

Conditions for Tonogenesis and Tone Split in Tibetan Dialects

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This paper discusses the nature, functional typology, origin, and diversification of tone in modern Tibetan dialects on the basis of tonal data on ten Tibetan varieties recorded by the author. It is contended that tonal Tibetan dialects probably all underwent a stage of 'natural tones' conditioned by associated features of old Tibetan onsets and codas. The distinctive function of such syllable elements was gradually reduced and transphonologized, leading to the genesis of phonemic tone. Tonogenesis in different modern tone systems did not always observe the dictum 'high tone if (the original syllable onset was) voiceless; low tone if voiced', but traversed varied developmental paths.*

Introduction

This paper explores the conditions for the development and diversification of tone in Tibetan dialects by comparing the phonological structures of Written Tibetan¹ with those of the following varieties of modern Tibetan:

Tibet: *Lhasa*

Shigatse (Jiacuo Township 加措鄉, Rikeze City 日喀則市)

Lixin 立新 (=Sherpa, Lixin Village 立新村, Zhangmu Kouan 樟木口岸)

Yunnan: *Zhongdian* 中甸 (Zongdian Town 中甸鎮)

Sichuan: *Muya* 木雅 (Muya Township 木雅鄉, Yingguan District 營官區, Kangding County 康定縣)

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¹ This is to be understood as largely equivalent to Old Tibetan as codified by the standard Tibetan orthography. The standard system of Tibetan transliteration proposed in Wylie 1959 will be adopted. [Trans.]

Dege 德格 (Babangsi 八邦寺, Dege County 德格縣)
Ruoergai 若兒蓋 (Mazang Village 麻藏村, Qiuji Township 求吉鄉,
 Baxi District 巴西區, Ruoergai County 若兒蓋縣)
Daofu 道孚 (Yuke District 玉科區, Daofu County 道孚縣)
Aba (Aba Town 阿壩縣城, Aba Prefecture 阿壩州)

Gansu: *Zhouqu* 舟曲 (Kanba Village 坎壩村, Gongba Township 拱壩鄉,
 Zhouqu County 舟曲縣)

Qinghai: *Yushu* 玉樹 (Zhangang Village 戰崗村, Jieduo Township 結多鄉,
 Zaduo County 雜多縣)

Pakistan: *Balti*

These varieties represent the following major dialects: Central or Dbus-Gtsang (Lhasa, Shigatse), Southern (Lixin),² Khams (Zhongdian, Muya, Dege, Ruoergai, Zhouqu, and Yushu), Amdo (Aba, Daofu), and Western (Balti).³

1. The Nature of Tone

There are two different views regarding the physical correlates of tone. In one view, tone has to do exclusively with pitch (Ma 1981:52); the other view holds that tone refers not only to pitch height and movement, but also to the temporal dimension of length. Thus, Luo and Wang (1981:125) state that 'if we take both pitch and length into account, we can represent these two factors as two axes of the coordinate plane, the resulting curve being an accurate representation of the tonal contour' (cf. Liu 1924: 19-20; Chao n.d.: 871).

Experimental studies of tone in Lhasa Tibetan vindicate the second view: tones in Lhasa differ significantly not only in pitch height and contour, but also in length (Tan and Kong 1991). In general, initials contribute little to syllable length since voiceless initials do not manifest length in the absence of vocal cord vibrations, and the duration of voiced initials is very brief. Syllable length is carried mainly by the rhyme. Length of syllable rhyme, however, is not always equivalent to that of the nuclear vowel. Contrast the average duration (in milliseconds) of main vowels vs. rhymes in the Lhasa examples below:

	k^hop⁵³ 'stupid'	ta⁵³ 'horse'	tsa:⁵⁵ 'root'	par⁵⁵ 'photo'	nam⁵⁵ 'sky'
<i>nuclear vowel</i>	105 msec	165 msec	298 msec	160 msec	158 msec
<i>rhyme</i>	105 msec	165 msec	298 msec	300 msec	313 msec

Table 1

² Hereafter to be referred to as Sherpa. [Trans.]

³ All forms cited are from the author's own field records.

Of the first three test words, **k^hop⁵³** contains a checked coda, while **ta⁵³** and **t^sa:⁵⁵** have no coda at all. For all three, rhyme length equals syllable length. The other two test words **par⁵⁵** and **nam⁵⁵** contain a sonorant-coda. Here rhyme length (comparable to that in **t^sa:⁵⁵**) is almost double vowel length (compared to that in **k^hop⁵³** and **ta⁵³**). Thus these five high-toned words are to be subclassified into two categories (long and short) based on rhyme length rather than vowel length. Tan and Kong 1991 contains this claim in the concluding section:

Long and short vowels do not necessarily correspond to long and short tones...on the other hand, rhyme length and tone regularly correspond to each other synchronically as well as historically. In this light, the opposition between 'long and short vowels' in open syllables should rather be looked at in terms of vocalic rhymes, i.e. an opposition between long vs. short rhymes or tones.

Adopting this viewpoint, I regard both rhyme length and pitch modulations as relevant *tonal* features for Lhasa and other tonal dialects of Tibetan.

The term 'tone' normally refers to phonemic tone. However, 'tone' in some Tibetan dialects displays modulations in pitch height, contour, and length, but does not contrast lexical meaning. In order to differentiate these two senses of 'tone', I shall refer to environmentally conditioned non-distinctive tones as '*natural tones*'.

2. A Functional Typology of Tonality in Tibetan Dialects

The development of tone is unbalanced among modern Tibetan dialects. The following functional types have been observed (the examples are restricted to monosyllables, as polysyllables often involve complicated sandhi changes):

2.1. Tone of any kind is completely lacking: In the Amdo dialect of Aba, syllables of all types invariably carry a high falling pitch 53. For example:

tshæ ⁵³	'salt'	ʂɲu ⁵³	'silver'	na ⁵³	'ill'
ʂtɛx ⁵³	'tiger'	ɣgo ⁵³	'door'	ŋdon ⁵³	'read'

2.2. There are 'natural' but no phonemic tones: In the Amdo dialect of Daofu, three natural tones are found: two long (55, 24) and one short (53). These phonetic tone values correspond to structures of the Old Tibetan (hereafter OT) syllable in the following way:

Tone Value	OT Initial	OT Rhyme
55	voiced or voiceless, with consonantal prefixes	with continuant codas (-m, -n, -ng, -r, -l, -s, and -') or open rhymes plus the suffix -ba
53	voiced or voiceless, with consonantal prefixes, and, in certain cases, unprefixd voiced initials (already devoiced in this dialect)	with final stop (-b, -d, -g) or no coda
24	voiced initials without prefixed consonants and (in a few cases) voiced or voiceless aspirated initials with consonantal prefixes	irrelevant

Table 2

For example (on the left are the OT etyma):

	Old Tibetan	Daofu Tibetan	gloss	Old Tibetan	Daofu Tibetan	gloss
Tone 55	tshil	tsh ^h i ⁵⁵	'fat; grease'	gcin	χtci ⁿ 55	'urine'
	sder	rder ⁵⁵	'plate'	rjes	rdzi ⁵⁵	'trace'
	gna'	ɣna ⁵⁵	'before'	pho-ba	ha ⁵⁵	'belly'
Tone 53	so	s ^h o ⁵³	'tooth'	snabs	ʃnap ⁵³	'nasal mucus'
	skyed	skjet ⁵³	'interest'	lcags	χtceq ⁵³	'iron'
	gzig	ɣzik ⁵³	'leopard'	gri	kjə ⁵³	'knife'
Tone 24	ri	rə ²⁴	'mountain'	'od	γøt ²⁴	'light n.'
	zam	zam ²⁴	'bridge'	nas	ne ²⁴	'barley'
	mdang	mdəŋ ²⁴	'last night'	'thung	ŋt ^h uŋ ²⁴	'drink'

Daofu preserves the OT syllable canon relatively well, maintaining many original voiced and clustered initials as well as all OT consonantal codas except -s and -l. No tonally differentiated minimal pairs have been noted in our sample of around 2,000 lexical items. Further, in some lexical items pitch values can also be variable. Hence, 'tones' in Daofu Tibetan are merely allophonic features habitually associated with different syllable types.

2.3. Tone is distinctive, but few lexical items are tonally differentiated:

This type is represented by Balti Tibetan⁴ where most monosyllables and

⁴ The Balti Tibetan data reported here were elicited from Mr. S. M. Abbas Kazmi in 1989 at the first International Conference on the Epic Gesar held at Beijing, which he attended as an invited speaker from Pakistan.