DULONG AND PROTO-TIBETO-BURMAN

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ABSTRACT

This paper compares the Dulong language of northwestern Yunnan Province in China to other Tibeto-Burman languages and to Proto-Tibeto-Burman, with a view toward understanding the historical development of Dulong and toward supporting, revising, and adding to the body of accepted PTB reconstructions.

INTRODUCTION

The Dulong people live in the north-west corner of China's Yunnan Province, along the banks of the Dulong River in the Gongshan Dulong and Nu Nationality Autonomous County of the Nujiang Lisu Nationality Autonomous Prefecture. Their land is bordered by Tibet to the north, and by Burma to the west and south. Their language is generally considered to be in the Jingpo branch of Tibeto-Burman. Though the Dulong people number less than five thousand, the Nujiang dialect of Dulong is also spoken by approximately six thousand of the Nu people. This paper will concentrate on the Dulong River (Dulonghe) dialect of Dulong, but the Nujiang dialect will also be given for reference. There is little difference between the two. Please see Appendix B for a list of the major differences.

Loan words account for some ten percent of the Dulong vocabulary. Of these loans, 80% are Chinese loans, 10% are Tibetan loans, five percent are Yi loans, and there are also a few Burmese loans. I have dealt only with native vocabulary in this paper.

TONES AND VOWEL LENGTH

From a careful comparison of the Dulong forms in Sun (1982) with the tone sets of Jingpo and Burmese in Matisoff (1974), it seems that although Jingpo, Burmese, and Dulong all have three tone categories in open syllables, there is only the vaguest connection between any two of the tone systems of these languages. I could find only 61 words in Dulong that had cognates among the 322 open syllable Jingpo-Burmese cognates given in Matisoff (1974). Only the two high tones of Dulong are significant in doing comparative work, as the low-falling tone is rarely used word-finally. Because of this, though it is possible to see some regular patterns in the proveniences of proto tone *2, these could be simple coincidence. The number of roots in proto tones *1 and *2 with both Jingpo and Dulong correspondences are given below:

PLB *1, JP 55 (not enough Dulong examples)
PLB *1, JP 31 = DL 55 (6 examples), DL 53 (6 examples)

1 I would like to thank Sun Hongkai, Mark Hensell, and especially James A. Matisoff for their valuable suggestions during the revision of this paper.

2 The information in this introduction and Appendix B is taken from Sun (1982, 1983a).

3 Benedict (1972:5) suggests that Nungish (=Dulong) might belong to the Lolo-Burmese branch of Tibeto-Burman, but on pages six and eight recognizes its closeness to Kachin (=Jingpo) as well. According to Sun Hongkai (1983a:233-243), The Rawang language in Barnard (1934) (cited by Benedict as 'Nung'), and the Trung language in Lo (1942) are basically the same as Dulong. From a comparison of the forms in Benedict (from both Lo and Barnard) with the forms given for the two dialects of Dulong, it seems that Trung = Dulonghe Dulong (in this paper DLa) and Nung = Nujiang Dulong (in this paper DLb). Though Benedict (1972:8) feels that 'Rawang and Trung are separate languages in a Nungish group,' Sun (1983a:233-247) argues convincingly that they are merely dialects of the same language, Dulong, and that this language belongs to the Jingpo branch of Tibeto-Burman. Sun (1983a:100) includes Jingpo, Dulong, Darang and Geman Deng, and Luoba in this branch. Benedict (1972:5-6) has Geman (Miju) and Darang (Digaro = Taron) Deng in the Abar-Miri-Dalsa branch.

4 Dulong stopped tones are almost all high-level, so I did not use them in the comparison.
PLB *1, JP 33 = DL 55 (5 examples), DL 53 (6 examples)
PLB *2, JP 55 = DL 55 (8 examples)
PLB *2, JP 31 = DL 55 (9 examples), DL 53 (3 examples)
PLB *2, JP 33 = DL 53 (11 examples), DL 55 (4 examples)

The vowel length distinctions in Dulong also do not correspond with anything in the proto language or other TB languages except Deng. Because of the above facts, I have not dealt with tones or vowel length in the rest of this paper.5

INITIALS

Simple Initials

Dulong is relatively conservative in that it preserves the proto place of articulation fairly well, though, as in Jingpo, the voicing and aspiration of the initial are not always regular vis à vis the proto form. Even so, the main trend in Dulong is to reflect the proto voicing contrast (aspiration is not phonemic in Dulonghe Dulong, so is not marked), and the forms that deviate from this are definitely in the minority. The dental fricative became an alveo-palatal in those forms where it is followed by the high front vowel /i/ in Dulonghe Dulong or the high unrounded vowel /u/ in Nuijiang Dulong. The nasals basically reflect the proto-form, except where there is palatalization or an m → n shift before a high unrounded vowel.

As Dulong often preserves the proto-prefixes as separate syllables, there doesn’t seem to have been the kind of pervasive influence on the root initial that you see, for example, in the Yi languages. Exceptions to the above rules are discussed in the section on non-regular reflexes.

I include with the simple initials proto affricates and fricatives followed by *-y-, because as Benedict (1972) says on p. 37, these might better be seen as unit phonemes in a separate palatal series. Certainly the Dulong evidence seems to support this. For example, the /ns/ reflex of *s- occurs only when the Dulong initial is followed by /i/. The reflex of *sy- is /s/ even when the Dulong initial is not followed by /i/.

Below is a list showing the various reflexes of Proto-Tibeto-Burman (PTB) in Jingpo (from Benedict 1972) and in Dulong. Only those initials where I had sufficient data to make a generalization, or where the forms are very clearly cognate, are listed.

<table>
<thead>
<tr>
<th>TB</th>
<th>Jingpo</th>
<th>Dulong</th>
</tr>
</thead>
<tbody>
<tr>
<td>*k</td>
<td>k(h)–g</td>
<td>k(h)–g</td>
</tr>
<tr>
<td>*g</td>
<td>g–k(h)</td>
<td>g</td>
</tr>
<tr>
<td>*ng</td>
<td>ng</td>
<td>ng</td>
</tr>
<tr>
<td>*t</td>
<td>t(h)–d</td>
<td>t(h)</td>
</tr>
<tr>
<td>*d</td>
<td>d–t(h)</td>
<td>d</td>
</tr>
<tr>
<td>*n</td>
<td>n</td>
<td>n–n/n</td>
</tr>
<tr>
<td>*p</td>
<td>p(h)–b</td>
<td>p</td>
</tr>
<tr>
<td>*b</td>
<td>b–p(h)</td>
<td>b</td>
</tr>
<tr>
<td>*m</td>
<td>m</td>
<td>m–n</td>
</tr>
<tr>
<td>*s</td>
<td>s</td>
<td>s–s</td>
</tr>
<tr>
<td>*ts</td>
<td>ts–dz</td>
<td>ts–s</td>
</tr>
<tr>
<td>*l</td>
<td>l</td>
<td>l</td>
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<td>*r</td>
<td>r</td>
<td>r</td>
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<td>*w</td>
<td>w</td>
<td>w</td>
</tr>
<tr>
<td>*y</td>
<td>y</td>
<td>y</td>
</tr>
</tbody>
</table>

5 For a thorough analysis of vowel length in Dulong, please see Dai (1986), and for a discussion of the sources of vowel length in Tibeto-Burman, please see Sun (1983b).
Following are examples of the various correspondences:

*k- → k(h)-

bitter, crow, basket, tiger, steal, pillow, uncle, chin, speech, branch, plant

[1] bitter
DLa ka55; DLb kha55; T kha-ba; B khà; L kha.
PTB *ka (8)

[2] crow
DLa tak55 ka55; DLb tang31 kha55; T kha-tha 'crow, raven';
K kha; B khi-kăn (with *n 'collective' suffix); Rawang
thang-kha; Trung tak-ka; LCA kha31 n̂ai55; LXA ka55 na531.
PTB *ka [99-100]

[3] basket
DLa pai55 k̂ai55; DLb tu51 k̂ai55; T khung-ma 'pouch';
G khok; Lepcha kôm ba-guk 'purse'.
PTB *kuk (393)

[4] steal
DLa ku55; DLb khou53; T rku-ba; K lag; B khuì; N khuì.
PTB *k-kuw (33)

[5] pillow
DLa u55 kum55; DLb u53 kum53; K bung-khum;
N agu mukhim; Lh u-gé; B khum; L khum.
PTB *m-kum (482)

[6] uncle
DLa a31 ku53; DLb a31 khou53; T ?akhu; B kui; K ku;
N akhò; Ao Naga okhu; Miri akú.
PTB *kuw (255)

[7] chin
DLa muu31 kai55; DLb muu31 kai55; N mukha;
K nkha-ningkha; L kha; Thad kha.
PTB *m-ka (470)

[8] word, speech
DLa ka55; DLB ka55; T bka-ksad; B tsä-ka; K gá-sagà; N kha.
PTB *ka (9)

[9] branch
DLa sing55 ang31 k̂ai55 (sing 'tree'); DLb šung55 ang31
k̂ai55; B akhak; Lh b-qä, L ka55 'fork of tree'.
PLB *gak [TSR 43]
PTB *g-kaak (327) = *s-kaak

Though reconstructed for PTB in STC as *kaak, in TSR #43, Matiasoff reconstructs the PLB form for 'branch' as *gak, based on Lolo forms. There are no examples of Dulong k- < *g-, and the Lushai form is also voiceless, so I am including this form in the *k- → k- set, assuming that either the PTB form is voiceless or that there is a voiced ≠ voiceless doublet.

[10] plant
DLa kaa55; DLB kat55; JP kha55, K gat 'sow, scatter';
Boro gai; Nocte khet.
PTB *gay = *gai [G&C 114]

The forms for 'plant' show a -t suffix in Dulong and some other languages. In Dulong, this suffix also shows up in an alternate form for 'speech, word': kai55.

*k- → g-

body, nine, dog, yam, roast, star

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6 In the word lists that follow, a number in parentheses after a proto-form is the number of the set in Benedict 1972 (STC); one in square brackets is the page number from the STC; one in brackets preceded by "G&C" is the number of the set from Mattof 1983; one in brackets preceded by "Mps" is the number of the set from Mattof 1978; one in brackets preceded by "TSR" is the number of the set from Mattof 1972. Proto-forms marked with two asterisks are my own reconstructions. Where there might be confusion as to which form of a phrase I consider cognate to the others of a set, I have underlined that form. Please see Appendix A for the key to language names, sources, and symbols used.

7 There doesn't seem to be any clear conditioning factor for determining when the DLb form will be aspirated.

8 No conditioning factor is evident from the examples I have for explaining this change in voicing (assuming the transcription is correct).
DL a ang31 guu55; T ski; B kui(y); MC *khiu (D).  
PTB *(s-)kaw=(s-)kuw (184)

[12] nine
DL a duu31 guu53; DL b duu31 guu53; T dku; B kui;  
G sku; N tagö.  
PTB *d-kuw (13)

[13] dog
DL a duu31 guu55; DL b duu31 gi55; T khyi; K kui;  
B khouw; L ui; Jui takwi; N tagi; Digaro nksi.  
PTB *kwiw=*kway (159) # **d-k-wiy

[14] yam
DL a gui55; T skyi-ba ‘potato’; B kjiew; N gi; Digaro gi;  
JP kui31 mjau33 ‘mushroom potato’.  
PTB *kwyi (238)

[15] roast, roast
DL a duu31 gaang55; DL b duu31 gaang55; K kouang;  
B kang; L kaang ‘burn’; N dagang.  
PTB *kaang (330)

[16] star
DL a gur55 met55; DL b guu31 net55 (+ *s-ngwat ‘moon’);  
T skar-ma; K lagun; W. Kuki *s-gar; L ar-fi.  
PTB *s-kar (49)

*g: → g-  
bent, wear, vegetable, saddle, body

[17] bent
DL a duu31 g=55; DL b duu31 g=55; T kug; B kok; JP ma31 ko31  
(ku5 in TSR); Bahung gak; Lh q=7; Ahi gu44s; LCA kok55.  
PLB *gok [TSR 2]  
PTB *guk *=kuk (125); **gok

[18] wear
DL a gwa55; DL a gwa53; T bgo-ba; G gan; N gwa-ga; K khon.  
PTB *gwa-n *=kwa-n (160)

[19] vegetable
DL a zuu31 gwa755; DL b zuu31 gwa755; Lh g5-câ;  
Ahi vu.tle22-44; Sani Yi o-tle11-55; MT tshê55.  
PLB *?gyak [TSR 49]  
PTB **gawk=**gyak

[20] saddle
DL a ga55; DL b ga55; T sga ‘yoke-horses; to yoke’; B ka’  
‘saddle-frame’; MBb ga; AC *ka (32)  
PTB *s-ga [Matisoff 1983, set 6o]

[21] body
DL b g-ng53; Nungish: Rawang gung, Mutwang dial. gong;  
B akhaung; Atsi kung; AC *kiông (32) also possibly JP khum31.  
PTB *gung (182)

The different forms for ‘body’ in the two dialects of Dulong possibly stem from an allophonic variation  
of *-0 = *-ng finals (as with ‘you’ *na = *nang; cf. also the discussion of the Trung -ng suffix in n.74  
in STC) that might go all the way back to PST.

*ng: → ng.  
I, five, fish, silver, borrow, weep/cry, cattle

[22] I
DL a nga53; DL b guu55; T nga; N nga; B nga; G ang;  
Dhimal ka; L ka; MW ka.  
PTB *ka *=anga (406)

[23] five
DL a puu31 nga53; DL b puu31 nga53; T lnga; K manga;  
B nga; G bo’nga; L nga-panga.  
PTB *l/b-nga (78)

9 See page 7 for DL b form for ‘body’.
10 See page 5 for DL a form for ‘body’.
[24] fish
DLa nga55 plaʔ55 (+ Tai); T nfa; K ngā; N nga; B ngā; L hngā; Chepang nga-nīa.
PTB *ngya (189)

[25] silver
DLa ngul55; DLa nguun55; T dngul; B ngwe; AC *ngien (❖)
PTB *d-ngul [15,173]

[26] borrow
DLa nga55; DLa nga53; T brī-pa; B hngā; N nga.
PTB *r-ngya (190)

[27] weep, cry
DLa ngu53; DLa ngu53; T ngu-ba; B ngū; N ngū.
PTB *nguw (79)

[28] cattle
DLa nung55 ngwa53 'huáng niú'; K nga; B nwà;
Moshang nga; N ngwa-nga.
PTB *ngwa (215)

*t- → t-
roll, span, short, hear, join, big, one, cut, drip, thick, fir/pine

[29] roll
DLa a31 ta53; DLa tan53; Angari Naga rtuu <*rtul 'roll';
N redli 'roll, wrap, enwrap'; West T (Ladakhi) thul-ba
'throw or wind up', T thul-pa 'dress made from the
skins of animals (=something rolled or wound up).
PTB *r-tul [110]

[30] span
DLa ti55 puʔ31 ta55; DLa tsi55 puʔ31 ta55 (ti55, tsi55 'one');
M kho; B athwa; LCA tho; Lh ʔ-thu.
PTB *twa (165)

[31] short
DLa tui53; DLa thi53; B tsu; JP ka31 tun31 (Matisoff 1974 has
JP tu); MBb thumi-tumbi; GMD ku31 ti55.
PTB **twiy

[32] hear
DLa ʔ55; DLa ta55; T thos-pa; JP ma31 tat31; N tha;
Trung thang; Newari ta-l; Mītī tā; Lepcha thyo <*s-ta;
Luoba tā; MBb than; GMD tat55.
PTB *ta-s (415)

The proto final for 'hear' is actually more complicated than it would seem from the given reconstruction because of the possibility of several suffixes and an *s- prefix, though I have not tried to make a formulaic reconstruction incorporating them. Whether the irregularity of the DLa final (*-a usually → DL -a) is due to the effect of a certain proto-suffix, or is due to some proto-medial, I have no way of knowing.

[33] join, tie, knot
DLa su31 tɔʔ55; DLa su31 tɔʔ55; T šud-pa; MB tut;
K mutut-kotut; N dāthut; G stit <*stut 'tangle'.
PTB *d-t = *t- (421)

[34] big
DLa tai53; T mthe-bo 'thumb'; N the; Mikir the; B tai 'very';
Abor-Miri ta; AC *tai (❖).
PST *tay (298)

[35] one
DLa uʔ55; DLa tsi55; T tsig; B tais; N thi; MC tšik (❖);
PLB *C-u-k [TSR 31]
PST *tyik = *tyak [84,94,169,189]

[36] cut
DLa a31 tuk55; T gutū–Htub; MB tuk53; B twap.
PLB *twp = *C-dwap [TSR 69]
PTB **tup = **t-dwap

[37] drip
DLa a31 tɔʔ55; DLa thɔʔ55; T thigs ~ Hdzags; K ka31 theʔ31;
B tsak; Lh jàʔ; LCA tšok55; MW tsha; Mpi nuʔ2;
MT thuk54 pa54 'a drop', thik54 pa54 cəʔ2 'drip';
AC *ṭik /c=k (צה), *ṭiñe/tšiñe (צמר),
PLB *Ntsak [TSR 82]; [*ṭik = *dzik] ≠ *ndzak [Mpi 5]
PTB **tsak ≠ **ty(w)ak
PST **ty(w)ak

[38]thick
DLa tat55; DLb that55; T 'thas-pa 'hard, solid'; N that;
K that; L tsā?.
PTB *r-tas (426)

[39]fir, pine
DLa tang53; DLb tang31 xai53; T thang-šing; B tháng-ru;
Vayu thong <*thang; Lh th-Ś-cē; Tangykul matang thingrong.
PTB *tang [69]

*d- → d-
nephew, dig, pit, full, flat, spit/vomit

[40]nephew
DLa puu31 du55; DLb buu31 du53; B tu; N phādu; L tu;
Lisu -du; Gyarong temdau. Also possibly cognate with
JP tu55 'fourth son'.
PLB *du [STC p. 62, n. 196]
PTB *tu ≠ *du (259)

[41]dig
DLa du53; K thu; B tu; Vayu du; Gyarong tu; Digaro thu;
N du; LCA/LHA tu31.
PTB *tu (258) ≠ *du (259)

[42]pit, hole
DLa ang31 dung55; DLb ang31 dung55; T dong; B twāng; N dung-khr;
Lisu du 'well'; LCA pun55 tūng31, LHA tṣuUng31 tung31.
PTB *dwaang (169)

[43]full
DLa dam55; DLb dam53; T lṭam-pa; Vayu dam; Tiddim dim; Bahing dyam.
PTB *dyam11 (226)

[44]flat
DLa dam55 mu31 li53 'plain, flat ground' (mu31 li53 'earth, ground');
Bahing dyam 'to be straight'; T lṭem-pa 'straight, upright';
B atam 'a straight, long piece'; N adam 'plain (level ground), flat'; Tiddim tam 'to be level'.
PTB *dyam (227)

Matusoff (1986) argues persuasively that the roots given for 'full' and 'flat' given above should be considered one root which represents 'full, straight, flat'.

[45]spit, vomit
DLa du755; DLb du755; Mikir ingtok; Maru tausk; Lepcha tyak.
PTB *m-tuk ≠ *s-tuuk ≠ s-duuk [58,75,126,132,146]

Benedict (1972:58) incorrectly associates Rawang du 'vomit' with PTB *m-twa ≠ *s-twa because the final glottal stop (<*-k) is not marked in his source.

*n- → n-
bean, ear, brain (DLa), brain (DLb), black, deep, two, sun, day, nose, you,
younger sibling, aunt, shit, year, rest, hair(head), west, smell

[46]bean
DLa a31 n=755; DLb a31 n=755; B nok; JP no731 kju55;
LXA nu31; Lh n=7.
PLB *s-nok [TSR 140]
PTB **nok

[47]ear
DLa a31 na53; DLb a31 na55; B nā; K na; G na-tšil;
Trung na-ba; N ana.

11 This root is possibly related to Siamese term, Langleh Thai tim, reconstructed by F. K. Li (1977) for Proto-Tai as *tiyen.
PTB  *g/r-na (453)

DLa  u55 nu?55 (u55 'head'); K nu~nu; B ù-hnauk.

PTB  *nuk (483)

DLb  nung31 kua31 le?55; N aning; G tanang12; T sning,
Mikir ning 'heart,mind'.

PTB  *s-ning (367)

DLa  na55; DLb  na?55; T nag-po; B na?; N na?; Lh ná?;
MW ñiq; LXA na51; LHA na31.

PTB  *s-nak [88,102,155]

DLa  ru51 na?55; DLb  ru51 na?55; Trung na43; Lh ná: LCA nak31.

PLB  *nak = *nak [TSR 157]

PLB  -*nak

'Black' and 'deep' are actually from the same root, and differ only in the prefix.

DLa  a31 ni55; DLb  a31 ni55; T grís; K ni; Kanauri nis;
B hnaac; Gyarung kénés; G gani; L hni?.

PTB  *g-ni-s (4)

DLb  nam33; DLb  nam33 luung55; T gnám 'heaven, sky', nam 'night';
Magan nam-khan~nam-khan 'sun'; Vayu nómo <nama 'sun, sky';
Bahng nam, N nam 'sun'; Mikir anam 'god ('wind' in comp.);
possibly also Zuiwa tsan51 nam55 'summer' (tsan51 'year').

PTB  *nam [148]

The word nam53, glossed here as 'sun', actually has a broader range of meanings (sky, season,
weather) when used in combination with other morphemes: nam53 buung53 'wind', nam53 dza?55 'rain,
to rain', nam53 lum53 nam53 'Spring' (lum 'warm'), dzung55 nam53 'winter' (dzung55 'cold'),
nam53 duu55 'cloudy', nam53 gam53 'clear sky/weather' (gam53 'good').

DLa  ni55; DLb  ni55; T ní-ma; B né; K ni; Dimasa -ni.

PTB  *nuy=*nay (81)

DLa  suu31 na55; DLb  suu31 na55; T sna; B hna; L hna:;
N snaa; LXA na55 kung35.

PTB  -*na (101)

DLa  na53; DLb  na53; K nang-na; B nang; G na?; Dimäal na;
L nang; N na.

PTB  *nang (407) = **na

DLa  a31 nu55; DLb  ang31 nu53; T nu-bo; K nau; G no; L nau;
Lepcha num-nu 'blood rel.': Luoba auro.

PTB  *naaw (271)

DLa  a31 ni53; DLb  a31 ni53; T ñane-nene-mo; K ni; L ni;
G ma-ni; Mri -ni; Gyarung -ni; N -ni.

PTB  *nu(y) (316)

DLa  ni55; DLb  ni53; B niats 'dirty'; K ni~ni 'deleate';
T snigs-ma 'impure sediment'; N ni; Dimasa džíni 'dirt'.

PTB  *ntyik (235)

DLa  ang31 nung55; DLb  ang31 nung55; T ning, Karen *hneng;
Min ning; K nung-sarung; Pyu ní <sung.

PTB  *s-nung (368)

DLa  ruu31 na53; DLb  ruu31 na53; T gnas-pa 'be, live, dwell, stay';
Bahng na-so 'take rest'; Kanauri na-si; B ná 'cease from motion,
alight'; Lh ná 'perch (bird); rest': LXA na51; LHA na31; GM Deng na55.

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12 I have altered the STC's Garo forms for 'brain', 'two', 'seven' and 'father' as per the corrections in Burling (1981).
[62] hair(head)
PTB *na (414)
DLa u55 nau55 (head+hair); DLb u53 ne53; Gyarung mi; G khni;
Boro kanjy; Dimasa khana; N nhu-tani.
PTB *ney (292) [G&C 51]

[63] west
PTB *nup ≠ *nup (400)

[64] smell(tr.)
PTB *s-nam ≠ *m-nam (464)

In his discussion of the *m- prefix, Benedict (1972:117) defines it as having a "middle voice" force, often durative, intransitive or reflexive. Note that the unprefixed root may be either transitive or intransitive, whereas the *m- prefixed form is always intransitive." He goes on to give the example *m-nam *smell, have an odor (trans: *s-nam), and says that *m- has been replaced by phu- (<*bs) in Nung. In note 326 (p.117) he says that Trung has panam (<*manam) for both the transitive and intransitive, and so is exceptional vis à vis the above generalization.

In the dialects I worked with, puu- has not replaced *m- in all the prefixed forms; some forms have puu- and some have muu-: muu31 kai55 'chin', muu31 si55 'marrow', but puu31 ba53 'tongue', puu31 sin55 'liver', etc. In the case of 'smell', the puu- prefixed form is only given as the intransitive form (the intransitive form is non-cognate), though the word for 'fragrant' is puu31 nam55 gam53 (gam53 'good'), which could be the result of an alternant form for intransitive 'smell'.

I also give the **s-nam reconstruction for transitive 'smell' because of the Tibetan, Lepcha, and Kanauni forms. In Kanauni both the transitive, stam-mig, and the intransitive, stam-shi-mig, have the reflex of *s-, though as Benedict points out on page 105, use of a *s- prefix ("directive, causative, or intensive") on an intransitive verb such as the Kanauni form for intransitive 'smell' (which he gives as stam <*snam) "appears only sporadically." Looking at the fuller Kanauni forms I have given, it seems that Kanauni has developed a different mechanism for expressing transitivity in some verbs: the addition of an auxiliary verb -shi- (Cf. skyub-mig 'to carry, to transport, to bear' ~ skyub-shi-mig 'to load, to burden'). Because of this, it is likely the original significance of the *s- prefix was lost.

Another point is that there are other verbs in Dulong that I suspect are PTB *m- verbs that are used transitively, such as muu31 graa55 'take, hold in hand', puu31 daam55 'measure', puu31 tsii53 'light (a lamp)', muu31 dunum55 'return (something)', etc., though I don't have solid reconstructions for them.

*p- → p-
grandmother, father, price/value, spindle, leech, knee

[65] grandmother
PTB *p (36)

[66] father
PTB *pwa (24) [23]

[67] price
PTB *puw (41)

[68] spindle
PTB *sap55 pang53, DLb *sang31 phung53 'treadle operated rice husker' (*sap55, *sang31 'mortar'); T phang~'phang:
Thebor phang; K ka bang 'hand spindle'; B wâng 'swing around, spin', wang-rui 'spindle' (rui 'handle').
MBa pheng53; MBb phenga; Luoba tapong; DRD ná31 bong35.
PTB *pang=swang (48)

[69]leech
DLa mú31 pat55; DLb né31 phrat55; T pad-pa (cf. also
sri-n bu pad-ma 'lotus insect'); B krwat <*-r-wat;
Lh vé; L vang-vat; cf. Magari lawat;
Lepcha fot <*-phat; Angami Naga reva.
PTB *r-pat (45)

In the DLb form for 'leech' the prefix has metathesized with the initial, as in the DLa and DLb forms for 'dream': DLa mlaang55, DLb mlang55 <*-mang (see below).

[70]knee
DLa bak55 pur55; DLb paang31 pit55; T pus-mo (West T pis-mo);
Lepcha tuk-pat; K laphut; N phang-phut 'knee',
ur-phut 'elbow', ra-phut 'shoulder'.
PLB *put (7) (<Maru pat-lau <put)
PTB *put (7)

The first syllable in each of the DL forms for 'knee', if they are cognate, are somewhat irregular, as this is the only example I have of a DLa b~DLb p- correspondence. The final *k of the DLa form is probably due to assimilation, as *-k has become -? in all cases where I can establish a proto TB form. and because we see the same situation in the forms for 'thorn' DLa bak55 xwu55, DLb bang31 xwu55; and 'crow' DLa tak55 ka55, DLb tang31 kha55.

*b~b-
snake, rot, deaf/mute, thin/shallow, break/broken, give, fly

[71]insect,snake
DLa bu55; DLb bu53; T 'bu 'worm, insect'; B pui 'insect'
Lepcha bu 'reptile,worm'; Bahung bu-sa; K pu-lapu; N bô;
Digaro tabo-tabu; Lh pû; G tšipu 'snake'.
PTB *buw (27)

[72]rot/rotten
DLa bup55; DLb bup55; B pup; Atsi pup: Maru pâp;
Lh bu?; LCA pup55; LXA p=p31.
PLB *Npup [TSR 75]
PTB **bup

[73]mute/deaf
DLa du31 bang55; DLb du31 bang55; LXA pju31 pang31;
JP na31 phang55, MW naku (=<*bang), LXA na55 pang51.
LHA na31 pang31 Lh ná-p< p= (na31, naku,
na55, na31, ná-p> 'ear') 'deaf'.
PTB **d-bang

[74]thin
DLa ba53; DLb ba53; T ba-spu 'a little hair (spu)'; K pha;
N ba; B pâ; G ba. Lh pâ.
PTB *ba (25)

[75]break/broken
DLa be555; L pe?; LHA pji55; JP wot31; B pâi; G be;
Dimasa ba; Kinari pâ-shi-miŋ 'to break'.
PTB *be = *pe (254) (*bay = *pay [G&C 74])

[76]give
DLa bi55; DLb zi53; T sbyin-pa (suffixixed -n); Kiranti *bi; Lh pî;
Mini bi; Dimal pî; B pê; Mikir pî; LXA pji53; MW spu;
Nyi Lolo ve-bi; Trung bing (with suffixixed -ng).
PTB *biy (427)

[77]fly(v.)
DLa ber53; DLb zer53; Bahung byer; Abor Mini ber. Trung biel;
Luoba byar; AC *p'jan/p'jiê (१५५).
PTB *biyer (398)

The correspondence of DLa b~ with DLb z~ in 'give' and 'fly' also shows up in 'pus' DLa su31 biu53, DLb du31 zu53, and in 'wound'. DLa bin55 ma55, DLb zi31 ma55; the DLb initial possibly
being the result of the influence of the palatal or high front element on the initial.

Benedict (1972:83, n. 249) has another root for ‘fly’ that he says is separate from the one above: N *phr [sphar] 'shake (as a cloth), khong-phr 'moth'; T *phir-ba; Central T *phir-ba; G bil; Dimasa bir; PTB *pir = *pir; all related to Chinese *pjwaa/pjwa ( olduk), *pjwan/pjuan ( d), and *pjwan/pjuan ( d). MBA phir and MBb phen probably would also go with this root. I am not sure that this should be two roots, and if they are, whether the division of daughter forms has been done correctly. I would prefer to see this as one more inclusive root, as there isn’t a tremendous difference phonetically between pir and byer. There is another TB root *pjwam, from Lh pò, JP pyen and B pyam that might be the source of the MBb form and the latter two Chinese forms.

*m- → n-
to wear on head/hat, forget, blow, negative, dream, fire, tail, wound, eagle, npe, eye, sky, hair/fur, extinguish, think/remember, medicine

[78] wear on head/hat

DL a maŋ55; DLb maŋ55; T mok 'helmet';
Zauwa mu31 kjup55 'hat' (kjup55 'to wear (hat)');
B kha-mok 'hat', ɣ-mok/mok-'crest, comb'; MBb muk’ulum 'hat';
AC *mōg/mōu-, alt. reading *māk/mak 'a covering,
to cover'
PTB **r-mok 13

[79] forget

DL a a31 maŋ55; G mat 'to be spent', gima-at-gimat 'destroy, waste, obliterate', gima-an 'loss, damage'; Dimasa gam–kaana 'lose, disappear, perish'; K ma 'to be exhausted, finished, spent',
mat 'to be lost, to have disappeared'; Magari hma-hmat 'to be lost; lose'; possibly also MBA ngat13, MBb ngat 'to forget'.
PTB *ma-t (425)

[80] blow

DL a mut55; DLb müt55; B hnut: Lepcha mät, sung-mut 'wind';
Bahing mut–hnut: Gyarung -mut; K (Assam dial.) mut;
Min mut; Maru büt; JP ka31 wut31.
PTB *s-mut [75]

[81] negative

DL a mu31; DLb mu31; STC: “almost universal TB distribution”
PTB *ma [97]

The normal reflex of *-a is -a, but as the vowel in the negative marker (<*ma) is unstressed, it reduces to -w.

[82] dream

DL a mlaang55; DLb mlang55; T mang-lam (lam 'road');
Miri im-mang; K mang–yup-mang; N ip-mang; Mikir mang;
G džu-mang; B ip-mak 'dream', hman–tsa-sang 'walk in sleep';
K (Maran) ?mang; Lh (yi?)-māt; Trung māng 'from
*lamang <*-mang by metathesis; cf. Trung a-ma 'field'. Mutwang
(Rawang dial.) rama, id." STC p.31. This explanation holds
for the DL forms as well.
PTB *r-mang (82)

[83] fire

DL a tu31 mi55; DLb tu31 mî55; T me; B mi; L mî: N thāni;
Kanauri me; Gyarung timi; Bahing mi; Mikir me; Lh â-mi <s-mi;
K myi-phrap 'lightning' (lit. 'fire-flash').
PTB *mey (290)

Prof. Matusoff has suggested (pers. comm.) that the PTB form for ‘fire’ might be reconstructed with an *s- prefix because of the Lahu, Dulong and Gyarung evidence, but as Dulong usually preserves *s- intact (except when it is a causative prefix followed by certain initials), I suspect the Dulong and

13 There is also Thai hmuak 'hat'.
Gyanung prefix may have a different origin. In Dulong the nu- prefix is relatively rare, so I was not able to trace its origin.

[84]tail
DLa mi55 tǝ=t55; DLb ang31 nuǝ31 tǝhs=t55; Gyanung teme: Thebor me-kon; Magari me-mə; Bahung me-rı; Aka ǝrim; Digaro łmi-lǝməng; K mah-kǝmə; B amrı; L meı; G קме; Mikir armə; Aimol ramə; AC **miwu̱/mywej; (ॆ)
PTB *r-may-STEM (282)

[85]wound
DLa bi55 ma55; DLb zi31 ma55; T ma: K na-na-nama; G ma tǝu 'to wound'; Dimasa bumaı <*bumaı; Tiddim ma: TN khama; Lakher hma; Aka má; also K ma-tsmat, N ramat, G gilmat, Dimasa germa 'nettle' (= 'the wouneder'), with suffixed *-t.
PTB *rö-ma= *rö-ma (446)

[86]eagle
DLa tu31 mu35; DLb tu31 mu35; Mikir vo-mu; N thamö; L muı; Mirı pǝmuıı; Lakher pʰamu; Khami ǝmuıı; Sho ǝmuıı; Angami Naga re-mu̱-mu-vı; LCA ti31 ma31.
PTB *mu35 (257)

[87]ripe
DLa mi53; DLb ni53; T smin-pa; Vayu min; Bahung ming; Magari mi; Lepcha myan; Miri min; B hmyan-hman; K myın; N min 'cooked; to rot'; G min-gipa; L hmin; Dimasa gu brothers; Mikir men.
PTB *s-min (432)

[88]eye
DLa me̥55; DLb me̥55; T mig; Kanauri mik; Lepcha amık; K myı; G mik; L mit; Vayu mek; Magari mik; Bahung mi-tsi; Min amik; Mikir mek; Thulung, Dumi, Rai mik-si; Dhimal mi; but B myak; N me̥-mik <*myak; Gyanung temıak; Karen *me̥ <*myak; Lh mi̥; AC *miök/miuk (ॆ).
PTB *miök/miuk (402); PLB s-miuk
PST *myən (190)\textsuperscript{14}

The initial n- in the DLb forms for fire, tail, ripe, and eye is the regular reflex after a front vowel (-u is actually an apical vowel after certain initials). This type of development is also seen in Ahi, Nyi, Bahung, Aka (STC p. 29), and MW Qiang (cf. 'person' Taoping Qiang ma33, MW Qiang na). For further discussion of this, please see the section below on non-regular reflexes.

[89]sky
DLa mu55, ru31 mu55 'cloud'; DLb nu55, ru31 mi55 'fog'; T rmug-pa 'dense fog; inertness'; smug-po 'dark red, purple-brown'; Lepcha muk 'foggy', muk muk 'darkness, dullness'; B muk 'dark'; L muık 'dull (color)'; K mıt (high tone) 'thunder, cloudy', Lmuı? (low tone) 'sky'; Rawang nu31 'heaven'. But DLa su31 muu35 'fog'; T mu-ba 'fog'; B mıt(gh) 'sky; clouds; rain'; LCA, LHA mu31, LXA muu31 'heaven'. LXA na31 muu35, LHA mua31, LXA mau31 'clouds'.
PTB *r-mu̱=*r-maw (488) ≠ *r-muaw (357)

Evidence from Dulong supports the contention in STC (n.236,p.77) that *r-muaw is an archaic doublet of *r-muaw. DLa mu55 'sky, heaven' <*muk, while su31 muu35 'fog' <*muaw. Cf. B muı(gh) 'sky; clouds; rain' ('the -gh is a product of etymologizing' p.148; possibly an attempt to relate it to Pali/Sanskrit megha 'cloud' (Matisoff pers. comm.)), though as in Matisoff (1974:183), the JP variant mıt might mean that this assumption is wrong). Two other reflexes of this word family have a final -t, DLa ru31 muuu35 'clouds' and DLb ru31 mi55 'fog', possibly originally due to the influence of the vowel (cf. Lushai mit <*myak 'eye' STC p.14). The same 'sky' ≠ 'cloud' connection occurs in Be virus

\textsuperscript{14} Matisoff (pers. comm.) suggests that *-n is probably needed at the PST level because of some evidence from the Min dialect of Chinese.
à vis Proto Tai (Mark Hansell, pers. comm.).

[90] hair.fur
DLa ang31 mul55; Dlb ang31 mun53; L hmul; K mun~mun.
Mikir angmi <*angmil; B mwè <*mwi<*mul; G kimil;
Moshang mul~kamul.
PTB *mul (2)

[91] extinguish
DLa a31 mit55; Abor-Miri mit; N šimit; K simit (Assamese
dial.); L ŋiimit; Tangkhul khšimit; Mikir met; G kimit; Lh mej;
'shut; blink'; B hmit 'wink'.
PTB *mit (374)

[92] think, remember
DLa mit55; Dlb niit55; Zaiwa myiit31; MBb mi; JP mjii31;
LXA, LHA myiit31 la35 'forget'; GMD ngit35 'know'.
PTB *m-yet = *b-yet [Matisoff 1978a p. 211] = *myiit

Matisoff (1978a) has *m-yet = *b-yet for 'think, remember' based on Lepcha a-byet 'liver'.
Limbu narbet 'heart', Nung mi = ni 'mind, temper', and Tibetan yid 'soul, mind', but Prof. Matisoff
(pers. comm.) now gives *m-yet as the proper form. It seems that this must be a case of non-obvious
prefix pre-emption, as in the case of 'love' dealt with below.

[93] medicine
DLa man55; Dlb man53; T sman; MBA man53; MBb man; Luoba men;
PMa hmi55; PMb hni; DRD t31 mang55.
PTB **s-man

*s* → s-
three, itch, kill, comb, know, garlic, new

[94] three
DLa a31 sum53; Dlb sum53; T gsum; G githam; B šiī;
Digaro kasang; K masum <*b-sum; N atsum; L thum.
PTB *g-sum (409)

[95] itch, itchy
DLa pu31 sa755; Dlb pu31 sa755; K masa; L thak <*sak;
Lakh er pata; Ao Naga masak; Mikir ingthak.
PTB *m-sak (465)

[96] kill, hit
DLa saa55; Dlb sa55; T gosd-pa; K sat; B sat; G sot; L that;
Mikir that; MW t5a, LCA, LXA sa55; LHA sa55.
PTB *g-sat (58)

[97] comb
DLa suii55, Dlb si53 'to comb', DLa u55 suii55, Dlb u53 si53,
MW qai 'comb' (u55, u53, q= 'head'); K paa 'comb',
masit 'to comb'; GMD si55 pin55, Mikir ingthi 'comb';
Ao Naga masa 'to comb'; N asi 'comb, to comb'.
PTB *m-si(y) (466)

[98] know
DLa sa=55; Dlb sa=55; T šes-pa; Vayu ses; B ši; G mast;
Dimasa mathi-mithi; Bodo mith; K ši 'news'.
PTB *syey (182)

[99] garlic
DLa su53 'garlic', su53 d¾ng55 'green onion'; Dlb su53
'garlic', su53 d¾ng55 'green onion'; B krak-swan;
AČ *swañ/suän (GK); Lh šu-qö 'leek',
šu-phu 'onion', sù-phu-nu 'garlic'.
PTB *swa-n [174] [G&C p.10]

[100] new
DLa ang31 sar55; Dlb ang31 sar35; T gsar-ba; Rawang anggsar,
Trung aksal 'fresh'; L thar; Thado atha; Tiddim thak.
PTB *sar [p.147,172,189]

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15 Sun Hongkar (pers. comm.) has suggested that the DL form for 'medicine' might be a loan from Tibetan. If this
is so, it must be an early loan, as the Tibetan dialects closest to Dulong geographically generally have quite different
forms than that for Dulong. For example, the Kang dialect, Changbu subdialect, form hmi55 is typical.
*s- → s/____/\{i_\u0103\} 

die, fruit, tree, liver, arise/awaken

[101] die
DLa shi53; DLb si53; T si-ba~'tshi-ba; Kanauri ši; N ši; G ši; K si; B se; Dimasa thi; L thi; Mikir thü; Miri š i Limbu si.
PTB *siy=*sy (232)

[102] fruit
DLa ang31 si55; DLb si53; T se-; K si-si; B asi; L thei; Mikir the-athe; G the-bithe; N sing śi; Dimasa bathai.
PTB *sye (57)

[103] tree, wood
DLa śiŋg55; DLb śung55; T śing; Kanauri śing; Vayu śing; Magari śing; Bahing śing; N śing-thing; L thing.
PTB *śing (233)

[104] liver
DLa puw31 šin55; DLb puw31 śin53; T mtshin <msin: B asār; Kanauri śin; Miri sēr; N phaiśin; K śin-masin; Mikir ingthin.
PTB *m-sin (234)

[105] arise, awaken
DLa sa55 śu31; JP su31; L thou; Dimasa masau; Lakhier pathu; Ao Naga meso.
PTB *m-so (295)

We can now confirm the reconstruction for 'awaken' in STC because of the Dulong and Jingpo evidence.

*z* → DLb z-

[106] leopard
DLb zu53; T gzig; B sats <*sik; N khang-zi; MBa zik13; MBb zik;
MW sa; TP si55.
PTB *zik (61) [TSR 122]

*ts- → t-
count, repay, person, clean, chop, pointed/thorn

[107] count
DLa tsi55; T mtsi-ba; K thi; B re; AC *sirju/sirju (25); MBa tsi53 ju13;
MW sasa.
PTB *-tsiy=(*r-)tsiy (76)

Benedict (1972), in footnote 95, proposes the initial cluster *tsr- to explain the Burmese forms for 'water' (see 'spittle' below) and 'count', and also to explain the Kachin th- forms for 'count' and 'mortar', but Matson (1978:31) finds that this is a case of 'proto-form stuffing', and suggests the alternation *tsr- = *t- for these roots. I agree with this viewpoint (though it means the Burmese forms are possibly not cognate), and have given the proto forms of 'count', 'mortar', and 'spittle' accordingly.

[108] repay
DLa taap55; DLb taap55; T 'shab-pa; B tshap; LCA tshap55; LXA tshap55; Zaia tshap.
PTB *tsap (63)

[109] person
DLa a31 tsang53; DLb a31 tshang53; Lh chq <PLB Tone *1 'person';
chq <PLB Tone *2 'friend'; GMD tsong35; LXA u31 tshang35
'other people'; LHA sang 'him'; PMa tsa55 'him'.
PTB *tsang

[110] clean
DLa tsang55 ma55; DLb tsang55 ma55; T 'tsang-ba~'sang-ba
'make clear, cleanse'; B tsang 'clear, pure'; L thiang,
Tlua u tseŋ 'clear, clean'; Melthei -seng-ba; Zaia
san31 seng51; MBa tsang55 ma53; MBb tsangmu; MW sütu
<*syaŋ; GMD ku31 song35 'clear, kau55 sang35 'clear (water)';
JP san31 seng55, PMa so55 ne55; PMb sā55 hui53 ma53.
PTB *(*)syang=*yang (37, 52, 53)


Though Benedict (p.37,53) says that 'clean' should now be reconstructed as *syang, I feel that based on the Dulong, Tibetan, Burmese, and Menba forms we should recognize a doublet here: *syang ≠ **tsang. Because of this, I put this root in this set.

[111]chop

DLa a31 tsep55; MBa tsap53; MBb tsap; JP ʃep31; Zaiwa ʃap31; PMa nu13 tsi13; LXA tsap31; T gsaab, Lhasa T tsap53.

PTB **tsap

The form for 'chop' is possibly a doublet with DLa a31 tupa55, MBa tup53 'chop (trees)'; T gtub- 'thub 'cut to pieces, mince'; B twap 'cut, chip, as precious stone' (see above; PLB *t̪wəp ≠ *C-dwāp TSR #69), but as the forms are distinct in the daughter languages, they are treated separately here.

[112]pointed

DLa a31 tsu55; DLb a31 tsu55; Kanauri tso, Lepcha dzu;
K dzu, B tshu 'thorn', tsu 'prick; piercer, awl';
G and Dimasa su 'pierce', busu 'thorn'; Meithi and Thado sou, Lakher seu 'panji' (Kuki *sow < *tsow);
Mikir su 'thorn, panji, sting'; Tangkhul kasui,
MW tshap 'thorn' (< p <pa 'flower'), tsa 'pointed';
LCA tso15, LXA tso51, LHA tsu31, PMa tsu55, Zaiwa tsu31 'thorn'; poss. also MBa tse53 'pointed'.

PTB *tsow (276)

Even though no other TB language (except for MW and MBa, if those forms are cognate) has this meaning, I give the Dulong form for 'pointed' as cognate with PTB *tsow 'thorn' because of the similarity in meaning and form. There is the problem of 'fat' DL su55 from PTB *tsow and 'boil' DL a31 su53 from PTB *tsow (see below), so this correspondence is tentative. Benedict (n.200) says that 'T mtshon 'any pointed or cutting instrument; forefinger' has perhaps developed from this root." I mention this because there is a form for 'pointed' in several TB languages that seems to be related to this: LXA tshun35, LHA tshun55, JP ma31 sen31, Zaiwa tshun51. Because of the differences of initials and finals between these forms and the forms for 'thorn' in these languages, it is hard to say whether or not they are allotamic.

*ts-. → s-
red, earth/dirt, boil, fat

[113]red

DLa pu31 sa55; DLb pu31 sa53; L tai, sn; Thado asen;
Tiddim san, tsan; Laizo sən/sən; B ta-tya; Lakher sa;
MBb tsalo; GMD kau31 sa35.

PTB *(t)y)a-n ≠ *(t)saa (G&C 150)

DRD si53 and the first syllable in MW sizi 'red' are possibly demasalized reflexes of PTB *r-u (cf. MW si 'day' < *nay), so are not included in the set above.

[114]earth,dirt

DLa a31 sa53; DLb a31 sa53; T sa; LHA se31; MBa sa53; MBb sa;
PMa ḫa53; PMb tsa53; Zaiwa mji31 tse31 (tense vowel);
AC *sa/ša (diği) 'sand'.

PTB **(t)sa

Benedict (1972:188) has only the Tibetan and Chinese forms for 'sand' on page 188, and does not give a reconstruction except to say that the proto final should be *-a.

[115]boil

DLa a31 su53; DLb su53; T tshod-pa-tsho-ba 'cook in boiling water, bake'; K dzu 'burn, bake, roast, broil'; G so;
Dimasa sau 'burn'; N sau 'boil'; B tshu 'boil, bubble';
Meithei asau 'heat'; L šou, Lakher šau, TP tshu33,
Zaiwa tsu51, LCA su55, LXA tsu 35 'boil'.

PTB *tsow (275)
[116] fat (adj.)
DLa su53 ša55 'fat meat' (ša55 'meat'); T tsho-ba;
B tshu; Zaiza tshu51; LCA tsho55; MW tshû.
PTB *tsow (277)

It might seem better to put the Dulong form for 'fat' with PTB *saaw (STC #272 — based on K sau 'oil, fat, grease', L than 'fat, grease, to be fat', G thro, Dimasa thiaw 'oil', and Bodo thiaw 'oil'), because of the initial correspondence and lack of same with PTB *tsow, but I put it here on the strength of the final and the semantic correspondences. The parallel with 'boil' is further confirmation of the correctness of this choice.

-ts(y)- → tš-
urine, spittle, child, small, goat, stretch put

[117] urine
DLa tši55; T gtsid-pa–gtsi-ba 'urinate', gtsin 'urine';
K dzìt-tsì–dzìt-dì 'urinate', dzìt 'urine'; N tsi 'urine', tsi–tsì 'urinate'; B tshì 'urine (poilte form)'; Lh ji, Dimasa si-di (di 'water') 'urine, urinate', all from *ts(y)i. Also PLB *ziy > B sè, Lisu rzi.
PTB *ts(y)i = *ziy (77)

[118] spittle
DLa cul55; DLA tšun55; T mtshil-ma; L tšil; N tšul 'spittle',
thul thul 'to spit'; GMD džal35; MW tšasar (tsa 'water');
Luoba tadsur; Zaiza tji31 (tense vowel); possibly also
LCA tšo31, LHA tšu51, JP ma31 tho55 'to spit'.
PTB *m-ts(y)i (231) = *m-thul [cf. discussion of 'count']

[12016] child, son
DLa ang31 tša53, DLA ang31 tša53 pe53 'son' (pe53 'male');
Dhimal tšan 'son'; Lepcha (a-)zon 'grandchild'; K ša; Magari za;
Tsangla za–za; Diqaro sa; B sà; G bisa; L fa; Dimasa sa–basu;
N za-ni 'daughter'; MBb waktsa 'child', za 'son'; LCA ts51 do31;
LHA tsa31 lo31; MW zàj, Zaiza tso31 'grandchild'; Lh yà 'son'
= sà 'niece/nephew' = cà- prefix in male names.
PTB *tša = *za (59)

The forms for 'child' in Lepcha and Dhimal (and ostensibly Dulong) are said (STC n.86, 284) to have an -n suffix. The Dulong ~ Nuijiang -n ~ -n pattern usually reflects a proto *-l final (Cf. 'spittle', 'silver', etc.), so the cogency of the Dulong forms might be questionable. This form is also used as the hypocoristic suffix, as can be seen in its use in 'small', and in the following forms: a31 tši55 'mountain goat' ~ a31 tši55 tša53 'small mountain goat', lang53 taʔ55 'cooking pot' ~ lang53 taʔ55 tša53 'small cooking pot'.

[121] small (1)
DLa tši55 tša53 (tša53 'son'); West T zì, K zì, B sè;
Lh i <*yi<*zi; MW bardsi 'line'.
PLB *ziy <*a-ziy [STC p.27, n.87 by JAM]
PTB *ziy (60) = **tšy

For 'small: fine' I suggest the alternation *ts- = *z-, as in the form for 'child', to account for the Dulong and Qiang forms.

[122] (mt.) goat
DLa a31 tšit55; DLA tši55; B tshìt; Lh âìcèʔ; Lisu atshìʔ;
Nyi tshi: Lolopho atšëʔ; MW tsha: PMa tshu55;
Deng kwi31 tši53; Trung a-tšì.
PLB *tšit [88] = *V-cit [TSR 27]
PTB **tšit

[123] stretch out
DLa tšan53; DLA tšan53; B tsan (adj.) <*dzan3, tshan (v.)<*
<*?dzan3; Lh che <*tsan3, qhe (more intense than che);
possibly also LXA ts55.

[119] has been skipped.
PLB *?-dzan3 = *tsan3 [G&C 11]

The root for 'mountain goat' in the STC and the root for 'stretch out' in Matisoff (1985) were set up for Lolo-Burmese only (the Trung form listed above is from Matisoff (1972a) (TSR)). With the other TB evidence presented here we can set up these roots for TB as a whole.

*dz- → dz/z-
clf. for trees, food

[124] clf. for trees
DLa t55 dzung55; DLb tsi55 zung55 (t55, tsi55 'one');
Mpi tu?; Lh ñè; LCA tse?g55.
PLB *dzlng [Mpi 37]
PTB **dzng

[125] food
DLa ang31 dza55; DLb ang31 za55; T za-ba-bza-ba; B ña-ß:
Baðinge dza, Nagari dzya, K ña, Lh ña, G tsha 'eat';
PTB *dza (66) = *dza [Mpi 47]

In Matisoff (1978) the PLB form for 'eat' is given as *?a (=dza), and in a footnote it is explained that this should be the correct form for PTB, or at least the alternation *dz = ?j should be posited because of the mixed evidence. I have opted for the latter because of the Dulong evidence.

*sy- → s-
iron, meat, east

[126] iron
DLa ñam53; DLb ñam53; Gyarung ñom; N ñam; Trung ñam;
B ñam; LCA ñam55; LXA ñam55; LHA, ñam55; TP ñ55;
Zaiwa ñam51 to?55 (to?55 poss. rel. to Tsaks).
PTB *syam (228)

[127] meat, flesh
DLa ña55; DLb ña55; Tsa; Kanaari ña; Magari mi-ña;
Baðinge sye; Sangpang sya; K ña; N ña; B ña-ña;
L ña; MBA ña53; MMb ña; LCA sua31; LXA saa55; LHA saa31; possibly also GMD ñin53 (cf. K ñan).
PTB *sya (181)

[128] east
DLa ñar55; DLb ñe31 ña-?55; T ñar; Kanaari ñar-si 'rise'
(reflexive form); N nam ñar-kha; PMa ñe55; PMb ño55.
PTB *syar [28]

*l- → l-
easy, buffalo, god, neck, grandchild, armpit, tongue, leaf, lick, cover/bury, stone, cotton, flea, round, warm, heavy, moon, maggot, fathom, plain

[129] easy
DLa la55; DLb la55; GMD pu31 la55; MBA lelamu;
MT le?13 la53 po53; T las la po; Loloish *sá.
PTB *lway (302)
PTB **s-la or possibly **s-l(w)a-y

In proposing the proto form *s-la for 'easy', it is not my intention to replace the form established in the STC (which is based on Bunun lo-i, K loi-lwe, and B lwai), and can in fact support it with Zaiwa lu51. These two separate forms may be ultimately related as an *a- = *ay doublet, but the medial *w- is still a problem, so for now I list them as separate roots. The *s-l- > Loloish *s- given for this root is paralleled by Lahu ñu '3rd person pronoun' a-ñu 'who' <*s-lu (cf. Burmese lu 'person') (J.A.Matisoff pers. comm.).

17 As pointed out by Mark Hallsell (pers. comm.), this root may ultimately be related to PTB *sing 'tree, wood'.
[130] buffalo
DLa ngu31 l=î53; DLb ngu31 l=î53; K ngoloi; B kywai <klwa; L loi; Siyin loai.
PTB *lwaay (208)

[131] god
DLa nam55 la55 (nam53 'sun; heavenly affairs' with tone assimilation); DLb la55; T hla; PLB *s-la 'soul'; K min-la-num-la 'ghost, spirit'; N phla <b-la 'demon, soul'; L hla <khla 'spirit'; Tangkhul mang-la.
PTB *(m-)hla (>s-la 'in all but Tibetan' STC p.132) (475)

[132] neck
DLa ling55 gui53; DLb lang55 gi53; Lepcha tuk-ling- tung- ling; Mini æling; N ling; B laî <*-ling; L ring; T 'dzîng-pa-mdzîng-pa <*a-lying- *m-lying (STC n.106); MC ljæng (🎉) 'neck, collar'.
PTB *ling (96)

[133] grandchild
DLa pu33 li55; DLb pu33 li55; N phal; B mîr (miîy in inscriptions); G (ang)-ri <*-li; Lolo li; K mâli, Mikir phili-po, Chang (Konyak) li 'nephew'.
PTB *b-liy (448)

[134] armpit
DLa ra55 li55; N ra-kya tâî <*-âi (ra 'shoulder'); B laî-kali (laî 'arm'); Lakher ba-kali; Lh pê-li-kâ.
PTB *g-li (265) (possibly an old AT loan - STC n.199)

[135] tongue
DLa pu31 lai53; DLb pu31 lai53; T lîse <*-le; Kanaun le; Lepcha ali; Vayu li; Limbu le-sot; N phâle; K lai; G sre; Dimasa salai; L lei; Mikir de.
PTB *s-lay (281)

[136] leaf
DLa sing55 lap55 (sing55 'tree'); DLb şwng55 pu31 laap55; West T lob-ma: Kanauri lab; Takpa blap; K lap; N slâp 'leaves for packing food'.
PTB *lap (321)

[137] licking
DLa laâ?55; DLb laâ?55; Lepcha lyak 'taste, try'; B lyak; G srâk; N la-îe; Mini yak; L liak; Mikir inglek; Tangkhul khamalek.
PTB *m-lyak = *s-lyak (211)

[138] bury
DLa lup55, possibly also DLa, DLb klup55 'to cheat, deceive'; T klub-pa 'cover'; K grup 'wrap, cover'; Boro dzokhlop; Dimasa phunkhlop 'wrap around', sukhlup 'drown,immerse'; JP lup3 'bury'. Also Old Mon *grop 'to cover, obscure, conceal'.
PTB *klup (479) = *klup

Benedict (STC p.80) suggests that Lepcha lap 'bury' possibly goes with PTB *lip 'sink; dive', but it seems from the Dulong and Jingpo evidence that *klup 'cover, wrap' is an even greater possibility. The Kachin form that Benedict gives glossed as 'wrap, cover' is glossed as 'to circle around' in Xu et al. (1983). There seems to be a semantic field including 'wrap, cover, cheat, circle around' with several related forms. To those given above add the forms for 'bury' given in STC #376: T byib-pa 'cover, wrap up; hide, conceal'; Bodo phlp-lop 'bury'; Dimasa bib-bub 'conceal oneself, hide', phlp-phlp 'bury'; Mikir pip 'bury'. Also consider Zaïwa mpu55 'bury', lom55 'surround', lom53 (tense vowel) 'hide oneself'; LCA hmpzop55, LXA mzt55 'bury'; MBB lom 'wrap up'; Kanauri lub-mug ~ lom-mug 'to cover, conceal'. The Kanauri forms show the relationship between the -p/b and -m forms. The *lip 'sink; dive' forms (STC #375) might also fit in here, especially as some of the forms show an -i- ~ -u-alternation, as in Dimasa lip-lup 'dive', glib-gulub 'drown'. These last two forms might be the key to the lack of a reflex for the *k of the proposed *kl- cluster. Also consider LCA mzt55, LXA l=î731, Zaïwa nîop31 'sink' for the connection between 'west' (set #63) and 'sink'. The formulaic summary of the forms in this semantic field would look something like *g-pr(y) 𒅑 p.
[139]stone
DLa luung55; DLb luung55; Bahung lung; Lepcha lang-lung; Miri ulung; K lung-nlung; B kyaauk < *k-lauk; G rong; Dimasa long; L lung; Mikir arlong; MW RRLh < *C-lung.
PTB *r-lung (88)

[140]cotton
DLa sa55 la53; Mikir phelo; Lakher pala; N. Khami phelo; S. Khami mahla; L la; Lh šf-lâ.
PTB *b-la [111]

[141]flea
DLa su31 li53; DLb su31 li53; T ldži-ba~dži-ba < *sli; Mini i-po; N sali; K khwâi-khalâi < *kwâi (by metathesis); B khwê-klê; L ui-hli; Mikir tšikli.
PTB *s-liy (440)

[142]round
DLa ang31 ku31 lum55; DLb du31 lum55; T zlum-pa; K lum; B lûm; L huim 'ball'; LCA lum31, but Zauwa lu55.
PTB *s-lum=*zlm (n.136) (143)

Benedict (1972:42, n. 136) changes his original reconstruction for 'round' to a proto consonant cluster initial to explain L hi- and B l-, as "(TB *sl- should yield B *hl-). Based on the Dulong evidence, it seems this should not be a cluster, and B l- developed from a plain initial.

[143]warm
DLa lum53; DLb lum55; K lum; N lum; B lum; Dimasa lum-lum 'hot, have fever'; Bodo lom-dong 'fever'; MW štsâla; LCA lum55; Luoba agulum lum 'warm (water).
PTB *lum (381)

[144]heavy
DLa a31 li53; DLb a31 li53; T lsâi-ba~ldzi-ba < *s-li; K li; Kanauri li-k; Vayu lsâ; Lepcha li-(m); N ali; B lê; G džrim; Dimasa risi; L nî; Bodo illit-gillit; LCA l1131.
PTB *s-liy (95)

[145]moon
DLa su31 la55; DLb su31 la55; T zla-ba; Bahung la; B la; Vayu tšolo < *tšâla; Digaro hâla-hîo; N sala; K šâta; Kadu sâda; Mikir tšklo; Magari gya(-hot); L thla < *khla.
PTB *s-la ≠ *g-la=*s-ghla (STC n.137) (144)

[146]maggot
DLb tsh31 lâng53; L lung; B lok; Maru lôk; Zaiwa luʔ31; PMb lâ53 < *lung; LCA nu55, LHA lu31; possibly also MW bulu 'insect' < *luong, qhsobulu 'maggot'.
PLB *k-lung ≠ *k-luk [TSR 186]
PTB **lo/ung ≠ **lo/uk

[147]fathom
DLa ti55 lam53; DLb tsi55 lam53; K ilam; B alam; L hlam; Tiddim laam; LCA lam53; Zaiwa lam51.
PTB *la[aj]m [71]

[148]plain (earth)
DLa dam55 mu53 li53 (dam55 'flat'); DLb mu53 li53 dang53; Mikir mili-'sand-bank,bare ground'; N dialect mili 'country,mountain'; Manyak (Hsi-fan group) mili-mili; B nre; Tavoyan dial. mle; Phôn (Sam tong dial.) mali-tamî 'earth'; MC19 **mli (39).
PTB *mli (152); PST **mli

The form for 'plain (flat ground)' in Dulong is curious because the form for 'earth, dry field' is a31 mra55, similar to the Burmese form mre given for 'earth'. Even so, I feel the mu31 li53 form is the correct cognate, as I have no cases of *l- > r- shift and no cases of *-iy > -a. The other part of the phrase for 'plain', dam55 'flat' < *dynam (STC #227), is also clearly cognate, so the phrase is transparent. I treat this form as a prefix plus initial, rather than a cluster because of the Dulong form, as Dulong makes a distinction between these two types of combination.

19 The reconstruction of the MC form is based on Sagart (1985).
*r- → r-
we/us, fear, string, ant, bone, otter, dawn/morning, weave, fireplace, pine, stand, saw

[149] we (inclusive)
DLa rang55; DLb rung55; T rang 'self', nga rang tsho 'we (inclusive)';
MBA rang13; possibly DRD rin53 xang31 and B a-rang
'nearness, presence'; a-hrang 'owner, master, lord'.
PTB **rang

[150] fear
DLa pu31 re755; DLb pu31 re755; T bred-pa (with suffixed -d);
Digaro re; Aka re; N phare 'to fear, be afraid'; Mikir phere
'fear, doubt, dread'; DRD ra55 'to be afraid, ma31 xrai53
'to frighten'.
PTB *b-ray (450)

[151] string, thread
DLa tsu31 ri55; DLb tsu31 ri53; Magari ri 'cane', K ri
'rattan, cane, cord, string, thread', gini ri 'fine thread';
N thri 'cane', sari ri 'thread', ban-ri 'rope, string';
G re, Dimasa ra 'rattan, cane'; MW sú; TP sía33 sí55;
PTB *rey (478)

[152] ant
DLa su31 ri755; DLb bang31 su31 ri755; T greg-ma; N sarr;
Gyaring koro; Lhorong and Lambichong (Kiranti) khorok;
Miri tawuk; Dafa torub; B parwak; Lh pu-gié.
PTB *rwak (199)

[153] bone
DLa ang31 ru55; DLb ang31 ru53; T rus-pa; K nrut; L ru?
Zaiwa [o31 vui31; LCA a31 zau31; LXA a31 zau31; LHA
a31 zau35; MBA ra313 pha53; DRD ru31 bong35;
B rúi; Lh -gí <ruw2; MW rapats (patś 'round').
PTB *rus (6)

[154] otter
DLa su31 ram53; DLb su31 ram53; T sram; Muri si-ram;
Lepcha saryom <sasram; L sa-hram; N sram; K sáram;
PLB *sram (based on Maru Xren, Phuno sam); G matram;
Dimasa matham; Mikir serim; Zaiwa xam31; LCA sam55;
LXA žam35; MW ydzi (zi <ram); MBA tsam53; MBB sam;
Luoba šram; GMD ran35.
PTB *s-ram (438)=*sram [107,n.302]

[155] morning
DLa su31 raang55; DLb su31 reeng55; Mikir prang 'dawn';
G phraing, Dimasa phorang 'morning'; Trung sraa;
Lh sá-pé 'tomorrow' (sá 'morning').
PTB *prang (332)=*b-rang = *s-rang [72,n.224]

[156] weave
DLa ra755; DLb ra55; B rak; LCA xau31; LXA xá31;
LHA xá31; Zaiwa vo731 (ßerak); Tangkhul Naga khur-k;
T 'thag-pa; Magari dák; K da?; G dák; L ta?; Mikir thak;
Maru yá?; Lh yá?.
PLB *rak = *tak/*dak = *k-rak [TSR 192]
PTB *tak (17)=*trak <AT loan [19,n.68]; *d-rak [TSR 192]

[157] fireplace
DLa mu31 rap55; DLb mu31 rap55; K rap; N mu; rap; L rap;
Mikir rap; B mi-rap-paung 'wooden fireplace'.
PTB *rap (84)=*trap/drap <AT loan [19,n.69]

Benedict (STC n.69) suggests that the root *rap 'fireplace shelf' is related to STC #18 *rap 'fireplace', both from an original AT loan *trap/drap. The lack of clear semantic distinction could support this claim, but there is no evidence to support a proto initial cluster. Perhaps *rap ≠ *rap is a clearer way to express this relationship, as was done in the treatment of 'weave' in TSR 192, which Benedict (STC n.68) would like to trace back to a single AT loan *trak.

[158] pine, fir
DLa su31 ru55 šing55; DLb su31 ru55 šuing55 (šing55
'tree'); K marau; N šaru thing; B thàng-ni:
Luoba taru; possibly also MW RRdzusi, GMD rung53 sang35.
PTB *row (320)

[159]stand
DLa pu31 rep55; Lepcha hryam <*hryap 'stand on tip of toe':
Kiranti: rap (Bahung), rep-reb (Khaling et al.), yeb
(Balali et al.) and rip (Sangpang); Vayu yep-ip; N rip;
B rap; Old Meinhei tšap; Dhamal šap; K tšap;
Moshang šap; Mikir ardzap; Empeo sap; Ziwa yap31;
TP zi55; LCA zap55; LXA liap31, Luoba rop.
PTB *g-ryap (246)

I would like to propose a very tentative new reconstruction: **rey ↔ **ley 'saw; plane'. Unfortunately, as except for the copula (DLa and Dlb e53 <*way) the few examples I have of a DLa-e ~
Dlb-e correspondence are all either obvious loans or highly probable loans (e.g.: dzi55 Fe55, Dlb żi31
gres55 'book', DLa and Dlb ma55 dzė53 'sugar cane') it would seem that the Dl forms here are loans,
too, either from Tibetan sog le or possibly even Thai lyaj. The first syllable, sog, is possibly from T
sog-ma 'blade or stalk of straw'.

[160]saw(n.)
DLa s55 re55, bu55 le55 'plane(wood)';
DLb s55 re55 'saw(n.)', bu55 le55 'plane(wood)';
MBa s55 li53 'saw(n.)', pe13 len55 'plane(wood)';
MBb soli 'saw(n.)', buli 'plane(wood)';
Luoba sōlu 'saw(n.)', bulen 'plane(wood)';
DENG so55li55, PMb so55 yi55, Tangkul horay, T sog le,
LCA li31 la31, Li li-l, TP kie33 zi55 'saw(n.)';
WP hli 'cut with a sliding motion'; JP ma31 li33 'scrape, shave'.
PTB **rey ↔ **ley

*p/bw- → w-
flower, axe, pig, uncle

[161]flower
DLa śing55 wat55 'flower', śing55 wat55 'bloom';
DLb śing55 wat55 'bloom'; Gyarung tupa;
PLB *wat; Nungish śing-wat 'bud' (Rawang), flower (Trung).
PTB *bwap [24]

[162]axe
DLa war53; Dlb war53; Gyarung sapye <*-r-]: G rua;
K nwa-ningga; Dimasa rau; Chang Naga (Konyak group)
wo <*wa.
PTB *r-wa (441)=*r-pwa [24]

It seems the final in DL 'axe' is irregular, but this could be another example of prefix metathesis,
as in DLa mlaang <*-mang 'dream'. As there is no w- cluster, the r- goes to syllable-final position.

[163]pig
DLa wa55; Dlb wa55; T phag; Mikir phak; K wa': B wa';
G wak; L vok; Ziwa va31; MW pi <*pak; LCA o55 <*-ak;
LXA wa31; LHA wa31; MBa pha53; MBb phakpa.
PLB *wak [TSR 168]
PTB *wak [23-24]

[164]uncle
DLa a31 wang53; Dlb a31 wang53; T ?a-bang-bang-po 'father's
or mother's sister's husband'; Chebang pang; N awang; Limbu
am-pang-a; Vayu pong-pong <*pang; Lashi vang-mo 'father's
older sister's husband, husband's father'; Lisu a-wa <*-wang; G a-wang.
PTB *pwang [23]

*y- → 0/y-
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[165]sleep
DLa: ip55; DLb yuw55; T yib-pa 'hide one's self'; K ip-yip
'cover, conceal (information)'; iyu 'sleep'; N ip;
B ip; Ao Naga yip; Tsangla ip-yip; Bunun ib; Bahing ip;
Miri yip (Abor ip); Zaiwa yu55; MBb yip; Luoba yu5.
PTB: *ipe=*yip (114)

Consonant clusters

Though the data on consonant clusters is not abundant, some general patterns can be seen: A proto stop can be reflected by a fricative in Dulong when it is followed by /l/, though there are several examples of *kr- or *dr- being reflected in a k(h)- cluster in Dulong; a proto velar stop initial, if followed by a /y/, is reflected as a voiceless alveo-palatal affricate in some cases, especially where the glide has not influenced the main vowel. Aside from this, a few types of clusters are discussed in the section on non-regular reflexes.

Following is a list of examples:

*kr- ~ *gr- ~ *dr- → xr-
gall bladder, horn, foot, cut open, scrape/shave, meet

[166]gall bladder
DLa: tsi31 xru55; DLb: tsbi31 khri53; T mkhrs-pa *mkhris 'bile'; N shi *sakhr 'gall-bladder'; B sari-khr 'gall' (sari 'liver'); Dimasa bikhu *bikhli; G kha-khr 'bile' (kha 'bitter'='liver'); Lepcha kri 'bitter'; K khr 'acid, sour';
Moshang shi *akhr 'acid'; Dimasa khri 'sour'. Lh 咍-khr
PTB: *kriy (412-413)

Benedict (p.98) separates *(m-)kri-t 'gall' from *kri(y) 'acid, sour, bitter', and has Nung shi 'gall-bladder' under the former. The distinction seems to be artificial, so I have included the reflexes of both sets (#412,413) under the Dulong forms for 'gall-bladder'.

[167]horn
DLa: tsi31 xru55; DLb: ang31 tu31 xru55; B khri-khyur;
Lisu tshu: Ahi tsho; Nyi hka; N (Melam dia.l) takru;
Lh 咍-khr.
PTB: *kruw (37)

[168]foot
DLa: xru55; DLb: xre55; T khri 'seat, chair, frame'; N hi;
B khre; Lisu tshi: Ahi khi; Nyi tshi; Lh kh.
PTB: *kny (38)

[169]cut.chop
DLa: a31 xra55; DLb: a31 xra55; B phrat 'cut in two',
hrá 'wound by a slight cut'; G ra = rat; Dimasa ra; T dra-dar 'cut, clip, lop, dress, prune'; Lepcha hrá; Lh phe̱i 'cut open';
JP kran33; MBb tšat; MW xtsi; N rat; PM na31 tshi55.
PLB: *-brat = *C-prat
PTB: *ra (458) **d-ra-t

I have put STC (#458) *ra 'cut' and G&C (#27) *(?-)brat = *C-prat 'cut open' together in one set because they seem to me to be one and the same root (cf. Garo). The Dulong initial possibly first became kr-, as in 'six' and 'sew' (see below), then went to xr-. The difference between this reflex and those for 'six' and 'sew' might be the difference between a proto cluster and a proto prefix + initial. For this reason I have included this root with these other cluster forms. If this criterion is valid, then STC *krang (#322) 'mosquito' might also be considered a prefix plus initial because of DL ku31 rang53 'firefly' and possibly Geman Deng ko55 nun55 'mosquito' (see below).

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19 Please see Sun (1984) for a very detailed treatment of consonant clusters in Tibeto-Burman.
[170] scrape, shave

DLa xiŋ5; DLb xrɔŋ55; B khrac 'mark with the nails, scrape';
Jg khrèt 'rasp, grate'; Nasu tshì32; Lh gè? 'rasp, scrape';
Aka jeh HS 'scrape, rake, shave away' (the last two from pre-
nasalized proto forms); Kanauri kra-chok-shi-mig 'to shave'.
PLB *(N)kret [TSR 97]
PTB **kr(w)et

There is another PLB form, TSR #96 *(N)kraŋ 'scratch, rake', reflected by B khrak, Maru kyak,
Aka ka HS, Lh gä? which could be related to the Nuijiang form (as DL -ŋ < *k, though the final should
be *-wak to give DLb -ŋ?). There is also Zaiwa vu?31 <*rok 'shave' that might fit here.

Though I think the rule mentioned above that makes a distinction between the reflexes of clusters and
those of prefix plus initial is valid, because of the Menba form I had no choice but to posit a *k-
prefix in reconstructing the root for 'meet'.

[171] meet

DLb tu31 xrum53; JP khrum55; B krum-krim 'meet with, find';
MBb num.
PTB **k-num ≈ **k-rim

*gr/ - *kr/ - kr/ - gr/ firefly, village, fear, bark, boil

[172] firefly

DLa ku31 rang53; DLb ku31 rang53; K dyzi-grong (dyzi 'winged
insect'); B khrang; Mikir tim-kraŋ (tim 'gnat, midge') 'mosquito';
Rawang mɔŋγ <*m-grang 'mosquito'; Trung kranγ 'firefly';
Zaiwa kyaŋ51 'mosquito'; possibly also GMD khaŋ 'insect'
or ko55 rum55 'mosquito'.
PTB *kraŋ (322)

Based on the supposition that Dulong makes a distinction between clusters and prefix-plus-initial
combinations, this root should probably be reconstructed as **k-rang. Probably also related to this is
the root reconstructed in the STC as *yang=*(s-)brang 'fly, bee' (492), based on T sbrang 'fly, bee'.
West Tibetan bu-yang 'bumble bee', Kanauri yang 'fly, bee', B yang 'fly, insect', and Lepcha sum-
bryong 'fly'. Other examples of *r ≈ *y alternation are PTB šrak ≈ *g-yak 'ashamed', PTB *yaap ≈
*k-rap 'fan, winnow' (set 194 below) and PTB *mra ≈ *mya 'many, much'.

[173] village

DLa kuɔɔŋ55; DLb khrɔɔŋ53; Tankhul Naga khu; L khia;
B rwa; T grong; Busu (Loloish) khɔŋ-ba; MW gu <*grang;
PMb tɔɔŋ53 bɔɔŋ.
PTB *grwa-ng [Matisoff 1972b, set 28]

[174] fear, frighten

DLa a31 kraŋ55; T skrag-па 'to be terrified, afraid';
B krauk 'to fear' <*grak; Lh kɔŋ55; Zaiwa kjuŋ31.
PTB *grāk ≈ *krāk (473)

[175] scream, bark

DLa guŋ53, DLb guŋ53 'bark', DLa gui53, DLb gui55 'crow (rooster)', DLa guí55, DLb grung55 'squeak, talk';
K goi 'crow, as a cock; squeak, as some kinds of snakes;
laugh loudly', mɔŋγ 'howl, scream', JP kɔt31 (=grut)
'call (of a panther)'; kɔŋ55-khɔŋ55 'call (of a
barking deer)'; B krawe-kwà 'call out, halloo,
shout; screech and scream in large numbers, as birds',
krɔ 'shout, call out'; Kanauri gre-nan-mig 'to roar',
grɔn-mig 'to neigh', ku-chi-mig 'to call out,
exclaim'; LCA kɔai55, LHA kai55 'speak, talk', LCA
ekɔ55, LXA ku31, LHA ku55 'to yell, call out'.
PTB *groi (310)
The reconstructed form for 'scream, bark' in STC is based on the Kachin and the first two Burmese forms. Both of these languages have two forms, one with medial -r-, one without. I have added three JP forms and one Burmese form, all within a single semantic field, varying only slightly in phonological form. When the three types of Dulong reflex (I'm assuming that gui? and guung simply reflect a *k- *ng alternation) and the Kanauri forms are added to this set, it seems there is one large related set. The *u *oy final alternation is a problem, though this alternation exists in three of the languages given here, and Dulong guuu (with a long vowel) is actually one of the inflected forms of grung 'speak' used in emphatic and mutual action patterns (cf. Dai 1986). The best I can do for now is to assume there are two roots: **g(r)u-ng and **g(r)oy.

[176] cook, boil
DLa du31 glu?55; B kyak 'to be cooked'; kyak 'cook';
K khyak 'prepare glutinous rice'; Lh ca 'to boil';
Mikir arklak ~ arklok 'boil over'; L. tlak 'boil or
cook without salt'; MBa k6153 'boil'.
PTB *klak = *glak (124)

*dr- → k(h)r-
six, sew

[177] six
DLa kru?55; DLb khru?55; T drug; Kanauri tūg; G dok;
Lepcha taruk; Digaro thur; Mikir therok; MBa kro?53;
Zaiwa khju?55; JP kru?55; LCA xzo?55; Trung khlu;
B khr ?uak; Poerón karuk; K kru; Lh kh=p?.
PTB *d-ruk (411) = *d-k-rok (Matisoff pers. comm.)

[178] sew
DLa kruuup55; DLb khruuup55; T 'drub-pa; Lepcha hrap;
Gyarung t?up; Magan r?up; B khyup; Trung krap; Lh t?;
PTB *d-rup (456) = *drup [n,320]

This *d- → k- change is seen also in the Poerón, Kachin, Menba, Zaiwa, and Burmese forms for 'six', and the Burmese and Zaiwa forms for 'sew'.

*br- → br-
name, smallpox, write

[179] name
DLa ang31 brung53; DLb ang31 brung55; Lepcha sbrang;
Trung ang-prang; N bing <*bring.
PTB *s-brang = *brang (31)

STC footnote 99 mentions that Prof. Matisoff suggests a connection with PTB **brang 'to give birth' (#135): T 'brang-ba 'bear, give birth', L piang 'to be born'. I don't know why Benedict says N bing <*bring.

[180] smallpox
DLa brum55; DLb brum31 khar55; T lta 'brum; MW bur.
PMa bza?13.
PTB **brum

[181] write
DLa bri53; DLb bri53; T 'bri-ba 'draw, write', ris 'figure,' form, design'; K man? 'to mark, line, rule'; N nga dant 'boundary'
(riga 'country'); B r? 'write, paint, delineate; G a-n. Dimasa ha-n
boundary' (a--ha- 'earth'); L n 'boundary', rin 'draw a line,
scratch'; M Ba pri13; MBb brü; Luoba piu.
PTB *ny (429) = **b-ny (with possible suffixes -t, -k, -n)
*ky- ~ *gy- → (t)s-
house, eight, hundred, jump

DLa šum53; DLb tśum53; T khyim; Bahing khyim-khim;
Vayu kim-kem; Lepcha khyum; Miri akum; Mru kim;
Mikir hem <*khem; N kym- tśim-tśum; B im; Lahu ye;
Trung tśim; MW tśí; TP tśí33; Zaiwa jum51.
PTB *kyim = *kyum (53) [n.82]

[183]eight
DLa šat55; DLb šat55; T brgyad; Kanauri ra; Bahing ya;
Thulung ye; K matsat; N šat; B hrsats; G tšet; L riad;
Dimasa dzai <*dzai; MW khar; Zaiwa šüt55; LCA šet55.
PTB *b-r-gyat (163)

[184]hundred
DLa ti55 ša55; DLb tśi55 ša55; T brgya; K latsa; N ya; B ara;
G ritsa; Dimasa radza; L za <ya; MW khur; Zaiwa šüt51.
PTB *r-gya (164)

[185]jump
DLa a31 tšat55; DLb tšhat55; Aka [PL] ceh^, [ILH] tjéq; Lisu
hcuye2; Sani ce44; Bodo khat; G kat; Mikir kät; JP ka31 kat31.
PTB *k(y)at 'sudden lateral action' [G&C 39; TSR 18]

FINALS

As in the case of the initials, Dulong is relatively conservative phonologically vis à vis the finals, in that it preserves many of the consonantal endings. Final *-p and *-t, and all of the nasal finals, are unchanged, but final *-k is preserved only as a glottal stop, as in Jingpo. Final *-l had different reflexes in the two dialects. In DLa the *-l was preserved, but in DLb it became a final /-n/, also as is the case in Jingpo. Final *-s is a bit more complex. It seems there are two reflexes, -0 and -t, as in the pairs listed below:

* -s → -0
bone, two

DLa ang31 nu55; DLb ang31 nu53; PTB *rus (6)

[153]bone
DLa a31 ni55; DLb a31 ni55; PTB *g-ni-s (4)

[52]two

* -s → -t
thick, seven

DLa tat55; DLb that55; PTB *r-tas (426)

[38]thick
DLa sui31 nit55; DLb sui31 nit55; K sinit; G sani;
Gyarung kësnês; Kanauri stis.
PTB *s-nus (5)

[186]seven

This is similar to Jingpo, except that Jingpo 'bone' /nu5/ has final -t where Dulong has an open syllable. Even if we discount 'two' as an *-s final root by saying that the *-s was an old suffix, as is suggested in note 61 of the STC, there is still the unexplainable final of 'bone'.

Another interesting, though not entirely regular development is the effect of proto-medialals on Dulong vowels in closed-syllable finals. For some roots with palatal medial, the glide had the effect of fronting the main vowel, as can be seen in the examples below:

* -yap → -ep
snot, stand

DLa nep; DLb riep; T snabs; B hnap; L hnap; Zaiwa nap55;
LCA hnap55; LXA nap55; LHA hnak55; PMa hna13.
PTB *s-nap (102); **s-nyap

[187]snot

[159]stand DLa pu31 rep55; PTB *g-ryap (246)

*-yat → -ct
joke/lough, star/moon

[188]joke,lough DLa yet55; T gza-ba 'to sport, joke, play', bzas-pa-gza-pa 'laugh, smile'; Thebor rot; Bunar sred; Magari rot; N it; Bahing rit-ris; Digaro mara; B rai 'laugh'.
PTB *rya-t (202)

[189]star(-moon) DLa gur55 met55; DLa gu31 nyet55; Angami Naga themva; Lh mi?(-ka); MBb karmi; AC *sngyaw (A) 'moon'.
PLB *mwat [G&C 35]
PTB and PST *s-sngyaw [G&C 35]

*-yak → -c?

[88]eye DLa me?55; DLa ne?55; PTB *myak (402);

If the medial is a labial-velar glide, then the effect is one of raising, rounding22 and backing:

*-waay → -oi

[130]buffalo DLa ngu31 lsi53; DLa ngu31 lsi53; PTB *lwaay (208)

*-waang → ung

[42]pit,hole DLa ang31 dung55; DLa ang31 dung55; PTB *dwaang (169)

*-wang → -ong

[173]village DLa kroong55; DLa khrong53; PTB *grwa-ng [Matisoff 1972b, set 28]

The above two sets are the only two where there might be evidence of the proto-vowel length distinction in the Dulong reflexes.

*-wap → -up

[36]cut DLa a31 tupa55; PLB *twap ≠ *C-dwap [TSR 69]
PTB **-tup ≠ **-t/dwap

*-wak → -c?

[152]ant DLa su31 r?55; DLa bang31 su31 r?55; PTB *twak (199)

There are a few exceptions to this rule. Dulong forms that don't reflect a proto medial are listed with those words that descend from roots without medials. In 'vegetable' the velar medial is preserved without affecting the vowel:

*-wak → -wa?

PTB **gwa ≠ **gyak

21 Please see the discussion of this root and 'star,moon' in the section on non-regular reflexes.

22 Thanks to Mark Hansell for pointing out that though *-wap → up does not have any rounding, this could be due to dissimilartion of rounding because of the labiality of the final, as occurred in Chinese.
I am assuming that the Dulong forms descended from a proto-form with a labial-velar glide rather than the palatal glide reconstructed for PLB in TSR.

The form wang53 ‘uncle’ also does not show any influence of the glide on the vowel, possibly because it is the initial:

[164] uncle DLa a31 wang53; DLb a31 wang53; PTB *pwang [23]

The situation for open syllables is generally different, as with the *-wa rhyme, which is reflected faithfully in Dulong in four out of the following six forms:

[162] axe DLa war53; DLb war53; PTB *r-wa (441)=*r-pwa [24]
[28] cattle DLb nung55 ngwa53 ‘hương niu’; PTB *ngwa (215)
[18] wear DLa gwa55; DLa gwa53; PTB *gwa-n ≠ *kwa-n (160)
[30] span DLa ti55 pu31 ta55; DLb tu55 pu31 ta55; PTB *tw (165); **(w)a

The form for ‘span’ does not reflect the labial-velar medial at all (just as DL nga53 < *nga ‘fish’ does not reflect the palatal medial), though I feel it is cognate.

[99] garlic DLa su53; DLb su53; B kra-k-swan; AC *swán/suán (48); Lh sū-qə ‘leek’, sū-phu ‘onion’, sū-phu-nū ‘garlic’.
PTB *swa-n [174] [G&C p.10]

The original PTB reconstruction of *swan was revised to *swa-n in Matisoff (1985:10) with the suggestion that the *-n was the ‘collective’ *-n suffix discussed in n.284 in the STC. The DL forms for ‘garlic’ are similar to Lahu /s//. In Lahu the proto-medial has the same type of effect on the final as in Dulong, but it is a bit more regular. In the case of ‘garlic’ in Lahu, the *-w- has had the effect of raising and rounding the vowel. I can only assume that something similar happened in Dulong. Other forms that might belong here are JP la31 son33, LHA la31 suan35, LXA la31 suan55, LCA ka31 sun55, and either Zaiwa phe55 yo55 or the first syllable of Zaiwa xu31 khjong55 ‘onion’. I did not include them above because they either looked too much like loans or because I was not sure of the cognacy of the forms.

Even with the exceptions just mentioned, the rule of medial effect is solid enough to be useful in confirming or revising PTB roots. Several of these cases are discussed below in the section on non-regular reflexes. Two more cases where there might be a need for a slight revision of an established form are ‘branch’ and ‘drip’:

[9] branch DLa šiŋ55 ang31 k=755 (sing ‘tree’); DLb šiung55 ang31 k=755; PLB *šgak [TSR 43]; PTB *š-kaak (327) ≠ **š-k(w)aak
[37] drip DLa a31 ti55; DLb th>55;
PLB *NTšak [TSR 82]; (*tik ≠ *dzik) ≠ *ndzik [Mpi 5];
PTB **tsak ≠ **tywak; PST **ty(w)ak

Based on the Dulong reflexes it seems the proto-forms had -w- medials, i.e.: **š-kwak; **ntswak, though the initial correspondence in ‘drip’ is not entirely regular either.

Below are listed examples of the regular correspondences. In general I would require at least three examples to call a correspondence ‘regular’, but in some cases, as for *-ip’, there aren’t many roots with that final, and the Dulong form is obviously cognate, so I have included it as a solid possibility.

*-a → -a
bitter, crow, saddle, I, ear, nose, you, rest, five, thin, wound,
god, earth/dirt, food, flesh/meat, moon, speech, cotton

[1] bitter DLa ka55; DLb kha53; PTB *ka (8)
[2] crow DLa tak55 ka55; DLb tang31 kha55; PTB *ka [99-100]
[22] I DLa nga53; DLb gu55; PTB *ka ≠ *nga (406)
Dulong and Proto-Tibeto-Burman

[47]ear DLa a31 na53; DLb a31 na53; Trung na-ba; N *na; PTB *g/-na (453)

[55]nose DLa su13 na55; DLb su13 na55; N *sana; PTB *s-na (101)

[56]you DLa na53; DLb na53; N na; PTB *nang (407) = **na

[61]rest DLa nu31 na53; DLb nu31 na53; PTB *na (414)

[23]five DLa pu31 nga53; DLb pu31 nga53; PTB *l/-nga (78)

[74]thin DLa ba53; DLb ba53; N ba; PTB *ba (25)

[85]wound(n.) DLa bin55 ma55; DLb zi31 ma55; N nam 'nettle' (= 'the wounding'), with suffixed *-t; PTB *r-ma = *r-ma-t (446)

[131]god DLa nam55 la55 (nam55 'sun; heavenly affairs' with tone assimilation); DLb la55; PLB *s-la 'soul'; N phala <*b-la 'demon, soul'; PTB *(m-)la (>*sta in all but Tibetan) STC p.132 (475)

[114]earth,dirt DLa a31 sa55; DLb a31 sa53; PTB *tsa (188); **sa

[125]food DLa ang31 dza55; DLb ang31 za55; PTB *dza (66) = *dza [Mpi 47]

[127]meat,flesh DLa sa55; DLb sa53; N sa; PTB *sya (181)

[145]moon DLa su31 la55; DLb su31 la55; N sola;

PTB *s-la = *g-la = *s-gla (STC n.137) (144)

[8]word,speech DLa ka55, ka55; DLb ka55, kat55; N kha; PTB *ka (9)

[140]cotton DLa sa55 la53; PTB *b-la [111]

*.-ya -> -a

hundred, fish, borrow

[184]hundred DLa ti55 sa55; DLb tsi55 sa55; N ya; PTB *r-gya (164)

[24]fish DLa nga55 pla55 (+ Tai); N nga; PTB *ngya (189)

[26]borrow DLa nga55 pla55 nga53; N nga; PTB *r-ngya (190)

Of the Dulong forms in the above set, only the initial in 'hundred' shows any trace of the proto palatal medial.

The words in the following two correspondences are probably all examples of PTB *-a = *-ay doublets (as discussed in Mattheson (1985:27)), with Dulong reflecting the diphthong in the first two words and monothong in the last four:

*.-a -> -ai

father, chin

[66]father DLa a31 pai53; DLb a31 pai53, a31 ba53; PTB *pa (24) = *pwa [23]

[7]chin DLa mu31 kat55; DLb mu31 ka55; N mi-kha; PTB *m-ka (470)

*.-ay -> -a

paddy, bee, plant, easy

[190]rice/paddy DLa tsu31 ma55; DLb tshu31 ma55; Garo mi-me-; Dimasa mua 'rice, paddy'; Two and Sgaw (Karen) me 'boiled rice'; AC *mu/mer (♂); Tangkhul ma 'paddy'; Luoba ama 'rice';

PTB *may = *mey [65,128,149,192-3] [G&C 57]

[191]bee DLb khwa31 ne53; B kwai 'dammer-bee'; L khuu-kho; Thado khor-khui-va (va 'bird') Tangkhul khui; Lakher -kha 'bee';

N kha 'bee (domesticated)';

PTB *kwaay (157)

[110]plant DLa kaat55; DLb kat55 (both with suffixed -t. Cf. 'speech');

PTB *kay = *gai [G&C 114]

[129]easy DLa la55; DLb la55; PTB *lway (302); PTB **s-la or **s-lwya-y

In the following sets, the Dulong forms faithfully reflect the proto diphthong:

*.-ay -> ai
big, tongue, red

big
DLa tai53; N the; PST *tay (298)

tongue
DLa pui31 lai53; Dlb pui31 lai53; N phale; PTB *s-lay (281)

red
DLa pui31 sai55; Dlb pui31 sai53; PTB *(ty)a-n = *(ts)aay [G&C 150]

I'm assuming Dulong form for 'red' reflects the same PTB root as the Lakher form, given as *(ts)aay, though I am not altogether happy with the initial in this reconstruction.

Please consider the forms for 'change', 'hair' and 'foot':

change
DLa klah55; Dlb kle53; JP gelai; N thale 'alter.(ex)change'; B lai '(ex)change'; G sce; Dimasa salai; L léi 'buy, barter'; Tiddim lay.
PTB *s-lay (293) [G&C 69]
PTB *r-le = b-rey [G&C 54] 'buy, barter'

hair(head)
DLa u55 naa55 (head+hair); Dlb u53 ne53; N ani-tani;
PTB *ney (292) [G&C 51]

foot
DLa xai55; Dlb xee55; N hi; PTB *kriy (38)

Based solely on the DLa form and the semantic similarity, it would seem that *s-lay is the correct provenience for 'change', but comparing this with the forms for 'hair', it seems that the *r-le = *b-rey proto form might be the correct one. There is another correspondence, *-ey → -i (see below), that seems to be the more regular one for *-ey. The DLa -ai/DLb -e forms then are not part of the *-ay → DLa -ai/DLb -ai set, nor are they part of the *-ey → DLa -i/DLb -i set, nor are they part of the *-ay → DLa -e/DLb -e set (see section on non-regular reflexes). They are probably reflexes of *-ey, but I don't know what the conditioning factor was that caused them to form this separate set. The forms for 'foot' make it even more confusing, as *-iy usually is reflected as DL -i.

Related to this is the problem of the DL reflexes of PTB *tsa 'hot, spicy, illness' (T tsha 'hot, illness', tsha-ba 'hot; heat; spice; condiment'; B atsha 'hunger; something faulty or hurtful (but Lolo *tsha 'hot'); G sa 'ache, sick', sagipa 'pepper'; Dimasa sa 'ache, pain', sa-ba 'hot (spicy)'; L sya-syat 'hot'; Mikir so 'hot, to be ill, sore'; possibly also the first syllable in MW tsatsi 'spicy'). There are two possibilities: DLa dza53, Dlb za53 'illness'; and DLa sai55, Dlb se53 'spicy'. In the former the final is regular, but I have no other examples of *ts- → dz-, for the latter there are at least four other examples of *ts- → s-, but no examples of *a → -ai/-e, unless this is another example of a *-a = *-ay alternation, and the DL forms descended from *-ay. I prefer the latter explanation, but the ai/e set is still too problematic to say anything definite.

*-am → *am
full, flat, smell, sun, iron, fathom, otter

[43]full
DLa dam55; Dlb dam53; PTB *dynam (226)

[44]flat
DLa dam55 mui31 l53 'plain, flat ground' (mui31 i53 'earth, ground');
N :dam 'plain (level ground), flat'; PTB *dynam (227)

[64]smell(tr.)
DLa pui31 nam55, pui31 nam55 gam53 'fragrant' ('smell' + 'good'); Dlb pui31 nam53; N phnam; Trung phnam;
PTB *s-nam = *m-nam (464)

[53]sun
DLa nam53; Dlb nam53 luung55; T gnam 'heaven, sky', nam 'night';
N nam 'sun'; PTB *nam [148]

[126]iron
DLa sam53; Dlb sam53; N sam; Trung $yaw; PTB *syam (228)

[147]fathom
DLa u55 lam53; Dlb isi53 lam53; PTB *la[a]m [71]

[154]otter
DLa su31 ram53; Dlb su31 ram53; N sram; PLB *sram;
PTB *s-ram (438)=*sram [107,n.302]

*-an → -*an
stretch out, medicine
we/us, firefly, roast, fir, spindle, deaf/mute, dream, person, dawn/morning, clean

**-ang → -ang**

reap, leaf, needle, fan/winnow, munch, fireplace

Based on the Dulong form and the probability that the above forms for 'fan, winnow' are related to PTB *yaap (92) 'fan, winnow' (reconstructed on the basis of T 'yab-mo ~ g-yab-mo 'the act of fanning or waving fan'. Min *muyap, B *yap, Mikir *h-dzap 'fan'. L *zaap 'fan, winnow, flap, flutter'. Tang-khui *syap 'fan', and K *tsap 'winnow'), the *k- should be seen as a prefix.

**-ap → -ap**

**-ang → -ang**
*-at → -at
forget, leech, kill, flower, cut, braid, eight, jump, slippery

[79] forget
DLb a3l ma=t55; PTB *ma-t (425)

[69] leech
DLa mu31 pat55; DLb nye31 phra=t55; PTB *r-pat (45)

[96] kill.hit
DLa saat55; DLb sat55; PTB *g-sat (58)

[61] flower
DLa sing55 wat55 'flower', sing55 wat55 wat55 'bloom';
DLb shung55 wat55 wat55 'bloom'; PLB *wat; Nungish sing-wat'
'bud' (Rawang), flower (Trung); PTB *bwa-t [24]

[169] cut.chop
DLa a3l xraa=t55; DLb a3l xrat55; N rat; PLB *r-brat = *C-prat;
PTB *ra (458) **d-ra-t

[196] braid
DLa bla=t55; DLb blat55; Zauwa tsham51 pan31 (tsham51 'hair');
LXA tsham35 pyen35 (Chinese?); Lh phê: Mpi phe?1;
possibly also B phan 'shuffle cards'.
PLB *C-prat = *pan12 (G+C 37)

[183] eight
DLa saat55; DLb saat55; N saat; PTB *b-r-gyat (163)

[185] jump
DLa a3l tsat55; DLb isthat55;
PTB *k yat ' (sudden) lateral action' [G&C 39; TSR 18]

[197] slippery
DLa tu31 klaa=t55; DLb du31 laat55; T hlood-pa 'loose,
relaxed'; K lot 'escape, be free, unrestrained'; I ha ha 'to
be free', kywat < klwat 'loosed, freed'.
PTB *g-lwat = *s-lwat (209)

* -ak → -a ?
deep, black, itch, weave, fear, chicken, lick, pig

[51] deep
DLa ru31 na=t55; DLb ru31 na=t55; Trung na=43;
PLB *n=nak = *nak [TSR 157]; PTB *s-nak

[50] black
DLa na=t55; DLb na=t55; N na?; PTB *s-nak [88,102,155]

[95] itch, nchy
DLa pu31 sa=t55; DLb pu31 sa=t55; PTB *m=sak (465)

[156] weave
DLa ra=t55; DLb ra=t55; PTB *tak (17)=*trak < AT loan [19,n.68]

[174] fear, frighten
DLa a31 kra=t55; PTB *grak = *krak (473)

[198] chicken
DLa ka=t55; DLb kha=t55; B krah 'fowl'; Maru ra = < rak; Lh ʃa?
L wa rak 'duck'; Zauwa vo < rak; LCA kwa=t55; LXA kja=t31.
PTB *k rak

[137] lick
DLa laa=t55; DLb laa=t55; N la-le; PTB *m-lyak = *s-lyak (211)

[163] pig
DLa wai55; DLb wa55; PLB *wak [TSR 168]; PTB *p wak [23-24]

* -ar → -ar
new, east

[100] new
DLa ang31 sar=t55; DLb ang31 sar53; Rawangangsar; Trung aksal 'fresh';
PTB *sar [p.147,172,189]

[128] east
DLa sa=t55; DLb se31 se=t55; N nam sarr kha; PTB *syar [28]

* -u → -u
nephew, dig, head

[40] nephew
DLa puu31 du55; DLb buu31 du53; N phedu; PLB *du;
PTB *tu = *du (259)

[41] dig
DLa du53; N du; PTB *tu = *du (258)

[199] head
DLa u55; DLb u53; T dbu; B ü; Anong (Nungish) u; Lh ü;
LHA u31 nung31; LXA u55 n=ng55.
PLB *?u2 [Mpi p.15]
PTB **u

Benedict (1972:117) does not give a proto form for 'head', but suggests that a *d- prefix might be reconstructed for this root, based solely on the Tibetan form. I don't know if he would include the initial b- from the Tibetan form as well. I have not included either because it is only Tibetan that shows any evidence of them.

*ul → DLa -ul / Dlb -un
silver, hair/fur, spittle,
[25]silver DLa ngul55; Dlb nguun55; PTB *d-ngul [15,173]
[90]hair,fur DLa ang31 mul55; Dlb ang31 mun53; PTB *mul (2)
[11]spittle DLa cuu55; Dlb tsun55; N thu 'spittle';
PTB *m-ts(y)ul (231) = *m-thul [cf. discussion of 'count']

*uw=*w → -u
steal, uncle, body, nine, cry, price, insect/snake, eagle, horn
[4]steal DLa kuu55; Dlb khu55; N khú; PTB *r-kuw (33)
[6]uncle DLa a31 kuu53; Dlb a31 khu53; N kho; PTB *kuw (255)
[1]body DLa ang31 guw55; PTB *(s-)kaw=*(s-)kuw [184]
[12]nine DLa du31 gu55; Dlb du31 gu53; N tagò; PTB *d-kuw (13)
[27]weep, cry DLa ngu53; Dlb ngu53; N ngú; PTB *ngu (79)
[67]price DLa ang31 puu53; Dlb phuu53; N phu 'be of value'; PTB *puw (41)
[7]insect, snake DLa buu55; Dlb buu53; N bo; PTB *buw (27)
[86]eagle DLa tu31 muu53; Dlb tu31 muu53; N thumò; PTB *muw (257)
[167]horn DLa tsu31 xuuu55; Dlb ang31 tu31 xuuu55;
N (Melam dial.) takru; PTB *kuwu (37)

*um → -um
pillow, three, warm, house, round, smallpox, meet
[5]pillow DLa u55 kuum55; Dlb u53 kuum53; N ngú nukhum; PTB *m-kum (482)
[94]three DLa a31 sum53; Dlb sum53; N âsum; PTB *g-sum (409)
[143]warm DLa lum53; Dlb lum53; N lim; PTB *lum (381)
[182]house DLa süm53; Dlb tsüm53; N kyum=tsüm=tsum; Trung tsüm;
PTB *kyum = *kyum (53) [n.82]
[142]round DLa ang31 ku31 lum55; Dlb du31 lum55;
PTB *s-lum=*zium (n.136) (143)
[180]smallpox DLa buum55; Dlb buum53 khar55; PTB **brum
[171]meet DLa tu31 xuuum53; PTB **k-ruu = **k-nm

*ung → DLa -uung
[139]stone DLa luung55; Dlb luung55; PTB *r-lung (88)

*ung → Dlb -ng
maggot, body
[146]maggot Dlb tshu31 l=ng53; PLB *k-lung = *k-luk [STR 186]
PTB **lun = **luk
[21]body Dlb g=ng53; Nungish: Rawang gung, Mutwang dial. gong:
PTB *gung [182]

*-up → -ut(w)p
rotten/to rot, cover(bury), sew

[72]rot/rotten DLa bu5p; DLb bu5p; PLB *Nbup [TSR 75]; PTB **bup

[138]bury DLa klu5p, possibly also DLa, DLb klu5p 'to cheat, deceive';
PTB *klu5 (479)

[178]sew DLa kruwup5; DLb kruwup5; Trung krap;
PTB *d-nup (456)=*drup [n.320]

*-uup → -uup

[63]west DLa nam55 nuu5p5; N nam nup lam (nam 'sun', lam 'side');
PTB *nuu5p = *ni[p] (400)

*-ut → -ut/-it
knee, blow

[70]knee DLa bak55 pux55; DLb paang31 pit55; N phang-phit 'knee',
ur-phut 'elbow', ra-phut 'shoulder'.

PLB *pux (7) (<Maru pat-lau <put); PTB *put (7)

[80]blow(v.) DLa mu55; DLb mit55; PTB *s-mit [75]

*-uut → -uut
[33]join, tie, knot DLa sw31 tɔɔ55; DLb sw31 tɔɔt55; N dathut;
PTB *duut = *tout (421)

*-uk → -u? (after velars only?)
basket, bent

[3]basket DLa pai55 kɔɔ55; DLb nu31 kɔɔ55; PTB *kuk (393)

[17]bent DLa du31 gɔɔ55; DLb du31 gɔɔ55; PLB *gok [TSR 2];
PTB *guk = *kuk [125]; **gok

*-uk → -u?

[48]brain(1) DLa u55 nuu55 (u55 'head'); N naing; PTB *nuk (483)

*-u(u)k → -u?
vomit, sky, six

[45]spit, vomit DLa duɔɔ55; DLb duɔɔ55; PTB *m-tuk = *s-tuuk = s-duuk [58,75,126,132,146]

[89]sky DLa mu55, nu31 mu55 'cloud'; DLb mu55, nu31 mit55 'fog';
Rawang mu55ang 'heaven'; DLa su31 nuu555 'fog';
PTB *r-ruw= *r-maw (488) = *r-muuk (357)

[177]six DLa knu55; DLb knu55; PTB *d-ru5 (411)

*-iy=*-y → -i
sun/day, aunt, grandmother, give, die, count, urine, small, grandchild, armpit,
flea, heavy, plain, gall bladder, write, four, who

[54]day DLa ni55; DLb nyi55; PTB *niy=niy (81)
[58] aunt
DL a31 ni53; DLb a31 nyi53; N ŋi; PTB *ni(y) (316)

[65] grandmother
DL a31 pi53; PTB *piy (36)

[76] give
DL b155; DLb zi53; Trung bing (with suffixed -ng); PTB *biy (427)

[101] die
DL ši53; PTB *siy= *say (232)

[107] count
DL tsi55; PTB *r-tsiy=(r-)*tsray (76)

[117] urine
DL tsi55; N tsi ‘urine’, tsi-tsi ‘urinate’;
PTB *ts(y)i= *ziy (77)

[121] small(1)
DL tsi55 tsal53 (tsal53 ‘son’);
PLB *ziy= *a-ziy [STC p.27, n.87 by JAM]
PTB *ziy (60) *ziy

[133] grandchild
DL puś1 li53; DLb puś1 li53; N phli; PTB *b-liy (448)

[134] armpit
DL ra55 li53; N ra-kyi tšip <*ra-klí (ra ‘shoulder’);
PTB *g-li (265) (possibly old AT loan - STC n. 199)

[141] flea
DL suś1 li53; DLb suś1 li53; N sáli; PTB *s-liy (440)

[144] heavy
DL a31 li53; DLb a31 li53; N ali; PTB *s-liy (95)

[148] plain (earth)
DL dam55 mui31 li53 (dam55 ‘flat’); DLb mui31 li53 dang53;
N dialect mali ‘country; mountain’; PTB *mliy (152)

[166] gall bladder
DL tsi31 xni55; DLb tshí31 khri35; N sá hi <*sakhi (‘gall-bladder’);
PTB *kriy (412-413)

[181] write
DL b153; DLb b153; N nga darit ‘boundry’
(nga ‘country’); PTB *riy (429) *briy

[200] four
DL a31 b153; DLb b153; T bzi <*bli; Thulung bli; B là;
Kanauri pò <*pli; Magari buli; Digaro kapre; Mì pi;
N ábyi (dialect. ibali); K máli <*bli; Mikir phli; Lh ʔ; Mba pli;
Mbb phi; Luoba api; DRD ka31 pra35; LCA mi31; Zaiwa miy.
PTB *b-liy (410)

*-wiy=*-way → -ui/-i
Dog, yam, blood, comb

[13] dog
DL duś1 guś55; DLb duś1 gi55; N tagi; PTB *d-k-wiy (159)

[14] yam
DL guś55; N gi; PTB *kyiwí (328)

[201] blood
DL syuś55; DLb syuś55; Kanauri syu; Bunag syu; Vayu vi;
Chepang wi=-wi; K sāi, N sy̆i; B swé; G ántsiy;
Dimasa thī; L thī.
PTB *s-hwiy (222)=*s-hway [n.169]

[97] comb
DL suś55; DLb si53 ‘to comb’, DLa u55 suś55, DLb u53 si53.
N sāi ‘comb, to comb’; PTB *m-siy (466)

I have included ‘comb’ is this set because it seems the DLa form developed from a proto form with a labial-velar medial: **m-s(w)iy.

The following reconstruction is very tentative because I don’t have enough solid cognates:

[31] short
DLa tui53; DLb thu53; PTB **twiy

*-im → DLb -um

[202] raw, unripe
DLb a31 rayum53; N -im; B tśim ‘green; unripe’;
Zaiwa a31 tšun31, JP ka31 tsing33, LCA tsin31,
LHA a31 tšing35, T dzin-pa ‘raw(meat)’.
PTB *dzim [81]

I assume here that the vowel in the DLa form would be -i- if I had a cognate, based on the similar situation with the *-ing and *-ap finals below.

*-im →-in
ripe, liver

[87] ripe DLa min53; Dlb min53; N min 'cooked; to rot'; PTB *s-min (432)
[104] liver DLa pu31 sin55; Dlb pu31 sin53; N phasin;
PTB *m-sin (234)

*-ing → DLa -ing/ DLB \( \frac{x}{w} \) ng

year, tree, clf. for trees, neck, name

[60] year DLa ang31 ning55; Dlb ang31 niuung55; PTB *s-ning (368) ≠ *s-nik
[103] tree, wood DLa shing55; Dlb shung55; N sing-thing; PTB *sing (233) ≠ PLB *sik
[124] clf. for trees DLa tsi55 dzung55; Dlb tsi55 zung55 (tsi55, tsi55 'one');
PLB *dzung1 [Mpi 37]; PTB **dzing
[132] neck DLa ling55 guiu53; Dlb lang55 gi53; N ling; PTB *ling (96)
[179] name DLa ang31 brung53; Dlb ang31 brung55; Trung ang-prang;
N bing =*brong; PTB *s-brang ≠ *bring [31]

The DLB form for 'name' seems to have both lost the initial consonant of the cluster and to have developed from the *-k alternative of a proto *-k ≠ *-ng alternation.

*-ip → -i/-up

[165] sleep DLa ip55; Dlb yup55; PTB *ip=*yip (114)

*-it → -it
extinguish, think, goat

[91] extinguish DLa a31 mit55; N šamit; PTB *mit (374)
[92] think, remember DLa mit55; Dlb nyit55; PTB **myint
[122] goat(mt.) DLa a31 tsit55; Dlb tshit55; PLB *tsit [88]; PTB **tsit

*-ik → -i/-u?
one, louse, twist, leopard

[35] one DLa ti55; Dlb tsi55; N thi; PLB *C-ti-k [TSR 31]
[203] louse DLa si55; Dlb swu55; T sig; K tsiʔ; Mikir rek; G tik; N si;
L hrik; Kanaari rik; Bunar širig; LCA pha31 tsek35.
PTB *s-rik=*šrik [108]
[204] twist DLa tsi55; Dlb tshuʔ55; B rac 'wind around, encircle';
Lh śi; Aka yeu LS (all but DL from PLB form).
T 'khiyg-pa 'bind'; B kyats 'twist hard and tight';
Kuki *d-khik 'bind' (from PTB *kik).
PLB *r-sik ≠ *s-yik [TSR 130]
PTB *kik (484) 'twist, bind'

[106] leopard DLa zuʔ; N khang-zi; PTB *zik (61)

*-cy → -i
fire, tail, fruit, string/rope, younger brother

[83] fire DLa tu31 mi55; Dlb tu31 ni55; N thami; PTB *mey (290)
[84] tail DLa mi55 tšaʔ55; Dlb ang31 nu31 tshʔ55;
PTB *r-may ≠ *mey (282)
[102] fruit DLa ang31 si55; Dlb si53; N sing si; PTB *sey (57)
[151] string, thread DLa tsu31 ri55; Dlb tsu31 ri53; N thari 'cane',
youn...er brother

[205] younger brother
DLa ang31 ni55 ra31; DLb ang31 nyi55 nam; Lh ṣ-mi-pā;
Akha a-nyi; B nyi; Boro baynay 'wife’s younger
brother, younger sister’s husband'; Luoba nuro;
LCA a31 nyi55; LXA zya55 ni31.
PTB *nyey [G&C 146]

It seems to me that the -k final of the DLa form for 'younger brother' is just a suffix, as *-k went
to -? in all other cases, though the LXA form confuses things a bit.

*-ey → -e

[160] saw(n.)
DLa sə55 re55, bu55 le55 'plane(wood)';
DLb sə55 re55 'saw(n.)', bəp55 le55 'plane(wood)';
PTB **rey m **ley 'saw;plane'

*-ok → -?n
bean, wear on head/hat

[46] bean
DLa a31 nə755; DLb a31 nə755; PLB *s-nok [TSR 140];
PTB **nok

[78] wear on head/hat
DLa mə755; DLb mə755; PTB **r-nok

*-ow → {-w}

arise/awake, pointed, boil, fat, pine/fir

[105] arise, awake
DLa sa55 šu31; PTB *m-sow (295)

[112] pointed
DLa a31 tsu55; DLb a31 tsu55; PTB *tsow (276)

[115] boil
DLa a31 su53; DLb su53; N asu 'boil'; PTB *tsyow (275)

[116] fat (adj.)
DLa su53 sa55 'fat meat' (sa55 'meat'); PTB *tsow (277)

[158] pine, fir
DLa su31 ru55 sīn55; DLb su31 ru55 sīng55 (sīng55
'tree'); N sāru thing; PTB *row (320)

NON-REGULAR REFLEXES

Initials

The two types of non-regular reflexes for nasals were a palatal nasal and palatalized nasal instead
of a dental or velar nasal in DLa and DLb respectively for 'snot', seven and 'love', and a dental nasal
instead of a labial nasal in the DLb reflexes for 'npe', 'tail', 'fire' and 'eye':

*n- → n-/ni

[187] snot
DLa nep; DLb ŋep; PTB *s-nap (102); **s-nyap

[186] seven
DLa su31 ni55; DLb su31 ni55; PTB *s-nus (5)

*ng- → ni/ni

[206] love
DLa ni55 sī31; DLb nī55 sī31; JP niwai; Tiddim -ngai:
L uai 'hang on to; make love', ngai 'long for, miss,
feel earnest desire for; copulate'; Tangkhul sa-ngai kachu
'that which one likes to do', thangay 'desire'.
PTB *ng-(w)ay [G&C 126]
*m- → n-(NJ)

[87]ripe
DLa min53; DLb nin53; N min 'cooked; to rot'; PTB *s-min (432)
[84]tail
DLa mi55 ts>755; DLb ñ31 ñ31 ts>755;
PTB *r-may ʷ *mey (282)
[83]fire
DLa ñ31 mi55; DLb ñ31 ñ55; N thami; PTB *mey (290)
[88]eye
DLa me755; DLb ne755; N me-ne< *myak;
PTB *mik ʷ myak (402); PST *mya[aj]k (190)

It seems in 'snot' that there are two types of evidence for a palatal glide in the proto-form: the nasal is palatalized, and the vowel is fronted. A palatalized nasal is the normal reflex of a dental nasal in DLb only when it is followed by a high front segment (usually /i/ and not /e/). Though the regular reflex of *-a- is a- in both dialects, when preceded by a palatal glide a vowel may be fronted, as in 'stand' *gr-yap > DLa puu31 rep55. It may be that in this case the palatal glide in evidence is a reflex of the *s- prefix, as is often the case in Lepcha, and this looks plausible given the lack of any other evidence of a proto-prefix in DL, but this is not regular, as can be seen in the reflexes for *s-la and *s-ram: PTB *s-la > DL su31 la55 'moon'; PTB *s-ram > DL su31 ram53 'otter'. Therefore, there must have been some variation in the proto-form, as the immediate provenience of the DL forms for 'snot' must have been **nyap.

The case for 'love' would be very similar. It seems again that there are two types of evidence for a palatal as opposed to labial-velar glide: the nasal is fronted to a palatalized (ized) one, and the final is irregular. The normal reflex for *-ay is -ai in both dialects (see section on regular final reflexes), but in this case the reflex is /-i/.

The evidence from other TB languages (including closely-related Jingpo) points to a labial-velar glide in 'love' (Matisoff 1985 p.43), but in the case of Dulong, the proto-form seems to have been something like *ngyai.

A third source for DL ñi seems to be a case of prefix pre-emption: followed by phonetic changes as in 'love':25 and 'snot' above.

[207]fingernail
DLa ñu55; DLb ñu53; K l̃may < *lak-myin; B asāri;
N rīn < *myin; Digaro m̃ī; Miju m̃en 'claw'; T senmo;
MBb tshing-nang; Zaiwa lo31 sin53; LXA la31 sin35;
Lh ʁ-s̃e-qi.
PTB *m-(t)sin= *m-tyen (74)

The change from *m- to n- seems to have occurred where the proto-form (and not the daughter form, as evidenced by DLb mit55 'blow' < *s-mut) had any type of front segment following the initial. The DLb form for 'tail' is irregular in its vowel also (as it is in Lahu), as can be seen if it is compared with that for 'fire' and 'tongue' (puu31 lai53 < *s-lay), regular reflexes of *-ey and *-ay respectively, though I still feel that this is a cognate form.

Related to the above two types of irregularities is the latter half of the form for 'star', which comes from the TB root for 'moon':

[189]star(-moon)
DLa gur55 met55; DLb gu31 rie55; PLB *mwat [G&C 35]
PTB and PST *s-ng(y)wat [G&C 35]

Again we seem to have a case of Dulong evidence of palatalization where the reconstructed PTB form has a labial-velar glide. The DLa form seems to have developed from *mwat, but as the vowel is fronted, a proto-palatal glide seems more likely. The DLb form seems to have developed from *s-ngwat, but here we have both the fronting of the vowel and the palatalization of the initial. There is again the possibility of the *s- prefix having had some effect, or there might have been some regularity to interplay between labial-velar and palatal glides in proto-Dulong. At this point I don't have enough evidence

25 The Dulong form for 'love' might also be a case of prefix pre-emption, but as the proto form reconstructed is in essence a zero initial, there was nothing to pre-empt.
to say for sure.

The Dulong forms for 'middle' are the only examples I have of a *t- → d- development, though the Trung form given in the STC has a voiceless initial:

\[20^3\]middle
DLa a3l duung55; DLb a3l duung55; L tshyung 'the inside (of anything)'; Tiddim sung; Bodo sing; Dimasa bising; Trung atung; Rawang xung 'in, middle'; AC *tjông/hjung (阍).
PTB *t\text{\textmu}ung (390)

CONSONANT CLUSTERS As mentioned earlier, proto-prefixes are usually reflected as syllabic units in Dulong, but there are a few exceptions:

\[192\]change
DLa k\text{\textmu}ai55; DLb kl53; N thale 'alter.(ex)change';
PTB *s-lay (293) [G&C 69]; PTB *r-ley = b-rey [G&C 54] 'buy, barter'

\[197\]slippery
DLa nu\text{\textmu}31 klat55; DLb du\text{\textmu}31 laat55; PTB *g-lwat = *s-lwat (209)

\[200\]four
DLa a3l bl53; DLb bl53; N abyi (dial. abali);
PTB *b-l\text{\textmu}y (410)

I have never heard any of these words spoken, so I must rely on the veracity of the data when a prefix + initial is written as a cluster and not as two syllables. I must assume there is some real phonetic difference. Why there were these two types of development, I don't know, but it is clear that the forms here were the result of prefix-initial fusion. In the case of 'change', the proto-form has an *-s- prefix, but the /k-/ initial must have come from a velar prefix, as can be seen in the Jingpo form. (See also the discussion of the final of this form above.)

Fusion also seems to have taken place in 'louse' and possibly 'twist', if the affricate initial of 'twist' was formed by the fusion of the *s- and the initial *y-. The other possibility is that 'twist' is the result of the palatalization of the PTB *k- initial. Benedict (1972:108) changes the *s-r- of 'louse' to the cluster *sr-, and includes a form for 'green' in Nung: masing. I have not included this set ('alive;green') (STC #404) because I feel Dulong pu\text{\textmu}31 s\text{\textmu}ng55 s\text{\textmu}ng53 'green' is simply another form of DL s\text{\textmu}ng55 'tree', and not a separate root.

\[203\]louse
DLa si55; DLb su55; N si; PTB *s-rik=*srik (108)

\[204\]twist
DLa ts\text{\textmu}55; DLb ts\text{\textmu}55; PLB *r-sik = *s-yik [TSR 130]
PTB *kik (484) 'twist, bind'

The opposite development can be seen in the case of 'uncle', 'pig', 'flower' and 'axe', where a cluster is not preserved, though this is not unique to Dulong. (For a discussion of this see STC pp.23-24).\[24\]

\[163\]pig
DLa wa55; DLb wa55; PLB *wak [TSR 168]; PTB *p\text{\textmu}ak [23-24]

\[164\]uncle
DLa a3l wang53; DLb a3l wang53; N awang; PTB *p\text{\textmu}ang [23]

\[161\]flower
DLa s\text{\textmu}ng55 wat55 'flower', s\text{\textmu}ng55 wat55 wat55 'bloom';
DLb s\text{\textmu}ng55 wat55 wat55 'bloom'; Nungish s\text{\textmu}ng-wat 'bud' (Rawang), flower (Trung); PLB *wak, PTB *\text{\textmu}wat [24]

\[162\]axe
DLa war3; DLb war3; PLB *r-wa (441) = *r-\text{\textmu}wa [24]

It seems either the initial *p- has been lost from a proto-cluster, or the Dulong forms come from proto forms closer to that of PLB. The parallel development of 'joke/laugh', with a palatal glide, would seem to give evidence to the former:

\[24\]I have serious doubts about Benedict's reconstruction of a *pw cluster, especially as he seems to be doing it on the basis of the Chinese evidence. He seems to claim that the archaic Chinese forms (which do not have the *w-) developed out of forms that did have the *w-. No evidence is given, though there may be some. It seems to me that his original explanation, that initial *p- sometimes went to w-, or simply to post a *p- prefix, would be better, but I'm not really comfortable with any of these explanations, so I have let his analysis stand as is.
In the case of 'needle', the STC has *kap in set (52), but in note 82 the reconstruction is changed to *kap:

This would be the only cognate form from a proto -> vowel, so I don’t know what the regular reflex is, but it seems that the Dulong forms probably did not develop directly from *kap anyway. If the initial was a stop + w cluster of some type, as in the forms discussed above, then the w- initial would fit the pattern discussed in the preceding section. (This would be consistent with the discussion of this root on pp. 25-26 of the STC, where the initial + glide form /ryam/ in Lepcha is said to be cognate.) Otherwise it would be very difficult to explain how a w- developed out of a *k- in only this one word.

Two other difficult cases in this regard are 'fan/winner' and 'munch':

For 'munch' there are several closely related proto-forms and two forms in Dulong. The DLa form seems to have developed from the *ngwarp form, but lost the glide and any evidence of it. The DLb form is a bit more complex, as it reflects a loss of the initial consonant and pre-nasalization, and a fronting of the vowel reflecting the palatal glide. The loss of the initial consonant is different from the cases discussed above because the initial is pre-nasalized rather than being a simple stop. There is also the possibility that the DLb form is related to the alternate forms *C-kwap = *C-krap given in the same set, though there is no evidence for the voiced prefix in Dulong, and there is evidence for a palatal glide. If they are related, then this root could be established for PTB as a whole.

A totally different problem is presented by the Dulong forms for 'braid', where it seems there has developed an epenthetic /l/:

I feel these Dulong forms are definitely cognate with the PLB forms, yet no other language form thought to be cognate has this /l/ (see Matisoff 1985, p.16; STC p.46). No prefix is in evidence except for the fact that Mpi /phei/ in tone 1 reflects a voiced prefix. If this prefix was an *l- and was also the provenience to the Dulong forms, then there might have been metathesis to form an acceptable cluster, as happened with the word for 'dream', DL mlaang55 < PTB *r-mang, but it would be stretching things a bit to posit this seriously without more evidence of the prefix.

Aside from other problems with prefixes and clusters, there are four other forms that seem to be cases of prefix pre-emption:

[188]joke.laugh
DLb jet55; PTB *rya-t (202)

[193]needle
DLa wap55; DLb wap55; Trung uop; PTB *kap=kap (52) [n.82]

[194]fan.winner
DLa raap55; DLb raap55; Nungish (Rawang) rap <k(h)rap

[195]munch
DLa ngap55 ('ya63'); DLb rep55 ('ken3');

PTB *khrap [141] [n.382]

[196]braid
DLa blaat55; DLb bia55; PLB *C-pat = *pan1/2 (G+C 37)

[198]chicken
DLa ka755; DLb kha755; PTB *k-rak

[206]fingermail
DLa nul55; DLb nuan53; N rin <*myin; PTB *m-(t)sin =*m-tyen (74)

[210]monkey
DLa a31 g3i53; K woi-wc; Jili tawi; Kadu kwe <k-ke; N awe;
Moshang vi-sil; Shangge yok-vi; Trung a-ko.

PTB *woy (314) = *(b)woy [n.213]; *k-woy
Benedict adds the *(b)- to the form for 'monkey' because he wants to add Mikir ki-pi and Miri si-be to this set. I don't feel these two forms should be included, so I have set up the proto form with only the *(k)- animal prefix.

Finals

Referring again to the problem of the variation of medials and the effect it has on the main vowel, I would like to try to explain the aberrant form for 'to know':

[98]{know} DLa sɔ55; DLb sɔ55; PTB *syey (182)

Normally, the reflex of *(e)- is */i/, as seen above, but in this form we have instead a back rounded vowel. If the medial in the proto-form was not a palatal glide, as reconstructed, but was a labial-velar glide, then the backing and rounding could be explained. It seems that this variation between medials is an important part of Dulong's historical development.

One unexplainable development is a glottal stop in Dulong where the proto-form is the open syllable *(a)-:

**(a)- {e}'

small, chaff, break/broken, fear

[21]{small (2)} DLa ka31  neʔ55; JP ŋæ31 ngæ31 'bear children'; B ngai 'small, little, inferior', ngai cany tong kyé 'since childhood'; Boro mangáy 'small'; LCA nyi55, LXA ngi31, LHA ngi55 'small'.

PTB *ngay [G&C 111]

[212]{chaff} DLa aŋ31 peʔ55; B phwái 'husks, chaff'; L phuai 'shavings'; Thado wai; Tiddim -vaai; Meei way; JP poí33 'to float through the air'; Lakher pai 'be scattered, disperse; emigrate, migrate'; Tangkhul khängpuy 'fly in a group (bees), swarm, be scattered everywhere'; Mikir phé-ke; Mpi koʔ2 phu2; Lh vâʔ-phi;

LCA oʔ55 phoi31; LXA waʔ31 phu55; LHA wæ31 phu55 'chaff' (Lh vəʔ, LCA oʔ55, LXA waʔ31, LHA wa31 'pig'); Zaiwa phu31; possibly also MW pa. TP pə31.

PTB *pwaay (170) [G&C 77]

[75]{break/broken} DLa beʔ55; PTB *be *pe (*bay *pay) (254)

[150]{fear} DLa puʔ31 reʔ55; DLb puʔ31 reʔ55;

N phære 'to fear, be afraid'; PTB *b-ray (450)

Without the glottal stop the finals would present no problem. Again we are captive of the veracity of our materials, and can only assume that these forms are correct, especially given the regularity with which it develops from *(a)-. It is interesting that it seems to happen only with this final, but I have no way to explain this fact. This is unlike the case of 'younger brother', where we could possibly assume a suffixation has taken place, as in 'speech':

[205]{younger brother} DLa aŋ31 nik55 ra31; DLb aŋ31 nyi55 nam; PTB *nyey [G&C 146]

[8]{word.speech} DLa ka55, kat55; DLb ka55, kat55; N kha; PTB *ka (9)

The opposite case holds for 'shit', where Dulong seems to have lost a final consonant, as *(a)- should give DL -it:

[59]{shut} DLa mi55; DLb mi53; N ni; PTB *n(y)k (235)

Benedict gives the open syllabic Nung, Dimasa and Jingpo forms, but does not comment on them in reconstructing a closed syllable based on the Written Tibetan, Burmese, and Garo forms.

In at least five forms there seems to have been an -a- /u- or -a- /i- alternation:

[149]{self} DLa ræng55; DLb ræng55; PTB **ræng
[132] neck DLb lang55 gi53; N ling; PTB *ling (96)
[176] cool, boil DLa du31 gluu55; PTB *klak = *glak (124)
[213] face DLa mar55; DLb mar55; T mur 'gills', mur-gong 'temples', mur-gram 'jaw'; L hmuur 'point, tip, prow'; Thado mu <*mur 'beak'; N mr [mar] 'face, mouthful'; Tangkhul khamor 'mouth'; possibly MBa ngor55, GMD a31 ngal35. PTB *muur (366)
[29] roll DLa a31 tal53; DLb tan53; N redul 'roll, wrap, enwrap'; PTB *r-tul (110)

The same type of -আ- ≠ -ত- alternation occurs in Lepcha (please see Benedict 1972:75, n. 231 for a fuller discussion).

In 'sister' it seems that *-r → -l, but the Meithei forms show the same reflexes. Based on the Dulong, Jingpo, Meithei and Kadu forms, the proto final seems to have been *-l, not *-r.

[2] 4 sister DLa mu31 dzyal53; K dzyan; L far-nu; Tangkhul azâr-vâ 'sister (man talking); Meithei ıtyal-ıtyan; Kadu san 'younger sister'. PTB *dzar (68)

FINAL REMARKS

It may be that the greatest contribution I made in writing this paper was putting together all of this data in one place, but I feel that based on the information presented here, it is clear that Dulong can be a very useful language for doing Tibeto-Burman reconstructive work. This is especially true because Dulong is so conservative in terms of phonological change, and generally preserves distinctions such as that between cluster and prefix-plus-initial groupings. In this paper I have attempted to show what the historical development has been in Dulong, and, based on the knowledge gleaned from that effort, I have supported or revised over 200 of the reconstructions given in the STC, and added a few of my own.

REFERENCES

Matisoff, James A. 1986. Universal Semantics and Allofamic Identification - two Sino-Tibetan case studies - 'straight/flat/full' and 'property/livestock/talent'. Paper presented to the 19th Int. Conf. on
Sino-Tibetan Lang. and Ling. Ohio State University, Columbus, Sept. 11-14, 1986.


APPENDIX A: Symbols used in this paper

Languages and Sources:

AC = Ancient Chinese/Middle Chinese, from Karlgen 1957.
B = Written Burmese, from Benedict 1972 or 1976.
DLa = Dulonghe Dulong, from Sun 1982.
DLb = Nujiang Dulong, from Sun 1982.
DRD = Darang Deng, from Sun et al. 1980.
G = Garo, from Benedict 1972.
GMD = Geman Deng, from Sun et al. 1980.
JP = Enkun Jingpo, from Liu 1984 or Xu et al. 1983.
K = Kachin (Jingpo) from Benedict 1972.
L = Lushei, from Benedict 1972.
LCA = Longchuan Achang, from Dai and Cui 1985.
LXA = Luxi Achang, from Dai and Cui 1985.
LHA = Lianghe Achang, from Dai and Cui 1985.
MBa = Cuona Menba, from Sun et al. 1980.
MBb = Motuo Menba, from Sun et al. 1980.
MC = Middle Chinese, from Karlgen 1957.
MT = Modern Tibetan, from Jin 1983.
MW = Mawo Qiang, from Sun 1981.
N = Nung, from Benedict 1972.
PLB = Proto-Lolo (Yi)-Burmese, from Matisoff (all) or Benedict 1972.
PMa = Qinghua Pumi, from Lu 1983.
PMb = Taoba Pumi, from Lu 1983.
PTB = Proto-Tibeto-Burman, from Matisoff (all) or Benedict 1972.
T = Written Tibetan, from Benedict 1972 or (rarely) Jin 1983.
TP = Taoping Qiang, from Sun 1981.
Zaiwa = Zaiwa, from Xu et al. 1984.

Key to symbols used in this paper:

a = schwa
u = mid-back unrounded vowel
ε = epsilon
α = upsidedown a
ω = upsidedown m
ο = open o
ι = apical vowel
RR = upsidedown R
ʂ = retroflex s
ʐ = retroflex z
n = retroflex n
ʃ = palato-alveolar fric.
ʒ = voiced palato-alveolar fric.
ʂ = alveo-palatal fric.
ʐ = voiced alveo-palatal fric.
ɲ = palatal n
X = voiceless uvular fric.
γ = gamma
ŋ = velar nasal
h(segment) = voiceless segment
Dulong and Proto-Tibeto-Burman

\[ \begin{align*}
\gamma & \quad = \text{glottal stop} \\
H & \quad = \text{voiced h} \\
F & \quad = \text{upsidedown f}
\end{align*} \]

APPENDIX B: Comparison of the two Dulong Dialects

Below I will simply list the correspondences.\textsuperscript{25} As they are not of great importance to this paper, I will not give examples for each. These correspondences are quite regular, and several examples for each are given in Sun (1982).

<table>
<thead>
<tr>
<th>Nujiang</th>
<th>Dulonghe</th>
</tr>
</thead>
<tbody>
<tr>
<td>aspirated</td>
<td>non-aspirated</td>
</tr>
<tr>
<td>t`{s}</td>
<td>s</td>
</tr>
<tr>
<td>dz, gj</td>
<td>F (upsidedown f)</td>
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<tr>
<td>s</td>
<td>c cedila</td>
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<td>n</td>
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<tr>
<td>z</td>
<td>dz</td>
</tr>
<tr>
<td>retroflex</td>
<td>non-retroflex</td>
</tr>
</tbody>
</table>

\textsuperscript{25} The correspondences are given in with the Nujiang form first, because DLa aspirated always corresponds with DLb non-aspirated, but not the other way around.