RE-EXAMINING THE GENETIC POSITION OF JINGPHO: PUTTING FLESH ON THE BONES OF THE JINGPHO/LUISH RELATIONSHIP*

James A. Matisoff
University of California, Berkeley

Abstract: This paper has a twofold aim: (1) to clarify the interrelationships among several key TB subgroups, especially as concerns Jingpho; and (2) to establish the Jingpho/Luish relationship on a firmer footing. The heart of the paper is the set of Jingpho/Luish cognates presented in Appendix III, which complements the discussion in Section 5 of the text (*Jingpho and Luish*). Before arriving at that point, however, it seems necessary to deal with several other issues: (1) the genetic and contactual position of Nungish, with which Jingpho had been supposed to have a special relationship; (2) some genetic or contact relationships of Jingpho other than with Luish; (3) some genetic or contact relationships of Luish other than with Jingpho; and (4) the phonologies of the two chief surviving Luish languages, Kadu and Sak. From one point of view, this paper is an elaboration of Burling's *Sal* hypothesis, which posits a special relationship among Jingpho, Northern Naga (Konyakian), and Bodo-Garo. It is, however, beyond the scope of the present study to go into detail about the latter two groups. The primary focus of the paper is lexical, and morphological comparisons between Jingpho and Luish are only discussed tangentially.

Keywords: Tibeto-Burman, Luish, Jingpho, Sak, Kadu, subgrouping

I. INTRODUCTION

As one of the best studied minority Tibeto-Burman (TB) languages, with approximately three quarters of a million speakers in northernmost Burma and adjacent regions of China and India, Jingpho[1] has long been recognized as being of key importance for understanding the internal relationships of the TB family. Several reasonable hypotheses have been proposed about Jingpho's closest

[1] Formerly known as "Kachin". The autonym Jingpho is also spelled "Jinghpaw" or "Jingphaw." In India, a dialect of this language is known as "Singpho".

relatives, and the time now seems ripe to evaluate them. This paper will briefly discuss five other subgroups of TB in connection with this problem: Bodo-Garo (= Shafer's "Barish"), Northern (or Northeastern) Naga (often referred to as "Konyak"), Nungish, Lolo-Burmese, and Luish. Thanks to copious new data on two Luish languages, it will now be possible to focus on that hitherto obscure branch of the family with much greater precision than before.

Any subgrouping enterprise in such a teeming linguistic area as E/SE Asia runs up against the eternal problem of distinguishing between similarities due to genetic relationship from those due to contact. All of our TB subgroups have been subject to pressure, ranging from slight to overwhelming, from coterritorial languages. We may recognize contact situations of two types:

(a) Extra-TB → TB, i.e. the influence of a non-TB language on a TB group. This is often relatively easy to detect, e.g. the influence of Tai on Jingpho, Nungish, and Luish.[2]

(b) Intra-TB (TB¹ → TB²), i.e. the influence of one TB group on another. In the present context we will have to deal with two major donor languages: Burmese (especially the dialect of Arakan State, known as Marma), and Jingpho itself. Burmese has had some influence on Nungish and Jingpho, but a particularly strong influence on Luish (both Kadu and Sak/Chak). Jingpho in turn has exerted powerful pressure on Nungish (e.g. Rawang) and on Burmish (Atsi, Maru, Lashi, Achang, Bola).[3]

1.1 Benedict's unorthodox anti-Stammbaum

Recognizing the geographic centrality of Jingpho in the TB area, as well as the fact that it seems to have special areas of similarity with several other subgroups of TB, Benedict (1972: 6) offered an unorthodox type of family tree, where all branches of the family (except Karenic) are seen to radiate out from Jingpho at the center. See Fig. 1.

1.2 The Sal hypothesis: Jingpho, Bodo-Garo, Northern Naga

Some sort of special relationship among Jingpho, Northern Naga, and Bodo-Garo has been posited ever since the Linguistic Survey of India (1903–38) lumped them together as "Bodo-Naga-Kachin". This closeness, whether due to genetic or contact factors, was noted in Benedict 1972 (hereafter STC).[4] Benedict goes on to

---

[2] See below 2.2, 3.1, 4.2.1.

[3] These Burmish groups are still considered by Chinese linguists to belong to the Jingpho (or "Kachin") nationality.

[4] "The 'Naked Naga' (Konyak) languages of the northern Assam-Burma frontier region...are most profitably compared with Bodo-Garo, though some of the easternmost members of the group...show points of contact with Kachin. Chairel, an extinct speech of Manipur...is best grouped with Bodo-Garo and Konyak" (p. 607). As we shall see, it now seems clear that Chairel belonged to the Luish group.

give the two most "striking" lexical examples of this special relationship, distinctive roots for SUN and FIRE:[5]

	PTB	Kachin (Jingpho)	Namsang (N.Naga)	Moshang (N.Naga)	Garo (Barish)	Chairel (Luish)
sun	*tsyar	dźān	san	śar	sal	sal
fire	*b-war	ʔwàn	van	var	waʔl	phal

In 1983, R. Burling, a distinguished specialist in the Bodo-Garo group, developed this idea in detail, generalizing Benedict's example of the distinctive etymon for SUN by dubbing Bodo-Garo, Northeastern Naga, and Jingpho collectively "the Sal languages". Later, on the basis of classic data on Sak/Cak (Bernot 1967) and Kadu (Brown 1920), he suggested that Luish belongs in the "Sal group" as well, and observed that Sak's "special similarities to Jingphaw are obvious" (Burling 2003: 178).
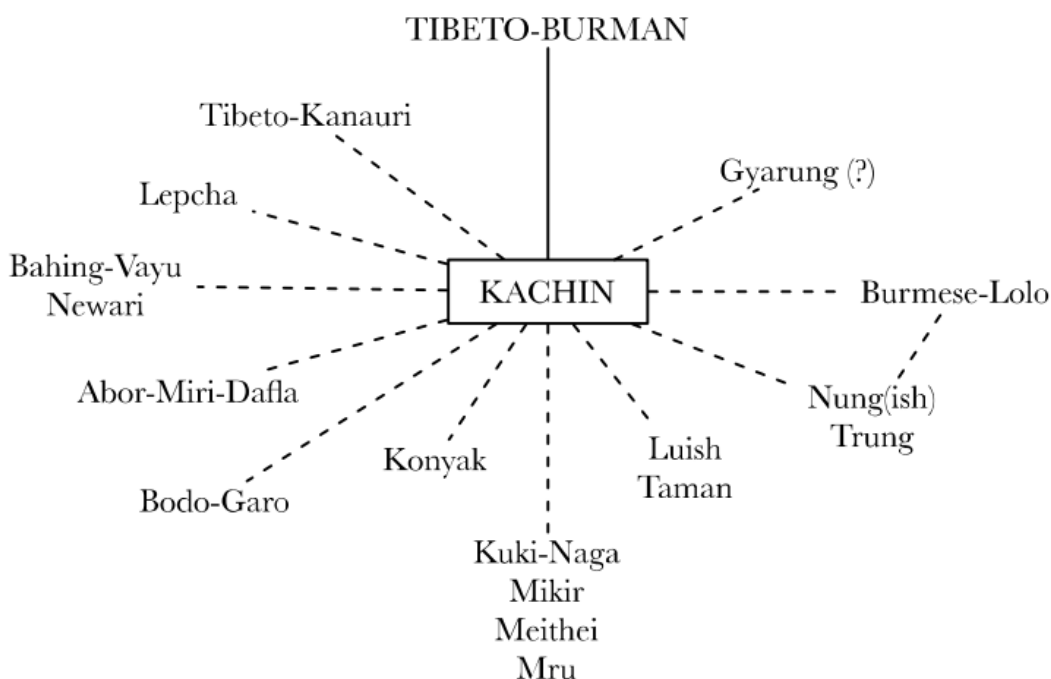

Figure 1. Benedict's "Schematic chart of ST groups" (STC, p.6)

However, a close re-examination of Burling's evidence[6] seems to show that while the Bodo-Garo/Northern Naga relationship seems quite solid,[7] the connection of either of them to Jingpho is much more tenuous and distant. A large

---

[5] These forms actually represent general TB roots, although their "semantic center of gravity" is elsewhere (see *tsyar* and *b-war*, below 4.334). The most widespread TB etyma for these concepts are *nəy* and *may*, respectively.

[6] See Appendix I.

[7] A particularly good reason for positing a special connection between Bodo-Garo and Northern Naga is their characteristic pair of etyma for HAND and FOOT, which differ only in that HAND ends in a velar while FOOT is an open syllable. (Scattered languages elsewhere, e.g. in Tani, have this too.) See Burling 1983:10 and Section 6, below.

proportion of the putative Sal-specific etyma are actually general TB roots, with cognates in other branches of the family. Burling himself was aware that this would someday be demonstrated: "I have no doubt that a fair number of the cognate sets that I offer, even those that now seem most solid, will finally turn out to have cognates outside the Sal group, but the collective weight of the examples I have collected seems to me to demand an explanation" (1983: 15).

As for the "obvious" similarities between Jingpho and Luish, we shall try to make them more precise, thanks to copious modern data on the two principal surviving Luish languages, Chak/Sak (Huziwara 2008) and Kadu (Sangdong 2012).

2. THE POSITION OF NUNGISH

In Vol. VII of *Sino-Tibetan Linguistics*,[8] Benedict quotes the opinion of the Editor of the *Linguistic Survey of India* on the genetic position of Nungish: "Grierson (p. 24) refers to Nungish as a language transitional between Kachin and Lolo, and this view in general has been confirmed." In STC (p. 5) the fifth among Benedict's "seven primary divisions or nuclei of Tibeto-Burman" is listed as #5 "Burmese-Lolo (perhaps also Nung)".[9]

However, Nungish has usually been linked more closely to Jingpho than to Lolo-Burmese. The Rawang, who live in the far north of Kachin State, are considered to be "Kachin" by the Burmese government. In Matisoff (2003: 5) I posited a "Jingpho-Nungish-Luish" group as one of the primary branches of TB, without any explicit justification.[10] Fortunately I have been set straight on this matter by Randy LaPolla, the leading Western authority on Rawang: "My view has been that Rawang is not really close to Jinghpaw, there are just a lot of loanwords and calque structures because all Rawang people are considered Kachins and almost all speak Jinghpaw. Jingphaw seems to me a lot closer to Luish."[11]

LaPolla emphasizes the internal diversity of Nungish, a relatively small group numerically, but boasting "70 or more language varieties in at least six major clusters." The profusion of overlapping Nungish language names testifies to this complexity. According to LaPolla, there is no clear difference among Nung,

---

[8] R.Shafer and P.K. Benedict, 1937-41. *Sino-Tibetan Linguistics*, *Vol. VII: Digarish-Nungish*, pp. vi-vii.

[9] In a more modern formulation, Benedict would probably have distinguished between the relatively conservative "Burmish" branch of Lolo-Burmese and the phonologically much more eroded "Loloish" (= Yi) branch. Nungish resembles Burmish much more than it does Loloish. The loose ethnonym "Kachin" has been applied to Burmish groups like the Atsi (=Zaiwa), Maru (=Langsu), and Lashi (=Leqi) by both the Chinese and Burmese governments. For more discussion of the relationship between Nungish and LB, see Section 2.3, below.

[10] I am grateful to Carol Genetti for pointing this out to me (p.c., Feb. 2012), since her observation was the motivation for writing the present paper!

[11] E-mail p.c., Aug. 16, 2012. For more on the Jingpho/Nungish relationship, see below Section 2.4.

Dulong/Trung, Rawang, and Anong, since these names are rather indiscriminately applied to what is really just "a crisscrossing dialect chain". No doubt it is because of this unruly diversity that no one has yet ventured to reconstruct Proto-Nungish, or to create a conventional Stammbaum to diagram its internal relationships.

At any rate one thing is clear: Nungish definitely doesn't belong in the "Sal" group; its word for SUN is *nam* (LaPolla 1987, #53).

The Nungish languages are rather conservative phonologically, preserving such features as final liquids (e.g. Rw. *war⁵³* 'fire/burn', *muɿ/³³* 'body hair') and voiceless sonorants, usually from previous combinations of the **s-* prefix and the root-initial (e.g. Anong *hwar* 'fire/burn', *ŋo³¹iɯɯ̥ŋ⁵⁵* 'remain/stay', *m̥ɿ⁵⁵ŋu³¹* 'begin', *ȵ̥ɯ⁵⁵ŋu³¹* 'weave', *ŋɛ³¹ŋu³¹* 'scales'). It is worth noting that neither of these features is preserved in Jingpho, where final *liquids have become *-n*, and where voiceless sonorants are absent, undoubtedly partially because the **s-* prefix has been protected by schwa, so that it is realized as a minor syllable, *šə- ~ dźə-*.

2.1 Variational patterns in Nungish

2.1.1 Between medial -i- and -u-

Nungish seems to be a stronghold of this type of variation, which is pervasive through much of TB,[12] e.g.:

name	Rawang *buɯŋ³¹*	/ Anong *biŋ*	
sleep	Trung *yuɯp⁵⁵*	/ Anong *yɨp*	
warm	Dulong *luɯm⁵³*	/ Nung (Rawang) *lim*	
year	Anong *ȵuɯŋ³¹*	/ Dulong *niŋ⁵⁵*	

2.1.2 Between homorganic final stops and nasals

black	Dulong *naʔ⁵⁵*	/ Anong *ȵi³³xa⁵⁵naŋ⁵⁵*	
braid	Dulong *blat⁵⁵*	/ Anong *baŋ⁵⁵sɛ³¹*	
branch	Dulonghe *aŋ³¹kɔʔ⁵⁵*	/ Rawang *dəgaŋ³¹*	
bury	Dulong *luɯp⁵⁵*	/ Anong *lim⁵⁵*	
carve	Dulong *gap⁵⁵*	/ Nung *ʔgam⁵⁵*	
cloud	Dulong *ɹɯ³¹muɯt⁵⁵*	/ Anong *io³¹muɯn⁵⁵*	
teach	Dulong *suɯ³¹lap⁵⁵*	/ Anong *sɿ³¹lam⁵⁵*	
thresh	Rawang *am³³thap*	/ Nung *tham⁵⁵u³¹*	

2.1.3 (Diachronic) Change of initial nasal to a stop

name	PTB **r-miŋ* > PNungish **b(r)iŋ* ⋊ **b(r)uŋ*
	(e.g. Trung *aŋ³¹bɹuɯŋ⁵³*, Dulong *aŋ⁵⁵bɹiŋ⁵³*)

A similar development has occurred in loans from Tai:

insect/worm	Rw. *bəluɯŋ³³* (cf. Si. *məlɛɛŋ*)

---

[12] See HPTB 493–505. This variation is also highly typical of Bodo-Garo.

2.1.4 (Synchronic and diachronic) Variation in position of articulation of nasal initials

corpse   PTB *s-maŋ* > Nung *maŋ³¹* / Rawang *ənaŋ*
ear (of grain) PTB *s-nam* > Dulong *aŋ⁵⁵nam⁵⁵* / Anong *mɛn⁵⁵*
eye   PTB *s-mik* > Dulong *mjɛʔ⁵⁵* / Rawang *nɛ³³*, Anong *ñi dzɯŋ⁵⁵*
mind/temper   PTB *m-yit* > Anong *mit ~ nit*
nail   PTB *m-tsin* ⋊⋉ *m-tsyen* > Rw. *nyin* (Jg. *ləmyīn*)

2.1.5 (Diachronic) Intrusive medials via metathesis

In at least two cases, LaPolla (1987) explains the development of a liquid glide in Dulong/Trung in terms of metathesis from the PTB *r-* prefix:

dream   PTB *r-maŋ* > Dulong (Dulonghe) *mlaang⁵⁵*, Dulong (Nujiang) *mlang⁵⁵* (#82)
name   PTB *r-miŋ* > Proto-Nungish *b(r)iŋ* ⋊⋉ *b(r)uŋ* (#179) [See (c) above]

2.2 Nungish and Tai

Judging from the 130 or so Nungish classifiers listed in such sources as LaPolla's Rawang Glossary (2003), Sun et al. ("ZMYYC", 1991), and Dai and Huang ("TBL", 1992), there seems to be a great profusion of classifiers in Rawang. This is a Tai-like characteristic, and very unlike Jingpho, where classifiers are rare.

Among the lexical items borrowed from Tai into Nungish, we may mention:

fish   Trung *ŋa⁵⁵plaʔ⁵⁵*
        This is a TB/Tai hybrid (PTB *ŋya* 'fish' + Tai (cf. Si. *plaa*) 'fish'.
fruit   Rawang *nəm-si*
        The first syllable is from Shan 'water' (cf. Si. *ná(a)m*); the immediate source of the Rawang form is Jg. *nàm-sì* (second syll. < PTB *sey* 'fruit'). The connection between FRUIT and WATER is also found in Chinese 水果 (Mand. *shuǐguǒ*).

garden   Rw. *son³³* (cf. Si. *sǔan*)
insect/worm   Rw. *bəlɯŋ³³* (cf. Si. *məlɛɛŋ*)
wear on head   Dulong *mɔʔ⁵⁵* (cf. Si. *mùak*)
 /hat

There is one case where an apparent Tai loan is actually a native lexical item:

rain   Trung *năm⁵³zaʔ⁵⁵*
        Here the first syllable is not from Tai 'water', but is rather from the native Nungish root *nam* 'sun; meteorological phenomenon'. (LaPolla 1987: #53)

2.3 Nungish and Lolo-Burmese

LaPolla is dubious about any close connection between Nungish and LB, given the phonological conservativeness of Rawang (and the lack of it in Lolo-

Burmese),[13] and also because of the complex and apparently ancient morphological patterns in Rawang.[14]

    Nevertheless there are tons of Nungish/LB cognates, which indicate to me that Nungish and Lolo-Burmese, while definitely belonging to different TB subgroups, are fairly close to each other in the context of the whole family.

    Following are some of the more interesting Nungish/LB comparisons:

	Lolo-Burmese	Nungish
bean	*s-nuk^H	Trung $a^{31}n\mathit{\jmath}\mathit{?}^{55}$; Anong $a^{31}nu^{55}$
black/deep	*s-nak^H 'black' (Lh. *nâʔ*);	Trung (Dulong) $na\mathit{?}^{55}$ 'black', na^{53} 'deep'
	*ʔnak^L 'deep' (Lh. *ná*)	
blind	Lh. *mêʔ-cú*	Rw. $n\varepsilon^{33}$ $d\mathit{\partial}zw\mathit{?}$

Lh. *mêʔ* and Rw. $n\varepsilon^{33}$ mean 'eye'; Lh. *cú* 'tightly closed; puckered'. The Lahu high-rising tone implies a glottalized initial and a final stop) There is also an apparent cognate in Kadu: *míkcē*.

cat	Lh. *mɛ́-ni*	Nung (TBL) $mw^{31}\eta i^{31}$
chaff	*pway^2 (WB *phwâi*, Lh. *phɨ̀*)	Rw. $am^{33}phal^{31}$; Dulong $wa\mathit{?}^{55}pi^{53}$

Rawang provides evidence for *-l* in this root.

charcoal	Lh. *šî-ğə̀ʔ* [cf. Jg. *ǹ-rà̀ʔ*]	Dulong $mw^{31}\mathit{\jmath}ap^{55}$; Nung $\eta i^{31}xi^{55}$

Cf. PTB*g-rap 'fireplace', but that etymon became Lh. *ğò̀ʔ* 'hearth; household; fireplace rack'. The Lahu voiced velar fricative seems to favor the centralization and raising of *-a-* to *-ə-*, so these could well be internal Lahu allofams: *ğə̀ʔ* ⋉ *ğò̀ʔ*. The nasal prefix appears in its fullest form in Dulong mw^{31}-; it is reduced to a syllabic nasal in Jg. *ǹ-*, and is probably also represented by Nung ηi^{31}. As in the Lahu compound *mû-qhɔ̂* 'smoke', the morphemic source of this syllable is *məw* 'sky; atmospheric phenomenon'. The first syllable of the Lahu form seems to be related to the second syllable of the Nungish form (Lh. *šî-ğə̀ʔ* / Nung $\eta i^{31}xi^{55}$); since the Lahu and Nung tones are very similar, it is possible that this syllable has been borrowed by both languages from a common source.

foot	*krəy^1 (WB *khre*; Lh. *khɨ̀*)	Trung $xrai^{55}$; Anong $x\varepsilon^{35}$
gall	*ʔgrəy^1 (WB *khre*; Lh. *kɨ̀*)	Trung $t\mathit{c}i^{31}xıi^{55}$
garden/fence	*kram^1 (WB *khram*; Lh. *kho*)	Nung (TBL) $d\mathit{z}a^{31}ham^{35}$
morning/tomorrow	Lh. *šɔ́-pɔ̄* 'tomorrow'	Dulong $sw^{31}raang^{55}$; Rw. $\mathit{\partial}\mathit{\int}a\eta^{53}$'morning'

We can here reconstruct a Loloish/Nungish binome, *syaŋ-braŋ*, where the first syllable < PTB *syaŋ*,[15] and the second syllable < PTB *b-raŋ* 'dawn; morning'. STC (n. 224) posits a prefixed form *s-raŋ* to account for Trung *sraŋ*, but these data show that a full compound is involved, not merely a prefixed root.

pair	*dzum^3 (Lh. *cɛ*)	Dulong $dzw\~m^{55}$

---

[13] We should distinguish here between the Burmish and Loloish branches of LB, since Burmish is much more conservative phonologically.

[14] LaPolla has discussed these patterns in a long series of insightful articles, including LaPolla 2004, 2008a, 2008b, 2008c, 2010.

[15] The Lahu high-rising tone suggests an intermediate stage *syaʔ-braŋ*; the sibilant initial and glottal final would then provide the proper environment for "glottal dissimilation"; see Matisoff 1970.

pillow	*m-kum² (Lh. *ú-gê*)	Anong *məkhim*; Dulong *mur³¹kum⁵⁵*

The nasal prefix is preserved overtly in Nungish, and indirectly by the voiced Lahu initial.

pine	WB *thâŋ-rû* [Jg. *mərāu*]	Anong *śəru*
poor	Lh. *hā*	Anong *dɨ³¹ça³¹*; Rw. *dəʃa³¹*
prefix	*ʔaŋ¹- ⋊ *ʔak-	Dulong *aŋ⁵³* '3p. pronoun'

The Nungish 3p. pronoun *aŋ* undoubtedly reflects the same etymon as the *aŋ-* prefix ubiquitous in Loloish (Lahu *ɔ̀-*, Bisu and Pyen *aŋ-*, Phunoi *ã̄-*), as well as in other languages like Mikir. In Dulong it also functions as a prefix: *aŋ³¹-mul* 'hair', *aŋ³¹-niŋ* 'year', *aŋ³¹-śɨ⁵⁵* 'fruit'. See HPTB: 109, 522.

price	*pəw² (WB *ʔəphûi*, Lh. *ɔ̀-phû*	Trung *aŋ³¹pur⁵³*; Anong *dəphü*
raw	*džim² (Lh. *ɔ̀-cɨ̀*)	Anong *ça⁵⁵džim⁵⁵*, *əzim*
scales (weight)	*kyi:n (Lh. *chɨ̀*)	Dulong *cɨ⁵⁵*
scatter (as seeds)	PLB *swan² ⋊ *swat	< PTB *sywar
		Rawang *wun*

WB *swan ⋊ swâ:n*; Lahu *šē* 'scatter seed' < PLB *swan² ⋊ šêʔ* 'pour' < PLB *swat*. Since Rawang preserves both *-r* and *-l* in native words, *wun* may be a borrowing from PLB *swan*. Both Lahu and Chinese show final nasal ⋊ stop allofamy in this root (cf. Chinese 散 < OC *sân* [GSR 156a-b] ⋊ 撒 < OC *sât* [AD #767]), as does Kadu (*sē* 'pour water, as from a kettle' ⋊ *sét* 'scatter seed'). See HPTB: 394–395.

sparrow/bird	*n-tsya¹ (WB *ca*, Lh. *jà* 'sparrow')	Anong/Nung *tɕha⁵⁵*, Rw. *sa* 'bird'

Cf. Spanish *pájaro* 'bird' vs. Fr. *passereau* 'sparrow'.

set (of sun)	*g(l)im ⋊ *g(l)um (Lh. *qὲ*)	Trung *glɔm⁵³*; Nung *dʑim⁵⁵*
stretch out	*tšan³ (WB *can', chan'*, Lh. *che*)	Trung *t'san⁵³*, Dulong *tɕa:n⁵⁵*
sweet	*kyəw¹ (WB *khyui*; Lahu *chɔ*)	Anong *khɹ̩⁵³*; Trung *dʑur⁵³*
tears	*m-brəy¹ (Mpi *m⁴pɹ̩⁶*)	Trung *mɛ⁵⁵pɹ̩⁵³*; Nung (TBL) *phɹ̩ŋ⁵⁵*

The LB prefix is undoubtedly a reduction of PLB *s-myak* 'eye', which appears overtly in the first syllable of the Trung form.

testicles/virility	*səw² (WB *sûi*, Lh. *šɔ̄*)	Rw. *sur³³* 'male genitals'
tired/thirsty	PLB *ban² < PTB *bal* 'tired'	Trung *bat⁵⁵*, Dulong *ba:n*
'thirsty'turn over	*m-pup (Lh. *phûʔ*)	Dulong *pɔʔ⁵⁵*
vegetable	*ʔgyak	Dulong *dzɯ³¹gwaʔ⁵⁵*
warm/glad	*lum¹ (Lh. *lὲ* 'warm')	Anong *lim*, Trung *lum⁵³* 'warm'
	Lh. *ha-lὲ* 'happy'	Anong *a³¹lim³¹sŋ⁵⁵*, Trung
		a³¹lŭp⁵⁵ɕur³¹,
		Trung Nujiang *ɹ̩³¹lum⁵³* 'glad'

Both Lahu and Nungish have undergone the same semantic development from WARM to HAPPY. The first syllable of Lahu *ha-lὲ* < PLB *s-la³* 'spirit, soul'. When the spirit is warm, one is happy.

2.3.1 Burmese loans into Rawang

Quite distinct from the above examples are a number of relatively recent loanwords from Burmese into Rawang, e.g.:

	Written Burmese	Modern Burmese	Rawang
butter	*thâw-pat*	*thɔ̂bá?*	*thɔ³³bat*
festival	*pwây*	*pwê*	*bwɛ⁵³ ~ bɔi³¹*
happy	*pyau*	*pyɔ*	*byo³³ wɛ³³*
peacock	*?u-dâuŋ*	*?u-dâũ*	*u³¹dɔŋ³³*
prison	*thauŋ*	*thãu*	*thoŋ³¹*
slippers	*bhi-nap ~ phi-nap*	*phəna?*	*phənat*

2.4 Nungish and Jingpho

As indicated above (Section 2.0), expert opinion seems now to be firmly of the view that the perceived closeness of Jingpho and Rawang is due to contact, rather than to any especially close genetic relationship.[16] Among the lexical items which Rawang has borrowed from Jingpho are words which Jingpho itself had borrowed, either from Burmese or from Shan (see, e.g. FRUIT, above 2.2).

   Here are a few examples of Jingpho loans into Rawang:

	Jingpho	Rawang
brick	*wùt*	*wut*

The Jg. form is borrowed from Burmese: WB *?ut*.

early morning/tomorrow	*mənàp* 'early morning'	*nap nĭ³³* 'tomorrow'

Other languages reflect **m-nak*, e.g. WB *mənak*, Lh. *tê nà?* (HPTB 326).

	Jingpho	Rawang
flower	*nàm-pàn*	*nam³¹ban³³*
God	*kərài-kəsàŋ*	*gərai³¹-gəʃaŋ³¹*.

For the connection between the first element of the Jg. form and the copular morpheme **ray*, see Matisoff 1985.

	Jingpho	Rawang
net	*sùm-gòn*	*ʃam³³gon⁵³*
place	*šərà*	*ɕəra³¹*
rabbit	*pràŋtái*	*braŋ³¹dai³³*

This is a widespread areal word, found also in Lolo-Burmese and Luish.

	Jingpho	Rawang
tobacco	*lùt; məlùt*	*məluɪt*

Cf. also Dulong *nuɪt⁵⁵*

	Jingpho	
tomb	*lùp*	Dulong *tuɪ³¹luɪp⁵⁵*
vulture	*làŋ-dà*	Dulong *laŋ³¹da³¹*

This is another areal word, of Mon-Khmer origin.

In SILVER and HORSE, Rawang has borrowed the Jg. *gùm-* prefix:

	Jingpho	Rawang
silver	*gùm-phrò*	*gəm³¹soŋ³¹*
horse	*gùm-rà ~ gùm-ràŋ*	*guɪm³¹raŋ³¹*

Note that the Jingpho and Rawang tones are the same in these prefixes. The Jg. variant with final nasal is characteristic of the Hkauri dialect.

---

[16] Among the important structural differences between Jingpho and Nungish are the near absence of numeral classifiers in Jingpho vs. their profusion in Nungish (above Section 2.2); and the great degree of sesquisyllabicity in Jingpho as opposed to its relative rarity in Nungish (below Section 4.3).

3. OTHER ASPECTS OF JINGPHO'S INTERRELATIONSHIPS[17]

3.1 Jingpho and Tai (Shan)

There is a large Shan element in the Jingpho lexicon. Most of these words were identified already in Hanson 1906. Some of these Shan items were themselves from Burmese, and in turn some of these were originally from Indo-Aryan (Pali/Sanskrit), constituting borrowing chains across several language families, e.g.:

Pali	→	Burmese	→	Shan	→	Jingpho	→	Rawang
IA		*TB*		*Tai*		*TB*		*TB*

A few examples of Tai loanwords into Jingpho:

	Tai	Jingpho
bazaar	Shan *gát*	*gát*
difficult	Si. *jâak*	*yàk* 'difficult'; *ʔəyàk* 'difficulty'

The borrowed status of this word is immediately apparent, since in native words **-k* > Jg. *-ʔ* (e.g. PIG **pʷak* > Jg. *wàʔ*, EYE **s-mik* > Jg. *myìʔ*).

	Tai	Jingpho
high/deep	Si. *sǔuŋ*; Shan *sʰuŋ*	*sùŋ*
riceplant	Si. *khâaw*	*khàw*
rope	Si. *chîak*; Shan *jìk*	*jìk*
teak	Si. *máj-sàk*	*mài-sàk*
turtle	Si. *tàw*	*tāw-kok*[55]

This Tai word has also been borrowed into Lahu: tɔ̀-qú.

3.2 Jingpho and Lolo-Burmese

Perhaps because Jingpho and Burmese were the first TB languages I ever studied, I have wondered for a long time whether there was any special relationship between them.[18] Comparison of the tone systems of Jingpho and LB (Matisoff 1974, 1991) was inconclusive (except for a certain weak correlation between Jingpho high tone /ˊ/ and PLB Tone *2). I am now persuaded that the LB/Jingpho relationship is no closer than that between any two major subgroups of Tibeto-Burman.

Yet there has been massive contact between Jingpho and the Burmish branch of Lolo-Burmese. Many Burmish languages are known both by Jingpho and Chinese names, e.g. Atsi, Maru, and Lashi are Jingpho language names corresponding to Chinese Zaiwa, Langsu, and Leqi, respectively. Chinese taxonomy considers these Burmish groups to be part of the Jingpho nationality.

Here are a few loanwords of Indic origin which came into Jingpho by way of Burmese:

---

[17] For a sketch of Jingpho phonology, see Appendix II.

[18] I am even guilty of coining a term "Jiburish" to cover Ji(ngpho), Bur(mish) and (Lolo)ish collectively.

	Written Burmese	Jingpho	Other
camphor	*pərut*	*pəyúk*	
life/age	*ʔəsak*	*əsàk*	Kadu *asák* [DS]
ocean	*səmúddara*	*nammukdəra*	

The Jg. form is a Burmese/Tai hybrid, with the first syllable remodeled after Tai *nam* 'water'.

unhappiness/misery	*dukkha*	*dùk-khàʔ*	

Modern Jingpho must now be borrowing from Burmese without restraint.

4. LUISH: AN OBSCURE BRANCH OF TB COMING INTO FOCUS

The Linguistic Survey of India grouped Andro, Sengmai, Chairel, and Kadu/ Ganan into the "Lūi Group"; to these have been added Sak (= Cak = Chak = çak),[19] spoken both in northern Arakan (Rakhine Province, Burma) and in the Chittagong Hill Tracts of Bangladesh (formerly E. Pakistan). Lucien Bernot, who studied Cak in E. Pakistan in the 1960's, refers to these languages and ethnicities as "Loi",[20] while Shafer and Benedict have preferred "Luish". However, it seems preferable to come up with a new name for this group, since *loi* is said to be the Meithei (Manipuri) word for 'slave; dependent'.[21] The Kadu (= Kantu), who are thought to have once been a dominant group in northern Burma,[22] are now concentrated in the Sagaing Division of Katha District, in the Chindwin Valley. Their autonym is also Sak or Asak. Since Sak/Chak and Kadu are the most important surviving members, there seems no reason not to rename this group as something like Asakian or Kantu-Sak.[23]

Although these languages have been the object of sporadic study since the mid-19th century,[24] it is only very recently that full length lexical, phonological, and grammatical treatments of the two major representatives of the group have become available. Two splendid doctoral dissertations, by HUZIWARA Keisuke (Kyoto University, 2008) on the Chak of Bangladesh, and by David SANGDONG (La Trobe University, 2012) on Kadu, have now made it possible both to undertake systematic phonological comparisons within Luish, and to better evaluate its affiliations with other subgroups of Tibeto-Burman.

---

[19] To add further to the nomenclatural proliferation, this group is also known by the Modern Burmese pronunciation of WB *sak*, namely [θɛʔ], transliterated either as Thek or (misleadingly) as Thet.

[20] This name was first used in McCullough 1859, who wrote it "Loee".

[21] The dominant Meithei group has swept away many smaller languages of Manipur, including Andro, Sengmai, and Chairel, which have all gone extinct.

[22] It may well be that pressure from Kadu caused the Taman language (see R.G. Brown 1911) of the upper Chindwin valley to go extinct. Luce (1985) surmises that the Asakian languages "once spread over the whole north of Burma, from Manipur perhaps to northern Yunnan".

[23] Löffler (1964) already referred to this group as "Sakisch".

[24] See, e.g. McCulloch 1859; Houghton 1893; Bernot 1967; Löffler 1964; Luce 1985.

4.1 Luish phonologies

4.1.1 Kadu

The arrival of the Chins into the Chindwin Valley in the early 2nd millennium A.D. challenged the dominant position of the Kadu in northern Burma; their decline was then definitively sealed by the Shan, who flooded Burma when Yunnan was seized by the Mongols in the 13th century. Naturally enough, the influence of Burmese and Shan on Kadu is very strong.[25]

$$T$$
$$(C_i)(G) \quad V \ (C_f)$$

C$_i$:	p	t		k		V:	i		u
	p^h	t^h		--					
			c				e		o
			ch						
		s	sh		h		ε		ɔ
		s^h							
	m	n	ɲ	ŋ				a	
	w	l	j					ai	

C$_f$:	-p	-t	-k	-ʔ	G:	-w-	-y-
	-m	-n	-ŋ				

Table 1. Kadu Phonology[26]

---

[25] Sangdong (pp. 27–28) cites a wonderful judgment on this matter by Houghton 1893: "Who the Kadu were originally remains uncertain, but now they are little more than Burmese and Shan half-breeds with traces of Chin and possibly Kachin blood. If they ever had a distinct language it is now extinct or has been modified so much by all its neighbors as to be little better than a kind of Yiddish."

[26] Adapted from Sangdong, pp.47ff., and p. 95. /k/ and /ŋ/ do not occur before front vowels. /kh-/ occurs mostly in loanwords from Burmese. Huziwara observes (p.c. 2012) that in some cases Kadu *kh-* is also found in loanwords from Shan (e.g. 'parrot' Kadu *mak^{h}έ* < Shan *nok^{5}khew^J*), and also as the result of sandhi (e.g. *-háŋ* 'again' becomes *-k^{h}áŋ* after checked syllables. In his practical orthography, Sangdong uses "z" for the phoneme /s/, and "s" for its aspirated homologue, /s^h/, an unusual sound that also occurs in Modern Burmese and Shan. In Sangdong's practical orthography, the vowels /ε/ and /ɔ/ are written with the digraphs "eu" and "au", respectively, with the tonemark written over the "u". In the comparative portion of this paper (Appendix III) these digraphs have been replaced with the proper phonemic symbols, e.g. 'monkey' "kweú" /kwέ/; 'jump' "phaúk" /phɔ́k/. Sangdong and Huziwara agree that *-ai* occurs before *-ʔ* and *-ŋ*, but Sangdong claims it also occurs in open syllables, which Huziwara denies. The glides *-w-* and *-y-* occur mostly in loans from Burmese.

Kadu tones: (Sangdong 2012: 81–89)

HIGH　　55 ~ 44 ~ 45 ~ 44　v́
MID　　　33 ~ 22　　　　　　v̄　　(This is lexically the most common tone.)
LOW　　 22 ~ 11　　　　　　v̀

Huziwara has recently shown that this three-way contrast also occurs in stopped syllables.

Minimal tonal triplets:

sín 'spicy'　　　*sīn* 'iron'　　　*sìn* 'heart' [DS], *ʔəsʰèn* [HK]
há 'red'　　　　*hā* 'bitter'　　　*hà* 'five'
káp 'shoot'　　　*kāp* 'peel'　　　*kàp* 'prepare'

Sesquisyllabicity [27]

Kadu is highly sesquisyllabic. As in Sak (below), the most common minor syllable is *a-*, followed in order of frequency by *ka-*, *ta-*, *sa-*, *pa-*, *na-*, and *ma-*. Rare ones include *ha-*, *la-*, *wa-*, *ya-*, *za-*, and *ca-*. Kadu even has words with two minor syllables, e.g. *takalāt* 'root'. This is not uncommon in TB, e.g. Tangkhul *khəmə lek* 'lick', WT *brgyad* 'eight', but we need a term for such a word - "doubly sesquisyllabic"?

4.1.2 Sak/Cak/Chak

Huziwara calls his language "Chakku" (= Chak). Everyone agrees that this Luish language is quite distinct from that of another group in the Chittagong Hill Tract called "Chakma", which is Indo-Aryan, a rather divergent form of Bengali, but written in a Burmese-type script.[28] Bernot surmises that the Cak had lived in Central Burma for at least eight centuries, and that they migrated from Arakan to the Chittagong area in relatively recent times. The dialects of the two regions are mutually intelligible, and intermarriage occurs between the groups. There are 2000–3000 Chak in Bangladesh, where Huziwara did his research. The Chak share the Chittagong Hills with 10 other minority populations: besides the Indo-Aryan Chakma and Tangchangya, there are Central Chins (Mizo, Pangkhua, Bawm), Southern Chins (Khumi, Khyang), a Barish language (Tripura = Kokborok), Mru (close to the Chin group, but unclassified), and most importantly, Marma (= Arakanese). Huziwara is especially careful to identify the innumerable Marma words that have made their way into the Chak lexicon (pp. 857–917).

Sak syllable canon :

　　　　　　　T
(Cə)(Ci) (G)　V (Cf)

---

[27] See Sangdong (2012: 98–104) "Minor syllables".
[28] See especially Löffler 1964.

C$_i$:	p t k	V:	i ɨ ɯ u
	ph th kh		
	b d g		e ə o
	c		
	ch		a
	j		
	ɓ ɗ		
	s ʃ		
	v	G:	-w- -r- -y-
	m n ŋ	C$_f$:	-ŋ -ʔ
	l r		
	w y		

Table 2. Chak Phonology (Huziwara 2008: 19, 63, 77)

Tones: Low   v   (longer, comparatively lower pitch)
           High   v́   (shorter, comparatively higher pitch)

Huziwara recognizes two subdialects of Bangladeshi Chak: that of Baishari District (on which his work is based) and that of Naikyongchari District. There are only relatively slight differences between them, e.g. B. *ŋy-* / N. *y-* ('weaken' B. *ŋyó*, N. *yô*); B. *ky-* / N. *tɕ-* (e.g. 'sweet' B. *kyi*, N. *tɕi*).

G = glides (-*w*-, -*y*-, -*r*-); -*l*- only occurs in loans where Marma has *hl*-; -*w*- also occurs mostly in loanwords from Marma (p.68). Medial -*y*- occurs only after labials and velars (p. 74). There is also a glide -*v*- which only occurs before /u/, and which is realized phonetically as a syllabic [ɣ].[29] There are also a few Marma loanwords with the double glide -*yw*-.

Cf = final consonants *(-ŋ, -ʔ)*. All scholars agree on these two. But Luce (1985) also recognized -*k* -*t* -*n*; Löffler also noted -*k* and -*p*; while Bernot recorded -*h* and -*f*. Evidently the final consonants other than -*ŋ* and -*ʔ* are hard to hear and/or on the way out. See 4.121 below.

Sesquisyllables
Huziwara (2010) has devoted a whole article to Sak prefixes. He recognizes eight minor syllables. The most common of them appears to be *a-*, which shows dissimilatory tonal variation according to the tone of the major syllable: *a-* before HIGH tone (e.g. *atáʔ* 'branch') vs. *á-* before LOW tone (e.g. *átaʔ* 'leaf'). The other prefixal syllables, in rough order of frequency, are: *sə-* (which pre-verbally occasionally has causative meaning: e.g. *pyoʔ* 'disappear'/*səbyoʔ* 'lose'; *pru* 'appear'/*səbru* 'put sthg into view'); *pə-*, *mə-*, *hə-*, *kə-*, *rə-*, and *tə-*.

---

[29] There is a somewhat analogous phenomenon in Lahu; see below 4.22.

4.1.3 The fate of PTB *velars in Luish

The regular development of PTB *k-* is Luish *h-*:

	PTB	Jingpho	Kadu	Sak
bile	*m-kri-t	khrī		ʔáha
bitter	*b-ka	khá	hā	ha
borrow	*s-kəy		hē̄	huɯ
branch	*s-ka:k		hàk	ʔáhaʔ
chin/jaw	*m/s-ka	ǹ-khá	ahà	ʔəhəɓúʔ
crow	*ka	ù-khā	ūhá	ʔuhá
door	*m-ka	n̄-khā		ʔahá
dove	*m-krəw	khrū-dû	[khō] [29]	bəhrɨ́ʔ
hole	*g/kuŋ	ǹ-khūn		ʔahúŋ
pillow	*m-kum	bùŋ-khúm		ʔúʔ-huŋ
smoke	*kəw	khú ✕ khùt	[khó] [30]	vaiŋ-hvu
weep	*krap	khràp	hāp	hraʔ

In at least one root, dialects of Sak show *k-* ✕ *h-* variation, indicating that the sound-change *k-* > *h-* was still in progress:

	PTB	Jingpho	Sak
head	*m/s-gaw	khàʔ-khú 'upstream'	ʔahú [HK], ǎhwȗ² [GHL, Bawtala dial.]; uk'u [GHL, Dodem dial.]

In a few other roots with voiced or nasal initials, Luish retains original velars:

	PTB	Jingpho	Kadu	Sak
earth	*r-ga	gá	kā	kəjáʔ
five	*b/l-ŋa	məŋā	[hà < Shan]	ŋá-hvú
hot		kā	ká	ká 'hot', ʔaká 'roast'

Morphophonemically there is also interplay in Kadu between velars and *h-*. In two-syllable sequences where S¹ ends in *-t* or *-k* and S² begins with *h-*, the *h-* is realized as aspirated [kʰ]: *kát* 'run' + *háng* 'again' > *kátkháng*; *yōk* 'eat' + *háng* > *yōkkháng* (Sangdong 2012: 59).

In two cases Kadu *t-* is found to correspond to Sak *k(y)-* before *-i*:

	PTB	Proto-Luish	Kadu	Sak
penis	*ti-k	*ti	tí	ʔakyí ~ atyɪ [31]
sweet	*twəy	*ti	tī	kyi

4.1.4 Kadu (and Ganan) infixation

There is an infix in Kadu, transcribed as *-al-* by Sangdong (2012: 158–60) and pronoounced as *-əl-*, which is used (non-productively) especially for nominalizing verbs, e.g. *mɛ́* 'good' ("meú") > *məlɛ́* 'goodness' ("maleû"). As Sangdong

---

[30] This Kadu form is a loan from Burmese (Mod. Bs. *ʔəkhôu*). Still another case is DANCE, where Kadu *káʔ* is evidently borrowed from Bs. *kà* (< PLB *s-ka³*).

[31] Luce (1985) records *ǎtyí* from the Bawtala dialect.

observes, this infixational process is responsible for creating secondary minor syllables, as in the first vowel of "goodness".

Sometimes this infix can disguise a valid cognate, e.g. Kadu *salaú* 'oil' is from PTB **saːw* (STC #272), though this was not recognized by Benedict, probably because the form was lacking in his sources. (The closely related Ganan language, recorded recently by Huziwara, also has an infixed form here: *sʰəlɔ́*.)

Other examples include:

branch	*həlàk* (n.); *hàk* is the Kadu classifier for branches, and is directly cognate to WB *ʔəkhak*.
flesh/skin	Huziwara (p.c. 2012) derives Kadu *məla* 'flesh' from *ma*, which in Ganan and Sak means 'classifier for animals', and is probably related to the Sak 3ʳᵈ person pronoun *ʔáma*.
hatch	Sak has *puʔ*, while Kadu has a doublet *pok* 'hatch' ⌇ *pəlok* 'nest' (< PTB **puk*; see TBRS #16).
leaf	Sak has *ʔátaʔ*, while Kadu has an infixed form *talāt* (< *tāt*). Other languages have lateral initials and final *-p* (Jg. *làp*, PNN **lap* [French 1983: 510]).
meat	Kadu has a doublet *sān* ⌇ *salān*, while Sak *ʔásaiŋ* reflects the simple root (< PLu **san* < PTB **dzya-n* [see above 4.3.1]). Here as well, Ganan has developed an infixed form (*sʰəlan* [HK]), leading to the possibility that this infix should be reconstructed for Proto-Luish.
two	*kalìng* (Huziwara reconstructs PLu **kìŋ*).

There are no doubt quite a few more hidden examples of this infix, so that all Kadu forms with medial *-al-* should be looked at carefully, e.g. 'head/sky' Kadu *halang* (? < **haŋ*).

However, in other cases a Kadu lateral looks like it is part of the root, not an infix:

rain/cloud/sky	Huziwara (2012: #202) reconstructs PLu **hráŋ* on the basis of Kadu *həláŋ*, Sak *hráŋ* 'rain' and Andro/Sengmai *harʌng* 'sky'.[32]
root	Kadu has *təklat,* but Sak has *ʔákraiʔ,* justifying a PLu reconstruction **k-rat.*

4.2 Luish and linguistic groups other than Jingpho

4.2.1 Tai → Luish

I have identified a few Tai loans into Luish, but there are likely to be many more to find. All the Kadu numerals from 5-10 are from Shan, and have been so since the early 20th century (Brown 1920). For reference, here are the numerals from 1-10 in several languages of interest. (The Sak numerals from 3–10 seem particularly close to those of Jingpho.)

---

[32] However, HK does consider the Kadu *-əl-* to be an infix here. He observes that PLu **r-* drops without trace in Kadu and Ganan, and supposes that a lateral was infixed after the loss of **r-*, with the initial *h-* treated as a prefix: **h-ráŋ > háŋ > həláŋ*. In Andro, PLu **r* is preserved if it is not a part of the root, but dropped otherwise (p.c., HK).

	Jingpho	Kadu	Sak	Rawang	PNNaga
'1'	ləŋâi	tèn-à [DS]³³	hvú-wa ³⁴	thiʔ	tse / kla
		tèn-na [HK]			
'2'	ləkhôŋ	kalìng-tén	níŋ-hvú	ənî⁵³	-ni
'3'	məsūm	sóm- tèn	súŋ-hvú	əʃɯm³¹	sum
'4'	məlī	pí- tèn	prɨ́-hvú	əbɨ³¹	bə-ləy
'5'	məŋā	Tai	ŋá-hvú	phə ŋwa³¹	ba-ŋa
'6'	krúʔ	Tai	kruʔ-hvú	ətɕhuʔ /kruʔ	tə-ruk
'7'	sənìt	Tai	səniŋ-hvú	ʃəŋɯt	n(y)it
'8'	mətsát	Tai	ʔácaiʔ-hvú	əʃat	tə-gyat ³⁵
'9'	krúʔ	Tai	təhvú-hvú	dəgɯ³¹	tə-gəːw
'10'	šī	Tai	sɨ́-hvú	thiʔ sɛ⁵³	roːk / boːn

A random Tai loanword into Luish:

bedbug   Kadu *hàt* < Shan *hət* (cf. Siamese *rŷat*). This Tai word has also been borrowed into Lahu as *hôʔ*.³⁶

Ichthyonyms

Fish names in Kadu frequently have the prefixal morpheme *pa-*, e.g. *pacīsá* 'loach'; *pazīngzú* 'dwarf fish'; *pasàt* 'carp'; *patùn* 'eel' [Sangdong p. 100–1]. This is clearly a loan from Tai (cf. Si. *plaa* 'fish'), a morpheme which regularly occurs as the first syllable in Tai names for fish.

4.2.2 Luish and Lolo-Burmese

These two branches of TB are not particularly closely related at all. There is, however, one phonological phenomenon which Sak shares with Lahu and other Loloish languages: affrication of consonants before /-u/. In Lahu this only happens with labial initials, but in Sak it occurs after other points of articulation as well:

	Sak	
elephant	*ʔukvú*	
grind	*thvu*	
help	*kvú*	
insect	*ʔápvu*	/cf. Lahu *pû*, phonetically [*pfũ̀*]/
porcupine	*pədvu*	
rat	*kəyvu*	
smoke	*vaiŋ hvu*	

---

³³ The second syllable is glossed as 'one' in Sangdong 2012:237. Kadu must thus be added to the short list of languages that has this root for ONE (Aka/Hruso *a*; Qiang Taoping *a²¹*; Qiang Mawo *a*). See Matisoff 1995:132, section 3.154. Fu Jingqi (p.c. 2012) pointed out to me that this root is also attested in Baic: Jianchuan *a³¹*, Bijiang *a⁴²* (Xu and Zhao 1984:173).

³⁴ The Sak second syllable must also mean 'one'.

³⁵ This is the reconstruction given in French 1983:482, but this seems to be a "teleo-reconstruction" based on PTB *b-r-gyat*. The actual Naga forms cited point rather to PNN *tsat* or *tsyat*.

³⁶ Huziwara notes that in his data the forms for 'bedbug' are *hap* in both Kadu and Ganan.

snake   *kəhvú*
steal   *kvu*

But there is an exception:

dig   *thu*

There are a number of Kadu doublets comprising both native Kadu and Burmese loans:

	Native	Loans from Burmese
boat	*halí*	*lē*
moon/month	*satá*	*láq* [DS], *lá* [HK]

Huziwara (2008) devotes 60 pages (pp. 857–917) to listing loanwords and cognates between Marma (Arakanese) and Cak/Sak. A tiny sample of these hundreds of items:

	Written Burmese	Marma	Cak/Sak
advantage/profit	*ʔəmrat*	*ʔəmraiʔ*	*ʔáməraiʔ*
brain	*ʔû-hnok*	*ʔŭhnɔʔ*	*ʔúnóʔ*
carry on shoulder (w. pole)	*thâm*	*tháiŋ*	*tháiŋ*
fox	——	*khéwa*	*ʃówa*
gold	*hrwei*	*ʃwe*	*ʃwe*
hoof	*khwa*	*khwa*	*khwa*
open	*phwaŋ'*	*phwɔ̆ŋ*	*phwáŋ*
hit	*tî*	*tí*	*tí*
ice	*re-khâi*	*rəkhé*	*rəkhé*

A number of these words are ultimately of Indic origin:

	Pali/Skt	Written Burmese	Marma	Cak/Sak
body	*khandhaa*	*khandha*	*khaiŋtha*	*kaiŋtha*
distress	*dukkha*	*dukkha'*	*douʔkhă*	*dúʔkhá*
heart/mind	*citta*	*cit*	*coiʔ*	*cíʔ*
sugar	*śarkarā-*	*sakra*	*θəgrá*	*səgrá*

4.2.3 Luish and Nungish

Sangdong, who is a native speaker of Rawang, finds (p. 39) that any connection between Nungish and Luish is "less promising" than the Jingpho/Luish relationship, and one can only agree with him!

However, here are few examples of closely similar cognates between Luish and Nungish:

lung   Sak *ʔasésuʔ*   Rawang *rəʃɯ⁵³*
sesame   Kadu *sanàn*   Nung *sənam*
smoke   Sak *vaiŋ-hvu*   Trung *mɯ³¹ɯ⁵⁵*, Anong *mə ö*, Rawang *məyɯ⁵³*
squirrel   Kadu *cīlāng*   Nung *dzɿ³¹thaŋ⁵⁵*
thread   Sak *rɨ*   Dulong *tsɯ³¹rɨ⁵⁵/³³*
wither   Sak *ŋyɯ*   Anong *ŋyö*

5. JINGPHO AND LUISH

Positing a special relationship between Jingpho and Luish is not a new idea, as witness the fourth of the 7 major groupings of TB languages listed in STC (p. 5):

"Kachin ; perhaps also Kadu-Andro-Sengmai (Luish) and Taman."

Burling (2003: 178) believes in it too: "Bernot's own data on Sak [1967] are the best that is available on any of these languages, and its special similarities to Jinghpaw are obvious." How much more "obvious" this becomes with all our new data!

5.1 Comparative phonological summary

An outline of Jingpho phonology appears below as Appendix II. The following chart summarizes some of the salient phonological features of Kadu and Sak, and compares them to those of Jingpho. As implied by the chart, Kadu will prove to be better for reconstructing earlier finals, while Sak will be better for reconstructing initials:[37]

	Kadu	*Sak*	*Jingpho*
C_i's	only 2 series (plain, aspirated)	4 series (plain, aspirated, voiced, imploded)	4 series (plain, aspirated, voiced, glottalized)
C_f's	*-p -t -k -ʔ* *-m -n -ŋ*	*-ʔ* [38] *-ŋ*	*-p -t -ʔ (-k)* *-m -n -ŋ*
Initial clusters	none	yes	yes
Rhotic initials	no	yes	yes
Numerals	< Tai above 4	TB preserved	TB preserved
Sesquisyllabic	yes	yes	yes

5.1.1 Variation in final stops

A word about final stops in Jingpho, Kadu, and Sak. In general, Jingpho is much more conservative than the Luish languages in its preservation of original final consonants.[39] Final stops seem no longer to have reliably distinct points of articulation in Luish,[40] to the point where Huziwara admits that he has often been obliged to browbeat his Kadu informants in order to get them to pronounce, e.g. *-p* rather than *-t* or *-ʔ*.[41] Where Sangdong records Kadu final *-k*, Huziwara has

---

[37] This is rather analogous to the situation in Hmong-Mien, where Hmongic is better for reconstructing earlier initials, but Mienic is better for reconstructing finals, i.e. Sak : Hmongic :: Kadu : Mienic.

[38] The Dodem dialect of Sak recorded by Luce has *-k* as well.

[39] An exception to this generalization is that PTB *-k* has regularly become Jg. *-ʔ*. Modern Jingpho words with *-k* are loans from Shan or Burmese.

[40] The same sort of evolution is characteristic of Modern Burmese, where all the final stops of Written Burmese have been reduced to *-ʔ*, while all the final nasals have lost their points of occlusion, leaving nasalized vowels.

[41] See the discussion of BEDBUG (below Section 4.21), as well as Section 6 below.

-ʔ. We may note the following types of discrepancies involving Jingpho and/or Luish final stops:

Jingpho open syllable / Luish -k
fly (n.)   Jg. *mətšî* 'small winged insects': Kadu *pazèk* [DS]; *pəsîʔ* [HK]: Sak *pəcîʔ*
          But in this case Jg. does have an allofam with the proper final: *tšîʔ-kròŋ* 'mosquito'.

husk (of rice)   Jg. *nám-khó*: PLuish **hók* > Kadu *yəháuʔ*, Sak *yaʔhóʔ*

Jingpho -ʔ / Sak -ŋ
stingy/miserly Jg. *mədžîʔ* : Sak *kəjíŋ*

Jingpho -p / Luish -p ~-t
bear (n.)   Jg. *tsáp* : Kadu *kəsʰàp* [HK], *kasát* [DS]
bubble   Jg. *khùm-bòp* : PLuish **Cót* > Kadu *sʰəpót*, Sak *ʔasəbóʔ*
leaf   Jg. *làp* : Kadu *talāt* [DS], *təlap ~ tətap* [HK], Sak *ʔátaʔ*

Jingpho -t /Kadu -k
deer (sambhur) Jg. *khyì-tút* : PLuish **kᴴ-juk* > Sak *kəjuʔ*, Ganan *kəsàuʔ*
          Here it is Jingpho that has innovated. This etymon is reconstructed as PTB **d-yuk* [STC #386] on the basis of forms like Mizo *sa-zuk*, Mikir *thidžok*.

Jingpho -p / Kadu -k
calf (of leg)   Jg. *bòp, ləbòp* : PLuish **t-pók* > Kadu *təpáuʔ* [HK], *təpók* [DS]

Other -t / Luish -t ~ -k
vagina   PTB **b(y)at* : PLuish **pak* > Kadu *paʔ*, Sak *ʔápaʔ* [HK], *ăpɛt* [GHL, Dodem dialect]

    It should also be pointed out that a number of etyma show variation in final stops at the PTB level, e.g. 'suck/breast' PTB **dzyuk* ⪥ **dzyut* ⪥ **dzyup*.

    Kadu shows a similar uncertainty with respect to the position of articulation of final nasals, e.g. 'sesame' PTB **s-nam* > Kadu sanàn [DS], but also recorded as *sʰənàm* [HK].

5.2 Morphological similarities and differences between Jingpho and Luish

Sesquisyllabicity
It seems to me that "degree of sesquisyllabicity" is an important criterion for comparison among subgroups. Both Jingpho and Luish are highly sesquisyllabic, while Nungish seems only slightly so.[42] Bodo-Garo and Northern Naga prefer compounding to prefixation; in Lolo-Burmese sesquisyllables do exist, but are extremely rare.

Morphological parallelism in the triple allofams for eat/food/rice
Both Jingpho and Luish display a three-member word family built on the basic PTB root **dzya* 'eat', with the allofam in *-n* meaning 'meat/food', and the allofam in *-t* meaning 'cooked rice':[43]

---

[42] Although LaPolla does observe that "Dulong often preserves the proto-prefixes as separate syllables" (1987:2). Examples include 'grandchild' PTB **b-ləy* > Dulong *phəli³³*; 'pillow' **m-kum* > Rawang *əgə məkhim*; 'chin/jaw' PTB **m-ka* > Rw. *məkha⁵³*.
[43] See HPTB p. 440.

		Jingpho	Kadu	Sak	Other
eat	*dzya		šá	sa	WB câ
meat/food	*dzya-n	šàn	salān	ʔásaiŋ	WT zan 'food'
rice (cooked)	*dzya-t	šàt	sàt	kvúsaiʔ	Lp. zot 'graze'

However, partially similar allophony in this root is also found in Tangkhulic (*tsa* 'eat, *tsaat* 'cooked rice'). See also Proto-Tani *do* 'eat' (Sun 1993: 160), a root which appears in suffixed form in Kachai (Tangkhulic) *ʔa-dot* 'cooked rice' (Mortensen 2012).

Sibilant causative prefix

Jingpho has quite a productive causative prefix, *šə-* ✕ *džə-* (the latter variant occurring before aspirates and sibilants), which descends from the well-known PTB *s-* prefix with the same function (see HPTB: 100–102). The same prefix occasionally shows up in Luish as well:

emerge   Jg. *prū* 'emerge', *šəpróʔ* 'bring out, exhume'
             Sak *pru* 'emerge', *səbru* 'put out'
   Note the different rhyme in the Jingpho causative form.

Verb pronominalization

So-called "verb pronominalization", a type of "head marking" where morphemes in the VP indicate the person and number of the subject and/or object of the sentence, is characteristic of several branches of TB, to the point where some scholars (e.g. DeLancey 2013) are sure this feature should be reconstructed for PTB.

Jingpho does have such agreement marking to signal the person and number of the subject, although it is nowhere nearly as complicated as, for example, the systems of the Kiranti languages of Eastern Nepal, where pronominalization reaches its apogee. On the Luish side, there seems to be no evidence at all for verbal agreement. Huziwara has a section (2.15.1.1; p. 37) entitled "Personal suffixes marked in the verb-phrase",[44] which consists of exactly three words: "*Toku ni nasi.*" ("Not especially; not particularly.") This is accompanied by a footnote which suggests a possible distant survival of some sort of agreement system, although Huziwara does not seem to really believe it.[45]

Given the lexical closeness I hope will have been demonstrated between Jingpho and Luish, it seems significant that the two groups should differ in this important respect. To me it indicates that verb pronominalization, like tonogenesis, is a phenomenon which can easily arise independently in different branches of TB.

---

[44] *Dousi-ku ni hyouzi sareru ninshou setuzi.*

[45] "However, certain particles which mark the directionality of the action, i.e. *-Xaiŋ* 'benefactive venitive', *-Xaŋ* and *-Xa* 'andative' might descend from the personal suffixes that are hypothesized for PTB, respectively from *-n* '2nd person', *-ŋ* '1st person', and *-a* '3rd person'." ("X" is a morphophonemic symbol which stands for various assimilatory variations in the shape of the particles: Huziwara 420–3, 424–6). However, HK has now abandoned this speculation (p.c. 2012).

5.3 Obstruentization/dentalization of laterals: a key phonological isogloss

A particularly striking phonological development in a few TB languages involves the development of prefixed *lateral initials into secondary dental stops. Before having access to this new Luish data, I had discussed eleven TB etyma that illustrate this phenomenon (Matisoff 2010). When Luish is added to the mix, the parallels between Jingpho and Luish become obvious indeed! Of my 11 etyma, 5 show obstruentization in Jingpho and/or Luish, with 3 showing it in both groups, one in Jingpho but not in Luish, and one in Luish but not in Jingpho.[46]

		Jingpho	Kadu	Sak	N.Naga	Other
hand	*g-lak	táʔ, lətáʔ	tāk	təhú	Nocte dak	WT lag-pa

In Jingpho, after *l > t, there was reprefixation by lə- (< *lak). Bernot (1967: 243) cites Cak (E. Pakistan) laʔ ñuɯ 'index finger'. This looks like a survival of the general TB root, but HK points out that this is evidently a borrowing from Marma laʔ-hŋyú (cf. WB lak-hŋûi). The usual Luish word for 'arm/hand' is tahu, where the first syllable is very likely an unstressed allomorph of tak.

		Jingpho	Kadu	Sak		N.Naga
leaf	*s-la(p)[47]	làp	talāt [DS]	ʔátaʔ		PNN *lap [French 1983: 510]
			təlap [HK]			

The Kadu form contains the -al- infix (above 4.12).

		Jingpho	Kadu	Sak	Other
lick	*s/m-lyak	táʔ, mətáʔ	tāk	ʔátaʔ	WT ldag, Tangkhul məlek

Other languages (e.g. Akha myə̀ʔ) show preemption by the nasal prefix.

		Jingpho	Kadu	Sak	Other
moon	*s-la	šətā, tā	satá[DS]	sədá	WT zla-ba; Meithei tha
			sʰətá [HK]		

STC's reconstruction *sgl- (n.137, p.42) is needlessly complicated. Interestingly, Meithei also has a stop here.

		Jingpho	Kadu	Sak	Other
navel	*s-lay	dāi, šədāi	ʔásəlu		PNN *taːy [French 1983: 525],
					Garo ste 'abdomen'

WEAVE is a somewhat analogous etymon, which shows interchange between r- in Nungish (e.g. Rawang raʔ) and in Lolo-Burmese, e.g. WB rak, Lh. γàʔ < PLB *rak[L]), but a dental stop in most other TB languages (e.g. WT ḥthag-pa). This has been explained variously by a proto-cluster (Matisoff 1972: #192, reconstructs PTB *d-rak), and ascribed by Benedict to an Austro-Tai prototype (STC n.69, p.19). Jingpho has a doublet dàʔ ⪥ wàʔ, while Luish and Northern Naga have stops: Kadu tàk, Sak taʔ, PNN *tak (French 1983: 578).

---

[46] Furthermore, three of the five also show obstruentization in Northern Naga. On the other hand, none of my eleven etyma show obstruentization in Bodo-Garo (except for Garo ste 'abdomen' < *s-lay ⪥ *s-taːy 'navel'). In this respect Jingpho is closer to Northern Naga than it is to Bodo-Garo. Obstruentization of laterals is not characteristic of Nungish, any more than it is of Lolo-Burmese.

[47] For the *s- prefix, cf. Magar hla, Dhimal hla-ba.

MORTAR is a rather similar case, this time illustrating the hardening of a fricative to a stop. While Nungish, as well as Mizo and Garo, have *s-*, and the PLB reconstruction is **ts-* (> WB *chum*, Lh. *chɛ*), Jingpho and Luish have dental stops, as does most of Northern Naga, leading to a reconstruction something like **(t)sum > *tum:*

Rawang	Mizo	Garo	WB	Lahu	Jingpho	Kadu	Sak
dɔŋ³¹sum³³	*sum*	*sam*	*chum*	*chɛ*	*thùm*	*thōn*[DS], *tʰom* [HK]	*thuŋ*

Northern Naga also has dental stops (Yogli *thim*, Moshang *thum*, Nocte *thʌm*), except for Chang *šʌm* (French1983: 523).

COCKROACH, reconstructed hesitantly by Huziwara as PLuish **s-Cíp* (?), with unspecified initial consonant, shows internal variation within Luish between intervocalic *-l-* and *-d-*: Kadu *sʰəlíp*, but Sak *sɨdǐʔ*.

As I observed at the end of "The dinguist's dilemma", the very sporadicity of *l/d* or *l/t* interaction is a consequence of its basis in articulatory fact. Sound changes which are based on universal articulatory tendencies may be activated at any time, so may paradoxically appear to be sporadic in their operation. But in this case the sporadicity may be somewhat localized within the TB family!

6. CONCLUSIONS

Working on this paper has brought home to me with particular clarity the crudeness of the traditional family-tree model of linguistic relationships,[48] especially in a complex contact area like Southeast Asia. Any valid language family will show overlapping points of similarity: phonological, lexical, and grammatical isoglosses. Subgrouping depends on how many of these isoglosses reinforce each other—how many strands of similarity combine to become a rope or a cable, as it were. No single criterion suffices. Along with purely lexical matches, we might use such features as obstruentization of laterals, verb pronominalization, triple allofams of the root for EAT (with *-n* and *-t* suffixes), the sibilant causative prefix, etc.

At the present state of our knowledge, all we can do is rely on our gut impressions as to degrees of interrelationship. Here are mine, for what they are worth:

Bodo-Garo and Northeastern Naga do indeed share a special relationship, as witness the "curious series" of characteristic roots for HAND and FOOT, where the forms are virtually identical except for the presence of a final element in HAND (see STC, n. 108, p. 34):

---

[48] This of course was also the view of Benedict. See Fig. 1, above.

	arm/hand	foot
Bodo-Garo:		
Garo	*dźak*	*dźa*
Dimasa	*yau*	*ya*
Northern Naga:		
Tableng	*yak*	*ya*
Tamlu	*lak*	*la*
Banpara	*tśak*	*tśia*
Namsang	*dak*	*da*
Moshang	*yok*	*ya*
Luish:		
Chairel	*lak*	*la*
Tani:		
Miri	*əlak*	*əle*
Dafla	*əla*	*al*

In general, Jingpho seems closer to Luish than to any other TB subgroup. The connection between Jingpho and Northern Naga seems stronger than that between Jingpho and Bodo-Garo. Contrary to my previous view, I no longer consider Jingpho to be particularly close to Nungish, since the lexical similarities between them seem to be due to borrowing.

Lolo-Burmese seems closer to Nungish than to Jingpho.

At any rate, we Tibeto-Burmanists should not be discouraged by the fact that the higher-order subgrouping of our family is still problematic. After 200 years of intensive research, Indo-Europeanists still face similar uncertainties. While some IE subgroups are demonstrably each other's closest relatives (e.g. Baltic and Slavic), many conundrums remain: e.g. is Italic closer to Greek or to Celtic? This uncertainty was captured long ago by O. Schrader (1917–29), who used a diagrammatic representation rather like the logician's "Venn diagrams", which show by means of overlapping circles the extent of the areas of similarity among different entities. See Fig. 2.

I.   Sibilants for velars in certain forms
II. Case endings with [m] for [bh]
III. Passive-voice endings with [r]
IV. Prefix ['e-] in past tenses
V.   Feminine nouns with masculine suffixes
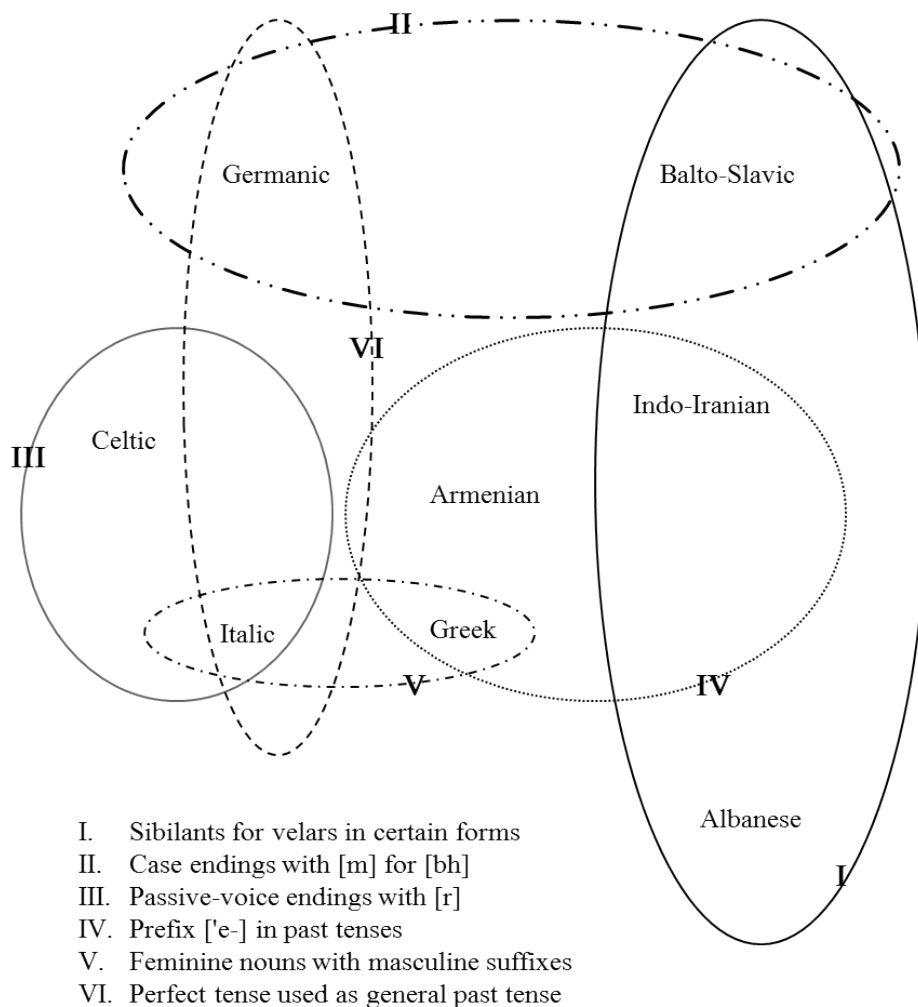VI. Perfect tense used as general past tense

Figure 2: Some Overlapping Features of Special Resemblance among the Indo-European Languages Conflicting with the Family-Tree Model (adapted from O. Schrader, in Bloomfield 1933, p. 316)

Despite the above caveats, it seems useful to adapt here the Asakian Stamm-baum suggested by Huziwara (2012, Section 2.3). See Fig. 3.
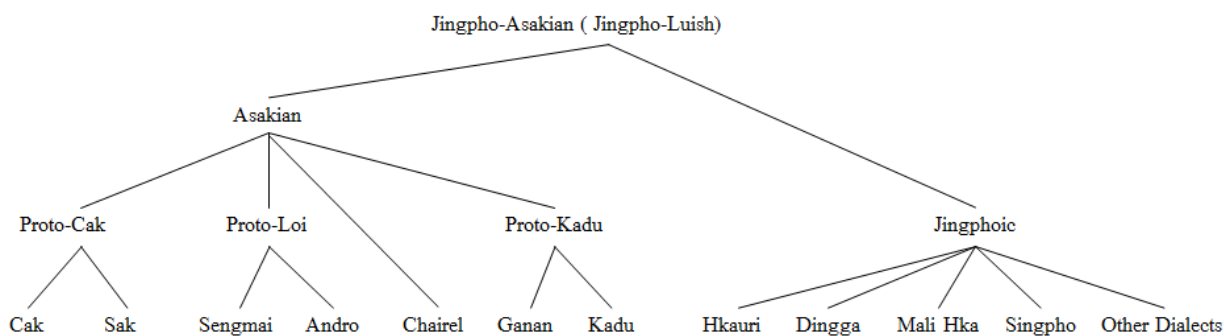

Figure 3. Jingpho-Asakian Stammbaum

If we should desire to retain a version of Burling's Sal grouping, we might propose a schema like that of Fig. 4.
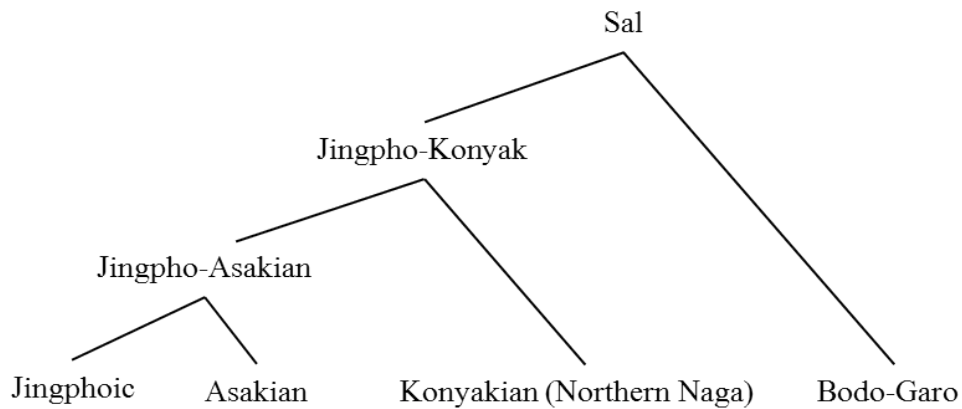

Figure 4. Elaboration of the Sal Hypothesis

APPENDIX I
EVALUATION OF THE EVIDENCE FOR BURLING'S
"SAL" GROUPING[49]

Burling (1983) divides his examples into 5 major groups, according to his plausibility judgments: (A) 24 "most convincing" examples; (B) "suggestive sets"; (C) "tantalizing possibilities"; (D) "most widespread TB cognates"; (E) "less widespread but possible cognate sets".

A. The "most convincing" examples (pp. 8–11):

Of these 24 examples, 10 have no Jingpho cognate, and 10 are general TB roots.[50] That leaves four uniquely Bodo-Garo/NE Naga/Jingpho sets: COOKING POT, SKY/RAIN, PESTLE, MOTHER (the latter not in Bodo-Garo). Two of these are easily borrowable cultural items (COOKING POT; PESTLE).

However, the Bodo-Garo/NE Naga comparisons for every item in this list appear quite valid. It is only in that sense that these examples are "most convincing".

---

[49] A similar critique of Burling's evidence appears in Coupe 2012, which I unfortunately did not realize until the draft of this paper was completed.

[50] The claim of unique attestation of an etymon in a particular group or groups of languages is of course weakened when a cognate is found outside the group(s). However, the secondary claim can be made that the reflexes of the etymon in the groups in question are idiosyncratic enough – either phonologically or semantically – that they cannot be imputed to independent descent from a common ancestor, but rather bespeak a closer relationship, either genetic or contactual. Thus the signature Sal etyma for SUN and FIRE, while they have many cognates outside the putative Sal group, do indeed appear to have undergone semantic specialization from their underlying verbal root, to the point where they have replaced the most widespread TB nominal roots for those concepts. Cf. our category PLJ+ in the spreadsheet in Appendix III.

Sets with no Jingpho cognate

COOK	No Jg. cognate. Only Bodo-Garo and Naga.
DRINK	Good BG/Naga corresponence, but Jg. *lùʔ* is not cognate to Bodo *riŋ* or Tangsa *liŋ*.[51]
DRY	No Jg. cognate. Bodo and Naga correspond well (< *g-ran* [JAM])
FACE/FOREHEAD	No Jg. cognate. Only Bodo and Naga.
FINGER	No Jg. cognate. Only Bodo and Naga.
INSECT/WORM	Jg. form of doubtful cognacy to the Bodo and Naga.
LEG/FOOT	Bodo and Naga show special morphophonemic relationship with HAND; Jingpho *ləgō* does not.
LIVE/GREEN	No Jg. cognate. Only Bodo and Naga.
RICE (uncooked)	Good Bodo/Naga correspondence, but no Jg. cognate.
WING	Good Bodo/Naga correspondence, but no Jingpho cognate.

General TB roots

ASH	Both **tap* [STC #18] and **pla* [STC#137] are general TB.
BURN/ROAST	General TB **ka:ŋ* [STC #330].
CROW	Imitative. Besides it's a general root **ka* [STC p.99-100] that also occurs in Nungish.
FAR	Good Bodo/Naga/Jg. correspondences, but it's a general TB etymon **dzya:l* [STC #229].
FATHER	Good Bodo/Naga/Jg. correspondences, but it's general TB. Example of a complex "extrusional" initial, **pʷ-*. See JAM 2000.
FIRE	Good example of a Bodo/Naga/Jg. correspondence, but descended from a general TB root **bwar* ⪥ **pwar* 'burn; fire' [STC #220], that appears also in Nungish (Rawang *war*[53], Anong *hwar* 'burn; kindle') and Luish (Kadu *wān*, Sak *vaiŋ*). Another "extrusional" etymon.
LONG	Good example, but from a general TB root **low* [STC #279].
SALT	Good example, but from a general TB root **g-ryum* [STC #245]
SHOULDER	Good example, but from a general TB root (not in STC or HPTB) **p(r)ak*: WT *phrag-pa* 'shoulder', *phrag-koŋ* 'upper arm'.
SUN	Good example; in fact this is Burling's signature example. Garo *sal*; Tangsa *raŋ-sal*; Jg. *jān*. But this is also a general TB root **tsyar* [STC #187], that also appears in Luish.

Best examples

COOKING POT	Good example, Bodo *dik* / Nocte *tik* / Jg. *dìʔ*. But this is a cultural item, easily borrowed. Not reconstructed in STC. It also occurs in Luish: Sak *tiʔ* 'pot'; *siŋ-diʔ* 'iron wok'.
MOTHER	This root **n(y)u* appears only in Naga and Jingpho, not in Bodo-Garo.
PESTLE	Good example, not reconstructed in STC. Garo *ri-mol*; Nocte *man*, Tangsa *mol*; Jingpho *thùm-mūn*. But this is a cultural item, easily borrowed.
SKY/RAIN	Good example, Atong *raŋ-wa* 'rain'; Nocte *rang* 'sky'; Jg. *mərāŋ* 'rain'; but this etymon appears also in Luish: Sak *hráŋ* 'rain'.

---

[51] Burling himself says (p.9) that the Jingpho form is "a very doubtful cognate". It actually goes better with Kadu *ū.*

B. "Suggestive sets" (p. 21)

Of these 19 sets, 6 lack Jingpho cognates, and 8 are general TB roots (one of which, TODAY, is a two-morpheme collocation of two general roots). One is a Wanderwort of Mon-Khmer origin. One is a doubtful case. This leaves COVER, DIVE/SINK and SEED as the convincing examples.

Sets with no Jingpho cognate

BONE	The Bodo forms cited (e.g. Garo *greŋ*) may be related to Tangsa *rang*, but Nocte *raꞏ* goes with Jingpho *ǹ-rā*, from a separate root (cf. WT *gra-ma* 'fish-bone'). The general TB root **rus* [STC #6] still reflects a third etymon.
DEER (sambhur)	The Garo and Naga forms are cognate, from **d-yuk* [STC 386], but Jg. *cəkyī* is from a separate root **d-kəy* [STC #54] 'barking-deer' [*Cervulus muntjac*].
HOUSE	Good BG/Naga correspondence, but no Jg. cognate.
TIGER	The second syllable of Garo *mo-sa* might go with the first syllable of Yellow Lahu *cà-mɛ* < PTB **k-la* (ult. < Mon-Khmer), but the onset of Jg. *shərō* is simply the TB 'animal prefix' **sə-*, while the full syllable *-rō* represents the root **roŋ* 'wildcat; tiger' (cf. STC p. 107, and Lahu *g̈ɔ̂*). On the other hand, Nocte *sao* and Tangsa *shah* look nicely cognate to Luish forms (Kadu *kasà*; Sak *kəsa, kəʃa, kəθa*).
TREE	The BG/Naga correspondence is good, pointing to **baŋ*, but Jg. *phún* is to be related rather to Garo *bol* < PTB **bul ~ *pul* [STC pp. 166, 173], as well as to Luish forms: Kadu *phón*, Sak *púŋ-láʔ* 'bark' (*láʔ* 'skin'). A different Sak form *ʔaphâŋ* 'tree' is the true cognate of the BG/Naga forms.
WIFE/WOMAN	The Garo, Nocte, and Tangsa forms seem cognate (perhaps < **syik*), but there is no Jingpho cognate.

General TB roots

BASKET	Good Bodo/Naga correspondence, but the putative Jg. cognate has the wrong vowel. Anyway it's a general TB root, **kuk* [STC #393].
MOON	A root of special importance to demonstrate the Jg./Luish relationship. But Nocte *da*, like Jingpho *shətā*, is also a form with dental stop. See above 4.32 "Obstruentization of laterals".
NAVEL	Good cognates in all three groups, but this is a general TB root **s-tay* [STC #299]. Burling (p. 12) is skeptical about the inclusion of WT *lte* here, but this is a perfect cognate.
PUS	Good cognates in all three groups, but this is a general TB root, **tswəy* [STC #183], with cognates in Burmese and Nungish.
STAB/PIERCE	Good cognates in all three groups, but this is a general TB root, found also in Tibetan and Lolo-Burmese (e.g. Lahu *jû̂ʔ*, see TSR #107).
STAND	Good cognates in all three groups, but this is a general TB root, **g-ryap* [STC #246].
TODAY	This is a two-morpheme word in all three groups, e.g. Jg. *dài-ní*, lit. "this day", where the second syllable is the general TB root for 'day' **nəy* [STC #81], and the first syllable is a general TB demonstrative **day* [STC #21].

YESTERDAY   The BG and Naga forms apparently descend from PTB *s-ryak 'day of 24 hours; pass the night; now; today'. There is a plausible Jg. cognate, not cited by Burling: *yáʔ* 'day; now'. Cf. also Lahu *yàʔ-ni* 'today'. For the nasal prefix in BG and Naga, cf. WB *mənə̀* 'yesterday'.

Southeast Asian Wanderwort

BIRD OF PREY/   This is a *Wanderwort* of Mon-Khmer origin < *g-laŋ. See STC #333.
  FALCON

Doubtful case

COLD   Tangsa *rang-song* goes fairly well with Jg. *kəshūŋ*, but Garo *kaʔ-sin* goes better with Sak *siŋ*. This is perhaps a case of -*i*- ✕ -*u*- variation. (See above 2.1 for a discussion of such variation in Nungish.)

Best examples

COVER   Boro *pin*, Garo *pin-dap*, Jg. *phún*. This is the same etymon as WRAP/PUT ON AND WEAR [q.v.], which has a Luish cognate (Kadu *phūn*).

DIVE/SINK   Good example (Garo *rip*; Jg. *phùng-líp*), but no Naga cognate. STC regards this as a general TB root, although all the forms cited in #375 are indeed from Bodo-Garo and Jingpho. For the first syllable of the Jg. form, see SWIM, below.

SEED   Good example: Wanang *ca-li* / Tangsa *uli* / Jg. *n̄-lī ~ nāi-lī̀, ù-lī*. This root has not been found in Luish.

C. "Tantalizing possibilities"(pp. 22–23)

Of the 32 sets offered, 11 lack Jingpho cognates and 14 are general TB roots. Three (SUDDENLY; SWIM; WAIST) are unconvincing.

Jingpho cognates lacking

ANIMAL; BARK (v.); BIG; BITE; COME; HOLD; MAT; NOSE; STOMACH; VULTURE; WOLF

General TB roots

BRING; CUT; DUNG; IMITATE/FOLLOW; LIGHT (weight); MAT; NOSE; RED; RIGHT (hand); RUN (See HPTB: 519); SLEEP; STOMACH; TICKLE[52]; WIND (n.) (see HPTB: 531)

Unconvincing comparisons

SUDDENLY   Garo *raʔŋ-san* / Jg. *làŋ-lətáʔ*
                       According to Hanson (1906: 340), Jg. *làŋ* is a verb meaning 'to do once'; the second element is the word for HAND [q.v.]. (Cf. French *maintenant*, Lahu *làʔ-há*, etc.) If the Garo first syllable means 'to do once' in isolation, the comparison is excellent.

---

[52] Garo *juk-juk* and Jg. *kəjuk* can plausibly both be traced back to PTB *g-yak 'armpit; tickle', which is in turn related to *g-lak 'arm; hand'.

SWIM	Atong *huŋ-* / Tangsa *jung-* /Jg. *phùŋ-líp*
	The Jg. form looks unrelated to the others. In any case PTB **pyaw* [STC #176], cited by Burling, cannot be the ancestor of any of these forms.
WAIST	Dimasa *jeng-khong* / Tangsa *khing* / Jg. *ǹ-shāng*
	The correspondences are dubious.

Good examples

BEAR (n.)	This root is not attested in Bodo-Garo, but there is a probable Luish cognate to the Jg. and Naga forms. See above Section 4.121.
GARDEN/ FENCE	Nocte *pan* / Tangsa *pal* / Jg. *məphān ~ ǹ-phân*. The suggested BG cognates (Boro *bari*, Garo *ba-ri*) are a bit less convincing because of their final vowels.
NEW	(only in NNaga and Jg.): Nocte *anyian* / Tangsa *anal* / Jg. *nìŋ-nān ~ ǹ-nān*. But there are also excellent Luish cognates: Kadu *nayá*, Sak *náiŋ*.
SHAKE	(only in Boro and Jg.): Boro *samaw* / Jg. *shəmū*.

D. "Widespread cognates" (pp. 24-25)

Table 2a has 38 items shared by all three putative Sal language groups, but 37 of them have general TB etymologies, while one is a Southeast Asian areal word (GINGER).

E. Less widespread but possible cognate sets (p. 27)

But these 19 items are all actually general TB roots. Burling cites STC reconstructions for all but 3 of them: CATTLE, HEAD, VOMIT. But the correspondences in CATTLE are shaky, and one or more loanwords seem to be involved. The STC reconstruction for HEAD **m-gaw* [STC #490] is simply missing. The root **m-pat* 'vomit' does not appear in STC, but is also quite general (see HPTB: 330).

APPENDIX II
JINGPHO PHONOLOGY

Initials								
p	py	pr	t	ts	tš	k	ky	kr
ph	phy	phr	th	ʔts	(tšh)	kh	khy	khr
b	by	br	d	dz	dž	g	gy	gr
m	my		n		ny	ŋ	ŋy	
ʔm	ʔmy		ʔn		ʔny	ʔŋ	ʔŋy	
			s	š				h
w		r	l		y			
ʔw		ʔr	ʔl		ʔy			ʔ

Vowels					*Final consonants*			
i	u		ui		-p	-t	[-k]	-ʔ
e	o	oi	ou		-m	-n	-ŋ	
	a		ai	au				

Tones

(a) Non-stopped syllables:	(b) Stopped syllables:	(c) Syllabic nasals:
x̄ 33	HIGH x́C	HIGH ń
x́ 55	LOW x̀C	MID n̄
x̀ 31		LOW ǹ
x̂ 51		

Notes.

1. Syllabic nasals are homorganic to the following consonant, e.g.: *m̀-būŋ* 'wind'; *ń-lû* 'not have' (< *lù* 'have'); *ŋ̀-ŋāi* '1st person agreement marker'

2. Both initial and medial *(-)r-* are transcribed as "ʒ" by Dai Qingxia 1983.

3. Hanson 1906 (and this paper) recognize three manner series of initial consonants (plain, aspirated, and voiced), e.g., /p hp b/ [OH], /p ph b/ [JAM]. Dai Qingxia prefers to set up only two series, aspirated and non-aspirated, distinguishing between Hanson's plain and voiced series in terms of constriction (plain) or non-constriction (voiced) of the following vowel:

Hanson	Dai	JAM
pa	pa̲	pa
hpa	pha	pha
ba	pa	ba

4. Standard Jingpho lacks an aspirated palatal affricate. The other manners of palatal affricates are transcribed in various ways, as follows:

Hanson	Dai	JAM
chya	tʃa̱	tša
ja	tʃa	dža

5. Dental affricates have been analyzed in several ways, as follows:

Hanson	Dai	JAM
tsa	tsa̱	tsa
za	tsa	dza

6. A glottalized series of nasals and resonants was first pointed out by LaRaw Maran during my fieldwork with him in the summer of 1963. Maran also discovered a marginal contrast between plain /ts/ and preglottalized /ʔts/, e.g., *tsù* 'stale' / *ʔtsù* 'ghost, disembodied spirit'. These glottalized initials have still not been confirmed by subsequent scholars.

7. Minor syllables are transcribed with the vowel "ă" by Hanson and Dai, and with "ə" by JAM. Dai assigns them a tone, but I do not.

The most common minor syllables are:

			kə-
		džə-	gə-
mə-			
	sə-	šə-	
	lə-		

Much rarer are the following, with the items in brackets mostly characteristic of non-standard dialects:

pə-	[tə-]		tsə-	tšə-	
phə-	thə-				khə-
bə-	də-				
	[nə-]				[ŋə-]
		rə-			

APPENDIX III
JINGPHO/LUISH COGNATES AND ADUMBRATIONS OF "PROTO-JINGPHO-ASAKIAN"

The following spreadsheet consists of two parts:

(1) The first section lists the relevant etymologies according to their proto-rhyme, starting with open syllables, then proceeding to syllables with nasal, stop, liquid, and sibilant codas. The last column to the right indicates the distribution of the etymon, according to the following system of abbreviations:

GEN   The root is generally attested throughout TB, including in Luish and Jingpho.
PLO   "Proto-Luish only": the root is so far attested only in Luish.
PLTB The root is attested both in Luish and also elsewhere in TB, but not in Jingpho.
PLJ   The root is attested only in Luish and Jingpho.
PLJ+ The root is attested in Luish and Jingpho, and also to some extent elsewhere, but there seems to be an especially close phonological and/or semantic relationship between the Luish and Jingpho forms.

Needless to say, these judgments are subject to modification as new cognates are discovered.

The Kadu forms have usually been changed from Sangdong's transcription to that of Huziwara, although sometimes both are included for ease of reference. There are a number of PTB etyma that are here reconstructed for the first time. These are marked with the symbol [N], for "new".

(2) Following this phonologically organized portion of the spreadsheet, all the cognate sets that have been marked PLJ or PLJ+ are assembled in a list alphabetized by their English gloss.

Items with an asterisk (*) before the gloss have notes associated with them after the spreadsheet.

In our Jingpho/Luish cognate identifications, certain well-established patterns of allofamic variation have been tolerated:

Alternation between homorganic final stops and nasals (VSTB 23–25; HPTB 516–526):

       'press'   Jg. *dìp* / Kadu *tʰèm*
       'stingy'   Jg. *mədžìʔ* / Sak *kəjíŋ*

Jingpho open syllables vs. Luish final consonant (perhaps implying a Luish suffix) (VSTB 25–27; HPTB 439–490):

       'belly/guts'   Jg. *pù* / Kadu *púk*
       'fly/mosquito' Jg. *mətší* / Sak *pəcíʔ*, P-Luish **p-cik*
       'husk'   Jg. *núm-khó* / Sak *yáʔhóʔ*, PLuish **hók*

Final consonants as different points of articulation (sometimes reflecting different transcriptions by Sangdong and Huziwara [see 4.121 above]) (VSTB 29–33; HPTB 527–534):

'bubble'	Jg. *kʰùm-bóp* / Kadu *sʰəpɔ́t*, Sak *ʔasəɓóʔ*
'calf (of leg)'	Jg. *ləbóp* / Kadu *təpáuʔ*, PLuish *t-pók*
'deer'	Jg. *kʰyì-tút* / PLuish **kᴴ-juk*
'knife/cut'	Jg. *tàn* / Kadu *taŋ* 'knife'
'wind (n.)'	Jg. *m̀-būŋ* / Kadu *mun*, PLuish **mun*

Irregular vowel correspondences:

Internal variation in Jingpho: *prū* 'emerge' / *šəpróʔ* 'bring out; exhume'

OPEN SYLLABLES

(1) *-a

	Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
	ant, red	*d-kra [N]		*tᴴ-hra	təhà	təhra; hráʔ 'termite'	G təhà	Marma kʰra	PLTB
	ask	*k-da [N]				kəɗa		Bwe da, PCK *ʔdaʔᴰ	PLTB
	bamboo	*g-pʷa	kəwá	*krwa [JAM]		kro	A ko, Se koa	WB wâ, WT spa ~ sba 'cane'	GEN
	be there/copula		ŋà	*ŋa	ŋa	ŋa	G ŋa, A/Se nga	Qiang Taoping ŋuə³³, Lisu ŋa³³	GEN
	bird (1)			*u-jík-sa	ʔusiʔsʰà		G ʔusiʔsʰà, A/Se ujiksa		PLO
	bitter	*b-ka	khá	*ha	ha	ha	G ha, A/Se ha	WT kha-ba, WB khâ	GEN
	bone (1)	*g/m-ra	n̄-rā	*m-ra [JAM]		ʔáməra		WT gra-ma	GEN
	bridge			*t/r-ká (?)	təká	rəká	G təká		PLO
	child/son	*tsa ≍ *za shâ		*sa	sʰa	ʔása, maiŋ sa	G sʰa, Se sahora	WB sâ, Magar za, Mizo fa	GEN
	chin/jaw	*m/s-ka	n̂-khá, nìŋ-khá	*Cᴴ-ha	ʔəhà	ʔahəɓúʔ	G ŋəhàhuʔ, A/Se khadang	Rw. məkhɑ⁵³, Dimasa khu-sga	GEN
	crow	*ka	ù-khā	*u-há	ʔu-há	ʔuhá	G ʔəhá, A uha	Rw. thaŋ-kha, WT kha-tha	GEN
	door (1)/opening	*m-ka	n̄-khā			ʔahá		Nung phəŋ-kha, WT kha	GEN
	ear	*g/r-na	nā	*k-ná	kənà	ʔakəná	G kəná, A/Se kana	WT rna-ba, Tangkhul khəna	GEN
*	earth/land	*r-ga	gá, əgâ	*ka	ka	kəjáʔ	G ka, A/Se ka	Garo ha, Rw. rəgɑʔ	GEN
	eat	*dz(y)a	šá	*sa		sa	A shai, Se sa	WB câ, Kanauri za	GEN

father/husband	*pʷa	wâ 'father'	*a-wá 'father', ʔəwà 'father', ʔavá 'father', *h-lówa 'husband'	ʔəwà 'father', heləwâ 'male' ʔahróva 'husband'		G ʔəwa, A apa, Se apo 'father', G helówà, A hora 'husband'	Bwe wa 'father', Moshang wa 'husband'	GEN
fish	*s-ŋya	ŋá	*tʰ-ŋa	tənà	tánŋà, taŋŋâ	G tánŋà, A/Se tanga	WT nya, Lepcha ŋo, WB ŋâ	GEN
five	*b/l-ŋa	meŋā	*ŋá	ŋá-hvú		A/Se nga	Rw. phəŋwɑ^{31}, WT lŋa	GEN
foot/leg			*ta	ta	ʔáta	G ta, A taka, tʌka, Se tʌha	Namsang da, Garo dzá	PLTB
give (1)	*ya-k	yā	*i	ʔi	ʔi	G ʔi, A/Se i		PLJ+
hot/dry/dry up		kā 'dry, dry up'	*s-ka 'dry up', *ká 'hot'	ká 'hot', ʔaká 'roast', aká 'dry up'	ká 'hot', ʔaká [DS] 'roast', seka 'roast', seka 'dry up'	G ká, Se ka 'hot, dry'		PLJ
hurt/ill	*na	nà	*kʰ-na	kanà [DS], kənà [HK]	kəna	G kənà	WT na-ba, WB na	GEN
I/me	*ŋa-y	ŋāi	*ŋa	ŋa	ŋa	G ŋa, A/Se nga	WB ŋâ, WT ŋa	GEN
level/ paddy field		pā 'flat'	*pá	ləpá 'paddy field'	pá-goʔ	G letpá		PLJ
living being			*ma	məlā 'flesh'	ma 'clf. for animals', ʔáma '3p pronoun'	G ma 'clf. for animals'		PLO
male	*la	lā		lā [DS]	ʔála		PNN *la, WB là	GEN
moon	*s-la	šetā	*s-dá	sʰətá	sədá	G sʰətá, A/Se satha	Rw. shəlɑ^{53}	PLJ+
nose	*s-na		*sʰ-na	sʰənà	ʔásəna 'apex'	G sʰənà	Rw. ʃənɑ^{53}	PLTB
one			*-a	tɛ̀n-à [DS]	hvú-wa, -a	G -a	Aka/Hruso a, Qiang Taoping a^{2}	PLTB
only/diminutive		šà	*-sa	-sʰa	-sa	G -sʰa	PTk *tsa	PLJ+
patch	*pʷa	kəpà		kapák [DS], kəpáʔ [HK]			PLB *ʔ-ba^{1}	GEN
place	*s-ra	šərà		ʔará			WB (ʔə)ra, Rawang çərɑ^{31}	GEN

gloss					pədáʔ 'put', dáʔ 'done and left'			
put down (1)/ durative	*s-ta	dǎ					Lh. tā 'put; durative', WT sta, WB thâ	GEN
red/ashamed	*gya-ŋ	khyē ~ khyēŋ ~ tšēŋ	*khyá	há	ʃá	G há	WT skyeŋ-ba 'ashamed'; WB tya, kyaŋ; Magar gyā-ke, Gurung ol-gyā	GEN
rice (cooked)			*dá	ʔetá		G ʔetá, Se konda		PLO
rightside	*g-ya ⋈ *g-ra	khrá	*tʰ-ha	tɘhà		G tɘkʰa, A laha	WT g-yas, WB ya	GEN
seedling (rice)		dɘkà		takà [DS]			Pa-O klâ	PLJ
send/see off	*sa [N]	sà		sák [DS], sʰaʔ [HK]		G sʰáʔ	Lyuzu sua³⁵	GEN
take/accept		lá	*la [HK 2012:#260]	la	la	G la, A laha, Se la	PKC *laa, Anong ɬɑ⁵⁵, PNN *C-la	PLJ+
thin	*ba	phà	*pha	phā [DS]	pʰa	G pʰa, Se pha	Rw. bɑ³¹, Lahu pâ	GEN
tiger			*kʰ-sa	kɘsʰà	kɘsa	G kɘsʰà	Nocte sao, Tangsa shah	PLJ+
tongue	*s-lya-k		*s-lí-k [HK 2012:#155]	salí [DS]	ʔasɘlíʔ	G sʰɘlí	WB hlya	GEN
tooth	*s-wa	wā, ɘwā	*s-wá	sʰwá	ʔasɘvá	G sʰwá, A sho, Se shoa	WT so, WB swâ	GEN
walk/bring	*s-wa	sā; wà	*ha	ha	ha	G ha; A laha, shai; Se la ha, sa	WB swâ	GEN
want/desire			*kak	kaʔ	kaʔ	G kaʔ	Lahu gâ 'desiderative', Lalo gà 'want'	PLTB
wound/injury	*r-ma-t	màt, šɘmàt		kamà [DS]	ʔámaiŋ		Anong rɘmat	GEN

James A. Matisoff

(2) *-əy and *-i

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
* bile/gall/sour	*m-kri-s	khrī 'acid; sour'	*hrí	cʰí 'sour'	hrɨ́ 'sour', ʔáhəkəʔɨ́ 'gall'	G hí	WT mkhris	GEN
boat	*m-ley	lī	*hó	həlí	hó	A/Se ho	WB hle, Lh. hɔ	GEN
bow	*d-ley	kūŋ-lī	*tʰ-li-t/k	təlèt [DS], təlèiʔ [HK]	le-háʔ 'bow'	G təliʔ, A/Se tīrīt	WB lê	GEN
* Cak/Sak/human *sak			*cak	ʔəsàʔ	ʔácaʔ		WB sak; PBG *sak 'Clf for people'	PLTB
comb	*m-si(y)-t	pəsí (n.), məsìt (v.)	*Cᴴ-si-k	wəçì	húsɨ	G hɔ́sʰɨʔ	Mikir iŋ-thi	GEN
copper	*grəy	məgrī			krɨ́		WB kre; Lh. kî	GEN
deer (barking)	*d-key	khyî-dût	*khí	ʔəcʰí	ʔíʃí	G ŋəhí	WB khye; gyi	GEN
die	*səy	sī	*sí	çí	sɨ́	G sʰɨ́, A sɨ, Se shɨ	WB se; Lh. šī	GEN
fear (1)	*krak ≍ *grak		*Cᴴ-cak	sàʔ	ʔácaʔ	G kəsàʔ, A/Se achʌk		PLTB
feces/body dirt	*kley	khyí	*khyi-k	cʰi	ʃi 'feces', saŋ grɨ 'earwax'	G hiʔ	WB khyê	GEN
four	*b-ley	məlī	*prí	pí	prɨ́	G pɨ́, A pī	WT bźi, WB lê	GEN
kick			*phiy (?)	pʰi	kəphe			PLO
medicine	*r-tsey	tsì	*si-k	çi	sɨ	G sʰɨʔ	WT rtsi, Lh. nâʔ-chî	GEN
* penis	*ti-k		*tí	tí	ʔakyí	G tí	Meithei ti, Lepcha tʼik	PLTB
* put down (2)/give (2)	*s-bəy 'give'		*péy	pɛ́	pí	G pɛ́, A/Se pe 'put down'	Lahu pî 'give', Mikir pi	GEN
sell			*Cᴴ-khe			G ŋəhè, A/Se he		PLO
skinny/lean		ləsì		ashì [DS], ʔasʰɨ [HK]	ʔáʃe	G sʰɨ		PLJ
smooth	*bləy [N]	prī	*pri-t	pi	prɨ́	G pit, A pī	WB pre, Pa-O plè	GEN

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
thigh		məgyī	*t-kiy (?)	təcí	ʔàtəkəbɔʔ [HK], ătăki^3 bɔʔ^2 [GHL]	G təkí, A tanghī, Se tangé	PK *kíq [RBJ]	PLJ +
wash (1) (clothes)			*khri	cʰi	hrɨ	G hi	Tangut tjɨ	PLO +
water/rain (1)	*rəy		*wé	wɛ́ 'water', həláŋ wɛ 'rain'	vɛ́ 'rain'	G wɛ́, A okwe 'gravy'	WB re, Lahu ɡ̈ì	GEN

(3) *-wəy

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
blood	*s-hywəy	sài	*se	sʰɛ	se	G sʰe, A/Se shé	WB swê	GEN
dog	*kʷəy	gùi	*kuy	ci	kvu	G ci, A/Se ki	WB khwê; Lh. phî	GEN
egg/testicle	*d(w)əy ≍ *twəy	dì 'egg'	*ti	tətī 'egg', kapaū-tī [GHL] ("penis-eggs")	ʔákyi-tvu [HK], ǎ^{1}tjɨ^4 tu^4 [GHL] 'testicle'	G titti 'egg', kǎpɔ^{3}ti^1 'testicles' [GHL], kəpə̀ti [HK]	Mizo ar-tui, Mikir ti, Tangut ldai^1	GEN
* elephant	*m-gwəy	məgwī	*kúy	ʔəcí	ʔukvú, wvu-kvú	G ʔəcí, A/Se ki	PKC *ɓuy ≍ *wuy	PLJ +
laugh	*m-nwəy	menī	*níy-k (?)	ní	ʔané	G ní, Se nik	Bodo mini, Mizo nui	GEN
pus	*tswəy	mətswī			svu		WB chwê	GEN
son-in-law	*krwəy	khrī			ʔahrɨ́		WB khrwê-ma 'daughter-in-law'	GEN
sweet	*twəy	dwì, tùi	*ti	tī [DS]	kyi	G ti, A/Se tī	Mizo tui, Rw. khi^{53}wɛ^{33}	GEN

(4) *-əw and *-u

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
air/sky (1)	*r-məw	ləmù 'sky'			muŋ		WB mûi[gh]	GEN
banana			*ú-si		cə̀ʔúsi	A/Se usī	Rongmei hau, Sumi ao-choti	PLTB
bathe/wash (2)	*krəw-t	khrùt	*krúw	kú	krvú	G kú	WB khyûi	GEN
* bird (2)	*wu ≍ *wa	ù	*u	ū [DS]	u	G ʔu, A/Se u	Lepcha fo, Mikir vo, Chang au	PLJ+
burn (vi.)	*krəw OR *kraw [N]	khrù	*hru	hū [DS]	hru	G hu, A/Se hu	PTani *gu; Khoirau karau; PTamang *kro:	GEN
burn/roast (vt.)		jù	*cu	su	cu	G su	PTk *cow	PLJ+
cock/rooster		ù-là	*u-la	ʔula	ʔula	G ʔula	Nung nang-la (prob. a loan from Jg.)	PLJ
cough		dʒəkhrù			kruʔsuʔ [HK], kro^{3}s'o^4 [GHL]		PKC *khuʔ, Garo gu-su	PLJ+
crazy	*ru				rəvu		Bai vu^{21}; Rw. dəru^{33} 'fool'	PLTB
creeper			*lu-k	yelu		G yelu?, A luhuk		PLO
dig	*du ≍ *tu	thù	*thu	tʰu	tʰu	G tʰu	Rw. du^{31}, WB tu	GEN
dove/pigeon	*m-krəw	khrū-dû			bəhrìʔ		Dulong xɯɯ^{53}, Lh. gû	GEN
drink			*u	ʔu	ʔu	G ʔu, A/Se u	Kham o-nya, Tujia hu^3, PK *ʔɔ^A	PLO+
dry (1)			*r-ku [JAM]	akú [DS]	rəkú			PLO
* emerge		prù 'emerge', šəprɔʔ 'bring out, exhume'	*pru	pu	pru 'emerge', səbru 'put out'	G pu, A tu a-bu 'dumb' ("sound not emerge")		PLJ
get/obtain		lù 'have'	*lu	lū [DS]	lu	G lu	Dulong lu^{53} 'get, fetch', Zeme lu	PLJ+
* grandfather	*pəw			ʔouʔ	ʔaʔúʔ		WB ʔəphûi, Lh. ɔ̀-pu	PLTB

Gloss								
grind			*thuw	tʰu	tʰvu	G tʰu		PLO
* head (1)	*d-bu				uk'u [GHL, Dodem]; ûʔ-huŋ 'pillow' [HK]		WB ʔú, WT dbu	PLTB
horse			*sʰ-pu-k	sʰəpù		G sʰəpùʔ, A/Se shuruk	Maring sapuk, Sorbung sa-puk	PLTB
language		tú	*tu	tú	tú	A/Se tu a-bu 'dumb' ("words not resound")	PKC *thuu 'word; matter, affair'	PLJ+
mother (1)		nû			ʔanŭ		PNNaga *ʄəːw	GEN
mushroom	*g-məw	kəmū	*k-mū	kəmú	kəmŭkaiŋ	G kùʔ-mū	Lh. mù	GEN
nine	*d-gəw	dʒəkhû	*t-húw		tɕhvú	A/Se tuhu	Rw. dəgɯ³¹	GEN
open (umbrella)			*phúw	pʰú	ʔəhvú	G pʰú		PLO
porcupine		dû	*p/kʰ-duw-k	kətùsipáuŋ	pədvu	G kətùʔ, A/Se kutuk		PLJ
rat (1)		yú ~ yún	*kʰ-yuw-k	kəyù	kəyvu	G cùʔ, A/Se kuyuk	Mizo sa-zu, PKC *yuu	GEN
rot/stink (1)	*m-bup	phū 'stink'	*Cú	kəpú	6ú	G mú	WB pup, Lh. bùʔ, Rw. bɯ	PLJ
* smoke	*kəw	ʔwàn-khùt (n.); khú (v.)	*kuw [JAM]	khō [DS]	vaiŋ-hvu	A walkhu, Se walhū	WB, khûi, Lh. mû-qhô	GEN
* snake/insect (1)	*bəw	ləpú	*k-phúw [HK 2012:#28]	kəphú	ʔápvú 'insect', kəhvú 'snake'	G kəphú, A kuphu	WB pûi	GEN
steal	*r-kəw	ləgú	*kuw-k	ku	kvu	G kuʔ, A/Se kuk	WT rku; WB khûi	GEN
strike (1)			*cuw		cvu	G sú		PLO
watch/observe		yū	*yu	yū [DS]	yu	G yu		PLJ
yam (1)			*h-ráŋ-hú (?)	hàŋmú	ráŋhú	G háɲjú, A/Se nʌnghu		PLO

(5) - *-ay and *-e*

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
blind			*kre	mı́ʔ-cὲ	kre	Se mɨ̀t ké		PLO
buffalo	*lwaːy	wələ̄i	*k-réy	cέ	krɨ́	G cé, A/Se ké	OB klway	GEN
carry on shoulder	*pay	phāy, phyé	*phé	pʰɛ́	pʰɛ́	G pʰɛ́	PKC *paay ≿ *pooy 'conceive/carry close to the body'	PLJ+
change/exchange	*s/g-lay	láy, gəláy	*kray [JAM]		kré		Garo sre	GEN
climb on/get on			*khye	he	ʃé	G he		PLO
come	*la-y		*li	li		G li, A/Se li	WB la, Mikir lè	PLTB
fang/tusk/eyetooth	*dzyway			ʔəcísʰwὲ	ʔákywe		WB cway; Lh. cì	GEN
goat	*bi-ŋ	bài-nām	*k-ɓV-k OR *k-CV-k [HK 2012:#318]	kəpὲ	kəɓiʔ [HK], kabık [GHL]	A/Se kémêk	Mikir bi, Darang ma:bi, Apatani sɯ-bĩ	GEN
good	*maːy	māi	*méy	mé	mí	G mɛ̄	Mikir me, Nung mɛ	GEN
grandmother/senior female	*(y)ay		*plʔay	ʔéme	ʔàʔì		Lahu e 'mother', Abor-Miri yai 'grandmother', Dzongkha ai 'mother'	GEN
left	*b(w)ay	pāi	*tʰ-p(w)ay	təpὲ		A téwe, Se tewe	Tangkhul wui, Mizo vei, Mikir arvi	GEN
lie/falsehood	*haːy		*way [JAM]		waiʔ		Lh. hē; Mizo hai	GEN
mother (2)			*a-me	ʔéme		G ʔəme, A/Se amé		PLO
question marker	*la-y		*-lé	-lé	-lé	G -lé	Lahu le, WB lê, Kokborok lay	GEN
sister (elder)/uncle	*day (?)		*a-té	ʔété	ʔaté 'uncle'	G ʔəté	Lh. te 'senior male relative'	PLTB
* tail	*r-may	ǹ-mài, nìŋ-mài		maiʔ-kú			Rw. ni³³goŋ³³, Lahu mē-tu	GEN
ten	*tsyay	šī	*jí, *sí		cɨ́, jɨ́, sɨ́	A/Se shī-, jī	Lahu chi, Moshang rok-šî, Garo tśi	GEN
turmeric			*k-áy (?)	haʔcetʔé, hákcὲ [DS]	kəʔé	G haʔcé, haʔké; A/Se kunghé	PKC *ʔaay	PLTB

(6) *-ey*

	Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
	buy	*b-rey	mərī	*m-rí	mí	mərɨ	G mí, A/Se mi	Garo brɛ, Miri rɛ	GEN
*	fruit/round object	*sey	sî, nàm-sî	*si	çəçi	ʔásɨ	G sʰiʔsʰi, A/Se sïjï	WB sî, Dimasa thai, Lh. í-sī	GEN
→	star	*skar-sey		*s-kán-si	ʔuluçi	səkáiŋsɨ	G ʔunuŋsʰi, A/Se sangʌnsi	Lahu mèʔ-kə-sī	PLTB
	long			*kréy		krɨ́	A/Se ke		PLO
	thread/vine/rattan	*rey	sūm-rī	*ri	ʔi	rɨ	G ʔi, A/Se ī	Rw. səri^{53}, Dimasa rai	GEN
	wake up			*réy-k (?)	yɛ́	rɨʔ			PLO
	younger sibling	*nyey		*nVsì	nəçi	ʔanésɨ	G nəsʰi, A nasī, Se nási	Lh. ni, Bodo bəynay 'wife's y. brother; y. sister's husband'	PLTB

(7) *-aw*

	Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
*	call/invite	*gaw	gāu	*ko [JAM]	kɔ	ʔo	G kɔ	WB khau; Lh. qho	GEN
*	early		jāu		sɔ́ŋ	có jó		WB cô	GEN
	head (2)	*m/s-gaw	khàʔ-khú 'upstream'	*how		ʔa-hú [HK]; ʔukʔu [GHL]	A/Se hurʌng	Rawang əgɔ, WT mgo	GEN
	leech (1)	*s-myaw [N]		*Cᴴ-mo	mɔ̀ [HK], maù [DS]	məyuʔ	G mò	Marma hŋyŏ, WB hmyauʔ, Nusu nɛ̥^{55} miu^3	GEN
*	oil (cooking)/fat	*saːw	sáu	*sáw	salaú [DS], sʰəlɔ́ [HK]	ʔasá	G sʰəlɔ́, A/Se sa	Bodo thau	GEN
*	say	*ŋaw	ŋū	*ŋáw	ŋɔ́	ŋá	G ŋɔ́, A/Se nga	Anong ŋu^{31}, Tangut ŋwụ	PLJ+

(8) *-ow*

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
dry (2)			*r-kɔ́w	ʔəkú	rəkú	G kɔ́		PLO
* hammer/pound	*dow ≍ *tow	thù 'pound (v.)', sùm-dū 'hammer'		thū [DS]	thvu		WB tu, WT mtho	GEN
hair (head)			*hɔ́w	hələ́ŋ-hú	ʔəhúmiŋ	G hɔ̄, A/Se humì		PLO
* hand (1)			*t-hɔ́w	təhú	təhú	G tʰɔ, A takhu, Se tahu		PLO
* thorn (1)/ pierce	*tsow	džú 'thorn' ~ džùt 'be pierced'			cvu 'stab, prick', júi 'nail (fastener)'		Kanauri tso, Meithei sou	GEN

(9) *-oy*

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
borrow	*kroy	khòi	*hoy	hɛ̄ [DS]	hɯ	G he-kam	WB krwê 'debt'	GEN
lizard			*k-phóy	kəpʰɛ́	kəpʰúɪ	G kəpʰɛ́		PLO
long ago		mòi-mòi		mæú [DS], məʔɛ́ [HK]				PLJ
monkey	*g-woy	wōi, əwōi	*k-wóy	kwɛ́	kevúɪ	G kwɛ́, A koì	Nung əwɛ, oshang vi-sil	GEN
raise/bring up			*hroy	hɛ́	hrɯ́	G hɛ́ 'be born', Se pung he 'lift up'		PLO

NASAL RHYMES
(10) *-am

	Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
	beautiful			*Cᴴ-kam	kətàm		G klàm, A kam, kʌm, Se kʌrm		PLO
*	bright	*lam OR *laŋ	làm 'gleam'			láŋ 'bright'		WB lâŋ	GEN
	cold			*sim [HK 2012:#195]	çim	siŋ	G sʰim	Garo kaʔ-sin	PLTB
	daughter-in-law	*s-nam	ʔnā̃m	*nám	nán [DS], nám [HK]	ʔanáŋ	G nám		GEN
*	dry (in the sun)	*s/m-lam [N]	lām			məláŋ		PTani *ɬam, Nung ɬam^{55}, Nocte chuok lam	PLJ+
	fly (v.) (1)	*byam	pyēn			páiŋ			GEN
	near			*tham	tʰam		G tʰam, A tham, Se thʌm	Lh. pò	PLO
	rice/paddy	*m-am [N]	mãm	*am	ân [DS], ʔam [HK]	ʔaŋ	G ʔam, A/Se am	P Tani *am-buɪn	GEN
	road	*lam	lām	*lám	lâm	láŋ	G lám, A/Se lam- 'far'	WT lam, WB lâm	GEN
	search/seek	*tam	tā̃m	*tam	tam		G tam, Se tʌm		PLJ
	sesame	*s-nam	nàm, tʃíŋ-nàm		sanàn [DS], sʰənàm [HK]	sənaŋ	G sʰənàm	WB hnâm	GEN
*	sharp/sword	*s-ryam	háŋ	*h-ráŋ	háŋ	ráŋ	G háŋ, A laŋ 'sharp', a-rʌng 'blunt' (a- 'neg.')	Rw. çam^{31}	GEN
	smell (1)/ stink (2)	*m/s-nam	mənám	*nám	nám	náŋ	nám	Rw. pʰənam^{53}, Lh. nù	GEN

(11) *-im

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
catch/hold fast	*s-grim	rìm	*Cim	yem	rìŋ	G lɛm	WT sgrim-pa, WB krim	PLJ+
house	*k-yim		*kim	cém	kíŋ	G cím~kím, A sem	WB ʔim; Lh. yɛ̀	PLTB
* raw/unripe	*dzyim	kətsĭŋ		kəsʰèiŋ	ʔakəsɨŋ		Rw. əzuum³¹, WB cîm	GEN

(12) *-um

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
finish/end			*sum	sʰom	suŋ	G sʰòm		PLO
mortar	*(t)sum	thùm	*thum	tʰom	tʰuŋ	tʰɔm	Rw. dɔŋ³¹suum³³, Lh. chɛ	PLJ+
* negative		khùm 'neg.imp.'		kùm				PLJ
* pillow	*m-kum	bùŋ-khúm			ʔú̃ʔ-huŋ		Lh. ú-gɛ̂, Rw. məkhum³³	GEN
three	*g-sum	məsūm	*súm	sʰóm	súŋ-hvu	G sʰóm, A/Se shom	WT gsum, WB sûm	GEN
use	*zum				súŋ saŋ		Anong dzom³¹, WB sûm, Lh. yɛ̂, Mand. yòng	GEN

(13) *-yum > PL *-im

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
black	*s(y)im		*thɨm	tʰúm	tʰɨ́ŋ	G tʰúm, A tum, Se thum	Garo sim, Mizo thim	PLTB
salt	*g-ryum	džùm (n.), šūm 'salty'	*cɨm	sum	cɨŋ	G sum, A/Se chum	Meithei thum, Dimasa sem	GEN
sleepy			*ip-sɨm		ʔiʔsɨŋ	G ʔɛpsʰum, A ek-sum, Se ɨsum		PLO
smell (2)			*tɨm	túm	ʔátɨŋ	G túm		PLO
warm	*s-lum	lūm (v.i.), šelūm (v.t.)	*lɨm	lóm	lɨŋ	G lɔ́m	WB lum, hlum	GEN

(14) *-an

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
allot			*man	man	maiŋ	G man		PLO
bite			*kán	kán	ʔakáiŋ	G kán, Se kʌn		PLTB
* cut (1)/castrate	*mwan ≍ *mwat	mòn, mōn ≍ mòt	*wán	wán	váiŋ	G wán	Jinuo me^{44}, Shixing m̥ĩ^{55} βɛ^{5}	PLJ+
cut (2)/strike (2)	*dan	dàn 'cut'	*tán 'strike, hit'	tán 'beat'		G tán, A/Se tan	Garo den, Mizo tan, Mikir than (all 'cut')	GEN
ghost			*h-mán	həmán	həmáiŋ	G həmán		PLO
* meat	*dzya-n	šàn	*san	sʰəlan	ʔásaiŋ	G sʰəlan, Se sen	Rw. ʃɑ^{33}	PLJ+
onion/garlic	*swa-n	là-sōn	*sun	sʰún	súŋ	G sʰún	WB swân; Lh. šū	GEN
* return/come back	*bran				práiŋ		WB pran, Marma prain, Kayan sị̀ blâm, Trung blăʔ^{55}	PLTB
sew			*sún	sʰún	súŋ	G sʰún		PLO

(15) *-in

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
liver/mind/heart (1)	*m-sin	məsìn	*sᴴ-en	ʔəsʰèn	ʔáŋ-siŋ	G sʰèn	WB sãñ; Lh. šɛ̃	GEN
nail/claw	*m-(t)sin ≍ *m-tsyen	ləmyīn	*tak-miŋ	taʔmiŋ	taʔmiŋ	G taʔmiŋ, A/Se takmeng	Rw. nyin, WB sãñ; Lh. šɛ̃	GEN
* ripe	*s-min	myīn	*miŋ	míŋ	míŋ	G míŋ, A/Se ming (a-min 'raw')	WB hmañ; Lh. mɛ	GEN

(16) *-en

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
rob/oppress/suffer	*s-nyen	nyèn 'defraud', šənyèn 'take by force'	*sᴴ-nan	sʰənàn	sənaiŋ 'rob'		WB ñáñ 'grumble, hñáñ 'oppress'	PLJ+
wing (1)			*Cɛ́n-kV́ (?)	témkú	ʔayáiŋkó	G lénkú, A lingo, Se ningko		PLO

(17) *-un

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
bee			*tᴴ-Cún	túŋŋún, təmún	telúŋ	G təmún		PLO
pick up			*kun	kun	kuŋ	G kun		PLO
* pull	*don ≍ *ton	tūn	*tún	tún		G tún, Se tun	Magar don, WT ḥdon-pa	PLJ+
rabbit/rat (2)	*b-yəw-n	yūn ~ yū 'rat'			yuŋ 'rabbit'		WB yun 'rabbit'	GEN
ringworm			*kᴴ-bun	kəpòn	kəbuŋ	G kəpùn		PLO
wrap (1)/put on and wear	*pun	phún	*phun	pʰun	pʰuŋ	G pʰun	Boro pin; Garo pin-dap 'cover'	PLJ+

(18) *-on

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
chair (small)			*hon	taŋhôn	laʔhoŋ	G tɤhɔ̀n		PLO

(19) *-aŋ

	Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
	back/waist		n̄-šāŋ 'waist'	*k-sáŋ	kesʰâŋ	ʔakəsáŋ	G kəsʰáŋ	TN kashan, Phom šeŋ, Chang šencaŋ	PLJ + PLTB
*	cheek	*baŋ ≍ *boŋ		*n/l-baŋ	ləpàŋ [DS]	ʔanəbâŋ	G nəpàŋ, A/Se nambʌŋ	Maring mai buŋ, Ao (Chungli) te ni boŋ	PLTB
	corpse/ bone (2)	*s-maŋ	māŋ	*máŋ	maʔ kuʔ 'bone', məsʰà 'corpse'	ʔakəmáŋ 'corpse'	G maŋ-kuʔ 'bone'	Chepang hmāŋ, Lashi maŋ[31]	GEN
	door (2)			*kᴴ-phaŋ			G kəpʰàŋ, A kaphʌŋ		PLO
	dream	*s-maŋ ≍ *s-mak	ʔyúp-maŋ	*ip-maŋ	ʔepmaŋ	ʔiʔmaŋ	G ʔɛmaŋ	WB ʔip-mak	GEN
*	enter/insert	*s-waŋ	šàŋ	*saŋ	sʰaŋ	saŋ 'enter', soŋ 'insert'	G sʰaŋ	WB waŋ 'enter', swâŋ 'put into'	GEN
*	knife/ cut (3)	*daŋ	tsáŋ	*k-táŋ	taŋ 'knife'	kɛ̄taŋ 'knife'	G taŋ, A/Se katang	Lh. á-thɔ 'knife'	PLTB
	light (weight)	*r-ya-ŋ	tsáŋ	*ca < *rya [HK 2012:#96]	sənà	rɛca	Se cha, G sɛnà	WT yaŋ-po, Mizo zaːŋ	GEN
	mistake/err		kəmáŋ 'abstracted'			kəmaŋ 'err'			PLJ
	old (1)/ satiated	*b-gaŋ 'satiated'		*kaŋ	kaŋtəlá, púʔ kaŋ-ma 'get pregnant'	kaŋ 'satisfied'	G kaŋ, A kaŋta, Se kangaga		PLO
*	outside/ field		brāŋ-tàn 'field; grassy plain'	*praŋ [JAM]		ʔapráŋ			PLJ
	put onto			*daŋ (?)	taŋ	daŋ	G taŋ	WB taŋ	PLTB

James A. Matisoff

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
rain (2)/cloud/sky (2)	*m/s-raŋ	mərāŋ 'rain'	*hráŋ	haŋcʰî 'cloud', həláŋ wέ 'rain'	hráŋgrɨ 'cloud', hráŋ vέ 'rain'	G hánnîʔ 'cloud', A/Se harʌng 'sky'		PLJ
roast/toast/broil	*kaŋ	kəkāŋ		kàng [DS], ʔəkàŋ [HK]			Rw. dəgaŋ[53], Lh. qo	GEN
* squirrel	*s-reŋ			cīlāŋ [DS]	ʃáiŋ [< Marma ʃɔ̃iŋ]		WB hrañ, PKaren *hliᴮ	PLTB
* waste/interfere		kəpáŋ 'interfere'			kəbaŋ 'waste'			PLJ
* wing (2)	*kwa-ŋ	siŋ-kō ⋈ siŋ-kōŋ	*ku [JAM]	taí-kú, tέ(n)-kú	ʔayáiŋ-kó	G lέnkú	Manang yakon, Mikir veŋ-koŋ	GEN
* yam (2)			*h-ráŋ-hú (?)	háŋmú	ráŋhú	G hánjú, A/Se nʌnghu		PLO
you (sg.)	*naŋ	nāŋ	*naŋ	naŋ	naŋ	G naŋ, A/Se nʌng	Rw. nɑ31, Lh. nɔ̀	GEN

(20) *-iŋ

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
alive/live/green	*s-riŋ ⋈ *s-raŋ	kətsīŋ 'fresh, green'	*séŋ (?)	(ʔə)sʰéiŋ	síŋ	G sʰáiŋ, A seng, Se sheng	WB hraŋ, Mizo hriŋ	GEN
ask for			*ciŋ	siŋ	ciŋ	G seiŋ, A cheng-, Se ching-		PLO
bark/make sound	*priŋ	phrīŋ, məphrī	*m-ríŋ	míŋ 'make a sound'	məríŋ	G míŋ 'sound'	WB mrañ, Dimasa biriŋ	GEN
forest	*b-liŋ	məliŋ			məlíŋ		Nung məliŋ, Dimasa ha-bliŋ	PLJ+
full/fill	*bliŋ ⋈ *pliŋ	phríŋ (v.i.), džəphríŋ (v.)	*phríŋ	pʰéiŋ	pʰríŋ	G pʰéiŋ	WB prañ (v.i.), phrañ (v.t.)	GEN
* ginger	*kyaŋ			kazíŋ [DS], kəsíŋ ké [HK]	kəsíŋ ké	G kəsíŋ [HK]	WB khyáŋ; Meithei si	GEN
name	*r-miŋ	myīŋ			ʔamíŋ		WT miŋ; WB mañ	GEN

	Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
*	two (2)			*kíŋ	kléiŋ		G kɛ, A/Se kiŋ		PLO
*	village/house-hold		thìŋ-gō 'household'	*thiŋ	tʰiŋ	tʰiŋ	G theiŋ, A/Se theng		PLJ
*	year	*s-niŋ	sənīŋ	*niŋ	yàʔmiŋ 'this year', nápniŋ ≍ nátniŋ 'next year'	səniŋ	G yəniŋ pí 'this year'	Rw. nap nuŋ53	GEN
*	you (pl.)			*niŋ	həniŋ	nəniŋ	G niŋ, A/Se ning		PLO

(21) *-uŋ

	Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
	big/great			*túŋ (?)	tóuŋ		G tóuŋ, A/Se tong		PLO
	grandchild	*guŋ ≍ *kuŋ	kəšù	*su-túŋ [JAM]	sʰətóuŋ	ʔasətúŋ	G sʰutóuŋ, sʰutáuŋ		PLJ
	hole/empty		n̄-khūn		tɕhaŋ	ʔahúŋ		WB khâuŋ, Lh. qɔ̂	GEN
	horn	*ruŋ	n̄-rūŋ	*Cúŋ	yóuŋkáŋ	ʔarúŋ	G láuŋkáŋ, A/Se nongʌŋ	Rw. ruŋ31, Hayu ruŋ, Garo groŋ	GEN
	insect (2)/leech (3)		lətūŋ 'borer'	*kʰ-tuŋ	kətòuŋ	kétuŋ 'leech'	G kətàuŋ, A/Se kotong		PLJ
	muddy/cloudy	*muŋ		*Cón	pón	búŋ	G mɔ́n	WB hmuiŋ, Lepcha so muŋ	PLTB
*	short	*tun ≍ *t(y)uŋ	kətûn	*ton	Ton	tuŋ	G tɔn, A/Se ton	WT thuŋ; Deng kuutioŋ53	GEN
*	sit	*duŋ ≍ *tuːŋ	dūŋ	*t(h)úŋ	tʰóuŋ	túŋ	G tʰáuŋ, A tong, Se thong	WB thuiŋ, Namsang toŋ	GEN
	stone	*r-luŋ	n̄-lùŋ	*tʰ-luŋ	telouŋçîŋ	təluŋ	G təlàuŋ si, A/Se torong	Bahing luŋ, Mikir arloŋ	GEN
	white			*lV́ŋ	lúŋ		G lúʔ, A lun, Se lun	PNN *luaŋ; WB lwaŋ 'shining, glossy'	PLO+
*	wind (n.)	*m-buŋ	n̄-būŋ	*mun	Mun	muŋ	G mun	Rw. năm53buŋ31, Geman Deng bauŋ35	GEN

James A. Matisoff

(22) *-oŋ*

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
coffin			*hóŋ	háuŋ	hóŋ	A hongbel	WB khâuŋ	PLTB
lame/crooked			*koŋ		koŋdòʔ 'bent'	G pɔʔklauŋ, A taka kong		PLO
many			*lóŋ	kláuŋ	lóŋ			PLO

STOPPED SYLLABLES

(23) *-ak

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
* branch/twig	*s-kaːk		*Cᴴ-ha-k	hàk (Clf) [DS]	ʔáhaʔ 'twig, branch'	G hà	WB ʔəkhak, Lh. ɔ̀-qá	PLTB
breath/air (2)	*n-sak	n̄-sàʔ	*sak	ʔəsʰáʔ sʰán	svusaʔ kíŋ	G sʰaʔsʰán	Rw. ʃɑʔ³¹ WB sak	GEN
broad			*Cák	páʔ		G máʔ, A/Se paktong		PLO
* dark/black/night	*s-nak	šənáʔ 'night'	*nak	naʔcɛ	naʔtaiʔ 'night'	G naŋki, A/Se sanʌk	WB nak	PLJ+
descend (1)/ go down (1)	*zak ≍ *s-yuk	ʔyúʔ			saiʔ		WB sak; Lh. yàʔ; Mizo zuk	GEN
drive/chase			*rᴴ-ŋak	ŋàʔ	rənaʔ	G ŋàʔ		PLO
fear (2)	*s-krak ≍ *grak		*Cᴴ-cak	sàʔ	ʔácaʔ	G kəsàʔ, A/Se achʌk	WT skrag-pa, PLB *N-krok, Trung a³¹krɑʔ⁵⁵	PLTB
* hand (2)	*g-lak	lətáʔ	*t-hów < *tak-khów	tāk, tahú [both DS]	təhú	A takhu	WT lag; WB lak	PLJ+
* hard/solid	*tsak-t	dʒàʔ	*Cᴴ-cak	ʔəsàʔ		G sàʔ, A chak	PTk *ʃak, Ao (Mongsen) tə-cak, Chepang cak-ʔo	PLJ+
* itch/itchy	*m-sak	məsàʔ		sʰaʔ	kəsiʔ		Rw. məʃɑʔ	GEN
lick	*m-lyak	mətáʔ	*á-tak	(ʔə)tàʔ	ʔátaʔ	G tàʔ	WB lyak	PLJ+
now/today/day	*s-ryak	yáʔ 'day', now'	*yak	yàk 'now', yàʔ 'day'	rəyaʔ 'day'; yàʔ 'today', (Clf) 'day'	G yaʔ (Clf) 'day'	Lh. yàʔ-ni 'today', há 'spend night'	GEN
pig	*pʷak	wàʔ	*wak	waʔ	vaʔ	G waʔ, A/Se wak	WB wak, WT phag	GEN
rest		sáʔ	*sak	sʰaʔ	saʔ			PLJ
* rough	*sak		*khyák	háʔ	soʔ		Lh. šàʔ; WT sag	PLTB
shout					ʃáʔ	G háʔ		PLO

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
skin			*lák	láʔkʰáuʔ, sʰəlè	ʔaláʔ, lak^2 [GHL (Dodem)]	G láʔkʰáuʔ, A laho, Se lʌkrʌk		PLO
* spittle/phlegm	*m-ka:k	məkhá	*m-hak [JAM]	məháʔ; hãʔɫ; hã^4 ʔuɹ^2 [GHL]			Mizo kha:k	PLJ+
sweep/broom	*pywak	wé ~ yé (v.), díŋ-yé (n.		səphráiʔ (n.), phráiʔ (v.)			WT phyag-ma (n.), hphyag-pa (v.)	GEN
weave/loom	*d-rak	dàʔ	*tak	taʔ	taʔ	G taʔ	WB rak; Lh. ɣàʔ, WT hthag-pa	GEN
wide			*wák	wáʔ	váʔ	G wáʔ		PLO

(24) *-ik

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
* daughter/wife/senior female relative		šəyî 'female'	*s-ik	sʰəʔeiʔ	ʔasəʔiʔ	G sʰeiʔ		PLJ
* eye	*mik ≍ *myak	myìʔ	*mík	miʔtù	ʔamîʔ	G miʔtù, A/Se mit	WB myak; Rw. nɛ^3	GEN
* fly (n.)/mosquito		mətšî 'small winged insects'; tšîʔ-kròŋ 'mosquito'	*p-cík	pazèk [DS], pəsîʔ [HK]	pəcîʔ	G pəsîʔ, A/Se pu		PLJ
heavy			*Cᴴ-ni(ŋ/k)	nèiʔ	ʔániŋ	G nìʔ, A/Se nik	S Muji ni^{52}	PLO+
joint	*tsik				ǎsʼauʔ^2 [GHL]		WT tshigs, WB chac	GEN
louse	*s-r(y)ik	tsìʔ	*sik	sʰeiʔ	siʔ	G sʰîʔkɛ	Kanauri rik, WT śig	GEN

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
* man	*c-^{H}-tik-(sa)					G tiʔ-sʰa, A tiksahora, Se tikhora		PLO
pot		dîʔ, n̂-dîʔ; tîʔ-pū	*tik	teiʔçi	tiʔ; siŋ-diʔ	G teiʔsʰi	PNN *ʔ-dik	PLJ+
* shiver		kəʒîʔ [TBL], kǎ^{31}ʒin^{33} [HK], kərîʔ	*kriŋ [JAM]		səkriŋ		Chepang riŋh-, Thulung ruŋ(-)	PLJ+
small					ʔapiʔsa		Lh. a-pí-né ʻsthg. small	PLTB
* stingy/miserly		mədžîʔ			kəjíŋ			PLJ
swidden		yîʔ	*Cik	yeiʔ	ʔiʔpra	G ñeiʔ		PLJ

(25) *-ek

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
mango			*krêk-si	caiʔçî	kráiʔsɨ	G cáiʔ, céiʔ-sʰî; A/Se kêksī		PLO
tear (v.)			*sék	sʰáiʔ	sáiʔ	G sʰáiʔ, A kong-sek, Se tun sek		PLO

(26) *-uk* and *-ok*

	Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
*	arrive		dù	*thuk	tʰouʔ	tʰuʔ	G tʰouʔ, A/Se thok		PLJ
*	belly/guts	*puk ≍ *pik	pù	*pɨk < *pyúk (?) púk		apɨʔ	G puʔ, A/Se puk	Rw. phuʔ wɑ⁵³	GEN
	bend down			*Cᴴ-ŋuk	ŋòuʔ	ŋuʔ	G ŋòʔ		PLO
	bracelet, wear a			*kók	káuʔ	kóʔ	G káuʔ		PLO
*	brain/heart (2)	*s-nuk	núʔ			ʔúʔnòʔ		Lh. ú-nɔ̀ʔ-nê̂ʔ, WB ʔû-hnauk	GEN
	capsicum			*m-ruk (?)	mouʔnɛçî	mɛruʔ	G múʔ, A mosī, Se moksī		PLO
	cattle			*s-muk	mouʔ	səmuʔ	G mouʔ, A sok	PTk *muk, Sorbung səmuk; Mring na-muk	PLTB
	cough	*suk		*suk	cisʰouʔ	kruʔsuʔ	G sʰauʔsʰauʔ, A/Se tīnsok su	Limbu suks, Magar su, Tagin suk	GEN
*	deer (sambhur)	*d-yuk	khyì-tút	*kᴴ-juk		kəjuʔ	G kəsáuʔ	Mikir thidzok, Mizo sa-zuk	GEN
	eggplant			*Cok	pauʔ pɔçi	bəʔóŋsɨ	G mouʔsapsī, A/Se mokminsi	PKC *ɓok-ɓoon	PLTB
	firewood			*k-rók		kəróʔ	Se karak		PLO
	frog		šùʔ	*kᴴ-suk	kesʰòuʔ	kəsuʔ	G kəsʰàuʔ		PLJ
	grandfather			*úk	ʔouʔ	ʔaʔúʔ	G ʔáuʔtʰɔ̀		PLO
*	hatch	*puk ≍ *buk		*puk	pōk, palōk [both DS]; pouʔ [HK]	puʔ	G pauʔ	Tangkhul huk, Gurung phuq, Chepang bhyuk-sa	PLTB
*	husk (of rice)		núm-khó	*hók	yəháuʔ	yáʔhóʔ	A/Se ihok		PLJ
	jump/leap	*p(r)ok		*phró-k	pʰáuʔ [HK], pʰɔ́k [DS]	pʰró	G pʰáuʔ, A/Se phok	PTani *pok, Lahu pɔ̂ʔ	PLTB
	knee	*m-kuːk		*t-húw		ʔátəhvú	A tankhu, Se tʌkhu	Lotha nkho, WT khug(s) 'corner/concave angle'	PLTB

Gloss								
milk/suck	*dzyuk	tšŭʔ 'suck'	*cuk-si 'milk' [HK 2012:#87]	souʔçi	ceʔú	G sauʔsʰi, A chokchoksī	Mpi tʃhuʔ[1]	GEN
neck	*tuk	dŭʔ	*kʰ-duk	katòk [DS], kətòuʔ [HK]	ʔàkəduʔ	G kətàuʔ, A/Se kotok	Garo gitok	GEN
open			*ók		məʔóʔ	G ʔáuʔ		PLO
* prick/thorn (2)/ plant (v.)	*dz(y)uk/t			souʔ	cuʔ 'plant' (v)	G souʔ 'plant' (v)	Lh. jûʔ; WT zug-pa, ḥdzug-pa	PLTB
shrimp			*r-i-sɨk < *r-i-syúk (?)	ʔisʰûʔ	ʔɨsɨʔ	G ʔisʰûʔ		PLO
six	*d-k-ruk	krŭʔ	*kruk		kruʔ-hvú	A/Se kok		GEN
spit/vomit	*m-tuk	məthó	*thók	tʰàuʔ	thóʔ	G tʰàuʔ	WT drug; WB khrau Rw. duʔ	GEN
thunder/sky (3)	*r/s-muːk	mûʔ	*Cᴴ-muk	həmòuʔ 'sky'	kəmuʔ 'thunder'	G həmûʔ 'sky'		GEN
time/occurrence	*s-pok			paūk [DS]				PLTB
under/below		ń-púʔ	*mùk (?)	həmûʔ, kəmûʔ	ʔámuʔ	G həmûʔ	Lh. pɔ̂ʔ; Rw. poq	PLJ
valley/ravine	*grok	khəróʔ			kəlóʔ		WB khyauk, WT grog-po	GEN

(27) *-at* and *-wat*

	Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
*	descend (2)/go down (2)			*sat	sʰat	saiʔ	G sʰat		PLO
	eight	*b-r-gyat	mətsát	*cat		ʔácaiʔ	A/Se chat	WB hrac; Lh. hí	GEN
	forget/be lost	*ma-t	máʔ 'be used up', màt 'disappeared'	*mat	mat	maiʔ 'forget'	G mat	Garo mat 'be spent'	GEN
	kill	*g-sat	sàt			kədaiʔ		Rw. ʃat	GEN
	leech (2)	*r-pʷat	wòt		wàt		G wàt	WB krwat, Rw. dəphat	GEN
	release/disrobe	*g/s-lwat	lòt 'be free'; ʃəlòt 'set free'		laũk [DS] (< Bse.)	ʃuʔ		WB lwat, hlwat/kywat, khywat; WT glod-pa, hlod-pa	GEN
*	rice (cooked/husked)	*dzyat	ʃàt	*sat	ʔesʰat	kvúsaiʔ	G ʔesʰat, A hwĩsʌt, Se usʌt	Tangkhul tsaat, PTani dóʔ	PLJ+
*	root	*d-kra-t ⪥ *m-kra-t [N]		*k-rat	təklat	ʔákraiʔ	G təkat	Lahu ɔ̀-gə, Kaman kɪa⁵³, Darang xɑ³¹ɹɑɨ⁵⁵, Sangtam ara, Nasu gɹɯ³⁵, Ao tera, Yacham Tengsa tarü	PLTB
	run/flee	*k(y)at ⪥ *g(y)at	kəgàt	*kat	kat	kaiʔ	G kat, A/Se kat	Lh. qā-qhêʔ 'dance', Bodo khat, Mikir kát	GEN
	smell (3)/odor	*bat	bàt		kanàt [DS]	ʔásəɓe		Lh. ɔ̀-pɛ̀ʔ	GEN
	starve/hungry	*mwat						WB mwat, Lh. mɛ̀ʔ	PLTB
	pluck/pinch	*tsywat			cît [DS]			Lh. cîʔ; WB chwat (< PLB *ʔjwat)	PLTB
*	vagina	*b(y)at		*pak	paʔ	ʔápaʔ; ǎpet [GHL (Dodem)]	G paʔ	Lh. cha-pɛ̀ʔ, Usoi Tripuri ʃipauʔ	PLTB

(28) *-it*

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
extinguish/ blink	*s-mi(:)t	myít 'run out of', šəmyít 'extinguish'	*mit	mīt [DS], ləmet [HK]	səmiʔ	G met	WB hmit, Lh. mèʔ, Nung səmit	GEN
reap/shave	*rit		*rat/rit (?)	yat	raiʔ	G yɛt	Lh. γə̀ʔ, WB rit	PLTB
* tear/split			*sék [N]	sʰáiʔ	sáiʔ	G sʰáiʔ, A/Se sek		PLO
urine/urinate	*tši-t	džìt (n.), dži (v.)		zít [DS], sèt [HK]	co-sɨ (v.), co-háʔ (n.)	G sɛt	WB sê, chî; Lahu jî	GEN

(29) *-et*

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
become/happen	*pret				phraiʔ		WB phrac; Lh. phɛ̀ʔ	PLTB
scrape/scratch	*m-kret	khrèt	*hré-t	ʔəhé	ʔa-hré	G hɛt	WB khrac, Lh. gɛ̂ʔ	GEN

(30) *-ut*

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
* ashes			*k-but	kəpot	taʔkəbuʔ	G kəpɔt	PKC *wut, Ptk *hwot	PLTB
* blow	*s/k-mut	kəwùt	*mut	mot 'blow (flute)' ⋈ mū̄n 'blow (wind?)' [DS]	muʔ		WB hmut, WT ḥbud, Lh. mɛ̂ʔ	GEN
* wipe	*sut ⋈ *sit	kətsút			kəsúʔ		WB sut, Lh. šîʔ, WT (b)śud	GEN

(31) *-ap

	Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
*	bear (n.)		tsáp	*kᴴ-sap	kəsʰàp [HK], kəshát [DS]		G kəsʰàp, A/Se sʌpmo	Konyak shap-nyu, Nocte sap-ba, Tangsa shap	PLJ+
	chili/hot (2)/ pungent	*cap [N]	džàp	*Cᴴ-cap	sàp	caʔ	G sàp	WB cap	GEN
	cross (river, bridge)		ráp	*Cap [HK 2012:#286]	yap	raʔ	G lap	Bokar rap, Galo rab, Tujia ɣa^{35}	PLJ+
	fan/wave/ winnow	*g-yaːp	kətsáp	*yap	yap (v.), heyàp (n.)	yaʔ (v.), kəyaʔ (n.)	G yap (v.), G həyàp (n.)	Tangkhul kəyàp; Rw. rap	GEN
*	leaf	*s-lap	làp	*tap	təlap, tətap [HK]; təlàt [DS]	ʔátaʔ	G təlap, A/Se tatʌp	Magar hla, Dulong lǎp	GEN
	next/ early morning	*m-nap ⋈ *m-nak	mənàp	*nap	napniŋ 'next year'		G ʔənap 'next year', A nʌp, Se nap	Lahu né-qhɔʔ 'next year', Rw. napnuŋ 'id.	GEN
	shoot/hurl	*gaːp	gàp	*káp	káp		G káp, Se kʌp sī ("shoot-die")	Rw. wap, Anong hwap, Dulong ɑp^{55}	GEN
	stack/layer/fold	*tap	thâp, kəthâp	*Cᴴ-thap	tʰap	tʰaʔ	G tʰap	WB thap, Lh. thôʔ	GEN
	stand	*g-ryap	tsáp	*cap	zāp [DS], sap [HK]	caʔ	G sap, A/Se chap	WB rap; Lh. hú	GEN
	weep	*krap	khràp	*hrap	hap	hraʔ	G hap, A/Se hʌp	WT khrab-khrab	GEN

(32) *-ip

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
cockroach			*s-Cíp (?)	sʰəlíp	sɨdiʔ	G sʰəlíp		PLO
press		dìp		thīn [DS], tʰèm [HK]		G tʰèp		PLJ
sleep	*yip ⋈ *yup	ʔyúp	*ip	ʔep	ʔiʔ	G ʔep, A eksum, Se īsum	WB ʔip; Lh. yɨʔ	GEN
turtle	*k-lip [N]		*tᴴ-lip	təlèp	təliʔ	G təlèp	WB lip; PK *kliʔ, Karen klɨ̀^{55}	PLTB
wrap (2)	*tip ⋈ *tup	thúp	*Cip	tep	diʔ	G lep	WB thup; Lh. thîʔ	GEN

(33) *-ep

	Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
*	scale (fish)	*sep	ŋá-sèp			ʔakəsáiʔ	G cɛp	Lh. ŋâ-sɛ̂ʔ	GEN
*	threaten/compel		kətép 'compel'		cɛppá	kədáiʔ 'threaten'			PLJ

(34) *-up

	Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
	astringent		khŭp	*hup	hop	huʔ	G hɔp		PLJ
*	breast/suck	*dz(y)up ≍ *dz(y)uk	tʃŭp	*cúp	súp	cuʔ 'suck', ʔácuʔ 'breast'	G súp	Lh. cú, chɔ̀ʔ	GEN
*	cover up/bury (1)	*klup	lŭp 'bury', grŭp 'cover'	*Cᴴ–nup	nòp		G nòp, A/Se nup	WT klub-pa	GEN
	hit/push (1)		tŭp 'hit'			dṹʔ 'push'			PLJ
	sink/bury (2)	*lup ≍ *lip	phŭŋ-líp 'dive'			mərúʔ 'sink'		Garo rip, srip; Rw. əlɯp	GEN
	warm oneself			*kup	kop	kuʔ	G kɔp		PLO

(35) *-op

	Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
*	bubble/foam		khùm-bòp	*Cót	sʰəpɔ́t	ʔasəɓóʔ			PLJ
*	calf (of leg)		bòp, ləbòp	*t-pók	təpáuʔ [HK], təpók [DS]		G təpáuʔ-, A/Se taŋpok		PLJ
	search for			*sóp		ʔasóʔ	G sʰɔ́p		PLO

James A. Matisoff

LIQUID RHYMES
(36) *-al* and *-ar*

	Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
	cat			*hán-ji-k < *hál-ji-k	hançî	háin	G hánsìʔ, A hʌng-gen, Se hʌlji		PLO
	crab	*d-k(y)ar [N]	tšəkhân	*a/n-har	ʔəha	nəhaiŋ	G ʔəha, A aha, Se niha	Lahu á-ci-ku, Lepcha tăhi	GEN
	far	*dzyal	tsân	*car	sa	caiŋ	G sa, A lam-je, Se lam ja	Bodo gəzaʔn, Tangsa ədžal	PLJ+
*	face/front	*myal	mân	*mán < *mál (?)	mán	ʔamáiŋ	G mán, A/Se man	Cf. OC *mjan 面	PLJ+
*	fire/burn	*b-war	ʔwàn	*wan < *wal	wan	vaiŋ	G wan, A/Se wal	Anong hwar, Rw. war[5]	PLJ+
	flower/bloom	*baːr	nàm-pān 'flower'	*pár	pəpá 'flower'	ʔapáiŋ 'bloom'	G pəpá, A/Se paba	WT hbar-ba 'bloom', Gar bi-bal 'flower', WB pân 'flower'	GEN
	iron	*syaːl		*sen < sel (?) [HK 2012:#176]	sʰen	siŋ 'iron', siŋ-diʔ 'wok'	G sʰen, A sên, Se sêl	Bahing syaːl, Dumi sel	PLTB
	new		ǹ-nān, nìŋ-nān	*n-yár (?)	nəyá	náiŋ, ʔanáiŋ	G ñá	Tangsa anal, Nocte anyian	PLJ+
	old (2)	*sar [N]	sà	*sa [JAM]		ʔuʔsa 'old man'		Lh. he-šă 'old field', Apatani a-xà, Ao Chungli tasa, Mikir sar, PTk *saar, PKC *tar, PK *saʔ	GEN
	palm (of hand)	*pwa-r	ləphàn	*tak-prár [HK 2012:#10]	taʔpá [HK], tāk- [DS]	ʔătăp̀aî² 'sole' [GHL], taʔpáiŋ [HK] 'palm'	G taʔpá	PKC *ɓaar, WB bhəwâ, Miri lak-po	GEN
*	pour/flow/scatter	*sywar	džó, tšyó; šōn	*sát/sít (?)	sē, sét [both DS]	sáiʔ, pəjáiŋ	G sʰát	Rw. wun[33]; WT htšhor-b; WB swan, swân, swân; Lh. šē, šēʔ	GEN

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
push (2)	*nwar [N]	nóŋ	*Cᴴ-no			G nɔ̀, A/Se no	Trung nɔl⁵⁵, PCC *nor	GEN
sister	*dzar	džãn	*cán < *cál (?)	sán	ʔacáiŋ	G sán, A lu-chölo	Tangkhul əžăr-vă	GEN
star	*s-kar	šəgān	*s-kán-si		səkáiŋsɩ	A/Se sangʌnsɩ	WT skar-ma, Menba kar-m	GEN
sun/shine	*tsyar	džãn	*c-mík	səmiʔ	cəmiʔ	Ganan səmiʔ, A/Se chămit	Bahing tśyar, Moshang roŋ-śarr 'shine'	PLJ+
tired/thirsty	*bal	bàn 'be at rest', bá 'tired'			6əsá 'be out of breath'		Bahing bal; WB pân; Dulong bal⁵⁵,thirsty	GEN

(37) *-il

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
* wash (3)	*m/b-syil ≍*m/b-syal	šín, kəšĩn	*sen (< *sel?)	sʰen	sainŋ, kəjáiŋ	G sʰɛm	Nungish *dzal	GEN

(38) *-ir and *-er

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
finger	*ser ≍ *sor		*tak-sir (?)	taʔçi	taʔɟiʔ		WT ser-mo ~ sor-mo	GEN
fly (v.) (2)	*pir ≍ *pur		*pír	pí		G pí	Garo bil, Dimasa bir, Gurung pihr-i-bā	GEN

(39) *-ul

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
hair (esp. body)	*mul ⋈ *mil	mūn	*mun ~ *miŋ	muŋku	ʔámuŋ; ʔahúmiŋ	G miŋku; A/Se humi 'hair of head'	Rw. mul³³, WB ʔəmwè	GEN
* mouth/lip	*m-tsyul		*s-tún	sʰətún	ʔasətún	G sʰətún, A/Se shun	WT mtshul, Lepcha a-dŭl, Rw. ni⁵³thul⁵³	PLTB
tree/wood	*bul ⋈ *pul	phún	*phón	phón 'firewood', pʰouŋklon 'tree'	pʰúŋ-láʔ 'bark', pʰúŋ-pháŋ 'tree'	G pʰɔ́n, A/Se phol	Garo bol, Moshang pu:l	GEN
twenty	*m-kul	khūn	*hól < *khól (?) [HK 2012:#215]		húŋ	A/Se hol	Garo khol, khal, Mikir iŋkol	GEN

ETYMA WITH *-s
(40) *-as

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
hear/listen	*s-tas	mədàt	*tát/tít (?)	tét	táiʔ	G tát, A/Se tat	Ganan tát, WT thos-pa	GEN
thick	*r-tas	thàt, ləthàt	*r^H-thay	(ə)tʰɛ̀	rətʰe	G thɛ̀, A/Se the	Rawang that, Mizo tshaʔ	GEN

(41) *-is

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
two (1)	*g-nis	nī			níŋ-hvu; náiʔ (< Marma)		WT gnyis, WB hnac	GEN
seven	*s-nis	sənìt	*s-ni-ŋ		sənìŋ-hvú	A/Se sīnī	Kanauri stis; rGyalrong kěsněs	GEN

Jingpho-Luish Special Similarities

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
*arrive		dù	*thuk	tʰouʔ	tʰuʔ	G tʰouʔ, A/Se thok		PLJ
astringent		khûp	*hup	hop	huʔ	G hɔp		PLJ
*bubble/foam		khùm-bòp	*Cót	sʰəpɔ́t	ʔasəɓóʔ			PLJ
*calf (of leg)		bòp, ləbòp	*t-pók	təpáuʔ [HK], təpók [DS]		G təpáuʔ-, A/Se tanpok		PLJ
cock/rooster		ù-là	*u-la	ʔula	ʔula	G ʔula	Nung nang-la (prob. a Jg. loan)	PLJ
*daughter/wife/senior female relative		šəyi 'female'	*s-ik	sʰəʔeiʔ	ʔasəʔiʔ	G sʰeiʔ		PLJ
*emerge		prū 'emerge', šəprôʔ 'bring out, exhume'	*pru	pu	pru 'emerge', səbru 'put out'	G pu, A tu a-bu 'dumb' ("sound not emerge")		PLJ
*fly (n.)/mosquito		mətši 'small winged insects'; tsîʔ-krôŋ 'mosquito'	*p-cík	pazèk [DS], pəsiʔ [HK]	pəciʔ	G pəsiʔ, A/Se pu		PLJ
frog		šûʔ	*kʰ-suk	kəsʰòuʔ	kəsuʔ	G kəsʰàuʔ		PLJ
grandchild		kəšù	*su-túŋ [JAM]	sʰətóuŋ	ʔasetúŋ	G sʰutóuŋ, sʰutáuŋ		PLJ
hit/push (1)		tùp 'hit'			díiʔ 'push'			PLJ
hot (1)/dry/dry up		kā 'dry, dry up'	*s-ka 'dry up', *ká 'hot'	ká 'hot', aká 'roast'	ká 'hot', aká 'roast', səka 'dry up'	G ká, Se ka 'hot, dry'		PLJ
*husk (of rice)		núm-khó	*hók	yəháuʔ	yáʔhóʔ	A/Se ihok		PLJ
insect (2)/leech		lətûŋ 'borer'	*kʰ-tuŋ	kətòuŋ	kétuŋ 'leech'	G kətàuŋ, A/Se kotong		PLJ
level/paddy field		pā 'flat'	*pá	ləpá 'paddy field'	pá-goʔ	G letpá		PLJ
long ago		mòi-mòi		mæú [DS], məʔɛ́ [HK]				PLJ

Gloss	PTB	*Recon				Notes	
mistake/err — kəmáŋ 'abstracted'				kəmaŋ 'err'			PLJ
negative — khùm 'neg.imp.'			kùm				PLJ
outside/field — brāŋ-tàn 'field; grassy plain'		*praŋ [JAM]		ʔapráŋ			PLJ
porcupine — dú		*p/kᴴ-duɯ-k	kətùsipáuŋ	pədvu	G kətùʔ, A/Se kutuk		PLJ
press — dìp			thīn [DS], tʰêm [HK]		G tʰɛ̀p		PLJ
rain (2)/cloud/sky (2) — mərāŋ 'rain'	*m/s-raŋ	*hráŋ	haŋcʰî 'cloud', həláŋ wɛ́ 'rain'	hráŋgri 'cloud', hráŋ vé 'rain'	G hánnǐʔ 'cloud', A/Se haɾʌŋ 'sky'		PLJ
rest — sáʔ		*sak	sʰaʔ	saʔ			PLJ
rot (1)/stink (1) — phū 'stink'		*Cú	kəpú	ɓú	G mú	cf. PTB *m-bup	PLJ
search/seek — tām		*tam	tam		G tam, Se tʌm		PLJ
seedling (rice) — dəkà			takà				PLJ
skinny/lean — ləsì			ashì [DS], ʔasʰî [HK]			G sʰî	PLJ
stingy/miserly — mədʑìʔ				kəjíŋ			PLJ
swidden — yíʔ		*Cik	yeiʔ	ʔiʔpra	G ñeiʔ		PLJ
threaten/compel — kətép 'compel'				kədáiʔ 'threaten'			PLJ
under/below — ń-púʔ		*mùk (?)	həmûʔ, kəmûʔ	ʔámuʔ	G həmûʔ		PLJ
village/household — thìŋ-gō 'household'		*thiŋ	tʰîŋ	tʰiŋ	G theiŋ, A/Se theng		PLJ
waste/interfere — kəpáŋ 'interfere'				kəbaŋ 'waste'			PLJ
watch/observe — yū		*yu	yu	yu	G yu		PLJ

Gloss	PTB	Jingpho	Proto-Luish	Kadu	Sak	Other Luish	Other TB	Distrib'n
back/waist		ñ-šáŋ 'waist', šíŋ-mā 'back'	*k-sáŋ	kəsʰáŋ	ʔakəsáŋ	G kəsʰáŋ	TN kashan, Phom šəŋ, Chang šencaŋ	PLJ +
bear (n.)		tsáp	*kʰ-sap	kəsʰàp [HK], kəshát [DS]		G kəsʰàp, A/Se sʌpmo	Konyak shap-nyu, Nocte sap-ba, Tangsa shap	PLJ +
bird (2)	*wu ⪥ *wa	ù	*u	ū	u	G ʔu, A/Se u	Lepcha fo, Mikir vo, Chang au	PLJ +
burn/roast (vt.)		jù	*cu	su	cu	G su	PTk *cow	PLJ +
carry on shoulder	*pay	phǎy, phyé	*phé	pʰé	pʰé	G pʰé	PKC *paay ⪥ *pooy 'conceive/carry close to the body'	PLJ +
catch/hold fast	*s-grim	rìm	*Cim	yem	riŋ	G lɛm	WT sgrim-pa, WB krim	PLJ +
cough		džəkhrù			kruʔsuʔ [HK], kro³ sʼoʼ⁴ [GHL]		PKC *khuʔ, Garo gu-su	PLJ +
cross (river, bridge)		ráp	*Cap	yap	raʔ	G lap	Bokar rap, Galo rab, Tujia ɣa³⁵	PLJ +
cut (1)/castrate	*mwan ⪥ *mwat	mòn, mōn ⪥ mòt	*wán	wán	váiŋ	G wán	Jinuo me⁴⁴, Shixing m̥ĩ⁵⁵ βɛ⁵⁵	PLJ +
*dark/black/night	*s-nak	šənâʔ 'night'	*nak	naʔcɛ	naʔtaiʔ 'night'	G naŋki, A/Se sanʌk	WB nak	PLJ +
*dry (in the sun)	*s/m-lam [N]	lām			məláŋ		P Tani *ɫam, Nung ɫam⁵⁵, Nocte chuok lam	PLJ +
*elephant	*m-gwey	məgwī	*kúy	ʔecí	ʔukvú, wvu-kvú	G ʔecí, A/Se ki	Lai (Hakha) vûy, Rawang məgui³¹	PLJ +
*face/front	*myal	mān	*mán	mán	ʔamáiŋ	G mán, A/Se man	Cf. OC *mjən 面	PLJ +
far	*dzyal	tsān	*car	saʔ, sa	caiŋ	G sa, A lam-je, Se lam ja	Bodo gəzaʔn, Garo tsel	PLJ +

Gloss								
* fire/burn	*b-war	ʔwàn	*wan	wan	vaiŋ	G wan, A/Se wal	Anong hwar, Rw. war^5, Garo waʔl	PLJ+
get/obtain		lù 'have'	*lu	lū [DS]	lu	G lu	Dulong lu^{53} 'get, fetch', Zeme lu	PLJ+
give (1)	*ya-k	yā	*i	ʔi	ʔi	G ʔi, A/Se i	Magar yā-khe, Thulung yak-	PLJ+
* hand (2)	*g-lak	lətàʔ	*t-hów < *tak-khów	tāk, tahú [both DS]	təhú	A takhu	WT lag; WB lak	PLJ+
* hard/solid		džàʔ	*CH-cak	ʔəsàʔ		G sàʔ, A chak	Chepang cak-ʔo, PTk ʃak, Ao (Mongsen) təcak	PLJ+
knife	*daŋ		*k-táŋ	taŋ	kǝtaŋ 'knife'	G taŋ, A/Se katang	Lh. á-thɔ 'knife'	PLJ+
language		tú	*tu	tú	tú	A/Se tu a-bu 'dumb' ("words not resound")	PKC *thuu 'word; matter, affair'	PLJ+
lick	*m-lyak	mətáʔ	*á-tak	(ʔə)tàʔ	ʔátaʔ	G tàʔ	WB lyak	PLJ+
* meat	*dzya-n	šàn	*san	sʰəlan	ʔásaiŋ	G sʰəlan, Se sen	Rw. ʃa^{33}	PLJ+
moon	*s-la	šətā	*s-dá	sʰətá	sədá	G sʰətá, A/Se satha	Rw. shəlɑ^{53}	PLJ+
mortar	*(t)sum	thùm	*thum	tʰom	tʰuŋ	tʰɔm	Rw. dɔŋ^{31} sum^{33}, Lh. che	PLJ+
new		ǹ-nān, nìŋ-nān	*n-yár (?)	neyá	náiŋ, ʔanáiŋ	G ñá	Tangsa anal, Nocte anyia	PLJ+
* only/diminutive		šà	*-sa	-sʰa	-sa	G -sʰa	P Tk *tsa	PLJ+
pot		dìʔ, ǹ-dìʔ; tìʔ-pū	*tik	teiʔçi	tiʔ; siŋ-diʔ	G teiʔsʰi	PNN *ʔ-dik	PLJ+
pull	*don ⪰ *ton	tūn	*tún	tún	tún	G tún, Se tun	Magar don, WT ḥdon-pa	PLJ+
rice (cooked/husked)	*dzyat	šàt	*sat	ʔəsʰat	kvúsaiʔ	G ʔəsʰat, A hwĩsʌt, Se usʌ dòʔ	Tangkhul tsaat, PTani dòʔ	PLJ+

Gloss							
rob/oppress/suffer	*s-nyen	nyèn 'defraud', šənyèn 'take by force'	*s^{H}–nan	sʰənàn	sənaiŋ 'rob'		WB ñáñ 'grumble, hñáñ 'oppress' PLJ+
say		ŋŭ	*ŋáw	ŋɔ́	ŋá	G ŋɔ́, A/Se nga	Anong ŋu^{31} (?), Tangut ŋwụ̈ PLJ+
* shiver		kəʒíʔ [TBL], kǎ^{31}ʒin^{33} [HK], kəríʔ	*kriŋ [JAM]		səkriŋ		Chepang riŋh-, Thulung ruŋ(-) PLJ+
* spittle/phlegm	*m-kaːk	məkhá	*m-hak		məháʔ; həɬ		Mizo khaːk PLJ+
* sun/shine	*tsyar	džǎn	*c-mík	səmíʔ	cəmíʔ	Ganan səmíʔ, A/Se chāmit	Bahing tśyar, Moshang roŋ-śarr 'shine' PLJ+
take/accept		lá	*la	la	la	G la, A laha, Se la	PKC *laa, Anong ɬa^{55}, PNN C-la PLJ+
thigh		məgyī	*t-kiy (?)	təcí	ʔátəkəboʔ [HK], ătǎki^{3} bɔʔ^{2} [GHL]	G təkí, A tanghĭ, Se tangé	PK *kíq [RBJ] PLJ+
tiger			*k^{H}–sa	kəshà	kəsa	G kəshà	Nocte sao, Tangsa shah PLJ+
wrap (1)/ put on and wear	*pún	phún	*phun	phun	phuŋ	G phun	Boro pin; Garo pin-dap 'cover' PLJ+

Notes to the Spreadsheet:

earth/land **r-ga*

   STC #97 reconstructs **r-ka*, but a *voiced initial seems preferable, since Kadu retains a velar rather than developing *h-*. Jingpho and Rawang also have voiced initials. See above Section 4.13.

living being PLu **ma*

   Note the infix in Kadu.

only/diminutive PLu **-sa*

   An important grammatical morpheme. See HK 2012: #182.

patch **pʷa*

   See JAM 2000.

place **s-ra*

   The Rawang form is probably a borrowing from Jingpho. An excellent comparandum is Chinese 所 (OC *śri̯o* [GSR 91a-c], Mand *suǒ*).

wound/injury **r-ma-t*

   The final nasal in Sak might be due to assimilation to the root initial.

bile/gall/sour **m-kri-s*

   Sak *ʔɨ* 'liquid'.

Cak/Sak human **sak*

   According to HK, the cognacy of the WB is doubtful, since WB *s-* normally corresponds to Kadu *sʰ-* and Sak *s-*.

penis **ti-k*

   See JAM 2008, #s 117, 118.

elephant **m-gwəy*

   L. Bernot (1967: 240) supplies some interesting Luish forms from earlier sources: Cak (Pakistan) *u-kɪ, u-kv*; Kadu (Houghton) *akyɪ*; Andro (McCulloch) *kee*. The Rawang form is probably a loan from Jingpho.

bird **wu ⋊ *wa*

   This morpheme is a preformative in birds' names in both Jingpho (e.g., *ù-khrūdû* 'dove') and Sak (e.g., *u-há* 'crow').

emerge **pru*

   Note the negative prefix *a-* in Andro.

grandfather **pəw*

   Luish seems to have undergone a development like **p- > h- > ∅-*.

head (1) **d-bu*
>   HK now derives the Sak form from Marma *Ʋŭ* 'head' + Sak *huŋ* 'to pillow'.

smoke **kəw*
>   Kadu *khō* is apparently borrowed from Burmese (HK, p.c.).

tail **r-may*
>   Sak *Ɂáləmuŋ < Ɂálo* 'back' + *muŋ* 'body hair'.

fruit/round object **sey*
>   See STAR, MANGO.

call/invite **gaw*
>   Note the loss of the initial velar in Sak, but this form is perhaps borrowed from Marma *Ɂɔ* 'shout' (HK, p.c.).

early
>   HK calls this a probable Shan loan, but Hanson doesn't say so; cf. Siamese *cháaw*.

oil (cooking)/fat **saːw*
>   Infix in Kadu and Ganan.

say PLu **ŋáw*
>   The Anong form is probably a loan from Jingpho.

hammer/pound **dow* ⋊ **tow*
>   Sak has a doublet *tu*, borrowed from Marma.

hand **t-hów*
>   The first syllable of the Luish sesquisyllabic forms < **dak < *d-yak*.

thorn/pierce **tsow*
>   See also PTB **dz(y)uk/t* PRICK/STAB/THORN/PLANT.

raise/bring up PLu **hroy*
>   Probably distinct from PTB **hu.*

bright **lam* OR **laŋ*
>   The Sak form is probably borrowed from Marma *láŋ* (HK, p.c.).

dry (in the sun) **s/m-lam* [N]
>   Allofamic with **lap* (cf. PLB **Ɂ-lap^L* [HPTB 112, 337]).

sharp/sword **s-ryam*
>   Called a "Kuki-Naga" root in STC. Note the different C_f in PLuish.

raw/unripe **dzyim*
>   The Kadu and Sak tones do not match.

negative
    Glossed by Sangdong (p. 498) as "verb particle indicating unfinished activity,
    exclusively with a negated verb phrase."

pillow *m-kum*
    Kadu *tém* appears non-cognate.

cut/castrate *mwan* ⋇ *mwat*
    See HPTB p. 518.

meat *dzya-n*
    Note the infixes in Kadu and Ganan. See 4.14.

return/come back *bran*
    The Marma and Sak tones do not match.

ripe *s-min*
    Note the negative prefix *a-* in Andro and Sengmai.

pull *don* ⋇ *ton*
    See STC #125.

cheek *baŋ* ⋇ *boŋ*
    Kadu and Sak tones do not match.

enter/insert *s-waŋ*
    This etymon is a simplex/causative pair. Note the backing of the Sak vowel
    due to the medial *-w-* in the causative form. The Luish forms show
    generalization of the *s-* prefix to the simplicia; this prefix then preempted the
    simplicia's root-initial *w-*.

knife/cut *daŋ*
    The likely Chinese comparandum is 斷 'cut off', OC *twân ~ d'wân* [GSR
    170a], Mand. *duàn.*

outside/field PLu *praŋ*
    Mistranscribed as *pʒan³³tan³¹* in HK 2010: #133. See Hanson 527 and Dai
    667.

squirrel *s-reŋ*
    It is not clear which Kadu syllable is cognate to the WB form, if either is. HK
    does not believe that Kadu *cīlāng* [DS] is related to the other forms in this
    set, since PTB *r-* is regularly lost in Kadu. He speculates that the first
    syllable might be from *ci* 'dog', but does not have an etymology for the
    second syllable.

waste/interfere
 See HK 2010: 140.

yam (2) PLu *h-ráŋ-hú* (?)
 The first syllables of Andro and Sengmai *nʌnghu* are probably cognate, since *r-* becomes *l-* word-initially, and often alternates with *n-* in these languages.

ginger *kyaŋ*
 Ultimately from IA, this is a Southeast Asian Wanderwort.

two (2) PLu *kíŋ*
 Note the Kadu infix.

village/household PLu *thiŋ*
 The second Jingpho syllable means 'roof'.

year *s-niŋ*
 Ganan *pí* is from Tai.

short *tun* ⚔ *t(y)uŋ*
 The alternation between final –*n* and –*ŋ* evidently goes back to the PTB level.

sit *duːŋ* ⚔ *tuːŋ*
 See also Bernot 1967: 254.

wind (n.) *m-buŋ*
 Note the disagreement between the Jingpho and Luish final nasals. Chinese 風 (OC *pi̯um* [GSR 625h], Mand. *fēng*) is the certain cognate.

branch/twig *s-kaːk*
 Possibly allofamically related are Kadu *kalàk* [DS], *kəlàʔ* [HK], with the *-əl-* infix.

dark/black/night *s-nak*
 In other languages, this morpheme means 'black', but in Jingpho/Luish it means 'night'.

hand *g-lak*
 PLu prefix *t-* is the remnant of PTB *dak* (⚔ *lak*), while the major syllable seems unique to Luish. See 5.3.

hard/solid *tsak-t*
 This etymon seems to refer to physical solidity in Jingpho and Luish, while elsewhere in TB it has acquired the more metaphorical sense of 'difficult' or 'expensive'.

itch/itchy *m-sak*
  Sak *kəsiʔ* night not be cognate to the other forms, since its rhyme does not match.

rough *sak*
  The cognacy of Kadu *soʔ* is doubtful, since Sak *–oʔ* normally corresponds to PTB *-ok* or *Cwak* (HK, p.c.).

spittle/phlegm *m-kaːk*
  Sak *ʔí* [HK], *ʔɯ²* [GHL] 'water'.

daughter/wife/senior female relative *yay*
  Note the same prefix in Jingpho and Luish.

eye *mik ⋉ *myak*
  See SUN under *-ar* below.

fly (n.)/mosquito PLu *p-cík*
  Jingpho lacks a C_f.

man PLu *c-^{H}-tik-(sa)*
  Cf. perhaps PTB *ti-k* 'penis' [TBRS #117].

shiver PLu *kriŋ [JAM]
  Note the final *-ʔ* in Jingpho vs. the velar nasal elsewhere.

stingy/miserly *m-džik ⋉ *g-džiŋ* [N]
  Note the discrepancy between Jingpho final *-ʔ* and Sak *–ŋ.*

arrive PLu *thuk*
  Jingpho lacks a C_f.

belly/guts *puːk ⋉ *pik*
  Jingpho lacks a C_f.

brain *s-nuk*
  The Sak form might be borrowed from Marma *ʔŭhnɔʔ* (cf. WB *û-hnauk*). However, the tones of the first syllables in the Marma and WB forms do not match.

deer (sambhur) *d-yuk*
  Jingpho has *–t* vs. Luish *–k.*

hatch *puk ⋉ *buk*
  This root is reconstructed in Matisoff 2008: #16, where all the evidence was from Himalayish languages. These Luish forms show that it is a general TB root.

husk (of rice) PLu *hók*
    Jingpho lacks a C_f.

prick/stab/thorn/plant (v) *dz(y)uk/t*
    See also PTB *tsow* THORN.

descend/go down PLu *sat*
    Perhaps allofamic with PTB *zak.*

rice (cooked/husked) *dzyat*
    See 5.2.

root *d-kra-t* ⚔ *m-kra-t* [N]
    The Kadu form is infixed, by a rather circuitous process: first, the initial *r-*
    dropped, yielding *kat*, after which əl-infixation took place (HK, p.c.).

vagina *b(y)at*
    Note the Sak variation in C_f.

tear (v.) PLu *sék*
    This Luish etymon seems unrelated to PTB *m-džit* ⚔ *m-džut.*

ashes PLu *k-but*
    The Sak first syllable is cognate with Jg *tàp.*

blow *s/k-mut*
    Kadu *mūn* is probably cognate to Sak *muŋ* 'air/wind/weather'.

wipe *sut* ⚔ *sit*
    Note the same prefix in Jingpho and Sak, but cf. also Tangkhul *kəsut.*

bear (n.) *k^H-sap*
    There are cognates in Naga: Konyak *shap-nyu*, Nocte *sap-ba*, Tangsa *shap.*

leaf *s-lap*
    See 4.14, 5.3. Note the infix in Kadu.

cockroach PLu *s-Cíp* (?)
    Note the *d/l* interchange. See JAM 2010.

press
    Note Jingpho final *-p* vs, Luish final *-m.*

scale (fish) *sep*
    HK notes that the correspondence between Sak *s-* and Kadu/Ganan *c-* is
    "unnatural." Besides, the Kadu and Sak tones do not match.

threaten/compel
    See HK 2010: #140.

breast/suck *dz(y)up* ⋊⋉ *dz(y)uk*
    See HPTB: 382 for other allofams.

cover up/bury *klup*
    Perhaps allofamic with *lup* ⋊⋉ *lip* SINK/DIVE/DROWN.
bubble/foam *bop* [N]
    Jingpho –*p* vs. Luish –*t*.

calf (of leg) *bop*
    Jingpho –*p* vs. Luish –*k*.

face/front *myal*
    Reconstructed as PTB *s-mel* in HPTB 422, 537. See HK 2012: #234.

fire/burn *b-war*
    For the many allofams of this root, see HPTB 428-30. In Jingpho and Luish,
    this root means 'fire'; elsewhere it means 'burn'. See HK 2012: #279.

sun/shine *tsyar*
    The final syllables of the Luish forms mean 'eye'; SUN = "burning eye"; cf.
    Indonesian *mata hari*. As Huziwara observes (2010:143), this famous
    eponymous root, which has given its name to Burling's "Sal hypothesis," has
    been reduced to a prefix in Luish. (See Appendix I.)

mouth/lip *m-tsyul*
    A rather similar (but apparently distinct) root with this meaning is *d(y)al*,
    which underlies such forms as Jingpho *ǹtēn* and Mizo *dal*.

<div align="center">***</div>

For etyma marked PLJ or PLJ+, the notes are identical to those in the
phonologically organized portion of this spreadsheet, above.

ABBREVIATIONS

A ⋊⋉ B	A and B are allofams; A and B belong to the same word-family
A	Andro
AD	Karlgren 1923
B.	Baishari (subdialect of Bangladeshi Chak)
Bse.	Burmese
C_i	Initial consonant
C_f	Final consonant
Clf	Classifier
DS	David Sangdong
G	Ganan; glide
GEN	A general Tibeto-Burman root, appearing both in Jingpho and Luish

GHL	Gordon H. Luce
GSR	Karlgren 1957
IA	Indo-Aryan
ICSTLL	International Conferences on Sino-Tibetan Languages and Linguistics
HK	HUZIWARA Keisuke
HPTB	Matisoff 2003
JAM	James A. Matisoff
LB	Lolo-Burmese (= Yi-Burmese = Burmese-Lolo)
Lh.	Lahu
Lp.	Lepcha
Mand.	Mandarin
Mod.Bs.	Modern Burmese
N	Noun
N.	Naikyongchari (subdialect of Bangladeshi Chak)
[N]	New etymology
OB	Old (=Inscriptional) Burmese
OC	Old Chinese
OH	Ola Hanson 1906
PCC	Proto-Central-Chin (Button 2011)
PCK	Proto-Central-Karen (Theraphan 2013)
PK	Proto-Karen (Jones 1961)
PKC	Proto-Kuki-Chin (VanBik 2009)
PLu	Proto-Luish (= Proto-Asakian)
PLB	Proto-Lolo-Burmese
PLJ	Proto-Luish and Jingpho only
PLJ+	Proto-Luish and Jingpho special similarity, but also attested elsewhere
PLO	Proto-Luish only
PLTB	Proto-Luish and elsewhere in TB, but not in Jingpho
PNN	Proto-Northern-Naga (French 1983)
PTani	Proto-Tani (J. Sun 1993)
PTB	Proto-Tibeto-Burman
PTk	Proto-Tangkhulic (Mortensen 2012)
RBJ	R.B. Jones (1961)
Rw.	Rawang
Se	Sengmai
SEA	Southeast Asia
Si.	Siamese (= Standard Thai)
STC	Benedict 1972
TB	Tibeto-Burman
TBL	Dai and Huang 1992
TBRS	Matisoff 2008
V	Vowel; verb
V_i	Intransitive verb
V_t	Transitive verb
VSTB	Matisoff 1978
WB	Written Burmese
WT	Written Tibetan
ZMYYC	Sun Hongkai, et al. 1991

REFERENCES

Barnard, J.T.O. 1934. *A Handbook of the Răwang Dialect of the Nung Language*. Rangoon.

Benedict, Paul K. 1939. Semantic differentiation in Indo-Chinese. HJAS 4:213–29.

Benedict, Paul K. 1972. *Sino-Tibetan: a Conspectus*. Contributing Editor, James A. Matisoff. Cambridge University Press. [STC]

Bernot, Lucien. 1967. *Les Cak: contribution à l'étude ethnographique d'une population de langue loi*. Paris: Editions du Centre National de la Recherche Scientifique.

Bloomfield, Leonard. 1933. *Language*. New York: Holt, Rinehart and Winston.

Brown, R. Grant. 1911. The Tamans of the Upper Chindwin, Burma. JRAI 41:305–17.

Brown, R. Grant. 1920. The Kadus of Burma. BSOS 1.3:1–28.

Burling, Robbins. 1959. Proto-Bodo. *Language* 35:433–53.

Burling, Robbins. 1971. The historical place of Jinghpaw in Tibeto-Burman. *Occasional Papers of the Wolfenden Society on Tibeto-Burman Linguistics*, Vol. II, pp. 1–54.

Burling, Robbins. 1983. The *Sal* languages. LTBA 7.2:1–32.

Burling, Robbins. 2003. The Tibeto-Burman languages of Northeastern India. In Thurgood and LaPolla, eds., *The Sino-Tibetan Languages*, pp. 169–191. London and New York: Routledge.

Button, Christopher. 2011. *Proto Northern Chin*. STEDT Monograph #10. Berkeley.

Coupe, Alexander R. 2012. Overcounting numeral systems and their relevance to subgrouping in the Tibet-Burman languages of Nagaland. *Language and Linguistics* (Taipei) 13.1:193–220.

Dai Qingxia, et al. 1983. *Jinghpo Miwa Ga Ginsi Chyum* [Jǐng-Hàn Cídiǎn 景漢辭典] *Jingpho-Chinese Dictionary*. Kunming: Yunnan People's Publishing Co.

Dai Qingxia and Huang Bufan, eds. 1992. *Zang-Mian yuzu yuyan cihui*. [Authors' English title: *A Tibeto-Burman Lexicon*.] Beijing: Central Institute of Minorities. [TBL]

DeLancey, Scott. 2013. Second person verb forms in Tibeto-Burman. Paper presented (August 10) at ICSTLL 46, Dartmouth College, Hanover, NH.

French, Walter T. 1983. *Northern Naga: a Tibeto-Burman Mesolanguage*. Ph.D. dissertation, City University of New York. 2 vols.

Grierson, Sir George A. 1921. Kadu and its relatives. Bulletin of the School of Oriental Studies 2:39–42.

Grierson, Sir George A. and Sten Konow, eds. 1903–28. *Linguistic Survey of India*. 13 vols. Vol. III, Part 2: *Bodo-Naga-Kachin Groups*. Calcutta: Office of the Superintendent of Public Printing.

Hanson, Ola. 1906. *A Dictionary of the Kachin Language*. Reprinted (1954) by Baptist Board of Publications, Rangoon.

Houghton, Bernhard. 1893 The Kudos of Katha and their vocabulary. *Indian Antiquary* 22:129–36.

Huziwara Keisuke. 2002. Chakku-go no onsei ni kansuru kousatu. [A phonetic analysis of Cak] Kyoto University Linguistic Research [Kyouto Daigaku Gengogaku Kenkyuu] 21:217–73.

Huziwara Keisuke. 2008. *Chakku-go no kizyutu gengogakuteki kenkyuu* [A descriptive linguistic study of the Cak language] Doctoral dissertation, Kyoto University. lix + 942 pp.

Huziwara Keisuke. 2010. Cak prefixes. In Dai Zhongming and James A. Matisoff, eds., *Zang-Mian-yu yanjiu sishi nian* [Forty Years of Sino-Tibetan Studies], pp. 130–45. Harbin: Heilongjiang University Press.

Huziwara Keisuke. 2012. *Rui sogo no saikou ni mukete* [*Toward a reconstruction of Proto-Luish*]. 107 pp. ms.

Jones, Robert B. 1961. *Karen Linguistic Studies*. Berkeley and Los Angeles: University of California Press.

Karlgren, Bernhard. 1923. *Analytic Dictionary of Chinese and Sino-Japanese*. Paris: Librairie Orientaliste Paul Guethner. Reprinted (1974) by Dover Publications, New York.

Karlgren, Bernhard. 1957. *Grammata Serica Recensa. Bulletin of the Museum of Far Eastern Antiquities* (Stockholm) 29:1–332.

Kurabe Keita. 2013. A preliminary report on Dingga phonology: a new dialect of Jingpho. Paper presented (August 10) at ICSTLL 46, Dartmouth College, Hanover, NH.

LaPolla, Randy J. 1987. Dulong and Proto-Tibeto-Burman. LTBA 10.1:1–43.

LaPolla, Randy J. 2003. *Rawang Glossary*. 43 pp. MS.

LaPolla, Randy J. 2004. Reflexive and middle marking in Dulong/Rawang. *Himalayan Linguistics* 2 (on-line journal), December, 2004.

LaPolla, Randy J. 2008a. Nominalization in Rawang. LTBA 31.2:45–66.

LaPolla, Randy J. 2008b. Relative Clause Structures in the Rawang Language. *Language and Linguistics* 9.4:797–812 (special issue on relative clause structures edited by Henry Y. Chang), 2008b .

LaPolla, Randy J. 2008c. 'Transitivity harmony' in the Rawang language of northern Myanmar. In L. de Beuzeville & P. Peters, eds., *From the Southern Hemisphere: Parameters of Language Variation—E-Proceedings of the 2008 Conference of the Australian Linguistics Society* (University of Sydney, 2–4 July, 2008), pp. 1–9.

LaPolla, Randy J. 2010. Hierarchical person marking in the Rawang language. In *Forty Years of Sino-Tibetan Language Studies: Proceedings of ICSTLL #40*, ed. by Dai Zhaoming, 107–113. Heilongjiang University Press, Dec. 2010.

Löffler, Lorenz G. 1964. Chakma und Sak: ethnolinguistische Beiträge zur Geschichte eines Kulturvolkes. *Internationales Archiv für Ethnographie* 50.1:72–115.

Luce, Gordon H. 1985. *Phases of Pre-Pagán Burma: Languages and History*. 2 vols. Oxford and New York: Oxford University Press.

Maran, LaRaw. ca. 1985. *A Dictionary of Modern Spoken Jingpho*. Bloomington, Indiana. MS. 1441 pp.

Matisoff, James A. 1970. Glottal dissimilation and the Lahu high-rising tone: a tonogenetic case-study. JAOS 90.1:13–44.

Matisoff, James A. 1974. The tones of Jinghpaw and Lolo-Burmese: common origin vs. independent development. *Acta Linguistica Hafniensia* 15.2:153–212.

Matisoff, James A. 1978. *Variational Semantics in Tibeto-Burman*. Philadelphia: Institute for the Study of Human Issues. [VSTB]

Matisoff, James A. 1985. God and the Sino-Tibetan copula, with some good news concerning selected Tibeto-Burman rhymes. *Journal of Asian and African Studies* (Tokyo) 29:1–81.

Matisoff, James A. 1991. Jiburish revisited: tonal split and heterogenesis in Burmo-Naxi-Lolo checked syllables. *Acta Orientalia* 52:91–114.

Matisoff, James A. 1995. Sino-Tibetan numerals and the play of prefixes. Osaka: *National Museum of Ethnology Research Reports* 20.1:105–252.

Matisoff, James A. 2000. An extrusional approach to *p-/w- variation in Tibeto-Burman. *Language and Linguistics* (Taipei) 1.2:135–86.

Matisoff, James A. 2003. *Handbook of Proto-Tibeto-Burman: system and philosophy of Sino-Tibetan reconstruction*. Berkeley, Los Angeles, London: University of California Press. [HPTB]

Matisoff, James A. 2008. *The Tibeto-Burman Reproductive System*. Berkeley, Los Angeles, London: University of California Press. [TBRS]

Matisoff, James A. 2010. The dinguist's dilemma: regular and sporadic d/l interchange in Sino-Tibetan and elsewhere. In Tim Thornes, Erik Andvik, Gwendolyn Hyslop, and Joana Jansen eds., *Functional-Historical Approaches to Explanation: a Festschrift for Scott DeLancey*. Amsterdam: John Benjamins, pp. 83–104.

McCulloch, W. 1859. *Account of the Valley of Munnipore and of the hill tribes, with a comparative vocabulary of the Munnipore and other languages*. Caclcutta; Bengal Printing Co.

Mortensen, David R. 2012. *Database of Tangkhulic Languages*. (unpublished). Accessed via STEDT database <http://stedt.berkeley.edu/search> on 2012-09-26.

Namkung, Ju, ed. 1996. *Phonological Inventories of Tibeto-Burman Languages*. STEDT Monograph Series #3. Berkeley: University of California.

Sangdong, David. 2012. *A Grammar of the Kadu (Asak) Language*. Ph.D. dissertation, La Trobe University, Bundoora (Victoria), Australia. xx + 684 pp.

Schrader, Otto. 1906–07. *Sprachvergleichung und Urgeschichte*. 3rd edition, Jena. English translation of the 2nd edition, entitled *Prehistoric Antiquities of the Aryan Peoples* (London, 1890).

Shafer, Robert and Paul K. Benedict. 1937–41. *Sino-Tibetan Linguistics*. Unpublished typescript, 15 vols., bound as 14. Vol. 6–7, *Digarish-Nungish*. Berkeley: University of California.

Sun Hongkai. 2005. *Anong-yu yanjiu* [A study of the Anong language]. Beijing: People's Publishing Co.

Sun Hongkai, et al, eds. 1991. *Zang-Mian-yu yuyin he cihui* [Tibeto-Burman Phonology and Lexicon]. Beijing: Chinese Social Sciences Press. [ZMYYC]

Sun, Jackson Tianshin. 1993. *A Historical-Comparative Study of the Tani (Mirish) Branch in Tibeto-Burman*. Ph.D. dissertation, University of California, Berkeley.

Theraphan Luangthongkum. 2013. *A View on Proto-Karen Phonology and Lexicon*. 81 pp. ms., Bangkok: Chulalongkorn University, Department of Linguistics.

VanBik, Kenneth. 2009. *Proto-Kuki-Chin: a reconstructed ancestor of the Kuki-Chin languages*. STEDT Monograph #8. University of California, Berkeley.

Xu Lin and Zhao Yansun. 1984. *Bai-yu Jianzhi* [Outline Grammar of the Bai Language].Beijing: People's Publishing Co.

Author's address:

Prof. James A. Matisoff
Department of Linguistics
University of California
Berkeley, CA 94720
USA

Email: matisoff@berkeley.edu