

THE PUZZLE OF da-drag IN TIBETAN

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ABSTRACT

In the ninth century, the post-suffixial letter -d (ཏ da-drag) of ancient Tibetan was abolished by the "Standardization of Writing". This means that the final stop -d of final consonant-clusters, which must have been pronounced in Tibetan some time before the ninth Century, was already missing from the pronunciation of the ninth century. We do not find the post suffix letter -d in written documents or "dictionaries" after the ninth century. In the pronunciation of modern Tibetan we do not find this -d as a post final consonant either. However, in certain cases the tones of those words which historically ended with this post final -d are different from the tones of those words which historically did not end in -d despite the other conditions of their tone formation being similar. In the period before this post final consonant disappeared, it might have first become a glottal stop under certain conditions. In turn, this glottal stop may have influenced the formation of the tones in these words.

In Modern Literary Tibetan we see syllables ending with the written finals -g(l), -ng, -d, -n, -b, -m, -v, -r, -l and -s, and cluster-final -s. But in the classical literary Tibetan from before the 9th century A.D., we see, in addition to the final consonants and the cluster-final consonants mentioned above, another cluster-final -d which in traditional Tibetan grammar is called da-drag. Table I shows the written forms of all the possible combinations of the ten finals and the two cluster-finals.

Table I(2)

suffix post-suffix	g	ng	d	n	b	m	v	r	l	s
d	/	/	/	nd	/	/	/	rd	ld	/
s	gs	ngs	/	/	bs	ms	/	/	/	/

Today, scholars of Tibetan phonetics are generally in agreement that classical Tibetan writing represents the actual pronunciation at the time when the Tibetan script was invented (the 7th-8th century, A.D.)(3). The present paper does not challenge this supposition. The written forms in Table I can be transcribed as Table II:

Table II

	-g (4)	-ŋ	-d	-n	-b	-m	-ʔ	-r	-l	-s
--d	/	/	/	-nd	/	/	/	-rd	-ld	/
--s	-gs	-ŋs	/	/	-bs	-ms	/	/	/	/

In the chapter "The Chronicles" of TIBETAN HISTORICAL DOCUMENTS FROM DUNHUANG(5), which can be reliably dated as being written 650-747 A.D., we find the

following words with final consonant clusters ending in -d.

Tibetan(6)	Page & frequency of occurrence
dbyard	pp.16, 18(4), 19, 21, 22(2), 23(3), 24(3), 25(2), 26, 27(3), 28(2), 29(2), 30(3), 31(2), 32(3), 33(3), 34(3), 36
gnyerd	pp.16
gsold	pp.18(2), 19(2), 27
vtsald	pp.19, 22, 23(4), 24, 27, 29, 32(3), 33(4), 34(3), 38
rild	pp.21, 22, 29(2)
stsald	pp.23, 25(2), 30, 31, 32(3), 37, 38, 41(3)
dold	p.23
bstand	p.27
vkhard	pp.28, 32
sbyard	p.31
khrald	p.31
tshald	p.38
vrshald	pp.35(2), 28, 40
rold	p.35
stord	p.37
brgald	p.37
vond	p.38

All the words above are verbs except dbyard 'summer', so we will try to concentrate our attention on verbs. In ancient Tibetan verb lexicons we find more words with -d. For instance, in the verb table appendix to "Gser-tog"(7), among the 878 verbs there are 245 with da-drag. However, not all the tenses or moods of those 245 verbs have da-drag. It appears only in the past tense and/or imperative mood. Only in rare cases is da-drag seen in the present tense, and never in the future tense. This, perhaps, has something to do with the semantics of the words, a topic with which I hope to deal in another paper.

Besides the two lexicons mentioned above, I have also checked another relatively complete Tibetan verb lexicon Gser-tog-sum-rtag(8) as well as the inscriptions in TU BO JIN SHI

LU(9). In all these documents it be seen that the only consonants occurring before da-drag are the three letters n, r, or l. This is noted in the Grammar section of the "Gser-tog"(Please refer to Table I)(10). Since those words are too numerous to list, thirty words have been selected from the Gser-tog and the Tu-mi as examples (Appendix).

Historically, the letter d could be used either as a final or a cluster-final. When it was used as a final, -d was pronounced as a stop, according to many scholars(11). It still exists as a voiceless final stop exists in some Tibetan dialects today. Prof Zhang Ji-chuan went a step further, affirming that -d had been pronounced in Ancient Tibetan as a stop when it was used as cluster-final(12). Nevertheless, the letter -d in Modern Tibetan (Lhasa dialect) is not pronounced phonetically as [d] whether found used as a final or a cluster-final. In the words where it is a final, -d caused a change in the vowel, and at the same time correlates with a tonal split. This point, thoroughly analyzed by many authors, will be discussed further below. But among the words in ancient Tibetan where -d acts as a cluster-final, the influence it has had on the development of the finals and tones is still an unanswered question. This influence, especially as it relates to tones, is the central focus of this paper.

In the 9th century(13), the Tibetan scripts were given an official "skad-gsar-bcad"(14), that is, the written forms of the Tibetan language were standardized. This royally authorized standardization abolished the cluster-final d. This means that da-drag, which might once have been pronounced, had disappeared from the actual pronunciation of the colloquial language, or at least from the standard pronunciation of that time and that area (meaning the Central Tibetan Area where the king was.)(15). The criteria for the Standardization was "to make Tibetan in keeping with the time and the place." Therefore, since the Ancient Tibetan Script reflected the actual pronunciation, the Tibetan writing immediately after the Standardization was a well-documented close representation of the actual pronunciation.

Before da-drag had disappeared from the pronunciation and had been abolished from the orthography, some other phonetic means must have appeared to compensate for the loss, so that the related words could still be semantically differentiated. In Sino-Tibetan languages,

phonetic compensation usually is found in the initials, the finals and/or the tones.

Let us first take a look at the two most commonly used verbs: *phyin* 'went' and *thon* 'came out'. In Modern Tibetan, these past tense forms are, respectively, [tɕhĩʔV] and [thɕʰʔV]. However, according to the reading rules of modern Tibetan(16), they should be pronounced as [tɕhĩː] and [thɕʰː]. The initial consonants of the two are the same; what is different are the finals and the tones. According to the reading rules of modern Tibetan, their tones should be high-level, not high-falling, but they actually are pronounced as high-falling.

In the classroom teaching some teachers explain them away as "exceptions" or as "irregular". Viewed historically, however, they are not exceptions. A look at ancient Tibetan word lists shows that the two verbs carried *da-drag* as a cluster-final before the Standardization. Because *da-drag* disappeared from both the orthography and the pronunciation long ago, people tend to forget their history and to think that they should be pronounced in the same way as words without *da-drag*. This may be the reason why some textbooks and dictionaries in current have incorrect transcriptions of the tones for these words(17).

In general, the impact of the historical changes of initials and finals on tones is well-understood for Tibetan. Haudricourt's (1954) observation that initials affect the pitch height of tones and that finals affect the contours¹ applies well to Tibetan. The voicing of the consonant in ancient Tibetan has determined whether the tone in modern Tibetan is high or low; the rule, discussed by various phoneticians, --- "unvoiced high, voiced low" is reliable(18). Change in the nine consonant-finals has further subdivided the original high-low distinction; that is, the influence of these finals has made four (or six) tones out of the two tones caused by the voicing of the initials. The final consonants /-m/, /-ŋ/, /-n/, /-r/, and /-l/ leave the tone level; thus, the high tone remains a high level tone and the low tone remains low level. The stops (/p/, /t/, /k/ the fricative /s/ make the tone fall; thus, the high tone becomes high falling

¹ Haudricourt, Andre-Georges. 1954. "De l'origine des tons en vietnamien". *Journal asiatique* 242.68-82. [summarized and elaborated on in Matisoff 1973].

Matisoff, James A. 1973. "Tonogenesis in Southeast Asia". in Larry M. Hyman, ed., *Consonant Type and Tone*. Southern California Occasional Papers in Linguistics, No. 1, pp.71-96. Los Angeles.

and the low tone becomes low-falling(19). In short, the voicing of the initial determines the pitch height of the tone and the final determines the contour. This can be seen in Table III.

Table III

single	Anc.	-g	-ŋ	-d	-n	-b	-m	-r	-l	-s
final consonant	Mod.	-k,	-ŋ,	-ʔ	no	-p,	-m	no,	no	-ʔ
		-ʔ	no			-ʔp		-r		
result of changes		F*	L	F	L	F	L	L	L	F

* F= Falling ;

L=Level

Those words ending with the final consonant clusters -gs, -bs, -ms, and -ŋs in Ancient Tibetan are now pronounced with a falling tone and the final -gs and -bs are read as [ʔ] which are the same as final /-s/ in Modern Tibetan. From this data, it can be seen that the falling tone of Modern Tibetan is related to the ancient Tibetan final stops written -g, -d, -b² and to the ancient final -s.

In modern Lhasa Tibetan, the majority of these final stops have become a final glottal stop, although not in every single use e.g., khab [khəb\] "needle" thob [thəp\] "acquire", in which we can see that the vowels have moved back and become tense (a --ə, o -->). Some Lhasa natives actually pronounce the word khab "needle" as [khəʔp]. Furthermore, in the Tibetan Bdege dialect these two words are pronounced as [khaʔ] and [thaʔ]. We might assume that they might be in the process of changing into a glottal stop /-ʔ/. It seems safe to draw the

² In final position, the stops written as -g, -d, and -b in ancient Tibetan most likely voiceless. This will be discussed more completely in another paper, but certain evidence can be mentioned here. Ancient Tibetan only has one series of final stops; typologically, it is almost always true that when a language has only one series of final stops, this series is voiceless. Further evidence is provided by the co-occurrence restrictions between final -b, -d, -g and certain final particles: words ending in -b, -d, and -g normally take the same set of particles as words ending in a voiceless rather than voiced finals. However, more research is needed on this.

conclusion that the at least the stops /-p/, /-t/, /-k/, followed by an /-s/, has produced a falling tone in the process of becoming a glottal stop.

Now let's return to da-drag, that is, -d as the ending of final consonant-cluster. Is the situation the same as the single final consonant /-t/, which we discussed in the previous paragraph? Let's examine the following sentences in modern Tibetan (Lhasa Dialect):

1. khyed-rang tshig-grub vdii nang-don mkhyen byung-ngas?
[ch^h V]
you sentence this content know Part.
Do you understand the meaning of this sentence?
2. nga khrom la ma-phyin.
[tɕi^h? V]
I market Loc. Neg. go
I didn't go to the market.
3. khong bod la thon song.
[th^h V]
he Tibet Loc. go Part.
He went to Tibet.
4. kheyrang deb de ngar btan dang.
[tɕ^h V]
you book that me show Part.
Please show me that book.
5. bu-mo chung-chung vdi rtavi sgang la bskyon dang!
[c^h V]
girl small this horse above loc. support Part.
Please help the little girl mount the horse.
6. tshur la nyon dang!
[n^h V]
there loc. listen Part.
Please listen to this!
7. bkra-shis kyis gzhon-nur dpe yag-po mtshon pa-red.
[tsh^h V]
Bkra-shis has set a good example for the young people.

In the above sentences, all the verbs with phonetic transcription of their modern pronunciations carried da-drag in Ancient Tibetan. (Table IV gives their modern and ancient spellings, and the titles of ancient lexicons in which these ancient spellings were found.)

Table IV

modern writing	Ancient writing	tense/ imperative	source of Ancien. Tib.	Meaning
phyin	phyind	past, imp.	ST*p244, TM:p164	went; go
thon	thond	past, imp.	ST:p248, TM:p122	went out, go out
bstan	bstand	past, imp.	ST:p210, TM:p116	to show
bskyon	bskyond	past, imp.	ST:p210, TM:p40	support (sb. to mount a horse)
mkhyen	mkhyend	past	ST:p50, TM:50	knew
ntshon	ntshond	past, imp.	ST:p239, TM:p212	indicated
nyon	nyond	imp.	ST:p240, TM:p98	listen

If we pronounce these words according to modern phonetic rules, none of them should have a falling tone.

A similar example is the adverb shin-tu (very), which though never used in modern oral speech, is commonly used in Modern Written Tibetan. The "literary" pronunciation of the first

syllable is [çĩV] with a high-falling tone. According to modern reading rules, this syllable should be pronounced as [çi:̃] with a high-level tone and a long vowel. The unusual pronunciation comes from the fact that this syllable had da-drag in Ancient Tibetan, and this word was spelled as shind-tu.

Now all the words that once had /-nd/ are not only pronounced with a falling tone but also have a characteristic final consonant-cluster --- they have a final glottal-stop [-ʔ], derived from da-drag. So we see that the change of the final consonant-cluster /-t/ to a glottal stop produced a falling tone, just as the change of the single final consonant /-t/ to a glottal stop also led to a falling tone. It is very clear now, they both follow the same rule.

Since many words in Ancient Tibetan including words once carrying da-drag are no longer used in Modern Tibetan, it is impossible to know their modern pronunciations. Further, even among those words (in the Appendix) with a modern reflex not all are pronounced with a falling tone. Table V shows the actual situation:

Table V

Anc. final consonant cluster	-nd	-rd	-ld
Mod. form			
tone	/	/	/
existence of subdivision	yes	no	no
result of subdivision	falling	unchanged	unchanged

³ ST indicates Gser-tog's (the first reference book); TM indicates Tu-mi's (the second reference book)

That is to say, for the three final consonant-clusters with /-t/ in Ancient Tibetan, only those words with /-nd/ are pronounced with falling tone, whereas those with /-rd/ and /-ld/ remain in the expected tone. (By "expected" tone is meant the tone of words with final /-r/ or /-l/). Their tones have not been subdivided by the loss of /-t/. Instead, their tones are still determined by the initial consonants. The reason for the difference between the result of the loss of /-t/ and the loss of /-r/ or /-l/ , I think, must be found in the differences of the nature of the consonant /r/ and /l/.

In the earliest period of Tibetan writing, Tu-mi(20) composed the Sum-bcu-ba(21) in which he divided Tibetan original final consonants into several categories: masculine, feminine, and medium feminine. Gser-tog, a master of traditional Tibetan grammar, explained these categories in detail. According to him, the four letters -d, -n, -r, and -l belonged to different "genders", which are shown in the following table:

Table VI

letter	as isolated	as suffix
d	mo (feminine)(22)	pho (masculine)
n	shin-tu-mo (medium feminine)	ma-ning (neuter)
r	no-gahan (extreme feminine)	ma-ning (neuter)
l	no-gahan (extreme feminine)	ma-ning (neuter)

Gser-tog cited thirteen grammatical works which treated the three letters in different ways:

	n	r	l
feminine	4	9	7
medium feminine	9	4	6

The table shows that most of the books(23) considered -n medium feminine and -r feminine while they differ greatly on the "gender" of -l. But one conclusion is safe: the nature of the letter n is different from that of r or l. When they are used as the first consonant of the final consonant-cluster, their affect on the phonetic evolution of Tibetan has always been distinctly different.

This transitional explanation is, of course, not scientific without supporting evidence from modern phonetics. The manners of articulation of pronunciation of the sounds of these letters are different: /-n/ is a nasal, /-r/ is a fricative and /-l/ is a lateral; Their modes of articulation are different too: /-r/ and /-l/ are produced by a continuous oral air stream, while /-n/ is produced by a non-continuous oral air stream, accompanied by a continuous nasal flow of air. Also, /-r/ and /-l/ are the liquids but /-n/ is not.

Now we can summarize the whole paper. In all the words which in Ancient Tibetan had da-drag, the stop final consonant /-t/ has undergone a process in which it changed from an alveolar to a glottal stop, and then it in some cases was dropped. During the process of its changing into a glottal stop, the falling tone came into being. From the above, it is possible to conclude that the emergence of tones in Tibetan took place before the 9th century Standardization. If da-drag were still pronounced as a final stop, it should have been written, instead of being dropped; therefore, the final /-t/ must have already disappeared. However, the 'tone' at

least the pitch of tone must have already been present; Otherwise, the word once carrying da-drag would be pronounced in the same way as those which never carried da-drag. Since this paper has already shown that the two groups of words are pronounced with different tones, the emergence of falling tone must have been caused by da-drag before its disappearance. We have also shown that the effects of the historical changes associated with the final -d of da-drag in the same as affects associated with other final -d elements. So, perhaps we may conclude the beginning of the tones of Tibetan began before the 9th century.

APPENDIX

past	present	future	imperative
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bkurd	vkbur	bkur	khurd
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bkold	vkhold	bkol	khold
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bskurd	skur	bskur	skurd
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bskold	skol	bskol	skold
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bskyond	skyon	bskyon	skyond
---------	-------	--------	--------

bskyord	skyor	bskyor	skyord
---------	-------	--------	--------

bskrund	skrun	bskrun	skrund
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khol vkhol vkhol khold

khyerd vkhyer khyer vkhyerd

mkhyend mkhyen mkhyen mkhyend

vkhold vkhor vkhor vkhold

gond gon gon gond

gyur vgyurd vgyur gyurd

gril vgrild vgril grild

brgald rgal brgal rgold

bsgyurd sgyur bsgyur sgyurd

bstand ston bstan bstund

bstund bstun bstun bstund

thard thar thar thard

methund methun methun methud

dard dar dar dard

dal vdald vdal dald

dond don don dond

dord vdor dor vdord

drand dran dran drand

brdard rdar vrdar rdord

mnyand mnyan mnyan mnyand

brtand rton brton rtond

brtend rten brten rtend

NOTES

1. The Romanization of Tibetan writing used in this paper is Yu Dao-quan's.
2. For the contributions various scholars have made to the study of this problem, please refer to the sources listed in bibliography. (Hereafter BB).
3. It is said that the Tibetan script was invented by Tu-mi during the reign of Gsun-gtsan-gam-po, but there are various views on this question. BB No.12, pp. 74-75.
4. The International Phonetic Alphabet system used in this paper is that stipulated by the Institute of Nationality Studies of Chinese Academy of Social Sciences. The present paper puts

the transliteration of the pronunciation of Ancient Tibetan words between two slashes /. For Modern Tibetan words, this paper uses strict IPA transcriptions. In Table IV, slashes are omitted.

5. BB No.3, pp. 15-41.

6. The words are arranged in the order of their appearance in the book.

7. BB No.1.

8. BB No.2.

9. BB No.13.

10. BB No.1, pp. 171-173.

11. BB No.5, 6, 7, 8, 9.

12. BB No.5.

13. There are two contending views about the exact time of the Standardization, some scholars think it occurred at the beginning of the ninth century and while others think it occurred in the Middle of the Ninth Century. BB No. 10, p. 35.

14. In the historical documents (BB No.10, pp. 27-35) there are these words: "... abolish those archaic words which are difficult to read and understand, and replace them with new words easy to read and understand, to keep them in accordance with the time and the place." There are also these words: "the cluster-final letter d is to be abolished."

15. The present central dialect district. The Lhasa dialect belongs to this dialect.

16. BB No. 14.

17. Suffice it to mention only one example: In *Modern Spoken Tibetan*, compiled by Melvyn Goldstein, p.351, phyin "went" is transcribed as $\text{chi}^{\bar{v}}$ ($\bar{\text{t}}$). The correct transcription should be $\text{chi}^{\bar{v}}$ ($\bar{\text{t}}$). But in his recently-published English-Tibetan dictionary, he has the correct falling tone.

18. BB No. 5, 6, 7.

19. According to Hu Tan's paper "The Tones of Tibetan language (Lhasa Dialect)", the value of the high tones of closed syllables is 54, of the low tones of open syllables 12, of the low tones of closed syllables 113, of the falling tones 52, and of the low rising-falling tones 132, When analyzed as four tones, the high level tone is 55, the high falling tone 51, the low rising tone 13, and the low falling tone is 132.

20. See note 3.

21. The Thirty Rhymes of Tibetan Traditional Grammar: Gsum-bcu-ba.

22. My translation: pho: masculine

ma-ning: neuter

mo: feminine

shin-tu mo: medium feminine

mo-gsham: extreme feminine

23. BB No.1, p. 258

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