#### On the Evolution of Tibetan Final \*-s

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Written Tibetan has three nasal finals (\*-m, \*-n, \*-ŋ), three stop finals (\*-b, \*-d, \*-g), and three continuant finals (\*-r, \*-1, \*-s). There are also seven consonant cluster finals: \*-nd, \*-rd, \*-ld, \*-bs, \*-gs, \*-ms, and \*-ŋs. The evolution of final \*-s has had an influence on the tones and the rhyme structure of modern Tibetan dialects. This paper will concern itself solely with the developments regarding final \*-s.

Final \*-s, whether or not it was part of a consonant cluster, has been lost from all modern Tibetan dialects, though it is preserved in Tibetan loanwords in some related languages, such as Jiarong, spoken in the Aba Tibetan Autonomous Prefecture in Sichuan. Below is a comparison of Written Tibetan and Jiarong:

Proto- Form	Written Tibetan	Jiarong <sup>2</sup>	Gloss	
*-is	(rtsis)	tə rtsis	'number'	
*-es	(rnams ces)	rnem (əs	'sou1'	
*-as	(ras)	ras	'cloth'	
*-os	(tchos)	tſ'os	'scripture'	
*-us	(jar zus)	jar zus	'report'	
*-bs	(gon cubs)	rkon ∫əps	'quilt cover'	
*-gs	(phogs)	p'oks	'salary'	
*-ms	(figrig lams)	ndzək lems	'law'	
*-ŋs	(sbjaŋs)	ka zbjans	'to practice'	

Traces of the \*-s ending can also be found in Chinese historical materials, a case in point being a stele inscribed in both Chinese and Tibetan, erected in Lhasa in 823 to commemorate a Chinese-Tibetan alliance. Here, the name of a Tibetan official blon rgjal bzan fidus kon is written with the Chinese characters in the fine transliterations include the name for Central Tibet, dbus-gtsan, written as the for Lie of Lie of Lie of Lie of Lie or Lie o

Xikang region, together called mdo-khams in Tibetan, are transcribed (Mandarin duo-gan-si). In short, the characters (Mandarin xi, si, si, and su) are variously used to represent the \*-s final in the Tibetan syllables fidus, dbus, ris, and khams. All these transliterations of Tibetan personal and place names appeared in Chinese records made prior to the Ming dynasty (1368-1644 A.D). During the Qing dynasty (1644-1912 A.D.), however, some of the transliterations changed. For example, (Mandarin wu-si-zang for Tibetan dbus-gtsan) was replaced by (Mandarin wei-zang) in the Weizang Annals. From these changes in phonetic transliterations in Chinese historical materials, we are not only afforded a view of the situation concerning preservation vs. loss of final \*-s, but are also able to infer that these changes must have been taking place more than three hundred years ago, at the latest.

1.

Throughout the evolution of the \*-s ending in Tibetan, two types of developments can be distinguished: a loss type and a sound change type. 5 For the syllables with a single consonant \*-s ending, the loss type is where final\*-s drops completely, making a closed syllable into an open one, usually inducing a change in the preceding vowel. The sound change type is where the \*-s ending becomes a glottal stop, causing a non-stopped syllable to become a stopped syllable, also inducing a change in the vowel of most finals. In those syllables where the \*-s ending was the second element in a consonant cluster, the loss type is where the \*-s ending drops and the consonant-cluster ending becomes a single consonant. The sound change type for cluster endings is where the \*-s ending becomes a glottal stop, creating a new type of cluster ending. The above developments also affect tones, in those dialects with tones. 6

In the following text and tables, V represents a vowel; Va represents a vowel which is the reflex of two originally separate vowels; Vn represents a new vowel (one not seen in Written Tibetan); C represents a consonant final; Vz represents a long vowel with a long tone. [Editor's note: transliterations of Written Tibetan forms are given in parentheses. Names of modern dialect locations, given as the Pinyin equivalents of the Chinese character transcriptions, are abbreviated in the tables as follows: Alike (AK), Amuquhu (AQ), Banma (BM), Cuona (CN), Cuoqin (CQ), Daofu (DF), Dege (DG), Dingqing (DQ), Dingri (DR), Gaize (GZ), Ganzi (GN), Ge'er (GE), Guide (GD), Jiangzi (JG), Jianzha (JZ), Kajia (KJ), Lhasa<sup>7</sup> (LS), Luqu (LQ), Maqu (MQ), Matisi (MT), Naqu (NQ), Pulan (PL), Qushui (QS), Rikaze (RK), Ritu (RT), Xiahe (XH), Xiangcheng (XC), Zhada (ZD)]

## I. The influence of the single consonant \*-s ending on the rhyme and tone

# A. Loss Type. Six sub-types can be distinguished:

1. 
$$Vs \rightarrow V_n$$
 (\*is  $\rightarrow$ i; \*es  $\rightarrow$ e; \*os  $\rightarrow$ o; \*us  $\rightarrow$ u)

In this sub-type, the loss of \*-s is not accompanied by any change in the vowel of the final. Examples from Xiahe and Kajia in the Southern Gansu Tibetan Autonomous Prefecture, Daofu in Sichuan, and Alike in Qinghai:

XH:	(rtsis)	[htsi]	'to calculate'	DF:	(tchos)	[tç'0]	'sutra'
KJ:	(rdzes)	[dze]	'trace'	AK:	(dus)	[tu]	'time'

## 2. \*Vs-Va (\*as, \*os-e; \*es, \*us-i; \*os-u)

In this sub-type, with the loss of the \*-s ending, back and low vowels became fronted or raised, but the resulting vowels are ones that already exist in Written Tibetan, not new ones. Examples from Amuquhu and Maqu in southern Gansu, and Alike and Guide in Qinghai:

AK:	(nas)	[ni]	'barley'	GD: (sres)	[şi]	'mix up'
AQ:	(tshos)	[ts'e]	'paint'	MQ: (gos)	[ku]	'satin'

3. \*Vs
$$\rightarrow$$
V<sub>n</sub>(\*os, \*us $\rightarrow$ y/Ø)

This type of change only occurred in certain dialect areas. The loss of the \*-s ending caused back rounded vowels to become front rounded vowels. Thus, new vowels were created that had not existed in Written Tibetan. Examples from Matisi in Gansu and Jianzha in Qinghai:

MT:	(gos)	[ky]	'clothing'	JZ:	(gos)	[kø]	'satin'
	(lus)	[1y]	'to leave behind'		(tchos)	[tç'ø]	'sutra'

In this type of change, with the loss of the \*-s ending, a high vowel became long, with a long tone. Examples from Dingri and Ge'er in Tibet, and from Xiangcheng and Dege in Sichuan:

DR:	(phjis) (rdzes)	[p'i:V] [tçe://]	'to wipe' 'trace'	XC:	(brdzis) (çes)	[dziː/] [çeːʔ]	'to step on' 'to know'
GE:	(phjis) (bsn.es)	[p'iːʔ] [ŋ。eːʔ]	'to wipe' 'to rely on'	DG:	(bsus) (drus)	[suːʔ] [ts̪uː]	'to greet' 'to dig'

The Zhada dialect of the Ali Special Region in Tibet is an especially striking case. With the loss of the \*-s ending all five vowels remained the same in terms of place of articulation, but changed in manner, becoming long vowels, with long tones e.g. \*is¬i:; \*es¬e:; \*as¬a:; \*os¬o:; \*us¬u:. Such situations are rare among Tibetan dialects as a whole. Examples from Zhada:

ZD:	(rtsis)	[tsi:7]	'to calculate'	(tshos)	[ts'o:7]	'paint'
	(bsn.es)	[n,e:7]	'to rely on'	(bçus)	[çu:7]	'to pee1'
	(fibras)	[ndza:/]	'rice'			_

## 5. \*Vs→Va: (\*es→i:; \*as→i:/e:; \*os→u:)

In changes of this type, the loss of final \*-s caused preceding vowels to change both in place of articulation and in length. They merged with other existing vowels in terms of place of articulation, but as concerns manner, they became long vowels with long tones. Examples from Ganzi and Xiangcheng in Sichuan, and Dingqing and Naqu in Tibet:

GN:	(çes)	[çi:7]	'to know'	DQ:	(rgas)	[gi:/]	'01d'
XC:	(rdzas)	[dzeː/] ˈgː	inpowder.	NQ:	(btços)	[tçu:7]	'to cure, treat'

# 6. \*Vs - Vn : (\*as - EI; \*os - ØI; \*us - yI)

In this type of change, with the loss of the \*-s ending, back and low vowels not only changed in place of articulation (creating new front-rounded vowels that had not existed in Written Tibetan), they also became long vowels with long tones. Examples from Pulan in Tibet, and Dege in Sichuan:

PL:	(rgas)	[ke:1]	'become old'	DG:	(skas)	[ke:7]	'ladder'
	(tchos)	[tç'ø:7]	'sutra'		(brkos)	[kø:7]	'to dig, carve'
	(rgjus)	[c <b>y:</b> /]	'to link together'				_