

## Relative Ordering of Tibetan Sound Changes Affecting Laterals<sup>\*</sup>

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Several sound changes affect the development of inherited laterals in Tibetan: Conrady's law (\*hl > ld-), Bodman's law (\*ml- > md-), and Benedict's law (\*li- > ź-). Benedict's law occurred subsequently to both Conrady's and Bodman's laws. Because Conrady's law and Bodman's law do not interact, their relative chronology is not subject to direct exploration. Of several additional hypotheses for sound laws affecting inherited laterals which Jacques (2004) puts forward \*rli- > rj- appears promising. The three changes affecting laterals occur after Schiefner's (\*dz- > z-) and Houghton's law (\*ŋl- > ñ-) and before Dempsey's law (\*-eŋ > -iñ and \*ek > -ig).

Key words: sound laws, laterals, Tibetan, Bodish

The Tibetan verb √lud 'pour' has a present stem ལུད *ldud* and a past stem ལུད་ *blud*.<sup>1</sup> The past stem poses no analytic hurdles. The *b-* prefix is seen in the past stem of all

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<sup>1</sup> This essay uses the Library of Congress system for transliterating Tibetan with the following changes: 'h' rather than apostrophe, 'č' rather than of 'c', and 'j' rather than 'j'. The Library of Congress system is used for Burmese also, with the exception that as ḥ and ʔ are used rather than " and '. For Chinese I provide the character followed by Baxter's Middle Chinese (1992), an Old Chinese reconstruction taken from or compatible with the current version of Baxter & Sagart's system (2011), and the character number in Karlgren (1957[1964]). Like in Baxter's own recent work, for Middle Chinese I use 'ae' and 'ea' in place of his original 'æ' and 'ɛ'. I do not however following him is changing 'i' to '+'. All Tibetan verb forms cited herein can be confirmed in Hill (2010b). This paper employs the following abbreviations: PT (Pelliot tibétain), IOL (India Office Library), OBur. (Old Burmese), WBur. (Written Burmese), Chi. (Chinese), Mon. (Mtsho-sna Monpa, Wenlang dialect, *apud* Lu 1986), Tib. (Tibetan), Kur. (Kurtöp, *apud* Hyslop 2011), Rgy. (Rgyalrong). When Old Burmese would not differ from Written Burmese it suffices to employ Bur. (Burmese). For changes from Old Burmese to Written Burmese see Nishi (1999), Yanson (2006), and Hill (2012:66-69).

eight of Coblin’s paradigms for Tibetan strong verbs (cf. Table 1); one may name  $\sqrt{\text{krub}}$  ‘winnow’ with the past  $\text{འཁྲུབས་}$  *bkrubs* as a concrete example of this prefix. The *-s* suffix of the past stem seen in six out of eight of Coblin’s paradigms and in  $\text{འཁྲུབས་}$  *bkrubs* is not directly observable in  $\text{ལྟོད་}$  *ldud*, because it has assimilated to the root final *-d* (i.e.  $*\text{-ds} > *\text{-dd} > \text{-d}$ , cf. Coblin 1976:50-51).

**Table 1:** Tibetan verb paradigms according to Coblin (1976)<sup>2</sup>

	present	past	future	imperative
Paradigm 1:	h—,	b—s,	b—,	—s
Paradigm 2:	h—d,	b—s,	b—,	—s
Paradigm 3:	—d,	b—s,	b—,	—s
Paradigm 4:	g—,	b—s,	b—,	—s
Paradigm 5:	g—,	b—,	d—,	—s
Paradigm 6:	h—d,	b—,	d—,	—s
Paradigm 7:	h—,	b—s,	d—,	—s
Paradigm 8:	h—d,	b—s,	d—,	—s

The present stem  $\text{ལྟོད་}$  *ldud* is more opaque; one anticipates  $*\text{hlud}$  on analogy to  $\sqrt{\text{krub}}$  ‘winnow’, with present  $\text{འཁྲུབས་}$  *hkrub*.<sup>3</sup> Because the initial cluster  $*\text{hl-}$  does not occur in Tibetan, this sequence is available to posit as the source from which *ld-* descends. To propose a change  $*\text{hl-} > \text{ld-}$  might appear rash, but it can be broken down into three plausible steps. First, Conrady’s law accounts for the dental in  $\text{ལྟོད་}$  *ldud*; according to this law a dental stop is inserted between *h* and a following fricative, rhotic, or lateral (Conrady 1896:59, Li 1933:149, Hill 2011:446-447).<sup>4</sup> For example, the fricative initial verbal root  $\sqrt{\text{so}}$  ‘nourish’ has the present  $\text{འཚོ}$  *htsho* and the rhotic initial verbal root  $\sqrt{\text{riñ}}$  ‘be distant’ has the present  $\text{འཛིན་}$  *hdrin* (Li 1959). Analogously, the prefix *h-* induces an epenthetic dental before laterals ( $*\text{hl} > *\text{hdl}$ ); following Conrady’s law the speculative ancestor of  $\text{ལྟོད་}$  *ldud* changes from  $*\text{hlud}$  to  $*\text{hdlud}$ . Second, Simon proposes the metathesis  $*\text{dl-} > \text{ld-}$ ; he bases this suggestion on groups of related words such as  $\text{ལྟུང་པོ}$  *ldum-po* and  $\text{ལྟུང་པོ}$  *zlum-po* ‘round’,  $\text{ལྟོན་པ}$  *ldon-pa* and  $\text{ལྟོན་པ}$  *lon-ba* ‘be blind’ (1929:187).

<sup>2</sup> For more recent discussion of Tibetan verb paradigms confer Hill (2010b:xv-xxi) and Jacques (2012).

<sup>3</sup> One might also propose  $*\text{glud}$ , but in fact there do not appear to be verbs that have *gl-* in the present and *bl-* in the past.

<sup>4</sup> I have previously referred to Conrady’s law as ‘Li’s first law’, but subsequently discovered that Conrady took this sound change for granted without arguing for it (cf. Conrady 1896:59). Rather than crediting two laws to Li (as in Hill 2011:446-447), it is more elegant to amend ‘Li’s first law’ to ‘Conrady’s law’ and ‘Li’s second law’ to simply ‘Li’s law’.

The metathesis  $*dl > ld$  follows the results of Conrady's law, thus  $*hlud > *hdlud > *hldud$ . Third, Coblin's law, which dictates that prefixes yielding clusters that violate Tibetan phonotactics are dropped, accounts for the final change of  $*hldud$  to ལྷ *ldud* (cf. Coblin 1976:48 et passim, Hill 2011:446). The present stem verbal prefix *g-* nicely illustrates the motivation for Coblin's law. Of those verbs that exhibit 'a' to 'o' ablaut in the present, wherever phonotactically possible the present stem is also marked with the prefix *g-* (e.g.  $\sqrt{\text{sad}}$  'kill', with present གསོད *gsod*). The correlation of 'a' to 'o' ablaut with the *g-* prefix suggests that the prefix causes the ablaut. This suggestion in turn inspires the proposal that the prefix is responsible for the 'a' to 'o' ablaut even in words where the prefix itself is not phonotactically possible (e.g.  $\sqrt{\text{skañ}}$  'fulfill', present  $*gskoñ > \text{སྐོན}$  *skoñ*).<sup>5</sup> Summarizing the effect of these three changes, the present of  $\sqrt{\text{lud}}$  'pour' develops from  $*hlud$  to ལྷ *ldud* through the steps,  $*hdlud$  (Conrady's law)  $> *hldud$  (metathesis)  $> \text{ལྷ}$  *ldud* (Coblin's law). The development with voiceless laterals is entirely parallel: the present of  $\sqrt{\text{luŋ}}$  'fall' develops from  $*hluŋ$  to ལྷ *luŋ* through the steps,  $*hluŋ$  (Conrady's law)  $> *hluŋ$  (metathesis)  $> \text{ལྷ}$  *luŋ* (Coblin's law).

Although verb paradigms motivate the proposal  $*hl- > ld-$  (hereafter understood as a sub-case of Conrady's law) comparative evidence confirms this change before inherited palatized laterals in nominals also.

Tib. ལྷ་མ་ *lčañ-ma*  $< *hluŋ$  'willow' : Chi. 楊 *yang*  $< *laŋ$  'poplar' (0720q)

Tib. ལྷ་ *lči*  $< *hluŋ$  'dung' : OBur. ལྷ་ *khliŋ*

Tib. ལྷ་ *lče*  $< *hluŋ$  'tongue' : Bur. ལྷ་ *lhyā*, Chi. 舐 *zyeX*  $< *Cə.leʔ$  (0867f) 'lick'

Tib. ལྷ་ *lji-ba*  $< *hluŋ$  'flea' : Monpa *liu*<sup>55</sup>, WBur. ལྷ་ *lheh*

Tib. ལྷ་ *lji*  $< *hluŋ$  / ལྷ་ *lči*  $< *hluŋ$  'heavy' : Monpa *li*<sup>55</sup> *po*<sup>53</sup> : WBur. ལྷ་ *leh*

The individual steps in the phonetic development of Tibetan 'flea' ལྷ་ *lji-ba* are  $*hluŋ$ -ba  $> *hldi$ -ba (Conrady's law)  $> *hldi$ -ba (metathesis)  $> /ldi$ -ba/ (Coblin's law); the Tibetan script represents  $/di/$  with the letter ལྷ་ *j-* (von Koerber's rule, cf. von Koerber 1935:120-121 and Hill 2011:442), so the word for 'flea'  $/ldi$ -ba/ is written ལྷ་ *lji-ba*. The lateral in the reconstruction  $*hluŋ$ -ba is necessary to account for the *l-* in ལྷ་ *lji-ba* and the palatalization (i) is necessary to account for why the word for 'flea' in Tibetan is not  $*ldi$ -ba.

<sup>5</sup> With slight disagreements in detail Shafer (1951:1024), Nishida (1958:39), and Jacques (2012: 219) reconstruct a prefix  $*go-$  suggesting that the vowel in the prefix induces a change in the stem vowel. However, pointing out that the *-o-* is redundant since all verbs that can take a *g-* prefix undergo the ablaut, Coblin quite reasonably wonders whether "we may not in fact suspect that pre-initial *g-* itself is responsible in some way for the *-a-*  $>$  *-o-* change in the present roots of verbs" (1976:55).

Following a proposal of Benedict's (1972:39, note 127) and citing these same words Jacques (2004:6) reconstructs \*hl̥- as the origin of *lč*-. The notation 'hl' is ambiguous as to whether 'h' represents a glottal fricative articulated before the onset of the lateral or whether 'hl' together indicates a voiceless lateral. Schuessler reconstructs *lč*- < \*hl̥- (2007:465, 467, 497) which is certainly to be understood as \*l̥-. Benedict intends 'h' segmentally; he proposes that ལྷི་ *lči* 'dung' derives through the steps \*s-kli > \*skli > \*hli > ལྷི་ *lči* (1972:39, note 127), where the change of 's' to 'h' unambiguously suggests that 'h' is a segment independent from the following *l*-. Jacques (2004:6) and Schuessler (2007:465) add the Chinese cognate 屎 *syijX* < \*lij̥? (0561d) for 'dung'.<sup>6</sup>

The proposal \*hl̥ > *lč* is unmotivated; in no other instance has an 'h' prefix been suggested in Tibetan phonetic history. In contrast, if one follows Baxter & Sagart in reconstructing 屎 *syijX* < \*q̥ij̥? rather than \*lij̥?, the velar initial of the Burmese and uvular initial of the Chinese supports the suggestion of a velar initial \*h̥- in the Tibetan, and thereby weighs in favor of the proposal \*h̥li > *lč*-, which is also the superior choice on the grounds of symmetry with the changes \*h̥li > *lj*- and \*h̥li > *lt*-.

The palatalized laterals in these nominal forms have bypassed Benedict's law, which normally changes \*li- to *ž*- (cf. Benedict 1939:215, Hill 2011:445).

Tib. ལྷི་ *zin* < \*lin̥ 'field' : Kur. <sup>L</sup>*leŋ*<sup>7</sup>, Bur. ལོ་ལོ་ *lay*, Chi. 田 *den* < \*l̥in̥ (0362a)

Tib. ལྷི་མ་ *zim* < \*lim̥ 'tasty' : Kur. *lem*, Chi. 甜 *dem* < \*l̥em (0621-) 'sweet'

Tib. ལྷི་འོ་ *zo* < \*lio 'yoghurt' : Japhug Rgy. *tr-lu* 'milk'

Tib. ལྷི་གཙུག་ *gzi* < \*gli̥ 'ground' : OBur. ལྷི་མོ་ *mli*, Chi. 地 *dijH* < \*l̥ej-s (0004b)<sup>8</sup>

Tib. ལྷི་ཁྱུ་ *gzu* < \*gli̥u 'bow'<sup>9</sup> : Kur. *limi*, OBur. ལྷི་ལོ་ *liy*, Chi. 矢 *syijX* < \*lij̥? (0560a) 'arrow'

Tib. ལྷི་བཞི་ *bzi* < \*bli̥ 'four' : Kur. *ble*, OBur. ལྷི་ལོ་ *liy*, Chi. 四 *sijH* < \*s.li[j]-s (0518a)

<sup>6</sup> Jacques also compares Tib. ལྷི་གཙུག་ *lčags* 'iron' and Chi. 鐵 *thet* < \*l̥ik (1256b) 'iron'. Because of its relatively late appearance as a technology 'iron' cannot be a genuine cognate between Tibetan and Chinese. In China iron only appears circa 500 BCE (Wagner 1993:52-96), a good seven hundred years after the introduction of writing. Schuessler repeats the comparison, but suggests that it is an 'area word' (2007:497).

<sup>7</sup> This word, apparently lacking in Hyslop (2011) is taken from Michailovsky & Mazaudon (1994:553).

<sup>8</sup> Bodman reports that 地 has an addition reading \*l̥is, which makes the correspondence regular (1980:99).

<sup>9</sup> The word 'bow' is spelled ལྷི་གཙུག་ *gzi* in an Old Tibetan version of the Rāma story (IOL Tib J 0737/1 line 168, cf. de Jong 1989:115).

There are also grounds internal to Tibetan for proposing Benedict's law (cf. Gong 1977[2002:391-392]).

Tib. གཞོགས་ *gzogs* < \*glogs 'side of the body' : Tib. ལོགས་ *logs* 'side'

Tib. བཞེས་ *bžen* < \*blien 'rise' : Tib. ལས་ *lan* 'rise'

If the \*l̥ in \*h̥li-ba (> ལྷི་བ་ *lji-ba*) 'flea' and similar words did not undergo Benedict's law, the sequence \*l̥ in such words must have already changed to something else before the change \*l̥ > ʒ occurred. Examining the chain of changes \*h̥li-ba > \*h̥dli-ba > \*h̥ldi-ba > ལྷི་བ་ *lji-ba*, in order for the sequence \*l̥ to avoid Benedict's law, the metathesis of \*dl- to ld- must have taken place prior to its application, i.e. Conrady's law precedes Benedict's law.

However, conflicting evidence suggests that Benedict's law occurred before Conrady's law. Since Japhug Rgyalrong *tr-lu* 'milk' confirms that Tibetan ལོ་ *zo* 'yoghurt' derives from \*lio (Jacques 2008:128), in order to account for ལྷོ་ *hjo* as the present of the verb ʌzo 'to milk', the change \*h̥z- > h̥j- must have occurred after the change \*l̥ > ʒ-, i.e. Conrady's law (\*h̥z- > h̥j-) took place after Benedict's law (\*l̥ > ʒ-). Gong also implicitly puts Benedict's law prior to Conrady's when he compares Tibetan ལྷོ་ *hjol* 'to hang down' to WBur. လွှတ် *lway* 'suspend from shoulder'; he reconstructs the Tibetan form \*h̥liol (1995[2002:168, #45]). His view might be paraphrased as suggesting \*h̥liol > \*h̥zol (Benedict's law) > /h̥dʒol/ (Conrady's law), spelled ལྷོ་ *hjol*.

There is thus a choice between the ordering (1) Conrady, (2) Benedict (to explain ལྷི་བ་ *lji-ba* < \*h̥li-ba 'flea' and the like), or the ordering (1) Benedict, (2) Conrady (to explain the present ལྷོ་ *hjo* of ʌzo < \*lio 'to milk'); either words like 'flea' or the paradigm of 'to milk' arose due to analogical change. A verb such as ʌzu 'melt' (present ལྷུ་ *hju*, past བཞུས་ *bzus*, future བཞུ་ *bzu*, imperative ལྷས་ *zus*) serves as a perfect analogy to motivate the present stem ལྷོ་ *hjo* of ʌzo 'to milk' (past བཞོས་ *bzos*, future བཞོ་ *bzo*, imperative ལྷོས་ *zos*). In contrast, it is unclear how analogy can explain ལྷི་བ་ *lji-ba* 'flea' and other nominals. Gong is probably mistaken to reconstruct Tib. ལྷོ་ *hjol* 'to hang down' as \*h̥liol, on the basis of comparison with Written Burmese လွှတ် *lway* 'suspend from shoulder'. Luce instead proposes Written Burmese ဆွဲ *chwai* 'hang' as its cognate (1985: chart x, #61). Comparison to Chinese 垂 *dzywe* < \*doj (0031a) 'hang down, fall' also supports the rejection of a lateral origin for Tib. ལྷོ་ *hjol*.<sup>10</sup> In sum, Conrady's law took place before Benedict's law, and analogy accounts for the present stem ལྷོ་ *hjo*

<sup>10</sup> Gong reconstructs Chi. 垂 *dzywe* < \*gljwal (0031a) 'hang down, fall', where the lateral compares more favorably to WBur. လွှတ် *lway* 'suspend from shoulder'. Schuessler reconstructs \*doj (2007:196), like Baxter & Sagart (2011).

in the paradigm of  $\sqrt{\text{zo}} < *l\text{io}$  ‘to milk’.<sup>11</sup>

Not only *h*- alters the development of laterals in Tibetan; according to Bodman’s law, a prefix *m*- leads to the fortition of *\*l*- into *d*- (Bodman 1980:170, Hill 2011:450). Two words furnish comparative evidence for Bodman’s law.

Tib. མདུག་ *mdaḥ* < *\*mlaḥ* ‘arrow’ : Monpa *mla*<sup>35</sup>, OBur. མུག་ *mlāḥ*, Chi. 射 *zyek* < *\*Cə.lak* (0807a) ‘hit with bow and arrow’

Tib. མདུག་ *mdom* ‘fathom’<sup>12</sup> : Monpa *glam*<sup>35</sup>, Bur. ལུག་ *lam*, Chi. 尋 *zim* < *\*sə-ləm* (0662a) ‘measure of circa 8 feet’

Tibetan internal evidence supports such a proposal.

Tib. མེད་པ་ *mdoṅs-pa* < *\*mloṅs-pa* ‘blind’ : Tib. མེད་པ་ *ldoṅ-pa* ‘go blind’ < *\*ḥloṅ-pa* (Conrady’s law), Tib. མེད་ *lon* ‘be blind’

Tib. མདུག་ *mdan-pa* < *\*mlan-pa* ‘cheek’ : Tib. མདུག་ *ldan-pa* ‘cheek’ < *\*ḥlan-pa* (Conrady’s law)

Nominals also provide examples of Bodman’s law before inherited palatalized laterals.

Tib. མེད་ *mjñ* /*mdjñ*/ < *\*mljñ* ‘neck’<sup>13</sup> : WBur. ལུང་ *laññ* (< *\*liñ*, Shafer’s law, cf. Shafer 1940:311, 1941:20-21), Chi. 領 *ljengX* < *\*reñʔ* (0823f)

Tib. མེད་ *mje* /*mdie*/ < *\*mlie* ‘penis’ : Kur. *plik*, WBur. ལུ་ *līḥ*

The question again arises as to the relative timing of this law (*\*ml* > *md*) relative to Benedict’s (*\*l* > *ḥ*). If Bodman’s law occurred before Benedict’s then *\*mljñ* develops into མེད་ *mjñ* /*mdjñ*/ ‘neck’ without an intermediate stage. If Benedict’s law occurred before Bodman’s, the result is *\*mljñ* > *\*mžjñ* > མེད་ *mjñ*, where the change of *\*mž*- to

<sup>11</sup> As a corollary, when this analogical change occurred མེད་ *zo* must have still meant ‘milk’ and not yet changed its meaning to ‘yoghurt’.

<sup>12</sup> The variant མདུག་ *hdom-pa* for མདུག་ *mdom* ‘fathom’ is probably not an etymological spelling. After the change of the Old Tibetan velar fricative *h*- before a stop consonant to prenasalization in Common Tibetan (Hill 2005:114-115, 2009:131), the sequence /*nd*-/ would be spelled ‘*hd*’ regardless of its etymological origin. The assimilation of /*m*-/ to /*n*-/ before *d*- explains the change of /*mdom*/ to /*ndom*/. This hypothesis will be difficult to confirm philologically until the relative chronology of Old Tibetan texts is better understood.

<sup>13</sup> The variant མེད་ *hjñ-pa* for མེད་ *mjñ* ‘neck’ is probably not an etymological spelling; compare note 12.

*mj-* must be explained as a change analogous to Conrady's law, but after *m-* rather than *h-*.<sup>14</sup> If Conrady's law subsumes *\*mž > mj-*, then Benedict's law precedes Conrady's law, i.e. *\*ml̥iŋ > \*mžiŋ* (Benedict) > *མཛིན* *mjiñ* (Conrady), but words like *ལྷི་བ་* *lji-ba* 'flea' have already led to the rejection of this ordering of the sound changes. If *\*mž- > mj-* is not linked to Conrady's law, then, because *\*mž- > mj-* would be neither a result of Conrady's nor of Bodman's law, the ordering of Benedict's law before Bodman's law leads inexorably to the postulation of a new sound change that would otherwise not be required; William of Ockham would not approve. One must conclude that Bodman's law preceded Benedict's law. Summarizing the progress made so far: Benedict's law occurred subsequently to both Conrady's law and Bodman's law. Because Conrady's law and Bodman's law do not interact, their relative chronology is not subject to direct exploration.

Jacques accepts Benedict's<sup>15</sup> and Bodman's<sup>16</sup> laws and proposes a number of additional sound changes involving inherited laterals (2004:8-9). Although he accepts Conrady's law, he restricts its application to verb paradigms. Outside of verb paradigms he proposes that *\*hl* leads to *hd-* and offers the comparison of Tibetan *འདབ་མ་* *hdab-ma* 'leaf' to Chinese 葉 *yep* < *\*lap* 'leaf' (0633d) as supporting evidence (Jacques 2004: 8).<sup>17</sup> The proposal that a sound law is conditioned by a morphological category rather than a phonetic environment appears to violate a basic principle of historical linguistics, that sound change is exceptionless and ignores the meaning of the affected words.<sup>18</sup> However, because Jacques proposes that *h-* itself has a separate origin before nouns and in verb paradigms (2004:8), there is no methodological objection to his proposal. One could paraphrase Jacques morphological account in phonological terms by distinguishing *\*hl<sub>1</sub>* and *\*hl<sub>2</sub>* and proposing *\*hl<sub>1</sub>- > hd-* and *\*hl<sub>2</sub>- > ld-* as exceptionless sound laws, together with a subsequent merger of *\*hl<sub>1</sub>* and *\*hl<sub>2</sub>* as *h*.

<sup>14</sup> Some proposed reconstructions also suggest the insertion of an epenthetic dental after *m-*. Gong reconstructs *མཛིན་པ་* *mčhin-pa* as *\*m-sin-pa* 'liver' in light of WBur. *འབྲུག་* *a-saññh* 'liver' and Chinese 辛 *sin* < *\*sin* (0382a) 'pungent; painful' (1995[2002:91, #82]) and for different reasons both Beckwith (2008:179, note 59) and Jacques & Michaud (2011: appendix, p.11) reconstruct *མཚོ་* *mtsho* 'lake' as *\*m-swa*.

<sup>15</sup> Jacques separately catalogs *\*li- > ž-*, *\*bli- > bž-*, and *\*gli- > gž-* (2004:9).

<sup>16</sup> Jacques separately catalogs *\*ml > md-* and *\*ml̥- > mj-* (2004:9).

<sup>17</sup> Jacques also points to Tib. *འདབ་མ་* *hdom-pa* 'fathom', but *མཛོ་མ་* *mdom-pa* is probably the etymologically correct spelling (cf. note 12).

<sup>18</sup> An apparent counterexample is loss of Uto-Aztecan *\*p-* in Nahuatl nouns but not in verbs. However, since "verb roots rarely stand alone and are usually preceded by some prefix, a hypothesis is suggested that *\*p-* is lost in absolute initial position, a regular change" (Campbell & Langacker 1978:201, note 43).

Interpreting *h* as a nasal, Jacques sees *\*h<sub>1</sub>l- > hd-* as parallel to Bodman's law (*\*ml > md*). Since *h* is not a nasal but a velar fricative (cf. Hill 2009) the elegance of *\*h<sub>1</sub>l- > hd-* as parallel to *\*ml > md* vanishes. Keeping in mind that རྩམ་ *hdab-ma* means 'wing' as well as 'leaf' one can suggest that the true Chinese cognate of this word is 翼 *yik* < *\*grəp* 'wing' (0912b, 0954d) and not 葉 *yep* < *\*lap* 'leaf' (0633d). The correspondence of Tibetan *d-* to Chinese *\*g-* receives support from the comparison of Tibetan རྩ་ *dom* 'bear' and Chinese 熊 *hjuwng* < *\*C.ɣ(r)əm* 'bear' (0674a).<sup>19</sup> Because Jacques restricts Conrady's law to verb paradigms (*\*h<sub>2</sub>l- > ld-*), for him it cannot subsume the change *\*h<sub>1</sub>l > lj-* seen in nouns such as ལྷི་པ་ *lji-ba* (a proposal which he accepts, cf. 2004:8). Jacques' proposal *\*h<sub>1</sub>l- > hd-* entails both the separation of *\*h<sub>1</sub>* and *\*h<sub>2</sub>* and the separation of *\*h<sub>1</sub>l > lj-* from *\*h<sub>2</sub>l > ld-*. These machinations are a high price to pay in order to safeguard the comparison of Tibetan རྩམ་ *hdab-ma* 'leaf' to Chinese 葉 *yep* < *\*lap* 'leaf' (0633d). Multiplying unattested elements in order to account for one comparison is not elegant, in particular when an alternative etymology is available. Because it is poorly motivated and entails inelegant consequences, Jacques' proposed sound change *\*h<sub>1</sub>l- > hd-* is best rejected.

Jacques proposes a sound change *\*pl > phy* in order to account for alternations within Tibetan noted by Gong (1977[2002:392]).

- Tib. ལག་ *lag* 'hand' : Tib. ཕག་ *phyag* 'hand (hon.)'  
 Tib. ལོག་ *logs* 'side' : Tib. ཕོག་ *phyogs* 'side'  
 Tib. ལོག་ *log* 'to return, to go back' : Tib. ཕོག་ *phyogs* 'to turn'  
 Tib. ལུག་པོ་ *lhug-po* 'rich' : Tib. ཕུག་པོ་ *phyug-po* 'rich'  
 Tib. ལུག་ *lug* 'sheep' : Tib. ཕུག་ *phyugs* 'cattle'  
 Tib. གླིང་པ་ *gliṅs-pa* 'felt rug' : Tib. ཕྱིང་པ་ *phyiṅ-pa* 'felt'  
 Tib. ལམ་ *lcam* 'beam, rafter' : Tib. ཕམ་ *phyam* 'beam, rafter'

Gong himself suggests that the attested forms in *l-* derive from *\*phl-* and the attested forms in *phy-* have their origin in *\*phli-* (1977[2002:392]). This proposal has the advantage of making these pairs analyzable in terms of the *-j-* honorific infix that Gong notes in other words (e.g. སྐམ་ *skam* 'dry' and སྐྱེམ་ *skyem* 'be thirsty [hon.]', cf. Gong 1977[2002:389]).

<sup>19</sup> Cognates of Chi. 葉 *yep* < *\*lap* 'leaf' (0633d) may instead be sought among words such as ལེབ་ *ldebs* 'side, surface', ལེབ་ *leb* 'flat', ལེབ་ *lhebs* 'piece of something flat', གཤེབ་ *gleb* 'press', ལེབ་མོ་ *gleb-mo* 'flat', ལོ་མ་ *lo-ma* 'leaf' or ལམ་ *lab* 'radish'. One might also compare OBur. ལྷོང་ *klap* 'disk, coin'. Since 'generation' is one of the Chinese word's attested meanings, Schuessler also compares it with Tibetan རྩམ་ *rabs* 'generation' (2007:562).



From the perspective of the Old Tibetan phonological system such reconstructions are meaningless. Old Tibetan lacks a phonemic contrast of aspiration (Hill 2007), so Gong's reconstruction *\*ph* must be understood as simply *\*p*. This results with *\*pl* > *l* and *\*pli* > *pʰ*. All consonants in an Old Tibetan initial cluster agree in voicing with the final consonant of the cluster (Hill 2010a:122). Consequently, Gong's reconstructions must be again rewritten, now appearing as *\*bl* > *l* and *\*bli* > *pʰ*. The cluster */bl/* is however attested in Old Tibetan and thus is not available for this reconstruction. The Old Tibetan spelling <bl> reflects both */bl/* and */bʰl/*. For example, the stems of the verbal root *√lag* 'read' are written as present གླག *klog*, past གླགས *blags*, future གླག *klog*, imperative གླགས *lhogs* with the phonemic interpretation */glog, blags, glog, logs/* (Hahn 1999).<sup>20</sup> The same considerations apply to Jacques' reconstruction of the alternation as *l-* versus *\*pl* > *phy-* (2004:8-9); his reconstruction *\*pl-* must be interpreted as the attested */bl/*. Although the examples of *l-* and *phy-* alternations that Gong puts forward inspire the conviction that the sequence *phy-* sometimes derives forms laterals through a morpho-phonological process, Gong and Jacques do not succeed at explaining this process.

Jacques' most tentative proposal is *\*bli-* > *byi-* for which he provides one example (2004:9), viz. Tibetan བྱིས་པོ་ *byiṅs-po* 'completely, entirely' compared both to Tibetan ལྷོས་པོ་ *liṅs-po* 'id.' and to Tamang <sup>l</sup>*plij* 'id.'. This suggestion presumes that pre-Tibetan distinguish *\*bli-* (> *byi-*) and *\*bli-* (> *bzi-*), which serves the added purpose of explaining why the sequence *li-* is still found in some Tibetan words; one may thus contrast རྩོད་ *zin* < *\*liṅ* 'field' with ལྷོས་ *liṅs* 'hunt'. Although some languages do distinguish */i/* and */i:/*, e.g. Modern Burmese ཕྱི */pi/* 'be distinct' versus རྩོ */pji/* 'vie with, rival' and མི */mi/* 'fire' versus རྩོ */mji/* 'tail', this solution is not satisfying. Examples of laterals before the vowel 'i' in Tibetan are vanishingly few and all end in velars: གླིང་ *glin* 'island', གླིང་ *glin* 'flute', ལྷོ་ལྷོ་ *liṅ-ṅe* 'dangling, waving', ལྷོ་ཏོག་ *liṅ-tog* 'a film or pellicle on the eye', ལྷོ་བ་ *liṅ-ba* 'a piece', ལྷོ་མེ་ *liṅ-tshe* 'lattice',<sup>21</sup> ལྷོས་ *liṅs* 'hunt', and ལྷོ་པ་ *rliṅ-pa* 'testicle'.<sup>22</sup>

<sup>20</sup> The sound change *\*/bʰl/* > */pʰ/* does not suffer the same problems as its partner; the change is phonologically plausible and Old Tibetan has no */bʰl/*, but in the absence of *\*/bʰl/* > */l/* there is no motivation for suggesting *\*/bʰl/* > */pʰ/*.

<sup>21</sup> Note that most Tibetan words that end in *-tse* or *-tshe* are Chinese loanwords, e.g. ཏོག་མེ་ *don-tse* 'copper coin' (< 銅子 *tóngzi*), ལོག་མེ་ *lcog-tse* 'table' (< 桌子 *zhuōzi*).

<sup>22</sup> This list is based on Jäschke's dictionary (1881), excluding regional dialect forms, loanwords, or words for which the only authority is the extremely unreliable dictionary of Schroeter (1826). This work was compiled by F. Francesco Orazio della Penna (1680-1745) as a Tibetan-Italian glossary. Schroeter died while revising the work and learning Tibetan; the editors who saw the work through publication knew no Tibetan (cf. Simon 1964, Bray 2008). Jäschke does not give Tib. ལྷོས་པོ་ *liṅs-po* 'completely, entirely', which Jacques cites.

Jacques' explanation takes no account of this limited distribution.<sup>23</sup>

According to Dempsey's law, Tibetan changed original \*-eŋ and \*-ek to -iñ and -ig (e.g. Tib. གཅིག *gčig* 'one', Chi. 隻 *tsyek* < \*tek [1260c] 'one of a pair', Tib. མིན *myiñ* 'name', Chi. 名 *mjieng* < \*[m]eŋ [0826a] 'id.', cf. Dempsey 2003:90, Hill 2012:73). If Dempsey's law occurred after Benedict's law, this would explain why all instances of *li-* appear in words with velar finals. The words 'field' and 'hunt' were originally \*liñ (with \*liñ a subphonemic pronunciation) 'field' and \*leñs 'hunt'; after the application of Benedict's law they became \*ziñ 'field' and \*leñs 'hunt'; after the application of Dempsey's law they became the attested རྩོད *ziñ* 'field' and ལེངས *leñs* 'hunt'. Dempsey's law also accounts for the lack of palatalization in most words that contain the sequences -di- and -ni-. All but two words that contain the sequence -di- end in a velar. The seven examples with velar final are: དུག་པ་ *dig-pa* 'a stammerer', འདྲིག་ *hdig* 'stop, stammer', སྡིག་ *sdig* 'thick', སྡིག་པ་ *sdig-pa* 'scorpion, sin', འདྲིག་ *sdig* 'show, aim, threaten', སྡིག་པ་ *sdin*s 'cavity, depression', རྩོད་ *rdig* 'household utensils').<sup>24</sup> The two counterexamples are the grammatical word འདྲི *hdi* 'this' and the verb འདྲིབ་ *rdib* 'collapse, break down'. Grammatical morphemes often undergo different sound changes than the bulk of lexical stock; འདྲི *hdi* 'this' need not cause concern.<sup>25</sup> The exception འདྲིབ་ *rdib* 'collapse, break down' is harder to account for; this verb is the intransitive pair of འདྲིབ་ *rtib* 'break, pull down'. The fact that the distribution of -i- after *t-* is less restricted than it is after *d-*<sup>26</sup> suggests that འདྲིབ་ *rdib* 'collapse, break down' may have derived from འདྲིབ་ *rtib* 'break, pull down' after the general

<sup>23</sup> Jacques (2004:10) includes a list of words that contain the sequence -li-. He does not give textual or lexicographical authorities for the cited words. The only examples not before velars are ལི་ *li* 'bronze', ལི་བ་ *li-ba* 'curled (of hair)', རྩོད་པ་ *rlid-bu* 'animal skin', and རྩོད་པ་ *rlibs* 'wear'. Of these ལི་ *li* 'bronze' is certainly a loanword and རྩོད་པ་ *rlibs* 'wear' is likely an attempt to etymologize a dialect pronunciation of ལུབ་ *klub* 'wear'.

<sup>24</sup> One might also include here the present stem འདྲིབ་ *hdiñ* of the verb འདྲིབ་ *rtib* 'spread out', but perhaps it should instead be considered together with words that have initial *t-*.

<sup>25</sup> In an analogous case, Old Chinese 之 *tsyī* < \*tə (0962a) should have led to *zhī* in Mandarin, but the word is instead pronounced *de* [tə], now written with the character 的.

<sup>26</sup> For *ti-* there are quite a few more examples སྡི་ *sti* 'rebuke, scold', སྡིབ་ *stibs* 'offer sacrifice', སྡིབ་ *stim* 'enter, penetrate', སྡི་ *sti* 'rest, repose', གཏིབ་ *gtib* 'gather', གཏིག་ *gtig* 'drop', གཏིར་ *gtiñ* 'bottom, depth', གཏིལ་ག་ *gti-mug* 'ignorance', མཐོང་ *mtiñ* 'deep blue', མཐོང་ *mtiñ* 'bottom', འཐོང་ *hthig* 'drop', འཐོང་ལྷན་ *hthiñ-slad* 'a term of abuse', འཐོང་པ་ *hthibs* 'cover, covering', འཐོང་པ་ *hthibs* 'gather', ཐོང་པ་ *thigs* 'a drop', ཐོང་ *thib* 'dark', and other forms of the verb འདྲིབ་ *rtib* 'spread', past ཐོང་པ་ *btin*s, future གཏིར་ *gtiñ*, imperative ཐོང་པ་ *thiñ*s. There are no Tibetan words that contain the sequence -pi- or -ki. Only grammatical suffixes contain -gi- (*gi*, *gin*, *gis*) and they are just one allophone of these. The two examples of -bi- are easily dismissed: འབི་འབི་ *hbi-hbi* 'a type of clay' is likely a loanword or dialect form and the present stem of འབིག་ *hbigs* of the verb འབིག་ *rtib* 'bug', where the present stem suffix -d has induced a 'u' to 'i' ablaut (cf. Coblin 1976:58).

palatalization of *d-* before *-i-*.<sup>27</sup> Four out of five of the words that contain the sequence *-ni-* end in velars: ན་ནིན་ *na-nin* ‘last year’, ཞེ་ནིན་ *že-nin* ‘year before last’, and མ་ནིན་ *ma-nin* ‘hermaphrodite’. The exception is the topic marker ནི་ *ni* which is a grammatical word like འདི་ *hdi* ‘this’.

Dempsey’s law is motivated by evidence independent of explaining the pattern of Tibetan palatalization (Dempsey 2003:90, Hill 2012:73). If Benedict’s law took place after Dempsey’s law then one must invoke a distinction between *\*i* and *\*ji* in order to explain such pairs as འཇིག་ *hjiḡ* /*hdiḡ*/ ‘destroy’ and འདིག་ *hdiḡ* ‘stop’ or རིང་ *zin* ‘field’ and ལིང་ *linṣ* ‘hunt’, with the prevalence of *-i-* before velars credited to coincidence. However, if Benedict’s law took place before Dempsey’s law such pairs and their prevalence before velars is an automatic consequence of sound change. A consequence of failing to distinguish between *\*i* and *\*ji* is the rejection of Jacques’ proposal *\*bli* > *byi*.

One of Jacques’ suggestions may be tentatively embraced; he offers three examples of *\*rli-* > *rj-* (= *rdi*) (2004:4-5).

Tib. རྩེ་ *rje* < *\*rli* ‘exchange’,<sup>28</sup> Monpa *ple*<sup>55</sup>, Bur. ལོ་ *lai*

Tib. རྩེ་ *rje* < *\*rli* ‘lord’, Tamang *kle* ‘king’

Tib. བརྩོ་ *brjed* < *\*mrjed* (Simon’s law, cf. Hill 2011:448-449) < *\*mrljed* ‘forget’,  
Tamang *mlet-pa*

Bodman had previously offered the comparison of ‘exchange’ (1980:127).<sup>29</sup> Rather than *\*rli-* directly yielding *rj-* (before Benedict’s law), Bodman presents *rj-* as the outcome of the series of changes *\*rli* > *\*rǰ-* > *rj-*, of which the first change is Benedict’s law. In the absense of evidence for proposing *\*rǰ-* > *rj-* as a change in its own right<sup>30</sup> there is

<sup>27</sup> Both རིབ་ *rdib* and རིབ་ *rtib* are attested in Old Tibetan. Thus, the *Old Tibetan Chronicle* offers the phrase མཐོས་ཏེ་ནི་དགུང་མི་རིབ་ // *mthos-te ni dguñ myi rdib* // ‘being high, the heavens did not fall’ (PT 1287, l. 457) and the verb *rtib* occurs four times in PT 1134 always in the phrase མཐོས་ཏེ་གཞི་བཞག་གཞི་བཞག་གཞི་བཞག་གཞི་བཞག་ *pho-bran ni g.yon-tu rtibs-sig ! zugs thab ni g.yasu gliñs-sig !* “collapse the tent (?) to the right! Spread (?) the hearth-fire to the right!”.

<sup>28</sup> The Monpa word suggests that the root of the Tibetan verb is  $\sqrt{\text{brje}}$  rather than  $\sqrt{\text{rje}}$ . Some lexicographical sources agree with this, but it is not the majority opinion (cf. Hill 2010b:101). The question merits more detailed philological investigation.

<sup>29</sup> Bodman also adds Chinese 易 *yek* < *\*lek* ‘change; exchange’ (0850a) to the comparison (1980:127), whereas Gong proposes Chinese 移 *ye* < *\*laj* (0003q) ‘change’ as the cognate and Schuessler proposes Chinese 買 *meaX* < *\*m<sup>h</sup>raj?* (1240c) ‘buy’ (2007:66).

<sup>30</sup> One might suggest that the change *\*rǰ-* > *lj-* would parallel a change *\*lǰ-* > *lj-*, which the spelling of the word ལུ་ལོ་ *khul-zo* ‘crib’ as ལུ་ལོ་ *khu-ljo* in the *Old Tibetan Chronicle* (PT 1287 line 43) might be taken as evidence for. However, since ལུ་ལོ་ *khu-ljo* is attested prior to ལུ་ལོ་

no way to decide whether  $*rli-$  >  $rj-$  occurred before Benedict or whether  $*r\acute{z}-$  >  $rj-$  occurred after Benedict's law.

The relative chronology of sound changes affecting laterals is now more or less clear. Conrady's ( $*hl-$  >  $ld-$ ) and Bodman's ( $*ml-$  >  $md-$ ) laws precede Benedict's law ( $*li-$  >  $\acute{z}-$ ). Possibly a change  $*rli-$  >  $rj-$  also occurred before Benedict's law or alternatively a change  $*r\acute{z}-$  >  $rj-$  occurred after Benedict's law. It is also clear that Dempsey's law ( $*-e\eta$  >  $-i\eta$  and  $*-ek$  >  $-ig$ ) took place after the sound changes affecting laterals. Every sound law is potentially associated with a node on the Stammbaum of a language family. The question naturally arises as to whether any of these changes are shared by other languages, and can thus help to clarify the structure of the family. Citing comparisons such as Tibetan རྩོད *zin* 'field' to Kurtöp <sup>L</sup>*ley* 'field', Michailovsky & Mazaudon point out that Benedict's law ( $*li$  >  $\acute{z}$ ) had not yet occurred in proto-Bodish (1992:553). The comparison of Tibetan རྩོད *lji-ba* <  $*hlji$ -ba 'flea' and མཐོག *mdah* <  $*mlah$  'arrow' respectively to Mtsho-sna Monpa *liu*<sup>55</sup> 'flea' and *mla*<sup>35</sup> 'arrow' demonstrates that Conrady's law and Bodman's law also took place after Tibetan split from proto-Bodish. The Monpa word *ple*<sup>55</sup> 'exchange' makes clear that, like the laws of Conrady, Bodman, and Benedict's, the change of  $*rli$  >  $rj-$  (if it took place before Benedict's law) occurred after Tibetan broke off from proto-Bodish. The evidence of the East Bodish languages shows that all four changes affecting laterals took place after the split of Tibetan from the other Bodish languages.

Houghton's law ( $*\eta i-$  >  $\tilde{n}-$ ) and Schiefner's law ( $*dz-$  >  $z-$ ) do effect Kurtöp and Monpa (Tib. རྩོད *ña* 'fish', Kur. *na*, Monpa *na*<sup>35</sup> versus Bur. རྩོད *nāh* 'fish', Chi. 魚 *ngjo* <  $*\eta a$  [0079a], and Tib. རྩོད *za* 'eat', Kur. *zà*, Monpa *za*<sup>35</sup> versus Bur. རྩོད *cāh*, Japhug Rgy. *ndza*, Chi. 咀 *dzjoX* <  $*dza$ ? [0046u]). Consequently, Houghton's and Schiefner's laws preceded all of the sound changes affecting Tibetan laterals and Dempsey's law.

In conclusion, Houghton ( $*\eta i-$  >  $\tilde{n}-$ ) and Schiefner's laws ( $*dz-$  >  $z-$ ), affecting Kurtöp and Monpa, are shared innovations that characterizes the Bodish branch, which precede all of the Tibetan internal changes that affect laterals. Within the history of Tibetan, Conrady ( $*hl-$  >  $ld-$ ) and Bodman's ( $*ml-$  >  $md-$ ) laws precede Benedict's law ( $*li-$  >  $\acute{z}-$ ) and Benedict's law in turn precedes Dempsey's law ( $*-e\eta$  >  $-i\eta$  and  $*-ek$  >  $-ig$ ). Coblin's law (loss of prefixes) took place after Conrady's law, but it does not interact with Benedict's or Dempsey's law. In addition, either a change  $*rli-$  >  $rj-$  occurred before Benedict or a change  $*r\acute{z}-$  >  $rj-$  occurred after Benedict's law. Table 2 attempts to present these conclusions in tabular format.

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*khul-žo* it is unattractive to suppose *lj-* the innovative variant. A superior analysis is to cite these two words as an example of the change  $*j$  >  $\acute{z}$  at syllable initial position in syllable initial position (Schiefner's law, cf. Schiefner 1852:364).

**Table 2:** Relative chronology of Tibetan sound laws

Tibeto-Burman (common ancestor of Tibetan, Burmese, Chinese)			
Phase 1:	Houghton's law (*ɲj- > ñ-)		Schiefner's law (*dz- > z-)
Bodish (common ancestor of Tibetan, Kurtöp and Monpa)			
Phase 2:	Conrady's law (*ɬl- > ld-)	Bodman's law (*ml- > md-)	possibly *rli- > rj̃-
Phase 3:	Benedict's law (*li- > ź-)		Coblin's law (loss of prefixes)
Phase 4:	Dempsey's law (*-ek, *-eŋ > -ig, -in̄)		possibly *rź- > rj̃-
Old Tibetan as attested			

## References

- Baxter, William H. 1992. *A Handbook of Old Chinese Phonology*. Berlin: Mouton de Gruyter.
- Baxter, William H., and Laurent Sagart. 2011. Baxter-Sagart Old Chinese reconstruction (Version 1.00). Online at <http://crlao.ehess.fr/document.php?id=1217>.
- Beckwith, Christopher I. 2008. An introduction to theoretical and methodological problems in the comparative-historical linguistics of Eastern-Eurasian languages. *Medieval Tibeto-Burman Languages III*, ed. by Christopher I. Beckwith, 9-48. Halle: International Institute for Tibetan and Buddhist Studies GmbH.
- Benedict, Paul K. 1939. Semantic differentiation in Indo-Chinese. *Harvard Journal of Asiatic Studies* 4.3-4:213-229.
- Benedict, Paul K. 1972. *Sino-Tibetan: A Conspectus*. Cambridge: Cambridge University Press.
- Bodman, Nicholas C. 1980. Proto-Chinese and Sino-Tibetan: data towards establishing the nature of the relationship. *Contributions to Historical Linguistics: Issues and Materials*, ed. by Frans van Coetsem & Linda R. Waugh, 34-199. Leiden: E. J. Brill.
- Bray, John. 2008. Missionaries, officials and the making of the 1826 'Dictionary of the Bhotanta, or Boutan Language'. *Zentralasiatische Studien* 37:33-75.
- Campbell, Lyle, and Ronald W. Langacker. 1978. Proto-Aztec vowels: part II. *International Journal of American Linguistics* 44.3:197-210.
- Coblin, W. South. 1976. Notes on Tibetan verbal morphology. *T'oung Pao* 62:45-70.
- Conrady, August. 1896. *Eine indochinesische Causativ-Denominativ-Bildung und ihr Zusammenhang mit den Tonaccenten*. Leipzig: O. Harrassowitz.
- Dempsey, Jakob. 2003. Analysis of Rime-Groups in Northern-Burmish. *Linguistics of the Tibeto-Burman Area* 26.1:59-117.
- Gong, Hwang-cherng. 1977. Gu Zangwen de y ji qi xiangguan wenti [The classical Tibetan y and its related problems]. *Bulletin of the Institute of History and Philology*

- Academia Sinica* 48.2:205-228. Reprinted in *Collected Papers on Sino-Tibetan Linguistics*, 379-399. Taipei: Institute of Linguistics, Academia Sinica, 2002.
- Gong, Hwang-cherng. 1995. The system of finals in Proto-Sino-Tibetan. *The Ancestry of the Chinese Language*, ed. by William S-Y. Wang, 41-92. Berkeley: Project on Linguistic Analysis, University of California. Reprinted in *Collected Papers on Sino-Tibetan Linguistics*, 79-124. Taipei: Institute of Linguistics, Academia Sinica, 2002.
- Hahn, Michael. 1999. Blags und verwandtes: Miscellanea Etymologica Tibetica VI. *Studia Tibetica et Mongolica: Festschrift Manfred Taube*, ed. by Helmut Eimer et al., 123-125. Swisttal-Odendorf: Indica et Tibetica Verlag.
- Hill, Nathan W. 2005. Once more on the letter ᳵ. *Linguistics of the Tibeto-Burman Area* 28.2:107-137.
- Hill, Nathan W. 2007. Aspirated and unaspirated voiceless consonants in Old Tibetan. *Language and Linguistics* 8.2:471-493.
- Hill, Nathan W. 2009. Tibetan <ḥ> as a plain initial and its place in Old Tibetan phonology. *Linguistics of the Tibeto-Burman Area* 32.1:115-140.
- Hill, Nathan W. 2010a. An overview of Old Tibetan synchronic phonology. *Transactions of the Philological Society* 108.2:110-125.
- Hill, Nathan W. 2010b. *A Lexicon of Tibetan Verb Stems as Reported by the Grammatical Tradition*. München: Bayerische Akademie der Wissenschaften.
- Hill, Nathan W. 2011. An inventory of Tibetan sound laws. *Journal of the Royal Asiatic Society* (Third Series) 21.4:441-457.
- Hill, Nathan W. 2012. Evolution of the Burmese vowel system. *Transactions of the Philological Society* 110.1:64-79.
- Hyslop, Gwendolyn. 2011. *A Grammar of Kurtöp*. Eugene: University of Oregon dissertation.
- Jacques, Guillaume. 2004. The laterals in Tibetan. Paper presented at the 10<sup>th</sup> Himalayan Languages Symposium, December 1-3, 2004. Thimphu, Bhutan.
- Jacques, Guillaume. 2008. *Jiarongyu Yanjiu [Research on the Rgyalrong Language]*. Beijing: Nationalities Press.
- Jacques, Guillaume. 2012. An internal reconstruction of Tibetan stem alternations. *Transactions of the Philological Society* 110.2:212-224.
- Jacques, Guillaume, and Alexis Michaud. 2011. Approaching the historical phonology of three highly eroded Sino-Tibetan languages: Naxi, Na and Laze. *Diachronica* 28.4:468-498 and online appendix 1-25.
- Jäschke, Heinrich August. 1881. *A Tibetan English Dictionary*. London: Unger Brothers.
- de Jong, J. W. 1989. *The Story of Rāma in Tibet*. Stuttgart: F. Steiner.
- Karlgren, Bernhard. 1957[1964]. *Grammata Serica Recensa*. Stockholm: Museum of Far Eastern Antiquities.

- von Koerber, Hans Nordewin. 1935. *Morphology of the Tibetan Language*. Los Angeles: Suttonhouse.
- Li, Fang-kuei. 1933. Certain phonetic influences of the Tibetan prefixes upon the root initials. *Bulletin of the Institute of History and Philology Academia Sinica* 4.2: 135-157.
- Li, Fang-kuei. 1959. Tibetan Glo-ba-'dring. *Studia Serica Bernhard Karlgren Dedicata*, ed. by Søren Egerod, 55-59. Copenhagen: E. Munksgaard.
- Lu, Shaozun. (ed.) 1986. *Cuona Menbayu Jianzhi [Brief Description of the Mtsho-sna Monpa Language]*. Beijing: Nationalities Press.
- Luce, Gordon H. 1985. *Phases of Pre-Pagán Burma: Languages and History*. Oxford & New York: Oxford University Press.
- Michailovsky, Boyd, and Martine Mazaudon. 1994. Preliminary notes on the languages of the Bumthang Group (Bhutan). *Tibetan Studies: Proceedings of the 6<sup>th</sup> Seminar of the International Association for Tibetan Studies*, Vol. 2, ed. by Per Kværne, 545-557. Oslo: The Institute for Comparative Research in Human Culture.
- Nishi, Yoshio. 1999. *Four Papers on Burmese: Toward the History of Burmese (the Myanmar Language)*. Tokyo: Institute for the Study of Languages and Cultures of Asia and Africa, Tokyo University of Foreign Studies.
- Nishida, Tatsuo. 1958. Chibetto dōshi kōzō no kenkyū [A study of the Tibetan verbal structure]. *Gengo Kenkyū* 33:21-50.
- Schiefner, Anton. 1852. Tibetischen Studien. *Mélanges asiatiques tirés du Bulletin de l'Académie impériale des sciences de St.-Pétersbourg* 1:324-394.
- Schroeter, Frederic Christian Gotthelf. 1826. *A Dictionary of the Bhotanta or Boutan Language*. Serampore.
- Schuessler, Axel. 2007. *ABC Etymological Dictionary of Old Chinese*. Honolulu: University of Hawai'i Press.
- Shafer, Robert. 1940. The vocalism of Sino-Tibetan I. *Journal of the American Oriental Society* 60.3:302-337.
- Shafer, Robert. 1941. The vocalism of Sino-Tibetan II. *Journal of the American Oriental Society* 61.1:18-31.
- Shafer, Robert. 1951. Studies in the morphology of Bodic verbs II. *Bulletin of the School of Oriental and African Studies* 13.4:1017-1031.
- Simon, Walter. 1929. Tibetisch-Chinesische Wortgleichungen, ein Versuch. *Mitteilungen des Seminars für Orientalische Sprachen an der Friedrich Wilhelms-Universität zu Berlin* 32:157-228.
- Simon, Walter. 1964. Tibetan lexicography and etymological research. *Transactions of the Philological Society* 63.1:85-107.
- Wagner, Donald B. 1993. *Iron and Steel in Ancient China*. Leiden: E. J. Brill.

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Yanson, Rudolf. 2006. Notes on the evolution of the Burmese phonological system.  
*Medieval Tibeto-Burman Languages II*, ed. by Christopher I. Beckwith, 103-120.  
Leiden: E. J. Brill.

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## 影響古藏文邊音衍變的語音規律 及其相對順序

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藏語有若干語音變化影響了古藏文邊音的衍變。主要是康拉德 (Conrady 1896) 的  $*hl- > ld-$ ，包擬古 (Bodman 1980) 的  $*ml- > md-$ ，和白保羅 (Benedict 1972) 的  $*lj- > z-$ 。其中，白保羅的規律  $*lj- > z-$  在康拉德與包擬古的規律之後運作。而康拉德的  $*hl- > ld-$  和包擬古的  $*ml- > md-$  不存在互相作用，兩者的相對年代不容易直接探測。與古藏文邊音衍變相關，向柏霖 (2004) 還提出了幾個附帶假設，其中的  $*rli- > rj-$  可以進一步討論。這三組影響古藏文邊音衍變的語音規律，都發生在席夫納 (Schiefner 1852) 的  $*dz- > z-$  及胡和彤 (Houghton 1898) 的  $*ŋj- > ŋ-$  之後，但是早於田雅客 (Dempsey 2001, 2003) 的  $*-en > -in$  和  $*ek > -ig$ 。

關鍵詞：語音規律，邊音，藏語，藏語群