Much *Adu* 阿 都 about something: extrusional labiovelars in a Northern Yi patois

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In a recent article in *Minzu Yuwen*, the Chinese linguist Pān Zhèngyún[1] 潘 正 雲 describes a subdialect "Adu" 阿都 of the Northern[2] group of Yi (= Loloish) languages that has a series of labiovelar initials, /**kp-**, **kph-**, **gb-**, **ŋgb-**, **ŋm-**/, not to be found elsewhere in the entire Yi family. He goes on to claim that these labiovelars must be reconstructed for Proto-Loloish.[3]

These sounds are not to be found even in other closely related "patois" (*tǔyǔ* 土 語) cited from the Northern subgroup of the Northern dialect of Yi[4]: Shèngzhà 聖 乍, Yínuò 義 諾, Tiánbà 田 埧.

Astonishingly, all but one of the many examples offered of these labiovelar initials occur before the Adu vowel **-u-**. Over two dozen of these have good etymologies at the PLB level or beyond. While many of these etyma are well-known, the Adu data actually help to establish a number of other roots at the PLB or PTB level. Etymologizable Adu forms with labiovelar initials may be divided into several subclasses (sections 1-4 below):

(1) Where PLB had non-labialized velars:

		Adu	*PLB*	*Proto-Tibeto-Burman*
(1)	'able'	**kpu̲^{55}**	***ku** [5]	***ku**

/This is a root which may be set up for PTB as a whole, with reflexes in Baic and Qiangic as well as Loloish: (Baic) Bai (Dali and Jianchuan) **khu^{33}**, (Bijiang) **qhu^{33}**; (Qiangic) Namuyi **qu^{35}**, Shixing **ko^{55}**; (Loloish) Xide **kɯ^{55}**; Dafang **kɔ^{13}**; Nanhua and Mile (Axi) **ku̲^{55}**; Mojiang **ku̲^{21}**; Lisu **ku^{55}**; Naxi Lijiang and Yongning **kv^{55}**; Wuding, Sani, Weishan **kɯ^{55}**. See ZMYYC #732 and Pan:20./

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[1]Chengdu, Xinan Minzu Xueyuan, Yi-yu Xi.

[2]Chinese linguists now recognize six major Yi dialect groups: *Northern* (e.g. Xide); *Eastern* (e.g. Weining, Dafang); *Southern* (e.g. Eshan); *Western* (e.g. Weishan, Nanjian); *Southeastern* (e.g. Mile); and *Central* (e.g. Dayao). See Chen et al., 1985: 172-216.

[3]Pan writes these sounds with superscript ligatures (impossible to reproduce here) in order to emphasize that they constitute single segments.

[4]*"Yí-yǔ běibù fāngyán, běibù cì-fāngyán."*

[5]The PLB/PTB reconstructions of this etymon are highly provisional.

(2) 'body/back' ***kpu²¹ tɯ²¹*** ***guŋ** ***guŋ**

/This compound means 'back (of body)' in Adu, although the comparative evidence makes it clear that the meaning of the 1st syllable is *BODY*. In almost every Loloish language, the compounds for *BODY* and *BACK* contain an identical morpheme:[6]

	'body'	*'back'*
Zaiwa	***kuŋ⁵¹*** **tu²¹**	**nuŋ⁵¹** ***kuŋ⁵¹***
Langsu	***kauŋ³¹*** **tau³⁵**	***kauŋ³¹*** **tɔ̃⁵⁵**
Xide	***ko²¹*** **po³³**	***kɯ²¹*** **tɯ²¹**
Dafang	***gɯ²¹*** **kɔ³³**	**bɯ²¹** ***gɯ³³***
Nanhua	***gɯ³³*** ***di²¹***	***gɯ³³*** ***di²¹*** **mo³³**
Mojiang	***gɯ²¹*** **mo²¹**	***gɯ²¹*** **ɣɯ³³**
Naxi Lijiang	***gv³³*** **mu³³**	***gɯ³³*** **tsɯ³³**
Naxi Yongning	***gv³³*** **mi³³**	***gv³³*** **dv³³**

This root for 'body' is widespread elsewhere in TB: Dulong **aŋ³¹** ***gɯ³¹*** 'body' (but ***gɔŋ⁵⁵*** **ɹĭʔ⁵⁵** 'back'); Rawang **guŋ** 'body, animal, self'; Jingpho **gòŋ** 'body', **ǹ-gòŋ** 'corpse'; Tsangla Motuo ***khoŋ⁵⁵*** **meʔ⁵⁵** 'lower body'; Chantyal **gɦo** 'body'; Written Burmese **ʔəkauŋ**; Xixia **kon¹**. See HPTB:309-10./

(3) 'goose' **gbu²¹** ***gu** [7]

/Closely related Northern Yi forms cited in Pan (p. 20) are Shengzha **gu²¹**, Yinuo **gʷɯ⁴²**, Tianba **gu²¹**. Noteworthy is the labialization in Yinuo, which looks as if it reflects the same "extrusional"[8] tendency that is carried even further in Adu. Other Loloish cognates include Xide ***gu²¹*** **ʂʅ³³**, Wuding **gɯ⁵⁵**, Naxi Lijiang **ko³³** (TBL #334). Namuyi (Qiangic) **ku⁵⁵** implies that this is a general TB root.

There seems to be no connection between the above forms and PTB ***ŋa-n**, which underlies forms like: Dafang **ŋɔ²¹**, Dazhai Hani **o³¹** ***ŋø⁵⁵***, Hani Shuikui **ɔ³¹** ***ŋɔ⁵⁵***; WB **ŋân**; WT **ŋaŋ-pa**; Tujia **ta³⁵** ***ŋan³⁵***; Dulong **ŋu⁵³**. (See ZMYYC #139; HPTB:177, 259, 449.)/

(4) 'nine' **gbu³³** ***gəw²** ***d/s-gəw**

/Cf. WB **kûi**, Lahu **qɔ̂**; WT **dgu**; Garo **sku**, etc./

(5) 'inside' **kphu³³** ***kəw¹**

/Cf. Shengzha, Yinuo, Tianba **khu³³** (Pan:18). This PLB root has been reconstructed[9] on the basis of Lahu ***ɔ̀-qhɔ*** and Maru **a³¹** ***khuk³¹.*** The development of PLB ***-əw** > Maru **-uk** is regular (known since Burling 1967/68)./

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[6]See ZMYYC #258 'back'; 231 'body'. Pan (p. 20) cites Weishan (W. Yi) ***ku²¹*** **tu³³** **ca³³**, Wuding (E. Yi) **khɔ¹¹** 'back'.

[7]The PLB tone of this etymon remains to be determined.

[8]By "extrusion" I mean "the perseveration of a phonetic feature to the point where it oversteps the bounds of a single segment, so that it creates a second segment to which it imparts a portion of its phonetic substance". See Matisoff 2000, and below (§6a).

[9]See Matisoff 2002:229.

(6) 'pillow' **o^{33} *kphu^{21}*** ***N-kum^{2}** ***m-kum**

/The 1st syllable means *HEAD*; cf. *COMB*. Cf. Jingpho **bùŋ-*khúm***; WB **khûm**; Lahu **ú-*gɛ̂***. See STC #482; HPTB:272./

(7) 'poke' [10] **ŋgbu̱^{55}** ***N-k(r)uk^{H}** [11]

/Cf. Xide **ŋgu^{55}**, Weiding **ŋkhu̱^{55}** 'poke'; Lahu **gû?** 'collide, butt, bump into', Sani **kɤ^{44}**./

(8) 'scream' **kpu^{33}** ***kru^{1} ≍ *gru^{1}**

/The medial ***-r-** is reconstructible on the basis of Lahu **kù**. (Plain velars */g k/ develop into Lahu postvelars /q qh/.) Cf. also Wuding **khɣ^{33}**, Weishan **ku̱^{55}** (Pan:20)./

(9) 'sinew' **gbu^{33}** ***gru^{1}**

/Cf. Lahu **ɔ̀-*kù*-câ?.** Cognates cited in Pan:20 include: Wuding (E.Yi) **dʑɣ^{33}**; Sani (SE Yi) **gɣ^{11}**; Nanhua (C. Yi) **dʐu^{21} ~ dʑu^{21}**; Weishan (W. Yi) ***gu̱^{21}*** **tʂɑ^{33}**; Mojiang (S. Yi) **dʐu^{21}**. The last syllables of the Lahu and Weishan forms mean 'string; elongated object'./

(10) 'smoke' **mŋ^{33} *kpu^{33}*** ***kəw^{2}** ***kəw**

/The 1st syllable means *FIRE*; cf. Lahu **à-mī** 'fire', **mû-*qhɔ̂*** 'smoke'./

(11) 'sound' **kphui^{33}** dʑŋ^{33} ***kraŋ^{2}** ***glaŋ ≍ *klaŋ**

/Cf. Lahu ɔ̀-**khɔ̂**; Zhangzhung **klaŋ ~ glaŋ**.[12] PLB medial ***-r-** drops without a trace in Adu. See also SCREAM (8), SINEW (9)./

(12) 'steal' **kphu^{33}** ***kəw^{2}** ***r-kəw**

/Cf. WT **rku**; Jingpho **ləgú**; WB **khûi**; Lahu **qhɔ̂**./

(13) 'thunder' **m̥ŋ^{33} *kpu^{33}*** ***grəw^{2}** ***r-gəw** or ***grəw**

/This root has solid reflexes in at least three branches of TB: (Qiangic) Mawo Qiang **mə *rgu***, Taoping Qiang **mə^{55} *go^{33}***, Namuyi **mu^{55} *gu^{33}***; (Nungish) Nusu (Bijiang) **mɯ^{31} *gɹɯ^{55}***; (Lolo-Burmese) WB **mui(gh) *krûi***; Nanhua **mɯ^{21} *gɯ^{21}***; Lisu **mu^{31} *gu^{31}***; Naxi Lijiang **mɯ^{33} *ŋgv^{33}***; Naxi Yongning **mv^{33} *gv^{33}***; Wuding **mɣ^{33} *kɯ^{11}***; Weishan **ɑ^{55} m̥^{21} *ɣu^{21}***; Mojiang **mɯ^{21} *gɯ^{21}***. The 1st syllables in all these forms mean *SKY*. Sani **m̥^{11} *dɣ^{33}*** (cited in Pan:20) represents a separate root (cf. Lahu **mû-*tɔ̄***)./

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[10]The Chinese gloss is 戳 **chūo** 'jab, poke, stab'.

[11]See TSR #80 (not in HPTB).

[12]See Matisoff 2001:#30 and 2002:230.

(2) Where PLB had velar clusters with medial -w-:

Naturally enough, etyma that already had velars plus medial **-w-** at the PLB level underwent the typical Adu labialization before **-u-**:

		Adu	*PLB*	*PTB*
(14)	'hoof'	**mu^{33} *kphue^{33}***	***kwa^{1}**	***N/s-kwa**

/This rather widespread etymon is reflected in Lolo-Burmese forms like WB **khwa**; Naxi Lijiang ***khuɑ^{33}*** **be^{31}**. It is also found in Nungish (e.g. Nusu Bijiang **khuɑ^{35}**), and is especially well attested in Qiangic: Ersu **nkhuɑ^{55}**; Muya ***quɐ^{33}*** **tshɯ^{53}**; Xixia **kwej^{1}**; Qiang Mawo **ʁdzɻi *ku***; Pumi Taoba ***khu^{55}*** **ɬa^{55}**. Interestingly, two other Pumi dialects have developed labial stops (along with prefixal ***s-**) in this root: Pumi Qinghua **spɑ^{55}**; Pumi Dayang **ʒdʒwìN *ɸpǒ***.

The 1st syllable of the Adu form means 'horse'. A reduced version of this morpheme may underlie the prefixal nasal in Ersu.

For the same Adu reflex of ***-wa**, see *BORN* (18), *FACE* (20)./

(15) 'lie/deceive' **ŋgbue^{33}** ***N-kwa**

/Cf. Naxi **kuɑ^{33}**; Sani **qhɯ^{11}**. The nasal prefix is attested both in Adu and in two of the closely related patois: Shengzha **ŋge^{33}**, Yinuo **ŋgɛ^{33}**, Tianba **ga^{33}**. There is a phonosemantically rather similar Mandarin form **kuā** 夸 'exaggerate, overstate, boast', though this resemblance is probably coincidental./

(16) 'sweat' **kpu^{21}** ***ʔgrwəy^{2}** ***s-krul ≷ *s-ŋrul**

/This root is attested in Lolo-Burmese (WB **khrwê**; Lahu **kɤ̄**); in Himalayish (WT **rŋul**); in Kamarupan (Lakher **mathlai**; Angami **rükhru**); and in Qiangic (Qiang Mawo **χtʂə**; Qiang Taoping **χtʂuə^{55}**; rGyalrong **tə-ʃtʂʁ**). See HPTB:82, 416./

(17) 'threshold/ doorway' ***ŋgbui^{21}*** **thu^{21}** ***N-k(w)a^{2}** ***m/s-k(w)a**

/The Adu form means 'threshold'. Cf. also Weiding **ŋkhu̱^{2}** 'door', ***ŋkhu̱^{2}*** **ti^{33}** 'threshold'; Lisu **ɑ^{55}*khɯ^{31}*** 'threshold', **ɑ^{55} *khɯ^{31}*** **mɛ^{33}ɑ̃^{33}** 'door'; Mile **ʌ^{33}*go^{33}***; Mojiang ***go^{21}*** **de^{21}**; Naxi Lijiang **khu^{33}** (ZMYYC #353; TBL #514, #515). Adu and Weiding confirm the nasal prefix, amply attested elsewhere: e.g. Ersu **nga**; Mpi **ŋ^{4}ko^{4}**; S. Khami **əmkha** 'door'; Jingpho **məkhà** 'be open (as a door)'.

This root has been reconstructed as PTB ***m-ka** (STC #468, #469, #470; HPTB:125), but the Adu form suggests that an allofam with medial **-w-** should be recognized, since a simple ***-a** rhyme would probably not develop into Adu **-ui**. This ***kwa** variant will now make it possible to accommodate WT **sgo** 'door' into this word family (< PTB ***s-kwa**)[13] ≷ WT **kha** 'mouth; opening' (< ***ka**). The fact that both the ***m-** and ***s-** prefixes are now attested in this root suggests that an old stative/intransitive vs. causative/transitive pair of verbs was involved, i.e.

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[13]The regular WT reflex of PTB ***-wa** is **-o**, e.g. 'tooth' ***s-wa** > WT **so**. (See HPTB:167.)

***m-k(w)a** 'be open' vs. ***s-k(w)a** 'to open sthg'./

(3) Where PLB had labial stops or nasals:

(a) Where PLB had labial stops

		Adu	*PLB*
(18)	'born'	**kphue^{33}**	***pwa^{2}**

/This root definitely had a labial initial at the PLB stage, as witnessed both by the closest relatives to Adu (Shengzha, Yinuo, Tianba **pha^{55}**) and by Written Burmese **phwâ ~ bhwâ**./

(19) 'dare' **kpui^{33}** ***ʔbwi** [14]

/This root, reconstructed tentatively here for the first time, has plain labial initials in most Loloish languages in which it is attested: Wuding **pu̱^{55}**; Nanhua **puɯ^{55}**; Weishan **puɯ^{21}**; Mojiang **pe^{55}**; Xide **pu^{55}**; Nanjian **puɯ^{21}**; Nanhua **pe^{55}**; Lisu **puɯ^{55}**; Naxi Lijiang **by^{33}**; Naxi Yongning **bv^{33}**; Hani Dazhai and Shuikui **phʏ^{31}** (see Pan:20 and ZMYYC #731). Dafang **kui^{33}** may be an interesting example of the development of a velar stop in this root. All these plain initials suggest a *glottalized prototype, as do the high tones (55) in several languages./

(20) 'face' ***kphue^{21}*** **ŋe^{33}** ***pwa^{2}** or ***pra^{2}**

/This morpheme is widely distributed in Loloish, although this reconstruction is new.[15] It seems always to appear in compounds with *EYE* (PLB ***s-myak**), which sometimes occurs first and sometimes second in the compound:[16]

(a) *EYE* first: Lahu **mêʔ-*phû*** ; Hani Luchun **mja̱^{33}** ***phø^{31}***; Akha **myáq *pyɔ̀***; Hani Mojiang **ma^{33}** ***fy̱^{31}***; Jinuo **mja^{42}** ***phrə^{44}***

(b) *EYE* second: Lisu ***phi^{31}*** **miɛ^{33}**; Naxi Lijiang ***phɑ^{33}*** **me^{33}**; Nanhua ***phe^{21}*** **mɐ̱^{33}**; Weishan ***pho^{21}*** **mɛ^{33}**.

The **-r-** in Jinuo **mja^{42}** ***phrə^{44}*** motivates the reconstruction of a cluster for Proto-Loloish, as does the retroflex initial in Wuding ***ʈhɒ^{55}*** **ŋa̱^{21}** and perhaps also the dental initial in Mojiang ***thʌ^{21}*** **mɐ̱^{33}**.

On the other hand, there appears to have been variation between medial ***-r-** and ***-w-** in this root, since there are three parallel examples of PLB ***-wa** > Lahu **-u**: *CATTLE* ***nwa^{2}** > Lh. **nû**; *HANDSPAN* ***m-twa^{1}** > Lh. **thu**; *TOOTH* ***s-wa^{2}** > Lh. **-šū** 'toothlike part of tools') [HPTB 167]. For the same Adu reflex **-ue** of roots in ***-wa**, see *HOOF*, *BORN*.

Complicating the picture is the fact that the patois most closely related to Adu have velar initials (Shengzha ***kha^{33}*** **ŋe^{33}**, Yinuo ***kha^{33}*** **ŋɔ^{33}**, Tianba ***kha^{33}*** **ne^{33}**).

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[14]The PLB tone of this etymon remains to be determined.

[15]It is reconstructed as ***pyu^{2}** in Bradley 1979:#91.

[16]In Burmese this word is rather a compound of EYE + NOSE: WB **myak-hnâ**. PLB ***my-** frequently becomes **ny-** or **n-** in Yi, as in the Adu, Wuding, and Sani forms. See TBL #82.

(21) 'malaria/ convulsions' **kphui^{33}** ***put^{H}** (?)

/The Adu form (glossed 瘧 疾 in Pan:20) certainly looks cognate to Lahu **phâʔ** 'have a serious feverish or convulsive attack' (DL:924), **nà-phâʔ** 'have malaria; run a high fever', **pɔ̀ʔ-phâʔ** 'have convulsions'. The reconstruction of the rhyme remains uncertain. It is here given as ***-ut** by analogy with BLOW (23), where Lahu also has the relatively rare rhyme **-əʔ** after a labial initial./

(b) Where PLB had labial nasals

(22) 'beard' ***ŋmue^{21}*** **tshɳ^{21}** ***mut** [17]

/Adu **ŋmue^{21}**, along with WB ***mut*-chit**, ***mut*-nâ**, is valuable in reconstructing this root for PLB. The 2nd syllable of Burmese **mut-*chit*** means 'goat' (cf. Eng. *goatee*), apparently the same etymon as the 2nd syllable of the Adu form./

(23) 'blow' **ŋmue^{33}** ***s-mut^{H}** ***s-mut**

/Cf. Bahing **hmut ~ mut**; WB **hmut**; Lahu **mâʔ**./

(24) 'hungry' **ɔ^{55}** ***ŋmue^{33}*** ***mwat^{L}**

/Cf. WB **mwat ~ ŋwat**; Lahu **ɔ̄** ***mèʔ***. The 1st syllables of the Adu and Lahu collocations mean 'cooked rice; food'. Note the alternation between the two grave nasals in WB./

(25) 'mouth/lip' ***ŋmui^{21}*** **ŋgjɳ^{33}** ***mun^{2}** ***muːr**

/The Adu compound means 'lip', literally "mouth-skin" (cf. Lahu **gɨ** 'skin', **mâ-*gɨ*** 'lip'. The 1st syllable has a semantic range including 'mouth' (e.g. Lisu ***mɯ^{31}*** **lɯ^{35}**, Jinuo **mø^{33}mø^{33}**), 'gills' (WT **mur**), 'beak' (Lai Chin **hmuur**), 'face' (Nung **mər**), etc.[18]

The nasal prefix in the morpheme for 'skin' (PLB ***N-k-rəy**) is attested by the voiced initial in Lahu **gɨ**, as well as by the overt prefixes in Adu **ŋgjɳ^{33}** and Dafang **ndʑi^{21}**. Other Lolo-Burmese cognates include, Nanjian ***gɯ^{55}*** **tʂu^{21}**, Naxi (Yongning) **ɣɯ^{13}**, Hani **sa^{31}*gɯ^{55}***, Achang **a^{31}** ***ʐ̩ɿ^{55}***. (See HPTB:190.)/

(26) 'plow/ till the soil' **ŋmui^{33}** ***məy^{1}**

/Cf. Lahu **mɨ** 'do, make; do work; till the soil, cultivate crops', **mɨ-câ-vâ-câ** 'earn one's living by cultivation'; Akha **ḿ** 'to do (esp. outside work)', **ḿ-dzà-qɔq-dɔ́** 'general term for farming (so as to have food and drink)' [Lh. **câ**, Ak. **dzà** 'eat, earn one's living'; Lh. **vâ** 'do'; Ak. **qɔq** 'draw water', **dɔ́** 'drink']. WB **mu** 'do, perform' looks tantalizingly close, but the vowel correspondence is wrong./

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[17] It has not yet been determined whether this etymon belongs to the Loloish HIGH or LOW stopped tone category.

[18] See STC #366; HPTB:397, 402.

(4) Where PLB had genuine (unit phoneme) labiovelars:

In a few cases, true labiovelar unit phonemes must be reconstructed for Proto-Loloish.[19] Two of the best examples are DOG and NEST, where Lahu has labial stops against velar stops in other languages:

	PLB	*WB*	*Lahu*	*Mpi*
'dog'	***k^{w}əy^{2}**	**khwê**	**phɨ̂**	**khɯ^{2}**
'nest'	***k^{w}əy^{1}**	**-----**	**phɨ**	**ʔa-khɯ^{6}**

Unfortunately neither of these roots figures in Pan's article, since the Adu reflexes evidently do not have **-u-** vocalism. However, three other *labiovelar etyma (one of them newly discovered) have confirmatory Adu reflexes (27-29, below).

(27) 'chew' **ŋgbue^{33}** ***N-g^{w}ya^{2}** ***s/m-gwya-t**

/Cf. Lahu **bê**; Lisu **gua^{31}**; Hani **g'a^{31}**; Yi Xide **ŋgɯ^{33}**; Naxi **ŋgɯ^{33}-ŋgɯ^{33}**. The Adu form is a nice confirmation of the PLB reconstruction ***Ng^{w}ya^{2}** offered in Matisoff 1986./

(28) 'comb' **ɔ^{33} *kpui^{33}*** ***ʔ-g^{w}əy^{2}** ***k^{w}i ≍ *g^{w}i**

/Many Loloish languages have labial reflexes (Lahu **pɨ** 'to comb', Lisu **o^{55} *pɯ^{55}*** 'a comb', Naxi ***pv^{31}*** **mi^{31}**, Yi Nanhua **u^{55} *pi^{55}***, Yi Nanjian **u^{21} *pɯ^{21}* tɕi^{33}**, Jinuo ***phi^{33}*** **ɕi^{42}**, Gazhuo **o^{31} *piɛ^{55}***). Other Yi dialects have velar initials (Yi Xide **ɔ^{33} *kɯ^{55}***, Yi Dafang **o^{33} *ku^{55}***). [20] There is a Burmish variant ***p(r)i** (WB **phî ~ phrî** 'to comb, brush', Maru **pjɛ^{35}**, Zaiwa **pjɛ^{21}**, Achang Lianghe **phjɛ^{31}**, Phun ***phyè*-xò**).

Outside of Lolo-Burmese, the reflexes are sometimes overtly labiovelar: Darang Deng **tshe^{55}*kui^{55}***, Digaro **se-*kwi***, Lushai **khui?**; Chang Naga ***ku*-sei**; Proto-Karen ***khwi-s** > Pwo **khwì**, Bwe **wi ~ khwi**. At least as often, however, the reflexes have labial initials: (Qiangic) Shixing **ɸie^{55}**, Namuyi **pəɪ^{35}**. Cf. also perhaps Sulong **biek^{33}** (with unexplained final stop) and Bai **su^{55}*phĩ^{21}*** (with unexplained nasal vowel)./[21]

(29) 'fist' ***kpu^{21}* tshŋ^{21}** ***(lak^{L}-)k^{w}u-tsip**

/The 2nd syllable of the Adu compound is a morpheme meaning 'crumple; clench; make into a ball; mold by squeezing' < PLB ***tsip^{H} ≍ *tsup^{H}**.[22] This morpheme

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[19]See Matisoff 1978:6-7; 1986; 2003:24-27.

[20]The 1st syllables in Adu, Lisu, Nanhua, Nanjian, Gazhuo, Xide, and Dafang mean *HEAD*. See *PILLOW* (above #6).

[21]See STC #480 and Benedict 1979:13. Also ZMYCC #'s 459, 654; HPTB:26.

[22]Reconstructed in TSR #66 and DL 557, but inadvertently not included in HPTB. Cf. WB **chup** 'clench the fist', Zaiwa **tsʔup** 'id.'; Akha **yɔ-tsúq** 'sthg tightened, or wadded up tightly'. This seems to be a

also occurs in Mile, Wuding, Sani, Weishan, and Lahu (see below). Many languages (but not Adu) have bi- or tri-syllabic compounds beginning with reflexes of PLB ***lak^{L}** 'hand'.

Of interest in the present connection is the 1st syllable of the Adu form. Pan:20 cites several cognates with velar initials (Wuding ***kụ^{21}*** **tshɯ^{21}**, Sani ***khẏ^{21}*** **tshʐ̩^{44}**, Weishan ***kụ^{21}*** **tshɿ^{55}**), but several other languages have similar morphemes with labial initials (Nanhua **lę^{21}** ***pɯ^{33}*** **lɯ^{33}**, Mile (Axi) **lę^{21}** ***pu^{35}*** **tshi^{33}**, Mojiang **lę^{21}** ***pụ^{33}***, Lisu **lɛ^{31}** ***pu^{35}***) [ZMYYC #252].[23] If all these forms are indeed cognate, this could be another example of a PLB *labiovelar root, perhaps ***k^{w}u**.

The trisyllabic Lahu compound **là?-chɨ?-pɬ** has *HAND* and *CRUMPLE* as its first two syllables. While the 3rd syllable **-pɬ** resembles the labial-initial forms just cited, the vowel correspondence seems off. This element appears in a number of compounds referring to rounded or lumpy objects (e.g. **là?-qá-pɬ** 'shoulder', **nā-qā-pɬ** 'forehead', **há-pɬ** 'stone', **jè?-pɬ** 'lump of earth, clod') and in prefixed form (**ɔ̀-pɬ** 'knot').

It is interesting to view these compounds in tabular form:

	****lak^{L}***	****k^{w}u***	****tsip^{H}***	***other***
Wuding		**kụ^{21}**	**tshɯ^{21}**	
Sani		**khẏ^{21}**	**tshʐ̩^{44}**	
Weishan		**kụ^{21}**	**tshɿ^{5}**	
Mile	**lę^{21}**	**pu^{35}**	**tshi^{33}**	
Mojiang	**lę^{21}**	**pụ^{33}**		
Lisu	**lɛ^{31}**	**pu^{35}**		
Nanhua	**lę^{21}**	**pɯ^{33}**		**lɯ^{33}**
Lahu	**là?**		**chɨ?**	**pɬ**

(5) Where an Adu labiovelar occurs before a vowel other than -u

There is only one example of an Adu form with a labiovelar before a vowel other than **-u**:

(30) 'advantage/ benefit'[24] ***kpha^{55}*** **du^{33}** ***k(w)a**

/This etymon is also attested in the closely related patois: (Shengzha ***kha^{55}*** **du^{33}**, Yinuo ***kha^{35}*** **dʐu^{42}**, Tianba ***kha^{55}*** **dʐu^{21}**), but is also to be found in Lisu: **wɑ^{31}** ***khuɑ^{31}*** **du^{33}** 'advantage, benefit'; ***khwa^{21}*** **du^{33}** 'interest, effect'. **hã^{33} wa^{21}** ***khwa^{21}*** **du^{33}** 'favorable, profitable'; **khwa^{21}le^{33}du^{33}** 'beneficial'. The last syllables of these collocations are undoubtedly reflexes of Proto-Loloish ***du^{1}** 'purposive

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general TB root: cf. Jg. **tšùp** 'to close, as the hands when catching a ball; to gather, as the mouth of a sack'.

[23]Note that the forms with these labial-initial morphemes also have the morpheme for *HAND* as their 1st syllables, but none of the languages with the velar-initial morphemes do. It is hard to tell whether this is of any significance, or whether it is due to an accident of elicitation (i.e. perhaps the Wuding, Sani, and Weishan forms also have trisyllabic variants with *HAND* as first element, which the consultant neglected to mention).

[24]Glossed 有益 in Pan:18.

nominalizer',[25] so that ***kwa** is probably a verb meaning 'be advantageous, beneficial'.

The problem is that the Adu reflex of ***-wa** should be **-ui**, as in *HOOF*, *FACE*, *BORN*, *LIE/DECEIVE.* So perhaps this etymon should be reconstructed with a simple velar, i.e. ***ka**,[26] especially since Lisu has a tendency to extrude a labial semivowel between a velar initial and the vowel **-a**, e.g. 'bitter' PLB ***ka²** > Lisu **khwa²¹**; 'I/me' PLB ***ŋa¹** > Lisu **ŋwa⁴⁴**./

(6) Conflicting diachronic scenarios: primary complexity vs. secondary extrusion

Pan Zhengyun's analysis of the Adu labiovelars seems to rest on the assumption that a complex phonological feature in a certain language must necessarily be "original" if it corresponds to simpler features in related languages. This point of view forces him to adopt inadequate and counterintuitive arguments, and prevents him from arriving at the rather obvious historical explanation for the phenomenon.

The key fact to emphasize is that the Adu labiovelar series occurs only before **-u-**, with but a single exception (above §5). Pan:19 recognizes this to some extent, but seems to treat this single case as if it were on a par with the dozens of post-**u** examples:

"From these examples we can see that the Adu labiovelars only occur before the five rhymes **-u**, **-ụ**, **-a**, **-ui**, **-ue**, but among these the four highest frequency ones are **-u**, **-ụ**, **-ui**, **-ue**."

The reason why there are so many examples of labiovelars in Adu is because a large number of PLB rhymes have led to Adu rhymes with the nuclear vowel **-u-**, approximately as follows:

Adu	*PLB*	
-u	***-əw**	INSIDE; NINE; SMOKE; STEAL; THUNDER
	***-u**	ABLE; FIST; GOOSE; SCREAM; SINEW;
	***-um**	PILLOW
	***-uŋ**	BODY/BACK
	***-uk**	POKE
	***-wəy**	SWEAT
-ue	***-wa**	BORN; FACE; HOOF; LIE/DECEIVE
	***-(w)ya**	CHEW
	***-wat**	HUNGRY
	***-ut**	BEARD; BLOW
-ui	***-wi**	DARE
	***-(w)a**	THRESHOLD/DOOR[27]
	***-aŋ**	SOUND
	***-un**	MOUTH
	***-ut**	MALARIA/CONVULSIONS

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[25]Cf. Lahu **tù**, Lisu **du³³**, Akha **dú** (see DL 1072, HPTB 180).

[26]A possible reflex of this root (despite the imperfect semantic correspondence) is Lahu **qhâ** 'be expert, skillful, strong; be good at something' (DL 276-7).

[27]The Adu outcome **-ui** here is different from the **-ue** reflex in BORN; FACE; HOOF; LIE/DECEIVE, possibly because there has been variation between ***-a** and ***-wa** in this word family. See (17) above.

***-(w)əy** PLOW; COMB[28]

The PLB *initial consonants and consonant clusters that have led to the Adu labiovelars are implicit in the headings of the previous sections:

PLB initial type	***typical syllables***
non-labialized velars	***kəw**
velar clusters with medial ***-w-***	***kwa**
labial stops	***put**, ***pwa**
labial nasals	***mut**, ***mwat**
genuine (unit phoneme) labiovelars	***k^{w}əy**

A major problem for Pan's analysis is the fact that he cannot explain why the "proto-labiovelars" preserved in Adu sometimes "become" velars and sometimes "become" labials in related dialects/languages. In other words he misinterprets the Adu *merger* of PLB *velar and *labial initials before **-u** as an unexplainable (unconditioned) *split* of "original" PLB *labiovelars that were preserved in Adu, but which changed into velars and labials in other daughter dialects/languages.

In general the manner developments of initial consonants from PLB to Adu are fairly clear:

PLB	*Adu*
***k-**, ***p-**	**kph-**
***ʔg-**, ***ʔb-**	**kp-**
***g-**	**gb-**
***m-**	**ŋm-**
***N-g**	**ŋgb-**

The main problem here is the presence or absence of aspiration in Adu, with the most puzzling examples being the identical PLB forms for SMOKE and STEAL (***kəw^{2}**), which become Adu **kpu^{33}** and **kphu^{33}**, respectively. Perhaps mistakes in elicitation or transcription are involved, but many more examples, illustrating the Adu consonantal reflexes before the full range of rhymes in solidly established etyma, would be needed to figure this out.

(6a) Extrusional phenomena in a wider context

All the examples of the Adu labiovelars occur in roots with PLB "grave" (i.e. *velar or *labial) initials, indicating that this classic Jakobsonian feature has diachronic as well as synchronic validity. Also noteworthy is the confirmation these data provide of the special extrusion-inducing nature of certain vowels, especially **-u** and **-a**.

Examples of consonantal extrusion are readily found in other Asian languages:

[a] Strangely enough, Pan does not make anything of the fact that one of the closely related patois to Adu, Yínuò 義 諾, shows labialization after velars and before **-u**/**-ɯ**: CONCAVE **ŋg^{w}ɯ^{33}**;

[28]COMB is reconstructed with medial ***-w-**, as is SWEAT. These different Adu outcomes of the PLB rhyme ***-(w)əy** are perhaps due to the different positions of articulation of the initials of SWEAT (velar) vs. COMB and PLOW (labial).

GOOSE **g^{w}u^{42}**; POKE **ŋg^{w}ɯ^{35}**; RADISH **g^{w}ɯ^{33}**; RETORT **ŋg^{w}ɯ^{35}**; SINEW **g^{w}ɯ^{35}**; SOLID **k^{w}hɯ^{33}**; SWEAT **k^{w}ɯ^{42}**; VISCOUS **ŋg^{w}ɯ^{33}** (Pan:18-19). Yinuo evidently represents an intermediate stage of extrusion, not resulting in an actual labial stop as in Adu. Pan would no doubt regard these Yinuo labial semivowels as imperfect preservations of the "original" labiovelar stops and nasals.

[b] A close phonetic analogy to the Adu extrusional labiovelars is to be found in Lahu, where the four labial consonantal phonemes are allophonically affricated before **-u**, which is itself unrounded to [ɯ] in this environment:[29]

/pu/	[pfɯ]
/phu/	[phfɯ]
/bu/	[bvɯ]
/mu/	[mvɯ] ~ [mɣ]

[c] The Japanese phoneme /t/ is realized as [ts] before **-u**: /tu/ --> [tsɯ].

[d] Over 30 examples of Tibeto-Burman etyma with *labial stop initials which have developed an extrusional **-w-** (usually before the vowel ***-a**) have been identified. In these roots the secondary **-w-** frequently drives out the original stop initial, so that there is **p ~ w** variation across languages.[30]

[e] There are over half a dozen examples of PTB etyma with *velar + **w** initials which develop into labiodental affricates [pf pfh mv] before /a/ or /u/ in Angami Naga, e.g. 'bee' PTB ***m-kwa:y** > Ang. **mèpfĩ**; 'goat/cattle' PTB ***ŋwa** > Ang. **tèmvə́**; 'twenty' Proto-Kuki-Naga ***m-kwul** > Ang. **mèpfə̌**. The etymon for 'dog', where the **-w-** is more closely integrated with the stop initial, develops into the Angami labiodental fricative /f/: PTB ***k^{w}əy** > Ang. **tèfə́**. There are also several cases where PTB simple velars develop into Angami labiovelars before ***-a**: 'bitter' ***ka** > Ang. **pfhə**; 'chin' ***m-ka** > Ang. **u^{5}me^{2}*pfhə^{l}***; 'open wide/stretched apart' ***ka** > Ang. **pfə^{1}** 'span'.[31]

[f] We have seen (§5 above) how Lisu has the tendency to develop an extrusional **-w-** after velar initials before **-a**: 'bitter' PLB ***ka^{2}** > Lisu **khwa^{21}**; 'I/me' PLB ***ŋa^{1}** > Lisu **ŋwa^{44}**.

[g] David Mortensen reports (p.c. 2004) affrication of velars before the vowel **-i** (< PTB ***-a**) in a newly discovered dialect of Tangkhul that he calls "East Tusom": 'bitter' PTB ***ka** > E. Tusom **kək^{h}xí**; 'chin' ***m-ka** > E. Tusom **mɔ́k^{h}xì**.

[h] At the other end of the syllable, the Vietnamese velar rhymes written "**-oc**, **-ôc**, **-ong**, **-ông**" are pronounced with a labiovelar articulation: [**-ɑwkp**, **-əwkp**, **-ɑwŋm**, **-əwŋm**].

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[29]See Matisoff 1973/82:3-4.
[30]See Matisoff 2000, *passim*.
[31]See Weidert 1981, Matisoff 1982:17-31.

(6b) Distinguishing between primary and secondary phenomena.

In principle there is no logical fallacy in claiming that a phonetic feature that is preserved only in a single language represents the sole survivor of a proto-entity. The most famous example is perhaps the Indo-European laryngeals, preserved as such only in Hittite (not deciphered until the early 20th c.), but whose existence had previously been hypothesized by Ferdinand de Saussure to explain a wide range of IE phenomena. The Adu labiovelars are hardly in that category.

Nevertheless, the data presented in Pan's article are highly interesting, and have helped to refine the reconstructions of several PLB etyma, including ABLE; BEARD; CHEW; COMB; DARE; FACE; FIST; PLOW; THRESHOLD/DOORWAY, etc. On the theoretical side, besides confirming the importance of extrusional phenomena in TB languages, this article furnishes a valuable example of the necessity of distinguishing between primary and secondary phonological developments.

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