著者

<table>
<thead>
<tr>
<th>著者</th>
<th>柿原 賢一</th>
</tr>
</thead>
</table>

タイトル

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<th>様々な接続部における形態学的変化 : アムド・チベットの事例</th>
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<td>年代</td>
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Morphophonological alternation of suffixes, clitics and stems in Amdo Tibetan

Shiho Ebihara*

アムド・チベット語における接辞, 接語および語幹の形態音韻的交替

海老原 志 穂

Some of the suffixes and clitics of Amdo Tibetan have a number of allomorphs which are conditioned phonologically (in most cases, their initial consonants alter). Stems which these suffixes or clitics follow also alternate from time to time. Alternations are to some extent regular, but appear complicated because there are various alternation patterns. This paper gives an overview of morphophonological alternation patterns, by separating the alternation rules of suffixes and clitics (section 3) and the alternation rules of stems (section 4). These morphophonological alternations are also seen in Written Tibetan (*sum cu pa*), but the rules are rather different between Amdo Tibetan and Written Tibetan. Furthermore, stem alternations are not seen in Written Tibetan. This paper aims at giving a systematic description of the alternation rules in Amdo Tibetan, but it could be a preface to working out the developmental process of Tibetan from a morphophonological perspective, by comparison with Written Tibetan and the other Tibetan languages.

*Part-time lecturer, Seisen University

Key Words : Tibeto-Burman, Tibetan, Amdo Tibetan, Morphophonological alternation, suffixes, clitics

キーワード：チベット・ビルマ語派, アムド・チベット語, 形態音韻的交替, 接辞, 接語
Introduction

Amdo Tibetan is spoken in Qinghai Province, the southern part of Gansu Province, and the northern part of Sichuan Province. In this language, suffixes and clitics have a number of allomorphs which are conditioned phonologically. In most cases, allomorphs vary in their initial consonants. (1) and (2) are examples of the auxiliary verb //Gəjol/ (expressing ‘progressive’). ‘//’ and ‘//’ are used to indicate underlying phonemic representation and surface phonemic representation respectively. Several phonological rules are effectively described by referring to the underlying and surface levels of the phonological system.

//Gəjol// has two allomorphs in sentence-final position; //=kəjo/ (example (1)) and //=gəjo/ (example (2)). I set up //=Gəjol// as an underlying form because //=gəjo/ appears in more circumstances than //=kəjo/.

<table>
<thead>
<tr>
<th>(1)</th>
<th>ŋa ndək=kəjo.</th>
<th>‘I am staying’</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>stay:NPST=AUX</td>
<td></td>
</tr>
<tr>
<td>(2)</td>
<td>ŋi hta=gəjo.</td>
<td>‘I am watching’</td>
</tr>
<tr>
<td>1SG:ERG</td>
<td>watch:NPST=AUX</td>
<td></td>
</tr>
</tbody>
</table>
Furthermore, stems also alternate in some cases. As in the following examples (3)–(5), when the final consonant of the underlying stem is one of //p//, //l// or //r//, these consonants may be (sometimes partly) assimilated into the initial consonant of the suffix or clitic which follows.

In example (3), the underlying form of the verb ‘fall’ is //nbep//, but alters into /nbek/ before the auxiliary verb /=kəjo/. In other words, the syllable-final consonant //p// of //nbep// is assimilated into the following /k/ of /=kəjo/.

(3) hnem nbek=kəjo.        ‘[It] is raining’
sky fall:NPST=AUX

In example (4), the underlying form of the verb ‘speak’ is //cel//, but alters into /cek/ before the auxiliary verb /=kəjo/. In other words, syllable-final consonant //l// of //cel// is assimilated into the following /k/ of /=kəjo/.

(4) çek=kəjo.           ‘[Somebody] is speaking’
speak=AUX

In example (5), the underlying form of the noun ‘butter’ is //mer//, but it changes to /met/ before the co-ordination particle /=tə/. In other words, the syllable-final consonant //r// of //mer// is assimilated into the following /t/ of /=tə/.

(5) met=tə kara      ‘Butter and sugar’
butter=CO-ORD sugar

These alternations are in most cases regular and predictable, but appear complicated because there are several alternation patterns. These alternations are not only characteristics of Amdo Tibetan but are also found in Written Tibetan (WT)3). Nevertheless, the alternation rules are different between Amdo Tibetan and WT. In particular, stems in WT do not alter. This paper shows the morphophonological rules affecting the alternations of suffixes, clitics and those stems, and gives an overview of the alternation patterns of Amdo Tibetan as spoken in Gonghe County on the basis of my field data.

1 Fieldwork and Previous studies

As mentioned in the introduction, Amdo Tibetan is spoken in Qinghai Province, the southern part of Gansu Province, and the northern part of Sichuan Province. Fieldwork was conducted during Aug.–Sep. 2006 and Sep.–Oct. 2007 in Chapcha Town, Gonghe County, Hainan Tibetan Autonomous Region, Qinghai Province. Chapcha is the main city of Gonghe County. The consultants were two men (Mr.
bLo gros rGya mtsho 1936-2008, Mr. A lag rGya ye 1946-) who were born and grew up in Yongrong village near Chapcha. In most examples of this paper, they speak in the same way, but a few differences were found. These differences will be noted in the relevant examples.

This paper aims to describe morphophonological alternations in Amdo Tibetan. These alternations have not received particular attention in the past. They are only briefly mentioned in grammars (Ming Shengzhi 1990, Wang Qingshan1996, Gesang Jumian & Gesang Yangjing 2002, Zhou Maocuo 2003, Haller 20044). This paper is the first attempt to give an overview of the morphophonological alternation systems in Amdo Tibetan by separating the alternation rules of suffixes, clitics (section 3) and stems (section 4).

2 Syllable structure and phonemes

As a preliminary to the following discussion, I describe the syllable structure and phonemes of the target language.

2.1 Syllable structure

The syllable structure of this language is shown in (6).

(6) (C1)(C2)(C3)V(C4)

In underlying forms, seven consonants (/p/, /k/, /m/, /n/, /ŋ/, /l/, /r/) can appear as final (C4).

2.2 Phonemes

There are 38 consonants.
Table 1 Consonants

<table>
<thead>
<tr>
<th></th>
<th>bilabial/labiodental</th>
<th>alveolar</th>
<th>retroflex</th>
<th>alveolo-palatal</th>
<th>palatal</th>
<th>velar</th>
<th>uvular</th>
<th>glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>fricative</td>
<td>f[f]</td>
<td>f[f], s[s] sʰ[sʰ], z[z]</td>
<td>s[s]</td>
<td>c[c] z[z]</td>
<td>x[x̃] x̃[x̃]</td>
<td>h[h]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>nasal</td>
<td>m[m]</td>
<td>n[n]</td>
<td>n[n] l[l] r[ɾ]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>liquid</td>
<td>w[w] j[j]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>semi-vowel</td>
<td>w[w] j[j]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There are 7 vowels.


3 Alternations of suffixes and clitics

Patterns of allomorphs (3.1) and conditions on alternations (3.2) will be shown in the following sections.

3.1 Patterns of allomorphs

Allomorphs of a suffix or a clitic are different in their initial consonants in most cases. In my data, there are four patterns of allomorphs as follows;

1. Voiced and unvoiced
2. Fricative and affricate
3. Retroflex and /ɾ/
4. Stem-final consonant copy insertion

3.1.1 Voiced and unvoiced

[1-1] /tɕ/ and /dz/, [1-2] /k/ and /g/ patterns were seen.
Table 2  ‘voiced and unvoiced’ pattern (abbreviated forms are shown in parentheses)

<table>
<thead>
<tr>
<th></th>
<th>voiced</th>
<th>unvoiced</th>
</tr>
</thead>
<tbody>
<tr>
<td>[1-1] nominalizer //Dzol/</td>
<td>-dzol/</td>
<td>-tço/</td>
</tr>
<tr>
<td>[1-1] AUX //Dzijon/ (//=Dzi/)</td>
<td>/=dzijon/ (=dzi/)</td>
<td>/=tçijon/ (=tçi/)</td>
</tr>
<tr>
<td>[1-1] AUX //Dzirel//o/</td>
<td>/=dzire/</td>
<td>/=tçire/</td>
</tr>
<tr>
<td>[1-2] AUX //Gajo// (//=Go/)</td>
<td>/=gojo/ (=go/)</td>
<td>/=kajo/ (=ko/)</td>
</tr>
<tr>
<td>[1-2] AUX //Gajokk// (//=Goka/)</td>
<td>/=gojokka/ (=goka/)</td>
<td>/=kajokka/ (=koka/)</td>
</tr>
</tbody>
</table>

3.1.2 Fricative and affricate

[2-1] /sʰ/ and /tsʰ/, [2-2] /z/ and /ts/ patterns were seen.

Table 3  ‘fricative and affricate’ pattern

<table>
<thead>
<tr>
<th></th>
<th>fricative</th>
<th>affricate</th>
</tr>
</thead>
<tbody>
<tr>
<td>[2-1] AUX //Sʰon/</td>
<td>/=sʰon/</td>
<td>/=tsʰon/</td>
</tr>
<tr>
<td>[2-2] AUX //Zak//b</td>
<td>/=zak/</td>
<td>/=tsak/</td>
</tr>
</tbody>
</table>

3.1.3 Retroflex and /r/

/ʔ/, /nʔ/ and /ɾ/ pattern was seen.

Table 4  ‘retroflex and /ɾ’ pattern (abbreviated forms are shown in parentheses)

<table>
<thead>
<tr>
<th></th>
<th>/ʔ/</th>
<th>/nʔ/</th>
<th>/ɾ/</th>
</tr>
</thead>
<tbody>
<tr>
<td>co-ordination particle //Ra/</td>
<td>/=ʔa/</td>
<td>/=nʔa/</td>
<td>/=ɾa/</td>
</tr>
<tr>
<td>conjunction //Ra//</td>
<td>/=ʔon/</td>
<td>/=nʔon/</td>
<td>/=ɾon/</td>
</tr>
<tr>
<td>sentence-final particle //Ra/</td>
<td>/=ʔtʰatʰa/ (//=ti/)</td>
<td>/=nʔtʰatʰa/ (//=ndti/)</td>
<td>/=ɾʔtʰatʰa/ (//=ri/)</td>
</tr>
</tbody>
</table>

3.1.4 Stem-final consonant copy insertion

If the underlying form of a clitic is //=V//, a copy of a stem-final consonant is inserted in front of the clitic under certain circumstances. Sometimes /C/ of //=CV// is not the same consonant as the final consonant of the stem, but partly assimilated into the consonant. Otherwise, //=V/ forms follow stems.

The dative case marker //=a/ sometimes changes to //=o/ after a stem final /o/.
I set up //=a// as the underlying form of the dative case marker because vowel /a/
appears in most phonological circumstances.

Table 5 ‘stem-final consonant copy insertion’ pattern

<table>
<thead>
<tr>
<th></th>
<th>/=V/</th>
<th>/=CV/</th>
</tr>
</thead>
<tbody>
<tr>
<td>conjunction /=i//</td>
<td>/=i/</td>
<td>/=ni/, /=ŋi/</td>
</tr>
<tr>
<td>conjunction /=a//</td>
<td>/=a/</td>
<td>/=na/, /=ŋa/</td>
</tr>
<tr>
<td>dative case marker //=a//</td>
<td>/=a/, /=o/</td>
<td>/=ka/, /=ma/, /=na/, /=ŋa/, /=wa/</td>
</tr>
<tr>
<td>AUX //=a//</td>
<td>/=a/</td>
<td>/=na/, /=ŋa/, /=wa/</td>
</tr>
</tbody>
</table>

3.2 Conditions on alternations

Alternations of suffixes and clitics are conditioned by the final phonemes of the stem. In what follows, the conditions under which each allomorph appears will be described. These conditions differ slightly even in the same pattern of allomorphs.

3.2.1 Voiced and unvoiced

The nominalizer //Dzo//, the auxiliary verbs //=Dzijən// (//=Dzi//), //=Dzirel//, //=Ga//, //=Gajol// (//=Go//), //=Gajokkə// (//=Gogə//) belong to this type.

Nominalizer //Dzo//

//Dzo// appears as /-təo/ after //l// of an underlying stem. Furthermore, //=l// is realized as /t/ by assimilating the initial consonant of /-təo/. ‘/t/ (←//l//)’ in table 6 shows this realization of the stem-final consonant.

Table 6 Nominalizer //Dzo//

<table>
<thead>
<tr>
<th>the final of the stem</th>
<th>allomorph</th>
<th>example</th>
</tr>
</thead>
<tbody>
<tr>
<td>/t/ (←//l//)</td>
<td>/-təo/</td>
<td>(7)</td>
</tr>
<tr>
<td>/p/</td>
<td>/-təo/ or /-dzo/</td>
<td>(8)</td>
</tr>
<tr>
<td>/k/, /m/, /n/, /ŋ/, /r/, vowel</td>
<td>/-dzo/</td>
<td>(9)–(14)</td>
</tr>
</tbody>
</table>

(7) cet-təo

‘speaking’

speak-NMLZ

(The underlying form of the verb ‘speak’ is //cəl//, but it changes to /cet/ before the nominalizer /-təo/)

(8) hep-təo / hep-dzo

‘going/coming (HON)’

go/come:HON-NMLZ go/come:HON-NMLZ

(There is no difference between these two examples. The consultants allow both equally)

(9) ndək-dzo

‘staying’

stay:NPST-NMLZ
(10) ndem-dzo  
choose-NMLZ

‘choosing’

(11) jen-dzo  
COP-NMLZ

‘what it should be’

(12) t'oen-dzo  
drink-NMLZ

‘drinking’

(13) hter-dzo  
give:NPST-NMLZ

‘giving’

(14) sa-dzo  
eat:NPST-NMLZ

‘eating’

The conditions under which the allomorphs of //=Dzi\j/ (its abbreviated form is //=Dzi/!) appear are the same as for //=Dzirel//. Only //=Dzi\j// (//=Dzi//) is shown in the following examples. //=Dzi\j// (//=Dzi//) expresses ‘future’(conjunct?) pattern), //=Dzirel// expresses ‘future, inference’(disjunct pattern).

**Table 7  Auxiliary verb //=Dzijan// (//=Dzi//)**

<table>
<thead>
<tr>
<th>the final of the stem</th>
<th>allomorph</th>
<th>example</th>
</tr>
</thead>
<tbody>
<tr>
<td>/t/ (→/p//)</td>
<td>/=t\j/ (=t\i/)</td>
<td>(15)</td>
</tr>
<tr>
<td>/p/</td>
<td>/=t\j/ (=t\i/)</td>
<td>(15)</td>
</tr>
<tr>
<td>/t/ (→/l//)</td>
<td>/=t\j/ (=t\i/)</td>
<td>(15)</td>
</tr>
<tr>
<td>/k/, /m/, /n/, /ŋ/, /r/, vowel</td>
<td>/=d\j/ (=d\i/)</td>
<td>(17)–(22)</td>
</tr>
</tbody>
</table>

(15) nbet=\t\i/    / nbep=\t\i/  ‘[I/we] will go down’

fall:NPST=AUX    fall:NPST=AUX

(There is no difference between these two examples. The consultants allow both equally. The underlying form of the verb ‘fall’ is //nbep//, but it sometimes changes to /nbet/ before the auxiliary verb /=t\i//)

(16) nbet=\t\i/  ‘[I/we] will go out’

go out:NPST=AUX

(The underlying form of the verb ‘go out’ is //nbol//, but it changes to /nbet/ before the auxiliary verb /=t\i//)

(17) ndak=dzi  ‘[I/we] will stay’

stay:NPST=AUX

(18) ndem=dzi  ‘[I/we] will choose’

choose=AUX

(19) len=dzi  ‘[I/we] will take’

take:NPST=AUX

(20) jen=dzi  ‘[I/we] will come’

come=AUX
The conditions under which the allomorphs of the auxiliary verb //=Gə// appear are the same as for the auxiliary verbs //=Gəjol//, //=Gəjokkə// and the conjunction //=Gə//. //=Gəjol//, //=Gəjokkə// have the abbreviated forms //=Gol// and //=Gokə//, respectively. Only the auxiliary verb //=Gə// is shown in the following examples. The auxiliary verb //=Gə// expresses ‘state, attribute’, //=Gəjol// expresses ‘progressive’ (conjunct), //=Gəjokkə// expresses ‘progressive’ (disjunct) and conjunction //=Gə// expresses ‘purposive’.

<table>
<thead>
<tr>
<th>The final of the stem</th>
<th>Allomorph</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>/k/ (←//p//)</td>
<td>//=ka// or //=ki//</td>
<td>(23)</td>
</tr>
<tr>
<td>/k/</td>
<td>//=ka// or //=ki//</td>
<td>(24)</td>
</tr>
<tr>
<td>/k/ (←//l//)</td>
<td>//=ka// or //=ki//</td>
<td>(25)</td>
</tr>
<tr>
<td>/m/, /n/, /ŋ/, /r/, vowel</td>
<td>//=ga// or //=gi//</td>
<td>(26)–(30)</td>
</tr>
</tbody>
</table>

(23) nbek=kə

fall:NPST=AUX
(The underlying form of the verb ‘fall’ is //nbep//, but it changes to /nbek/ before the auxiliary verb //=kə//)

(24) təbok=kə

allowed=AUX

(25) jok=kə

exist=AUX
(The underlying form of the existential verb is //jol//, but it changes to /jok/ before the auxiliary verb //=kə//)

(26) htemsem=gə

write=AUX

(27) nen=gə

lawfully allowed=AUX

(28) map=gə

many=AUX

(29) hter=gi

give:NPST=AUX

(30) ʂə=gə

good=AUX

‘[It] often rains’

‘[It] is allowed’

‘[It] is existing’

‘[Somebody] often writes’

‘[It] is lawfully allowed’

‘[It] is many’

‘[Somebody] often gives’

‘[It] is good’
3.2.2 Fricative and affricate

Nominalizer //Sʰo//, AUX //=Sʰon//

The conditions for the allomorphs of the nominalizer //Sʰo// are the same as for the auxiliary verb //=Sʰon//. Only the nominalizer //Sʰo// is shown in the following examples. The nominalizer //Sʰo// expresses ‘a place to do something’ and the auxiliary verb //=Sʰon// expresses ‘the occurrence of an event, an event which goes away’.

Table 9 Nominalizer //Sʰo//

<table>
<thead>
<tr>
<th>the final of the stem</th>
<th>allomorph</th>
<th>example</th>
</tr>
</thead>
<tbody>
<tr>
<td>/t/ (←//l//)</td>
<td>/-tSʰo/</td>
<td>(31)</td>
</tr>
<tr>
<td>/s/ (←//l//)</td>
<td>/-sSʰo/</td>
<td>(31)</td>
</tr>
<tr>
<td>/p/, /k/, /m/, /n/, /ŋ/, /r/, vowel</td>
<td>/-sSʰo/</td>
<td>(32)–(38)</td>
</tr>
</tbody>
</table>

(31) jot-tsʰo / jos-sʰo ‘place to exist’
exist-NMLZ exist-NMLZ
(The underlying form of the existential verb is //jol//, but it changes to /jot/ before the nominalizer /tSʰo/ and into /jos/ before the nominalizer /sSʰo/. One consultant allows both examples, but Mr. bLo gros rGya mtsho says ‘jot-tsʰo’ is more colloquial than ‘jos-sʰo’)

(32) hep-sʰo ‘place to go to/place to come to (HON)’
go/come:HON-NMLZ

(33) ndək-sʰo ‘place to stay’
stay:NPST-NMLZ

(34) ndzom-sʰo ‘place to gather to’
gather-NMLZ

(35) tʰon-sʰo ‘place to arrive at’
arrive-NMLZ

(36) donŋ-sʰo ‘place to beat’
beat-NMLZ

(37) hter-sʰo ‘place to give to’
give:NPST-NMLZ

(38) ndzo-sʰo ‘place to go to’
go:NPST-NMLZ

AUX //=Zək//=
//=Zək//= expresses ‘inference, hearsay’.

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Table 10  Auxiliary verb //Zək//

<table>
<thead>
<tr>
<th>the final of the stem</th>
<th>allomorph</th>
<th>example</th>
</tr>
</thead>
<tbody>
<tr>
<td>/l/ (←//l//)</td>
<td>/=tsək/</td>
<td>(39)</td>
</tr>
<tr>
<td>/p/, /k/, /m/, /n/, /ŋ/, /r/, vowel</td>
<td>/=zək/</td>
<td>(40)-(46)</td>
</tr>
</tbody>
</table>

(39) cet=tsək  
    speak=AUX  
    ‘[Somebody] spoke’  
    (The underlying form of the verb ‘speak’ is //cəl//, but it changes to /cət/ before the auxiliary verb /tsək/)  

(40) hep=zək  
    come/go:HON=AUX  
    ‘[Somebody] came/went (HON)’

(41) ək=zək  
    make [someone] do:PAST=AUX  
    ‘[Somebody] made [someone] do’

(42) htsem=zək  
    write=AUX  
    ‘[Somebody] wrote’

(43) tʰon=zək  
    arrive=AUX  
    ‘[Somebody] arrived’

(44) tʰonŋ=zək  
    drink=AUX  
    ‘[Somebody] drank’

(45) ngor=zək  
    go by=AUX  
    ‘[Time] went by’

(46) li=zək  
    do=AUX  
    ‘[Somebody] did’

3.2.3 Retroflex and /r/

Co-ordination particle //Ra//, conjunctions //Roŋ//, //Ra//

The conditions for the allomorphs of the co-ordination particle //Ra// are the same as for the conjunction //Roŋ// (‘adversative’) and the conjunction //Ra// (‘concessive, adversative’). Only the co-ordination particle //Ra// is shown in the following examples.

Table 11  Co-ordination particle //Ra//

<table>
<thead>
<tr>
<th>the final of the stem</th>
<th>allomorph</th>
<th>example</th>
</tr>
</thead>
<tbody>
<tr>
<td>/l/ (←//l//, //r/)</td>
<td>/=tə/ or /=ra/</td>
<td>(47), (48)</td>
</tr>
<tr>
<td>/l/, /r/</td>
<td>/=tə/ or /=ra/</td>
<td>(47), (48)</td>
</tr>
<tr>
<td>/n/</td>
<td>/=ndə/ or /=ra/</td>
<td>(49)</td>
</tr>
<tr>
<td>/p/, /k/, /m/, /ŋ/, vowel</td>
<td>/=ra/</td>
<td>(50)-(54)</td>
</tr>
</tbody>
</table>

(47) naptcet=ta  
    / naptcet=ra  
    ‘A loyal friend also’
    loyal friend=CO-ORD  
    loyal friend=CO-ORD
(The underlying form of the noun ‘loyal friend’ is /naptél/, but it changes to /napté/ before the co-ordination particle /=t/α/. There is no difference between these two examples. The consultants allow both equally)

48. mé=tₐ tæʰara / mé=ra tæʰara ‘Butter and cheese’
butter=CO-ORD cheese better=CO-ORD cheese
(The underlying form of the ‘butter’ is /mer/, but it changes to /met/ before the co-ordination particle /=t/α/. There is no difference between these two examples. The consultants allow both equally)

49. gigen=nŋa ḍoma / gigen=ra ḍoma ‘A teacher and a student’
teacher=CO-ORD student teacher=CO-ORD student
(There is no difference between these two examples. The consultants allow both equally)

50. tondʒap=ra ḋa
PSN=CO-ORD 1SG ‘Tondʒap and I’

51. hje=k=ra ‘A yak also’
yak=CO-ORD

52. sonam=ra
PSN=CO-ORD ‘Sonam also’

53. htaƙʰa-zan=ra
PSN-HON=CO-ORD ‘Mr. htaƙʰa also’

54. cæʔon gonpa=ra dihtsa gonpa ‘cæʔon temple and dihtsa temple’
PLN temple=CO-ORD PLN temple

Conjunction ///=Ritʰatsʰo/ (//=Ri/) ///=Ritʰatsʰo/ (its abbreviated form is ///=Ri/) expresses ‘while~, when~’.

Table 12  Conjunction ///=Ritʰatsʰo/ (//=Ri/)

<table>
<thead>
<tr>
<th>the final of the stem</th>
<th>allomorph</th>
<th>example</th>
</tr>
</thead>
<tbody>
<tr>
<td>/t/ (//=t/)</td>
<td>/=ıtʰatsʰo/ (//=t/)</td>
<td>(55)</td>
</tr>
<tr>
<td>/t/ (//=t/)</td>
<td>/=ıtʰatsʰo/ (//=t/)</td>
<td>(56)</td>
</tr>
<tr>
<td>/ŋ/, /ŋ/)</td>
<td>/=nʔıtʰatsʰo/ (//=nʔ/) or /=ıtʰatsʰo/ (//=r/)</td>
<td>(57), (58)</td>
</tr>
<tr>
<td>/p/, /k/, /m/, vowel</td>
<td>/=ıtʰatsʰo/ (//=r/)</td>
<td>(59)–(62)</td>
</tr>
</tbody>
</table>

(55) jɔt=ıtʰatsʰo
exist=CONJ ‘When existing’
(The underlying form of the existential verb is /jol/, but it changes to /jot/ before the conjunction /=ıtʰatsʰo/)

(56) kʰʃat=ıtʰatsʰo
should=CONJ ‘When shouldering’
(The underlying form of the verb ‘shoulder’ is /kʰʃer/, but it changes to /kʰʃat/ before the conjunction /=ıtʰatsʰo/)
(57) łoma jən=n̩dɨtʰatsʰo / łoma jən=ɨritʰatsʰo ‘When being a student’
    student COP=CONJ student COP=CONJ
    (There is no difference between these two examples. The consultants allow both equally)
(58) jən=n̩dɨtʰatsʰo / jən=ɨritʰatsʰo ‘When coming’
    come=CONJ come=CONJ
    (There is no difference between these two examples. The consultants allow both equally)
(59) hep=ɨritʰatsʰo ‘When going/coming (HON)’
    go=HON=CONJ
(60) nd̩k=ɨritʰatsʰo ‘When staying’
    stay=NPST=CONJ
(61) ndʒom=ɨritʰatsʰo ‘When gathering’
    gather=CONJ
(62) ndʒo=ɨritʰatsʰo ‘When going’
    go=NPST=CONJ

Conjunction //Roŋkoŋŋa//
//Roŋkoŋŋa// expresses ‘when just~’.

Table 13 Conjunction //Roŋkoŋŋa//

<table>
<thead>
<tr>
<th>the final of the stem</th>
<th>allomorph</th>
<th>example</th>
</tr>
</thead>
<tbody>
<tr>
<td>/l/, /ɾ/</td>
<td>=tʃoŋkoŋŋa/</td>
<td>(63), (64)</td>
</tr>
<tr>
<td>/n/</td>
<td>=ʃoŋkoŋŋa/</td>
<td>(65)</td>
</tr>
<tr>
<td>/p/, /k/, /m/, /ŋ/, vowel</td>
<td>=ɾoŋkoŋŋa/</td>
<td>(66)–(70)</td>
</tr>
</tbody>
</table>

(63) jøt=ʃoŋkoŋŋa
    exist=CONJ
    ‘When [something] just existed’
    (The underlying form of the existential verb is //jol//, but it changes to /jøt/ before the conjunction /=ʃoŋkoŋŋa/)
(64) tsʰat=ʃoŋkoŋŋa
    end=CONJ
    ‘When [something] just ended’
    (The underlying form of the verb ‘end’ is //tsʰar//, but it changes to /tsʰat/ before the conjunction /=ʃoŋkoŋŋa/)
(65) tʰon=ʃoŋkoŋŋa
    arrive=CONJ
    ‘When [somebody] just arrived’
(66) wap=ʃoŋkoŋŋa
    fall=PAST=CONJ
    ‘When [something] just fell’
(67) htsok=ʃoŋkoŋŋa
    sit=CONJ
    ‘When [somebody] just sat’
(68) ndzom=roŋkoŋŋa  gather=CONJ  ‘When [something/somebody] just gathered’
(69) sʰoŋ=roŋkoŋŋa  go:PAST=CONJ  ‘When [somebody] just went’
(70) wi=roŋkoŋŋa  call:PAST=CONJ  ‘When [somebody] just called’

Sentence-final particle //=Ra//

The sentence-final particle //=Ra// follows after the imperative form.

Table 14  Sentence-final particle //=Ra//

<table>
<thead>
<tr>
<th>the final of the stem</th>
<th>allomorph</th>
<th>example</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ŋ/ (/ν-/i/)</td>
<td>/=ŋa/</td>
<td>(71)</td>
</tr>
<tr>
<td>/ŋ/ (/ν-/ɾ/)</td>
<td></td>
<td>(72)</td>
</tr>
<tr>
<td>/m/, /n/, /ŋ/</td>
<td>/=nda/ or /=ra/</td>
<td>(73)–(75)</td>
</tr>
<tr>
<td>/p/, /k/, vowel</td>
<td>/=ra/</td>
<td>(76)–(78)</td>
</tr>
</tbody>
</table>

(71) çot=ŋa  ‘Speak!’
   speak:IMP=SFP

(72) htcot=ŋa  ‘Beat!’
   beat:IMP=SFP

(73) htsom=nḍa / htsom=ra  ‘Write!’
   write:IMP=SFP  write:IMP=SFP

(74) ɲon=nḍa / ɲon=ra  ‘Listen!’
   listen=SFP

(75) sʰoŋ=nḍa / sʰoŋ=ra  ‘Go!’
   go:IMP=SFP  go:IMP=SFP

(76) dzop=ra  ‘Shoot!’
   shoot:IMP=SFP

(71) çot=ŋa  ‘Speak!’
(72) htcot=ŋa  ‘Beat!’
(73) htsom=nḍa / htsom=ra  ‘Write!’
(74) ɲon=nḍa / ɲon=ra  ‘Listen!’
(75) sʰoŋ=nḍa / sʰoŋ=ra  ‘Go!’
(76) dzop=ra  ‘Shoot!’
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(77) çok=ra                  ‘Come!’
    come:IMP=SFP

(78) hti=ra                  ‘Watch’
    watch:IMP=SFP

3.2.4 Stem-final consonant copy insertion

In an underlying form //=V//, a copy of the final consonant of a stem is inserted
in front of the clitic under certain circumstances to form a surface /=CV// (the examples are (79)–(82)). Sometimes /C/ of /=CV// is not the same as the final consonant
of the stem, but is partly assimilated into it (as in (83)). Otherwise, the /=V// form
follows a stem (the examples are (84) and (85)).

(79) //çən//  +  //=i//  >  /çən=ni/     ‘[Somebody] gave, then’
give:PAST =CONJ
(80) //joŋ//  +  //=i//  >  /joŋ=ŋi/     ‘[Somebody] came, then’
come =CONJ
(81) //sonam// +  //=a//  >  /sonam=ma/  ‘to Sonam’
    PSN    =DAT
(82) //naŋ//  +  //=a//  >  /naŋ=ŋa/     ‘to inside’
    inside =DAT
(83) //tʰəp//  +  //=a//  >  /tʰəp=wa/    ‘[I/we] was/were able to do’
    able =AUX
(84) //kʰor//  +  //=i//  >  /kʰor=i/     ‘[Somebody/something] turned, then’
    turn =CONJ
(85) //go//  +  //=a//  >  /go=a/      ‘to the outside’
    door =DAT

The circumstances under which consonant copy insertion occurs vary from
clitic to clitic. Four clitics (the conjunctions //=i//, //=a//, the dative case marker
 //=a// and the auxiliary verb //=a//) will be exemplified in what follows.

Conjunctions //=i//, //=a//

The conditions for the allomorphs of the conjunction //=i// are the same as for
conjunction //=a//. Only the conjunction //=i// is shown in the following examples.
Both //=i// and //=a// express ‘sequential actions, simultaneous actions’.

Table 15  Conjunction //=i//

<table>
<thead>
<tr>
<th>the final of the stem</th>
<th>allomorph</th>
<th>example</th>
</tr>
</thead>
<tbody>
<tr>
<td>/n/</td>
<td>//=ni/</td>
<td>(86)</td>
</tr>
<tr>
<td>/ŋ/</td>
<td>//=ŋi/</td>
<td>(87)</td>
</tr>
<tr>
<td>/w/ (←//p//), /k/, /m/, /l/, /r/, vowel</td>
<td>//=i/</td>
<td>(88)–(93)</td>
</tr>
</tbody>
</table>
(86) $t^{\text{th}}$ on=ni arrive=CONJ
   ‘[Somebody] arrived, then’

(87) s$^3$ on=ŋi go:PAST=CONJ
   ‘[Somebody] went, then’

(88) ndʒw=i finish up=CONJ
    (The underlying form of the verb ‘finish up’ is //ndʒp//, but it changes to /ndʒw/ before the conjunction /=i/)
   ‘[Something] finished up, then’

(89) dzək=i run=CONJ
   ‘[Somebody] ran, then’

(90) dem=i knot=CONJ
   ‘[Somebody] knotted, then’

(91) tcʰ er=i carry=CONJ
   ‘[Somebody] carried [something], then’

(92) tcʰ el=i bring along [a person]=CONJ
   ‘[Somebody] brought along [a person], then’

(93) hti=i watch:PAST=CONJ
   ‘[Somebody] watched, then’

Dative case marker //=a//

The dative case marker is used for expressing ‘recipient’ or ‘direction’. Only after the vowel /o/, //=a// sometimes changes to //=o// (as in example (104)), but the conditions under which //=o// appears are not fully understood. Otherwise, the vowel of //=a// is /=a//.

<table>
<thead>
<tr>
<th>the final of the stem</th>
<th>allomorph</th>
<th>example</th>
</tr>
</thead>
<tbody>
<tr>
<td>/p/</td>
<td>/=wa/</td>
<td>(94)</td>
</tr>
<tr>
<td>/w/ (← /p/)</td>
<td>/=a/</td>
<td></td>
</tr>
<tr>
<td>/k/</td>
<td>/=ka/ or /=a/</td>
<td>(95)</td>
</tr>
<tr>
<td>/m/</td>
<td>/=ma/ or /=a/</td>
<td>(96)</td>
</tr>
<tr>
<td>/n/</td>
<td>/=na/</td>
<td>(97)</td>
</tr>
<tr>
<td>/ŋ/</td>
<td>/=ŋa/</td>
<td>(98)</td>
</tr>
<tr>
<td>/l/, /ɾ/, vowels except /o/</td>
<td>/=a/</td>
<td>(99)–(102)</td>
</tr>
<tr>
<td>/o/</td>
<td>/=a/, /=o/</td>
<td>(103), (104)</td>
</tr>
</tbody>
</table>

(94) tondʒp=wa / tondʒw=a ‘to Tondʒp’
PSN=DAT PSN=DAT

(Mr. bLo gros rGya mtsho allows both examples, but Mr. A lag rGya ye uses only ‘tondʒp=a’. In /tondʒw=a/, /p/ of the underlying form //tondʒp// (a personal name) changes to /w/ before the dative case marker /=a//)
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(95) htɕək=ka / htɕək=a ‘to one (person, thing)’
1=DAT 1=DAT

(Mr. bLo gros rGya mtsho allows both examples, but Mr. A lag rGya ye uses only ‘htɕək=a’. There is no difference between these two examples.)

(96) sem=ma / sem=a ‘to a heart’
heart=DAT heart=DAT

(Mr. bLo gros rGya mtsho allows both examples, but Mr. A lag rGya ye uses only ‘sem=a’. There is no difference between these two examples.)

(97) sʰemtɕen=na ‘to beings’
beings=DAT

(98) taŋ=ŋa ‘to the Communist Party’
Communist Party:Ch.=DAT

(99) tʰemtɕel=a ‘to all’
all=DAT

(100) mar=a ‘downstairs’
down=DAT

(101) ŋa=a ‘to me’
1SG=DAT

(102) rənpotɕʰe=a ‘to a rinpoche’
rinpoche=DAT

(103) čimo=a ‘to a girl’
girl=DAT

(104) tʰo=o ‘to you’
2SG=DAT

AUX //=a//
The auxiliary verb //=a// expresses ‘events concerning the speaker’.

Table 17  Auxiliary verb //=a//

<table>
<thead>
<tr>
<th>the final of the stem</th>
<th>allomorph</th>
<th>example</th>
</tr>
</thead>
<tbody>
<tr>
<td>/p/ /w/ (←//p//)</td>
<td>/=wa/</td>
<td>(105)</td>
</tr>
<tr>
<td>/n/</td>
<td>/=na/</td>
<td>(106)</td>
</tr>
<tr>
<td>/ŋ/</td>
<td>/=ŋa/</td>
<td>(107)</td>
</tr>
<tr>
<td>/k/, /m/, /l/, /r/, vowel</td>
<td>/=a/</td>
<td>(108)–(111)</td>
</tr>
</tbody>
</table>

(105) tʰap=wa / tʰəw=a ‘[I/we] was/were able to do’
able=AUX able=AUX

(The underlying form of the verb ‘able’ is /tʰap//, but it changes to /tʰəw/ before the auxiliary verb /=a/. There is no difference between these two
examples. The consultants allow both equally)

(106) tʰən=na           ‘[I/we] arrived’
   arrive=AUX

(107) sʰəŋ=ŋa           ‘[I/we] went’
   go:PAST=AUX

(108) ndək=a           ‘[I/we] will stay’
   stay:NPST=AUX

(109) htsem=a           ‘[I/we] wrote’
   write=AUX

(110) tɕʰər=a           ‘[I/we] carried [something]’
   carry=AUX

(111) hti=a             ‘[I/we] watched’
   watch:PAST=AUX

4 Alternations of stems

When the final consonant of the underlying stem is one of //p//, //l// or //r//, these consonants may be (partly) assimilated into the initial consonant of the suffix or the clitic as in (112).

(112) //p// → /t/, /k/, /w/
   //l// → /t/, /l/, /k/, /s/
   //r// → /ɾ/

The alternations of stems are less predictable than those of suffixes and clitics. Even in the same circumstances, a stem sometimes changes and sometimes does not. Examples of each alternation are listed as follows (4.1, 4.2, 4.3).

4.1 The final consonant //p// of stems

//p// changes to /t/ before /t/ (as in example (113)), /k/ before /k/ (as in example (114)) and /w/ before /a/, /i/ (as in examples (115), (116)).

(113) nbet=tɕi           ‘[I/we] will go down’
   fall:NPST=AUX
   (The verb ‘fall’ is /nbep/, but can change to /nbet/ before the auxiliary verb /=tɕi/) (=15))

(114) nbek=kə            ‘It] often rains’
   fall:NPST=AUX
   (The verb ‘fall’ is /nbep/, but changes to /nbek/ before /=kə/) (=23))

(115) tonŋpw=a            ‘to Tonŋp’
   PSN=DAT
(The personal name ‘Tondṣap’ is /t̪onḍap/, but can change to /t̪onḍaw/ before the dative case marker /=a/) (=94))

(116) ndʒaw=i ‘[Something] finished up, then’
finish up=CONJ
(The verb ‘finish up’ is /ndʒap/, but changes to /ndʒaw/ before the conjunction /=i/) (=88))

4.2 The final consonant //l// of stems
//l// changes to /t/ before /ts/ (117), /tʃ/ (118), /t/ before /t/ (119), /k/ before /k/ (120), and /s/ before /s/ (121).

(117) jot-tsʰo ‘place to exist’
exist-NMLZ
(The underlying form of the existential verb is //jol//, but it changes to /jot/ before the nominalizer /-sʰo/) (=31))

(118) nbət=tʃi ‘[I/we] will go out’
go out:NPST=AUX
(The underlying form of the verb ‘go out’ is //nbəl//, but it changes to /nbət/ before the auxiliary verb /=tʃi/) (=16))

(119) ço=ʃa ‘Speak!’
speak:IMP=SFP
(The underlying form of the imperative form of the verb ‘speak’ is //çol//, but it changes to /ço/ before the sentence-final particle /=ʃa/) (=71))

(120) jok=kə ‘[It] is existing’
exist=AUX
(The underlying form of the existential verb is //jol//, but it changes to /jok/ before the auxiliary verb /=kə/) (=25))

(121) jos-sʰo ‘place to exist’
exist-NMLZ
(The underlying form of the existential verb is //jol//, but it changes to /jos/ before the nominalizer /-sʰo/) (=31))

4.3 The final consonant //r// of stems
//r// changes to /t/ before /t/ (122).

(122) htʃo=tə ‘Beat!’
beat:IMP=SFP
(The underlying form of the verb ‘beat’ is //htʃor//, but it changes to /htʃo/ before the sentence-final particle /=tə/) (=72))
5 Conclusion

This paper is a first attempt to provide a systematic description of the morphophonological alternation rules of suffixes, clitics and stems in Amdo Tibetan. The following two rules were demonstrated:

· Alternation rules of suffixes and clitics (section 3)
  · Patterns of allomorphs (3.1); 1. voiced and unvoiced, 2. fricative and affricate, 3. retroflex and /r/, 4. stem-final consonant copy insertion.
  · Conditions for alternations (3.2); the conditions under which each allomorph appears vary even with the same pattern of suffixes or clitics.

· Alternation rules of the stems (section 4)
  As mentioned at the outset of section 4, even under the same circumstances a stem sometimes changes and sometimes does not. It is difficult at the present time to fully explain the conditions under which these alternations occur. It is noteworthy that the alternations do not follow the sonority hierarchy.
  · //p// → /t/ (before /t/, /k/ (before /k/), /w/ (before /a/, /i/)
  · //l// → /t/ (before /ts/, /t/), /k/ (before /k/), /s/ (before /s/)
  · //r// → /t/ (before /t/)

By separating these two sets of rules (alternation rules of suffixes and clitics, alternation rules of stems), the morphophonological rules of Amdo Tibetan could be clarified more easily. Although this study presents data only from the Amdo Tibetan spoken in Gonghe County of Qinghai province, the rules identified here will be of help in describing other varieties of Amdo Tibetan. As remarked in the introduction, the alternation rules of suffixes and clitics vary between WT and Amdo Tibetan. Furthermore, stems in WT do not change: stem alternations are peculiar to Amdo Tibetan. This might relate to the low predictability of the stem alternations. In order to trace the developmental process of Tibetan from a morphophonological perspective, a comparison with WT or the other Tibetan languages remains a topic for further study.

Abbreviation

- Affix boundary
= Clitic boundary
/ / Underlying phonemic representation
// // Surface phonemic representation

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1) Both suffixes and clitics need hosts to depend on. Zwicky & Pullum (1983) said ‘Clitics can exhibit a low degree of selection with respect to their hosts, while affixes exhibit a high degree of selection with respect to their stems’. Based on Zwicky & Pullum (1983) and Zwicky (1985), I set up two tests for distinguishing between suffixes and clitics: (a) a clitic can follow several parts of speech, (b) a suffix does not follow a clitic. By these tests, case markers, a co-ordination particle, auxiliary verbs, sentence final particles are clitics, while nominalizers are suffixes. The clitics found in Amdo Tibetan are all enclitics.

2) The final consonant /l/ of //Gojol// does not appear in sentence-final position.

3) It is called sum cu pa in WT. DeLancey (2003: 258) said ‘[S]everal grammatical morphemes, pre-
sumably clitics, show alternations in the initial consonant depending on the final of the preceding word. For instance, the genitive case marker gi follows velars g, ng: kyi following obstruents d, b, s; gyi follows sonorants n, m, r, l; ‘i follows vowels (‘i is written as part of the preceding syllable).

4) Haller (2004: 31-34) in particular considerably described the alternation rules of suffixes and clitics.

5) The final consonant /l/ of /s/ does not appear in sentence-final position.

6) Allomorphs of /=Zək// are /=zək/ and /=tsək/, thus it also belongs to [1] ‘voiced and unvoiced’ pattern.

7) Shirai (2007: 140) divided ‘conjunct/disjunct’ patterns into two types: (1) the “person-restricted” type like that of Newar and (2) the “point-of-view” type like that of modern Tibetan. In modern Tibetan, as Shirai (2007: 140) noted ‘the conjunct form is chosen if the speaker is a conscious participant in the process of the event—regardless of the person of the subject’.

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