DULONG AND PROTO-TIBETO-BURMAN¹

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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.

INTRODUCTION²

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 Nuijiang 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.³ Though the Dulong population number less than five thousand, the Nuijiang 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 Nuijiang 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 syllable⁴ 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)

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¹ I would like to thank Sun Hongkai, Mark Hansell, 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 Nungsh (=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 (this paper DLa) and Nung = Nuijiang Dulong (in this paper DLe), Though Benedict (1972:8) feels that 'Rawang and Trung are separate languages in a Nungsh group.' Sun (1983a:233-247) argues convincingly that these 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 = Taraon) Deng in the Abor-Miri-Daiba 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 /š/ reflex of *s- occurs only when the Dulong initial is followed by /i/. The reflex of *sy- is /š/ 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>
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<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>
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<tr>
<td>*s</td>
<td>s</td>
<td>s‐s</td>
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<tr>
<td>*ts</td>
<td>ts‐dz</td>
<td>ts‐s</td>
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<tr>
<td>*l</td>
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<td>l</td>
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<td>*r</td>
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<td>*w</td>
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<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-kàn (with *-n 'collective' suffix); Rawang thang-kha; Trung tak-ka; LCA kha31 n>?55; LXA ka55 na31.

PTB *ka [99-100]

[3] basket

DLa pai55 k=a55; DLB tu31 k=a55; T khug-ma 'pouch'; G khor; Lepcha kóm ba-guk 'purse'.

PTB *kuk (393)

[4] steal

DLa ku55; DLB khu53; T rku-ba; K lgu; B khui; N khù.

PTB *r-kw (33)

[5] pillow

DLa u55 kum55; DLB u53 kum53; K bung-khum; N s=g makhum; Lh u-gé; B khum; L khum.

PTB *m-kum (482)

[6] uncle

DLa a31 ku53; DLB a31 kha53; T ta̱khu; B kui; K ku; N akhò; Ao Naga okhu; M tìkì.

PTB *kuw (255)

[7] chin

DLa mu31 kai55; DLB mu31 kai55; N maka; K nkha-nìngka; L kha; Thad kha.

PTB *m-kà (470)

[8] word, speech

DLa ka55; DLB ka55; T bka-skad; B tsa-ka; K gà-sagà; N kha.

PTB *ka (9)

[9] branch

DLa śing55 ang31 k=a55 (sing 'tree'); DLB śung55 ang31 k=a55; B akhàk; Lh b-qà, L kaak 'fork of tree'.

PLB *gak [TSR 43]

PTB *s-kuak (327) = **s-k(w)ak

Though reconstructed for PTB in STC as *kaak in TSR #43, Matisoff reconstructs the PLB form for 'branch' as *gak, based on Lolo forms. There are no examples of Dulong k- < *g-, and the Lushei 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 kaat55; DLB kat55; JP khai55, K gät 'sow, scatter'; Boro gäî; Nocte khet.

PTB *kai = *gåi [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': kat55.

[*k- → g-*]

body, nine, dog, yam, roast, star

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5 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 Matisoff 1985; one in brackets preceded by "Mps" is the number of the set from Matisoff 1978; one in brackets preceded by "TSR" is the number of the set from Matisoff 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).
DLa ang31 gu55; T sku; B kui(y); MC *kh бук)
PTB *(s)-kwaw *(s)-kuw [184]

[12] nine
DLa du31 gu53; DLa du31 gu53; T dku; B kui;
G sku; N tagó.
PTB *d-kuw (13)

[13] dog
DLa du31 gu55; DLa du31 gi55; T khyi; K kui;
B khyê; L uu; Li taki; N tagi; Digaro nkwi.
PTB *kwyê *kway (159) *d-kiyê

[14] yam
DLa gu55; T skyi-ba 'potato'; B kuyê; N gi; Digaro gi;
JP kui31 mjau33 'mushroom potato'.
PTB *kyiwyê (238)

[15] roast, toast
DLa du31 gaang55; DLa du31 gaang55; K kâang;
B kâng; L kaang 'burn'; N dagang.
PTB *kaang (330)

[16] star
DLa gur55 met55; DLa gu31 tiê55 (+ *s-ngwat 'moon');
T skar-ma; K fogan; W. Kuki *s-gar; L ar-fi.
PTB *s-kar (49)

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

[17] bent
DLa du31 g=?55; DLa du31 g=?55; T kug; B kok; JP ma31 ko?=55
(ku5 in TSR); Bahing guk: Lh q=?; Ahi gu44s; LCA kok55.
PLB *gok [TSR 2]
PTB *guk *kuk [125]; *gok

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

[19] vegetable
DLa du31 gwa?55; DLa zhu31 gwa?55; Lh gâ-câ;
Ahi vu-te22-44; Sani Yi o-te11-55; MT tshe55.
PLB *gyak [TSR 49]
PTB **gyak-**gyak

[20] saddle
DLa ga55; DLa ga55; T sga 'yoke-horses; to yoke'; B ka 'saddle-frame'; MBb ga; AC *ka (*ka)
PTB *s-ga [Matisoff 1983, set 60]

[21] body
DLb g-ng53; Nungish: Rawang gung, Mutwang dial. gong;
B akhaung; Atsi kung; AC *kong (*kong) 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
DLa nga53; DLa guu55; T nga; N nga; B nga; G ang;
Dhimal ka; L ka; MW ka.
PTB *ka *nga (406)

[23] five
DLa puu31 nga53; DLa puu31 nga53; T lnga; K manga;
B nga; G bo'nga; L nga-panga.
PTB *lu-b-nga (78)

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9 See page 7 for DLa form for 'body'.
10 See page 5 for DLa form for 'body'.
[24] fish
DLa nga55 plaʔ55 (+ Tai); T n̄a; K ngo; N nga; B ngâ;
L hngâ; Chepang nga-r̆īa.
PTB *n̆ya (189)

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

[26] borrow
DLa nga55; DLb nga53; T br̆a-ba; B hngâ; N nga.
PTB *r-ngya (190)

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

[28] cattle
DLb 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 tal53; DLb tan53; Angari Naga ratu <*ratul 'roll';
N redul 'roll, wrap, enwrap'; West T (Ladakhi) thul-ba
'roll 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 pu31 ta55; DLb tsii55 pu31 ta55 (ti55, tsii55 'one');
T mtho; B athwa; LCA tho; Lh ð-thu.
PTB *twa (165)

[31] short
DLa tuin53; DLb thi53; B tui; JP ka31 tun31 (Matisoff 1974 has
JP tû); MBb thumî-tumbî; GMD ku31 tu55.
PTB **twiy

[32] hear
DLa tɔ55; DLB ta55; T thos-pa; JP ma31 tat31; N tha;
Trung thang; Newari ta-l; Mīri tat; Lepcha thyo <*s-ta;
Luoba taa; 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; DLb su31 tɔʔ55; T sdud-pa; MB tut;
K mutut-kaut; N dathut; G stit <*stut 'tangle'.
PTB *du-t ≈ *u-t (421)

[34] big
DLa tai53; T mtho-bo 'thumb'; N thë; Mikir the; B tai 'very';
Abor-Mirī ta; AC *t'āi ( mushroom).
PST *tay (298)

[35] one
DLa tuʔ55; DLb tsii55; T gtsig; B tats; N thi; MC tsìāk (חץ).
PLB *C-u-k [TSR 31]
PST *tyik ≈ *tyak [84,94,169,189]

[36] cut
DLa a31 tup55; T g tuberculosis; MB tup53; B twap.
PLB *toward ≈ *C-dwap [TSR 69]
PTB **-tup ≈ *-t/dwap

[37] drip
DLa a31 tɔʔ55; DLb thɔʔ55; T thigs ~ Hdzags; K ka31 theʔ31;
B tsak; Lh jāʔ; LCA tɔʔκ55; MW tsha; Mpi nuʔ2;
MT thik54 pa54 'a drop', thik54 pa54 ep12 'drip';
AC *tāk /cāk (230), *tiēk/tsiāk (231).
PLB *Ntsak [TSR 82]; {*tik = *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 tśaʔ.
PTB *t-tas (426)

[39] fir, pine
DLA tang53; DLb tang31 xai53; T thang-sing; B thāng-rū;
Vayu thong <*-thang; Lh th-three; Tangyul matang thingrong.
PTB *tang [69]

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

[40]nephew
DLA pu431 du55; DLb bu431 du53; B tu; N phadu; L tu;
Lisu -du; Gyarong tmdau. Also possibly cognate with
JP tu55 'fourth son'.
PLB *du [STC p. 62, n. 196]
PTB *tu (258) = **du

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

[42] pit, hole
DLA ang31 dung55; DLb ang31 dung55; T dong; B twāng; N dung-khr;
Lisu du 'well'; LCA pun55 =ng31, LHA tṣuUng31 tung31.
PTB *dwaang (169)

[43] full
DLA dam55; DLb dam53; T ltam-pa; Vayu dam; Tiddim dim; Bahing dyam.
PTB *dyam (122)

[44] flat
DLA dam55 mui31 li53 'plain, flat ground' (mui31 li53 'earth, ground');
Bahing dyam 'to be straight'; T ldem-pa 'straight, upright';
B atam 'a straight, long piece'; N adam 'plain (level ground), flat'; Tiddim tam 'to be level'.
PTB *dyam (227)

Matisoff (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 duʔ55; DLb duʔ55; Mikir ingtok; Maru tauk; Lepcha tyak.
PTB *m-tuk = *s-tuk = 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 nʔ55; DLb a31 nʔ55; B nok; JP noʔ31 kjuʔ55;
LXA nuʔ31; Lh nʔ37.
PLB *s-nok [TSR 140]
PTB **nok

[47] ear
DLA a31 na53; DLb a31 na55; B nā; K nā; G na-ts’il;
Trung na-ba; N nāa.

This root is possibly related to Siamese tem, Lungchow Thai tim, reconstructed by F. K. Li (1977) for Proto-Tai
as *tyem.
PTB *g/-r-na (453)
DLa u55 nu?55 (u55 'head'); K nu-\-nu; B ù-hnauk.
PTB *nuk (483)

[49] brain(2)
DLb nung31 ku31 le?55; N aning; G tanang12; T sring,
Mikir nung 'heart,mind'.
PTB *s-ning (367)

[50] black
DLa na155; DLb na?55; T nag-po; B na?; N na?; Lh ná?;
MW riq; LXA na51; LHA na31.
PTB *s-nak [88,102,155]

[51] deep
DLa ru31 na?55; DLb ru31 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.

[52] two
DLa a31 ni55; DLb a31 ni55; T gnis; K ni; Kanauri nis;
B hnac; Gyanung kēnē; G goni; L hni?.
PTB *g-ni-s (4)

[53] sun
DLa nam53; DLb nam53 luong55; T gnam 'heaven, sky', nam 'night';
Magari nam-khan-\-nam-khan 'sun'; Vayu nomo <nama 'sun, sky';
Bahung nam, N nam 'sun'; Mikir amam 'god' ('wind' in comp.);
possibly also Zaiwa 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 daa?55 'rain, to rain', nam53 lum53 nam53 'Spring' (lum 'warm'), duung55 nam53 'winter' (duung55 'cold'),
nam53 duu55 'cloudy', nam53 gam53 'clear sky/weather' (gam53 'good').

[54] day
DLa na55; DLB ni55; T ni-ma; B ní; K ni; Dimasa -ni.
PTB *niy=ni (81)

[55] nose
DLa su31 na55; DLb su31 na55; T sna; B hna; L hna.r;
N ñâna; LXA na55 kâng35.
PTB *s-na (101)

[56] you
DLa na53; DLb na53; K nang-na; B nang; G na7a; Dhimal na;
L nang; N na.
PTB *nang (407) = **na

[57] younger sibling
DLa a31 ni55; DLb ang31 niu53; T nu-bo; K nau; G no; L nau;
Lepcha num-nu 'blood rel.'; Luoba nuuro.
PTB *naaw (271)

[58] aunt
DLa a31 ni53; DLB a31 ni53; T ?ane-nene-mo; K ni; L ni;
G ma-ni; Min -ni; Gyanung -ni; N -ni.
PTB *nu(y) (316)

[59] shit
DLa ni55; DLb ni53; B riats 'dirty'; K ni-\-tie 'defecate';
T snigs-\-ma 'impure sediment'; N ni; Dimasa dziri 'dirt'.
PTB *nyi(y) (235)

[60] year
DLa ang31 nung55; DLb ang31 niu55; T nung; Karen *hneng;
Min nung; K ning-sâning; Pyu sni <sning.
PTB *s-nung (368)

[61] rest
DLa ru31 na53; DLb ru31 na53; T gnas-pa 'be live, dwell, stay';
Bahung na-so 'take rest'; Kanaur na-si; B na 'cease from motion,
alert'; Lh ná 'perch (bird); rest': LXA na51; LHA na31; GM Deng na55.

12 I have altered the STC's Garo forms for 'brain', 'two', 'seven' and 'father' as per the corrections in Burling (1981).
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- (<*bi) 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, pu- has not replaced *m- in all the prefixed forms; some forms have pu-, and some have mu-:. mu31 kai55 'chin', mu31 si55 'marrow', but pu31 lu5 3 'tongue', pu31 sin55 'liver', etc. In the case of 'smell', the pu- prefixed form is only given as the transitive form (the intransitive form is non-cognate), though the word for 'fragrant is pu31 nam55 gM3 (gM3 'good'), which could be the result of an alternate form for intransitive 'smell'.

I also give the **s-nam reconstruction for transitive 'smell' because of the Tibetan, Lepcha, and Kanauri forms. In Kanauri both the transitive, stâm-mig, and the intransitive, stâm-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 Kanauri form for intransitive 'smell' (which he gives as stam <*snam) 'appears only sporadically'. Looking at the fuller Kanauri forms I have given, it seems that Kanauri has developed a different mechanism for expressing transitivity in some verbs: the addition of an auxiliarv verb, -shi: (Cf. skub-mig 'to carry, to transport, to bear' ~ skub-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 mu31 grai55 'take, hold in hand', pu31 daaM55 'measure', pu31 tsM55 'light (a lamp)', mu31 duuuM55 'return (something)', etc., though I don't have solid reconstructions for them.

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

[65]grandmother DLa a31 pi55; T ?a-phyi-phyi-mo; KanaM a-pi; G a(m)bi; L pl; Miki phi; MBb ?api; Bahing & Vayu pi-pi; B aphê 'great grandfather', aphê-mâ 'great grandmother'; Lh a-pi 'grandmother'.
PTB *piy (36)

[66]father DLa a31 pa53; DLb a31 pa53, a31 ba53; GMDeng pa35; L pl; T pha-?apha-?apa; G pa-apa; LHA a31 pha31; MBb ?apa; MW apa 'grandfather'; B bhâ, abhâ; K wa-wa; Kadu -wa; Bunau -wa; MoshaM wa.
PTB *pwa (24) [23]

[67]price DLa ang31 pu53; DLb phu53; MW pha-ka, K phu, N phû 'be of value'; K dzaphu, N daphû, Lh -?phû, B aphui-abhui 'price'.
PTB *puw (41)

[68]spindle DLa sâp55 pang53, DLb sâng31 phuong53 'treadle operated rice husker' (sâp55, sâng31 'mortar'); T phang-?phang;
Thebor phang; K käbang 'hand spindle'; B wàng 'swing around, spin', wang-rui 'spindle' (rui 'handle').
MBa pheng53; MBb phenga; Luoba tapong; DRD nä31 bong35.
PTB *pang=float (48)

[69]leech
DLa muu31 pat55; DLb nie31 phat55; T pad-pa (cf. also
srin-bu pad-ma 'lotus insect'); B krwat <*k-r-wat;
Lh vêʔ; 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 <*r-mang (see below).

[70]knee
DLa bak55 put55; DLb paang31 pit55; T pus-mo (West T pis-mo);
Lepcha tuk-pat; K lphut; N phang-phit '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 thus 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 -ʔ 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 xru55, DLb bang31 xru55; and 'crow' DLa tak55 ka55, DLb tang31 kha55.

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

[71]insect, snake
DLa buu55; DLb buu53; T 'bu 'worm, insect'; B pui 'insect'
Lepcha bu 'reptile,worm'; Bahung bu-sa; K pui-lpu; N bô
Digaro tâb-o-tbu; Lh pû; G tsipu 'snake'.
PTB *buw (27)

[72]rot/rotten
DLa bup55; DLb bup55; B pup; Atsu pup; Maru pâp;
Lh bûʔ; LCA pup55; LXA p>p31.
PLB *Nbup [TSR 75]
PTB **bup

[73]mute/deaf
DLa du31 bang55; DLb du31 bang55; LXA pju31 pang31;
JP na31 phang55, MW nakubu (*bang), LXA na55 pang51.
LHA na31 pang31 Lh ná-p > p (na31, nuku,
nâ55, na31, ná-p > 'ear') 'deaf'.
PTB **d-bang

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

[75]break/broken
DLa beʔ55; L peʔ; LHA pjiʔ55; JP woʔ31; B pái; G be;
Dimasa baí; Kanauni pâ-shî-mîg 'to break'.
PTB *be = *pe (254) (*bay = *pay [G&C 74])

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

[77]fly(v.)
DLa ber53; DLb zer53; Bahung byer; Abor Min ber; Trung biel;
Luoba byar; AC *=p'jan/p'jân (اقة).
PTB *byer (398)

The correspondence of DLa b- with DLb z- in 'give' and 'fly' also shows up in 'purs' DLa swu31 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: Nəphr [əphər] 'shake (as a cloth), khong-phr 'moth'; T 'phur-ba; Central T 'phir-ba; G bil; Dimasa bhr; PTB *pur = *pir; all related to Chinese *pjwən/pywəi (㱗), *pjwən/pjwən (<Employee ID in Chinese character>, and *pjwən/pjwən ( завод). 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 *pyam, from Lh pô, JP pyen and B pyam that might be the source of the MBb form and the latter two Chinese forms.

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

[78] wear on head/hat DLa məʔ55; DLb məʔ55; T rəmok 'helmet'; Zauwa muʔ31 kjup55 'hat' (kjup55 'to wear (hat)'); B kha-mok 'hat', rəmok/mok-'crest, comb'; MBb muk'ulum 'hat'; AC *məʔ/məʔ, alt. reading *məʔ/məʔ 'a covering, to cover'
PTB *rə-mok13

[79] forget DLa a31 mat55; G mat 'to be spent', gima-at 'destroy, waste, obliterat-', gima-anə 'loss, damage'; Dimasa gana-kana 'lose, disappear, perish'; K ma 'to be exhausted, finished, spent', mat 'to be lost, to have disappeared'; Magari lma-hmat 'to be lost; lose'; possibly also MBa ngat13, MBb ngat 'to forget'.
PTB *ma-t (425)

[80] blow DLa məʔ55; DLb məʔ55; B ləma; Lepcha mət, sung-mut 'wind'; Bahing mut-hmut; Gyarung -mut; K (Assam dial.) mut; Min mut; Maru büt; JP ka31 wut31.
PTB *s-mut [75]

[81] negative DLa məʔ31; DLB məʔ31; 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 -u.

[82] dream DLa mlaaŋ55; DLB mlaaŋ55; T rmang-lam (lam 'road'); Miri im-mang; K mang-yup-mang; N ip-mang; Mikir mang; G dzu-mang; B ip-mak 'dream', hmaŋ-ssaŋ 'walk in sleep'; K (Maran) ?mang; Lh (yiʔ)-māʔ; Trung mlaŋ "from *lamang < *r-mang by metathesis; cf. Trung a-mra 'field', Mutwang (Rawang dial.) rama, id." STC p.31. This explanation holds for the DL forms as well.
PTB *r-mang (82)

[83] fire DLa tu31 mi55; DLb tu31 ni55; T me; B mi: L mei: N thami: Kanauri me; Gyarung timi; Bahing mi; Mikir me; Lh à-mi <*s-mi: K myi-phrap 'lightning' (lit. 'fire-flash').
PTB *me (290)

Prof. Matisoff 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'.
Gyurung prefix may have a different origin. In Dulong the tu- prefix is relatively rare, so I was not able to trace its origin.

[84] tail
DLa mi55 tsɿʔ55; DLb ang31 nu51 tshɿʔ55; Gyurung teme;
Thebor me-kon; Magari me-ma; Bahing me-ri; Aka arim;
Digaro lami-laming; K mai-nmai; B amri; L mei;
G kime; Mikir arme; Aimo lamai; AC **niwar/miwei: (.Encoding)
PTB *r-maʔ~*tme2 (282)
[85] wound
DLa bin55 ma55; DLb zi51 ma55; T rma; K nma-nnuma; G ma
to wound'; Dimasa buma <*bomat; Tiddim ma; TN khma;
Lakher hma; Akha má; also K mat-tsamat, N ramat, G gilmat,
Dimasa germa 'nettle ( = 'the wounding'), with suffixed *-t.
PTB *r-maʔ = *r-maʔ-t (446)
[86] eagle
DLa tu51 mu53; DLb tu51 mu53; Mikir vo-mo; N thamó;
L mu; Miiri mumu; Lakher pama; Khami šhomo;
Sho šhmú; Angami Naga re-mo-mu-vi; LCA ti51 məʔ31.
PTB *mu53 (257)
[87] ripe
DLa min53; DLb ni53; T smin-pa; Vayu min; Bahing ming;
Magari min; Lepcha myan; Miiri min; B hmyan-hman;
K myin; N min 'cooked: to rot'; G min-gipa; L hmin;
Dimasa gumin-gumun; Mikir men.
PTB *s-min (432)
[88] eye
DLa meʔ55; DLb neʔ55; T mig; Kanauri mik; Lepcha amik; K myi;
G mik; L mit; Vayu mek; Magari mik; Bahing mi-ści; Miiri amik;
Mikir mek; Thulung, Dumi, Rai mik-si; Dhimal mi; b myak;
N me-ne< *myak; Gyurung temłak; Karen *me <*myak;
Lh meʔ; AC *mi6k/muak (Encoding).
PTB *miakin = myak (402); PLB s-nyak
PST *myaʔal [190]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, Bahing, 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, nu51 mut55 'cloud'; DLb mu55, nu51 mit55 'log';
T rmugs-pa 'dense fog; inertness'; smug-po 'dark red, purple-
brown'; Lepcha muk 'foggy', muk muk 'darkness, dullness';
B muik 'dark'; L muuk 'dull (color)'; K muʔ (high tone) 'thunder,'
cloudy', lmaʔ (low tone) 'sky'; Rawang nuʔlang 'heaven'.
But DLa su51 muu55 'log'; T mu-ba 'log'; B mu(t)gh
'sky; clouds; rain'; LCA, LHA mu51, LXA mau51 'heaven'.
LXA na55 mau55, LHA mau31, LXA mau51 'clouds'.
PTB *r-mu5 = *r-mu5 (488) = *r-mu5 (357)

Evidence from Dulong supports the contention in STC (n.236, p.77) that *r-muuk is an archaic doublet of *r-mu5 = *r-mu5. DLa mu55 'sky, heaven' <*muuk, while su51 muu55 'log' <*muuk. Cf. B mu(t)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 muʔ might mean that this assumption is incorrect. Two other reflexes of this word family have a final -t, DLa nu51 mut55 'clouds' and DLb nu51 mit55 'log', 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 vis

14 Matisoff (pers. comm.) suggests that *n- is probably needed at the PST level because of tonal 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 <*angmul; B mwe <*mui <*mul; G kimil;
Moshang mul¬kul.
PTB *mul (2)

[91] extinguish

DLa a31 mit55; Abor-Miri mit; N sament; K simit (Assamese
dial.); L timit; Tangkhol khasimit; Mikir met; G kimit; Lh mè?
'shut; blink'; B hmit 'wink'.
PTB *mit (374)

[92] think, remember

DLa mit55; DLb nit55; Zawwa myit31; MBb mi; JP mjilt31;
LXA, LHA myit31 la35 'forget'; GMD ngi35 'know'.
PTB *m-yet = *b-yet [Matisoff 1978a p. 211] = *myit

Matisoff (1978a) has *m-yet = *b-yet for 'think, remember' based on Lepcha a-byet 'liver',
Limbu nari 'heart', Nung mit - nit 'mind, temper', and Tibetan yid 'soul, mind'.
But Prof. Matisoff (pers. comm.) now gives *m-yit 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 man55; T sman; MBa man53; MBb man; Luoba mën;
PMa hmi55; PMb bmi; DRD ta31 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 sùm;
Digaro kasang; K masum <*b-sum; N asum; L thum.
PTB *g-sum (409)

[95] itch, itchy

DLa pu31 sa755; DLb pu31 sa755; K masá?; L thak <*sak;
Lakher patha; Ao Naga masak; Mikir ingthak.
PTB *m-sak (465)

[96] kill, hit

DLa saat55; DLb sat55; T gsod-pa; K sat; B sat; G sot; L that;
Mikir that; MW tšæ; LCA, LXA sat55; LHA saat55.
PTB *g-sat (58)

[97] comb

DLa sui55, DLb si53 'to comb', DLa u55 sui55, DLb u53 si53,
MW qasi 'comb' (u55, u53, qас 'head'); K posí 'comb',
masit 'to comb'; GMD si55 pin55, Mikir inglí 'comb';
Ao Naga masá 'to comb'; N asi 'comb, to comb'.
PTB *m-si(y) (466)

[98] know

DLa sà55; DLb sà55; T sês-pa; Vayu sès; B sí: G masi;
Dimasa mathí-mathi; Bodo mithi; K sí 'news'.
PTB *syey (182)

[99] garlic

DLa su53 'garlic', su53 dzàng55 'green onion'; DLb su53
'garlic', su31 dzàng55 'green onion'; B krak-swan;
AC *swän/suán ((datas); Lh šú-qó 'leek',
šú-phu 'onion', šú-phu-nú 'garlic'.
PTB *swä-n [174] [G&C p.10]

[100] new

DLa ang31 sà55; DLb ang31 sar53; T gsar-ba; Rawang angsar;
Trung aksal 'fresh'; L thar; Thado atha; Tiddim thak.
PTB *sar [p.147,172,189]

15 Sun Hongkai (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, Changdu subdialect, form hmi55 is typical.
**s- → s/____{i_w}**

die, fruit, tree, liver, arise/awaken

[101] die

DLa ši53; DLb si53; T ši-ba- 'tshi-ba; Kanauri ši; N ši; G si; K si; B se; Dimasa thi; L thi; Mikir thi; Mirci si Limbu si.

PTB *siy=*suy (232)

[102] fruit

DLa ang31 ši55; DLb ši53; T se-; K si-asi; B asi; L thei; Mikir the-athe; G the-bitte; N šiŋ si; Dimasa bathai.

PTB *sey (57)

[103] tree, wood

DLa śin55; DLb śung55; T śin; Kanauri śin; Vayu śin; Magari śin; Bahing śin; N śin-thing; L thing.

PTB *śing (233)

[104] liver

DLa pu31 śin55; DLb pu31 śin53; T mtšin <msin; B asaŋ; Kanauri śin; Mirci asin; N phasín; K sin-masin; Mikir ingthin.

PTB *m-sin (234)

[105] arise, awaken

DLa sa55 šu31; JP so31; L thou; Dimasa masau; Lakher patheu; Ao Naga meso.

PTB *m-sow (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-zí; MBa zik13; MBb zik; MW sa; TP si55.

PTB *zik (61) [TSR 122]

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

[107] count

DLa tsi55; T rtsi-ba; K thi; B re; AC *srjw/sju (♀); MBa tsi53 ja13; MW ssá.

PTB *r-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 Matisoff (1978:31) feelsthat this is a case of "proto-form stuffing", and suggests the alternation *ts- ≈ *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 tsa55; DLb tsaap55; T 'tshab-pa; B tshap; LCA tshap55; LXA tshap55; Zaiwa tshap.

PTB *tsap (63)

[109] person

DLa a31 tsang53; DLb a31 tshang53; Lh ch> <PLB Tone *1 'person'. ch5 <PLB Tone *2 'friend'; GMD tsong35; LXA a31 tshang35 'other people'; LHA šang 'him'; PMa tsá55 '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, Thado steng 'clear, clean'; Meithei tseng-ba; Zaiwa san31 seng31; MBa tsang55 ma53; MBb tsangma; MW suti <*yang; GMD ku31 song35 'clear', kau55 sang35 'clear (water)'; JP san31 seng55; PMa só55 ne55; PMb sa55 hne53 ma53.

PTB *(t)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 tsep53; MBb tsp; JP 3ep31; Zaiwa t'ap31;
PMa n13 tsi13; LXA tsep31; T gtkab, Lhasa T tsp53.
PTB **tsap

The form for 'chop' is possibly a doublet with DLa a31 tups55, MBA tups53 'chop (trees)'; T gtub-'thub 'cut to pieces, mince', B tawp 'cut, chip, as precious stone' (see above: PLB *tvawp ≠ *C-dwap 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 džu,
K đžu, B tshu 'thorn', tsu 'prick; piercer, awl';
G and Dimasa su 'pierce', busu 'thorn'; Meithei 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 tšo31, LXA tsu51, LHA tšo31, PMa tšu55, Zaiwa
tšu31 '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 tshu55, JP ma31 sen31, Zaiwa t'ahun51. 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 allofamic.

*ts- → s-
red, earth/dirt, boil, fat

[113] red
DLa pu31 sai55; DLb pu31 sai53; L tai, sen; Thado asen;
Tiddim san, tsan; Laizo sen/sen; B ta-tya; Lakher sai;
MBb tsalo; GMD kau31 sal35.
PTB *(t)y)a-n ≠ *(t)saaG [G&C 150]

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

[114] earth/dirt
DLa a31 sa55; DLb a31 sa53; T sa; LHA se31; MBA sa53; MBb sa;
PMa tsa55; PMb tsa53; Zaiwa mji31 tse31 (tense vowel);
AC *sa<sa (g) '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 form should be *-a.

[115] boil
DLa a31 su53; DLb su53; T tshod-pa-'tsho-ba 'cook in boiling water, bake'; K džu 'burn, bake, roast, broil'; G so,
Dimasa sau 'burn'; N asu 'boil'; B tshu 'boil, bubble';
Meithei asu 'heat'; L šou, Lakher šaau, TP tshu33,
Zaiwa tsu51, LCA su55, LHA tsu 35 'boil'.
PTB *tsayow (275)
[116] fat (adj.)
DLa su53 ša55 'fat meat' (ša55 'meat'); T tsho-ba;
B tshu; Zaiwa tshu51; LCA tsho55; MW tshù.
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 thu 'fat, grease, to be fat', G tho, Dimasa thu 'oil', and Bodo thu '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)- → tś-
urine, spittle, child, small, goat, stretch out

[117] urine
DLa tši55; T gtsīd-pa=gtṣi-ba 'urinate', gtsīn 'urine';
K džit-tṣi=džit-dži 'urinate', džit 'urine'; N tsi 'urine', tsi-tsi 'urinate'; B tshi 'urine (poilte form)'; Lh ji, Dimasa si-di (di 'water')
'urine, urinate', all from *ts(y)i. Also PLB *ziy > B sè, Lisi rzi.
PTB *ts(y)i ≈ *ziy (77)

[118] spittle
DLa cul55; DLb tsun55; T mtshil-ma; L tši; N thil 'spittle',
thil thil 'to spit'; GMD dzal35; MW tssar (tza 'water');
Luoba tōṣur; Zaiwa tji31 (tense vowel); possibly also
LCA tsho31, LHA tshu31, JP ma31 tho55 'to spit'.
PTB *m-ts(y)i (231) ≈ *m-thil [cf. discussion of 'count']

[120] child, son
DLa ang31 tsal53, DLb ang31 tsan53 pe53 'son' (pe53 'male');
Dhimal tšan 'son'; Lepcha (a-)=zom 'grandchild'; K śa; Magari zab;
Tsangla za-za; Dzigar sa; B zā; G bisa; L fa; Dimasa sa-basa;
N za-mi 'daughter'; MBb waktsa 'child', za 'son'; LCA ts=51 lo31;
LHA ts31 lo31; MW zal, Zaiwa tso31 'grandchild'; Lh yā 'son'
≈ śa 'niece/nephew' ≈ cā- 'prefix in male names'.
PTB *tsa ≈ *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 ~ Nujiang -l ~ -n pattern usually reflects a proto *-l final (Cf. 'spittle', 'silver', etc.), so the cognacy 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 tšit55 'mountain goat' ~ a31 tšit55 tšal53 'small mountain goat', lang53 ta?55 'cooking pot' ~ lang53 ta?55 tšal53 'small cooking pot'.

[121] small (1)
DLa tši55 tšal53 (tšal53 'son'); West T zi, K zi, B sè;
Lh i ≈ *zi < *zi; MW b'artsi 'fine'.
PLB *zi5y < *a-ziy [STC p.27, n.87 by JAM]
PTB *ziy (60) ≈ *tsiy

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

[122] (mt.) goat
DLa a31 tšit55; DLb tšit55; B tshit; Lh ācheʔ; Lisi atšiʔ;
Nyi tshi; Lolo loṭoʔ; MW tsha; PMa tshu55;
Deng ku31 tši53; Trung a-tšit.
PLB *tšit [88] ≈ *v-cit [TSR 27]
PTB **tšit

[123] stretch out
DLa tšan53; DLb tšan53; B tšan (adj.) < *dzan3, tšan (v.)
< *dzan3; Lh che < *tsan3, qhe (more intense than che);
possibly also LXA tsk55.

10 [119] has been skipped.
PLB *ʔ-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 ti55 dzung55; DLb tsi55 zung55 (ti55, tsi55 'one');
Mpi tu66; Lh cê; LCA tseng55.
PLB *dzîng l [Mpi 37]
PTB *dzîng17

[125]food
DLa ang31 dia55; DLb ang31 za55; T za-ba–bza-ba; B atsâ;
Bahing dêa, Nagari dêya, K să, Lh cê, G tîha 'eat';
PTB *dêa (66) ≠ *dêa [Mpi 47]

In Matisoff (1978) the PLB form for 'eat' is given as *ʔa (=dêa), 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- → Ś-
iron, meat, east

[126]iron
DLa šam53; DLb šam53; Gyarung šom; N šam; Trung šyam;
B sam; LCA šam55; LXA šam55; LHA,šang55; TP ši55;
Zaiwa šam51 toʔ55 (toʔ55 poss. rel. to T tsaks).
PTB *šyam (228)

[127]meat, flesh
DLa ša55; DLb ša53; Tša; Kanauri ša; Magari mi-šia;
Bahing šye; Sangpang šya; K šan; N ša; B să-asă;
L ša; Mba ša53; MBb ša; LCA šua31; LXA ša55; LHA ša31;
possibly also GMD šîn53 (cf. K šan).
PTB *šya (181)

[128]east
DLa šar55; DLb še31 šaʔ55; T šar; Kanauri šar-si 'rise' (reflexive form); N nam šar kha; PMA ṭe55; PMb šo53.
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 puʔ31 la55; MBa lelanu;
MT leʔ13 la53 po53; T las ša po; Loloish *ša.
PTB *iway (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–lve, and B lwai), and can in fact support it with Zaiwa lui51. 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 śu '3rd person pronoun' a-śu 'who' <*s-lu (cf. Burmese lu 'person') (J.A.Matisoff pers.comm).

17 As pointed out by Mark Hunsell (pers. comm.), this root may ultimately be related to PTB *sing 'tree,wood'.
[130] buffalo  
DLa ngu31 lɔi53; DLb ngu31 lɔi53; K ngoloi; B kywai <klwai; L loi; Siyin loai.
PTB *twaay (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 phala <*b-la 'demon. soul'; L thla <*khla 'spirit'; Tangkhul mang-lā.
PTB *(m)-hla (>sla 'in all but Tibetan' STC p.132) (475)

[132] neck  
DLa ling55 gu55; DLb lang55 gi55; Lepcha tuk-līng-tung-līng; Min liāng; N ling; B lāi <ling; L ring; T t'ing-po-mdzǐng-pa <*a-lying-*m-lying (STC n.106); MC ljāng (ŋ) 'neck, collar'.
PTB *ling (96)

[133] grandchild  
DLa puu31 li55; DLb puu31 li55; N phāli; B mēr (miy in inscriptions); G (ang-)ri <*li; Lolo li; K māli, Mikir phili-po, Chang (Konyak) ii 'nephew'.
PTB *b-liy (448)

[134] arm pit  
DLa ra55 li55; N ra-kyi tšip <*ra-kli (ra 'shoulder'); B lak-kali (lak 'arm'); Lakher ba-kali; Lh pē-li-kā.
PTB *g-li (265) (possibly an old AT loan - STC n. 199)

[135] tongue  
DLa puu31 laa53; DLb puu31 laa53; T lṭā <*s-le: Kanauri le; Lepcha ali; Yayu li; Limbu le-sot; N phale; K lai; G sre; Dimasa sala; L lei; Mikir de.
PTB *s-lay (281)

[136] leaf  
DLa sīng55 laap55 (sīng 'tree'); DLb sūng55 puu31 laap55; West T lōb-lā; Kanauri lab; Takpa blap; K lap; N šalap 'leaves for packing food'.
PTB *lāp (321)

[137] lick  
DLa laa55; DLb laa55: Lepcha lyak 'taste, try'; B lyak; G srak; N la-le; Miri yak; L liak; Mikir inglek; Tangkhul khāmalek.
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 džokhlop; Dimasa phunkhup 'wrap around', sükglup 'drown, immerse'; JP lup31 'bury'. Also Old Mon *grip 'to cover, obscure, conceal'.
PTB *klup (479) ∼ *k-lup

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 phop-lōp 'bury'; Dimasa bib-bub 'conceal oneself, hide', phip-ophil 'bury'; Mikir pip 'bury'. Also consider Zaiwa mjup55 'bury', lom55 'surround', lom53 (tense vowel) 'hide oneself'; LCA zjisp55, LXA m>pa 'bury'; MBb lom 'wrap up'; Kanauri lub-mig ∼ lum-mig '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 n>pa, LXA la>si, Zuwa nōp1 '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-pl(y) ṭ.
[139] stone
DLa luung55; DLb luung55; Bahung lung; Lepcha long-lung;
Miri uling; K lung-nlung; B kyauk <*k-lauk; G rong;
Dimasa long; L lung; Mikir arlong; MW RRlu <*C-lung.
PTB *r-lung (88)

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

[141] flea
DLa su31 li53; DLb su31 li53; T ldzi-ba~ldzi-ba <*sli;
Miri i-po; N sali; K khawwi-khawi <*khwai (by
metathesis); B khwè-kli; L ui-hli; Mikir tski.
PTB *s-liy (440)

[142] round
DLa ang31 ku31 lum55; DLb du31 lum55; T zlm-pa; K lum;
B lum; L hum 'ball'; LCA lum31, but Zaiwa ling55.
PTB *s-lum=*zlam (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 lum53; K lum; N lim; B lum;
Dimasa lim-lum 'hot, have fever'; Bodo lum-dong 'fever';
MW štsala; LCA lum55; Luoba agulum 'warm (water).
PTB *lum (381)

[144] heavy
DLa a31 li53; DLb a31 li53; T lshi-ba~ldzi-ba <*s-li; K li;
Kanauri li-k; Vayu li-s; Lepcha li-(m); N ali; B lè;
G dzrim; Dimasa risi; L rit; Bodo ilit-gilit; LCA 1131.
PTB *s-liy (95)

[145] moon
DLa su31 la55; DLb su31 la55; T zla-ba; Bahung la; B lä;
Vayu tšolo <*tšala; Digaro ōla-hlo; N sala; K šata;
Kadu sada; Mikir tšklo; Magari gya(-hot); L thla <*khla.
PTB *s-la = *g-la=*g-la (STC n.137) (144)

[146] maggot
DLb tshi31 l=ng53; L lung; B lok; Maru lōk; Zaiwa lu/l31;
PMb lō53 <*long; LCA nu55; LHA lu31; possibly also
MW bulu 'insect' <*lu/ong, qhs-bulu 'maggot'.
PTB *k-lung = *k-luk [TSR 186]
PTB **lo/ung = **lo/uk

[147] fathom
DLa tu55 lam53; DLb tši55 lam53; K ilam; B alam; L hlam;
Tiddim laam; LCA lam53; Zaiwa łam51.
PTB *l[a]lm [71]

[148] plain (earth)
DLa dam55 mu31 li53 (dam55 'flat'); DLb mu31 li53 dang53;
Mikir mili-meli 'sand-bank,bare ground'; N dialect mili
'country,mountain'; Manyak (Hsi-fan group) mili-mili; B mre;
Tavoyan dial. mle; Phön (Samong dial.) lamli-lamyi 'earth'.
MC19 **mili (८).
PTB *mili (152); PST **mili

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' <*dym (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).
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 ldon53 xang31 and B s-rang 'nearness, presence', s-rang 'owner, master, lord'.
PTB **rang

[150] fear  DLa pu31 re55; DLb pu31 re55; T bred-pa (with suffixed -d); Digaro re; Aka re; N phare 'to fear, be afraid', Mikir phere 'fear, doubt, dread'; DRD rai55 'to be afraid, ma31 xrau53 'to frighten'.
PTB *b-ray (450)

[151] string, thread  DLa tshu31 ri55; DLb tsu31 ri53; Magara ri 'cane', K ri 'rattan, cane, cord, string, thread', gini ri 'fine thread'; N thari 'cane', sari 'thread', ban-ri 'rope, string'; G re, Dimasa rai 'rattan, cane'; MW suz; TP sia33 li55.
PTB *rey (478)

[152] ant  DLa su31 r55; DLb bang31 su31 r55; T grog-ma; N sar;i; Gyarung korok; Lhorong and Lambichong (Kiranti) khorok; Mirdi taruk; Dafla torub; B parwak; Lh pu-g57.
PTB *rwak (199)

[153] bone  DLa ang31 ru55; DLb ang31 ru53; T rus-pa; K nut; L ru?; Zaiwa j031 vui31; LCA a31 zau31; LXA a31 zau31; LHA a31 zau35; MBA ra=13 pha53; DRD ru31 song35; B rui; Lh -g57 <ruw2; MW rapats (patš 'round').
PTB *rus (6)

[154] otter  DLa su31 ram53; DLb su31 ram53; T sram; Mirdi si-ram; Lepcha saryom <sasram; L sa-hram; N saram; K šaram; PLB *sram (based on Maru Xren, Phunoi sam); G matram; Dimasa matham; Mikir serim; Zaiwa xam51; LCA sam55; LXA žam35; MW ýdzi (zi <ram); MBA tsam53; MBb sam; Luoba saram; GMD ram35.
PTB *s-ram (438)=*sram [107,n.302]

[155] morning  DLa su31 raang55; DLb su31 reeng55; Mikir prang 'dawn'; G phring, Dimasa phorong 'morning'; Trung sran; Lh š5-p5 'tomorrow' (š5 'morning').
PTB *prang (332)=*s-rang = *s-rang [72,n.224]

[156] weave  DLa raa55; DLb raa55; B rak; LCA zaa31; LXA ža31; LHA ža31; Zaiwa vo31 (<rak); Tangkhul Naga khar-k; T 'thag-pa; Magari dak; K da?; G dak; L ta?; Mikir thak; Maru yø?; Lh ya?.
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 mrap; 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 *tap '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 = *tap 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 sing55; DLb su31 ru55 súng55 (sing55
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 zi31 gre55 'book', DLa and DLb ma55 dze53 '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'.

DLa s=55 re55, bu55 le55 'plane(wood)';
DLb s=55 re55 'saw(n.)', b=55 le55 'plane(wood)';
MBA s=55 li53 'saw(n.)', pe13 len55 'plane(wood)';
Mbb soli 'saw(n.)', buli 'plane(wood)';
Luoba šolu 'saw(n.)', bulen 'plane(wood)';
DENK so55 li55, PMB so55 y=55, Tangkul horay, T sog le,
LCA li3k 1b31, Lh li-la, TP kie33 zi55 'saw(n.)';
WB hli 'cut with a sliding motion'; JP ma31 li33 'scrape, shave'.
PTB **rey = **ley

*p/bw- → w-
flower, axe, pig, uncle

DLa š=55 wat55 'flower', šing=55 wat55 'bloom';
DLb šung55 wat55 'bloom'; Gyarung tapat;
PLB *wat; Nunglish šing-wat 'bud' (Rawang), flower (Trung).
PTB *bwat [24]

DLa war53; DLb war53; Gyarung šarp ye <*-r]-pa; G rua;
K nwa-ningwa; Dimasa roa; 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 <*r-mang 'dream'. As there is no wr- cluster, the r- goes to syllable-final position.

DLa wa755; DLb wa755; T phag; Mikir phak; K wa?; B wak;
G wak; L vok; Zaiwa va731; MW pi <*pak; LCA o755 <*-ak;
LXA wa731; LHA wa31; MBA pha753; MBB phakpa.
PLB *wak [TSR 168]
PTB *wak [23-24]

DLa a31 wang53; DLB a31 wang53; T ?a-bang-bang-po 'father’s or mother’s sister’s husband'; Chepang pang; N awang; Limbu amat-a; Vayu pong-pong <*pang; Lashi vang-jo 'father’s older sister’s husband, husband’s father; Lisu a-wa <*w-a; G a-wang.
PTB *pwang [23]

*y- → 0/y-
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 /yl/, 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

Benedict (p.98) separates *(m-)*kri-t 'gall' from *kri(y) 'acid, sour, bitter', and has Nung *sáhi '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'.

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 kú31 rang53 'freely' and possibly Geman Deng ko55 run55 'mosquito' (see below).
[170] scrape, shave

DLa xɔɔt55; DLb xɔɔt55; B khrac 'mark with the nails, scrape';
Jg. khret 'rasp, grate'; Nasu tshi32; Lh gê? 'rasp, scrape';
Ala jeh HS 'scrape, rake, shave away' (the last two from pre-
nasalized proto forms); Kanauri krá-chok-shi-mig 'to shave'.
PLB *(N)kret [TSR 97]
PTB **kr(w)et

There is another PLB form, TSR #96 *(N)krak 'scratch, rake', reflected by B khrak, Maru kyak,
Aka ka HS, Lh gä?, that could be related to the Nujiang form (as DL -t <-> k, though the final should
be *-wak to give DLb -t)). There is also Zaiwa vuʔ31 <*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 krum55; B krum-krim 'meet with, find';
MBb rum.
PTB **k-rum ≠ **k-rim

*gr/- = *kr/- = kr/- = gr/-

firefly, village, fear, bark, boil

[172] firefly

DLa ku31 rang53; DLb ku31 rang53; K dzyi-grong (dzyi 'winged
insect'); B khrang; Mikir tim-krang (tim 'gnat, midge') 'mosquito';
Rawang mągàng <*m-grang 'mosquito'; Trung krang 'firefly';
Zaiwa kyang51 'mosquito'; possibly also GMD klaung 'insect'
or ko55 nun55 'mosquito'.
PTB *krang (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 śrak ≈ *g-yak 'ashamed', PTB *yaap ≈
*k-rap 'fan, winnow' (set 194 below) and PTB *mra ≈ *mya 'many, much'.

[173] village

DLa kɔɔxong55; DLb khrɔɔxong53; Tankhul Naga khu: L khia;
B rwa; T grong; Bisu (Loloish) khɔɔng-ba; MW gu caregivers;
PMb tshä35 ba35.
PTB *grwa-ng [Matisoff 1972b, set 28]

[174] fear, frighten

DLa a31 kraʔ55; T skrag-pa 'to be terrified, afraid';
B krauk 'to fear' <*grok; Lh kəʔ?; Zaiwa kuʔ31.
PTB *grak ≈ *kra:k (473)

[175] scream, bark

DLa gru53, DLb gru53 'bark', DLa gui53, DLb gui55
'crow (rooster)', DLa gui?, DLb grung55 'speak; talk':
K goi 'crow, as a cock; squeak, as some kinds of snakes;
laugh loudly', magro 'howl, scream', JP kə31 (=gru)
'call (of a panther)', kyang55–khyong55 'call (of a
barking deer)'; B kruw–kįw 'call out, hallloo,
shout; screech and scream in large numbers, as birds',
ko 'shout, call out'; Kanauri gre-nan-mig 'to roar',
grán-mig 'to neigh', ku-chi-mig 'to call out,
exclaim'; LCA kṣai55, LHA kai55 'speak, talk', LCA
kṣai55, LXA ku31, LHA ku55 'to yell, call out'.
PTB *gro (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 giin? 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 giinui (with a long vowel) is actually one of the inflected forms of giun '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 gluu55: B kyak 'to be cooked'; khyak 'cook';
K khyar 'prepare glutinous rice'; Lh cá 'to boil';
Mikir arklok 'boil over'; L dlak 'boil or
cook without salt'; MBA kô53 'boil'.
PTB *klak = *glak (124)

*dr- → k(h)r-
six, sew

[177]six

DLa kru55; DLb khru55; T drug; Kanauri túg; G dok;
Lepcha tarak; Digaro thar; Mikir therok; MBA kro53;
Zaiwa khju55; JP kru55; LCA xzo55; Trung khlu;
B khrâu; Poeron karuk; K kru; Lh kh?5.
PTB *d-ruk (411) = *d-k-rok (Matisoff pers. comm.)

[178]sew

DLa knuup55; DLb khnuup55; T 'drub-pa; Lepcha hrap;
Gyarung tup; Magari rup; B khyup; Trung krap; Lh t5;
LCA xzop55; LXA tszhp55; Zaiwa khjup55.
PTB *d-rup (456) = *drup [n.320]

This *d- → k- change is seen also in the Poeron, 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 bruung55: DLb ang31 bruung55: Lepcha sbrang;
Trung ang-prang; N bing <*bring.
PTB *s-brang = *bring [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 püang 'to be born'. I don't know why Benedict says N bing <*bring.

[180]smallpox

DLa bnum55; DLb brum31 khar55; T lta 'brum; MW bur;
PMA bzd13.
PTB **brum

[181]write

DLa bn53; DLb bri53; T 'bri-ba 'draw, write', ris 'figure, form, design'; K mar? 'to mark, line, rule'; N rga dín 'boundry' (rnga 'country'); B rê 'write, paint, delineate; G a-ri. Dimasa ha-ri 'boundary' (a- hâ- 'earth'); L ni 'boundray', rín 'draw a line, scratch'; MBA prí13; MBb bru; Luoba píi.
PTB *ny (429) = **b-ny (with possible suffixes -t, -k, -n)
*ky- ~ *gy- → (t)s-

- house, eight, hundred, jump

[DLa šūm53; DLb tšūm53; T khyim; Bahing khyim–khim; Vayu kim–kem; Lepcha khyum; Miri akum; Mrū kim;
Mikir hem <*khem; N kym–tšim–tšum; B im; Lahu yē;
Trung tšiam; MW tši; TP tši33; Zaiwa jum51.
PTB *kyum ≠ *kyum (53) [n.82]
[183]eight
DLa šat55; DLb šat55; T brgya; Kanaur rae; Bahing ya;
Thulung yet; K mātsat; N ašt; B hrasts; G tshet; L riat;
Dimasa dzai <*dzar; MW khar; Zaiwa jīt55; LCA šet55.
PTB *b-r-gyat (163)
[184]hundred
DLa tū55 ša55; DLb tšī55 ša55; T bṛgya; K lāsa; N ya; B ara;
G ritsa; Dimasa radza; L za <ya; MW khar; Zaiwa jō51.
PTB *r-gya (164)
[185]jump
DLa a31 tšat55; DLb tšat55; Aka [PL] ceh^, [ILH] tjeq; Lisu
hchye2; 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 /-nl/, also as is the case in Jingpo. Final *-s is a bit more complex. It seems there are two reflexes, -o and -t, as in the pairs listed below:

*-s → -0
bone, two

[DLa an31 ru55; DLb an31 ru53; PTB *rus (6)
[52]two
DLa a31 ni55; DLb a31 ni55; PTB *g-ni-s (4)

*-s → -t
thick, seven

[DLa tat55; DLb tṣat55; PTB *t-tas (426)
[186]seven
DLa su31 ni55; DLb su31 ni55; K sanit; G sani;
Gyarung kēsēs; Kanauri stis.
PTB *s-nis (5)

This is similar to Jingpo, except that Jingpo 'bone' /nru/ 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-medials on Dulong vowels in closed-syllable finals. For some roots with palatal medials, the glide had the effect of fronting the main vowel, as can be seen in the examples below:

*- yap → -ep
snout, stand

[DLa nēp; DLb nēp; T snēb; B hnap; L hnap; Zaiwa nap55;
LCA hnap55; LXA nap55; LHA hnak55; PMa hna13.
PTB *s-nap (102); *s-nyap21

[187]snot

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

*-yat → -et
joke/laugh, star/moon

[188] joke, laugh
DLb yet55; T gža-ba 'to sport, joke, play', bžad-pa-gžad-pa
'laugh, smile'; Thebor rot; Bunam sred; Magari ret; N it;
Bahing rit-ris; Digaro mara; B rai 'laugh'.
PTB *rya-t (202)

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

*-yak → -e?

[88] eye
DLa me?55; DLb ne?55; PTB *myak (402);
If the medial is a labial-velar glide, then the effect is one of raising, rounding\(^ {22}\) and backing:

*-waay → -oi

[130] buffalo
DLa ngu31 l>i53; DLb ngu31 l>i53; PTB *lwaay (208)

*-waang → ung

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

*-wang → -ong

[173] village
DLa krong55; DLb 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 tump55; PLB *?twp ≠ *C-dwap [TSR 69]
PTB **-tup ≠ **-t/dwap

*-wak → -w?

[152] ant
DLa su31 r>i55; DLb bang31 su31 r>i55; PTB *rwak (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?

[19] vegetable
DLa dzu31 gwa?55; DLb zu31 gwa?55; PLB *?gyak [TSR 49]
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 dissimilation of rounding because of the labiality of the final, as occurred in Chinese.
I am assuming that the Dulong forms descened from a proto-form with a labial-velar glide rather than the palatal glide reconstructed for PLB in TSR.

The form wang55 '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 ‘huáng niú’; PTB *ngwa (215)

[18] wear
DLa gwa55; DLa gwa53; PTB *gwa-n = *kwa-n (160)

[30] span
DLa t55 pu31 ta55; DLb tsi55 pu31 ta55; PTB *twa (165); **t(w)a

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

[99] garlic
DLa su53; DLb su53; B krak-swan; AC *swán/suán (ква); Lh sű-qô ‘leek’, sű-phi 'onion', sű-phi-nû ‘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 /sw/. 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 la?31 suan35, LXA la31 suan55, LCA ka31 sun55, and either Zaiwa phe55 3055 or the first syllable of Zaiwa su31 khjong55 'onion'. I did not include these 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 sing55 ang31 kəʔ55 (sing 'tree'); DLb šung55 ang31
kəʔ555; PLB *ʔgak [TSR 43]; PTB *s-kaak (327) = **s-k(ə)wək

[37] drip
DLa a31 t55; DLb həʔ55;
PLB *Ntsak [TSR 82]; {*tik = *dzik} = *ndzak [Mpi 5];
PTB **tsək = **tywak; PST **ty(w)ək

Based on the Dulong reflexes it seems the proto-forms had -w- medials, i.e.: **s-kwaak;
**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]

[20] saddle
DLa ga55; DLb ga55; PTB *s-ga [Matisoff 1983, set 60]

[22] I
DLa nga53; DLb gu55; PTB *ka = *nga (406)
**Dulong and Proto-Tibeto-Burman**

<table>
<thead>
<tr>
<th>English</th>
<th>DLa</th>
<th>DLb</th>
<th>DLT</th>
<th>PTB</th>
<th>*gl-</th>
<th>*na</th>
</tr>
</thead>
<tbody>
<tr>
<td>ear</td>
<td>a31</td>
<td>a31</td>
<td>na53</td>
<td>Trung na-ba; N na; PTB *gl-na (453)</td>
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<td></td>
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<tr>
<td>nose</td>
<td>su31</td>
<td>su31</td>
<td>na55</td>
<td>N sa; PTB *s-na (101)</td>
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<td></td>
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<tr>
<td>you</td>
<td>a53</td>
<td>Nbna</td>
<td>na53</td>
<td>N na; PTB *nang (407) * *na</td>
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<td></td>
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<tr>
<td>rest</td>
<td>nu31</td>
<td>nu31</td>
<td>na53</td>
<td>PTB *na (414)</td>
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<td></td>
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<tr>
<td>five</td>
<td>pu31</td>
<td>pu31</td>
<td>nga53</td>
<td>DLb pu31 nga53; PTB *l-b-nga (78)</td>
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<td></td>
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<tr>
<td>thin</td>
<td>ba53</td>
<td>b53</td>
<td>ba53</td>
<td>N ba; PTB *ba (25)</td>
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<td></td>
</tr>
<tr>
<td>wound(n.)</td>
<td>bin55</td>
<td>ma55</td>
<td>DLb zi31 ma55; N ramat 'nettle' (= 'the wounnder'), with suffixed *-tu; PTB *-r-ma = -m-ta (446)</td>
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<tr>
<td>god</td>
<td>lam55</td>
<td>la55</td>
<td>(nam53 'sun; heavenly affairs' with tone assimilation); DLb la55; PLB *s-la 'soul'; N phala *&lt;b-la 'demon, soul'; PTB *m-j-hla (&gt;sla 'in all but Tibetan' STC p.132) (475)</td>
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</table>

**Dulong**

<table>
<thead>
<tr>
<th>English</th>
<th>DLa</th>
<th>DLb</th>
<th>DLT</th>
<th>PTB</th>
<th>*sa</th>
</tr>
</thead>
<tbody>
<tr>
<td>earth,dirt</td>
<td>a31</td>
<td>sa55</td>
<td>DLb a31 sa53; PTB *tsa (188); *sa</td>
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<td></td>
</tr>
<tr>
<td>food</td>
<td>ang31</td>
<td>dza55</td>
<td>DLb ang31 za55; PTB *dza (66) = *dza [Mpi 47]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>meat,flesh</td>
<td>sa55</td>
<td>DLb sa53; N sa; PTB *sya (181)</td>
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<tr>
<td>moon</td>
<td>su31</td>
<td>la55</td>
<td>DLb su31 la55; N sa; PTB *s-la = *g-la = *s-gla (STC n.137) (144)</td>
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<td></td>
</tr>
<tr>
<td>word,speech</td>
<td>ka55, kat55</td>
<td>DLb ka55, kat55; N kha; PTB *ka (9)</td>
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<td></td>
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<tr>
<td>cotton</td>
<td>sa55</td>
<td>la53</td>
<td>PTB *b-la (111)</td>
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* -ya → -a

hundred, fish, borrow

<table>
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<tr>
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<th>DLb</th>
<th>DLT</th>
<th>PTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>hundred</td>
<td>ti55</td>
<td>ša55</td>
<td>DLb tsi55 ša55; N ya; PTB *r-gya (164)</td>
<td></td>
</tr>
<tr>
<td>fish</td>
<td>nga55</td>
<td>pla55</td>
<td>(+ Tai); N nga; PTB *ngya (189)</td>
<td></td>
</tr>
<tr>
<td>borrow</td>
<td>nga55</td>
<td>DLb nga53; N nga; PTB *r-ngya (190)</td>
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</tr>
</tbody>
</table>

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 Matisoff (1985:27)), with Dulong reflecting the diphthong in the first two words and monothong in the last four:

* -a → -ai

father, chin

<table>
<thead>
<tr>
<th>English</th>
<th>DLa</th>
<th>DLb</th>
<th>DLT</th>
<th>PTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>father</td>
<td>a31</td>
<td>a31</td>
<td>pa53</td>
<td>a31 ba53; PTB *pa (24)=*pwa (23)</td>
</tr>
<tr>
<td>chin</td>
<td>mu31</td>
<td>kai55</td>
<td>DLb mu31 kai55; N mu-kha; PTB *m-k (470)</td>
<td></td>
</tr>
</tbody>
</table>

* -ay → -a

paddy, bee, plant, easy

<table>
<thead>
<tr>
<th>English</th>
<th>DLa</th>
<th>DLb</th>
<th>DLT</th>
<th>PTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>rice/paddy</td>
<td>tsu31</td>
<td>ma55</td>
<td>DLb tshu31 ma55; Garo mi-me-; Dimasa mai 'rice, paddy'; Pwo and Sagaw (Karen) me 'boiled rice'; AC *mi/meri ((\times)); Tangkhul ma 'paddy'; Luoba ama 'rice'.</td>
<td></td>
</tr>
<tr>
<td>bee</td>
<td>kha31</td>
<td>me53</td>
<td>DLb kwai 'damer-bee'; L khua-kho; Thado khor-khui-va (va 'bird') Tangkhul khui; Lakher -kha 'bee'; N kha 'bee (domesticated)'.</td>
<td></td>
</tr>
<tr>
<td>plant</td>
<td>kaat55</td>
<td>DLb kai55 (both with suffixed *-t. Cf. 'speech':</td>
<td></td>
<td></td>
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<tr>
<td>easy</td>
<td>la55</td>
<td>DLb la55; PTB *l-way (302); PTB **s-la or **s-l(way)-a-y</td>
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<td></td>
</tr>
</tbody>
</table>

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

* -ay → ai
big, tongue, red

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

[135]tongue
DLa pu31 lai53; DLb pu31 lai53; N phale; PTB *s-lay (281)

[113]red
DLa pu31 sai55; DLb pu31 sai53; PTB *s(y)a-n = *t(s)aay [G&C 150]

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

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

[192]change
DLa kli55; DLb klie53; JP gelai; N thule 'alter,(ex)change': B lai '(ex)change'; G sre; Dimasa sala; L lei 'buy, barter'; Tiddim lay.
PTB *s-lay (293) [G&C 69]
PTB *r-ley = b-rey [G&C 54] 'buy, barter'

[62]hair(head)
DLa u55 nai55 (head+hair); DLb u53 ne53; N ani-tani;
PTB *ney (292) [G&C 51]

[168]foot
DLa xai55; DLb xre55; 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-ley = *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 *t'sa '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 *dyam (226)

[44]flat
DLa dam55 nu31 li53 'plain, flat ground' (nu31 li53 'earth,ground'); N ñam 'plain (level ground),flat'; PTB *dyam (227)

[64]smell(tr.)
DLa pu31 naam55, pu31 nam55 gam53 'fragrant' ('smell' + 'good'); DLb pu31 nam53; N phanam; Trung panam;
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 s'am53; DLb s'am53; N s'am; Trung synam; PTB *sym (228)

[147]fathom
DLa u55 lam53; DLb tsi55 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
Dulong and Proto-Tibeto-Burman

[123] stretch out
DL a tšan53; DL b tšan53; PLB *ʔ-dzan3 = *tsan3 [G& C 11];
PST *tyik = *tyak [84, 94, 169, 189]

[93] medicine
DL a man55; DL b man55; PTB **s-man

*-.ang → -ang
we/us, firefly, roast, fir, spindle, deaf/mute, dream, person, dawn/morning, clean

[149] we (inclusive)
DL a rang55; DL b rung55; PTB **rang

[172] firefly
DL a ku31 rang53; DL b ku31 rang53; Rawang m-gang
< *m-grang 'mosquito'; Trung khang 'firefly'; PTB *kraang (322)

[15] roast, toast
DL a du31 gaang55; DL b du31 gaang55; N dagang; PTB *kaang (330)

[39] fir, pine
DL a tang53; DL b tang31 xai53; PTB *tan5 [69]

[68] spindle
DL a šap55 pang53; DL b šang31 phung53 'treadle operated
rice husker' (šap55, šang31 'mortar'); PTB *pang=p*pwang (48)

[73] mute/deaf
DL a du31 bang55; DL b du31 bang55; PTB **d-bang

[82] dream
DL a mlaang55; DL b mlang55; N ip-mang; Trung mlang
'from *lamang <*r-mang by metathesis; cf. Trung a-mra
'field', Mutwang (Rawang dial.) rama, id.' STC p.31.
This holds for the DL forms as well. PTB *r-mang (82)

[109] person
DL a a31 tsang53; DL b a31 tshang53; PTB **tsang

[155] morning
DL a su31 raang55; DL b su31 reeng55; Trung srang;
PTB *prang (332)=*b-rang = *s-rang [72, n. 224]

[110] clean
DL a tsang55 ma55; DL b tsang55 ma55; PTB *(t)syang=*syang [37, 52, 53]

*-.ap → -ap
repay, leaf, needle, fan/winnow, munch, fireplace

[108] repay
DL a tsap55; DL b tsap55; PTB *tsap (63)

[136] leaf
DL a sing55 lap55 (sing55 'tree'); DL b šung55 pu31 laap55;
N šap 'leaves for packing food'; PTB *lap (321)

[193] needle
DL a wap55; DL b wap55; T khab; B ṭap < *(t)-ghap; Kanauri keb;
Gyarung tekyp; Lepcha rymoon; MW Xe; Zaiwa ap55; LCA,
LXA ap55; Trung uop; Lh göt.
PTB *kap=*kap (52) [n. 82]

[194] fan, winnow
DL a raap55; DL b raap55; T'khrab-pa 'strike, beat: winnow;
fan': Chebang krap 'winnow'; Nungish (Rawang) rap < *khrap
'winnow, thresh, paddle, row' (cf. Rawang nip 'lying ant' < TB *krep).
PTB *krap [1411] [n. 382]

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 fan-
nung or waving; fan'. Min mayap, B yap, Mikir ha-dzap 'fan'. L zaap 'fan, winnow, flap, flutter'. Tang-
khul kayap 'to fan', and K katsap 'winnow'), the *k- should be seen as a prefix.

[195] munch
DL a ngap55 ('ya33'); DL b rep55 ('ken53'); B kwap, kyap, krap 'clap, make fast, firm, secure'; Lh got 'hold firmly in mouth';
Busu k̂ 'bite into' (from *Ngwāp etc.).
TN khangup 'bite and see whether the paddy is well dried
or not'; Lh kho' 'munch, bite nonsily'; Aka kaw 'to bite
as a dog bites a person'. Possibly related to B hap 'bite at, as a fish or dog'; PTB *hap 'mouthful'.
PLB [ *Ngwāp = *Ngrap = *Ngyp] = [*C-kwap = *C-krap] (TSR 90)

[157] fireplace
DL a mu31 rap55; DL b mu31 rap55; N nurap.
PTB *rap (84)=*trap/drap < AT loan [19, n. 69]
*at → -at
forget, leech, kill, flower, cut, braid, eight, jump, slippery

[79] forget DLb a31 mat55; PTB *ma-t (425)
[69] leech DLb mu31 pat55; DLb nye31 phrat55; PTB *r-pat (45)
[96] kill hit DLb saat55; DLb sat55; PTB *g-sat (58)
[161] flower DLb sing55 wat55 'flower', sing55 wat55 wat55 'bloom';
DLb sntng55 wat55 wat55 'bloom'; PLB *wat; Nungish sing-wat
'bud' (Rawang), flower (Trung); PTB *bwat [24]
[169] cut, chop DLb a31 xratat55; DLb a31 xrat55; N rat; PLB */?-brat = *C-prat;
PTB *ra (458) **d-ra-t
[196] braid DLb blaat55; DLb blaat55; Ziawa tsham51 pan31 (tsham51 'hair');
LXA tsham35 pyen35 (Chinese?); Lh phê; Mpi phe?1;
possibly also B phan 'shuffle cards'.
PLB *C-prat = *pan1/2 (G+C 37)
PLB *bat ('wind around')
PTB **b(lat/n
[183] eight DLb sat55; DLb sat55; N sat; PTB *b-r-yat (163)
[185] jump DLb a31 tsat55; DLb tshat55;
PTB *k(yat 'sudden) lateral action' [G&C 39; TSR 18]
[197] slippery DLb tuk31 klat55; DLb du31 laat55; T hlod-pa 'loose,
relaxed'; K lot 'escape, be free, unrestrained'; B lwat
'to be free', kywat < klwat 'loose, freed'.
PTB *g-lwat = *s-lwat (209)

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

[51] deep DLb ru31 na755; DLb ru31 na?55; Trung na43;
PLB */nak = *nak (TSR 157); PTB *s-nak
[50] black DLb na755; DLb na?55; N na?; PTB *s-nak [88,102,155]
[95] itch, itchy DLb pu31 sa?55; DLb pu31 sa?55; PTB *m-sak (465)
[156] weave DLb raat55; DLb raat55; PTB *tak (17)=*trak <AT loan [19,n.68]
[174] fear, frighten DLb a31 kra?55; PTB *grak = *krak (473)
[198] chicken DLb ka?55; DLb kha?55; B krak 'fowl'; Maru n*<rk; Lh
Lva-rak 'duck'; Ziawa vo? <*rak; LCA kzaat55; LXA kja?31.
PTB *k-rak
[137] lick DLb laa?55; DLb laa?55; N la-ld; PTB *m-lyak = *s-lyak (211)

*-ar → -ar
new, cast

[100] new DLb ang31 sar55; DLb ang31 sar53; Rawang angsar; Trung aksal 'fresh';
PTB *sar [p.147,172,189]
[128] east DLb sar55; DLb se31 sa?55; N nam sarr kha; PTB *syar [28]

*-u → -u
nephew, dig, head

[40] nephew DLb pu31 du55; DLb buu31 du53; N phedu; PLB *du;
PTB *tu = *du (259)
[41] dig DLb du53; N du; PTB *tu = *du (258)
[199] head DLb 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 ngu55; DLb nguun55; PTB *d-ngul [15,173]
[90]hair, fur
DLa ang31 mul55; DLb ang31 mun53; PTB *mul (2)
[118]spittle
DLa cu55; DLb tsun55; N thl 'spittle';
PTB *m-ts(y)il (231) ≈ *m-thil [cf. discussion of 'count']

*-uw=*-uw → -u
steal, uncle, body, nine, cry, price, insect/snake, eagle, horn

[4]steal
DLa ku55; DLb khu53; N khū; PTB *r-kuw (33)
[6]uncle
DLa a31 ku53; DLb a31 khu53; N khū; PTB *kuw (255)
DLa ang31 gu55; PTB *(s-)kwaw = *(s-)kuw [184]
[12]nine
DLa du31 gu53; DLb du31 gu53; N togū; PTB *d-kuw (13)
[27]weep, cry
DLa ngu53; DLb ngu53; N ngū; PTB *nguw (79)
[67]price
DLa ang31 pu53; DLb phu53; N apū 'be of value'; PTB *puw (41)
[7]insect, snake
DLa bu55; DLb bu53; N bō; PTB *buw (27)
[86]eagle
DLa tu31 mu53; DLb tu31 mu53; N thutə; PTB *muw (257)
[167]horn
DLa tsi31 xru55; DLb ang31 tu31 xru55;
N (Melam dial.) takru; PTB *kruw (37)

*-um → -um
pillow, three, warm, house, round, smallpox, meet

[5]pillow
DLa u55 kum55; DLb u53 kum53; N n=ng n-khum; PTB *m-kum (482)
[94]three
DLa a31 sum53; DLb sum53; N tsum; PTB *g-sum (409)
[143]warm
DLa lum53; DLb lum53; N lim; PTB *lum (381)
[182]house
DLa sum53; DLb tsun53; N kyum - tsum - tsum; Trung tsi:m;
PTB *kyum ≈ *kyum (53) [n.82]
[142]round
DLa ang31 ku31 lum55; DLb du31 lum55;
PTB *s-lum = *slum (n.136) (143)
[180]smallpox
DLa brum55; DLb brum31 khar55; PTB **brum
[171]meet
DLb tu31 xru55; PTB **k-rum ≈ **k-rim

*-ung → DLa -uung

[139]stone
DLa luung55; DLb luung55; PTB *r-lung (88)

*-ung → DLb -ng
maggot, body

[146]maggot
DLb tshu31 l=ng35; 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 → -u(w)p
rotten/to rot, cover(bury), sew

[72]rot/rotten  DLa  bup55; DLb bup55; PLB *Nbup [TSR 75]; PTB **bup
[138]bury     DLa  lwp55, possibly also DLa, DLb klwp55 'to cheat, deceive';
              PTB  *klwp (479)
[178]sew       DLa  kruwp55; DLb khruwp55; Trung krap;
              PTB  *d-rup (456)=*drup [n.320]

*-uup → -uup

[63]west     DLa  nam55 nuup55; N nam nip lam (nam 'sun', lam 'side');
            PTB  *nuup = *n[i]l[400]

*-ut → -ut/-it
knee, blow

[70]knee     DLa  bak55 put55; DLb paang31 pit55; N phang-phit 'knee',
            ur-phit 'elbow', ra-phit 'shoulder'.
            PLB  *put (7) (<Maru pat-lau <put); PTB  *put (7)
[80]blow(v.)  DLa  mut55; DLb mit55; PTB  *s-mut [75]

*-uut → -⇔t
[33]join, tie, knot  DLa  su31 t⇔t55; DLb su31 t⇔t55; N dahtut;
                 PTB  *duut = *tuut (421)

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

[3]basket  DLa  pai55 kʔ55; DLb tu31 kʔ55; PTB  *kuk (393)
[17]bent     DLa  du31 gʔ55; DLb du31 gʔ55; PLB  *gok [TSR 2];
            PTB  *guk = *kuk [125]; **gok

*-uk → -u?

[48]brain(1)  DLa  u55 nuʔ55 (u55 'head'); N aʔing; PTB  *nuk (483)

*-u(u)k → -u?
vomit, sky, six

[45]spit, vomit  DLa  duʔ55; DLb duʔ55; PTB  *m-tuk = *s-tuuk = s-duuk [58,75,126,132,146]
[89]sky       DLa  muʔ55, ru31 mut55 'cloud'; DLb muʔ55, ru31 mit55 'fog';
            Rawang muʔḷang 'heaven'; DLa su31 muuʔ55 'fog';
            PTB  *r-muw=*r-maw (488) = *r-muuk (357)
[177]six      DLa  kruʔ55; DLb khruʔ55; PTB  *d-nuk (411)

*,-iy=*-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=*ny (81)
Dulong and Proto-Tibeto-Burman

[58] aunt
DLa a31 ni53; Dlb a31 nyi53; N ani; PTB *ni(y) (316)

[65] grandmother
DLa a31 pi55; PTB *piy (36)

[76] give
DLa bi55; Dlb zi53; Trung bing (with suffixed -ng); PTB *biy (427)

[101] die
DLa sii53; Dlb sii53; PTB *siy=*say (232)

[107] count
DLa tsi55; PTB *r-tsiy=(r-)stʂay (76)

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

[121] small
DLa tsi55 tsal53 (tsal53 'son');
PLB *ziy «*a-ziy [STC p.27, n.87 by JAM]
PTB *ziy (60) = **tsyi

[133] grandchild
DL a31 pu53; Dlb pu31 li53; N phli; PTB *b-liy (448)

[134] arm pit
DL a55 li53; N ra-kyi tʂip <*ra-klia (ra 'shoulder');
PTB *g-li (265) (possibly old AT loan - STC n. 199)

[141] flea
DLa su31 li53; Dlb su31 li53; N sal; PTB *s-liy (95)

[144] heavy
DLa a31 li53; Dlb a31 li53; N li; PTB *s-liy (95)

[148] plain (earth)
DLa dam55 mui31 li53 (dam55 'flat'); Dlb mu51 li53 dang53;
N dialect mali 'country; mountain'; PTB *mliy (152)

[166] gall bladder
DLa tsi31 xni55; Dlb tshi31 khr3i53; N sхи <*s-khrni 'gall-bladder';
PTB *kny (412-413)

[181] write
DL a31 br53; Dlb bri53; N raga darit 'boundry'
(raga 'country'); PTB *riy (429) = **briy

[200] four
DL a31 bli53; Dlb bli53; T bзи <*bli; Thulung bli; B le;
Kanauri pó <*pli; Magari buli; Digaro koprei; Min pi;
N aby (dial. abal); K mai <b-li; Mikir plui; Lh ñ; MBa pli;
MBB phi; Luoba apii; DRD ka31 pra35; LCA mi31; Zaiwa myi.
PTB *b-liy (410)

*.wiy= *.way -> -ui/-i
dog, yam, blood, comb

[13] dog
DLa duw31 gui55; Dlb du31 gi55; N tag; PTB *d-k-wiy (159)

[14] yam
DLa gui55; N gi; PTB *kwyi (238)

[201] blood
DL a31 sju55; Dlb sju55; Kanauri sju; Bunau sju; Vayu vi;
Chepang wi-wi; K sai; N syo; B swe; G antsyi;
Dimasa thi; L thi.
PTB *s-hwiy (222)=*s-hyay [n.169]

[97] comb
DL la su55, Dlb s55 'to comb', Dla u55 suw55, Dlb u53 si53.
N asi 'comb, to comb'; PTB *m-si(y) (466)

I have included 'comb' is this set because it seems the DLa form developed from a proto form with a labio-velar medial: **m-s(w)i y.

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

[31] short
DLa twi53; Dlb thi53; PTB **twiy

*.um -> DLa -um

[202] raw, unripe
DL a31 zyum53; N zuim; B tsim 'green; unripe';
LHA a31 tsing35, T dzar-pa 'raw(meat)'.
PTB *d-zim [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 *-ip finals below.

*.in -> .in
ripe, liver

[87] ripe
DLa min53; DLb nin53; 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 \( \text{a} \text{w} \)ng

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

[60] year
DLa ang31 ning55; DLb ang31 riung55; PTB *s-ning (368) ≠ *s-nik

[103] tree, wood
DLa sing55; DLb suung55; N sing-thing; PTB *sing (233) ≠ PLB *sik

[124] clf. for trees
DLa ti55 dzung55; DLb tsi55 zung55 (ti55, tsi55 'one');
PLB *dzin-1 [Mpi 37]; PTB **dzin

[132] neck
DLa ling55 gui53; DLb lang55 gi53; N ling; PTB *ling (96)

[179] name
DLa ang31 brung53; DLb ang31 brung55; Trung ang-prang;
N bing <*bring; 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 → -ip/-up

[165] sleep
DLa ip55; DLb yuwp55; PTB *ip=*yip (114)

*-it → -it
exterminate, think, go to

[91] extinguish
DLa a31 mit55; N šamit; PTB *mit (374)

[92] think, remember
DLa mit55; DLb nyit55; PTB **myit

[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 ši55; DLb su755; T sig; K tsiʔ; Mikir rek; G tik; N ši;
L hri; Kanauri rik; Bunun šig; LCA pha31 tshek35.
PTB *s-rik=šrik [108]

[204] twist
DLa tsiʔ55; DLb tshuí55; B rac 'wind around, encircle';
Lh ši; Aka yeu LS (all but DL from PLB form).
T 'khyig-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
DLb 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 ts=ʔ55; DLb ang31 nu31 tsh=ʔ55;
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'.
sari 'thread', ban-ri 'rope, string'; PTB *rey (478)

[205] younger brother
DLa ang31 nik55 ra31; DLb ang31 nyi55 nam; Lh ñ-ni-pa;
Akha à-ni/-; B nyi; Boro baynay 'wife's younger
brother, younger sister's husband'; Luoba nurò;
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 sɔ55 re55, bu55 le55 'plane(wood)';
DLb sɔ55 re55 'saw(n.)', bɔ55 le55 'plane(wood)';
PTB **rey *leuy 'saw; plane'

*-ok → -ɔ?
bean, wear on head/hat

[46] bean
DLa a31 nɔ755; DLb a31 nɔ755; PLB *s-nok [TSR 140];
PTB **nok

[78] wear on head/hat
DLa mɔ755; DLb mɔ755; PTB **r-mok

*-ow → (w_u)
arise/awake, pointed, boil, fat, pine/fir

[105] arise, awake
DLa sa55 su31; 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 *tsow (275)

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

[158] pine, fir
DLa su31 ru55 sing55; DLb su31 ru55 sung55 (sing55
'tree'); N saru 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 'ripe', 'tail', 'fire' and 'eye':

*n- → n-?

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

[186] seven
DLa su31 nì55; DLb su31 nì55; PTB *s-nìs (5)

*ng- → n/n

[206] love
DLa ni55 si31; DLb ni55 si31; JP nòwai; Tiddim -ngai;
L oui 'hang on to, make love', ngai 'long for, miss,
feel earnest desire for; copulate'; Tangkhul sa-ngai kachi
'that which one likes to do', khungai 'desire'.
PTB *ng-(w)ay [G&C 126]
*m- → n-(NJ)

[87] ripe
DLa min53; DLb min53; N min 'cooked; to rot'; PTB *s-min (432)

[84] tail
DLa mi55 tsʰ̱̱55; DLB anə31 nuə31 tʃə855;
PTB *r-may ≠ *mey (282)

[83] fire
DLa tu31 mi55; DLB tu31 ni55; N thani; PTB *mey (290)

[88] eye
DLa me755; DLB ne755; N me-ne< *myak;
PTB *mik ≠ myak (402); PST *mya[a]l [190]

It seems in 'snot' there are two types of evidence for a palatal glide in the proto-form: the nasal is palatal(ized), and the vowel is fronted. A palatalized nasal is the normal reflex of a dental nasal in DL 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' *g-ryap > DL la puə31 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 suə31 la55 'moon'; PTB *s-ram > DL suə31 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 palatal(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 *ngai.

A third source for DL n/ə seems to be a case of prefix pre-emption: followed by phonetic changes as in 'love':

[207] fingernail
DLa nuə55; DLb nuə53; K ləmyi <*lak-myin; B ašə:
N nən <*myin; Digarə mə; Miju mεən 'claw'; T senmo;
MBa ts'hsing-nang; Zαιwa loʔ31 sing31; LXA laʔ31 sən35;
Lh nə-sə-qi.
PTB *m-(t)sɨn≠*m-tsye(74)

The change from *m- to n- seems to be a case of palatalization 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' (puə31 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 guə55 met55; DLb guə31 riə55; PLB *mwa(t [G&C 35]
PTB and PST *s-ng(y)wa(t [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 *mwa(t, but as the vowel is fronted, a proto-palatal glide seems more likely. The DLb form seems to have developed from *s-ngwa(t, 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.

29 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:

\[20^{\text{c}}\]middle
DLa a31 duung55; DLb a31 duung55; L tsyhung 'the inside (of anything)'; Tiddim sung; Bodo sing; Dimasa bising; Trung atung; Rawang xung 'in, middle'; AC *tjöng/kjöng (♀).
PTB *tuung (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 kla55; DLb kle53; 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 tu31 kla55; DLb du31 laat55; PTB *gL-wat ≠ *s-lwat (209)

\[200\]four
DLa a31 bli53; DLb bli53; N abyi (dialect. abali);
PTB *b-liy (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 *śr-, and includes a form for 'green' in Nung: masing. I have not included this set ('alive: green' (STC #404)) because I feel Dulong pu31 sing55 sing53 'green' is simply another form of DL śing55 'tree', and not a separate root.

\[203\]louse
DLa si755; DLb siu755; N si; PTB *s-rik = *srik [108]

\[204\]twist
DLa si755; DLb tshu755; PLB *r-srik ≠ *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).§

\[163\]pig
DLa wa755; DLb wa755; PLB *wak [TSR 168]; PTB *pwak [23-24]

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

\[161\]flower
DLa sing55 wat55 'flower', sing55 wat55 wat55 'bloom';
DLb šung55 wat55 wat55 'bloom'; Nungish šing-wat 'bud' (Rawang), flower (Trung); PLB *wat; PTB *bwat [24]

\[162\]axe
DLa war53; DLb war53; PTB *r-wa (441) = *r-pwa [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.

§ 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 posit 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 Dulung 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/winnow' and 'munch':

Benedict has the Dulung forms for 'fan/winnow' descending from *k(h)rap, but I don't know what his evidence is except for the parallel with 'flying ant'. In most cases a *kr- initial is reflected as /kr- in Dulung. It may be, though, that the stop could be lost not only before glides, but before any sonorant, but I don't have enough evidence to prove it.

For 'munch' there are several closely related proto-forms and two forms in Dulung. The DLa form seems to have developed from the *ngwap 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 Dulung, 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 Dulung forms for 'braid', where it seems there has developed an epenthetic /l/:

I feel these Dulung 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 /phet/ in tone 1 reflects a voiced prefix. If this prefix was an *l-, and was also the provenience to the Dulung 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:

[209]arrow

[198]chicken

[206]fingermal

[210]monkey

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 Mini 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 sz55; DLb sz55; PTB *syey (182)

Normally, the reflex of *-ey 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 *-ay:

*-ay → -e?

small, chaff, break/broken, fear

[211]small(2)

DLb ka31 ne?55; JP ‘a31 ngai31 'bear children'; B ngai 'small, little, inferior', ngai cany tong kyé 'since childhood'; Boro mangý 'small'; LCA nyo55, LXA ngai31, LHA ngē55 'small'.

PTB *ngay [G&C 111]

[212]chaff

DLa ang31 pe?55; B phwái 'husks, chaff'; L phuai 'shavings'; Thado wai; Tiddim -vaai; Methei way; JP poi33 'to float through the air'; Lakher pai 'be scattered, disperse; emigrate, migrate'; Tangkhul khongephy 'fly in a group (bees), swarm, be scattered everywhere'; Mikir phe-ke; Mpi ko?2 phu?2; Lh vá?-phi;

LCA o?55 phoi31; LXA wa?31 phu?55; LHA wa31 phu55 'chaff'

(Lh vá?, LCA o?55, LXA wa?31, LHA wa31 'pig'), Zauwa phu31; possibly also MW pa, TP pa31.

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

[75]break/broken

DLa be?55; PTB *be *pe (*bay *pay) (254)

[150]fear

DLa pu?31 re?55; DLb pu?31 re?55;

N phere '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 *-ay. 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 ang31 nɪ55 ra31; DLb ang31 nyo55 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 *-it should give DL -it:

[59]shut

DLa nɪ55; DLb nɪ53; N n; PTB *n(y)k (235)

Benedict gives the open syllable 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 rang55; DLb ranga55; PTB **rang
The same type of -3 = -u- 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.

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 Allophonic 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 Karlgren 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 = Eunkun 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 Karlgren 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:

\( \text{\textdegree} \) = schwa
\( \text{\textbar} \) = mid-back unrounded vowel
\( \varepsilon \) = epsilon
\( \alpha \) = upsidedown a
\( \omega \) = upsidedown m
\( \varnothing \) = open o
\( \mathfrak{t} \) = apical vowel
RR = upsidedown R
\( \text{s} \) = retroflex s
\( \text{z} \) = retroflex z
\( \text{n} \) = retroflex n
\( \text{\textbar} \) = palato-alveolar fric.
\( \text{\textbar} \) = voiced palato-alveolar fric.
\( \text{s} \) = alveo-palatal fric.
\( \text{z} \) = voiced alveo-palatal fric.
\( \text{n} \) = palatal n
\( X \) = voiceless uvular fric.
\( \gamma \) = gamma
\( \text{ng} \) = velar nasal
\( \text{h(segment)} \) = voiceless segment
APPENDIX B: Comparison of the two Dulong Dialects

Below I will simply list the correspondences. 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>tʰ</td>
<td>s</td>
</tr>
<tr>
<td>dz, g, j</td>
<td>F (upsidedown f)</td>
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<tr>
<td>š</td>
<td>c cedila</td>
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<td>ř</td>
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<td>z</td>
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<td>ź</td>
<td>dz</td>
</tr>
<tr>
<td>retroflex</td>
<td>non-retroflex</td>
</tr>
</tbody>
</table>

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