr-* in Khumi
19. *phr- > *ṭh-* [ʈʰ] in Mizo, Hakha Lai, and Falam Lai, *ph-* in Tedim, Thado Kuki, and Sizang, *p'y-* in Asho, *spr-* in Khumi

Table 2 presents the Proto-Kuki-Chin initials resulting from these proposals.[9]

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[7] Despite the appearance of Ohno (1965) in VanBik's bibliography, he appears to have made little profit of Ohno's study, citing it only once with reference to Ohno's discomfort about a lack of *g- in Proto-Kuki-Chin (VanBik 2009: 62).

[8] When the outcome in a particular language is not mentioned either it retains the proto-form or the outcome in that languages is not known; the unknown outcomes are: *hŋ- in Asho, *hl-, *kl-, *kr- , and *khr- in Daai.

Table 2: *Proto-Kuki-Chin initials according to VanBik (2009: 59).*

k-	*kh-*		*ŋ-*	*hŋ-*
t-	*th-*	*d- [ɗ-]*	*n-*	*hn-*
p-	*ph-*	*b- [ɓ-]*	*m-*	*hm-*
ts-	*tsh-*			
w-	*y- [j]*			
r-	*l-*	*hr-*	*hl-*	
θ-	*s-*	*s^h-*		
h-	*ʔ-*			
kl-	*khl-*	*pl-*	*(phl-)*	
kr-	*khr-*	*pr-*	*phr-*	

4 Comparison of Ohno and VanBik

In addition to the obvious correspondences for which all languages preserve the inherited values (viz. k, kh, ŋ, t, th, d, n, p, ph, b, m, l, h, ʔ), Ohno and VanBik agree on the reconstructions reflected in correspondences 1-9 (*hŋ-, *hn-, *hm-, *hl-, *ts-, *tsh-, *y- [j], *r-, *hr-) and 12-15 (*kl-, *khl-, *kr-, *khr-). Ohno and VanBik's presentations of correspondences 10 and 11 are compatible but the two authors suggest different proto-segments; the disagreements pertain to fricatives. Ohno proposes voiceless and voiced palatal fricatives (*ś- [ʃ] and *ź- [ʒ]), whereas VanBik advocates a three term inventory of fricatives identical to that of (a conservative idiolect of) Rangoon Burmese, namely *s- (a new proposal), *θ- (Ohno's *ź-), and *s^h- (Ohno's *ś-). Ohno offers no motivation for his choices. VanBik chooses *s^h- because Hartmann-So describes the attested reflex in Daai as a "aspirated voiceless alveolar fricative" (VanBik 2009: 186);[10] VanBik also speculates that orthographic *hl-* in Mindat Cho may reflect phonetic [s^h-] (2009: 186).[11] VanBik reconstructs four clusters (*pl-, *phl-, *pr-, and *phr-), which Ohno omits.

5 A close look at Mizo developments

The comparison of the reconstructed proto-Kuki-Chin's initials proposed by these two authors, does not of itself clarify the history of the Kuki-Chin languages. In cases where Ohno and VanBik disagree either one of the two is mistaken or both are. In those cases where Ohno and VanBik agree, either both are correct or both are mistaken. The historical phonology of Mizo, the best studied and one of the phonologically more conservative languages of the family, provides a convenient window through which to explore the agreements and disagreements between Ohno and VanBik in greater detail, and, in the context of the views of other researchers, to draw some conclusions about those areas of the proto-phonology which are relatively secure, and those areas in need of further exploration.

5.1 The source of Mizo z-

Ohno (1965: 15), VanBik (2009: 271), and Button (2009: 99-101, 2011: 23) reconstruct *y- as the source of Mizo *z-*. Ohno does not explain his reasoning for reconstructing *y-. At face value the agreement of the overwhelming majority of languages on *z-* would favor a reconstruction *z-, the tact that Khoi employs (2001: 69). Perhaps it is the coincidence of Khumi *y-* with *y-* in languages outside of Kuki-Chin inspires Ohno's reconstruction. Shafer proposes that Mizo *z-* corresponds to *y-* in more distantly related languages, but provides no supporting examples (1940: 310). Benedict affirms the correspondence, comparing Mizo

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[9] VanBik reconstructs ɗ- and ɓ- rather than d- and b-, because he believes a missing *ɠ is less odd than a missing *g- and because the voiced stops are pronounced as imploded in Daai and Mindat Cho (2009: 64-65). Button rejects this proposal (2011: 23-24).

[10] VanBik here paraphrases Hatmann-So table of initial consonants, expanding her use of abbreviations (1985:179).

[11] Khoi's study does not include data from Chinbok (showing *hl-*), Mindat Cho (showing *hl-*), or Daai (showing *s^h-*); faced with the unanimous testimony of *s-* he naturally reconstructs correspondence 10 as *s- (2001: 69); similarly, Button does not include languages that would allow for the distinction between VanBik's *s^h- versus *s- (2011: 23).

zâap-I, *zàh*-II ‘fan, winnow, flap, flutter’ to Tib. གཡབ་མོ་ *g.yab-mo* ‘beckoning gesture’ and Burmese ယပ် *yap* ‘a fan’ (1972: 31). VanBik adds the comparison of Hakha Lai *zŭum*-I, *zum?*-II ‘believe’ with Burmese ယုံ *yuṃ* (2009: 282, VnB.1189).

The reconstruction *y- [j] implicitly suggests that all languages showing *z*- form a subgroup. Peterson recognizes but rejects this implication, suggesting that the change *y > *z*- originated in the Central Chin languages and spread north through diffusion rather than shared inheritance (2000: 80); he suggests that “in the north [the change is] fairly recent: cf. the pronunciation of Sizang as Sī-yāng, Zahao as Yaho form approximately 100 years ago” (2000: 94 note 12).[12] Button sees Peterson’s proposal of diffusion as “supported by the fact that Thado, as the language furthest north, still retains a post-alveolar articulation ʒ- which appears to be slipping towards the alveolar z-” (2011: 26). The recent or ongoing transition in Thado of *y*- to *z*- is further confirmed by Benedict’s claim that Thado is one of the Kuki-Chin languages to “preserve *y” (1972: 33-34)[13] contrasted with VanBik’s report of *z*- as the outcome of *y- in this language (2009: 280). As yet more evidence of the recent nature of the change from *y- to *z*-, VanBik (2009: 280) cites Naylor’s comment that in Sizang “these two letters are interchangeable in most words” (1925: 2).

The retention of *y*- in Mindat Cho, Asho, Daai, and Khumi, together with the evidence of the change from *y*- to *z*- in Thado and Sizang during attested history, and cognates outside of Kuki-Chin, ensure the correctness of Ohno’s reconstruction *y-.

5.2 The source of Mizo f-

Although the ultimate origin of Mizo *f*- in the Trans-Himalayan Ursprache has no direct bearing on the origin of this segment in Proto-Kuki-Chin, i.e. the latter could have *θ- or *ź- [ʒ] even if Benedict is correct that the former had *dz-. Nonetheless, because the idea of *dz- as the source of Mizo *f*- finds its origin in Benedict, his reasons for suggesting *dz- as the ultimate origin of Mizo *f*- deserve renewed consideration.[14]

Benedict presents the following comparisons in favor of his reconstruction (1940: 123).

> Mizo *fàh* ‘to feed with the mouth’ : Bur. စား *cāḥ* ‘eat’, Tib. ཟ་ *za* < *dza (Schiefner’s law), Ch. 咀 *dzjoX* < *dza? (0046u)
> Mizo *fŭal* ‘to sag, to hang low’ : WBur. ခွေ *chwai* ‘hang’ < OBur. *choy, Tib. འཇོལ་ *ḥjŏl*, Chi. 垂 *dzywe* < *doj (0031a)[15]
> Mizo *fâwp*-I, *fàwh*-II ‘to kiss, suck’ ; Bur. စုပ် *cup* ‘suck’, Tib. √ǰib (pres. འཇིབ་ *ḥjĭb*), Chi. 嚼 *tsop* < *tsˤəp (0660f) ‘sting and suck (mosquito)’
> Mizo *fâ* ‘child’ : Bur. သား *sāḥ,* Tib. ཙ་ *tsha* ‘grandchild’, Chi. 子 *tsiX* < *tsəʔ (0964a) ‘child’[16]

In his 1940 article Benedict does not remark on his reasons for positing both *dz- and *z- as origins of Mizo *f*-. However, recourse to his 1972 publication (written in 1942-1943) clarifies the correspondences he has in mind, viz. Trans-Himalayan *z- > Tibetan *z*-, Burmese *s*-, Mizo *f*- and Trans-Himalayan *dz > Tibetan *dz*-, Burmese *c*-, Mizo *f*- (Benedict 1972: 18).[17] Not quite in accordance with these correspondences he reconstructs *dza ‘eat’ (Ben.66), *dźual ‘hang’ (Ben.87), *dzo·p ‘suck’ (Ben.69), and *za ‘child’ (Ben.59).

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[12] Peterson does not provide an authority for these early attestations.

[13] Benedict does not specify his source for Thado.

[14] In the name clarity and consistency Mizo forms derived from VanBik (2009) replace Benedict’s original Mizo forms and Burmese, Tibetan, and Chinese data appear newly transcribed, expanded, and where appropriate supplied with reconstructions.

[15] Hill (2012: 30 footnote 69) follows Gong (2002[1995]: 168, #45) in comparing Chi. 垂 *dzywe* < *[d]oj (19-17/0031a) ‘to hang’ to Tib. འཇོལ་ *ḥjŏl* ‘to hang’ and WBur. လွယ် *lway* ‘suspend from shoulder’, but Bur. l- compares poorly with OChi. *d- and Tib. *ḥj*- (cf. Hill 2013: 197). The Chinese initial compares somewhat better with WBur. တွဲ *twai* < *toi ‘drooping, hanging’ than it does with WBur. ခွေ *chwai* < *choy ‘hang’.

[16] Benedict (1940: 123) also gives Mizo *fāl* ‘apart’, cognate to Moshang Naga *ā-džāl* ‘far’, Kachin *tsan* ‘be far, distant’ and Garo *tśel-a* ‘far’, but VanBik 2009 does not cite this Mizo word. In addition, Benedict compares Mizo *far-nu* ‘sister’ with Kachin *dźan*. VanBik mentions Hakha Lai *fâr* ‘sister’ (2009: 16), but does not note its cognates in other Kuki-Chin languages or reconstruct it to Proto-Kuki-Chin.

[17] The full correspondences he gives are Trans-Himalayan *z- > Tibetan *z*-, Kachin *z*- ~ *ś*-, Burmese *s*-, Garo *s*-, Mizo *f*- and Trans-Himalayan *dz > Tibetan *dz*-, Kachin *dz*- ~ *ts*- ~ *ś*-, Burmese *c*-, Garo tś(h)-, Mizo *f*-, but he (Benedict

According to Schiefner's law all cases of Tibetan *z-* originate from *dz (Hill 2014). Thus, even if a distinction between *z- and *dz- in the Trans-Himalayan Ursprache is a correct suggestion, Tibetan evidence does not bear on the question. Consequently, the distinction between Benedict's *z- versus *dz rests almost (cf. note 16) exclusively on Burmese *s-* versus *c-*. The further comparison of Burmese သား *sāḥ* 'son' သမီး *samīḥ* 'daughter' with the (presumably) distantly related cognates Thangmi *ca* 'son' and *camăi* 'daughter' (Turin 2012: 777-779) strengthens the suspicion that these divergent outcomes in Burmese are not of the significance that Benedict ascribes to them. In tacit agreement with this supposition, Löffler (2002: 128-129) and Button (2011: 25) affirm only *dz-, and not also *z-, as the Proto-Kuki-Chin origin for correspondence 11.

More important than the evidence for its origin as *dz in Trans-Himalayan, there are grounds internal to Kuki-Chin to favor *dz-. Weighing against Ohno's *ź-, correspondence 11 parallels the correspondences underpinning *ts- and *tsh- (i.e. 5 and 6) much more so than it parallels the correspondence which Ohno reconstructs *ś- (i.e. 11). No language offers the same reflex of both *ź- and *ś-, but Ngawn, Tedim, Anal, Zotung, and Khumi-O merge Ohno's *ź- with *ts- (cf. Table 3).[18]

Substituting *ź- with *dz has the distributional benefit for the proto-phonology of drawing the affricate series (*dz-, *ts-, *tsh-) into parallel with the labials (*p, *ph, *b) and dentals (*t, *th, *d), but at the cost of withdrawing a voiced partner for *ś-.

Table 3: *Correspondences supporting Ohno's *ź-, *ts-, *tsh-, and ś-.*

	*ź-	*ts-	*tsh-	*ś-
Mizo	*f-*	*ts-*	*tsh-*	*s-*
H. Lai	*f-*	*ts-*	*tsh-*	*s-*
F. Lai	*f-*	*ts-*	*s-*	*s-*
Ngawn	*ts-*	*ts-*	*s-*	*s-*
Thado Kuki	*ts-*	*t-*	*s-*	*s-*
Tedim	*t-*	*t-*	*s-*	*s-*
Sizang	*t-*	*t-*	*s-*	*s-*
Anal	*t-*	*t-*	*th-*	*s-*
Zotung	*ts-*	*ts-*	*tsh-*	*s-*
Khumi-O	*tsh-*	*tsh-*	*tsh-*	*s-*
Khumi-V	*ts-*	*t-*	*th-*	*s-*
Mara	*s-*	*ts-*	*tsh-*	*s-*
Chimbok	*th-*	*ts-*	*tsh-*	*hl-*
M. Cho	*ht-*	*ts-*	*s-*	*hl-*
Daai	*s-*	*ts-*	*s^h-*	*s^h-*
Asho	*s-*	*ts-*	*sh-*	*s-*

With the knowledge in hand that the choice of *dz- as the origin of Mizo *f-* has advantages over Ohno's *ź, VanBik's suggestion of *θ requires further consideration. VanBik's *θ implies the changes *θ- > f-, *θ- > ts-, *θ-> t-, and *θ- > s- (cf. Table 3). These four changes are all attested. The change *θ- > *f-* is well known in various dialects of English (Schleef and Ramsammy 2013). Several dialects of Moroccan Arabic have undergone an unconditioned change *θ > *t > *ts*, leading to a merger of *θ and *t (Marçais 1902: 13-14, Heath 1987: 17). Syriac changes *θ- to *t-* (Moscati et al. 1969: 28). The Ethiopic languages change proto-Semitic *θ- to *s-* (Moscati et al. 1969: 28). However, the changes necessary if one starts with

1972: 18). As these correspondences show, Benedict is rather unsure of developments in Kachin and Garo. The relevant forms as he cites them are Kacin *śa*, Garo *bisa* 'son', Kachin *śa* 'eat', Garo *tśha* 'eat' (Benedict 1972: 27-28). According to his own correspondences Kachin is ambiguous between *z- and *dz- in both words, but Garo, like Burmese, supports *z- for 'son' and *dz- for 'eat'.

[18] I have also included VanBik's findings in this table.

*dz- instead of *θ are nearly as plausible. The change *dz- > *ts-* is simple devoicing. The change *ts- to *s-* is attested in Burmese (Jones 1988: 209). Keeping in mind that Castilian Spanish *θ-* develops from *dz- (Harris 1969: 544), the changes *dz- > *f-* and *dz- > *t-* are reached via *θ- (i.e. *dz- > *θ- > *f-* and *dz- > *θ- > *t-*).

Although both *dz- and *θ- are viable as origins of Mizo *f-*, VanBik's suggestion of *θ carries none of the distributional advantages of *dz-; the inclusion of *θ in VanBik's inventory of proto-Kuki-Chin initials (cf. Table 2) adds no symmetry or elegance to his system. Although present in the Rangoon Burmese of today, [θ] is a typologically rare sound in this part of Asia generally. Overall, *dz- is a better candidate for the origin of Mizo *f-*.

5.3 The source of Mizo s-

Whereas Ohno reconstructs *ś- as the only source of Mizo *s-* (1965: 15), VanBik posits a merger of *s^{h}- and *s- on the way to Mizo s- (2009: 179, 186).[19] Because VanBik reconstructs *s- as a default, in the absence of data from Mindat Cho or Daai, his *s- conflates secure examples of correspondence 16 (*s-) with examples that could belong either to correspondence 16 (*s-) or correspondence 10 (*s^{h}-).[20]

Table 4 presents the correspondences which allow for the separation of *s^{h}- and *s- and thereby presents the secure examples of both correspondences. In addition, these correspondences reveal that two words, which VanBik reconstructs with initial *s- merit reassignment to initial *s^{h}-. First, Ohno's Chinbok cognate *hlou* permits VanBik's reconstruction of Proto-Kuki-Chin *saa-I, *sat-II (VnB.653) to take the form *s^{h}aa-I, *s^{h}at-II. Second, VanBik's own citation of Mindat Cho *ai-hli* 'star', which he apparently overlooks, compels the emendation of his reconstruction *ʔaar-θii~*-sii 'star' to *ʔaar-θii~*-s^{h}ii 'star' (VnB.507).

Table 4: *VanBik's distinction between *s^{h}- and *s-.*

	Gloss	*Mizo*	*M. Cho*	*Chinbok*	*Daai*
*s^{h}-	*(VnB.507) star*	*áar sì*	*ai-hli*	---	---
	(VnB.653) hot	*sá-I, sàt-II*	---	*hlou*	---
	(VnB.686) meat	*sâ*	*hla*	*hla*	*s^{h}a*
	(VnB.687) cold	*sìk*	*hlik*	*hlik*	---
	(VnB.688) hair	*săm*	---	---	*s^{h}am*
	(VnB.689) be high	*sáang-I, sàan-II*	*hlüng*	*hluŋ*	---
	(VnB.690) long	*séi*	*hlei*	*hlau*	---
	(VnB.691) mortar	*sŭm*	*hlum*	---	*s^{h}um*
	(VnB.692) red	*sén*	*a hlen*	*hlɛn*	*s^{h}en*
	(VnB.694) pour	*súur*	*hlui*	---	---
	(VnB.693) scoop	*sûak-I, suàaʔ-II*	*hlawk*	---	---
*s-	*(VnB.681) wash*	*sĭl*	*m-si*	---	---
	(VnB.669) probe	*soʔ-INV (H. Lai)*	---	---	*soʔ*
	(VnB.667) pound	*sŭu-I, suk-II (H. Lai)*	*suk*	---	---
	(VnB.661) long	*său*	*so*	---	---
	(VnB.645) cut, chip	*sâat rĕek-I, sàh rĕek-II*	*sät*	---	---

For the word 'seven', Mindat Cho (*khih*) and Chinbok (*kheit*) show neither *s-* nor *hl-* but rather *kh-*. VanBik speculates that the "initial reflex *kh-* has perhaps resulted from a fusion of the prefix *sa-* and the

[19] Houghton's observation that Burmese *s-* corresponds to both *s-* and *th-* in Asho (1892: 10), presages the distinction that VanBik draws. The first of Houghton's two correspondences is the one that VanBik reconstructs as *s^{h}-.

[20] A more explicit notation, such as the use of ambiguous *H alongside secure *h$_1$, *h$_2$, *h$_3$ known from Indo-European studies, would have resolved this ambiguity; *s, *s^{h}, and *s(^{h}) is one possibility.

initial *g-* (which itself derives from P[roto-]K[uki]C[hin] *r-), i.e. *s- + r- > **s- + g- > kh-" (2009: 184). Only further work on languages related to Mindat Cho is likely to elucidate this example.[21]

VanBik's reconstruction *sʰ- is not phonetically plausible. Languages which distinguish aspirated and non-aspirated fricatives are typologically rare (cf. Jacques 2011). More significantly, the Kuki-Chin reconstruction *sʰ- begs the question of what the origin of this segment may have been further up in the Trans-Himalayan Stammbaum. Jacques (2011) points to the following origins of sʰ-: *s- (Mdzod-dge and Cone Tibetan, Korean), *tsʰ- (Rangoon Burmese, Yanghao), *xʔ (Ofo), *stʰ- (Shuiluo Pumi). A simple Trans-Himalayan *s- can be ruled out as the origin of VanBik's *sʰ-, since he himself posits a change of Trans-Himalayan *s- to Kuki-Chin *tʰ (VanBik 2009: 16-18). The possibilities that Trans-Himalayan *tsʰ-, *xʔ, or *stʰ- gave rise to Kuki-Chin *sʰ- are not as easily dismissed. Nonetheless, the reconstruction of any one of these three possibilities would itself be a bold hypothesis on the weak motivation of the Daai Chin reflex *sʰ-*. More secure knowledge of the sounds represented by <hl-> in Mindat Cho and Chinbok is a clear desideratum for further consideration of how best to reconstruct the correspondence which VanBik treats as *sʰ-. Trans-Himalayan cognates outside of Kuki-Chin do not confirm VanBik's distinction between *sʰ- and *s- in a straightforward manner. Nonetheless, there is some evidence that his *sʰ- corresponds to Tibetan *ś-* (cf. Table 5). Consequently, there is a small advantage to representing this correspondence, as Ohno does, with *ś- rather than with VanBik's *sʰ-.

Table 5: *Kuki-Chin external cognates of VanBik's *sʰ- and *s-.*

	Gloss	*M. Cho*	*Bur.*	*Tib.*
**sʰ-*	*(VnB.653) hot*	*hlou (Chinbok)*	---	*tsha*
	(VnB.686) meat	*hla*	သား *sāḥ*	*śa*
	(VnB.688) hair	*sʰam (Daai)*	ဆံ *chaṃ-*	*śam 'fringe'*
	(VnB.691) mortar	*hlum*	ဆုံ *chuṃ*	---
	(VnB.692) red	*a hlen*	---	*shindi (Bumthang)*
	(VnB.694) pour	*hlui*	သွန်း *swanḥ*	*√śor 'measure'*
**s-*	*(VnB.681) wash*	*m-si*	ဆိုယ်း *chiyḥ*	---
	(VnB.667) pound	*suk*	ဆောက် *chok*	*√tsug*
	(VnB.645) cut, chip	*sät*	ဆတ် *chat*	*√cad*

5.3 The source of Mizo ṭ- and tl-

Houghton points out that the Mizo "also use an initial tl where the [Asho] Chins have kl" (1892: 6). Shafer comes close to the same discovery with his formulation Mizo *ṭ-* < *Cr -, *tl-* < *Cl- (1940: 309-310). Without making use of a language that directly preserves kl- or kr-, Ohno reconstructs *kl, *khl, *kr, and *khr on the basis of correspondences 12-15. David Solnit repeats these findings with an explicit acknowledgement of his debt to Ohno (1979: 119). Nonetheless, VanBik mistakenly claims that changes 14 and 15 were "first observed by David Solnit (1979)" (2009: 42).[22]

Whereas the *kl-* clusters are preserved in Asho (cf. Table 6),[23] Kaang preserves *kr- (Khoi 2001: 72-74, cf. Table 7).[24]

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[21] VanBik reconstructs *sa-riʔ as the word for 'seven' in Proto-Kuki-Chin (2009: 184).

[22] Another example of Solnit receiving undue credit is Button's reference to correspondence 8 as "Solnit's (1979:115-6) suggestion" (2011: 24). Even before Ohno, Shafer implicitly identifies correspondence 8 via the proposal that Khimi *go, goh* '(dead) body' is cognate with Mizo *ro* 'id.' (1944: 416).

[23] Nonetheless, the initial *ky-* in the Asho word 'mountain' is irregular and requires explanation.

[24] As VanBik notes Kaang changes *kl- into *kr-* yielding a merger of inherited *kl and *kr- (2009: 297); *kl- : Mizo *tlù*-I, *tlûuk*-II, Kaang *krui¹⁵* 'fall down' (VnB.1256); *khl- : Mizo *thlà*, Kaang *khraa¹⁵* 'moon' (VnB.1295), Mizo *thlúak*, Kaang *khrook¹⁵* 'brain' (VnB.1279), Mizo *thlàn*, Kaang *khran¹⁵* 'sweat' (VnB.1304).

Table 6: *The preservation of kl- and khl- in Asho.*

	Gloss	*Mizo*	*Asho*
**kl-*	*(VnB.1256) fall down*	*tlù-I, tlûuk-II*	*klük*
	(VnB.1259) fall, set	*tlà-I, tlâak-II*	*kló-I, klauk-II*
	(VnB.1262) graze	*tlâwng*	*klóng*
	(VnB.1263) mountain	*tláang*	*kyan*
	(VnB.1265) lump	*tlàng*	*k'lüng*
**khl-*	*(VnB.1276) wind*	*thlí*	*k'lí*
	(VnB.1294) marrow	*thlĭng*	*a k'ling*
	(VnB.1295) moon	*thlà*	*k'ló*
	(VnB.1300) soul	*thláa*	*k'ló*
	(VnB.1304) sweat	*thlàn*	*a k'lawˇ*
	(VnB.1306) tears ('eye-excrement')	*mit-thlîi (H. Lai)*	*amĭ-k'lí*

Table 7: *The preservation of kr- and khr- in Kaang.*

	Gloss	*Mizo*	*Kaang*
**kr-*	*(VnB.1333) weep*	*ṭàp-I, ṭàh-II*	*krap*^{55}
**khr-*	*(VnB.1351) sew*	*ṭhúi*	*khrui*^{31}

The reconstruction of *pl- clusters originates with proposals of David Solnit (1979), who suggests the following two correspondences.

20. *pl- > *ṭ-* [ʈ] in Mizo, *p-* in Tedim
21. *phl- > *ṭh-* [ʈʰ] in Mizo, *ph-* in Tedim

Solnit cites the evidence repeated in Table 8 in support of these proposals. VanBik rejects the comparison of Tedim *pu:k*^{1} and Mizo *tlù*-I, *tlûuk*-II 'to fall down', instead comparing the Tedim form to Hakka Lai *pûur*-I, *pŭur*-II 'fall over, collapse, uproot', and related forms in other languages (VnB.144). In an exactly parallel manner, VanBik compares Tedim *phu:k*^{1} 'cause to fall' with Hakha Lai *phûur*-I, *phŭur*-II 'fell, uproot' (VnB.339) and not with Mizo *thlù*-I, *thlûuk*-II 'down, over, so as to cause to fall' (VnB.1286). Button suggests these same corrections to Solnit (Button 2011: i, 24). The red-vented burbul makes no appearance in VanBik's study; Button accepts this comparison, but sees it as an exception case "resulting from external influence via a bilabial pre-syllable" (2011: i, 24).

Table 8: *Solnit's reconstruction of *pl and *phl-.*

	Gloss	*Mizo*	*Tedim*
**pl-*	*fall*	*tlù-I, tlûuk-II*	*pu:k*^{1} *'fall'*
	red-vented burbul	*tlâi-berh*	*baai*^{2} *bek*^{2}
**phl-*	*make fall*	*thlù-I, thlûuk-II*	*phu:k*^{1}

Instead of relying on Tedim for evidence of *pl- clusters, VanBik reconstructs *pl on the basis of Mindat Cho and Asho, which have distinct reflexes of *kl and *pl (VanBik 2009: 300, cf. Table 9). In

VanBik's presentation Tedim merges *kl- and *pl as t-.[25] The striking coincidence of kl- and pl- in both Asho and Burmese lends credence to VanBik's suggestion (cf. Table 9).[26]

Table 9: *VanBik's reconstruction of *pl-.*

	Gloss	*Mizo*	*Tedim*	*M. Cho*	*Asho*
**kl-*	*(VnB.1256) fall down*	*tl-*	*t-*	*---*	*kl-*
	(VnB.1259) fall, set	*tl-*	*k-*	*ki-*	*kl-*
	(VnB.1274) shine	*tl- (H. Lai)*	*---*	*ki-*	*---*
	(VnB.1262) graze	*tl-*	*---*	*---*	*kl-*
	(VnB.1263) mountain	*tl-*	*---*	*---*	*ky-*
	(VnB.1265) lump	*tl-*	*t-*	*ki-*	*k'l-*
**pl-*	*(VnB.1247) anthill*	*tl- (H. Lai)*	*t-*	*pl-*	*bl-*
	(VnB.1248) boil	*tl- (H. Lai)*	*---*	*---*	*pl-*
	(VnB.1249) fill (intr.)	*tl-*	*---*	*---*	*pl-*
	(VnB.1250) be piled up	*tl-*	*---*	*pl-*	*---*
	(VnB.1251) run	*tl- (H. Lai)*	*---*	*pl-*	*---*
	(VnB.1252) slip out	*tl- (H. Lai)*	*---*	*pl-*	*---*
	(VnB.1253) travel, move	*tl- (H. Lai)*	*t- (Paite)*	*pl-*	*pl-*

Because VanBik reconstructs *kl- as a default, in the absence of data from Mindat Cho or Asho, his *kl- conflates conflates secure examples of correspondence 12 (*kl-) with examples that could belong either to correspondence 12 (*kl-) or correspondence 17 (*pl-). A more explicit notation, such as *kl-, *k(l), and *l would resolve this ambiguity.

VanBik finds no correspondences which he is tempted to reconstruct with initial *phl- (2009: 296). Nonetheless, presumably on the grounds of symmetry, he includes it in his reconstructed inventory of initials (2009: 59). In two cases where he reconstructs *l- Mindat Cho offers the segments *phl-*, viz. Mizo *pà-lí* 'four', Mindat Cho *phli* 'four', Khumi-V *plúee* (VnB.1022) and Hakha Lai *lîaŋ* 'shoulder', Mindat Cho *phleing* 'shoulder', Khumi-V *pleéng* 'shoulder' (VnB.1049). For 'four' VanBik remarks that this "etymon is reconstructed with prefixal *b- at the P[roto-]T[ibeto-]Burman level" (2009: 251), presumably referring to to the work of James Matisoff, who reconstructs *b-ləy (2003: 48).[27] Although Tibetan བཞི་ *bźi* (< *blʲi following Benedict's law) confirms a labial initial, as VanBik mentions (2009: 251), Old Burmese လိယ် *liy* and Chinese 四 *sijH* < *s.li[j]-s (0518a) do not corroborate a labial initial.[28]

A final piece of potential evidence for Proto-Kuki-Chin *phr- is the comparison of Mizo *thlà* 'wing' with Kaang *phraa³⁵* 'wing' (Khoi 2001: 73, cf. VnB.1309). If VanBik is correct to suggest that Mizo *thláa* 'soul' and its cognates (VnB.1300) are "allofamically related to" 'wing' (2009: 302), then Trans-Himalayan cognates evincing labial initials are relevant: Old Tibetan བརླག་ *brlaḥ* 'soul', Written Burmese ဗြာ *prā* 'soul'

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[25] Since Tedim *t-* is the standard counterpart of Mizo *tl-*, in principle there is no need to consult the Tedim cognates. Nonetheless, the inclusion of Tedim data in Table 9 is useful for showing that Tedim does not have *p-* in these words as Solnit may have predicted.

[26] VanBik compares Asho *klóng* 'herd, graze' to WBur. ကျောင်း *kyoṅḥ* 'to tend, to feed (as cattle)', but I am unable to confirm this Burmese word (VnB.1262); because OBur. kl- becomes WBur. ky- (cf. Nishi 1999: 1), if it can be confirmed, this example strengthens rather than weakens the correspondence. On the other hand, the absence of a lateral in both Asho *kyan* 'mountain' and Burmese ခင်း *khaṅ* 'mountain ridge' suggests that VanBik is mistaken either to compare these words to Mizo *tláang* 'mountain', or to reconstruct an initial *kl- in the proto-form (VnB.1263).

[27] The writer of these lines is uncertain how the presumption of a cluster differs conceptually form the presumption of a morphologically meaningless 'prefix', whether in Proto-Kuki-Chin or in Trans-Himalayan.

[28] Tibetan དཔུང་པ་ *dpuṅ-pa* 'shoulder' merits mention in this context, but it diverges rather widely from Kuki-Chin words for 'shoulder'.

(possibly OBur. *plā), Chinese 魄 *phaek* < *pʰˁrak (0782o). Future research on Kaang, Cho, and Khumi will bear on the merits on *phl- in Proto-Kuki-Chin.

The proposal for *phr- in Proto-Kuki-Chin also originates from Solnit (1979: 117), who presents 19 as the correspondence of *ṭh-* in Mizo with *ph-* in Tedim. His proposal rests on the comparison of Mizo *ṭhà*-I, *ṭhàt*-II 'be good' and *ṭháal* 'the dry season' respectively with Tedim *pha:³ > phat³* 'be good' and Tedim *phal³ bi³* 'winter' (Solnit 1979: 117).[29] Both VanBik (2009: 313) and Button (2011: i, 24) reject the latter comparison, preferring to associate Mizo *ṭháal* 'the dry season' with Tedim *kha:l²* 'summer' (VnB.1355). Although Button accepts that Mizo and Tedim have cognate words for 'good', he does not accept a *phr- for the proto-language, but rather suggests the labial is due to the "external influence via a bilabial pre-syllable" (2011: i, 24).[30] VanBik also accepts the comparison of Mizo *ṭhà*-I, *ṭhàt*-II 'be good' and Tedim *pha:³ > phat³* 'be good' (VnB.1338), accepting Solnit's proposal for its explanation, which he buttresses with three further examples; he also puts forward two examples for *pr- (cf. Table 11). In VanBik's hands the correspondences in support of *pr- and *phr- are as follows:

22. *pr- > *ṭ-* in Mizo, Hakha Lai, and Falam Lai, *p-* in Tedim, *pr-* in Khumi
19. *phr- > *ṭh-* in Mizo, Hakha Lai, and Falam Lai, *ph-* in Tedim, Thado Kuki, and Sizang, *p'y-* in Asho, *spr-* in Khumi-V

Table 10: *the correspondence of lateral clusters in Asho and Burmese.*

	Gloss	*Asho*	*OBur.*
**kl-*	*(VnB.1256) fall, break*	*klük*	ခိုးဝ် *khluiwḥ*
	(VnB.1259) fall, set	*kló-I, klauk-II*	ကျ *kla*
**pl-*	*(VnB.1249) fill (intr.)*	*plé ~ plí*	ပြည့် *plañ̃ʔ*
	(VnB.1251) run	*pli (M. Cho)*	ပြေး *pliyḥ*
	(VnB.1253) travel, move	*plo˝ng-é*	ပြေး *ploṅḥ*

Table 11: *VanBik's evidence for *pr- and *phr-.*

	Gloss	*Mizo*	*Tedim*	*Asho*	*Khumi-V*
**pr-*	*(VnB.1310) begin*	*ṭân*	*pan (Paite)*	*---*	*---*
	(VnB.1311) uncle	*trâŋ (H. Lai)*	*---*	*---*	*praáng*
**phr-*	*(VnB.923) brave*	*-thrăa-I, □-thrat-II (H. Lai)*	*rìa-pha (Mara)*	*---*	*---*
	(VnB.1337) ant-eater	*sa-phú*	*---*	*---*	*sphruu*
	(VnB.1338) good	*ṭhà-I, ṭhàt-II*	*pha:³ > phat³*	*p'oi*	*---*
	(VnB.1339) needle	*thrîm (H. Lai)*	*phim²*	*a p'ye m*	*---*

The evidence for *pr- and *phr- is weak. Of the only two examples of *pr-, 'uncle' (VnB.1311) is problematic; Falam Lai *răŋ* and Tedim *gang²* point to initial *r-. In light of these irregularities VanBik reconstructs *(p)raŋ rather than *praŋ. A focus specifically on Mara, Tedim, and Khumi reveals a rhotic correspondence in 'uncle' that is parallel to the lateral correspondence in 'four' ('uncle': Mara *pā-rā*, Tedim *gang²* < *r-, Khumi *praáng* [VnB.1311]*;* 'four': Mara *sá-pā-lì*, Tedim *li²*, Khumi *plúee* 'four' [VnB.1022]). Of the four examples of *phr- in Mizo *sa-phú* 'ant-eater' (VnB.1337) has initial *ph-* whereas the correspondence predicts *ṭh-*. This irregular word is the only one with a Kuki cognate.

The Asho reflex *p'oi* 'good' (VnB.1338) also disobeys the correspondence; since it is one of only two Asho cognates, *p'yèm* 'needle' being the 'regular' other, the most prudent course is to enshrine neither of the two in the statement of the correspondence.

[29] For the sake of consistency I use the transcriptions seen in VanBik (2009).

[30] The influence of a bilabial pre-syllable is also Button's explanation for Zahau *ṭhim¹*, Tedim *phim²* 'needle', Mizo *ṭó*, Tedim *pou²* 'sprout (v)' (Button 2009: 79-80; 2011: i, 24).

Button draws attention to "the lack of a voiced retroflex in Mizo" as "further evidence that the original clusters were uniquely velar in origin" (2009: 80). To paraphrase, the absence of *g- in Proto-Kuki-Chin makes *gr- unavailable as a potential source for Mizo *ḍ- [ɖ], but since *b- occurs in Proto-Kuki-Chin *br- should have resulted in Mizo *ḍ-, but does not. VanBik's examples of *pr- do not have cognates outside of Kuki-Chin known to me; conversely, the words outside of Kuki-Chin with secure examples of *pr- tend not to correspond to the cases that VanBik reconstructrs with *pr- clusters. For example, he reconstructs *yaa 'hundred' (VnB.1207) and *riat 'eight' (VnB.935) without *pr-, but the cognates in Tibetan and Chinese point toward *pr ('hundred': OTib. བརྒྱའ་ *brgyaḥ* < *bryaḥ, Chi. 百 *paek* < *pˢrak [0781a]; 'eight': Tib. བརྒྱད་ *brgyad* < *bryat 'eight', Chi. 八 *peat* < *pˢret [0281a]). Nonetheless, forms such as Asho *p'yá* 'hundred' and Mizo *pà-rîat* 'eight' do point to a labial element in these words.

Although the evidence for *pr- and *phr- is unsatisfactory it is provocative; the relationship among these words requires explanation and VanBik's *pr- and *phr- are one possible account.[31]

Table 12 presents the initials of Proto-Kuki-Chin proposed here.

Table 12: *Proto-Kuki-Chin initials proposed here.*

k-	*kh-*		*ŋ-*	*hŋ-*
t-	*th-*	*d-*	*n-*	*hn-*
p-	*ph-*	*b-*	*m-*	*hm-*
ts-	*tsh-*	*dz-*		
w-	*y- [j]*			
r-	*l-*	*hr-*	*hl-*	
ś-	*s-*			
h-	*ʔ-*			
kl-	*khl-*	*pl-*		
kr-	*khr-*	*(pr-)*		

6 Archaic languages and named sound laws

Historical linguistics is not a democracy. Although the historical phonology of any one language is of great interest per se, for the purposes of reconstruction some languages count more than others. Homeric Greek is more important than Albanian, Sanskrit more important than Tregami. The two factors that make a language significant are the conservativeness of its grammar, often correlated with an early attestation, and extensive attestation.

Work on Trans-Himalayan languages often overlooks the principle of emphasizing conservative and well attested languages. For example, Matisoff (2003) gives much attention Lahu, although as a highly innovative language it has much less to contribute than Old Tibetan, Tangut or Newar, languages that make almost no appearance in his study. The lack of appreciation for the importance of some languages over others facilitates an over-reliance on tabular presentations of data, a destructive deference for previous reconstructions, and a disinterest in named sound laws.

Ohno, VanBik, and Button, like many researchers in Trans-Himalayan linguistics (cf. Bradley 1979, Matisoff 2003), display comparisons primarily in tabular form. In a tabular presentation a reader cannot immediately recognize the relative innovativeness of different languages. The more languages a table includes the harder it is to recognize the significance of any one language.

The goal of comparative linguistics is the explanation of systematic relationships among attested languages; progress in reconstruction is a by-product of increasingly precise statements of such relationships. To use the reconstructions of another scholar is to rest content with the statement of relationships this scholar knew; this practice precludes the possibility of progress and is largely responsible for the ponderous pace of Trans-Himalayan comparative research. To pick an arbitrary example, in his discussion of the Trans-

[31] Although he explains it otherwise, Button draws attention to the comparison of Mizo *ṭó* with Tedim *pou²* 'sprout (v)' (2011: i, 24), which for VanBik would be a third example of *pr-.

Himalayan origins of the Thangmi lexicon, Turin compares Thangmi *naru* 'horn' with Matisoff's unkempt reconstruction "*krew=krəw or *ruŋ=rwaŋ" (2012: 20). A direct comparison with Tibetan *ru* 'horn' is more indicative. Turin is not to blame; Matisoff nowhere explains his methods and his reconstructions do not predict attested forms in any language. A scholar like Turin has no choice except to ignore Matisoff's work altogether or to accept his reconstructions at face value, unable to verify their validity.

The comparison of reconstructed languages cannot substitute for the direct comparison of the earliest attested languages of the family. Any reconstruction is provisional, and a reconstruction based upon reconstructions incorporates all the errors made in the constituent reconstructions. Rather than presenting correspondences up front and shuffling the data into an appendix (like Matisoff 1972 or Button 2011), it is more helpful and more honest to provide a recipe for reconstruction together with the necessary ingredients. A possible Indo-European recipe is. 1. Start with Sanskrit. 2. Undo the well known changes (Bartholomae's law, Grassman's law, ruki-rule, thorn clusters, etc.). 3. Supply the vowels and laryngeals with reference to Greek. This recipe often succeeds: (steps 1 and 2) Skt. *mádhu* 'honey', (step 3) *medhu (cf. Grk. *méthu* 'wine'); (steps 1 and 2) Skt. *nar* 'man', (step 3) < *$h_2$ner (cf. Grek. *anēr* 'man'); (step 1) Skt. *ṛ́kṣas* 'bear', (step 2) < *ŕ̥tkas, (step 3) < *h_{2}ŕ̥tkos (cf. Grk. *arktos*). For the purpose of arriving at the Indo-European reconstruction, one does not need to consult the evidence of Gothic, Old Church Slavonic, or Albanian in such cases.

Linguists working on Trans-Himalayan should search for languages such as Sanskrit, which serve as good stand-ins for an entire branch. Rather than reconstructing a word from the ground up it suffices to start from the attested form of a single archaic language and to undo the few changes this language is known to have undergone. To pursue the kitchen metaphor further, before cooking a recipe you lay out the necessary ingredients on the counter. The ingredients that are not called for in the recipe can be left in the cupboard. Because Mizo "is the most studied and best known among Kuki-Chin languages" (VanBik 2009: 39) and is quite conservative, as a Central Chin languages avoiding the many mergers seen in other branches (VanBik 2009: 5-56), this language serves as a useful representative of the Kuki-Chin family as a whole. Ten changes derive Mizo from proto-Kuki-Chin to Mizo.

7: *y- [j] > *z-*
10: *ś- [ʃ] > *s-*
11: *dz > *f-*
12: *kl- > *tl-*
13: *khl- > *thl-*
14: *kr- > *ṭ-*
15: *khr- > *ṭh-*
17: *pl- > *tl-*
18: *pr- > ṭ-
19: *phr- > *ṭh-*

Scholars of Indo-European historical linguistics have long found it convenient to refer to well known sound changes by the name of the researcher who first noticed the correspondences the sound change accounts for.[32] Because of the proven utility of such named sound laws in Indo-European linguistics, the explicit listing and naming of sound laws in the Trans-Himalayan family could be expected to bring similar benefits.

Changes 12-19 all account for the origin of *ṭ*(*h*)- and *tl*(*h*)- in Mizo; if one considers them together as sub-cases of a single sound law, the total number of changes from Proto-Kuki-Chin to Mizo reduces to four. Three of these changes (7: *y- [j] > *z-*, 10: *ś- [ʃ] > *s-*, 11: *dz > *f-*) imply neither splits nor mergers. Although Mizo has changed the phonetic value of the proto-segment it has lost no information; one could say that these changes do not affect phonemes, but merely their articulation. In contrast, the single change reflected by 12-19 is important; this change destroys information and must be carefully undone with reference to languages other than Mizo. Because of its importance in reconstructing Kuki-Chin, this change merits a name; in light of Ohno's discovery, 'Ohno's law' is an appropriate name.

[32] As I have done here with Bartholomae's law and Grassman's law.

Ohno's law: *kl-, *pl-, *khl-, (*phl-) > tl-; *kr-, (*pr-), *khr-, (*phr-) > ṭ-, ṭh-

Although little is gained by naming the remaining changes (7: *y- > *z*-, 10: *s^{h}- > *s*-, and 11: *dz > *ʃ*-) their respective discoverers deserve mention. Shafer first pointed out change 7 (1940: 310); Houghton first noticed the correspondences underlying change 10 (1892: 10, cf. note 19 above), but VanBik first explicitly formulated it as a change (2009: 186). Benedict first drew attention to change 11 (1940: 123 note 13).[33]

Named sound laws are convenient not only for the work of reconstruction, but also to facilitate the discussion of sub-grouping. Among several changes which David Solnit (1979) reiterates from among Ohno's proposals (viz. 8, 9, 12, 13, 14, 15), he draws special attention to 8 (i.e. *r- > Tedim, Chinbok *g*-, Sizang *ŋ*-), remarking that a "shift from ***r* to *g* is somewhat out of the ordinary*"* (1979: 115). Solnit further points out that Tedim has final *-k* corresponding to Mizo *-r* (1979: 112), which, because Tedim lacks a voicing contrast for Auslaute, may be seen as a direct result of *r > g viewed as an unconditioned change. In order to rid the change of its implausible air, Solnit reasonably posits the series of steps *r > *ɣ > *g* (1979: 115-116). Another factor that likely helped this change along is the lack of *g- in proto-Kuki-Chin (Ohno 1965: 16, VanBik 2009: 62-64), providing *r with a convenient vacancy to wander into.

Peterson (2000) suggests that the participation of both Northern Chin languages (such as Tedim) and Southern Chin languages (such as Chinbok and Mindat Cho) in this change requires, along with evidence of shared morphological changes, that these two branches be united as one 'peripheral Chin' branch; VanBik accepts this proposal (2009: 23-24). As addition evidence among the Southern Chin languages Peterson points out that Khimi also shows *g*- corresponding to Mizo *r*- (2000: 84-85), that Hyow *-k* corresponds to Mizo -r (2000: 83), and that reflexes in various Southern Chin languages may well descend from *g- (including *ɣ*- in Daai, Ngmüün, and Mkaang, *kh*- in Khami, and *y*- [j-] in Nghmoye and Chinpon (2000: 82, 84-85). In a recent article, Peterson further notes the correspondence of Mizo *r*- with Rengmitca *kh*- as consistent with his subgrouping proposal (2013: 323, cf. Table 16 below). The maintenance of archaic *r* in the Central Chin languages coupled with the innovation of g in the periphery, contradicts Bàrtoli generalization that "le isole sono di norma piú conservative che i continenti … e piú certe aree laterali che le aree di mezzo" [islands are generally more conservative than continents … and certain marginal areas more so than central areas] (1925: 4). Thus, the change *r > *g* is typologically odd both in its substance and in its geographic distribution.

Because Mizo does not undergo this change, for the goal of Proto-Kuki-Chin reconstruction, the change is irrelevant. Nonetheless, because of its significance in the subgrouping of the Chin languages, the sound change *r > g is of sufficient interest to merit a name. Shafer first discovered the change (1944: 416, and cf. note 22 above), so 'Shafer's law' is an appropriate name for it.[34]

7 Proposals not considered by Ohno or VanBik

The comparison of Ohno and VanBik's inventory of Proto-Kuki-Chin initials has concluded. Two further proposals for initial segments in Proto-Kuki-Chin found in neither Ohno nor VanBik are available. Peterson reconstructs *yh- (2000: 94 note 12), relying on the comparison of the cognate question morphemes *-hiam* in Tedim and *-ziam* in Sizang (Peterson 2000: 94). Citing Peterson (2003: 175-178) Button notes the correspondence of Mizo *z*- to Hyow *yh*- in the word 'follow' (Mizo *zùul*-I, *zùlh*-II, Hyow *hyul*) and the autonyms '(Mi)zo' and 'Hyow' themselves (Button 2009: 99 note 193).[35]

The comparison of the copula in Kuki-Chin languages provides further provocation to posit an initial *hy- in the proto-language. Ohno compares *hi* in Tedim and Ngawn with *si* Hakha and Falam Lai, and *tsi*- Zotung and Chinbok (1965: 5), seeing this word as an irregular example of his initial *ś- (VanBik's *s^{h}-).

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[33] I propose 'Houghton's law' and 'Benedict's law' as names for the Tibetan changes *ŋ^{j} < *ñ*- and *l^{j} > *ź*- respectively (2011: 444-445).

[34] I have previously used 'Shafer's law' to refer to the change *iŋ, *-ik > *-añ̃ñ̃*, *-ac* in Burmese (e.g. Hill 2013: 198). However, because Wolfenden noted this change in Burmese earlier than Shafer (Wolfenden 1938: 167), it is more sensible to refer to it at 'Wolfenden's law', leaving open 'Shafer's law' to refer to the chane *r > *g* in Chin.

[35] Without examples of correspondence between Mizo z- and Hyow y- examples of Mizo z- and Hyow yh- do not conclusively point toward *hy- rather than simply *y-.

Peterson draws attention to the Thado equational copula *ahi,* Sizang *ahiibale* 'if it is not', and Hyow *hya?* 'it is not', remarking that

> it does not seem likely that this copula is related to the Central Chin equational copula *-si:*. If these are from a single source, then they demonstrate a highly idiosyncratic change shared by Hyow, Thadou, and Sizang which can probably not be attributed to parallel development. The change *s* > *h* does not otherwise occur in these languages
> (Peterson 2000: 93).

Comparison with the Old Burmese existential copula ဟိ *hi*, which, treated as having initial *yh-*, becomes ရှိ *śi?* in modern Burmese (Nishi 1999: 38 note 4 on p. 65), makes clear that the direction of change was not *s- > *h-* as Peterson supposes, but instead *hyi > *si* in Central Chin, a change that exactly parallels *y > *z-* in these languages. The coincidence of the Old Burmese and (non-Central) Chin forms guarantees the correctness of *hy- in Proto-Kuki-Chin. The voiced initials in 'follow' and the autonym appear to undermine the suggestion of *hy- > *s-* in Mizo, although perhaps not irrevocably. Initial *ts-* in Zotung and Chinbok is more of a problem, but potentially Ohno's orthography <či> instead reflects something like [ç] in these languages. The evidence for *hy- and its development in the various Kuki-Chin languages requires further investigation.

Button tentatively proposes labio-velars in Proto-Kuki-Chin, with the following remark "in Northern Chin *k^w-* remained distinct from *kw-* long enough to allow vowel lowering of *ə* to *a* in spite of the labial environment" (2011: 65). The formulation of his observation is influenced by Pulleyblank's understanding of the Old Chinese and Old Burmese vowel systems (1963). If one attempts to reformulate the same claim using the six-vowel theory for Old Chinese and recognizing the origin of Written Burmese *-wa-* in Old Burmese *-o-* (cf. Hill 2012), the result is "Northern Chin *k^w- is reflected in the distinction of *Ko-* < *ko- and *Kua-* < *K^{w}a-". Because Button does not reconstruct labio-velars for specific lexical items, his proposal is difficult to confirm with the data he provides. The phonotactic distribution of *-u̯-* in these languages appears not to distinguish velars for special treatment.

8 Remaining mysteries

The *Ausnahmslosigkeit der Lautgesetze* compels a researcher in historical linguistics to draw particular attention to the apparent exceptions to regular patterns in the hope that future researchers will see the more subtle patterns these anomalies conceal. When the reflexes of a single proto-phoneme exhibit multiple outcomes in a single language, the split must either be conditioned or the proto-inventory revised to include two separate units.

Irregular developments of *r- have received most discussion so far. In an unexplained split noted by VanBik, Sizang and Ngawn have both l- and ŋ- as reflexes of *r (Ohno 1965: 12-13, VanBik 2009: 30-31, cf. Table 13).

Table 13: *The split of *r- into ŋ- and l- in Sizang and Ngawn.*

Gloss	*Mizo*	*Sizang*	*Ngawm*
(VnB.919) bamboo	*rúa*	*ngūa*	*---*
(VnB.922) bone	*rùh*	*a-ngū*	*ŋuʔ*
(VnB.953) land, country	*rám*	*ngam*	*ŋam*
(VnB.964) rain	*rùah*	*ngua*	*---*
(VnB.975) snake	*rúul*	*ngūl*	*ŋul*
(VnB.939) fast	*răng-I, ràn-II*	*man-lāng*	*---*
(VnB.974) six	*rùk*	*luk*	*luk*
(VnB.672) seven	*pà-sà-rìh*	*sa lī*	*---*
(VnB.935) eight	*pà-rîat*	*līet*	*---*

Without explicit discussion Button projects this distinction back into the proto-language, representing the segment which lead to l- in Sizang as ʟ. However, Button also uses ʟ to index other problems such as Mizo ʰliit^{IIB} compared to Zahau: ʰniit^{IIB} 'leech (n.)'. Ohno identifies *g-* as the regular reflex of proto-Kuki-Chin *r- in Chinbok. Nonetheless, in his data a number of words display other outcomes (cf. Table 14). It will not be possible to find a pattern until further data on Chinbok become available. Khumi offers a third case of irregular developments for *r-. According to VanBik the outcome of *v-* versus *h-* in Khumi-V can largely explained as conditioned change (2009: 232). He suggests that "In Khumi PKC *r- became a voiced labiodental fricative v- before a high back vowel" (2009: 232). Nonetheless, he acknowledges that this is not the whole story.

> There are two etyma (SHEATH, SIX) which did not follow the above rule. Note that these two etyma have prefixes in Khumi. These prefixes might have helped to preserve the proto-rhotic initial in Khumi.
> (VanBik 2009: 232 emphasis in original).

Peterson has a different explanation for Khumi *v-* versus *h-* as reflexes of *r-; in his account *h-* is the regular reflex, whereas *v-* is conditioned by the presence of a pre-syllable, still maintained in Rengmitca (Peterson 2013: 323, cf. Table 15). In sum, the divergent reflexes of *r- in various Kuki-Chin languages still require explanation.

Other so far unexplained splits which have yet to receive any explicit discussion are the split of *khr- into both *ch-* and *kh-* in Mindat Cho (cf. correspondence 15), the split of *s- (< *s-, *sʰ-) into both s- and 's- in Asho (cf. Table 16), and the split of *kl- into both *kl-* and *ky-* in Asho (cf. *kyan* 'mountain' and note 26 above). These and other complications, such as all those which Button reconstructs using capital letters, must receive an explanation before one can regard the inventory of initials in Proto-Kuki-Chin as incontrovertibly secure. These mysteries and yet unasked questions in comparative Kuki-Chin phonology are likely to yield up their secrets once the pre-syllables in Southern-Plains Chin languages receive more scrutiny.

Table 14: *The outcomes of *r- in Chinbok.*

Meaning	*Mizo*	*Chinbok*
(VnB.937) enemy	*ráal*	*ga*
(VnB.947) heavy	*rìt-I, rìh-II*	*giʔ*
(VnB.922) bone	*rùh*	*guʔ*
(VnB.978) steal Mizo	*rù-I, rûuk-II*	*am-guk*
(VnB.935) eight	*pà-rîat*	*ra*
(VnB.975) snake	*rúul*	*phiu*
(VnB.974) six	*rùk*	*tshuk*

Table 15: *Correspondences for PKC *r- in languages of the Khumi-cluster.*

	Meaning	*Mizo*	*Khumi*	*Mro (Wakung)*	*Rengmitca*
a.	*'bone'*	*rùh*	*hiw^{3}*	*xuʔ*	*khu*
	'ten'	*pa-hrăa (H. Lai)*	*ho^{5}*	*xasʰəʔ*	*khatö*
	'louse'	*hrìk*	*höj^{2}*	*xi*	*khik*
b.	*'snake'*	*rúul*	*p'vuj^{5}*	*m'xuiʔ*	*m'khuj*
	'cry'	*ṭàp ~ ṭàh*	*vo^{2}*	*xaʔ*	*t'kha*

Table 16: *Hakha Lai s- corresponding to Asho s- and ʻs-.*

Gloss	*Hakha Lai*	*Asho*
(VnB.644) carve	*sâay-I, sayʔ-II*	*saih*
(VnB.692) red	*sên-I, sĕn-II*	*sèn*
(VnB.453) pestle	*sûm-khâl*	*ʻsün -kʻo˝*
(VnB.655) insert	*sanʔ-INV*	*ʻsán*
(VnB.661) long	*sàaw-I, săaw-II*	*ʻsauh˝*
(VnB.666) pinch	*sik-I, siʔ-II*	*ʻsik*
(VnB.672) seven	*pa-sa-riʔ*	*ʻsi˝*
(VnB.691) mortar	*sûm*	*ʻsün*

References

Bàrtoli, Matteo. (1925). *Introduzione alla neolinguistica*. Geneva: L.S. Olschki.

Benedict, Paul K. (1940). "Studies in Indo-Chinese Phonology." *Harvard Journal of Asiatic Studies* 5.2: 101-27.

Benedict, Paul K. (1972). *Sino-Tibetan: a Conspectus*. Cambridge: University Press.

Bhaskararao, Peri. 1996. *A Computerized Lexical Database of Tiddim Chin and Lushai*. Tokyo: ILCAA, Tokyo University of Foreign Studies.

Bradley, David (1979). *Proto-Loloish*. London: Curzon Press.

Button, Christopher (2009). A reconstruction of Proto Northern Chin in Old Burmese and Old Chinese perspective. School of Oriental and African Studies, University of London, PhD dissertation.

Button, Christopher (2011). *Proto Northern Chin*. Berkeley: University of California.

van Driem, George (2014). "Trans-Himalayan." *Trans-Himalayan Linguistics*. Thomas Owen-Smith and Nathan W. Hill, eds. Berlin: Mouton de Gruyter. 11-40

Gong Hwang-cherng (2002 [1995]). "The System of Finals in Proto-Sino-Tibetan". The Ancestry of the Chinese Language. William S. Y. Wang, ed. (Journal of Chinese linguistics. Monograph series 8) Berkeley: Project on Linguistic Analysis, University of California: 41–92. (reprinted in:) 漢藏語研究論文集 *Hanzangyu yanjiulun wenji / Collected Papers on Sino-Tibetan Linguistics*. Taipei: 中央研究院語言學研究所籌備處 Zhong yang yan jiu yuan yuyanxue yanjiusuo choubeichu, 2002: 79–124.

Harris, James W. (1969). "Sound Change in Spanish and the Theory of Markedness." *Language* 45.3: 538-552.

Hartmann-So, Helga (1985). "Morphophonemic changes in Daai Chin". In Suriya Ratanakul, David Thomas, Suwilai Premsrirat, eds. Southeast Asian Linguistic Studies presented to André-G. Haudricourt. Bangkok: Mahidol University.

Hartmann-So, Helga (1988). "Notes on the Southern Chin languages". *Linguistics of the Tibeto-Burman Area* 11.2: 98-119

Hartmann-So, Helga (1999). "Prenasalization and preglottalization in Daai Chin with parallel examples from Mro and Mara". *Linguistics of the Tibeto-Burman Area* 24.2: 123-142.

Heath, Jeffrey (1987). *Ablaut and ambiguity: phonology of a Moroccan Arabic dialect*. Albany: State University of New York Press.

Henderson, Eugénie J. A. (1965). *Tiddim Chin: a descriptive analysis of two texts*. (London Oriental Series 15). London: Oxford University Press.

Hill, Nathan W. (2011). "An Inventory of Tibetan Sound Laws." *Journal of the Royal Asiatic Society of Great Britain & Ireland* (Third Series) 21.4: 441-457.

Hill, Nathan W. (2012). "The six vowel hypothesis of Old Chinese in comparative context." *Bulletin of Chinese Linguistics* 6.2: 1-69.

Hill, Nathan W. (2013). "Relative order of Tibetan sound changes affecting laterals." *Language and Linguistics* 14.1: 193-209.

Hill, Nathan W. (2014). "Tibeto-Burman *dz- > Tibetan z- and Related Proposals." *Studies in Chinese and Sino-Tibetan Linguistics: Dialect, Phonology, Transcription and Text*. (A Festschrift for W. S. Coblin). Simmons, Richard VanNess and van Auken, Newell Ann, eds. Tapei: Institute of Linguistics, Academia Sinica: 167-178.

Hodson, Thomas Callan (1905). *Thado Grammar*. Shillong: Eastern Bengal and Assam Secretariat Printing Office.

Houghton, Bernard. C. S. (1892). *Essay on the Language of the Southern Chins and Its Affinities*. Rangoon: Superintendent Government Printing.

Guillaume Jacques (2011). "A panchronic study of aspirated fricatives, with new evidence from Pumi." *Lingua* 121.9: 1518-1538.

Jones, Robert B. (1988). "Proto-Burmese as a test of reconstruction." *On language: rhetorica, phonologica, syntactica: a Festschrift for Robert P. Stockwell from his friends and colleagues*. Caroline Duncan-Rose and Theo Vennemann, eds. London: Routledge. 203-211

Jordan, M. E. P. (1969). Chin (Cho) Dictionary and Grammar. 400 pages MS. (cited after VanBik 2009)

Kamkhenthang, H. (1972). *English-Paite (Teddim Chin) Dictionary*. Lamka, Manipur: The Zomi Press. (Revised and Enlarged Edition 1985, cited after VanBik 2009).

Krishan, Shree (1980). *Thadou: a Grammatical Sketch*. Calcutta: Anthropological Survey of India.

Löffler, Lorenz G. (2002) "Some Notes on Maraa." *Linguistics of the Tibeto-Burman Area* 25.1: 123-136.

Lorrain, J. Herbert (1940). *Dictionary of the Lushai Language*. Calcutta: Royal Asiatic Society of Bengal.

Lorrain, Reginald Arthur (1951). *Grammar and Dictionary of the Lakher or Mara Language*. Gauhati: Department of Historical and Antiquarian Studies, Government of Assam.

Marçais, William (1902). *Le dialecte arabe parlè á Tlemcen; grammaire, textes et glossaire*. Paris: E. Leroux.

Matisoff, James A. (1972). *The Loloish tonal split revisited*. Berkeley: Center for South and Southeast Asia Studies, University of California.

Matisoff, James A. (2003). *Handbook of Proto-Tibeto-Burman*. Berkeley: University of California Press.

Moscati, Sabatino et al. (1969). *An introduction to the comparative grammar of the Semitic languages: phonology and morphology.* Wiesbaden: O. Harrassowitz, 1969.

Naylor, Leonard Brown (1925). *A Practical Handbook of the Chin Language (Siyin dialect)*. Rangoon: Superintendent Government Printing and Stationery.

Ohno Toru 大野徹 (1965). "共通クキ・チン語の構成(1)--語頭子音 Kyotsu-kuchi-chin-go no saikosei I: Goto shi in [The Reconstruction of Proto-Kuki-Chin 1: initials]" 言語研究 *Gengo Kenkyū* (Journal of the Linguistic Society of Japan) 47.3: 8-20.

Ostapirat, Weerat (1998). "Tiddim Chin Tones in Historical Perspective." *Linguistics of the Tibeto-Burman Area* 21.1: 235- 47.

Peterson, David A. (2000). "On the Status of the Southern Chin Subgroup." *The 33rd International Conference on Sino-Tibetan Languages and Linguistics*. Bangkok: Ramkhamhaeng University. 79-98.

Peterson, David A. (2003). "Agreement and grammatical relations in Hyow." *Language variation: papers on variation and change in the Sinosphere and in the Indosphere in honour of James A. Matisoff.* David Bradley, et al. eds. Canberra: Australian National University. 173-183.

Peterson, David. A. (2003 ms). Khumi-English Dictionary. Dartmouth College MS (cited after VanBik 2009)

Peterson, David A, (2013). "Rengmitca: the most endangered Kuki-Chin language of Bangladesh". Thomas Owen-Smith and Nathan W. Hill, eds. *Trans-Himalayan Linguistics*. Berlin: Mouton de Gruyter. 313-327.

Pulleyblank, Edwin G. (1963). "An interpretation of the vowel systems of Old Chinese and of Written Burmese." *Asia Major* (New Series) 10.2: 200-21.

Schleef, Erik and Michael Ramsammy (2013). "Labiodental fronting of /θ/ in London and Edinburgh: a cross-dialectal study." *English Language and Linguistics* 17.: 25–54.

Shafer, Robert (1940). "The Vocalism of Sino-Tibetan." *Journal of the American Oriental Society* 60.3: 302-337.

Shafer, Robert (1944). "Khimi Grammar and Vocabulary." *Bulletin of the School of Oriental and African Studies* 11.2: 386-434.

Shaw, William (1929). *The Thadou Kukis*. Delhi: Cultural Publishing House.

Solnit, David B. (1979). "Proto-Tibeto-Burman *r in Tiddim Chin and Lushai". *Linguistics of the Tibeto-Burman Area* 4: 2: 111-121.

Stern, Theodore (1963). "A provisional sketch of Sizang (Siyin) Chin". *Asia Major* (New Series) 10: 222-278.

Thirumalai, n.d. *Thadou Phonetic Reader*. Mysore (India): Central Institute of Indian Languages. (cited after VanBik 2009)

Turin, Mark (2012). *A grammar of the Thangmi language: with an ethnolinguistic introduction to the speakers and their culture*. Leiden: Brill.

VanBik, Kenneth (2009). *Proto-Kuki-Chin: a reconstructed ancestor of the Kuki-Chin languages*. Berkeley: Sino-Tibetan Etymological Dictionary and Thesaurus Project, Dept. of Linguistics research unit in University of California, Berkeley.

Appendix: primary sources used by Ohno (1965)

I have checked all titles in WorldCat, expanding records when possible. When a record was available, a library holding the item is mentioned, otherwise the apparent absence of the relevant record in WorldCat is noted.

1) Tedim (Kamhau)

Lai sinna bu : nambat 1, tan khat sinna ding, li vei a Bawlna hi, Khetkik [A first primer in the Kamhau dialect of Chin]. Rangoon: Superintendent, Govt. Printing and Stationery, 1950. (UC Berkeley)

Lai Sinna Lai Bu (Tedim Kam) Tan III, Rangoon, 1955 (not in WorldCat)

Ganhing Le Nate Bu (Tedim Kam) Tan I, II, Rangoon, 1933 (not in WorldCat)

Lai Siangtho thak Tedim Kam [The New Testament in Chin Kamhau dialect.] Rangoon: British and Foreign Bible Society, 3rd ed., 1948. (School of Oriental and African Studies, University of London)

2) Ngawn dialect

Mark ii Lungdam nak Thu. [the gospel according to St. Mark in Ngawn Chin] British & Foreign Bible Society, 1951. (British Library)

3) Hakha Lai

Ca relawk Cauk (Lai Haka dialect) Nambat I, Rangoon, 1954 (not in WorldCat)

Ca relawk Cauk (Lai Haka dialect) Nambat II, Rangoon, 1954 (not in WorldCat)

Ca relnak Cauk (Haka dialect) Nambat III, Rangoon, 1949 (not in WorldCat)

Ca relnak Cauk (Lai Haka dialect) Nambat IV, Rangoon, 1931 (not in WorldCat)[36]

Vawlei le Lai tlang ram le Kawl ram cauk (Halkha hol) Rangoon, 1936 (not in WorldCat)

Lai baibal ca [The New Testament in Chin, Lai dialect]. Rangoon: British & Foreign Bible Society, 1950. (School of Oriental and African Studies, University of London)

4) Falam Lai

Capt. J. E. D. Prothero. *Laizao tawng zîr tîr tza-uk / Elementary reading primer of the Laizo dialect.* Rangoon: Office of the Superintendent, Govt. Print, 1914. (British Library)

Ca siar cauk (Laizo dialect) Nambat I, Rangoon, 1952 (not in WorldCat)

Ca siar cauk (Laizo tong) Nambat II, Rangoon, 1949 (not in WorldCat)[37]

[36] Although unable to locate the third and fourth items on this list per se, I did notice the following similarly titled work: L. E. Burne, *Ca relnak cauk, Lai tlang acozah Siang inn hmanawk a si* [Chin reader in the Haka dialect of Chin, for use in the government schools of the Chin Hills District].Rangoon: Supdt., Govt. Print. and Stationery, Burma, 2nd rev. ed. 1939, which is held at the National Library of Australia.

[37] Although unable to locate the second, third, or fourth items on this list per se, I did notice the following similarly titled work: *Ca siar cauk: Laizo ṭong: lai tlangah tlawng innah hmannak ding a si* [Reader no. 2 in the Laizo dialect

Ca siar cauk (Laizo tong) Nambat III, Rangoon, 1938 (not in WorldCat)
Tsa siarnak tsauk (Laizo dialect) Nambat IV, Rangoon, 1949 (not in WorldCat)
Thilri tsa-uk (Laizo tong) Tan III, IV, Rangoon, 1932 (not in WorldCat)
Ca Thianghlim Thar [The New Testament in Laizo Chin.] Rangoon: British & Foreign Bible Society, Burma Agency, 1951. (Library of Congress, as microfiche)
Leilung le Lai Klang le Kawl ramih thu (Laizo tong) Rangoon, 1932 (not in WorldCat)
Khur le ram thu (Laizo dialect) Rangoon, 1941 (not in WorldCat)

5) Anal dialect
Mark itha pena, The British & Foreign Bible Society Burma Agency, 1949 (British Library)

6) Zotung dialect
Kua Mying and R. G. Johnson, trans. *Matu zei sya pawthe hoypaw*, British & Foreign Bible Society, 1951 (British Library)

7) Khumi dialect
Rowlands, Edwin, trans. *Satang Kahawi Luka i tajiu nai* [St. Luke in Khumi]. British & Foreign Bible Society, 1949 (British Library)
Chinbok dialect
Cheizah ca-uk (Chinbok dialect) Nampat II, Rangoon, 1935 (not in WorldCat)
Cheizah ca ca-uk (Chinbok dialect) Tan thum, Rangoon, 1935 (not in WorldCat)
Cheizah ca-uk (Chinbok dialect) Nampat IV, Rangoon, 1936 (not in WorldCat)
Ang-tüi-zah mawng cho ca leng-nak lah tawi-nak [Nature study in Chinbok dialect for standards I and II.]. Rangoon: Supdt., Government Print. and Stationery, Burma, 1935. (listed in WorldCat, but without naming any holding library)

of Chin: for use in the government schools.] Rangoon, 2nd ed., rev, 1939, which is held at the National Library of Australia.