

Prenasalized reflex of Old Tibetan <ld-> and related clusters in Central Tibetan

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Abstract

The diachrony from Old Tibetan to modern Tibetan dialects usually respects nasality. A consonant cluster without a nasal element is usually reduced to a consonant without a nasal element. However, in Lhasa Tibetan and other Central Tibetan dialects, the consonant clusters <ld->, <ldz-> and <zl-> regularly become prenasalized voiced stops /ⁿd/ and /ⁿdz/, with the same reflex as OT clusters with a nasal prefix: <md-> or <ⁿd->, but not OT clusters with other prefixes, such as <rd-> or <sd->.

This paper presents the evidence of this correspondence in Central Tibetan dialects, and then examines its diachronic pathway. In particular, data from Tibetan dialects of Kashmir suggest that “l-coronal” clusters were retained in the ancestor of Central Tibetan dialects, as *prelateralized stops* (phonologically unitary phonemes like affricates or prenasalized stops), before merging with prenasalized stops.

This correspondence is present in all dialects traditionally characterized as Central Tibetan, and absent in those traditionally classified into Khams and Amdo Tibetan. In dialects to the east, <ld-> = <rd-> ≠ <ⁿd->, contrary to Central Tibetan, where <ld-> = <ⁿd-> ≠ <rd->. This “perfect” isogloss, where a secondary conversion between the types is possible, constitutes one piece of evidence for the proposition that Central Tibetan would be classified as a genetic group, in contrast with Eastern Tibetan.

Keywords: prelateralized stops, Central Tibetan, Tibetan dialectology

1. Overview

Old Tibetan (or OT) consonant clusters of the shape <mC-> or <ⁿC->¹, where C is a voiced stop², have survived in many Tibetan dialects as a series distinct from the reflexes of other <CC-> clusters. In non-cluster dialects, <mC-> and <ⁿC-> are usually reflected as prenasalized stops /ⁿC/, while other <CC-> clusters are reflected as voiced or unaspirated stops /C-/ with no indications of nasality.

¹ Old/Written Tibetan, called Old Tibetan as the distinction is not of use for the purpose of this study, is transcribed according to Guillaume Jacques's scheme [1]. Notably, the letter <ḷ> is transcribed as <ḥ> when used as root letter, and <ⁿ> when preradical. Lhasa Tibetan forms, no matter the source, is (re)transcribed with the vowels of Seattle Tibetanists, i.e. with 12 vowels in six harmonic pairs: /a/ – /ə/, /ɛ/ – /ɪ/, /ɔ/ – /o/, /e/ – /i/, /o/ – /u/, /ø/ – /y/. The transcription of consonants follow the original sources, but retranscribed into IPA. Lhasa Tibetan nasal vowels being always bimoraic, the second mora usually changes into a homoorganic nasal when followed by a stop: /_kããtẽẽ/ is usually pronounced [kãn.ltẽẽ]. This feature is not reflected in the transcription of this paper.

The suprasegmental phonology of Lhasa Tibetan and other tonal dialects of Tibetan is noted with the following convention: high-toned words are indicated with ¯, low-toned words with _: /_l̄ɛ̄sa/ “Lhasa”, /_k̄h̄apaa/ <ga.bar> “where”. Word-final falling tone is transcribed with a long vowel with a grave accent: /_p̄h̄ø̄/ <bod> “Tibet”. The boundary of tonal domains is marked as word boundary.

² Affricates, as stops with peculiar releases, are not differentiated from stops in this paper, in order to avoid unnecessary verbosity.

For disyllabic words in Lhasa Tibetan, in particular, <mC-> and <ⁿC-> clusters as onset of the second syllable causes nasalization on the preceding syllable: <me.mda> “fire-arrow, gun” gives /_mē̃ta/, with the first element <me> /_me/ acquiring nasality. <CC-> clusters where the first element is not nasal does not have this property. However, the clusters <ld-> and <ldz->, neither of which having a jot of nasality, nasalizes the preceding syllable. Witness some of the words known to a most cursory student of Lhasa Tibetan: /_kããtē̃/ <dga-ldan> “joyful”, /_phõõteõõ/ <bod-ldzoŋs> “Tibet Autonomous Region”. The prenasalized reflex is also present for another OT cluster with no nasal element: <zl->: /_teĩtə/ <spyi-zla> “Gregorian month”.

More generally, in varieties of Central Tibetan which preserve prenasalized stops, especially Ngari Tibetan [2] and the conservative variety of Lhasa Tibetan in the transcription of Hoshi & Hoshi [3,4], the clusters <ld->, <ldz-> and <zl-> are reflected as prenasalized stops.

The gist of the phenomenon is summarized in Table 1. In Central Tibetan, <ld-> gives a prenasalized stop. The prenasality is not present in the reflexes of other OT <IC-> clusters: <lg-> gives /_k/ just as <sg->, <lb-> gives /_p/ just as <sb->. Moreover, this sound change that gives a prenasalized stop is not pan-Tibetan. In other Tibetan dialects further to the east, for example the wide variety of tonal Tibetan dialects grouped under the name of “Kham Tibetan”, the usual reflex of <ld-> is the same as other <Cd-> consonants.

Table 1. Reflexes of select OT clusters in Central and “Kham” dialects

OT	Central	“Kham”
lg-, sg-, rg-, dg-	_k	g
ⁿ g-, mg-	_ng	ⁿ g
rd-, sd-, gd-	_t	d
ld-	_nd	d
ⁿ d-, md-	_nd	ⁿ d

Against the backdrop of a diachrony which respects the absence of nasality in general, the regular modern prenasality for <ld->, <ldz-> and <zl-> is surprising. After examining the evidence for Lhasa Tibetan in Section 2, and other Central Tibetan dialects in Section 3, this paper attempts to offer a diachronic explanation in Section 4. Section 5 will discuss the implication of this phenomenon on the internal classification of Tibetan, followed by the conclusion.

2. Lhasa Tibetan evidence

2.1. Classes of onset consonant in Lhasa Tibetan

Among Central Tibetan dialects, Lhasa Tibetan is the best described and best understood variety. The presence of comprehensive dictionaries (like that of Goldstein [5], Yú [6] and Hoshi & Hoshi [3,4]) gives the unique chance of examining the situation in lexical detail.

Descriptions of Lhasa Tibetan widely differ on the aspiration and prenasalization of onset consonants, which reflects real dialectal, ideolectal and register variation in Lhasa Tibetan [7]. The different variants can be understood as different phonological rules³ applied to the same phonological representation, be it phonemic or diasystemic.

The onset consonant of each syllable-morpheme in Lhasa Tibetan belong to one of five classes: high-aspirated /_ph/, high-unaspirated /_p/, low-aspirated /_ph/, low-unaspirated /_p/ and prenasalized /_nb/. In word-initial position, /_p/ and /_nb/ merge into /_p/ in the descriptions of Goldstein and Yú, but not in the conservative variety described by Hoshi & Hoshi. In word-medial position, tone and aspiration distinction is neutralized in the descriptions of Goldstein and Hoshi &

³ It is difficult to tell whether the rules are real phonological (*post-lexical phonology* in generative terms) or morphophonological rules. However, this distinction is not important for the diachronical orientation of this study.

Hoshi: $\bar{p}h$ /, \bar{p} /, $_ph$ /, $_p$ / all merge into $/p/$. The description of Yú is identical, except that aspiration is preserved for $\bar{p}h$ / (but not $_ph$ /)⁴. $_{}^nb$ / also becomes $/p/$, but nasalizes the preceding syllable. The behaviour of the onset classes in different descriptions are summarized in Table 2.

Table 2. Behaviour of onset classes in different description of Lhasa Tibetan

Class	Word-initial			Medial		
	Goldst.	Yú	Hoshi	Goldst.	Yú	Hoshi
$\bar{p}h$	$\bar{p}h$	$\bar{p}h$	$\bar{p}h$	p	ph	p
\bar{p}	\bar{p}	\bar{p}	\bar{p}	p	p	p
$_ph$	$_ph$	$_ph$	$_ph$	p	p	p
$_p$	$_p$	$_p$	$_p$	p	p	p
$_{}^nb$	$_p$	$_p$	$_{}^nb$	N.p	N.p	N.p

There is variation concerning the realization of prenasalized stops in word-initial position, but the presence or not of prenasalization is clear on the second syllable of disyllabic words. Even in varieties where an original $_{}^nda$ is pronounced $_{}^ta$ /, the morphophonology, from $\langle me \rangle$ $_{}^me$ / “fire” and $\langle mda \rangle$ $_{}^nda$ / “arrow”, always gives $_{}^mēēta$ /, with the first element $\langle me \rangle$ $_{}^me$ / acquiring nasality. Hence, in order to know if a syllable-morpheme belongs to the low-unaspirated class $_{}^p$ / or prenasalized class $_{}^nb$ /, we can either examine its word-initial pronunciation in Hoshi’s description, or its word-medial pronunciation in all descriptions of Lhasa Tibetan.

In reliable accounts of Lhasa Tibetan consonantism ([3] for example), we know that:

- $\langle ld \rangle$ and $\langle ldz \rangle$ are respectively reflected as $_{}^nd$ -/ and $_{}^ndz$ -/, as if etymologically $\langle nd \rangle$ or $\langle ndz \rangle$.
- Other non-nasal clusters with $\langle d \rangle$ and $\langle dz \rangle$ are reflected as low-toned unaspirated $_{}^t$ -/ and $_{}^tē$ -/.
- Other clusters formed with l - and a voiced stop are reflected as low-toned unaspirated stops. $\langle lb \rangle$ gives $_{}^p$ -/ and $\langle lg \rangle$ -, $_{}^k$ -/.
- $\langle zl \rangle$ gives modern $_{}^nd$ -/, just like etymological $\langle ld \rangle$.

The rest of this section will verify these results. In 2.2, we will examine the conservative variety transcribed by Hoshi & Hoshi. So as to be sure⁵, in 2.3, we will examine the word-medial behaviour of words with relevant clusters in the Lhasa Tibetan dictionary of Yú.

2.2. Word-initial behaviour in conservative variants

The most direct evidence for the phenomenon can be seen in the conservative varieties of Lhasa Tibetan as reflected in Hoshi & Hoshi’s transcription. Some of the relevant examples are put in Table 3, where voiced “ l +coronal” clusters are compared with clusters of the form “nasal+coronal”, “other+coronal” and “ l +other”.

Table 3. l +coronal clusters and related clusters in Lhasa Tibetan

l +coronal	nasal+coronal	other+coronal	l +other				
nasalized	nasalized	low unaspirated	low unaspirated				
$\langle ldag \rangle$	$_{}^ndaà$	$\langle{}^ndaɡ.bag \rangle$	$_{}^dakpaà$	$\langle rdar \rangle$	$_{}^taa$	$\langle lgaŋ.phug \rangle$	$_{}^kaŋpuù$

⁴ Given that the word-medial aspiration neutralization is attested from the beginning of Tibetan literature, one might suspect that Yu’s description, with this additional word-medial contrast of aspiration, reflects some artificial variety of Lhasa Tibetan influenced by the orthography. This is however unlikely, for the condition where aspiration is preserved word-medially is exactly the condition where aspiration is propagated to the beginning of the phonological word in negated verb stems. There, too, high-toned aspiration counts as aspiration, whereas low-toned aspiration does not. An artificial learned pronunciation should have preserved the aspiration no matter the tone.

⁵ The prenasalized initial variant is alive and well in the spelling pronunciation of all variants of Lhasa and Koiné Central Tibetan. One might reasonably fear that the prenasalized initial reflex is a bookish feature.

“to lick”	“mud”	“to sharpen”	“balloon”
<ldaŋs> _ndaŋ	<mdaŋs> _ndaŋ	<gdaŋs> _taŋ	<lbu.ba> _puʊ
“to be sufficient”	“light, splendour”	“song, chant”	“bubble”
<ldab> _ndaʔ	<mda> _nda	<brdab> _təʔ	<lba.ba> _paa
“times, fold”	“arrow”	“to hit”	“goiter”
<lde.mig> _ndimii	<n̄di> _n̄di	<bde.skyid> _tikiʔii	
“key”	“this”	“peaceful comfort”	
<ldebs> _ndeè	<n̄dod> _n̄døø	<sdod> _tøø	
“side”	“to want”	“to stay”	
<ldzags.tsha> _n̄dzaatsa	<n̄dzags> _n̄dzaà	<rdze> _tee	
“honourable salt”	“to settle down”	“to exchange”	
<ldzaŋ.khu> _n̄dzə̃ə̃ku	<mdzal> _n̄dzɛɛ	<rdzen.zon> _tɛ̃ɛ̃ə̃ə̃	
“to be green”	“to encounter”	“(ride) bareback”	
<ldzid.po> _n̄dzipu	<n̄dzib> _n̄dzip	<rdzes> _tɛ̃ɛ̃	
“to be heavy”	“to suck”	“trace”	

As is stated in the beginning of this paper, the Old Tibetan cluster <zl-> is reflected in the same way as <ld->: <zla.ba> /_nda/ “moon”, <zla> /_nda/ “companion”, <zlog> /_nda/ “to dispel”, <zlos.gar> /_nda/ “show, drama”.

From the data shown in this section, we see that <ld->, <ldz-> and <zl-> are reflected as prenasalized stops. They are indistinguishable from original stops preceded by a nasal element, but distinct from low-toned unaspirated stops, which come from everything else: <l> followed by something not coronal, or other consonants followed by <d> or <dz>.

2.3. Word-medial behaviour

The distinction between the prenasalized series and the low-toned unaspirated series is lost in most Lhasa Tibetan varieties today, and even those transcribed by Yú or Goldstein in the 50’s. However, even in these varieties, the prenasalized character of the morphemes with an originally prenasalized initial is apparent in the second syllable of disyllabic words. Even if /_nda/ “arrow” is often /_ta/ now, we can still know the presence of an original prenasalized stop because the first element of the word is nasalized: /_m̄ɛ̃ta/.

In this section, we examine the disyllables in Yú’s dictionary of Lhasa Tibetan [6], whose first syllable is not already nasal⁶, whose second syllable contains the clusters <ld->, <ldz-> or <zl->.

We start with <ld->. The following syllable-morphemes occur in the second syllable of words in the dictionary:

- <ldag> “to lick”: <ltee.ldag> /_teemtaà/ “lick”⁷.
- <ldaŋ> “be enough”: <gos.laŋ> /_khö̃tãã/ “material sufficient for one piece of clothing”.
- <ldan> “be endowed with”: three words in the dictionary are transcribed without nasalization, against 19 which are nasalized. The nasalized words are as follows: <skol.lan> /_kõ̃tẽẽ/ “porridge boiled in beer”, <skie.lan> /_cẽ̃tẽẽ/ “living being”, <khra.b.lan> /_t̃̃h̃am̃tẽẽ/

⁶ Otherwise, there would be now way to know if the second morpheme has an originally prenasalized stop, because a nasal-rhymed first syllable-morpheme does not change when followed by an originally prenasalized syllable-morpheme.

⁷ The /m/ points to a supposed etymon *<ltee.bldag>.

“armoured (vehicle)” <grib.lidan> /_tʃhimtɛ̃ɛ̃/ “gross (weight)”, <dga.lidan> /_kããtɛ̃ɛ̃/ “joyful”, <btɛud.lidan> /_tɛ̃ỹtɛ̃ɛ̃/ “nutritious”, <gnis.lidan> /_ɲĩtɛ̃ɛ̃/ “combining both (religion and secular politics), the traditional epithet for the Tibetan government”, <ldzid.lidan> /_tɛ̃ɛ̃tɛ̃ɛ̃/ “heavy”, <stobs.lidan> /_tomtɛ̃ɛ̃/ “powerful” (with /_toptɛ̃ɛ̃/ listed as an alternate pronunciation), <nus.lidan> /_nỹỹtɛ̃ɛ̃/ “effective”, <dpal.lidan> /_pããtɛ̃ɛ̃/ <*dpa.lidan> “glorious”, <blo.lidan> /_lõõtɛ̃ɛ̃/ “resourceful”, <ᵐb'or.lidan> /_tɛ̃õõtɛ̃ɛ̃/ “wealthy”, <ᵐbru.lidan> /_tʃũũtɛ̃ɛ̃/ “(cotton) with seeds”, <brtse.lidan> /_tsɛ̃ɛ̃tɛ̃ɛ̃/ “compassionate”, <tshad.lidan> /_tʃhɛ̃ɛ̃tɛ̃ɛ̃/ “proper”, <rig.lidan> /_rĩĩtɛ̃ɛ̃/ “wise”, <ees.lidan> /_ɛ̃ɛ̃tɛ̃ɛ̃/ “having knowledge”, <lha.lidan> /_lããtɛ̃ɛ̃/ “with gods, Lhasa”. The words without nasalization are as follows: <skal.lidan> /_kɛ̃ɛ̃tɛ̃ɛ̃/ “fortunate”, <rgʷud.lidan> /_kĩỹỹtɛ̃ɛ̃/ “string (instrument)”, <mdog.lidan> /_tɔktɛ̃ɛ̃/ “non-ferrous (metal)”.

- <ldiŋ> “to float”: <tehu.lidiŋ> /_tɛ̃hũũtĩĩ/ “floating (duckweed)”.
- <lde> “key”: <phyag.lde> /_tɛ̃hõõtĩĩ/ “honourable key”⁸. The name of the Yarlung emperor <khri.lde gtsug.brtan> /_tʃhite _tsuktɛ̃ɛ̃/ is however pronounced without nasalization.
- <ldebs> “side”: <rtsig.ldebs> /_tɕĩŋtɛ̃p/ “wallside”, <ri.ldebs> /_rĩĩtɛ̃p/ “mountain side”.
- <ldog> “turn back”: <go.ldog> /_khõõtɔ̀/ “opposite, misunderstanding”, <ᵐgʷur.ldog> “change”, <fiod.ldog>, . There is no nasalization on <thag.ldog> /_thaktɔ̀/ “winding ropes”.

<ldz-> is less well represented, only by two syllable-morphemes:

- <ldzaŋ> “green”: <sgrol.ldzaŋ> /_tʃõõtɛ̃ãã/ “green Tara”, <sn̄o.ldzaŋ> /_ŋõõtɛ̃ãã/ “blueish green”.
- <ldzoŋs> “country, scenery”: <ᵐkhrab.ldzoŋs> /_tʃhɛ̃m̄tɛ̃õõ/ “theatre scenery”, <ᵐbras.ldzoŋs> /_tʃɛ̃ɛ̃tɛ̃õõ/ or <ᵐbras.mo.ldzoŋs> /_tʃɛ̃m̄õõtɛ̃õõ/ “Sikkim”⁹. There is no nasalization on <rgʷab.ldzoŋs> “background” /_ɕɔ̃ptɛ̃õõ/ in Yu’s dictionary, but the form in Goldstein’s dictionary /_ɕɔ̃m̄tɛ̃õõ/ is as expected.

<zl-> is attested in three syllable-morphemes, of which two are homonymous:

- <zla> “moon, month”: <nyi.zla> /_ɲĩĩtɔ̀/ “the sun and the moon”, <dpyid.zla> /_tɛ̃ĩĩtɔ̀/ “spring months”, <spyi.zla> /_tɛ̃ĩĩtɔ̀/ “Gregorian month”, <dbyar.zla> /_jããtɔ̀/ “summer months”, <ya.zla> /_jããtɔ̀/ “single month”.
- <zla> “companion”: <sku.zla> /_kũũtɔ̀/ “honourable spouse”, <dgra.zla> /_tʃããtɔ̀/ “opponent”, <ᵐgal.zla> /_kɛ̃ɛ̃tɔ̀/ “opposition”, <sgie.zla> /_cɛ̃ɛ̃tɔ̀/ “rucksack resembling a saddle-bag”, <mtehd.zla> /_tɛ̃hɛ̃ɛ̃tɔ̀/ “siblings”, <na.zla> /_nããtɔ̀/ “those of the same age”, <mi.zla> /_mĩĩtɔ̀/ “human being as unit of population”, <bza.zla> /_sããtɔ̀/ “spouse”, <rogs.zla> /_roŋtɔ̀/ “helpmate”, <lo.zla> /_lɛ̃ɛ̃tɔ̀/ “those of the same age”.
- <zlos> “repetition”: <skʷar.zlos> /_kĩããtɔ̀/ “repetition”, <rdzes.zlos> /_tɛ̃ɛ̃tɔ̀/ “imitation”, <nyis.zlos> /_ɲĩĩtɔ̀/ “twice repeated”, <lad.zlos> /_lɛ̃ɛ̃tɔ̀/ “role model”.

From the data displayed above, we can see that the prenasalized status of the clusters <ld->, <ldz-> and <zl-> is clear on the second syllable, reflected as nasalization of the first syllable. In contrast, a cluster like <sd-> causes no such prenasalization, so <skʷid.sdug> “happiness and sadness, association” is /_kʷĩĩtù/, rather than *_kʷĩĩtù.

⁸ This honorific formation is formally mysterious. The height is due to vowel harmony. (/_dimii/ was interpreted as high vowel+high vowel). The length and falling tone is probably due to analogy to morphemes where the “null suffixed form” is short, but all other forms are long and falling, like <skad> “language”, whose composed forms are usually long and falling, like <skad.yig> /_kʷĩĩjii/ “spoken and written language”, <rgya.skad> /_ɕakɛ̃/ “Chinese language”, but the word “language” itself <skad.teha> /_kɛ̃tɛ̃/ shows a short vowel.

⁹ The Tibetan name of Sikkim, <ᵐbras.mo.ldzoŋs>, is transcribed *zhémèngxióng* (哲孟雄) in Chinese, where the nasal coda in the syllable used for <mo> provides an early evidence for the nasal realization of OT <ldz->. The earliest attestation of this Chinese form to my knowledge is in the Imperial Annals (*shilù*) of Qianlong, Volume 1405, in an edict of May 27, 1792 (乾隆五十七年閏四月乙亥). <ldz-> probably had a prenasalized reflex in Lhasa Tibetan 200 years ago. This is not surprising, given the geographic breadth of the phenomenon, as seen in Section 3.

However, due to the necessarily limited scope of Yú’s dictionary, I managed to find only one example with a second-syllable <lb-> or <lg->: <tehu.lgaŋ> /tehyykãã/ “blister”. The form noted in Goldstein’s dictionary [5] is /tehukãã/, the falling tone precluding the possibility that a literary form is taken¹⁰. Yú’s form comes from a resyllabified l: *tehul.gaŋ < tehu.lgaŋ, while Goldstein’s form had no resyllabification. <lg->, at least, causes no

2.4. Conclusion

According to the evidence in this section, the description of the correspondence between OT and Lhasa Tibetan in [3] is correct. For clusters where the last element is a voiced stop, the only condition of a prenasalized reflection is when the first element is l, and the second element is coronal.

3. Evidence from other Central Tibetan dialects

The best corroborative evidence for the Central Tibetan prenasalized treatment of <ld->, <ldz-> and <zl-> comes from Ngari Tibetan, described by Qú and Tán [2], where the prenasalized series is preserved intact, just as in the conservative varieties of Lhasa Tibetan transcribed by Hoshi & Hoshi. In [2], prenasalized consonants are transcribed as /np/¹¹ or /nb/ according to the dialect in question.

Table 4. Ngari words with <ld->, <ldz-> and <zl->

Etymon	Sgar	Ru·thog	Spu·hreng	Rtsa·mda	Dge·rgyas	Mtsho·chen	Sger·rtse
<ldag> “to lick”	_nta?	_nta?	_nta?	_nda?	_nta?	_nta?	_da?
<ldab> “times”	_ntap	_ntap	_nta	_ndap	_ntap	_ntap	_ndap
<ldzaŋ.khu> “green”	_ntea:ŋ.ku	_ntea:ŋ.ku	_ntea:ŋ.ku	_ndza:ŋ.ku	_ntea:ŋ.ku	_ntea:ŋ.ku	_ntea:ŋ.k ø
<zla.dkar> “moon”	_nda.ka:r	_nta.ka:r	_nta.ka:r	_nda.ka:r	_nta.ka:r	_nta.ka:r	_nda.pa

Locally referred as “Khams dialect” <khams.skad>, the dialect of Sger·rtse is not a bona fide Ngari dialect: the inconsistency concerning prenasalization is not surprising.

For the other Central Tibetan dialects, without preservation of word-initial prenasalization, I will content myself with pointing out examples of words that show Lhasa-style word-medial nasalization (2.3). In Shigatse Tibetan described by Felix Haller [8], two words show this nasalization: <ⁿgiur.ldog> /_cũtoà/ “change”, <ni.zla> /_nĩta/ “sun and moon”. In Dzongkha, the national language of Bhutan [9], the personal name <dge.ldan> is pronounced /gende/, which is clearly non-literary, because the literary form is /geden/, without nasalization. The place name Sikkim <ⁿbras.ldzoŋs> is similarly /d̥endzo/ in Dzongkha.

4. Diachronic explanation

4.1. <IC-> clusters in Zanskar Kenhat

In order to explain how this curious diachronic behaviour came into being, it is necessary to turn into other Tibetan dialects with similar atypical behaviour for <IC-> clusters. One of such dialects is Kenhat <gyen.skad> [10], the phonologically “innovative” Western dialects of Ladakh. In particular, the variety spoken in Zanskar, transcribed by Hoshi [11], exhibits a diachronic behaviour strongly reminiscent of that of Central Tibetan.

¹⁰ The more usual form is /tehyykãã/, anyway. (Tashi Kyi, personal communication)

¹¹ Probably in order to account for the word-medial voiceless realization, akin to Lhasa /_mẽ̃ta/ < /_me/ + /_nda/.

The Zanskar variety of Kenhat, like other Kenhat dialects, is poor in consonant clusters. There are only five consonant clusters in this dialect: /lt-/ , /ld-/ , /lɕ-/ , /ldz-/ and /xki-/. Except for cluster /xki-/, which will not be discussed in detail¹², all the surviving clusters are of the form /l/+coronal stop.

As for the OT origin of the “l+coronal stop” clusters, they come directly from corresponding OT “l+coronal stop” clusters. The OT distinction between <ld->, <Cd-> and <Nd-> (<ⁿd-> or <md->) is reflected as /ld-/ , /ð/ and /d/ < *nd, compare: <ldzang.khu> /ldzanku/ “green”, <rdzet> /zat/ “to forget”, <mdze> /dze/ “penis”. Additionally, just as in Central Tibetan, modern /ld-/ also comes from OT <zl->: <zla.fiod> /ldaʔot/ “moon”, <zla.ba> /ldawa/ “month”.

The survival of l-coronal clusters in Zanskar Kenhat is not a mere matter of whimsical exception, but reflects some kind of specific characteristics of l-coronal clusters. In fact, I will claim that l-coronal clusters consist a kind of unitary phoneme in Zanskar Kenhat, akin to affricates or prenasalized stops.

Like nasals, laterals are essentially non-airtight stops. According to Ladefoged & Maddieson's handbook [12], laterals are usually pronounced as a dental/alveolar occlusive, with an occlusion that “is limited to a few millimeters on the alveolar ridge in the area behind the incisors and perhaps extending to the premolars”, and which “does not extend back to the molar regions.” (p. 183) Just as a relatively easy velar movement can make a [m] from a [b] or vice versa, “the articulatory adjustment required to pass from a lateral to a homorganic stop of vice-versa is a minimal one”, so lateral-stop sequences or stop-lateral sequences “can be closely bound together at the level of articulatory organization”. Although “[i]n a small number of languages prestopped laterals have been analyzed as units”, Ladefoged & Maddieson did not find “languages for which it has been proposed that a lateral + stop sequence should be analyzed as a single segment, i.e. as as 'prelateralized stop' parallel to the prenasalized stops”. This paper suggests that Zanskar Kenhat is precisely such a language.

This treatment explains simultanously the reason why <l-> is the only surviving preinitial (not <s-> or <r->, for example) and the reason why <l-> survives only before coronal stops (so <lb-> behaves like <sb->). [ld] is an easy cluster in a way that [rd] or [lb] is not: in order to pass from [l] to [d], one only needs to raise the body of the tongue, which is “relatively low in the mouth behind the closure”. There is no need for movement in the fore region of the tongue, as for [rd], and *a fortiori* for [lb].

4.2. Diachronic hypothesis for the CT prenasalized development

The parallel categories in CT and Zanskar Kenhat suggests that the same thing happened in CT: <ld-> stayed *ld for a much longer time than other continuant-stop clusters. To begin with, we will first examine the usual hypothesis concerning the development of consonant onset in CT. The traditional hypothesis is rarely rendered explicit in the literature, but I think most students of Tibetan would be happy with the version offered below.

A stop in Tibetan can either occur alone, or preceded by one of the consonants <m>, <n>, <d>, , <s>, <r>, <l>. Aspiration is non-phonemic in Tibetan clusters: a voiceless stop is aspirated when preceded by <m> or <n>, and non-aspirated when preceded by <d>, , <s>, <r> or <l>. In the ancestor of Central Tibetan dialects, place distinction between preceding consonants fell, giving a system not unlike that found in “Kham” and innovating Amdo dialects. Then, for voiceless stops, the distinction between prefixed and non-prefixed consonants fell: <mk^h> and <nk^h> became the same as <k^h>; <Ck> clusters merged with <k>.

Table 5. Evolution of Central Tibetan stop clusters

¹² This is likely an fossilized intermediate step of Kenhat spirantization. As we will see later, in Kenhat, <C₁C₂-> clusters with non-nasal C₁ and stop C₂ usually gives spirantized C₂: <dk-> usually gives modern /x-/. The testimonial of the lone /xki-/ (likely homoorganic /x^hki/) suggests this general scheme of Kenhat spirantization: C₁C₂ > C₂[-occlusive]C₂ > C₂[-occlusive]. dk > *xk > x, lb > *βb > b. Some kind of markedness constraint blocked the final step in Zanskar Kenhat.

Old Tibetan	Pre-CT	Proto-CT	Lhasa	Shigatse	Rtsa·mda
<kh>	*kh	>	*kh	̄kh	̄kh
<mkh>, < ⁿ kh>	* ⁿ kh				
<k>, <bk>	*k				
<dk>, <sk>, <rk>, <lk>, <bCk>	*hk	>	*k	̄k	̄k
<g>	*g̊	>	*g̊	̄_kh	̄_k
<dg>, <sg>, <rg>, <lg>, <bg>, <bCg>	*fig	>	*g	̄_k	̄_k
<mg>, < ⁿ g>	* ⁿ g	>	* ⁿ g	̄_k	̄_k

This paper proposes that the traditional account is true for non-coronal stops. For coronal stops, however, with the Zanskar-like retention of l+coronal clusters, there are two more classes, unknown in Khams dialects, to be taken account with: *lt which finally merged with *t, and *ld which finally merged with *d.

Table 6. Evolution of Central Tibetan coronal stop clusters

Old Tibetan	Stage I	Pre-CT	Proto-CT	Lhasa	Shigats e	Rtsa·m da
<th>	*th	>	*th			
<math>, < ⁿ th>	* ⁿ th					
<t>, <bt>	*t					
<gt>, <st>, <rt>, <bst>, <brt>	*ht	>	*t			
<lt>, <blt>	*lt	>	*lt			
<d>	*ḍ	>	*ḍ			
<gd>, <sd>, <rd>, <brd>, <bsd>	*fid	>	*d			
<ld>, <bld>	*ld	>	*ld			
<mg>, < ⁿ g>	* ⁿ d	>	* ⁿ d			

Why is *ld merged with *ⁿd rather than *d? It is probable that *ld and *ⁿd had similar VOT, which is much more negative than that of *d, which in turn surpasses that of *ḍ.

4.3. The problem of <zl->

Till present, I have always assumed that <zl-> become its modern forms passing by an intermediate form *ld-, merging with etymological <ld->. This is what is seen in Zanskar Kenhat: <zla.ba> /ldawa/ “moon”.

One probable way for this to happen would be that of Zbu rGyalrong, a Qiangic language in Western Sichuan. Some dialects of Zbu rGyalrong have two phonemes /l/ and /l̥/. In other dialects, /l/ became /l^h/, /l̥/ became /ld/: /kəv̥l̥z̥â/ “four” in the former group of dialects correspond to /kəv̥ldâ/ or simplified /kəv̥dâ/ in the latter. If we take this as inspiration, <zl-> could first have become *z̥l̥- by rightward propagation of fricativity. *z̥l̥- then fortifies to *zld-, then to modern Zanskar Kenhat ld-.

A lot of <ld-> in Old Tibetan can be safely etymologized as coming from an earlier *ⁿl-. The least controversial example is that of lateral-rooted verbs. Compare the conjugation of <ldud.pa> “to give to drink” with <ⁿdzog.pa> “to put”: if the past stem <blud> is formed with a prefix on the root √LUD, the present stem <ldud> should be formed with a prefix <ⁿ> on the root, just as we have present <ⁿdzog> and past <bzag> for the root √ZHAG. It is attractive, as one anonymous reviewer pointed out, to consider the possibility that *ⁿl- directly became *ⁿd in Central Tibetan, without passing by the immediate step <ld->. However, if the hypothesis that <zl-> first merged with <ld-> is correct, the pre-Tibetan form would have no bearing on the modern prenasalization, as <zla.ba> “moon” is of course proto-Sino-Tibetan *sla, with no nasal element at all.

5. Prenasalized reflexes of <ld-> and classification of Tibetan dialects

This phenomenon is as universally present in Central Tibetan dialects as absent in dialects further to the east. On the other hand, in Tibetan dialects typically referred under the designations of “Khams” and “Amdo”, this phenomenon is completely absent. Four dialects are given in the table for illustration: Them·chen [13] for Amdo Tibetan, Nang·chen [14] and Co·ne [15] for what is usually labelled “Khams Tibetan”, and Zhongu [16] for non-Amdo non-tonal Eastern dialects often lumped together with Amdo Tibetan.

Table 7. Select words in Lhasa and Eastern Tibetan

Etymon	Lhasa	Them·chen	Nang·chen	Co·ne	Zhongu
<ldag> “to lick”	_ː ⁿ daà	rdaɣ	daʔ	_ː da	da
<ldemig> “key”	_ː ⁿ dimii	rdeɱɲəç	demeik	—	deɲi
<mda> “arrow”	_ː ⁿ da	mda	ⁿ da:	_ː ⁿ dæ	ⁿ dɛ
<rdo> “stone”	_ː to	rdo	do	(_ː dɔli)	do
<ldzan.khu> “green”	_ː ⁿ dzəððku	rdzanɣkə	—	_ː dzā:kə	dʒɔ ⁿ gə
<ldzi.ba> “flea”	(_ː ⁿ dzoʊ)	rdze	—	_ː dze:	zɯ
< ⁿ dza> “rainbow”	_ː ⁿ dza	ɲdza	ndʒa	—	ⁿ dʒetse
<mdze> “penis”	_ː ⁿ dze	mdze	ndʒe	_ː ⁿ dʒɛ	ⁿ dʒe
<rdzes> “trace”	_ː teeè	rdzi	dʒi:	—	dʒi
<zla.ba> “month”	_ː ⁿ dawa	rdza	dza:	—	dʒɛ
<zla.ba> “moon”	_ː ⁿ dawa	rdza	daβa	dza	dɛwɛ

In Table 7, the evidence is clear that in Eastern Tibetan, <ld-> and <ldz-> behaves in the same way as other non-nasal CC- clusters, more precisely exactly as <rd-> and <rdz->. Hence, the prenasalized correspondence is present in all dialects traditionally characterized as Central Tibetan, and absent in those traditionally classified into Khams and Amdo Tibetan. In dialects to the east, <ld-> = <rd-> ≠ <ⁿd->, contrary to Central Tibetan, where <ld-> = <ⁿd-> ≠ <rd>.

This gives a particularly useful isogloss, what I label a “perfect” one, because in neither case preconsonantal l- has survived, making a conversion between the two types impossible. For any single dialect, it can either undergo the “Central” merger or the “Eastern” merger. Absent large-scale borrowing, it is impossible for a “Central”-type dialect to become an “Eastern”-type dialect, nor vice versa. This “perfect” isogloss, where a secondary conversion between the types is possible, constitutes one piece of evidence for the fact that Central Tibetan would be classified as a genetic group, in contrast with Eastern Tibetan.

However, the utility of this in supporting the grouping of “Khams” and “Amdo” dialects as “Eastern Tibetan” is rather limited, because the falling together of <r->, <s-> and <l-> is more natural, more expected than the “Central” evolution. The chances for convergence and parallel sound change would be much greater.

6. Conclusion

In Section 2 and 3, we have seen that in Central Tibetan, the OT clusters <ld->, <ldz-> and <zl-> gives prenasalized reflexes like <ⁿd-> or <mdz>, but not like <rd-> or <lb->. In Section 4, data from Tibetan dialects of Kashmir suggest that “l-coronal” clusters were retained in the ancestor of Central Tibetan dialects, as *prelateralized stops* (phonologically unitary phonemes like affricates or prenasalized stops), before merging with prenasalized stops. The boundary of this idiosyncratic reflex corresponds well with the conventional boundary of Central Tibetan dialects, which suggests that the Central-Eastern dichotomy may have some reality.

Further research is necessary in order to find out other differences between Central and Eastern dialects of Tibetan, in the hope that at least some aspects of the traditional classification can be salvaged in a more rigorous taxonomy based on shared innovations.

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