Phonetic Analysis of dGudzong Tibetan The Vernacular of Khams Tibetan spoken in the rGyalrong Area

<table>
<thead>
<tr>
<th>著者</th>
<th>Hiroyuki Suzuki</th>
</tr>
</thead>
<tbody>
<tr>
<td>論文タイトル</td>
<td>Bulletin of the National Museum of Ethnology</td>
</tr>
<tr>
<td>年</td>
<td>2011-03-31</td>
</tr>
<tr>
<td>卷</td>
<td>35</td>
</tr>
<tr>
<td>号</td>
<td>4</td>
</tr>
<tr>
<td>頁</td>
<td>617-653</td>
</tr>
<tr>
<td>URL</td>
<td><a href="http://doi.org/10.15021/00003880">http://doi.org/10.15021/00003880</a></td>
</tr>
</tbody>
</table>
Phonetic Analysis of dGudzong Tibetan
The Vernacular of Khams Tibetan spoken in the rGyalrong Area

Hiroyuki Suzuki*

*Université de Provence, Centre national de la recherche scientifique, Japan Society for the Promotion of Science

Key Words: Tibetan, Khams Tibetan, twenty-four-villages' patois, rGyalrong, phonetics
1 Introduction

1.1 Background

Danba 丹巴 County, which is the central spiritual place of the rGyalrong region as well as being an ethnic boundary of Tibetan, Qiang and Han Chinese in Ganzi 甘孜 Tibetan Autonomous Prefecture, western Sichuan, is a multilingual area. Tibetans living in Danba speak several languages: Situ-rGyalrong, Geshitsa, the Sichuan variation of Mandarin Chinese, Amdo nomadic Tibetan as well as Khams Tibetan. The Tibetans in Danba identify themselves as rGyalrong, and their culture, traditions and heritage are also similar to those of other rGyalrong people who speak rGyalrong languages. The architectural heritage treated in Darragon (2005) clearly indicates the common characteristics among the rGyalrong and eastern Khams areas, including Danba.

The Khams Tibetan spoken in Danba is recognised by local Tibetans as a kind of standard variant of the Tibetan language which is comparable to the Derge dialect. It is called ershisi cun hua 二十四村話 “twenty-four-villages’ patois.” This variety is spoken in several villages such as Sogpho 梭坡 [Sog-pho], dGudzong 格宗 [dGu-rdzong], sProsnang 中路 [sPro-snang], Yozha 岳扎, Rongbrag 章谷 [Rong-mi Brag-'go / Rong-brag] and Rwatso 水子 [Rwa-tso] as well as Panan 潘安 in Xiaojin 小金 County, which are located at the uppermost region of Daduhe 大渡河 River.

This vernacular is one of the isolated Khams Tibetan dialects (Suzuki 2006; 2009: 17, named Rongbrag dialect), surrounded by Situ-rGyalrong to the north (the Chuchen variety) and the east (the bTsanlha variety), Geshitsa to the west and Guqiong to the south. According to local Tibetans, this dialect consists of several idioms, which can be identified by the names of rivers and mountains, namely, Sogpho, dGudzong, sProsnang and Rwatso. The differences among these idioms are comparatively minor with respect to their grammatical features, but are great with respect to their phonetic features. The speakers of this dialect group use their native dialect only in their own villages, in other villages in Danba they generally use Chi-
nese (the Sichuan variety of Mandarin) because of the linguistically intricate situation mentioned above.

In previous studies on Tibetan linguistics, there have been several monographs published in China such as Qu (1991), Jiang (2002) and Zhang (2009), but they provide neither information nor data of the varieties spoken in Danba, although many brief introductions to the “twenty-four villages’ patois” have been provided, for instance, in Danba Xianzhi (Sichuansheng Danba Xianzhi Bianzuan Weiyuanhui 1996: 174) and Lin (2006), both presented short descriptions of the “twenty-four-villages’ patois.” However, both were written from the viewpoint of the introduction to the languages spoken in Danba, thus, they mention these vernaculars as standard Tibetan dialects, which is the way the local people consider their dialects. Consequently, only a few linguistic studies have so far been produced. The present author’s works Suzuki (2005a; 2005b; 2007a; 2007b; 2008a; 2008b) provide us with the first preliminary descriptions of the phonetic characteristics, the phonological system and the dialectal characteristics of the four vernaculars: Sogpho, sProsnang, Rongbrag and dGudzong.

1.2 Framework of the description

This paper explores the synchronic phonetic analysis with a basic phonological treatment and diachronic sound changes of dGudzong Tibetan with a remark on its characteristics from both typological and contrastive viewpoints with reference to the Tibetan dialectology.1)

The description in this paper occupies a portion of the Tibetan dialectology, meaning that the description is not simply an object of descriptive linguistics proper, but is done with the object of providing a unified descriptive framework throughout all of my works on the Tibetan dialects. The framework of the description is primarily phonetic, and it is consistent with the author’s description of all the Tibetan dialects (circa 150 dialects at present; cf. Suzuki 2007a: 42–56), in order to avoid any confusions that may occur when one checks only the described forms for comparative study (cf. Zhu 2008: 303; Zhang 2009: 358). The phonetic symbols include the IPA set with some additional phonetic symbols that have been adopted for Sino-Tibetan languages, such as those given in Zhu (2010). These symbols are used for the description of phonemes, and no orthographic conventions are used, as has been done in Tournadre (2005: 24).

In this paper, I have not attempted to apply any particular theory of phonology nor do I discuss the advantages of one specific theory over another. Any theoretical analyses are left for monographs.2) Phonetic variants are also described unless they are simply free-variants of a certain phoneme, and the phonetic characteristics to represent dGudzong Tibetan may be displayed in the description. Phonemes should be primarily identified through the presence of minimal or near minimal pairs, however, there are some phonemes for which minimal pairs have not yet been found.
2 Synchronic Description

2.1 Syllable structure
The most complicated syllable structure can be illustrated as in the following:

\[ C_i C_i G V C C \]

preinitial \( C \): preaspiration, prenasal, glottal stop and labial obstruent only.
main initial \( C_i \): all the consonants.
glide \( G \): /w/ or /j/ only.
syllable core \( V \): all the vowels.
final \( C \): /p/, /ʔ/, /γ/, /r/, /w/, and /j/; \( CC \): /wʔ/ and /jʔ/ only.\(^3\)

2.2 Consonants
The consonant inventory is displayed below:

<table>
<thead>
<tr>
<th>Plosive</th>
<th>Aspirated</th>
<th>( p^b )</th>
<th>( t^h )</th>
<th>( t^l )</th>
<th>( k^b )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-aspirated</td>
<td>p</td>
<td>t</td>
<td>( \ddagger )</td>
<td>c</td>
<td>k</td>
</tr>
<tr>
<td>Voiced</td>
<td>b</td>
<td>d</td>
<td>( \xi )</td>
<td>j</td>
<td>g</td>
</tr>
<tr>
<td>Affricate</td>
<td>Aspirated</td>
<td>ts(^b)</td>
<td>te(^b)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-aspirated</td>
<td>ts</td>
<td>tc</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voiced</td>
<td>dz</td>
<td>dz</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fricative</td>
<td>Aspirated</td>
<td>s(^b)</td>
<td>s(^h)</td>
<td>c(^b)</td>
<td>x(^b)</td>
</tr>
<tr>
<td>Non-aspirated</td>
<td>( \phi )</td>
<td>s</td>
<td>( \xi )</td>
<td>e</td>
<td>x</td>
</tr>
<tr>
<td>Voiced</td>
<td>( \beta )</td>
<td>z</td>
<td>( \xi )</td>
<td>( \gamma )</td>
<td>( \xi )</td>
</tr>
<tr>
<td>Nasal</td>
<td>Voiced</td>
<td>m</td>
<td>n</td>
<td>( \eta )</td>
<td>( \eta )</td>
</tr>
<tr>
<td>Voiceless</td>
<td>m</td>
<td>( \eta )</td>
<td>( \dot{\eta} )</td>
<td>( \dot{\eta} )</td>
<td></td>
</tr>
<tr>
<td>Liquid</td>
<td>Voiced</td>
<td>l</td>
<td>r</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voiceless</td>
<td>l</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semi-vowel</td>
<td>Voiced</td>
<td>w</td>
<td>j</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.2.1 Simplex initials

2.2.1.1 Plosives and affricates
All the plosives and affricates except /c, j, ʔ/ have a three-way distinction aspirated/non-aspirated/voiced.

The palatal plosives /c, j/ are included in the consonant inventory, but they do not appear as a simplex (cf. 2.2.2.1 and 2.2.2.6). These sound values may include a
phonetic variant of palatalised velar plosives, but the velar plosive series generally do not include a phonetic variant of palatal plosives. These two series, therefore, are still distinctive, but it is supposed that they may merge into velar ones in the near future.

/pʰ/ /pʰa ʰa/ ‘father’
/p/ /pa? pa?/ ‘level’
/b/ /bũ/ ‘wide’
/tʰ/ /tʰa zuʔ/ ‘cockscomb’
/t/ /ta ro/ ‘yoghurt’
/d/ /de: mo/ ‘log’
/tʃ/ /tʃeʔ/ ‘blood’
/t/ /tʰo/ ‘hair’
/dʒ/ /dʒa/ ‘blood’
/kʰ/ /kʰa ɦo/ ‘snow’
/k/ /kʰ zi/ ‘barley’
/g/ /gi ʰa/ ‘teacher’
/r/ /rʔa ʰa/ ‘grandfather’
/tsʰ/ /tsʰa ʰu ʰiʔ/ ‘dragonfly’
/ts/ /tsʰ ʰu/ ‘wrinkle’
/dz/ /dzar/ ‘paste’
/tʃ/ /tʃʰu/ ‘water’
/tʃ/ /tʃa bu/ ‘thing’
/dz/ /dza mo/ ‘steelyard’

2.2.1.2 Fricatives
The alveolar, retroflex, prepalatal and velar fricative series have a three-way distinction aspirated/non-aspirated/voiced, while the bilabial and glottal fricative series have a two-way distinction aspirated/voiced. The prepalatal series are always pronounced with a prepalatal (or alveopalatal) articulation.

/ʃ/ /ʃoʔ ka/ ‘cover’
/ʒ/ /ʒu loʔ/ ‘rise’
/sʰ/ /sʰi gu/ ‘charcoal’
/s/ /sʰi sʰ/ ‘light’
/z/ /zι tʃʰa/ ‘dog year’
/sʰ/ /sʰuʔ po ʃe/ ‘cypress’
/ɕ/ /nι sʰu/ ‘twenty’
/z/ /zʃ: nǐ/ ‘three days after tomorrow’
/eʰ/ /eʰi ʃe/ ‘tree’
/e/ /ɕi ʃe/ ‘forest’
/a/ /tsʰe ziʔ/ ‘the first day’
/xʰ/ /xʰoʔ/ ‘fold’
The bilabial fricatives /ɸ, β/ rarely appear, and can be distinguished from /p(h), b/ respectively, e.g.:

/ɸ/-/p/-/ph/ /ˈɸoʔ kə/ ‘cover’; /ˈpoʔ/ ‘Tibetan’; /sʰo pʰo/ ‘next year’
/β/-/b/ /ˈβu loʔ/ ‘rise’; /ɾʰuʔ/ ‘shed’

The velar fricative /γ/ often appears in word-medial position, and it does not alternate with a plosive [g] even in careful speech. /γ/ and /g/ are therefore distinctive.

2.2.1.3 Resonants (nasals, liquids and semi-vowels)
The resonants except /r, w, j/ have a two-way distinction voiced/voiceless. The nasal /n/ is always pronounced as a prepalatal, and the variant of the palatal articulation is not included.

/m/ /ˈmɔʔ/ ‘cow’
/m̥/ /ˈm̥ɔ/ ‘medicine’
/n/ /ˈnaʔ tɕʰwe/ ‘ear’
/n̥/ /ˈn̥ɔ/ ‘nose’
/ȵ/ /ˈȵo/ ‘fish’
/ȵ̊/ /ˈȵ̊ɨʔ/ ‘heart’
/ng/ /ˈŋo ‘five’
/j/ /ˈgo jɨː ‘pillow’
/l/ /ˈla mo/ ‘leaf’
/l̥/ /ˈl̥ɛʔ bo/ ‘frost’
/r̥/ /ˈɾa be/ ‘rabbit’
/w/ /ˈwo/ ‘fox’
/j/ /ˈje sʰo/ ‘last night’

2.2.2 Complex initials
Complex initials can be classified according to the preinitial type. There are six preinitial types: (1) preaspirations, (2) prenasals, (3) labial plosive preinitials, (4) labial fricative/approximant preinitials, (5) glottal stop preinitials and (6) glides. These features, except the glide, are summarised as follows:

<table>
<thead>
<tr>
<th>nasality</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>labiality</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>continuity</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
</tbody>
</table>

622
2.2.2.1 Preaspiration type

Most non-aspirated and voiced consonants can occur preaspirated:

\[
\begin{array}{cccccccc}
\b{p} & \b{t} & \b{l} & \b{c} & \b{k} & \b{ts} & \b{tc} \\
\b{s} & \b{s} & \b{s} & \b{ɕ} & \b{ɕ} & \b{l} & \\
\b{b} & \b{d} & \b{d} & \b{j} & \b{ɡ} & \b{dʒ} & \b{dz} & \b{dž} \\
\b{z} & \b{z} & \b{z} & \b{ŋ} & \b{l} & \b{r} & \b{j} \\
\b{m} & \b{n} & \b{n} & \b{ŋ} & \\
\end{array}
\]

The voicedness of the preaspiration depends on that of the main initial. The preaspiration feature is always phonetically weaker than the main consonant of the initial.

Examples:

\[
\begin{array}{l}
\b{p}/ & \b{p}e\bar{j} b\bar{o}/ \text{‘shoulder’} \\
\b{t}/ & \b{t}o/ \text{‘horse’} \\
\b{l}/ & \b{l}eʔ b\b{t}\b{ʔ}/ \text{‘bracelet’} \\
\b{c}/ & \b{ma} b\b{ci}/ \text{‘jaw’} \\
\b{k}/ & \b{k}u\b{μ} m\b{o}/ \text{‘thief’} \\
\b{ts}/ & \b{ts}\b{ω} w\b{o}/ \text{‘grass’} \\
\b{tc}/ & \b{t}c\b{i}/ \text{‘tongue’} \\
\b{s}/ & \b{s}b\b{a}/ \text{‘three’} \\
\b{ɕ}/ & \b{ɕ}b\b{a}/ \text{‘be born’} \\
\b{c}/ & \b{l}a b\b{co}/ \text{‘thigh’} \\
\b{x}/ & \b{s}b\b{a} b\b{x}b\b{a}/ \text{‘seed’} \\
\b{l}/ & \b{l}eʔ b\b{l}\b{ʔ}/ \text{‘eagle’} \\
\b{b}/ & \b{b}u\b{ʔ} d\b{ɬ}/ \text{‘leather bellows’} \\
\b{d}/ & \b{d}a w\b{o}/ \text{‘moon’} \\
\b{d}/ & \b{d}a:\ b\b{o}/ \text{‘sap of pine’} \\
\b{y}/ & \b{i}b\b{ʔ} b\b{d\b{z}u}/ \text{‘back’} \\
\b{ɡ}/ & \b{ɡ}w\b{u}/ \text{‘nine’} \\
\b{dʒ}/ & \b{d\b{z}a}: b\b{ʔ}\b{ɡ}/ \text{‘false’} \\
\b{dʒ}/ & \b{d\b{z}u} b\b{o}/ \text{‘intestine’} \\
\b{z}/ & \b{zo} b\b{ɡu}/ \text{‘leaning’} \\
\b{z}/ & \b{z}b\b{o}/ \text{‘four’} \\
\b{z}/ & \b{zi}/ \text{‘exchange’} \\
\b{m}/ & \b{m}b\b{ɛj}/ \text{‘low’} \\
\b{n}/ & \b{n}b\b{a} b\b{fio}/ \text{‘Mongolian gazelle’} \\
\b{n}/ & \b{n}b\b{o}/ \text{‘two’} \\
\b{ŋ}/ & \b{ŋ}b\b{a}: b\b{m}/ \text{‘sweet’} \\
\b{l}/ & \b{l}b\b{ʔ} b\b{p}/ \text{‘brain’}
\end{array}
\]
2.2.2.2 Prenasal type

All the aspirated and voiced plosives and affricates as well as several continuants can occur prenasalised:

\[ \text{mb} \quad \text{nd} \quad \text{nd} \quad \text{ŋg} \quad \text{ňd} \quad \text{ňd} \quad \text{ńy} \]

The voicedness of the prenasal depends on that of the main initial. Almost all prenasals are homorganic, but there are also a few heterorganic, labialised prenasals, e.g.:

\[ m^\text{g} \quad m^\text{ts} \]

The prenasal feature is always phonetically weaker than the main consonant of the initial.

Examples:

\[ /\text{mb}/ \quad /\text{mbu\ leʔ}/ \quad \text{‘worm’} \]
\[ /\text{nd}/ \quad /\text{nda}/ \quad \text{‘read’} \]
\[ /\text{ňd}/ \quad /\text{ňdi}/ \quad \text{‘rice’} \]
\[ /\text{ň}/ \quad /\text{ňgo}/ \quad \text{‘go’} \]
\[ /\text{ňd}/ \quad /\text{ňdzu}/ \quad \text{‘mdzo’} \]
\[ /\text{ň}/ \quad /\text{ňzaʔ xɔ}/ \quad \text{‘shoe’} \]
\[ /\text{ŋγ}/ \quad /\text{ŋγa\ ŋ̊t}/ \quad \text{‘bite’} \]
\[ /\text{ŋγ}/ \quad /\text{ŋγa}/ \quad \text{‘fly’} \]
\[ /\text{ŋ}/ \quad /\text{ŋtʃ}/ \quad \text{‘high’} \]
\[ /\text{ŋ}/ \quad /\text{ŋs}/ \quad \text{‘gall bladder’} \]
\[ /\text{ŋ}/ \quad /\text{ŋʃo\ li}/ \quad \text{‘roof’} \]
\[ /\text{ŋ}/ \quad /\text{ŋts}/ \quad \text{‘lake’} \]
\[ /\text{ŋ}/ \quad /\text{ŋtsh}/ \quad \text{‘mouth’} \]
\[ /\text{ŋ}/ \quad /\text{ŋji}/ \quad \text{‘village’} \]
\[ /\text{ŋ}/ \quad /\text{ŋla}/ \quad \text{‘shoot’} \]
\[ /\text{ŋ}/ \quad /\text{ŋga}/ \quad \text{‘dance’} \]
\[ /\text{ŋ}/ \quad /\text{ŋts}/ \quad \text{‘marry’} \]
\[ /\text{ŋ}/ \quad /\text{ŋts}/ \quad \text{‘head’} \]
\[ /\text{ŋ}/ \quad /\text{ŋts}/ \quad \text{‘sweep’} \]

2.2.2.3 Labial plosive type

A limited set of the voiceless plosives and affricates can occur prelabialised:

\[ p\text{t} \quad p\text{t}^\text{h} \quad p\text{t} \quad p\text{k} \quad p\text{ts}^\text{h} \quad p\text{ts} \quad p\text{tc} \]
Voiced counterparts are not found. The prelabial plosive is always articulated lightly, and its audibility is very weak. It cannot, however, vary with a prelabial continuant such as a fricative or an approximant in the normal speech, but it is sometimes omitted. Not all of the prelabialised plosives have minimal pairs with non-prelabialised plosives.

Examples:

\[ /\text{pt}/ \quad /\text{t} \text{ɲu}/ \quad \text{‘riddle’} \]
\[ /\text{pt}\text{ʰ}/ \quad /\text{t}\text{ʰu}/ \quad \text{‘poplar’} \]
\[ /\text{t}/ \quad /\text{t}\text{ʰ}/ \quad \text{‘breast’} \]
\[ /\text{kt}/ \quad /\text{k}\text{ʰ}/ \quad \text{‘carry on the back’} \]
\[ /\text{ts}/ \quad /\text{ts}\text{ʰ}/ \quad \text{‘broom’} \]
\[ /\text{ts}/ \quad /\text{t}s\text{ʰ}/ \quad \text{‘coral’} \]
\[ /\text{tʰ}/ \quad /\text{t}\text{ʰ}/ \quad \text{‘house’} \]

2.2.2.4 Labial fricative/approximant type

A labial fricative/approximant can stand before a limited set of consonants:

\[
\begin{array}{ccccccc}
\text{t} & \text{l} & \text{t}\text{ʰ} & \text{s} & \text{l} \\
\text{d} & \text{ɡ} & \text{dz} & \text{z} & \text{n} & \text{l} \\
\end{array}
\]

The voicedness of the pre-labial continuant depends on that of the main initial. The pre-labial continuant feature is always weaker than the main initial on the phonetic aspect. It does not alternate with pre-labial plosives. It can be distinguished from a preaspiration type without a labial feature.

Examples:

\[ /\text{t}/ \quad /\text{t}\text{ʰ}/ \quad \text{‘swelling’} \quad \text{cf.} /\text{t}/ \quad /\text{t}\text{ʰ}/ \quad \text{‘dinner’} \]
\[ /\text{t}\text{ʰ}/ \quad /\text{t}\text{ʰ}/ \quad \text{‘wash’} \]
\[ /\text{t}\text{ʰ}/ \quad /\text{t}\text{ʰ}/ \quad \text{‘December’} \]
\[ /\text{t}\text{ʰ}/ \quad /\text{t}\text{ʰ}/ \quad \text{‘feed’} \quad \text{cf.} /\text{t}/ \quad /\text{t}/ \quad \text{‘three’} \]
\[ /\text{t}\text{ʰ}/ \quad /\text{t}\text{ʰ}/ \quad \text{‘clap’} \quad \text{cf.} /\text{t}/ \quad /\text{t}/ \quad \text{‘eagle’} \]
\[ /\text{t}\text{ʰ}/ \quad /\text{t}\text{ʰ}/ \quad \text{‘animal’s hair’} \]
\[ /\text{t}\text{ʰ}/ \quad /\text{t}\text{ʰ}/ \quad \text{‘share’} \quad \text{cf.} /\text{t}/ \quad /\text{t}/ \quad \text{‘door’} \]
\[ /\text{t}\text{ʰ}/ \quad /\text{t}\text{ʰ}/ \quad \text{‘eight’} \]
\[ /\text{t}\text{ʰ}/ \quad /\text{t}\text{ʰ}/ \quad \text{‘shave’} \quad \text{cf.} /\text{t}/ \quad /\text{t}/ \quad \text{‘four’} \]
\[ /\text{n}/ \quad /\text{t}\text{ʰ}/ \quad \text{‘swear’} \]
\[ /\text{t}\text{ʰ}/ \quad /\text{t}\text{ʰ}/ \quad \text{‘thigh’} \quad \text{cf.} /\text{t}/ \quad /\text{t}/ \quad \text{‘musk’} \]
2.2.2.5 Glottal stop type
Nasals and approximants can be with a pre-glottal stop:

\[ {\hat{\imath}}m \quad {\hat{\imath}}n \quad {\hat{\imath}}j \]

Glottal stop is really clear phonetically, and it does not vary with glottal continuants. It can be distinguished from simplex and preaspiration types.

Examples:

\[
\begin{array}{l}
\text{/m/} \quad \text{/\imath\text{ma} \imath\text{a} \imath\text{n}/} \quad \text{‘fall down’} \\
\text{cf. /m/-/\imath\text{m}/} \quad \text{/\imath\text{ma} \imath\text{a} \imath\text{ci}/} \quad \text{‘moustache’} \\
\text{/n/} \quad \text{/\imath\text{ne} \imath\text{n}/} \quad \text{‘sharp’} \\
\text{cf. /n/-/\imath\text{n}/} \quad \text{/\imath\text{na} \imath\text{ni}/} \quad \text{‘last year’} \\
\text{/j/} \quad \text{/\imath\text{ja}: \imath\text{u}/} \quad \text{‘expand’} \\
\text{cf. /j/-/\imath\text{j}/} \quad \text{/\imath\text{je}: \imath\text{e}/} \quad \text{‘yak’}
\end{array}
\]

No minimal pairs are found only with/without the pre-glottal stop. But the existence of this glottal feature is extremely evident, thus it is described.

2.2.2.6 Glide type
There are many combination patterns including a glide /w/ or /j/:

\[
\begin{array}{cccccccccccc}
bw & t^h w & tw & kw & gw & ts^h w & t^h w & t^c w & s^h w \\
sw & s^h w & sw & c^h w & c w & z w & x w & y w & m w \\
ηw & lw & rw \\
p^j & pj & bj & tj & zj & xj & nj & lj & rj
\end{array}
\]

In addition, there are several complex types with both of a preinitial and a glide, consider the following examples:

\[
\begin{array}{cccccccccccc}
^6 m w & ^m b w & ^b c w & ^a j w & ^4 kw & ^k w & ^p t s^h w & ^h t s w & ^s g w \\
^b s w & ^s l w & ^k h w & ^6 d z w & ^d z w & ^z y w \\
^p t c j & ^6 m j
\end{array}
\]

The pronunciation of the glide is clear, and its omission is not accepted. Minimal pairs with/without a glide are not numerous. Examples illustrating the distinction are:

\[
\begin{array}{l}
/b/-/m b w/-/b j/ \quad \text{/\imath\text{o} \imath\text{e}/} \quad \text{‘rabbit’} \\
/m b w e/-/\imath\text{pa}: \text{bje/} \quad \text{‘leather’}
\end{array}
\]

2.3 Vowels

The vowel inventory is displayed below:

\[
\begin{array}{cccccccc}
i & u & u & u \\
c & ə & ə & ə \\
g & ə & ə & ə \\
a & a & a & a
\end{array}
\]

626
Each vowel can be articulated oral or nasalised. Short and long vowels are distinct. Only monophthongs can become an element of the syllable.

2.3.1 Normal vowels

With articulatory contrast

<table>
<thead>
<tr>
<th>Vowel</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>/i/-/e/</td>
<td>/ʃiː wo/ ‘hail’; /ʃeː mo/ ‘nail’</td>
</tr>
<tr>
<td>/ɛ/-/e/</td>
<td>/ʃeː ‘nail’</td>
</tr>
<tr>
<td>/a/-/a/</td>
<td>/ʃ畜牧 pa/ ‘excrement’; /ʃ畜牧/ ‘cut’</td>
</tr>
<tr>
<td>/ɔ/-/o/</td>
<td>/ʃ畜牧‘pull up’; /ʃ畜牧/ ‘patch’</td>
</tr>
<tr>
<td>/u/-/o/</td>
<td>/ʃ畜牧 ‘nail’</td>
</tr>
<tr>
<td>/u/-/u/</td>
<td>/ʃ畜牧 ‘split up’; /ʃ畜牧 ‘wheat’</td>
</tr>
</tbody>
</table>

With length contrast

<table>
<thead>
<tr>
<th>Vowel</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>/i/</td>
<td>/ʃ畜牧 ‘fire’; /ʃiː/ ‘highland barley’</td>
</tr>
<tr>
<td>/ɛ/</td>
<td>/ʃ畜牧 ‘nail’</td>
</tr>
<tr>
<td>/ɛ/</td>
<td>/ʃ畜牧 ‘breast’; /ʃ畜牧 ‘cliff’</td>
</tr>
<tr>
<td>/a/</td>
<td>/ʃ畜牧 ‘deer’; /ʃ畜牧 ‘front’</td>
</tr>
<tr>
<td>/ɔ/</td>
<td>/ʃ畜牧 ‘sky’; /ʃ畜牧 ‘cowshed’</td>
</tr>
<tr>
<td>/ɔ/</td>
<td>/ʃ畜牧 ‘nose’; not found</td>
</tr>
<tr>
<td>/o/</td>
<td>/ʃ畜牧 ‘rainbow’; /ʃ畜牧 ‘belly’</td>
</tr>
<tr>
<td>/u/</td>
<td>/ʃ畜牧 ‘tooth’; /ʃ畜牧 ‘knee’</td>
</tr>
<tr>
<td>/u/</td>
<td>/ʃ畜牧 ‘water’; /ʃ畜牧 ‘hip’</td>
</tr>
<tr>
<td>/u/</td>
<td>/ʃ畜牧 ‘wheat’; not found</td>
</tr>
<tr>
<td>/o/</td>
<td>/ʃ畜牧 ‘cloud’; /ʃ畜牧 ‘seed’</td>
</tr>
<tr>
<td>/o/</td>
<td>/ʃ畜牧 ‘noodle’; not found</td>
</tr>
</tbody>
</table>

2.3.2 Nasalised vowels

Except /u/ and /o/, each vowel can be nasalised as in:

<table>
<thead>
<tr>
<th>Vowel</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>/i/</td>
<td>/ʃ畜牧 ‘be’</td>
</tr>
<tr>
<td>/ɛ/</td>
<td>/ʃ畜牧 ‘drink’</td>
</tr>
<tr>
<td>/ɛ/</td>
<td>/ʃ畜牧 ‘kidney’</td>
</tr>
<tr>
<td>/a/</td>
<td>/ʃ畜牧 ‘box’</td>
</tr>
<tr>
<td>/ɔ/</td>
<td>/ʃ畜牧 ‘other person’</td>
</tr>
<tr>
<td>/ɔ/</td>
<td>/ʃ畜牧 ‘drag’</td>
</tr>
<tr>
<td>/o/</td>
<td>/ʃ畜牧 ‘government official’</td>
</tr>
<tr>
<td>/u/</td>
<td>/ʃ畜牧 ‘merchant’</td>
</tr>
<tr>
<td>/u/</td>
<td>/ʃ畜牧 ‘wide’</td>
</tr>
<tr>
<td>/o/</td>
<td>/ʃ畜牧 ‘heart’</td>
</tr>
</tbody>
</table>
2.4 Tonemes
Tone is distinctive in dGudzong Tibetan. It is realised not by an relative pitch height but by a pitch pattern. Four distinctive tones exist.

A tonal sign is given before each word as follows:


The tonal pitch value is not uniquely determined, thus /¯/ can be phonetically realised as [55] or [44], /´/ as [53/42] or [52/51], etc. Therefore, the most important feature for the distinction is the pitch pattern (level or contour).

Examples of monosyllabic words:

/¯S/ /¯mu/ ‘to rake’
/´S/ /´mi/ ‘fire’
/^Smɛj/ /^ʱmɛj/ ‘low’
/`S/ /`mejʔ/ ‘eye’

At present, there are no minimal pairs which are distinctive only with the difference respect to tone. In this paper, the tonal description reflects the actual pronunciation of native speakers, lest they judge a word as a non-dGudzong vernacular form.7)

In the case of bisyllabic words, the tonal value of the beginning of the second syllable is restricted to two high tone types [55] and [53], except for an atonal syllable. This means that dGudzong Tibetan has word tone, 8) and polysyllabic words also show the same tonal pattern. Bisyllabic words can become as follows:

/´S1S2/: main tonal value described as S1[55]S2[55]
/´S1S2/: main tonal value described as S1[24]S2[55]
/^S1S2/: main tonal value described as S1[24]S2[53]
/`S1S2/: main tonal value described as S1[55]S2[53]

Words with more than two syllables also show the same pattern as bisyllabic ones and after the third element no proper tonal value is given (atonal).

Except for pitch tone, suprasegmental features such as a stress and a phonation type are not phonetically evident. Theoretical treatments are not applied any more in this paper.

3 Diachronic Analysis
This section presents a diachronic analysis of the dGudzong dialect through a correspondence with Written Tibetan (WrT) forms. I add in the footnotes some explanations for remarkable sound changes from the viewpoint of Tibetan dialectology.9)

However, there are some difficulties describing the precise sound change of the dGudzong dialect because of the lack of WrT correspondences in multiple examples,
some of which may originate from obscure non-Tibetan languages, which are not considered here. The analysis is divided into three parts: initial, rhyme, and tone.

3.1 Initial

3.1.1 Development of simple initials

3.1.1.1 WrT obstruents

The general tendency of the diachronic development of obstruents in initial position can be characterised as follows:

- Reflexes of WrT simplex voiceless initials have remained voiceless in dGudzong.
- Reflexes of WrT simplex voiceless fricative initials have become aspirated in dGudzong.
- Reflexes of WrT simplex voiced initials are devoiced in dGudzong.
- Reflexes of devoiced WrT simplex initials are associated with low-tone syllables in dGudzong.

Examples:

/’ka wo/ ‘pillar’ ka ba
/’s’o/ ‘earth’ sa
/’pʰo/ ‘Tibetan’ bod
/’ʂɯ/ ‘melt’ zhu

A significant articulatory innovation which sets the dGudzong dialect apart from most other Tibetan dialects is the split of the WrT alveopalatal spirants into retroflex series as well as alveopalatals, e.g.:

/’tɕe ʑi/ ‘field’ zhing
/’ɕʰi ɸe/ ‘tree’ shing phung
/’ʂʰo/ ‘meat’ sha
/’ʂʰa ɦo/ ‘deer’ shwa ba
/’ʱʐә/ ‘four’ bzhi

As far as the actual data of dGudzong is concerned, the condition of the split is the vocalic quality, alveopalatals are kept in the position preceding the narrow vowels /i/ and /e/.

3.1.1.2 WrT sonorants

The WrT sonorants included four nasals (m, n, ny, ng), two liquids (l, r), and two glides (w, y). In the dGudzong dialect, the WrT simplex sonorants are generally kept and realised with a low tone, e.g.:
3.1.2 Development of complex initials with prefixes

WrT has nasal (m-, ‘-) as well as oral (g-, d-, b-, r-, l-, s-) prefixal consonants.

3.1.2.1 With nasal prefix

Almost all the WrT nasal prefixes merged before obstruent root initials (in this case stop/affricates), resulting in homorganic prenasalised consonants in the dGudzong dialect,\(^\text{11}\) as in:

\[
\begin{align*}
/ˈmɔ/ & \text{ ‘man’ } mi \\
/ˈno/ & \text{ ‘be sick’ } na \\
/ˈnɔ/ & \text{ ‘fish’ } nya \\
/ˈŋo/ & \text{ ‘I’ } nga \\
/ˈlāw/ & \text{ ‘road’ } lam \\
/ˈro/ & \text{ ‘goat’ } ra \\
/ˈwɔl/ & \text{ ‘fox’ } wa \\
/ˈjɔ mɔ/ & \text{ ‘light’ } yang
\end{align*}
\]

I have found only a few words with non-homorganic prenasal elements, some of them are:

\[
\begin{align*}
/ˈmgu, ˈŋgu/ & \text{ ‘head’ } mgo \\
/ˈmtsʰa mɔ/ & \text{ ‘sweep’ } phyag
\end{align*}
\]

These examples can be explained with the WrT form, the preinitial m or ‘ preceding a labial consonant. The example ‘head’ has a variant of the homorganic prenasalised initial, which means that it is in a transitory stage from the heterorganic prenasal to the homorganic one. The heterorganic prenasal will merge into the homorganic one in the near future.

3.1.2.2 With oral prefix

WrT oral prefixes such as g-, d-, b-, r-, l- and s- were lost or developed as preaspiration. The prefix b- is associated with a labial preinitial. As far as voicing is concerned, the preinitial elements remained voiced if the root initial was voiced except for the initial nasal with the prefix s- changing into a voiceless nasal as follows:\(^\text{12}\)

\[
\begin{align*}
/ˈmwoː/ & \text{ ‘wound’ } rma \\
/ˈrma/ & \text{ ‘medicine’ } sman
\end{align*}
\]
Examples of WrT prefix b- are as follows:

\[ /pt\] ɕ / \[/ptɕɯ\] / ‘ten’ bcu
\[ /pt\] / / / \[/ptɕɯ\] / ‘wash’ bkru
\[ /g\] / / / \[/gu\] / ‘share’ bgo
\[ /dz\] / / / \[/dzaʔ\] / ‘eight’ brgyad

3.1.3 Development of complex initials with a glide
There are four WrT glides, -y-, -r-, -l- and -w-. Dialectologically the development of the complex with a glide is very important.

WrT glide -w- (wa zur) has been dropped without compensation:

\[ /ʂʰa ɦo\] / ‘deer’ shwa ba
\[ /ʰtsә wo\] / ‘grass’ rtswa

The palatal glide -y- could combine with labial and velar plosives, as well as with the labial nasal m-. WrT labial plosives co-occurring with the -y- glide were transformed into alveolar affricates with a slight labial plosive preinitial:\(^{13}\)

\[ /p\] / / / \[/pʰtso\] / ‘cock’ bya
\[ /pʰtsʰe\] / ‘open’ phye
\[ /tsə ru\] / ‘coral’ byu ru
\[ /ʰtsar\] / ‘paste’ sbyar

The prelabial plosive has been lost in several examples, but the voiced prelabial plosive is not attested, so that its lack as in ‘paste’ can be because of the phonological restriction.

WrT velar plosives taking the -y- glide were transformed into alveopalatal affricates or palatal plosives:\(^{14}\)

\[ /dʑo\] / ‘Han Chinese’ rgya
\[ /ʰtә mә\] / ‘sour’ skyur
\[ /ʰco\] / ‘ride (a horse)’ rkyə
\[ /jweʔ mә\] / ‘quick’ mgyogs
\[ /ʰjiʔ dzɯ\] / ‘back’ rgyab

The WrT medial -r- could be added to labial, alveolar, and velar plosives, as well as to the spirants s and h. Considering first the stop-based clusters, we observe all sequences merging as retroflexed plosives:

\[ /tʰeʔ\] / ‘blood’ khrag
\[ /dɯ\] / ‘wheat’ gro
As can be seen, almost all WrT labial plosives with glide r developed as retroflexes with labial plosive preinitials.

\[ r \] dropped from the cluster \( sr- \), leaving the remaining \( s \) aspirated or unaspirated:15)

- /\( s^h \)weʔ/ ‘life’ srog
- /\( s^h \)wo ma/ ‘hard’ sra mo
- /’sa: mo/ ‘soy’ sran ma

The WrT glide \(-l-\) could be added to labial and velar plosives, as well as to the spirants \( s \) and \( z \). We observe all sequences merging to become a voiced preaspirated alveolar laterals on the stop-based clusters, while \( sl \) became a voiceless preaspirated alveolar lateral and \( zl \) became a voiced preaspirated alveolar plosive:

- /\( l^h \)lo/ ‘cattle’ glang
- /\( l^h \)laʔ po/ ‘brain’ klad pa
- /\( n^l \)lo/ ‘take’ blangs
- /\( n^h \)da: wo/ ‘moon’ zla ba
- /\( h^l \)owʔ/ ‘learn’ slob

3.1.4 Special remarks on the initials
Almost all of characteristic phonemes in the dGudzong dialect such as /\( ɸ, \beta, ʃ, tr, h \xrightarrow{h} \) probably have a non-Tibetan origin,16) the source of which is still unobvious. Among them, /\( ɸ \) is associated with the WrT ph initial, but it cannot freely change into [pʰ], as:

- /\( ʰtsa ɸu/ ‘cock’ bya pho
- /\( ʰweʔ/ ‘have shot’ ’phog

Etymologically, the word-medial /\( ɸ \) is surely associated with WrT ph initial and it is possible to analyse it as a lenition of the aspirated labial plosive, but not all the cases observed in the WrT word-medial ph are realised as a labial fricative, thus we cannot treat [\( ʰ \)] as a conditioned variant of \( [pʰ] \).

Preaspirations preceded by an aspirated initial can be regarded as a special combination, but some of them have a WrT origin: /\( h^h ɔ/ ‘gold’ gser. This type of
sound change is not conditioned.

Resonants preceded by a glottal stop are also noticeable (see 2.2.2.5). This combination is rare and its form is near to WrT, but no correspondence with a glottal stop exists in WrT. For example, the morphemes /ʔjaː/ and /ʔma/17) are related to WrT yar ‘upward’ and mar ‘downward,’ respectively.18)

3.2 Rhyme

3.2.1 WrT open syllables
The quality of WrT vowels in open syllables (including WrT final) was generally not retained in the dGudzong dialect. They developed as in follows:19)

<table>
<thead>
<tr>
<th>WrT</th>
<th>dGudzong</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>/o/</td>
</tr>
<tr>
<td>i</td>
<td>/ə/</td>
</tr>
<tr>
<td>u</td>
<td>/u/</td>
</tr>
<tr>
<td>e</td>
<td>/i/</td>
</tr>
<tr>
<td>o</td>
<td>/u/</td>
</tr>
</tbody>
</table>

The correspondences above are particularly observed in word-final position, while in word-internal position WrT a and o retained their vocalic quality as in:20)

/sʰa/ ‘land’ sa
/sʰo/ ‘gum’ so ?

There are, naturally, other correspondences in the dGudzong dialect, some of them include a reflex of the glide /w/ and /j/, as in:

/wʰmwo/ ‘wound’ rma
/wʰgwɔ zā/ ‘entrance’ sgo ?

3.2.2 WrT closed syllables with nasals
Almost all WrT nasal finals caused the nasalisation of the preceding vowel without losing their segmental phonemic status, but in a case WrT nasal final has been lost as in:

/tɕe ʑi/ ‘field’ ? zhing
/ɾma/ ‘medicine’ sman

The condition of the omission of the final nasal is not explained based on the WrT form.

Vowel quality has developed depending on the final nasal. The main correspondences are displayed as follows:
### 3.2.3 WrT closed syllables with non-nasals

Almost all WrT plosive finals \((b, d, g)\) have developed into glottal stops. The vowel quality does not change when followed by the final WrT \(d\), but changes drastically when followed by the final \(g\).\(^{21}\) Vowel quality has developed depending on the final consonant. The main correspondences are displayed as follows:

<table>
<thead>
<tr>
<th>(V)</th>
<th>(\text{F})</th>
<th>(g)</th>
<th>(d)</th>
<th>(b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>/ɔ/</td>
<td>/ə/</td>
<td>/ʊ/</td>
<td></td>
</tr>
<tr>
<td>(i)</td>
<td>/ɪ/</td>
<td>/ɪ/</td>
<td>/ə/</td>
<td></td>
</tr>
<tr>
<td>(u)</td>
<td>/ʊ/</td>
<td>/ə/</td>
<td>/ʊ/</td>
<td></td>
</tr>
<tr>
<td>(e)</td>
<td>/ɛ/</td>
<td>/ə/</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>(o)</td>
<td>/ɔ/</td>
<td>/ə, ā/</td>
<td>/ʊ/</td>
<td></td>
</tr>
</tbody>
</table>

Examples:

/ʰkaʔ/ ‘voice’ skad
/ʼmbuʔ/ ‘call’ ‘bud
/ʼpoʔ/ ‘Tibetan people’ bod

/ʼpʰjeʔ/ ‘pig’ phag
/ʼmejʔ/ ‘eye’ mig\(^{22}\)
/ʼtʰuʔ/ ‘six’ drug\(^{23}\)
/ʼsʰweʔ/ ‘life’ srog

A final \(b\) can change to /w/ as in:

/ʼkʰwʔ/ ‘needle’ khab
/ʼsaw sɔʔ/ ‘deep’ zab zab

WrT continuants \((s, r, l)\) lost their segmental phonemic status resulting in occasional compensatory lengthening. The vowel quality has developed depending on the final consonant. The main correspondences are displayed as follows:

<table>
<thead>
<tr>
<th>(V)</th>
<th>(\text{F})</th>
<th>(r)</th>
<th>(l)</th>
<th>(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>/æ/</td>
<td>?</td>
<td>/ι/</td>
<td></td>
</tr>
<tr>
<td>(i)</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>(u)</td>
<td>/u/</td>
<td>/i/</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>(e)</td>
<td>/i:/</td>
<td>/i:/</td>
<td>/i:/</td>
<td></td>
</tr>
<tr>
<td>(o)</td>
<td>/o:/</td>
<td>/u:/</td>
<td>/u, o/</td>
<td></td>
</tr>
</tbody>
</table>
Examples:

/ˈtʃi/ ‘mule’ drel
/ˈdʒi/ ‘rice’ bras

Several examples show no compensatory lengthening, as in:

/'mɑ/ ‘butter’ mar
/ʰsʰɑ/ ‘gold’ gser
/ʰkʰu/ ‘boil’ khol

3.2.4 Special remarks on the rhymes

There are two vowels /u, ø/ which have not explained above. They are seldom related to WrT forms. For example, /ˈpɔ luʔ/ ‘Tibetan dumpling’ has both of the two vowels, but this word is not of a WrT origin.

3.2.5 Summary of the rhyme development

The rhyme development in dGudzong Tibetan presented above can be summarised from the viewpoint of the oral forms as follows: 24)

<table>
<thead>
<tr>
<th>open rhyme</th>
<th>dGudzong</th>
<th>WrT</th>
<th>dGudzong</th>
<th>WrT</th>
</tr>
</thead>
<tbody>
<tr>
<td>short</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i</td>
<td>-e, -ul, -os</td>
<td>i:</td>
<td>-er, -el, -as, -es</td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>-a (word-medially)</td>
<td>a:</td>
<td>-ar</td>
<td></td>
</tr>
<tr>
<td>o</td>
<td>-a (word-initially)</td>
<td>o:</td>
<td>-or</td>
<td></td>
</tr>
<tr>
<td>u</td>
<td>-o, -ol, -os</td>
<td>u:</td>
<td>-ur, -ol</td>
<td></td>
</tr>
<tr>
<td>u̯</td>
<td>-u</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ø</td>
<td>-i</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>nasalised rhyme</th>
<th>dGudzong</th>
<th>WrT</th>
</tr>
</thead>
<tbody>
<tr>
<td>ī</td>
<td>-ing, -in</td>
<td></td>
</tr>
<tr>
<td>ē</td>
<td>-eng</td>
<td></td>
</tr>
<tr>
<td>ā</td>
<td>-an, -un</td>
<td></td>
</tr>
<tr>
<td>ā̃</td>
<td>-en, -on, -am</td>
<td></td>
</tr>
<tr>
<td>ō</td>
<td>-ang, -ong, -on</td>
<td></td>
</tr>
<tr>
<td>ũ̃</td>
<td>-ang, -um, -om</td>
<td></td>
</tr>
<tr>
<td>ō̃</td>
<td>-im</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>checked rhyme</th>
<th>dGudzong</th>
<th>WrT</th>
</tr>
</thead>
<tbody>
<tr>
<td>(j)eʔ</td>
<td>-ag</td>
<td></td>
</tr>
<tr>
<td>ejʔ</td>
<td>-ig</td>
<td></td>
</tr>
</tbody>
</table>
The rhyme forms with no obvious source are omitted.

3.3 Tones
An analysis of tonogenesis is inevitable for understanding the diachronic phonology of Khams Tibetan. As mentioned in the synchronic analysis (2.4), the tone system in dGudzong Tibetan is analysed as a tonal type and a word tone system because of the variety of tonal values and of the restriction of the tonal pattern in the second syllable. This method of analysis is different from that taken by most of the previous works dealing with the description of Tibetan dialects such as Huang (1994) and Jiang (2002: 260–283). The result of the analysis of dGudzong Tibetan, therefore, can be only partially shared with such works. For the sake of an effective analysis of the tonogenesis, the analysis below is separated into two cases: monosyllabic words and polysyllabic ones. Nevertheless, only a tendency of the relation between the tonal type and WrT can be indicated.

3.3.1 Monosyllabic words
The genesis of tone from WrT forms is clearly evident on monosyllabic words. The tonal distribution of high and low is associated with the kind of WrT initial as follows:

- **High (¯ and `):** voiceless obstruents (with/without preinitials/glides) and resonants with preinitials
- **Low (´ and `):** voiced resonants, voiced obstruents without preinitials

The split between high and low at the beginning of a word is common to most Khams Tibetan dialects, as indicated by Huang (1994) and Jiang (2002: 268–276).

<table>
<thead>
<tr>
<th>High Tone Type</th>
<th>Low Tone Type</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>/ʰteʔ/</code>tiger’ stag</td>
<td><code>/ti/</code>3rd person singular’ de</td>
</tr>
<tr>
<td>`/sʰo/earth’ sa</td>
<td><code>/poʔ/</code>Tibetan’ bod</td>
</tr>
<tr>
<td><code>/ʰtʰo/</code>release’ gtong</td>
<td><code>/sʰo/</code>eat’ za</td>
</tr>
<tr>
<td><code>/tsʰo/</code>salt’ tshwa</td>
<td><code>/lawʔ/</code>sheep’ lug</td>
</tr>
<tr>
<td><code>/ŋo/</code>nose’ sna</td>
<td><code>/kweʔ/</code>tan’ gog</td>
</tr>
<tr>
<td><code>/ʱlʰo/</code>ox’ glang</td>
<td><code>/ɾo/</code>mountain’ ri</td>
</tr>
</tbody>
</table>
However, WrT voiced obstruents with preinitials have developed as either high or low tone under conditions which are not clear, as in:  

\[ /\overset{6}{\bar{d}}\bar{\text{a}}/ \text{‘seven’ b}d\text{u}n \]
\[ /\overset{6}{\text{d}}\text{z}o/ \text{‘Han Chinese’ r}gya \]
\[ /\overset{6}{\text{d}}\text{z}a\?'/ \text{‘eight’ b}rgyad \]

While the presence of falling or non-falling tones cannot be associated with the WrT form, they can be associated with vowel length in other dialects. For example, in the Derge (cf. sKal-bzang ’Gyur-med and sKal-bzang dByangs-can 2002: 108) and the mBathang dialects, falling tone appears when the vowel is short, and the non-falling one appears when the vowel is long. Clearly dGudzong Tibetan does not belong to this type.

3.3.2 Polysyllabic words
The tonal pattern of polysyllabic words in the dGudzong dialect can be represented by that described for bisyllabic word (see 2.4). But the relation between the tonal pattern and WrT is less obvious than it is for monosyllabic words. There are several compounds which include two words which /\overset{6}{\text{t}}\text{ɕʰɯ}/ chu ‘water’ (high-level tone) and /\overset{7}{\text{t}}\text{ɕʰɯ}/ bya ‘cock’ (rising tone) show multiple tonal patterns, for example:

\[ /\overset{6}{\text{t}}\text{ɕʰɯ} \text{ɕh}u/ \text{‘boiled water’ chu khol} \]
\[ /\overset{6}{\text{t}}\text{ɕʰɯ} \text{ts}b\bar{\text{a}}/ \text{‘hot spring’ chu tshan} \]
\[ /\overset{6}{\text{t}}\text{ɕʰɯ} \overset{6}{\text{l}}\text{aw}/ \text{‘wave’ chu rlabs} \]
\[ /\overset{6}{\text{t}}\text{ɕʰɯ} \overset{6}{\text{mc}}\?'/ \text{‘pond, well’ chu mig} \]
\[ /\overset{7}{\text{t}}\text{sa} \overset{6}{\text{t}}\text{ɕe}\?’/ \text{‘cock’s excrement’ bya skyag} \]
\[ /\overset{7}{\text{t}}\text{sa} \overset{6}{\text{f}}\text{u}/ \text{‘cock’ bya pho} \]
\[ /\overset{7}{\text{t}}\text{sa} \overset{6}{\text{mu}}/ \text{‘hen’ bya mo} \]

As shown above, the tonogenesis of the polysyllabic word is not the same as that for WrT forms, and needs further study.  

4 Summary and Conclusion
The sketch of the synchronic phonetic status and its evolution in the dGudzong dialect demonstrates that little known dialects possess a typologically distinctive phonetic characteristics and sound changes in the Tibetan dialects, which are summarised as follows:

1. WrT sh/zh partially became retroflexes.
2. WrT Py became alveolar affricates.
3. WrT a became /o/.
4. WrT vowels with the final g changed their vocalic quality.
From a typological viewpoint, the characteristics mentioned above are quite rare, especially the fourth feature, that is not shared with any other dialects belonging to "twenty-four villages' patois." This subgroup of Khams Tibetan is characterised not only by its distinctive phonological aspects, but also by its unique lexical traits and grammatical features. Further linguistic investigation is to be done in this area.

Notes

1) The content of the section two is based on Suzuki (2007a: 128–133). The field research was funded mainly by a Grant-in-Aid for Scientific Research of Japan Society for the Promotion of Science (“Linguistic Substratum in Tibet” headed by Yasuhiko Nagano, No. 6102001) and by a Grant-in-Aid for Scientific Research of Japan Society for the Promotion of Science (“Dialectological Study of the Tibetan Minority Languages in the Tibetan Cultural Area in West Sichuan,” No. 19-250). Many thanks to Xiao Tianyu and A-grong for providing the data for this paper as well as to Xiao Songying and Zla-ba sGrol-ma for coordinating my research in Gezong village, and to You-Jing Lin for giving me many useful comments for this paper. I wish to also thank Lawrence Reid for help in English editing and for assistance in presentation of the data.

2) The phonological description is changeable depending on the position of each scholar. We should note that there are multiple interpretations of phonology. Even in Central Tibetan represented by Lhasa Tibetan, which has been described the most in detail, many systems of its phonology are produced. See Tournadre (1996: 53–54) and Kitamura (1977: 1–2).

3) Among the final consonants, /p/, /γ/, and /r/ rarely appear.

4) As in this example, the consonant cluster /"γ/ will merge into a homorganic prenasalised type in the near future.

5) This type, as explained in the section 3 (diachronic analysis), can be associated with WrT labial initials plus glide y or prefix b-. The limited distribution of the prelabialisation in the synchronic status can originate from this that of WrT.

6) Same as the footnote above.

7) This is to avoid the possibility that a form might be considered to have come from some other varieties in “twenty-four-villages’ patois.”


9) The data on other Tibetan dialects is also based on my description in order to guarantee an identical phonetic description. Data from previous works will only be used when I have no data from the dialects concerned. See Qu (1991), Jiang (2002) and Zhang (2009) for detailed informations of the historical study of Tibetan dialects.

10) This type is also found in Sogpho 梭坡 (Suzuki 2005b), Zhongu 熟務溝 (Sun 2003), and some of the dialects spoken in Xiangcheng 楊城 and Deqin 德欽 counties (Suzuki 2007a). The condition of the split is similar to Zhongu. Other dialects in which almost all WrT alveopalatal spirants transformed into retroflexes are: sProsang 中路, gTorwarong 東旺, rGyalthang 建塘 (香格里拉), Byagzhol 拉吉, mThachu 塔城, Zhollam 嘎嘎塘, etc.

11) In almost all Khams Tibetan dialects, the same process took place. There are several descriptions that claim that prenasals did not exist before aspirated obstruents, but according to my fieldwork, a slight prenasal element before the aspirated obstruents still exist in many Khams Tibetan dialects (Suzuki 2007a).

12) In almost all Khams Tibetan dialects, the same process took place.

13) This is one of the most characteristic sound changes in “twenty-four-villages’ patois,” and this phenomenon is also found in the Tibetan loanwords in nDrapa, a Qiangic language spoken in Daofu 道孚 and Yajiang 雅江 counties as well as in Zhongu (Sun 2003). In addition, the case of the Khyungpo 璟波 (sBrachen-Khromtshang 巴青冲倉) dialect, spoken in the eastern area of Baqing 巴青 County, Naqu 那曲 District, Tibet Autonomous Region, is the same as in the “twenty-four-villages’ patois.” Data from the sBrachen dialect is also cited in Zhang (2009: 316).
Concerning the transformation into alveolar sounds, a correspondence of alveolar fricatives to WrT Py is found in the gTsangtsa and Phyugtsi dialects as well as the dialects spoken in Xiangcheng, Daocheng and Muli counties plus the gTorwarong dialect.

14) The WrT velar with the glide -y- changed into a palatal plosive generally in nomadic varieties of Amdo Tibetan, and it also occurred in some of the Khams Tibetan dialects such as Lhagang as well.

15) Many Khams Tibetan dialects underwent the same development of WrT sr- as dGudzong Tibetan, for instance, mBathang and Rangakha dialects as well as the dialects spoken in Xiangcheng County etc.

16) Neighbouring languages such as Geshitsa or Situ-rGyalrong do permit a combination such as /ŋr/, /ŋχ/ in their phonotactics.

17) These are not used alone, the tonal sign is thus not added.

18) The oral form of these two WrT words yar and mar takes a high-tone type in several neighbouring Khams Tibetan dialects such as Sogpho, Lhagang and Rangakha.

19) Almost the same transformation of the vowels in open syllable is also found in the nDappa dialect. Similar sound changes are also observed in dialects spoken in Xiangcheng and Muli, as well as in gTorwarong.

20) A similar phenomenon is observed in the gSerpa dialect (Sun 2005).

21) This type of sound change is not reported in Qu (1991). But almost the same type as in dGudzong dialect is also found in several vernaculars spoken in Batang such as Sowanang and Dangba (personal communication with sKal-bzang in Batang 2006), and spoken in Khyungpo.

22) This word must originate from Old Tibetan dmig.

23) This word may not be directly associated with WrT drug because of its oral form with high tone.

24) A multiple sound correspondence between the oral forms and WrT is not rare in dGudzong Tibetan. Only the main correspondences are mentioned.

25) This is also true in the Derge and the mBathang dialects (cf. sKal-bzang 1985). Probably it is a quite common phenomenon among Khams Tibetan dialects, but its effect is still uncertain (cf. Jiang 2002: 264–268).

26) I have observed a similar tonal phenomenon in some rGyalrongic languages such as Geshitsa, Lavrung and Situ-rGyalrong. In addition, Wang (2008) reports a similar tonal phenomenon in the bisyllabic word in Guiqiong. These languages are spoken in the neighbouring areas of Danba, thus a mutual linguistic influence can be supposed on the suprasegmental aspect of Tibetan dialects spoken in the rGyalrong area.

27) Among the characteristics listed above, the second and the fourth are shared with the Khyungpo dialect spoken in Baqing, Naqu, T.A.R., i.e. a place far from Danba.

References

Darragon, Frederique

Huang, Bufan (黃布凡)

Jiang, Di (江荻)

Kitamura, Hajime (北村甫)
1977 Tibetan (Lhasa Dialect). Tokyo: Research Institute for Languages and Cultures of Asia and Africa.

Lin, Junhua (林俊華)
85 sKal-bzang ’Gyur-med (格桑居冕)

89 sKal-bzang ’Gyur-med and sKal-bzang dByangs-can (格桑央京)

91 Qu, Aitang (瞿靄堂)

92 Sichuansheng Danba Xianzhi Bianzuan Weiyuanhui (四川省丹巴縣誌編纂委員會)

93 Sun, Jackson T.-S. (孫天心)
2005 Special linguistic features of gSerpa Tibetan. Unpublished manuscript presented at 38th ICSTLL (Xiamen) [Revised edition published as the same title in Linguistics in Tibeto-Burman Area 29(1): 107–126 (2006)].

94 Suzuki, Hiroyuki (鈴木博之)
2005b Dialectological subgroup of Sogpho (Danba) Tibetan. Unpublished manuscript presented at 11th HLS (Bangkok).
2006 “Jiu-Xiang xian” shang de zangyu fangyan duibi yanjiu [Contrastive study on Tibetan dialects spoken over Jiuzhaigou-ShangriLa line]. Unpublished manuscript presented at 4th Liangan sandi Zangmianyuzu yuyanxue xueshu zhuanzhuanti taolunhui (Chengdu).
2008a Historical position of Danba Tibetan among Khams Tibetan dialects. Paper presented at the Workshop on Tibeto-Burman Languages in Sichuan (Taipei) [In: Pre-workshop proceedings 419–439].

95 Tournadre, Nicolas

96 Wang, Feng (王鋒)
2008 A preliminary study of the Qianxi (Ganyang) Guiqiong tonal system and its origin. Paper presented at the Workshop on Tibeto-Burman Languages in Sichuan (Taipei) [In: Pre-workshop proceedings 299–307].

97 Zhang, Jichuan (張濟川)
Appendix: Vocabulary of English-dGudzong

The following English-dGudzong vocabulary lists circa 1000 basic lexical items. The verbal conjugation is not attested except for the verbs with a suppletive paradigm.

afternoon 'za ro ʰjuʔ
again 'jo: roʔ
age 'lu
agree; consent 'tö ʰdʑo ʰjii
air; breath 'puʔ
alcoholic drink 'tɕʰo
all 'jiʔ ʰdʑi ɣɯ
alone 'ma zejʔ
animal; beast 'rә ge
ankle 'ʰkõ ʰtiʔ
answer; reply 'leː ɕɑʔ
ant 'tweː ʰmә ʑejʔ
anus 'rõ ho ma
arm 'leː bo
armpit 'tɕʰbo
arrive 'pa roʔ
ask 'ʈә mә
at present; now 'ʔa to
aunt (father’s sister) 'ʔa ʰtsә
autumn and winter 'ʔa ʰtsә
awl 'm̥bwa?
baby 'tʰa ʰzjoyi ʰtu ʰtu
back 'tɕʰiʔ ʰdzuu
backside 'kɯ ʰdzɔʔ
bad 'mә ʰni: mo
bald; bare 'ɡo ʰdu
bamboo 'cuː mo
barley 'kә zi
basket carried 'se βu
on the back 'ʃe βu
be 'ʃi
be afraid 'ʰteʔ
be angry 'tɾu ʰlɔ
be boiling 'kʰu
be born 'ɕʰa
be broken 'lɔ
be called "mbuʔ
be cooked "tsu
be done; accomplish ‘tʰa: ɾo
be drunk "dʐe
be dry "kõ
be full; fill up ‘kõ
be hungry ‘tʰje:
be like ‘tsa
be old ‘ɡa:
be ripe ‘tsʰu
be one’s turn ‘dʑi
be shy ‘tʰi
be sleepy ‘nɔː ziʔ
be started ‘teː
be thirsty ‘kʰo ɡa
be tired ‘hko
bean flour ‘saː mo ‘tsʰe
bear ‘taŋ ʰɡa
bear [fruit] ‘tʰeː?
beautiful ‘n̥dzə mo
become crazy ‘m̥bweʔ
become curved; bent ‘kwi kwi
bed ‘tʰa ʰkә
beg [for food] ‘btsiː mo
beggar ‘ɾo ma
believe in ‘ʃi ʰsә
belly ‘htoː
belt ‘teə
big; large ‘tea
bind; tie up ‘dːgeː mo
birch ‘ʃe ʰn̥eː pʰe
bird ‘pʰi ʰka
birthday ‘naw ʰca ʰzo mो
bite ‘n̥ɡo tʰo / ‘dʔa?
bitter  _ŋ̊kʰo:  mo_  
butterfly  _tsʰu  bu  liʔ  mo  teʰ mo_
black  `ŋjeʔ  γo  
button  _qwe_
black-eared kite  _jɛʔ_  
buttocks  _kɯ:  ruw_
blind person  `mejʔ  mi  "di  bu_
buy  `nai
blink; wink  _mejʔ  tsə  zi  tsə  zi_
cadre  _pô_
blissful; happy  _tɕəʔ  ʰmi_
calculate  _tʰo:  zə  tʰo:
block up  _tsu:_  
can  _tʰo:  zə  tʰo:
block; obstruct  _kʰweʔ_
carry on the back  _ki:
blood  `tʰeʔ_
carry [a child]  _dʒawʔ  ʰtɕeː  mo_
blow [the trumpet]  _mura_
on the back  _dʒawʔ  ʰtɕeː  mo_
blue  _ŋ̊kʰo:  "bu_
carry [sthg] with a pole on the shoulder  _xor  loʔ_
blunt; dull  _tsu:  mə_
carve; engrave  _kʰi:
boar  `pɯ  liʔ_
cat  _tsə  lo /  ṭsə  lo_
boat  _lu  "pu_
catch; hold  _dʒaʔ_
boiled water  _tɕʰu  kʰu_
cattle  _tsʰa  pje_
bone  _ru  "po_
cause to mix  _sa  mə  ʰsa  seʔ_
boot  _xʰã_
cave in; sink  _ma:  teʰ  ṭkwe  mo_
borrow  _"ja_
cave; hole  _tʰo_
bottle  _š¹aj  dò_
chaff; bran  _dʒo_
bottom; base  _tsa  wo_
change  _ma:  ni  loʔ_
bowl  _pʰo  ro_
charcoal  _ši  gu_
bracelet  _leʔ  "tsə?
chase after  _dʒaʔ_
braces; suspenders  _sʰi:  xeʔ_
cheese cake  _tɕʰo  γu_
braid; plait  _rʰi:  bo_
chest  _tʰo:  "ji?
brain  _lᵃʔ  po_
chest; trunk  _gã  "bu_
bracket pieces  _tsʰe  tsʰe  ʰweʔ_
chicken  _tso_
bracket; snap  _tɕʰa  duq:  dʒoʔ_
child  _tʰo  yi_
bracket; smash [a bowl]  _dʒeʔ?
breakfast  _teʰ  γu_
Chinese chives  _gwe  γo_
bridge  _tsʰo  "bo_
Chinese priskly ash  _ji  "mo_
broad bean  _ta  ʰga:  du  du_
choose; select  _tʰa  noʔ  "dʌ_
broom  _tsʰe:  mo_
chop down  _tʰaʔ_
brother  _pũ  riʔ_
chop; cut [meat]  _lã  dʒo_
brown bear  _taŋ  ʰga  ˈtə  mə_
chop [wood]  _tʰa  "mo_
bucket  _tɕʰu  lɔ  zo_
chopsticks  _tʰo  "de  "de_
bud; sprout  _la  mo  ʰtʰ  yi_
circle; circular  _tə:
bull  `pu_
clap  _tə:
bury  _gejʔ_
claw  _sʰe:  mə_
busy  _tʰsʰaw  zi_
clean  _tso:  mo_
butter  `ma_
clear  _də:
clever          `ŋgo mə    cut [paper, cloth]   `tɕā: mə
clip            `ʈː: ma          cut down        `tɕʰa? ro?
climb up [tree]    `ŋa `dzeʔ   cut off         `ʰtɕa?
close [the mouth]    `po tsū    cut up [vegetable]   `ʰtʰi?
close [the door]      `doʔ             dare            `puʔ
cloth           `re:          date            `nā xo?
cloth robe       `ko zi        daughter        `pu mo
cloud           `ŋo          daughter-in-law    `nā mo
cock            `tsa ŋu      day after tomorrow   `nɔ nā
cockscomb      `tʰa ʑuʔ    day before yesterday    `kʰa nā; ʰke
cold [weather; water]    `tɕʰoʔ     daytime         `nā; ʰke
collar            `na ŋkoʔ  deaf person       `na ŋo
collect; gather [firewood]  `ʰtɕoʔ  deceive; cheat      `zā je?
comb            `gu ɕʰaʔ soʔ  deep             `saw sʔ r ma
come            `ʃʰweʔ         deer            `sʰa ŋo
commend; praise    `ʃo roː ʃaʔ  die              `ʃʰo
compare          `pu ŋdzuː mə  die out        `ʰtʰu
cover; link       `dʒi ŋdi ŋu:    difficult       `ʰkʰo
cook; boil        `tsu                dig out with finger  `ʰqwe?
cooking stove; kitchen range  `ʰdza ʃowʔ  dig; excavate  `ʰʃwe?
cook; boil        `tsu                dig; scoop [out]   `luʔ
dirty            `dʒo ŋa:  do; make        `ʃeʔ jə?
do not have      `mə                dog              `pʰe tɕʰo
do business      `tsʰeʔ jəʔ  donkey         `kə ŋo
do; make          `jəʔ    door              `ŋu
do; make          `jəʔ    door              `ŋu
do not have      `mə                dog              `pʰe tɕʰo
do business      `tsʰeʔ jəʔ  donkey         `kə ŋo
do; make          `jəʔ    door              `ŋu
do not have      `mə                dog              `pʰe tɕʰo
do business      `tsʰeʔ jəʔ  donkey         `kə ŋo
do; make          `jəʔ    door              `ŋu
do not have      `mə                dog              `pʰe tɕʰo
do business      `tsʰeʔ jəʔ  donkey         `kə ŋo
do; make          `jəʔ    door              `ŋu
do not have      `mə                dog              `pʰe tɕʰo
do business      `tsʰeʔ jəʔ  donkey         `kə ŋo
do; make          `jəʔ    door              `ŋu
do not have      `mə                dog              `pʰe tɕʰo
do business      `tsʰeʔ jəʔ  donkey         `kə ŋo
do; make          `jəʔ    door              `ŋu
do not have      `mə                dog              `pʰe tɕʰo
do business      `tsʰeʔ jəʔ  donkey         `kə ŋo
do; make          `jəʔ    door              `ŋu
do not have      `mə                dog              `pʰe tɕʰo
do business      `tsʰeʔ jəʔ  donkey         `kə ŋo
do; make          `jəʔ    door              `ŋu
do not have      `mə                dog              `pʰe tɕʰo
do business      `tsʰeʔ jəʔ  donkey         `kə ŋo
do; make          `jəʔ    door              `ŋu
do not have      `mə                dog              `pʰe tɕʰo
do business      `tsʰeʔ jəʔ  donkey         `kə ŋo
do; make          `jəʔ    door              `ŋu
do not have      `mə                dog              `pʰe tɕʰo
do business      `tsʰeʔ jəʔ  donkey         `kə ŋo
do; make          `jəʔ    door              `ŋu

cadre             `ʈʰi ɣweʔ      dragonfly      `tsʰa ʰbu li?
car              `tɕa ŋweʔ  doze off; nod  `tɕew ji jor
care             `tɕa ŋweʔ  dragonfly      `tsʰa ʰbu li?
car              `tɕa ŋweʔ  dragonfly      `tsʰa ʰbu li?
care             `tɕa ŋweʔ  dragonfly      `tsʰa ʰbu li?
car              `tɕa ŋweʔ  dragonfly      `tsʰa ʰbu li?
care             `tɕa ŋweʔ  dragonfly      `tsʰa ʰbu li?
car              `tɕa ŋweʔ  dragonfly      `tsʰa ʰbu li?
care             `tɕa ŋweʔ  dragonfly      `tsʰa ʰbu li?
care             `tɕa ŋweʔ  dragonfly      `tsʰa ʰbu li?
care             `tɕa ŋweʔ  dragonfly      `tsʰa ʰbu li?
care             `tɕa ŋweʔ  dragonfly      `tsʰa ʰbu li?
care             `tɕa ŋweʔ  dragonfly      `tsʰa ʰbu li?
care             `tɕa ŋweʔ  dragonfly      `tsʰa ʰbu li?
dry; drought  `naw b_kā
dry [clothes] is the sun  `n̥diʔ
dumpling  ʔa xu te̥i mu
dusk; twilight  `maj? du ru zi
dust  ʔ̥di wo
dye  ts̥e ma ʔ̥dz̥ā
each; every  `kweʔ  `di zoʔ
ear  `nuʔ te̥we
early  `yweʔ mo
earrings  `lu
earth; ground  `s̥o
earthen jar  ʔa mo
earthquake  ʔs̥o  ʔ̥gig ro
easy  `le̥:  ʔ̥o: mo
eat  ʔ̥o
eight  ʔ̥dz̥a?
eighteen  ʔ̥teuʔ  ʔ̥dz̥a?
eighty  ʔ̥dz̥a: zuu
elder brother  ʔk̥u yu
elder sister  ʔ̥se tse
eleven  ʔ̥teu  ʔ̥teiʔ
embrace; hug  ʔ̥ia ywe  ʔ̥ro  ʔ̥b̥ō
emboider  ʔ̥tseʔ?
empty  ʔ̥pej bo
ewe  ʔ̥lawʔ mo
exchange  ʔ̥ts̥o  ʔ̥zi  ʔ̥pa  ʔ̥zi jī
excrement  ʔ̥tcaʔ  pa
expand; swell  ʔ̥ja:  ʔ̥t̥u
extract [oil]  ʔ̥p̥  ʔ̥p̥
eye  ʔ̥mejʔ
eyebrow  ʔ̥mej  ʔ̥pu
face  ʔ̥de[p̥o
fall  ʔ̥ma  ʔ̥laʔ
fall asleep  ʔ̥m̥uʔ ro
false  ʔ̥dz̥ā:  ʔ̥jī mo
family members  ʔ̥teʔū:  ʔ̥n̥ko  ʔ̥mo
far  ʔ̥te:  ʔ̥ri mo
fat  ʔ̥ts̥aʔ
father  ʔ̥p̥a  ʔ̥ga
father-in-law  ʔ̥ta  ʔ̥gā
feather  ʔ̥dz̥a  ʔ̥pu
feed; suckle  ʔ̥s̥ā
fetch; draw [water]  ʔ̥teʔu
few; little  ʔ̥ne:  ʔ̥m̥o
field  ʔ̥te̥:  ʔ̥zte
fierce; sharp  ʔ̥k̥aj mo
fifteen  ʔ̥te̥:  ʔ̥m̥o
fifty  ʔ̥n̥  ʔ̥te̥:  ʔ̥m̥o
finger  ʔ̥dz̥a: yi
finish  ʔ̥t̥u:
fire  ʔ̥m̥i
clamp; [a shot]  ʔ̥jā
firewood  ʔ̥c̥i:
first  ʔ̥n̥  ʔ̥jā:  ʔ̥bi:  ʔ̥zo?
fish  ʔ̥n̥
fist  ʔ̥paʔ  ʔ̥pa?
flea  ʔ̥dz̥o  ʔ̥pa
float  ʔ̥di:  ʔ̥wo
flood  ʔ̥teʔ̥u  ʔ̥fu  ʔ̥teʔ̥:  ʔ̥s̥?
flour  ʔ̥ts̥e:  ʔ̥ru
flow; run  ʔ̥r̥ō
flower  ʔ̥m̥bu  ʔ̥deʔ?
fly  ʔ̥d̥ō  ʔ̥jeʔ?
fog  ʔ̥ra  ʔ̥bo
follow  ʔ̥ko  ʔ̥dz̥u:  ʔ̥p̥ roʔ
food steamer;
steam box  ʔ̥se:  ʔ̥bo
fookstuff; grain  ʔ̥dp̥  ʔ̥dp̥
foot  ʔ̥ko  ʔ̥bo
force; compel  ʔ̥ts̥ā  ʔ̥bu  ʔ̥laʔ
forehead  ʔ̥sa  ʔ̥ga:
forest  ʔ̥ci  ʔ̥fej
forget  ʔ̥j̥o:  ʔ̥x̥wi  ʔ̥t̥o
forty  ʔ̥t̥eʔ̥u
four  ʔ̥t̥o
forty  ʔ̥t̥eʔ̥u
fourteen  ʔ̥teu:  ʔ̥zoʔ
fox  ʔ̥wo
<table>
<thead>
<tr>
<th>English</th>
<th>Phonemic Representation</th>
<th>Chinese Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>freeze; ice up</td>
<td>ʱkʰiʔ</td>
<td>gum</td>
</tr>
<tr>
<td>fresh</td>
<td>ʰsʰa ʰpo ʰtse ʰseʔ</td>
<td>hail</td>
</tr>
<tr>
<td>friend</td>
<td>╯rweʔ</td>
<td>hair</td>
</tr>
<tr>
<td>frighten; scare</td>
<td>ʰtʰe: lu ʰfioʔ</td>
<td>half</td>
</tr>
<tr>
<td>frog</td>
<td>ʰbi ʰgā</td>
<td>Han Chinese</td>
</tr>
<tr>
<td>front</td>
<td>ʰhya: na</td>
<td>hand</td>
</tr>
<tr>
<td>frost</td>
<td>ʰjʔ ʰbo</td>
<td>happy</td>
</tr>
<tr>
<td>frying pan</td>
<td>ʰtʰaj ji ʰso: ko ʰsō</td>
<td>hard</td>
</tr>
<tr>
<td>full</td>
<td>ʰkʰo mə</td>
<td>hard; solid</td>
</tr>
<tr>
<td>fur-lined jacket</td>
<td>ʰtsʰaʔ pe</td>
<td>hat</td>
</tr>
<tr>
<td>future</td>
<td>ʰna ka: zi</td>
<td>hate</td>
</tr>
<tr>
<td>gall bladder</td>
<td>ʰtʰe ʰpo</td>
<td>have a fever</td>
</tr>
<tr>
<td>garden</td>
<td>ʰgu ʰtso</td>
<td>have a headache</td>
</tr>
<tr>
<td>garlic</td>
<td>ʰgo re</td>
<td>have found</td>
</tr>
<tr>
<td>gather [water]</td>
<td>ʰswi</td>
<td>have hit [the target]</td>
</tr>
<tr>
<td>gentle; amiable</td>
<td>ʰzö: ʰde: mə</td>
<td>have [money]</td>
</tr>
<tr>
<td>get angry; flare up</td>
<td>ʰtʰu lə</td>
<td>he; she; it</td>
</tr>
<tr>
<td>get dark</td>
<td>ʰmə: ʰruw</td>
<td>head</td>
</tr>
<tr>
<td>get; acquire</td>
<td>ʰtʰaʔ ru? / ʰtʰaʔ ruʔ</td>
<td>hear</td>
</tr>
<tr>
<td>get; fetch</td>
<td>ʰlə</td>
<td>heart</td>
</tr>
<tr>
<td>girl</td>
<td>ʰpu mo ʰtʰa ʰyi</td>
<td>heat up [cold rice]</td>
</tr>
<tr>
<td>glass</td>
<td>ʰsʰaj ʰda</td>
<td>heavy</td>
</tr>
<tr>
<td>gnaw; nibble</td>
<td>ʰnā ʰdqaʔ</td>
<td>help</td>
</tr>
<tr>
<td>go upstairs</td>
<td>ʰgo</td>
<td></td>
</tr>
<tr>
<td>go; leave</td>
<td>ʰsʰowʔ / ʰsʰū</td>
<td>hen</td>
</tr>
<tr>
<td>goat</td>
<td>ʰro</td>
<td>herdsman</td>
</tr>
<tr>
<td>god</td>
<td>ʰjo</td>
<td></td>
</tr>
<tr>
<td>gold</td>
<td>ʰsʰo</td>
<td>here</td>
</tr>
<tr>
<td>good</td>
<td>ʰnā: mə</td>
<td>hide</td>
</tr>
<tr>
<td>goods</td>
<td>ʰtsʰa bu</td>
<td>high; tall</td>
</tr>
<tr>
<td>government official</td>
<td>ʰpā</td>
<td>highland barley</td>
</tr>
<tr>
<td>grandfather</td>
<td>ʰa mi</td>
<td></td>
</tr>
<tr>
<td>grandmother</td>
<td>ʰa ʰtsʰo</td>
<td></td>
</tr>
<tr>
<td>grass</td>
<td>ʰtso wo</td>
<td>mountain slope</td>
</tr>
<tr>
<td>grassland</td>
<td>ʰtʰe ʰpo</td>
<td>hold; grasp</td>
</tr>
<tr>
<td>green</td>
<td>ʰgā ʰmu rū</td>
<td>honest</td>
</tr>
<tr>
<td>grey</td>
<td>ʰdi wo</td>
<td>hoof</td>
</tr>
<tr>
<td>grind [flour]</td>
<td>ʰtsʰi ʰko</td>
<td>horizontal</td>
</tr>
<tr>
<td>grow up</td>
<td>ʰtsʰi ʰsʰo</td>
<td>horse</td>
</tr>
<tr>
<td>gruel; porridge</td>
<td>ʰdi ʰmə</td>
<td>hot</td>
</tr>
<tr>
<td>guest</td>
<td>ʰdʒʰ ʰmə</td>
<td>hot pepper</td>
</tr>
</tbody>
</table>

**Suzuki** Phonetic Analysis of dGudzong Tibetan
magpie  "tɕɔ γo  move [a stool]  "xʰoʔ mo
maize; corn  "ju mi  mow; cut [grass]  "bɕaʔ
make a row  "meʔ  mule  "tj
make turn  "kʰo  mushroom  "sha mu
make; cause  "miʔ  musk  "sʰa tso
make [tea]  "bo  nail  "sʰeː mo
man  "pu zi  nail; tack  "dzu⁴ ye
many; much  "mọ mọ  narrow  "pje de rə ma
mare  "ta mu  navel  "tə yi
marrow  "ruj _near  "tsʰa kwe
marry  "na mo "b⁴ uu  neck  "na bka
maternal aunt  "ma jo  needle  "kʰɔwʔ
maternal uncle  "ta jo  nephew  "tsʰa wu
meal; food  "se  new  "sʰa po
medicine  "ma  next year  "sʰa b⁴ po
meet  "dzu⁴  nine  "gu
merchant  "tsʰa jũ  nineteen  "teu "gu
middle  "tɕi xuʔ  ninety  "gu zuu
midnight  "tsʰa "tsʰa  nit  "so mo
milk  "le le  nod  "gu "gu
milch cow  "ruː zoː mo  noodles  "po te
milk skin  "sa zwo  noon  "za roː zi
mirror  "sʰaj "go  nose  "no
money  "tʰe tsa  nostril  "no kʰ poː pu
Mongolian gazelle  "na hi⁴  notify; inform  "tɕi ziʔ  "sʰaʔ
monkey  "ʔa "ti  oat  "jowʔ pu
monk’s cloth  "la jũ  of course; certainly  "ʔa "qo jɨ
month  "da ziʔ  offer as an excuses  "pʰi  tɕʰa:
moon  "daː wο  offer; dedicate  "ʔa
morning  "ʃwo hʨi  offspring of a bull and
morning  (before the noon)  "za roː raw  a female yak  "dzu
mosquito  "bu "tsiʔ  oil  "jowʔ
mother  "ma "ga  old lady  "sʰe mo gwe
mother-in-law  "ma "ga  old man  "sʰa buː gwe
mountain cave  "pu pu  old; elderly  "lu tɕʰaː mo
mouse  "tsʰo wo  on the target  "laː teʰoː mo
moustache  "kʰa hpu  on [the table]  "te
mouth  "teʰu "kʰu  on [the wall]  "xʰeʔ
move  "gi "gi roʔ  one  "tɕʰiʔ
onion; scallion  ꯑɡo ḍe
open [a door]  ꯙtsʰe
open [the mouth]  ꯟdो
oppose  ꯑmí go
orphan  ꯘpʰa mo ꯛme ꯛmo
other people  ꯜro ꯛmo
others; else  ꯡtə ꯛmo
outside  ꯙtsʰə na
owl  ꯛwu ꯟa ꯛga ꯟme ꯟsə
ox; cattle  ꯑhrə
pack-horse  ꯟtə ꯛki ꯛzə
pad; cushion  ꯝta ꯟti ꯟə ꯝə
paddle [a boat]  ꯙtə
paddy; rice  ꯑndi ꯟj:
palm  ꯛle ꯟfu:
pare; pell with a knife  ꯝzyə?
parent  ꯘpʰa mo
parrot  ꯟji ꯟə?
paste  ꯛdzar
patch [clothivy]
paternal aunt  ꯘʔa ṭə
paternal uncle  ꯘʔa ꯛro
pea  ꯘsə ꯛka
pea; bean  ꯘʔa ꯟjo?
peach  ꯙkə ꯚbu
peacock  ꯙma ꯟ dzə
pear  ꯟlə
peasant  ꯙli ꯝko ꯟmo
peck at [rice]  ꯝʔtʰu
people  ꯛmə ꯟsə
peppery; hot  ꯗzaw
permit; allow  ꯙpe ꯟfə ꯝə ꯚwe?
pheasant  ꯙtə ꯝo ꯝo
pick up; collect  ꯙʔtə ꯛu?
pick up [food with chopsticks]  ꯛlə
pig  ꯜpʰje?
pig food  ꯜpʰje ꯟzi
pilglet  ꯜpʰje ꯟyi
pile up; stack up  ꯙʔdzwe ꯚʔdzwe?
pillow  ꯙgo ꯛʃi:
pit  ꯖkə ꯛfu
pitiful  ꯛpej ꯟce?
place  ꯛsə ꯟə ꯛo
placenta  ꯛtʰu ꯛgi ꯛko ꯛru ꯛwe
plank; board  ꯝcə ꯝtə
plant [trees]  ꯛtsuə?
plant ash  ꯛtə ꯛkə
plant; raise [wheat]  ꯛtə ꯛtsə
plate; dish  ꯛdo ꯛmo
play; amuse oneself  ꯛte ꯟə
plough  ꯛmu
pluck [flowers]  ꯝteə?
point at; point out  ꯙtə:
point; tip  ꯛnə ꯙʃə?
pointed; tip  ꯛne ꯝne
polite; courteous  ꯛdzə ꯝdzi
pond  ꯝtə ꯝu ꯟme?
poor  ꯛtə ꯝmo
poplar  ꯙʔa ꯟə ꯟpə
populate  ꯛʔa ꯟdə ꯟje ꯟje ꯟbe
press; push down  ꯖni:
press  ꯟni:
[palm or finger]  ꯝne ꯟzə
promise; consent  ꯖkə ꯚte
pull up  ꯟteə?
pull; tug  ꯛtə ꯛu
pulse; beat  ꯛdzu ꯛhu ꯛγo ꯝtə ꯛi
punch [a hole]  ꯘpʰu?
puncture  ꯘtə ꯛo?
push; shove  ꯚpə?
put in [salt]  ꯘdzə ꯝwə
put on [the shoe]  ꯛə ꯝwə ꯟə ꯛko
puttee  ꯖʔko ꯝʔə?
quarrel  ꯟʔə ꯛmo ꯛγa ꯛja?
quicken; fast  ꯙjwe ꯟmo
quickly  ꯛʔa ꯟdo ꯟʔa ꯟdo
rabbit  ꯟə ꯟbe
rafter  ꯈgə ꯝtə ꯛso
rain  ꯝte ꯛa ꯛbo
<table>
<thead>
<tr>
<th>English</th>
<th>Symbol</th>
<th>Pinyin</th>
<th>English</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>shy; shame</td>
<td><code>*teʰi:</code></td>
<td>ˊteʰi:</td>
<td>spider</td>
<td><code>*teʰi:</code></td>
</tr>
<tr>
<td>side</td>
<td><code>*daw na</code></td>
<td>ˋdaw na</td>
<td>splash; sprinkle</td>
<td><code>*du</code></td>
</tr>
<tr>
<td>sing</td>
<td><code>*tu</code></td>
<td>ˇtu</td>
<td>split up</td>
<td><code>*tu: / </code>teʰi:`</td>
</tr>
<tr>
<td>sink</td>
<td><code>*ma: ʰti</code></td>
<td>ˇma: ʰti</td>
<td>spring</td>
<td><code>*teʰu</code></td>
</tr>
<tr>
<td>sister</td>
<td><code>*mi: sʰi:</code></td>
<td>ˇmi: sʰi:</td>
<td>spring and summer</td>
<td><code>*je ʰko</code></td>
</tr>
<tr>
<td>sit; stay</td>
<td><code>*daw?</code></td>
<td>ˋdaw</td>
<td>sprinkle; spray</td>
<td><code>*dzur?</code></td>
</tr>
<tr>
<td>six</td>
<td><code>*tuw?</code></td>
<td>ˇtuw</td>
<td>spurt; sprint</td>
<td></td>
</tr>
<tr>
<td>sixteen</td>
<td><code>*teu ru?</code></td>
<td>ˇteu</td>
<td>[in the front]</td>
<td><code>*dzu</code></td>
</tr>
<tr>
<td>sixty</td>
<td><code>*tuw zu</code></td>
<td>ˇtuw</td>
<td>sputum</td>
<td><code>kʰa lu?</code></td>
</tr>
<tr>
<td>skin</td>
<td><code>ʰpa: bje</code></td>
<td>ʰpa: bje</td>
<td>squeeze [for milk]</td>
<td><code>zǔ</code></td>
</tr>
<tr>
<td>skirt</td>
<td><code>ʰna: cō</code></td>
<td>ʰna: cō</td>
<td>squirrel</td>
<td><code>tsɔ lɔ</code></td>
</tr>
<tr>
<td>sky</td>
<td><code>naw</code></td>
<td>naw</td>
<td>stairs</td>
<td><code>kʰi:</code></td>
</tr>
<tr>
<td>slanting; leaning</td>
<td><code>ʱzo ʰzo</code></td>
<td>ʱzo ʰzo</td>
<td>stallion</td>
<td><code>tʰa pʰu</code></td>
</tr>
<tr>
<td>sleep</td>
<td><code>me hju?</code></td>
<td>hme hju:</td>
<td>stand</td>
<td><code>lɔ</code></td>
</tr>
<tr>
<td>sleeve</td>
<td><code>tʰa dej?</code></td>
<td>晔a dej:</td>
<td>star</td>
<td><code>kʰa: mo</code></td>
</tr>
<tr>
<td>slippery [road]</td>
<td><code>ʰdeː mʰo</code></td>
<td>ʰdeː mʰo</td>
<td>steal</td>
<td><code>kʰu</code></td>
</tr>
<tr>
<td>slow</td>
<td><code>da hda ʰra ʰgo mə</code></td>
<td>晔a hda ʰra ʰgo mə</td>
<td>steam</td>
<td><code>lə bo</code></td>
</tr>
<tr>
<td>small</td>
<td><code>tʰej?</code></td>
<td>晔ej:</td>
<td>steamed stuffed bun</td>
<td><code>ʔa xu</code></td>
</tr>
<tr>
<td>smell</td>
<td><code>nô ʰbo ʰno</code></td>
<td>ʰno ʰbo ʰno</td>
<td>steamed bun</td>
<td><code>po lu?</code></td>
</tr>
<tr>
<td>smoke</td>
<td><code>tʰa ʰpo</code></td>
<td>晔a ʰpo</td>
<td>steelyard; scales</td>
<td><code>dza mo</code></td>
</tr>
<tr>
<td>smooth</td>
<td><code>ªdzʰu ʰdzʰu:</code></td>
<td>ʰdzʰu ʰdzʰu:</td>
<td>step on; trample</td>
<td><code>daj</code></td>
</tr>
<tr>
<td>snail</td>
<td><code>ªbu wo wo</code></td>
<td>ʰbu wo wo</td>
<td>stepfather</td>
<td><code>pʰa jo</code></td>
</tr>
<tr>
<td>snake</td>
<td><code>ªdzi: tɕʰ</code></td>
<td>ʰdzi: tɕʰ</td>
<td>stepmother</td>
<td><code>ma jo</code></td>
</tr>
<tr>
<td>snap [a thread]</td>
<td><code>jʰu hteʔ</code></td>
<td>晔u hteʔ</td>
<td>stick down</td>
<td></td>
</tr>
<tr>
<td>sneeze</td>
<td><code>ʱdqʰ ʰpo; rə</code></td>
<td>ʰdqʰ ʰpo; rə</td>
<td>[an envelope]</td>
<td><code>kʰa ʰtu</code></td>
</tr>
<tr>
<td>snow</td>
<td><code>kʰa fio</code></td>
<td>晔a fio</td>
<td>sticky; glutinous</td>
<td><code>kʰa mə</code></td>
</tr>
<tr>
<td>soft</td>
<td><code>jʰo mə</code></td>
<td>晔o mə</td>
<td>stomach</td>
<td><code>hə fio</code></td>
</tr>
<tr>
<td>soil; earth</td>
<td><code>sʰo</code></td>
<td>ʰso</td>
<td>stone</td>
<td><code>do ʰgeʔ</code></td>
</tr>
<tr>
<td>soldier</td>
<td><code>ªmje? mə</code></td>
<td>ʰmje? mə</td>
<td>stool; bench</td>
<td><code>mə ʰdo: sʰo</code></td>
</tr>
<tr>
<td>solid</td>
<td><code>tʰ da</code></td>
<td>晔da</td>
<td>stop; cease</td>
<td><code>ta mə ʰgə</code></td>
</tr>
<tr>
<td>some</td>
<td><code>ʰtʰo ke: zaʔ</code></td>
<td>ʰtʰo ke: zaʔ</td>
<td>storehouse</td>
<td><code>tʰa bu ʰze: sʰo</code></td>
</tr>
<tr>
<td>sometimes</td>
<td><code>jow pə ʰjow</code></td>
<td>晔ow pə ʰjow</td>
<td>straight</td>
<td><code>tʰo tʰo</code></td>
</tr>
<tr>
<td>son</td>
<td><code>pʰu zi</code></td>
<td>晔u zi</td>
<td>stroke; touch</td>
<td><code>mə ʰwəʔ</code></td>
</tr>
<tr>
<td>son-in-law</td>
<td><code>pʰu le</code></td>
<td>晔u le</td>
<td>suddenly</td>
<td><code>lu ʰdzə ʰboʔ</code></td>
</tr>
<tr>
<td>sound</td>
<td><code>ªkaʔ</code></td>
<td>ʰkaʔ</td>
<td>sugar</td>
<td><code>ʰdʒ</code></td>
</tr>
<tr>
<td>speaks</td>
<td><code>ʰswaʔ</code></td>
<td>ʰswaʔ</td>
<td>suitable</td>
<td><code>rəʔ / ʰraʔ</code></td>
</tr>
<tr>
<td>soup</td>
<td><code>tsʰaj teʰtu</code></td>
<td>晔aj teʰtu</td>
<td>sun</td>
<td><code>nə mə</code></td>
</tr>
<tr>
<td>sour</td>
<td><code>ªteʰ tu</code></td>
<td>ʰteʰ tu</td>
<td>sunbathe; to sun</td>
<td><code>nə mo: ʰdiʔ</code></td>
</tr>
<tr>
<td>sow</td>
<td><code>pʰjeʔ mu</code></td>
<td>晔jeʔ mu</td>
<td>sunflower</td>
<td><code>nə mə ʰmu deʔ</code></td>
</tr>
<tr>
<td>soybean</td>
<td><code>sə: mo</code></td>
<td>sə: mo</td>
<td>supper</td>
<td><code>sa ʰtu</code></td>
</tr>
<tr>
<td>sparrow</td>
<td><code>tʰu ʰgwe teʰoː ʰy</code></td>
<td>ʰu ʰgwe teʰoː ʰy</td>
<td>support; raise</td>
<td><code>ʰsuː təː</code></td>
</tr>
</tbody>
</table>
swallow ʁt̥sa gɔ - ri: ti this ʔa ra / ʔo
swear; vow ŕn̥6 hts̥o this side; here ʔo hts̥we?
sweat ŕt̥sa cʰtu this way; like this ʔa ʰdz̥a
sweep ŕts̥c̥e this year ʔo ʔe
sweet ʰja: ma those ʔo r̥a
swim tʰwu htei ʰdz̥o thousand ʰtej teh o
table ʔe ʔo sʰo thread ʔu bo
tadpole tɛo no: kə ʔt̥a pa three ʰsə

tail ʰdz̥uʔ mo three days ago xʰa ʰna: ʰke
tailor ʰkɯʔ zi ʔo: ma threshold ʰgwə tə
take out ʔjoʔ ʰʔoʔ throat ʔko ʰlo?
take; hold; get xʰoʔ throw; toss ʔdʒə
tea ʔt̥co throw oneself

tea with milk ʔsa tɛo on the earth ʰts̥eʔ ʰts̥e
teach ʔjaʔ throw up; vomit ʰt̥ceuʔ ʔt̥a: ja
teacher ʰgi ʰga thumb ʰdz̥a yi ʰdza ma

tear up; rip ʰt̥i thunder ʰdʒuʔ

tears ʰmej tɛh u Tibetoan robe ʔpoʔ ʔu
tell ʔli tɛa: ʰc̥aʔ Tibetan ʔpoʔ
ten ʰt̥ceuʔ tiger ʰteʔ
ten thousand ʰt̥a sʰwi ʔzəʔ time ʰna xʰoʔ
tendon ʰdz̥uʔ hpo to blossom ʰgi:
tense ʔt̥a da: to buckle; button up ʰdʒuʔ ʰdʒə
that ʰpʰa: ʔu ʰbe to change ʰdʒi
that [over there] ʔti: to comb ʰəʔ

that [way] / [like] that ʔo ʰdz̥a ra to cough ʰsʰawʔ
there ʔo ra to dance ʔdʒu ʰc̥uʔ
there is; exist ʔjoʔ to dream ʰma ʔa: ʰmɛʔ
thereupon; then ʔa ʰdz̥o / ʔu ʰdz̥o to fish ʰdʒə
these ʔa na ʰʔo ma ʰgɔ to fly ʰpʰa
they ʔo r̥a to guard; defend ʔe: bo
thick ʔt̥uʔ tuʔ rə ma to hang; suspend ʰtsə
thief ʰkɯ mo to harvest ʰdəʔ
thigh ʰlə hco to hook ʰtsʰə tʰa
thin ʰsəʔ ʰsəʔ rə ma / ʰgwe ma to itch; tickle ʰdʒə
thin <in diameter>; to leak ʔeʔ

fine ʰt̥ʰo to light [a fire] ʰbʊʔ
thing ʰt̥ca bu to light [a light] ʰbəʔ
think ʰsɨ to lightning ʰt̥owʔ ʰma
thirteen ʰt̥cu ʰsɨ to marry ʔt̥bo ne
thirty ʰsbo ʰt̥cu to measure ʔje ʰdʒi:
<table>
<thead>
<tr>
<th>English</th>
<th>Hindi</th>
</tr>
</thead>
<tbody>
<tr>
<td>welcome; greet</td>
<td>‘sui ʰkʰor</td>
</tr>
<tr>
<td>well</td>
<td>‘teʰu me?</td>
</tr>
<tr>
<td>wet</td>
<td>‘ba ra:</td>
</tr>
<tr>
<td>what</td>
<td>‘tee</td>
</tr>
<tr>
<td>wheat</td>
<td>‘dɑ</td>
</tr>
<tr>
<td>wheat straw</td>
<td>‘tʃa ʰwe?</td>
</tr>
<tr>
<td>when</td>
<td>‘nɑ</td>
</tr>
<tr>
<td>where</td>
<td>‘kaj</td>
</tr>
<tr>
<td>whet [a knife]</td>
<td>‘dɑ?</td>
</tr>
<tr>
<td>whip; thrash</td>
<td>‘ka ʰpu</td>
</tr>
<tr>
<td>white</td>
<td>‘sʰu</td>
</tr>
<tr>
<td>who</td>
<td>‘bů</td>
</tr>
<tr>
<td>wide &lt;in diameter&gt;</td>
<td>‘gi mu</td>
</tr>
<tr>
<td>wife</td>
<td>‘pʃjeʔ ʰgo?</td>
</tr>
<tr>
<td>wild boar</td>
<td>‘tsa go ʰri: ti</td>
</tr>
<tr>
<td>wild goose</td>
<td>‘do wō pʰe</td>
</tr>
<tr>
<td>willow</td>
<td>‘tʰow?</td>
</tr>
<tr>
<td>win; gain</td>
<td>‘lů ma?</td>
</tr>
<tr>
<td>wind</td>
<td>‘lů ma: lō</td>
</tr>
<tr>
<td>wind blows</td>
<td>‘da pʰu</td>
</tr>
<tr>
<td>window</td>
<td>‘ta ro</td>
</tr>
<tr>
<td>wing; fin</td>
<td>‘teʰɛ?</td>
</tr>
<tr>
<td>wipe</td>
<td>‘teʰɛ? ʰzù</td>
</tr>
<tr>
<td>you two</td>
<td>‘teʰɛ? ʰzù: mo</td>
</tr>
<tr>
<td>young</td>
<td>‘lu teʰi: mo</td>
</tr>
<tr>
<td>younger brother</td>
<td>‘sa ni</td>
</tr>
<tr>
<td>younger sister</td>
<td>‘sʰi: mo</td>
</tr>
<tr>
<td>woman</td>
<td>‘mɑ re: jɔ</td>
</tr>
<tr>
<td>wood; log</td>
<td>‘de: mo</td>
</tr>
<tr>
<td>wooden bowl</td>
<td>‘cʰi ka ʰpʰo</td>
</tr>
<tr>
<td>woodpecker</td>
<td>‘tː ʰmu: kwa</td>
</tr>
<tr>
<td>wool</td>
<td>‘lɔwʔ ʰpu</td>
</tr>
<tr>
<td>worry; be anxious</td>
<td>‘tʰuw ro</td>
</tr>
<tr>
<td>wound</td>
<td>‘mwo: te: teʰo?</td>
</tr>
<tr>
<td>wrinkle</td>
<td>‘tʰu</td>
</tr>
<tr>
<td>write</td>
<td>‘tʃo</td>
</tr>
<tr>
<td>wrong</td>
<td>‘mɑ ni: mo</td>
</tr>
<tr>
<td>yak</td>
<td>‘tʃeʔ</td>
</tr>
<tr>
<td>year</td>
<td>‘lɔ ze</td>
</tr>
<tr>
<td>year before last</td>
<td>‘zɛ ni ɣu</td>
</tr>
<tr>
<td>year after next</td>
<td>‘rɔ pʰo / ‘rɔ ʰo</td>
</tr>
<tr>
<td>yellow</td>
<td>‘sʰo ʰpu</td>
</tr>
<tr>
<td>yesterday</td>
<td>‘kʰa ző</td>
</tr>
<tr>
<td>yoghurt</td>
<td>‘tː œ</td>
</tr>
<tr>
<td>you (sg)</td>
<td>‘teʰɛ?</td>
</tr>
<tr>
<td>you (pl)</td>
<td>‘teʰɛ? ʰzù</td>
</tr>
<tr>
<td>you two</td>
<td>‘teʰɛ? ʰzù: mo</td>
</tr>
<tr>
<td>young</td>
<td>‘lu teʰi: mo</td>
</tr>
<tr>
<td>younger brother</td>
<td>‘sa ni</td>
</tr>
<tr>
<td>younger sister</td>
<td>‘sʰi: mo</td>
</tr>
</tbody>
</table>