

Tibeto-Burman *dz- > Tibetan z- and Related Proposals

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Conrady, Li and others have noticed the Tibetan sound changes **h*z > *hdz* and **h*ž > *h*ǰ, but there is also evidence for the changes *dz > z and *j > ž (first noted by Schiefner). After presenting the evidence for *dz > z and *j > ž respectively, this paper considers the other origins of ž, namely *l̥ and *r̥. Finally, an attempt is made to establish the relative chronology of the changes proposed.

Key words: Tibetan phonology, sound change, affricates, fricatives

1. Introduction

A paper of W. South Coblin's from 1976 stands as the seminal contribution to the study of Tibetan verbal morphology. The decades since his treatment have seen only a few minor suggestions for revision (cf. Beckwith 1996, Hill 2010:xv-xxi, Jacques 2012). In gratitude to Coblin's work on the Tibetan verb and his contribution to Tibeto-Burman comparative linguistics more generally, I here offer one such adjustment to the sound laws proposed in his study.¹

2. Tibeto-Burman *dz- > Tibetan z-

Taking note of a Tibetan verb paradigm such as *hdzin* (present), *bzuñ* (past), *gzuñ* (future), *zuñs* (imperative) 'take',² Li Fang-Kuei proposed that *h*- when proceeding a

¹ Coblin has published three philological studies of Old Tibetan texts (1990, 1991b), including the most comprehensive and authoritative work on Old Tibetan inscriptions (Li & Coblin 1987). He has undertaken three lexical studies of Old Tibetan words (1987, 1991a, 1994), and a number of studies on the use of the Tibetan alphabet to transcribe Tang dynasty Chinese (1995, 2002, 2006, 2009).

² I transliterate the Tibetan alphabet as follows: *k, kh, g, ñ, č, čh, j, ñ, t, th, d, n, p, ph, m, b, ts, tsh, dz, w, ž, z, h, y, r, l, ś, s, h*. For Burmese I follow the Library of Congress system, with the exception that I use *h* to mark the visarga. I take reconstructions of Old Chinese from the charts made available by William Baxter and Laurent Sagart on the homepage of the Centre de recherches linguistiques sur l'Asie orientale.

fricative, lateral, or rhotic, gave rise to an epenthetic dental stop (Li 1933:149). August Conrady also assumed this sound change, without explicit discussion (Conrady 1896:59). I have previously referred to this change as ‘Li’s first law’, but 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’.

- **hs-* > *hts-*, e.g. √*so* ‘nourish’, present **hso* > *htsho*
- **hś-* > *hč-* (= *htś*), e.g. √*śad* ‘explain’, present **hśad* > *hčhad*
- **hz-* > *hdz-*, e.g. √*zug* ‘plant’, present **hzugd* > *hdzugs*
- **hź-* > *hǰ-* (= *hdź*), e.g. √*žo* ‘milk’, present **hžo* > *hǰo*
- **hr-* > *hdr-*, e.g. √*ri* ‘write’, present **hri* > *hdri*³

The inherent plausibility of this suggestion is such that R. K. Sprigg independently came upon exactly the same analysis (1970).⁴ Making use of this and other laws Coblin reconstructs the history of the paradigm *hdzin*, *bzuñ*, *gzuñ*, *zuñs* ‘take’ as follows (1976:58):

- **hzuñd*, *bzuñ*, **d-zuñ*, *zuñs*
- **hziñd*, *bzuñ*, **d-zuñ*, *zuñs* (*u* > *i*)
- **hzind*, *bzuñ*, **d-zuñ*, *zuñs* (-*ñd* > *nd*)
- **hźind*, *bzuñ*, *gzuñ*, *zuñs* (*d-* > *g-*)
- hdzind*, *bzuñ*, *gzuñ*, *zuñs* (Conrady’s law)

If the formulation of the sound change **hz-* > *hdz-* is correct, one would expect the Tibeto-Burman cognates of Tibetan words with initial *z-* also to begin with *z-*; instead, they generally begin with *dz-* or *ts-*.

- Tib. *za* ‘eat’ : Bur. *cāḥ* ‘eat’ cf. Loloish **dza*² (Bradley 1979:354-355, #629), Japhug Rgy. *ndza* ‘eat’,⁵ Ch. 咀 *dzjoX* < **dza?* (0046u) ‘eat’
- Tib. *zam* ‘bridge’ : Lahu *co_v* ‘bridge’ < Loloish **dzam*¹ (Bradley 1979:330-331, #393),⁶ Japhug Rgy. *ndzom* ‘bridge’

³ On the paradigm of this verb see Hill (2005).

⁴ Such instances of epenthesis are far from unknown in the world’s languages (e.g. Old English *thunor* > English *thunder*).

⁵ To save space lists employ the following abbreviations of language names: Burmese (Bur.), Old Burmese (OBur.), Chinese (Ch.), Kurtöp (Kur.), Rgyalrong (Rgy.), Tibetan (Tib.).

⁶ Matisoff cites a Burmese word *cam* ‘bridge’ (2003:253), but I am unable to confirm this word in Judson (1893) or Myanmar Language Commission (1993).

- Tib. *ziñ-cha* ‘quarrel, dispute’ : Bur. *cac* ‘war, battle’, Ch. 爭 *tsreang* < *m-ts^hreŋ (0811a) ‘strife, quarrel’
 Tib. *zin* ‘be consumed’ : Ch. 盡 *dzinX* < *Cə.dzin? (0381a) ‘exhaust (v.)’
 Tib. *zil* ‘dew’ : Bur. *chīh* ‘dew’ < Lolo-Burmese *ʔ-dzi? (Matisoff 2003:187)
 Tib. *ḥdzug*, *btsug*, *gzug*, *tshug* ‘plant’ : Bur. *cuik* ‘erect, set upright, plant’ (Matisoff 2003:362, 529)
 Tib. *ḥdzud*, *btsud*, *gzud*, *tshud* ‘insert’ : Jingpho *džút* ‘be pierced’ (Matisoff 2003: 529)

In addition to this comparative evidence, Tibetan internal considerations weigh in favour of *dz- > z-. Although plenty of Tibetan words begin with *tsh-*, essentially no Tibetan word begins with *dz-*. This asymmetrical distribution suggests that there may have once been words that began with *dz, in which this initial subsequently changed into another sound. Tibetan *zoñ* ‘merchandise’ is such a word; it is self evidently related to the verb $\sqrt{\text{tsoñ}}$ (*ḥtshoñ*, *btsoñs*, *btsoñ*, *tshoñs*) ‘sell’. If *zoñ* derives regularly from *dzoñ the relationship between these two words is that of voicing alternation. Without the law *dz > z the relationship is more difficult to account for.

In light of such evidence it would be preferable to analyze the root of *ḥdzin*, *bzuñ*, *gzuñ*, *zuñs* ‘take’ as $\sqrt{\text{dzuñ}}$ rather than $\sqrt{\text{zuñ}}$. A look at the paradigm of another verb suggests a strategy for proposing such an analysis. Again following a proposal of Li’s (1933:146, §15), Coblin reconstructs the future of *ḥdzug*, *btsug*, *gzug*, *tshugs* ‘plant’ as **gdzug*. In a more general discussion of lenition in Tibetan, Anton Schiefner earlier offered this same explanation for the derivation of future stems in voice alternating verbs (1852:364). The sound law *gdz- > gz- may be invoked in the analysis of *ḥdzin*, *bzuñ*, *gzuñ*, *zuñs* ‘take’, yielding the future stem **gdzuñ*. The imperative is arrived at through the law that Anlaut *dz-* becomes *z-*, as the comparative data presented above suggests (i.e. **dzuñs* > *zuñs*). In order to account for the past stem the parallel law **bdz-* > *bz-* becomes necessary. Comparative data also support **gdz* > *gz-* and **bdz* > *bz-*.

- Tib. *gzan* ‘to wear out, hurt, waste’ : Ch. 殘 *dzan* < *dz^han (0155c) ‘injure, remnant’
 Tib. *gzig* ‘leopard’ : Rgy. *kəftək* ‘leopard’ (Matisoff 2003:135)
 Tib. *gzim* ‘sleep’ : Ch. 寢 *tshimX* < *ts^him? (0661f) ‘sleep’
 Tib. *bzañ* ‘good’ : Ch. 臧 *tsang* < *ts^haŋ (0727f) ‘good’

A Tibetan translation of the the *Léngqié shīzī jì* (楞伽師資記) discovered in Dunhuang cites the *Guān pūxián púsà xíngfǎ jīng* (觀普賢菩薩行法經) under the title *Ḥdzañs-khyab-gyi brtag-paḥi chos-gyi yi-ge*, in which the deity Samantabhadra (普賢 pūxián) is referred to as *Ḥdzañs-khyab* rather than the expected *Kun-tu-bzañ-po* (IOL Tib J 710,

f. 52, l. 4, cf. 𠵱dri guñ skyabs mgon che tshañ 2010:99). The equation of 𠵱dzañs-khyab and Kun-tu-bzañ-po makes clear that *hdzañs* renders the word *bzañ* ‘good’; this variation between *hdz-* and *bz-*, encountered outside the verbal system, helps to reinforce the conviction that an affricate is original in this word, as the Chinese cognate confirms.

The sound change **dz- > z-* elucidates a number of points discussed in other scholars’ work in Tibeto-Burman linguistics. James Matisoff (2003:588) reconstructs **(d)zil* ‘dew’ in Tibeto-Burman in order to account for Tibetan *zil* ‘dew’ and Lolo-Burmese **ʔ-dzi*². He appears to regard the loss of *-l* in Lolo-Burmese as regular sound change, but to regard the variation between **dz-* and **z-* as ‘allofamic’. This example shows the danger of positing such variation; Matisoff has mistaken regular sound change for proto-variation. The Tibetan sound change **dz > z-* also clarifies some issues in the reconstruction of Old Chinese. Writing about the Chinese word 爭 *tsreang* < **m-ts^hreŋ* (0811a) ‘strife, quarrel’, on the basis of Tibetan *ziñ-cha* ‘quarrel, dispute’ and *hdziñ* ‘to quarrel, contend, fight’, and (citing Li 1933:148) Zev Handel suggests

the Tibetan root appears to be *ziñ*, with the affricate of *hdziñ* arising under the influence of the prefix *h-*. ... Assuming that the Chinese and W[ritten]T[ibetan] forms are cognate, it seems possible that the original Chinese stem is **siŋ*, with affrication to **tsiŋ* under the influence of a prefix *r-*” (2009:199 bold in original, Tibetan transcription adjusted).

In fact the Tibetan root is $\sqrt{d}ziñ$, directly comparable to Chinese 爭 *tsreang* < **m-ts^hreŋ* (0811a) ‘strife, quarrel’, without further need to reconstruct a Chinese prefixed form **r-s-*. In a similar case, Axel Schuessler proposes the Old Chinese consonant cluster **k-s-* (changing to Middle Chinese *ts^h-*), based on such comparisons as Tibetan *gzim* ‘sleep’ and Old Chinese 寢 *tshimX* < **k-simʔ* (0661f) ‘sleep’, both deriving from Tibeto-Burman **k-zim* (2002:158). In this case also, there is no need to amend the Chinese reconstruction; as Walter Simon realized (1929:179, no.263), it is Tibetan which has innovated, changing **gdzim* to *gzim*. These three examples from the work of Matisoff, Handel, and Schuessler demonstrate the widespread implications the suggestion **dz- > z-* may have in Tibeto-Burman linguistics.

3. Tibeto-Burman **j-* > Tibetan *ž-*

On the grounds of symmetry it would be convenient to propose a sound change of **j-* to *ž-*. Coblin follows Simon (1929:30) and Li (1933:144) in proposing the changes **gǰ- > gž-* and **bj- > bž-* in order to account for a verb such as *hǰib*, *bžibs* < **bjibs*, *gžib*

< *g̃jib, *jibs* ‘suck’ (Coblin 1976:49). The Anlaut *j̃-* in the imperative of this verb is what leads Coblin to see it as part of the stem. There is however disagreement among lexicons as to whether the imperative should be *jibs* or *hjibs* (Hill 2010:96-97). Given the overall rarity of Tibetan words beginning with *j̃-*, *jibs* is probably not correct.⁷ Just as the connection of the word *zon* ‘merchandise’ with *√tsoñ* ‘sell’ (*htshoñ*, *btsoñs*, *btsoñ*, *tshoñs*) ‘sell’ suggested the change *dz > z-, the connection of the noun *zal-ce* ‘suite’ with the verb *√jal/čal* ‘weigh, asses, judge’ (*hjal*, *bčald*, *gžal*, *čhold*) (Dotson 2007:35 note 39), argues in favour of a change *j̃ > ž-. In addition, the spelling of the word *khul-žo* ‘crib’ as *khu-ljo* in the *Old Tibetan Chronicle* (PT 1287 line 43) also supports *j̃ > ž-.

The sound change *j̃ > ž clarifies the inflection of verbs which have an imperative with Anlaut ž-, such as *√jog* ‘cut, hew’ (*hjog*, *bžogs* < *bjogs, *gžog* < *g̃jog, *žog* < *jog). Coblin, invoking Conrady’s law, instead suggests that the root is *√žog* and the present stem *hjog* may be reconstructed *hžog (1976:68). But, having accepted the validity of the changes *dz > z and *j̃ > ž (hereafter referred to together as ‘Schieffner’s law’), it is tempting to speculate that at one point in Tibetan pre-history no roots began with z- or ž-.

4. Three origins of ž

Although for some words ž- < *j̃-, Old Tibetan ž- also has other origins. The source of ž- to have received most attention is *l̃- (Benedict’s law, cf. Benedict 1939:215, Hill 2011:445). The following examples present the evidence for the change *l̃ > ž-.

- Tib. *bži* < *bl̃i ‘four’ : OBur. *liy* ‘four’, Chi. 四 *sijH* < *s.li[j]-s (0518a) ‘four’
 Tib. *žin* < *l̃in ‘field’ : Bur. *lay* ‘field’, Chi. 田 *den* < *l̃inj (0362a) ‘field’
 Tib. *žo* < *l̃o ‘yoghurt’ : Japhug Rgy. *tr-lu* ‘milk’
 Tib. *gži* < *gl̃i ‘ground’ : OBur. *mliy* ‘ground’, Chi. 地 *dijH* < *l̃ej-s (0004b) ‘ground’
 Tib. *gžu* < *gl̃u⁸ ‘bow’ : OBur. *liy* ‘bow’, Chi. 矢 *syijX* < *lij̃? (0560a) ‘arrow’

There are also grounds internal to Tibetan for such a reconstruction (Gong 2002[1977]: 391-392).

⁷ Perhaps the most common such word is *jo-bo* ‘lord’, however three pieces of evidence demonstrate that originally this word was *rjo-bo*. First, it is spelled thus in PT 1287, ll. 28-29. Second, no words begin *rjo-* in Classical Tibetan. Third, this word is quite clearly related to *rje* ‘chief’, which confirms the cluster *rj̃-*.

⁸ The word is spelled *gži* in an Old Tibetan version of the Rama story (IOL Tib J 0737/1 line 168, cf. de Jong 1989:115).

Tib. *gžogs* < **gl̥ogs* ‘side of the body’ : Tib. *logs* ‘side’
 Tib. *bžen* < **bl̥eñ* ‘rise’ : Tib. *lan* ‘rise’

On the basis of the comparison of Tibetan *žag* ‘day’ with Chinese 夜 *yaeH* < **N.rak-s* (0800j) and Old Burmese *ryak* ‘day’ it is further possible to posit **r̥i-* as an origin of Tibetan *ž-*.⁹ Since Tibetan *ž-* has three potential reconstructions, as a working hypothesis it is judicious to assume that all examples of Tibetan *ž-* are innovative and that Tibeto-Burman should not be reconstructed with *ž-*. Whether *z-* similarly has lateral and rhotic origins in addition to **dz-* remains to be seen.

5. Relative chronology of sound changes

Conrady’s law suggests that **h̥z* > *hdz-* and **h̥ž* > *h̥ž-*. But, there is also substantial evidence for Scheifner’s law, namely **dz-* > *z-* and **j-* > *ž-*. Two strategies are available to reconcile the evidence for both Conrady’s and Scheifner’s laws. First, one could reject the proposals **h̥z-* > *hdz-* and **h̥ž-* > *h̥ž-*. Such a revision of Conrady’s law however would not be elegant; it is odd to accept the changes **h̥s-* > *htsh-* and **h̥ś-* > *h̥čh-* but reject the changes **h̥z* > *hdz-* and **h̥ž* > *h̥ž-*. Also, one would have to suppose that *h-* somehow blocked the softening of voiced affricates. Rather than the unconditioned changes **dz* > *z-* and **j* > *ž-*, it becomes necessary to specify the conditioned changes **#dz-*, **gdz-*, **bdz-* > *#z-*, *gz-*, *bz-* and **#j-*, **g̊-*, **b̊-* > *#ž-*, *gž-*, *bž-* (where # indicates a word break). Second, instead of rejecting **h̥z-* > *hdz-* and **h̥ž-* > *h̥ž-*, one may suggest that Li’s law occurred after Schiefner’s law had already completed. This explanation does lead to the inelegance of sound changes being directly undone, viz. **hdz-* > **h̥z-* > *hdz-*, **h̥ž-* > **h̥ž-* > *h̥ž-*. Fortunately, there is independent evidence to suggest that the second explanation, i.e. that Li’s law applied after Schiefner’s law, is correct.

The following comparisons between Tibetan and Kurtöp make clear that the change **dz* > *z-* had occurred already in the language, proto-Bodish, which is the ancestor of these two languages.

Tib. *za* ‘eat’ : Kur. *zù* ‘eat’ (Hyslop 2011:56)
 Tib. *zui* ‘pair’ : Kur. *zòn* ‘two’ (Hyslop 2011:58)
 Tib. *zam* ‘brdge’ : Kur. *zàm* ‘bridge’ (Hyslop 2011:152)
 Tib. *zur* ‘corner’ : Kur. *zur* ‘edge’ (Hyslop 2011:283)

In contrast, as Michailovsky and Mazaudon point out that the change **li-* > *ž-* had not

⁹ Although he accepts these comparisons, Jacques rejects this proposal (2013:296-297).

yet occurred in proto-Bodish (1994:553).

Tib. *zín* ‘field’ : Kur. ^L*leŋ* ‘field’ (Michailovsky & Mazaudon 1994:553)

Tib. *zím* ‘tasty’ : Kur. ^L*lembu* ‘tasty’ (Michailovsky & Mazaudon 1994:553, cf. Hyslop 2011:531)

Tib. *bzi* ‘four’ : Kur. *ble* ‘four’ (Michailovsky & Mazaudon 1994:553, cf. Hyslop 2011:53)

Tib. *gzu* ‘bow (n.)’ : Kur. ^L*limi?* ‘bow (n.)’ (Michailovsky & Mazaudon 1994:553, cf. Hyslop 2011:42)

Since Japhug Rgyalroñ *tr-lu* ‘milk’ confirms that Tibetan *zo* ‘yoghurt’ should be reconstructed **l̥o* (Jacques 2008:128), the change **h̥z-* > *h̥j-* must have occurred after the change **l̥i* > *z-* in order for the present stem of the verb ‘to milk’ (*h̥jo*, *bzos*, *bzo*, *zos*) to turn out correctly, i.e. Li’s law (**h̥z-* > *h̥j-*) took place after Benedict’s law (**l̥i-* > *z-*). The effected sound changes must be ordered as follows: 1. Schiefner’s law, 2. Benedict’s law, 3. Conrady’s law.¹⁰

Reconsidering the verb *h̥jog*, *bzogs*, *gzog*, *zog* ‘hew’ it becomes clear that both analysis in terms of the root $\sqrt{h̥jog}$ and analysis in terms of the root \sqrt{zog} are valid, but refer to different moments in history.

**h̥jog*, **bjogs*, **gjog*, **jog*
 **h̥zog*, *bzogs*, *gzog*, *zog* (Schiefner’s law)
h̥jog, *bzogs*, *gzog*, *zog* (Conrady’s law)

Similarly reconsidering the verb *h̥dzin*, *bzuñ*, *gzuñ*, *zuñs* ‘take’ both analysis in terms of the root $\sqrt{dzuñ}$ and in terms of the root $\sqrt{zuñ}$ are valid for different moments in history.

**h̥-dzuñd*, **b-dzuñ*, **d-dzuñ*, **dzuñs*
 **h̥zuñd*, *bzuñ*, **d-zuñ*, *zuñs* (Schiefner’s law)
 **h̥ziñd*, *bzuñ*, **d-zuñ*, *zuñs* (*u* > *i*)
 **h̥zind*, *bzuñ*, **d-zuñ*, *zuñs* (*-ñd* > *nd*)
 **h̥zind*, *bzuñ*, *gzuñ*, *zuñs* (*d-* > *g-*)
h̥dzind, *bzuñ*, *gzuñ*, *zuñs* (Conrady’s law)

¹⁰ While this article was in press, I came to decide that the order is in fact 1. Schiefner’s law, 2. Conrady’s law, 3. Benedict’s law, and that *h̥jo*, the present stem of the verb ‘to milk’, is an analogical development (cf. Hill 2013).

One should bear in mind however that the prefixes *h-*, *b-* and *g-* may not have come into vogue until after Schiefner's law took place.

A fresh look at the verb *hdzug*, *btsug*, *gzug*, *tshugs* 'plant' draws attention to the fact that voicing alternation was already a part of the Tibetan verbal system before Schiefner's law occurred.

*h-dzug, *b-tsug, *d-dzug, *tsugs
 *h-zug, *btsug*, *d-zug, *tshugs*¹¹ (Schiefner's law)
 *h-zug, *btsug*, *gzug*, *tshugs* (*d-* > *g-*)
hdzug, *btsug*, *gzug*, *tshugs* (Conrady's law)

Voicing alternation in the Tibetan verbal system is quite old.

6. Conclusion

The investigation conducted here permits several conclusions about the history of the Tibetan verbal system. Voicing alternation was a feature of the verbal system from very ancient times. Before the breakup of proto-Bodish voiced affricates softened to their corresponding fricatives (*dz → z- and *j- → ž-, i.e. Schiefner's law). Subsequent to the break up of proto-Bodish further examples of ž- sprang from the palatalization of laterals (Benedict's law *lj- → ž-). Even later, epenthetic dentals appeared between *h-* on the one hand and fricatives, rhotics, and laterals¹² on the other hand (Conrady's law). Tibetan as attested in the earliest records has both the voiced affricates *dz-* and *j-* and the voiced fricatives *z-* and *ž-*; they are nearly in complementary distribution (with the affricates after *r-* and *h-* and the fricatives elsewhere). An earlier unattested stage of the language would have had voiced fricatives and no voiced affricates. In a yet older stage of the language this situation was reversed with no voiced fricatives but only voiced affricates.

¹¹ Aspiration is not phonemic in Old Tibetan. Aspirates appear in Anlaut position and non-aspirates appear in other syllable positions (cf. Hill 2007).

¹² In the case of laterals subsequent metathesis and loss of *h-* has obscured this change (i.e. *hl- > *hld- > *ld-*), as one sees in a paradigm such as *ldog*, *logs* 'reverse' (cf. Li 1933:149).

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