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)

* This paper is translated from the Chinese original entitled〈藏語方言調的發生和分化條件〉(Minzu Yuwen 3: 1-9, 1994), an earlier version of which was presented by the author at the 26th International Conference on Sino-Tibetan Languages and Linguistics held at Osaka in October 1993. We wish to thank Dr. Randy J. LaPolla for his kind assistance with the translation.
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 德格县)
Ruoergai 若儿盖 (Mazang Village 麻藏村, Qiuji Township 求吉乡, Baxi District 巴西区, Ruoergai County 若儿盖县)
Daofu 道孚 (Yuke District 玉科区, Daofu County 道孚县)
Aba (Aba Town 阿坝县城, Aba Prefecture 阿坝州)

Gansu: Zhouqu 舟曲 (Kanba Village 坎壩村, Gongba Township 拱壩乡, Zhouqu County 舟曲县)

Qinghai: Yushu 玉樹 (Zhangang Village 聖崗村, Jieduo Township 結多鄉, Zaduo County 茶多縣)

Pakistan: Balti

These varieties represent the following major dialects: Central or Dbus-Gtsang (Lhasa, Shigatse), Southern (Lixin),\(^2\) Kham (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:

<table>
<thead>
<tr>
<th></th>
<th>(k^\text{bop}^{55}) ‘stupid’</th>
<th>(t^\text{a}^{55}) ‘horse’</th>
<th>(t^\text{sa}^{55}) ‘root’</th>
<th>(p^\text{ar}^{55}) ‘photo’</th>
<th>(n^\text{am}^{55}) ‘sky’</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>nuclear vowel</strong></td>
<td>105 msec</td>
<td>165 msec</td>
<td>298 msec</td>
<td>160 msec</td>
<td>158 msec</td>
</tr>
<tr>
<td><strong>rhyme</strong></td>
<td>105 msec</td>
<td>165 msec</td>
<td>298 msec</td>
<td>300 msec</td>
<td>313 msec</td>
</tr>
</tbody>
</table>

Table 1

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\(^2\) 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, \texttt{khop} \textsuperscript{53} contains a checked coda, while \texttt{ta} \textsuperscript{53} and \texttt{tsa} \textsuperscript{55} have no coda at all. For all three, rhyme length equals syllable length. The other two test words \texttt{par} \textsuperscript{55} and \texttt{nam} \textsuperscript{55} contain a sonorant-coda. Here rhyme length (comparable to that in \texttt{tsa} \textsuperscript{55}) is almost double vowel length (compared to that in \texttt{khop} \textsuperscript{53} and \texttt{ta} \textsuperscript{53}). 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:

\begin{quote}
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.
\end{quote}

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:

\begin{center}
\begin{tabular}{l}
\texttt{tsba} \textsuperscript{53} & `salt' \\
\texttt{gstax} \textsuperscript{53} & `tiger'
\end{tabular}
\end{center}

\begin{center}
\begin{tabular}{l}
\texttt{sju} \textsuperscript{53} & `silver' \\
\texttt{giyo} \textsuperscript{53} & `door'
\end{tabular}
\end{center}

\begin{center}
\begin{tabular}{l}
\texttt{na} \textsuperscript{53} & `ill' \\
\texttt{ndon} \textsuperscript{53} & `read'
\end{tabular}
\end{center}

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

Table 2

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

<table>
<thead>
<tr>
<th>Tone 55</th>
<th>Old Tibetan</th>
<th>Daofu Tibetan</th>
<th>gloss</th>
<th>Old Tibetan</th>
<th>Daofu Tibetan</th>
<th>gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>tshil</td>
<td>tʃi55</td>
<td>'fat; grease'</td>
<td>gcin</td>
<td>ɕtɕin55</td>
<td>'urine'</td>
</tr>
<tr>
<td></td>
<td>sder</td>
<td>rder55</td>
<td>'plate'</td>
<td>rjes</td>
<td>rdzi55</td>
<td>'trace'</td>
</tr>
<tr>
<td></td>
<td>gna'</td>
<td>ɕna55</td>
<td>'before'</td>
<td>pho-ba</td>
<td>ha55</td>
<td>'belly'</td>
</tr>
<tr>
<td>Tone 53</td>
<td>so</td>
<td>sʰo53</td>
<td>'tooth'</td>
<td>snabs</td>
<td>ʂnap53</td>
<td>'nasal mucus'</td>
</tr>
<tr>
<td></td>
<td>skyed</td>
<td>skjet53</td>
<td>'interest'</td>
<td>lcags</td>
<td>ɕtɕeq53</td>
<td>'iron'</td>
</tr>
<tr>
<td></td>
<td>gzig</td>
<td>ɕzik53</td>
<td>'leopard'</td>
<td>gri</td>
<td>kjo53</td>
<td>'knife'</td>
</tr>
<tr>
<td>Tone 24</td>
<td>ri</td>
<td>rə24</td>
<td>'mountain'</td>
<td>'od</td>
<td>ʸət24</td>
<td>'light n.'</td>
</tr>
<tr>
<td></td>
<td>zam</td>
<td>zam24</td>
<td>'bridge'</td>
<td>nas</td>
<td>ne24</td>
<td>'barley'</td>
</tr>
<tr>
<td></td>
<td>mdang</td>
<td>mdən24</td>
<td>'last night'</td>
<td>'thung</td>
<td>nθun24</td>
<td>'drink'</td>
</tr>
</tbody>
</table>

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 Tibetan\(^4\) where most monosyllables and

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\(^4\) 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.