An Inventory of Tibetan Sound Laws

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Introduction

Scholars of Indo-European historical linguistics have long found it convenient to refer to well
known sound changes by the name of the researcher who first noticed the correspondences
the sound change accounts for. Because of the proven utility of such named sound laws
in Indo-European linguistics, the explicit listing and naming of sound laws in the Tibeto-
Burman family could be expected to bring similar benefits.¹

Here I present those sound changes which are widely accepted to have occurred between
the Tibeto-Burmese Ursprache and Old Tibetan. I name each law after the first researcher
known to me to have described it. The first four proposals, those of Shafer, von Koerber,
Welleser, and de Jong, concentrate more on the interpretation of the Tibetan script than
actual sound changes from pre-Tibetan to Tibetan, and thus are labelled 'rules' rather than
'laws'. The sound laws have been ordered such that later laws can employ the results of
earlier ones as evidence.

I Shafer's rule, the sub-phonemic status of aspiration

The Tibetan script distinguishes the unaspirated consonant series k, c, t, p, from the
aspirated consonant series kh, ch, th, ph, tsh. The distribution between voiceless aspirated
and voiceless unaspirated stops in Written Tibetan is nearly complementary. Only as a
simple Anlaut are the two series distinctive. Robert Shafer appears to be the first to have
put forth the conjecture that aspiration in Tibetan was originally non-distinctive (1950/51:
pp. 722–723). He did not however give an explanation of counter examples.

¹This essay uses the Library of Congress system for transliterating Tibetan with the exception that the letter 'q' is transliterated as 'k' rather than with an apostrophe. The Library of Congress system is used for Burmese also, with the exception that 'k' and 'kh' are transliterated as 'k' and 'c' rather than 'q' and 'q'. For Chinese I provide the character followed by Baxter's Middle Chinese (1992), an OC reconstruction compatible with the current version of Baxter and Sagart's system, and the character number in Karlgren (1964). Like in Baxter's own recent work, for Middle Chinese I use 'ae' and 'ea' in place of his original 're' and 'e'. I do not however following him is changing '4' to '+'.

The current version of Baxter and Sagart's Old Chinese system has not yet been published. In general it is similar
to the system presented in Sagart (1999), with the changes that type b syllables are unmarked and type a syllables
are marked (following Norman 1994) with pharyngealised consonants. The current version also posts final -t for
最终 series which mix final -n and -t, and uvulars for 终端 series that mix velar and glottal initials
(cf. Sagart and Baxter 2009). All languages apart from Tibetan, Burmese, and Chinese are cited after the source in
which the cited forms appear. I would like to thank Bill Baxter, Wolfgang Behr, John Bentley, Guillaume Jacques,
Mark Miyake, and Laurent Sagart for various kinds of help.

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If one takes into account the phonological word and not just the syllable the distinctiveness of aspiration in Anlaut position can itself be considerably reduced. By far the majority of occurrences of unaspirated voiceless initials in Old Tibetan are word internal, either derivational suffixes or the second element of a compound. Aspiration occurs word initially, and can be seen as a non-phonemic super-segmental attribute of the phonological word (Hill 2007). Even so, there are a small number of exceptions to these generalisations, in particular ci 'what' and kun 'all'. Such cases require further study.

2 Walleser's rule, the difference between <gy> and <g.y>

The Old Tibetan orthographic distinction of <gy> and <g.y> represents the phonetic distinction of [gl] and [g]. It is necessary to analyze the letter <y> into two phonemes: the glide /y/ when it is written as a mit-gəi uṣ and a phonemic feature of palatalisation /j/ when written as a ya-btags uṣ. This analysis was first proposed by Max Walleser (1926: p. 9). Other strategies are available to distinguish <gy> from <g.y>, but in addition to the arguments in favour of Walleser's view presented in Hill (forthcoming), this rule facilitates the elegant description of other sound changes, in particular Li's second Law.²

3 von Koerber's rule, phonemic status of the palatals

Noticing that that the character <y> standing for the phonemic feature of palatalisation /j/ cannot follow a dental or a palatal *<dy>, *<cy>, but can follow velars and labials <ky>, <by>, the palatals may be analyzed as palatalized dentals, i.e. /tʃ/ for <c>, /nʃ/ for <n>, /dʒ/ for <j>, /ʃ/ for <ʃ>, and /zʃ/ for <z>. The fact that Indic alphabets have a palatral series probably inclined the originators of the Tibetan script to choose to spell these sounds as single consonants rather than as <ty> and <dy> (von Koerber 1935: pp. 121, §69).

Von Koerber describes the identification of the palatals as palatalised dentals as a synchronic fact (1935: pp. 120–121). He has been followed in this by numerous scholars (e.g. Miller 1936: p. 348 note 2, Kjellin 1975). Gong and Beyer however accept the palatals as phonemes but propose that they originate as a merger of the palatalised dentals and palatalised dental affricates (Gong [1977]2002: p. 388, Beyer 1992: pp. 81–84). Velar and labial stops can be followed by both an orthographic <r> and an orthographic <y>. Dentals are followed by <r> only. The palatals and affricates are followed by neither <r> or <y>. The inability of the dental affricates to directly precede <r> would appear to weaken the supposition that palatalised dental affricates are one origin of the palatals. Analyzing the palatals as palatalised dental stops restores the dental stops to the distribution of the labials and velars, but analyzing the palatals as palatalised dental affricates still leaves the dental affricates with a distribution deficient with respect to the other consonants. I therefore reject Gong and Beyer's speculation that one origin of the palatals is as palatalised dental affricates. As for Gong and Beyer's suggestion that the palatalised dentals are the origin of the palatals, there is no need to propose this as a historical change rather than a synchronic analysis.

²Gong (1977[2002]) presents a divergent interpretation and a useful summary of previous research.
4 de Jong's rule, spelling conventions before laterals and rhotics

Old Tibetan phonemically distinguishes both voiced and voiceless laterals and voiced and voiceless rhotics. The voiceless lateral /l/ as a simple initial is spelled as <lh>, the voiceless rhotic /r/ as <hr>. The prefix /g-/ is written as <k-> before voiceless laterals and rhotics. The prefix /s-/ may be written as <z> before a voiced lateral, as seen in the pairs to 'a report' zlo 'report, say' and zlog 'turn something around' (Hahn 1999). In other cases no distinction in spelling is made between the voiced and voiceless lateral. The spelling <sl> can like <zl> represent /sl/ as in the pairs of verbs lañ 'rise' and sian 'to braid': lhe 'a braid' (Li 1933: pp. 139-140), but <sl> can also represent /sl/ as in the following denominative verb and noun pairs: slad, bslad 'mix, adulterate': lhad 'an alloy'; slan 'to mend': lhan-pa 'a patch'; sl to 'braid': lhe 'a braid' (Li 1933: pp.139-140). The spelling <bl> can thus represent /bl/ or /bl/. The clearest examples of <bl> reflecting /bl/ are the past stem of the verbal root √αg 'read', spelled (present) klag, (past) blags, (future) bhs, (imperative) bhs with the phonemic interpretations /g/, /blags/, /bhs/, and /logs/ (de Jong 1973), and the past stem of the verbal root √αub 'bedeck' spelled klub, blbs, - - with the phonemic interpretations /gub/, /blubs/, - - (Eimer 1987). In some Dunhuang manuscripts the past stem of √αg 'read' is even spelled <plgs>, <phlags>, and <plhgs> (de Jong 1973). Many examples could be pointed to where <bl> reflects /bl/; one such example is √αan 'take' with the stems len, blan, blis, blos, whose orthographic and phonemic interpretations coincide.

Although Li can be credited with the realisation that the spellings <l> and <lh> are a pair in the same way as <b> and <ph>, but not in the way of <p> and <ph> (Li 1933: pp.139-140), the extension of this realisation to clusters can be credited to Pulleyblank.

Pulleyblank has pointed out, in correspondence, that the orthographic distinction lh- versus l- might be used to account for kl- versus gl-, the former being interpreted as *glh-:. The absence of an initial *pl- to match bl- (and of *rlh-: possibly, to match rl-), tells against this interpretation; (Sprigg 1972: p.552 note 10).

De Jong came to the same realisation independently of Pulleyblank, and demonstrated with philological evidence that there is an initial pl- to match bl-.. The works of Eimer (1987) and Hahn (1999) depend on de Jong and are unaware of the earlier contributions of Li and Pulleyblank. Although dubbing this rule 'Li's rule' or 'Pulleyblank's rule' is perhaps justified, I find it most appropriately named 'de Jong's rule.'

5 Sa-skya Pandita's Law, *g- > d- before graves, *d- > g- before acutes

As a synchronic fact d- and g- are in complementary distribution as the initial of a cluster with an obstruent in Old Tibetan. Before grave consonants (labials and velars) d- appears, and before acute consonants (dentals and palatals) g- appears. This synchronic fact is however not a rule for the phonemic analysis of Old Tibetan like the proceeding four, but has historical significance. Jacques (2001) demonstrates with comparative evidence that originally separate *d- and *g- have fallen together. Before the consonant -r- they remain distinct even in Tibetan. Although Jacques' 2001 presentation remains unpublished, he presents some of the relevant comparative data in Jacques (2008: pp.53-54). These data show that a morphological
*g-* prefix in animal names can be distinguished from a morphological prefix *d-* in body parts.

A comparison with Rgyalronic cognates demonstrates that the animal prefix was originally velar (or even uvular) and not dental.

<table>
<thead>
<tr>
<th>Japhug Rgyalrôn</th>
<th>Zbu Rgyalrôn</th>
<th>Tibetan</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>qa-jla$x$</td>
<td>(\text{wb-llg}x)</td>
<td>glag</td>
<td>eagle</td>
</tr>
<tr>
<td>qa-(l)o</td>
<td>(\text{g-ll}g)</td>
<td>gyan</td>
<td>sheep</td>
</tr>
<tr>
<td>gqo</td>
<td>(\text{qhrr}x)</td>
<td>gregmo</td>
<td>ant</td>
</tr>
</tbody>
</table>

Since dr- is just as possible as gr- in Old Tibetan, the velar nature of this prefix is also confirmed by Tibetan greg-ma 'ant' (instead of *dreg-ma*).

In the case of the body part prefix d- Jacques does not present direct Tibetan cognates in the Rgyalronic languages, but the Japhug Rgyalrôn words tu-tshi 'liver' and tu-mike 'neck' demonstrate that in Tibetan words such as gdon 'face', dbu 'head' and dpun 'back' there is a morphological prefix, and it was originally a dental (Jacques 2008: 57).

The intellectual history of this law is difficult to trace. The realisation that the complementary distribution of d- and g- before obstruents implies a set of sound changes from pre-Tibetan to Tibetan appears to originate only with Jacques (2001). Li acknowledges the fact that d- and g- are in complementary distribution, when he writes that their "notorious compensatory behaviour has made many people suspect them of a single origin" (1933: p. 136). Although a number of earlier scholars do correctly describe the distribution of d- and g- (Schmidt 1839: p. 18; Schiefner 1852: p. 328; Foucaux 1858: pp. 106–107), I have been unable to find a scholar earlier than Li who makes explicit their complementary distribution. This may well be linked with the fact that the importance of complementary distribution as a linguistic idea only reached prominence around or after the time of Li's writing.

The correct description of d- and g- has its origins in the Tibetan grammatical tradition, and is discussed in the sūtras attributed to Thonmi Sañghoṭa. Dbus-po blo-gsal (thirteenth century) is the author of the earliest known commentary on these texts (cf. Minaki 1990, 1992), which suggests that far from being eighth-century texts, they only became available in the twelfth or thirteenth century. Sa-skya Pañḍita Kuns-dga\(\tilde{\text{i}}\) Rgyal-mtshan (1182–1251) appears to have written the earliest known statement of these distributions, in an account that acknowledges no awareness of Thonmi Sañghoṭa (Miller 1993: p. 137). The most appropriate name for this law is then 'Sa-skya Pañḍita's Law.'

6 Houghton's Law, *\(\text{ñi} > \tilde{n}\)*

In a number of examples a velar nasal (\(\text{n}\)) in Burmese corresponds to a palatal nasal (\(\text{\tilde{n}}\)) in Tibetan. Combined with the observation that the velar nasal is never palatalised in Tibetan *\(<\text{\tilde{n}}\)/\(\text{\tilde{n}}\)>>, these correspondences suggest a sound change pre-Tibetan *\(\text{ñi} > \text{\tilde{n}}\) Old Tibetan \(\text{\tilde{n}}\).
Houghton suggested the first two of these examples (1898: 52), and the third was added by Benedict (1939: p. 228 note 26). Benedict was the first to make explicit that such a correspondence suggests a reconstruction */ŋi/. However, since Houghton brought forth the comparisons that lead naturally to such a suggestion, and because I would prefer to reserve the moniker 'Benedict's Law' for the change ʃi> zi, I have chosen to dub this sound change in honour of Houghton.

If Chinese comparisons are added to those with Burmese the chart provided above can be augmented as follows.

<table>
<thead>
<tr>
<th>Meaning</th>
<th>Tibetan</th>
<th>Pre-Tibetan</th>
<th>Burmese</th>
<th>Chinese</th>
</tr>
</thead>
<tbody>
<tr>
<td>pestilence</td>
<td>giian</td>
<td>*giijan</td>
<td>ŋan</td>
<td>ngjø &lt; *ŋa (0079a)</td>
</tr>
</tbody>
</table>
| fish | ŋa | *ŋa | ŋi | ngjan < *ŋa[n] (0416-)
| borrow | bra | *bra | ŋi | |
| gums | rui / riiil | */riiil/*siiil | | |

7 Benedict's Law, *li > zi

Benedict does not specifically discuss this sound change, but proposes it by way of comparing Burmese liy 'four' with Tibetan bži 'four', which he reconstructs *bi (1939: p. 215).

<table>
<thead>
<tr>
<th>Meaning</th>
<th>Tibetan</th>
<th>Pre-Tibetan</th>
<th>Burmese</th>
<th>Chinese</th>
</tr>
</thead>
<tbody>
<tr>
<td>four</td>
<td>bži</td>
<td>*bi</td>
<td>liy</td>
<td>siyi &lt; *si[ɦ]-s (0518a)</td>
</tr>
<tr>
<td>field</td>
<td>ži</td>
<td>*li</td>
<td>li</td>
<td>dien &lt; *li</td>
</tr>
<tr>
<td>ground</td>
<td>gzi</td>
<td>*gli</td>
<td>mliy</td>
<td></td>
</tr>
</tbody>
</table>

The two examples 'four' and 'field' appear to be the only well agreed on examples. Schuessler suggests the comparison 'ground' (2007: p. 299). Jacques draws attention to Japhug Rgyalrong tr-lu 'milk' which suggests Tibetan že < *ljo 'yoghurt' (2008: p. 128). One might also consider comparisons among Tibetan gzu 'bow', Burmese liy 'bow' and Old Chinese z syijX < *li? (0560a) 'arrow' but the Tibetan vowel is wrong. There are also grounds internal to Tibetan for such a reconstruction (Gong [1977] 2002: pp. 391-392).

8 Chang's Law, assimilation of b- before nasals

Betty Chang (1971: p. 738) discovered that cluster initial b- assimilates to the labial nasal m before nasals.
The seemingly anomalous \( m \)- in the past stem becomes thereby a subcase of the nearly ubiquitous \( b \)- prefix of the past stem.

9 Coblin's Law, loss of prefixes

Prefixes are lost when the resulting cluster is not phonotactically possible (Coblin 1976). This law greatly facilitates the internal reconstruction of the Tibetan verbal system.

\[
\begin{align*}
*\text{bn} & > \text{mn}, \text{e.g. } \sqrt{\text{bn}} \text{ 'suppress'}, \text{past } *\text{bnans} > \text{mnand} \\
*\text{bh} & > \text{m\(\text{n}\)}, \text{e.g. } \sqrt{\text{bn}} \text{ 'listen'}, \text{past } *\text{b\(\text{n}\)ans} > \text{m\(\text{n}\)and}
\end{align*}
\]

In each such case the positing of a lost prefix resolves some anomaly in a verb’s paradigm, and renders the verb in question an example of a paradigm type which is otherwise well attested. Here is not the place to discuss these proposals in detail.\(^3\) One example may however prove illustrative. Some verbs have an ‘\( o \)’ vowel in their present stem, but not in the past or future; one such verb is \( \text{skon} \), \( \text{bskatis} \), \( \text{bskati} \), \( \text{skons} \) ‘fulfill’. Of those verbs which have such an ‘\( o \)’ in the present, those where a \( g \)- prefix in the present stem is phonotactically possible have such a prefix, e.g. \( \text{gsod} \), \( \text{bsad} \), \( \text{gsad} \), \( \text{sod} \) ‘kill’. Reconstructing the present stem of \( \text{skon} \) to \( *\text{gskon} < *\text{gskan} \) not only accounts for the presence of the ‘\( o \)’ vowel in both \( \text{skon} \) and \( \text{gsod} \), but also for the lack of a \( g \)- in the former and its presence in the latter.

10 Li Fang-Kuei’s first Law, epenthesis after \( h \)

When an \( h \) precedes a fricative, lateral, or \( r \), a dental stop is inserted between \( h \) and the following consonant (Li 1933: p. 149).

\[
\begin{align*}
*\text{hs} & > \text{hts}, \text{e.g. } \sqrt{\text{so}} \text{ 'nourish'}, \text{present } *\text{hsos} > \text{htsho} \\
*\text{hs} & > \text{hc} ( = \text{hts}), \text{e.g. } \sqrt{\text{sad}} \text{ 'explain'}, \text{present } *\text{hsad} > \text{hchad} \\
*\text{hz} & > \text{h\(\text{dz}\)}, \text{e.g. } \sqrt{\text{zug}} \text{ 'plant'}, \text{present } *\text{hzugl} > \text{\(h\)dzugs} \\
*\text{h\(\text{j}\)} & > \text{h\(\text{j}\)} ( = \text{h\(\text{dz}\)}), \text{e.g. } \sqrt{\text{zo}} \text{ 'milk'}, \text{present } *\text{hzool} > \text{hjoo} \\
*\text{hr} & > \text{hdr}, \text{e.g. } \sqrt{\text{ri}} \text{ 'write'}, \text{present } *\text{h\(\text{ri}\)} > \text{h\(\text{dri}\)}
\end{align*}
\]

The effect of this sound change is more complicated before laterals. Simon proposes the change \( *\text{dl-} > \text{ld} \) based on groups of related words such as \( \text{idum-po} \) and \( \text{zlum-po} \) ‘round’, \( \text{ldag-pa} \), \( \text{lag-pa} \) ‘reverse (intrans.)’ and \( \text{zlog-pa} \) ‘reverse (trans.), \( \text{ldon-pa} \) and \( \text{lo\(\text{n}\)-ba} \) ‘be blind’, \( \text{ldan-ba}, \text{lant} \) ‘rise’ and \( \text{so\(\text{n}\)-ba} \) ‘raise’ (Simon 1929: p. 187).\(^4\) The results of Li’s first Law is

\[^3\text{For a complete discussion of Tibetan verb morphology see Hill (1970), pp. xv-xxi).}\]

\[^4\text{Simon proposes other rules of metathesis such as } *\text{kl} > \text{lk}, *\text{kr} > \text{rk} \text{ but these remain speculative.}\]
followed by this metathesis proposed by Simon, and then the cluster is simplified following Coblin's Law.

\[
\begin{align*}
{^*}h_l &> {^*}hl > {^*}hld > ld, \text{ e.g. } {^*}hld > {^*}hldad > ldad \\
{^*}h_l &> {^*}hl > {^*}hlt > lt, \text{ e.g. } {^*}hltu > {^*}hltu > ltu
\end{align*}
\]

11 Li Fang-Kuei's second Law: *ry- > rgy-.

Li Fang-Kuei proposes the change \( {^*}ry > rgy \) in order to make Tibetan \(<brgya\> /brgja/ 'hundred' and \(<brgya\> /brgja/ 'eight' more closely parallel Old Chinese \( ^*prak (0781a) 'hundred' and \( ^*prat (0281a) 'eight' \) (Li 1959: p. 59). Three further examples of this correspondence are available. With no mention of an earlier authority Schuessler proposes the comparison of Tibetan \( ^*ryu \) 'flow' with Old Chinese \( {^*}Ju (1104a) \) (2003: p. 238, 2007: p. 362) and Tibetan \( ^*ryud \) 'continuum' with \( {^*}Jut (498a) 'rope' \) (2003: p. 238). Pulleyblank in a different context proposes a second relevant pair of words (1962: p. 213): Old Tibetan \( ^*bryal \) 'sink down, faint' and \( {^*}bryal \) 'fatigue, weariness' and Old Chinese \( {^*}bJraj \) 'fatigue'. Schuessler (2007: p. 512) however doubts the validity of this comparison.\(^6\)

<table>
<thead>
<tr>
<th>Old Tibetan</th>
<th>Old Chinese</th>
</tr>
</thead>
<tbody>
<tr>
<td>brgya/ 'hundred'</td>
<td>( ^*prak ) 'hundred' (0781a)</td>
</tr>
<tr>
<td>brgya/ 'eight'</td>
<td>( ^*prat ) 'eight' (0281a)</td>
</tr>
<tr>
<td>rgyu 'flow'</td>
<td>( ^*Ju ) (1104a)</td>
</tr>
<tr>
<td>rgyud 'continuum'</td>
<td>( ^*Jut ) (498a)</td>
</tr>
<tr>
<td>brgya/ 'sink down, faint'</td>
<td>( {^*}bJraj ) 'fatigue' (0025a, 0025d)</td>
</tr>
</tbody>
</table>

Since Li did not recognise the difference between \( /y/ \) and \( /j/ \) his reconstruction can be understood as either \( \breve{^*}ry \) or \( \breve{^*}rj \) in Pre-Tibetan. Old Burmese \( ry- \), corresponds to both Old Tibetan \( rgy- \) (Old Burmese \( rya \) 'hundred' and Old Tibetan \( brgya \) 'hundred') and Old Tibetan \( z- \) (Old Burmese \( ryak \) 'day', Old Tibetan \( zag \) 'day'). It is probably judicious to reconstruct Old Tibetan \( z < rgy < \) pre-Tibetan \( ^*rj \) and Old Tibetan \( rgy < \) pre-Tibetan \( ^*ry \), because a change \( \breve{^*}rj > z \) is parallel to Benedict's Law \( ^*li, > z \).

\(^5\) The mismatch in voicing of the Tibetan voiced initials and the Chinese voiceless initials in these words has not been accounted for.

\(^6\) Schuessler (2003: 238) also compares \( ^*yvit (057b) \), which he reconstructs \( ^*Jut, \) with \( ^*Ju (498a) \) and with Tibetan \( ^*gyud \) 'string, rope' (more like 'continuum, lineage'). In the Baxter–Sagart system there is no Old Chinese initial \( ^*y \), Middle Chinese \( y \) generally originates from \( l \) or uvulars (cf. Sagart and Baxter 2009).

\(^7\) Li acknowledged the pair Tibetan \( ^*yam \) < \( ^*yam \) 'salt' and Chinese \( 1^*yem < ^*yam (0609a) \) as matching this correspondence (1976: p. 46). Schuessler reconstructs \( 1^*yem < ^*yam \) (2003: p. 238, 2007: p. 554), which certainly matches the Tibetan better, but he does not comment on the reconstruction \( ^*y < ^*r \). In the Baxter-Sagart system this comparison is no longer compelling. Simon had earlier suggested this same comparison (1920: pp. 188, §36, #251) and an additional example \( ^*gyur distance' \( 1^*hjwomX < ^*[o]a[n] (0236) \) 'distance', which no longer appears to fit this correspondence.
Three instances of the change *ry->rgy require no comparison to other Tibeto-Burman languages. The place name Uc;lc;liyana in Tibetan becomes U-rgyan or U-rgyan. Middle Indic languages regularly loose a final -a; this yields *Uc;lc;liyan. If c;l were pronounced as a rhotic, or heard as one by Tibetan ears this gives *Uriyan, and such a pronunciation was nativised following this sound change to U-rgyan (cf. Jacques and Chen 2010: p. 71 note 7). Also, in the Dunhuang document PT 1047 there is vacillation between ryags and rgyags as the spelling of a word for divination board. This vacillation probably indicates a process of nativising a non-Tibetan word ryags. Similarly, the name of the Žanžuēi emperor found in the Dunhuang documents PT 1047 and PT 1287 as Lig mi rya or Lig mi rhya in the later Rgyal rabs bon kyi ~byuli gnas appears as Lig mi rgya (Uracy 1968: pp. 293–294). Finally, Tauscher mentions that in the Gondhla Proto-Kanjur there is regular confusion between the spellings rya and rgya (2008: p. xxxvi).

12 Simon’s Law, *mr > ḣbr

Simon proposed the sound change pre-Tibetan *mr > Tibetan ḣbr (1929: pp. 187, 197 §86). Five of the examples Simon presented can no longer be accepted:

1) Simon compares bro ‘dance’ with 般 mjuX < *m(r)a? (0103g) ‘dance’. The absence of an initial ḣ in the Tibetan and lack of a vowel correspondence suggests that this comparison is false.
2) Simon compares Tibetan brad ‘taste’ with Chinese 般 mjjH < *m[a][t]-s (0311g) ‘taste’. The lack of an initial ḣ in the Tibetan and a medial -r- in the Chinese invalidates this comparison.
3) Simon compares Tibetan sbrul ‘snake’ with 鳳 mIn ‘an ethnonym’ on the mistaken belief that the later means ‘snake’ (Schuessler 2007: p. 386).
4) Simon compares Tibetan ḥbum ‘100,000’ with Old Chinese 萬 *mjonH < *mans (0267a) ‘10,000’; both Tibetan and Chinese lack medial -r-.
5) Simon compared Tibetan ḥnas with Old Chinese 米 mejH < *m̀iij? (0598a) ‘rice’ rather than 米 lejH < *m))-rát (0340g).

Gong (1993, #368) compares 妊 nymH <*n[a]m-s (0667i,k) ‘pregnant’ with sbrum ‘pregnant’ which he reconstructs *smrum. No 般 xiesheng contacts suggest an m- in the

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*In the 1999 version of Sagart’s reconstruction Chinese 小 yaeH <*Nlaks (0800g) ‘night’ might have been taken to suggest an original lateral initial in this word (Sagart 1999: p. 160), however the current reconstruction, [0][f]ak-s, if still considered a cognate, favours a rhotic.
series GSR 667. Gong appears to be following the suggestion of Pulleyblank (1979: p. 36) that based on the transcription 任 in for Mimana (a fifth century polity, which was a member of the Kaya 伽倻 federation on the Korean peninsula) that this 良声 xiesheng series once had initial *m-. The evidence for reading 任 as Mimana comes from the 日本書紀 Nihonshoki, where in the record of 垂仁 Suinin it is also spelled 济摩伽 (Kojima et al. 1994: p. 295). Sagart argues that 良声 nyimH < *n[z]m-s ‘pregnant’ (0667i,k) is etymologically derived from 良声 *nyim < *n[z]m (0667f) ‘to carry’. The semantics are thus not favourable to Gong’s suggestion. Sagart also proposes an etymological connection with 南 nom < *n[z]m (0650a) ‘south’, which argues against the m- initial proposed by Pulleyblank (Sagart 1988). Jacques (2003: p. 124) citing Pan (2000: pp. 240–241) instead compares Tibetan sbrum ‘pregnant’ with 任 yingH < *[i][i]-s (*m.ram-s is also a possible reconstruction).

The following table presents the evidence in favour of Simon’s proposal known to me.

<table>
<thead>
<tr>
<th>Tibetan</th>
<th>Meaning</th>
<th>Chinese</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>hbras</td>
<td>rice</td>
<td>任 leejH &lt; *ma-rat9 (0340g)</td>
<td>rice</td>
</tr>
<tr>
<td>bbrog</td>
<td>nomad</td>
<td>任 mjuwk &lt; *mruk (1017a)</td>
<td>herdsman</td>
</tr>
<tr>
<td>hbr-i-mo</td>
<td>female yak</td>
<td>任 maew &lt; * murderers (0979j)</td>
<td>yak</td>
</tr>
<tr>
<td>hbrei</td>
<td>braid</td>
<td>任 zying &lt; *m.laj (0892b)</td>
<td>rope, cord</td>
</tr>
<tr>
<td>shrul</td>
<td>fly, bee</td>
<td>任 ying &lt; *m.ral (0892a)</td>
<td>fly</td>
</tr>
<tr>
<td>shrul</td>
<td>snake</td>
<td>任 xijwiX &lt; [m]uji? (0572a)</td>
<td>snake</td>
</tr>
<tr>
<td>sbrul</td>
<td>pregnant</td>
<td>任 yingH &lt; *[i][i]-s (*m.ram-s) (0945j)</td>
<td>pregnant</td>
</tr>
</tbody>
</table>

I find the evidence of this sound change compelling but not yet convincing. Before such a correspondence can be wholeheartedly embraced the Tibetan words containing the cluster smr-, such as smni ‘say’, nur-smrig ‘saffron’, smre ‘suffering’, smreg ‘root, remainder’, smrmi) smreti ‘(ritually) say’ must be explained.

I have previously argued that h- represented a voiced velar fricative in Old Tibetan and not a nasal (Hill 2005: pp. 126–127, 2009a: pp. 127–131). If the sound change *mr-> hbr- were valid this would suggest that hbr- had the pronunciation [mbr], known from Common Tibetan, already in the earliest Old Tibetan. The arguments presented in Hill (2005: pp. 126–127) against interpreting a pre-consonantal h as a homorganic nasal are therefore also arguments against the sound change *mr-> hbr-.

Coblin on the basis of the comparison of Old Tibetan mrai ‘horse’ and Old Burmese mrai ‘horse’ contrastingly suggests a change *mr>rm (1974). Because the Ursprache of these languages almost certainly pre-dates the domestication of the horse, I believe that this correspondence is likely characteristic of Wanderwörter.

10 The 上帝 Guanyu also has the readings li < *ma-ro and leij < *ma-ró.
11 Baxter and Sagart now reconstruct *[i][i]-s with the irregular sound change *t-> x-. I prefer to follow their earlier reconstruction. The medial x- can be confirmed with a comparison with Old Burmese mao ‘smoke’.
13 Sun’s Law, fortition of laterals

Sun (1993: p. 334 note 201) appears to be the first scholar to explicitly propose the sound change *ml- > md. He connects this change to Li’s first Law before laterals *hl>ld without elaboration. The following two tables present the relevant data known to me.

**Internal Tibetan Evidence**

<table>
<thead>
<tr>
<th>d-</th>
<th>ld- and bz-</th>
<th>l-</th>
</tr>
</thead>
<tbody>
<tr>
<td>mdons-pa 'blind'</td>
<td>ldo-pa 'go blind' &lt; *hlo-pa (Li’s t&quot; Law)</td>
<td>lo'i 'be blind'</td>
</tr>
<tr>
<td>mdan-pa 'cheek'</td>
<td>ldan-pa 'cheek' &lt; *hlan-pa (Li’s t' Law)</td>
<td>lugs 'way, manner'</td>
</tr>
<tr>
<td>hbugs 'stay'</td>
<td>bbugs 'stay' &lt; *blugs (Benedict’s Law)</td>
<td>lugs 'way, manner'</td>
</tr>
<tr>
<td>hlood 'desire'</td>
<td>bzed 'desire' &lt; *bljed (Benedict’s Law)</td>
<td></td>
</tr>
</tbody>
</table>

Gong instead proposes that the explanation for the -d- versus -l- in these last two examples is a palatalisation used morphologically to form honorifics (1977[2002]: p. 390). His proposal would yield the reconstructions bbugs 'stay' < *blugs and bzed 'desire' < *bljed. One may suppose that Gong would reject the comparison of bbugs 'stay' with lugs 'way'.

**Comparative Evidence**

<table>
<thead>
<tr>
<th>Tibetan</th>
<th>Pre-Tibetan</th>
<th>Burmese</th>
<th>Chinese</th>
</tr>
</thead>
<tbody>
<tr>
<td>mdal 'arrow'</td>
<td>*mlah</td>
<td>mlah 'arrow'</td>
<td>% eyek &lt; *m-lAak ~ mo-lAak</td>
</tr>
<tr>
<td>hdom-pa 'fathom'</td>
<td>lam 'fathom'</td>
<td>% zim &lt; *[s-m-]l[am] (0662a)</td>
<td></td>
</tr>
</tbody>
</table>

A parallel change *m> mth could be suggested. The only possible instance known to me is mthil < *mthl 'bottom 'floor' which Gong (1980, #79; 1995, #169) compares to Old Burmese mliy 'earth, ground'. However, Schuessler instead compares Burmese mliy with Tibetan gzi 'ground' (2007: p. 299). Since the change *l>z is well established and the semantics are more similar, this comparison is superior.

The fact that there is evidence for an original l- both in the cluster md- and in the cluster lhd indicates that the single change *m>md, is not explanatorily sufficient. However, one cannot propose the sound change *hl>lh because *hl is already used as the input of Li’s first Law *hl>ld. How to reconstruct cases of lhd- where there is evidence for an original l- is a problem requiring further attention.

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12When this article was in production, I discovered Bodman had made this suggestion before Sun, 1980. It would thus be better to refer to it as Bodman’s Law.
13The difference in vocalism requires explanation.
14Compare Simon’s earlier proposal that *gdi > gzi (1929: p. 191 et passim).
Laufer noted that where Burmese has -wa Tibetan often has -o (1898/1899: part III, p. 224; 1976: p. 120). The first two examples are Laufer's, the next four from Sagart (2006: p. 211), and the last from Benedict (1972: p. 106).

<table>
<thead>
<tr>
<th>Burmese</th>
<th>Tibetan</th>
<th>meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>thwan</td>
<td>thöñ</td>
<td>plough</td>
</tr>
<tr>
<td>thwi</td>
<td>mtho</td>
<td>span</td>
</tr>
<tr>
<td>swëñ</td>
<td>lgro</td>
<td>go</td>
</tr>
<tr>
<td>wanñ</td>
<td>sgor-mo</td>
<td>round</td>
</tr>
<tr>
<td>wa</td>
<td>geo-ma</td>
<td>potentilla anserina</td>
</tr>
<tr>
<td>awa</td>
<td>go</td>
<td>space</td>
</tr>
<tr>
<td>swëñ</td>
<td>so</td>
<td>tooth</td>
</tr>
</tbody>
</table>

Noting that all Old Tibetan words which have the diphthong -wa- are open syllables (grwa ‘corner,’ hawa ‘ten,’ phywa ‘a class of gods,’ rtsa ‘grass,’ hva ‘fox,’ dzwa ‘hat,’ hva ‘horn’) and the pair hó-dom ‘fox tail pendant’ and hva ‘fox’, I previously suggested that Laufer’s Law did not apply to open syllables (Hill 2006: pp. 88–90). It is clear from the above examples that some Tibetan words with open syllables are valid examples of this correspondence and my explanation must be cast aside. Guillaume Jacques suggests that instances of -wa in Tibetan open syllables should be reconstructed as ‘uba in pre-Tibetan (2009). I accept this explanation.


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14Gong (1980: #172; 1995: #38, 316) and Luce (1985: chart x, #36) give hova ‘go proceed’, which apparently a better match. Judson (1893) does not have this word in this meaning.

15Sagart cites this as ‘gor’, probably deriving this form from gor-mo ‘round’ in Jäschke (1881). However, Jäschke cites clearly his source as the extremely unreliable Schroeter (1820). 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).

Gong further notes that Tibetan -o- often corresponds to Old Chinese labio-velars (and presumably labio-uvulars if he recognised them). He reconstructs *wa and *wo as sources of Tibetan o (2002[1980]: p. 24).

Because Burmese wa 'tuber' (compared to Chinese *[G]w(r)as and Tibetan gro-ma) has Anlaut wa- and the Tibetan examples among Gong’s comparisons all begin with velars or uvulars one can combine Sagart and Gong’s observations. If ‘K’ is used to represent a velar or uvular, it becomes possible to more precisely state Laufer’s Law as the merger of Tibeto-Burman *KwE and *Kwa as Tibetan Ko.19

15 Synchronic mysteries

The rules of Shafer, von Koeber, Wallester, and de Jong sharpen the phonemic interpretation of the Tibetan script. This improved analysis aids in the discovery and the elegant statement of diachronic sound changes. Consequently, in tandem with the restatement of the exceptions to the sound laws presented here, a consideration of remaining problems in the phonetic interpretation of Old Tibetan is in order. The clarification of these issues may in future engender the discovery of, or more elegant statement of other sound laws.

Two issues remain unresolved in the interpretation of the Tibetan script. Old Tibetan has two graphic forms of the vowel which is called gi-gu in Written Tibetan. One of these characters is the same as the Written Tibetan gi-gu <i>. The other is the mirror image <i>, and has thus come to be called the gi-gu inverse. Whether this character represents a phonetic reality or not remains controversial. Laufer (1914: p. 84) believes that these two graphs represent vowels which originally were phonemically contrasting in Old Tibetan,

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18 See note 16.
19 The Tibetan pair ho-dom 'fox tail pendant' and hva 'fox' still requires explanation.
but which quickly began to collapse into one phoneme. Miller (1966, 1993: pp. 156–172) argues that the two represent sub-phonemic allophones of /i/. Other authors (e.g. Ulving 1972 and Róna-Tas 1992: pp. 698–699) have regarded these two characters as meaningless graphic variants. This issue appears to have not received attention since 1993 and remains unresolved.

Old Tibetan sporadically but non-randomly has a -h where this consonant is missing in later forms of Tibetan. Previous researchers have not attended to this question and taken for granted that syllables ending in -h can be treated as open syllables. I see no reason to think a final -h is any more meaningless than a final -b or -g (Hill 2005: pp. 115–118), especially when it is kept in mind that those cases where -h was not lost in Written Tibetan have regular reflexes distinct from open syllables in some Tibetan dialects (Hill 2009a: pp. 129–131) and that Chinese sometimes has a final -k corresponding to Tibetan final -h.

<table>
<thead>
<tr>
<th>Chinese</th>
<th>meaning</th>
<th>Tibetan</th>
<th>meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>'i paiek &lt; *pʰrak (0781a)</td>
<td>hundred</td>
<td>bṛgyaḥ</td>
<td>hundred</td>
</tr>
<tr>
<td>'i dūrH &lt; *dʰrak-s (0801b)</td>
<td>to ford</td>
<td>ḥdaḥ</td>
<td>to pass</td>
</tr>
<tr>
<td>'i ṝyek &lt; m-lAk ~ mo-lAk (0807a)</td>
<td>hit w/ bow and arrow</td>
<td>mdaḥ</td>
<td>arrow</td>
</tr>
</tbody>
</table>

The final consonant -h is potentially of great consequence in Tibeto-Burman historical phonology, and deserves more attention than it has received.

### 16 Diachronic mysteries

Today’s exceptions to sound laws are tomorrow’s sound laws. Tibeto-Burman historical linguists following in the tradition of Benedict (1992) and Matisoff (2003) have been over eager to credit exceptions to ‘allofamic’ variation in the proto-language. Although such proto-variation probably does exist as examples such as ‘have’ (<Indo-European *kap, cf. Latin capio) and ‘give’ (<Indo-European *gebh, cf. Latin habeo) demonstrate, being satisfied with proto-variation as an explanation of anomalies is to abandon potential progress in the understanding of historical phonology and morphology.

The most valuable contribution of a survey of Tibetan sound laws is to draw new focus on the exceptions to these sound laws. After having surveyed what is known so far about Old Tibetan historical phonology those areas in need of better study merit focus. Exceptions to the respective sound laws presented have been provided above, but it is convenient to assemble them together here. The exceptions to Simon’s Law are smra ‘say’, nur-smrig ‘saffron’, smre ‘suffering’, smreg ‘root, remainder’, smnai, smren ‘(ritually) say’. As exceptions to either Sun’s Law or Li’s first Law are the words ḡdag ‘stay’, ḡdot ‘desire’ and ḡdom-pha ‘fathom’ which have connections to words with lateral initials but cannot be reconstructed as Li’s *h₁l or Sun’s *ml.

20 This phenomenon is also described by Jin (1958: 12, e.g. mdaḥ [da:ʔ] ‘arrow’), a work I overlooked in Hill (2009a).

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References


Errata 26.1 183.


An Inventory of Tibetan Sound Laws


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