

VOWEL AND TONE PATTERNS IN THE SHERPA VERB¹

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This brief discussion of Sherpa vowel and tone patterns may be used to accompany a dictionary to enable the reader to handle the problem of vowel and tone changes that may occur within a given Sherpa verbal paradigm.

Since this paper deals exclusively with vowel and tone patterns, the rules for final consonant deletion and the derivation of verb forms are not included here.

I. THE BASE FORM

The base form of a verb in Sherpa is here viewed as an abstract representation from which all forms of the verb may be derived by a set of rules. Verbs will be entered in the dictionary according to their base forms. The purpose of this section is to introduce the reader to certain conventions used in spelling base forms.

The vowel of the verbal base may either be stable or unstable. Stable vowels remain the same in all forms of the verb and are represented by means of lower case characters in the verbal base. The following stable vowels occur in Sherpa verbal bases:²

i, e, o, u, aa

Unstable vowels participate in various vowel shift patterns within their paradigms and are represented by means of upper case characters in the verbal base. The following unstable vowels occur in Sherpa verbal bases:³

E, A, O, AA, wO

All verbal bases end in consonants. The final consonant of a base may either be stable or transient. Stable consonants occur in every

form of the verb and are represented by an unparenthesised character. The following base-final stable consonants occur in Sherpa verbs:

p, k, l, r, m, n, ng

Transient consonants occur in certain forms of the verb but are elided in other forms. The following transient consonants occur in Sherpa verbal bases:

(p), (t), (k), (r), (w), (n), (ng)

The table below indicates which consonants occur only as stable consonants, which occur only as transient consonants, and which occur as stable consonants in certain verbs and as transient consonants in others.

function of consonant	base form final consonant								
	p	t	k	l	r	m	n	ng	w
stable				x		x			
transient		x							x
stable and/or transient	x		x		x		x	x	

Table 1. STEM FINAL CONSONANTS IN SHERPA

In the following sections we will see that the base final consonant plays an important role in predicting the pattern of tone shifts and vowel shifts which a given verb follows.

II. PRINCIPAL PARTS AND VOWEL PATTERNS

To account for the vowel patterns that occur we have set up seven principal parts in the Sherpa verb. These parts reflect all contrastive vowel shifts.

FIs	Present/Future Impersonal
Fcj	Present/Future conjunct ⁴
Fdj	Present/Future disjunct
PIs	Past Impersonal
Pcj	Past conjunct
Pdj	Past disjunct
Imp	Imperative

Given these seven principal parts all possible forms of a verb may be derived.

We have said above that the base final consonant plays an important role in determining the pattern of tone shifts and vowel shifts which a given verb follows. For the purpose of determining vowel shifts, we may distinguish four classes of final consonants as follows.

Class	Final Consonant
c	k, l, r, m, n, ng
p	p
(p)	(p)
(c)	(t), (k), (w), (r), (n), (ng)

Each class marks a different pattern of vowel shifts, as is indicated in the following table.

vowel of base and final cons.		Principal Parts						
		FIs	FcJ	FdJ	PIs	PcJ	PdJ	Imp
E	c	e	e	e	e	e	aa	o
	p	e	e	e	aa	aa	aa	o
	(c)	e	e	e	aa	aa	aa	wo
A	c	a	a	a	a	a	aa	o
	p	a	a	a	aa	aa	aa	o
	(c)	a	a	a	aa	aa	aa	wo
O	c	o	o	o	a	a	aa	o
	p	o	o	o	aa	aa	aa	o
	(c)	o	o	o	aa	aa	aa	wo
AA	(p)	aa	a	e	aa	aa	aa	o
wO	(p)	wo	wo	e	o	o	o	o

Table 2. VOWEL PATTERNS OF SINGLE-BASE VERBS

There are also verbs in Sherpa that have two stems. These will be referred to as *twin-base* forms. One stem, having a voiced initial stop or voiced affricate, will occur in the *Present/Future* tense (FIs, FcJ, FdJ). The other stem, having the voiceless stop or affricate counterpart will occur in the *Past* (PIs, PcJ, PdJ) and *Imperative* - the P-base.

We may distinguish two kinds of twin-base verbs: those which have an upper case vowel in the P-base and those that have a lower case vowel in the P-base.

For example:

'bok / pokq 'to take from fire'

has a lower case vowel in the P-base and

Del / TAiq 'to separate'

has an upper case vowel in its P-base.

There are no twin-base verbs with upper case vowels in the first base. The shifts manifested by the second stem of a twin-base verb are slightly different from the corresponding shifts manifested by a single-base verb. These shifts are summarised in Table 3.

P-base vowel and final consonant	vowel of			
	PIs	Pcj	Pdj	Imp
A c /m, l/	a	a	aa	o
A p	a	a	a	o
AA (w)	aa	aa	aa	wo

Table 3. VOWEL PATTERNS IN TWIN-BASE VERBS

III. TONE PATTERNS

Every base form is marked for tone.⁵ Most bases, however, manifest a shift of tone in the past disjunctive. The final consonant of the base indicates whether or not the base participates in a tone shift. It also indicates which tone shift occurs. Table 4 shows how the base final consonant correlates with tone shifts in the past disjunctive for bases with the vowels i, e, o, and u.

base final consonant	vowel of base	
	i, e	u, o
c, (w) /l,r,m,n/	4	4
k	s	s
(c) ^H	3	3
^L	4	4
(t)	s	4

Table 4. TONE PATTERNS OF SINGLE-BASE VERBS

The table above may be read as follows:

- A verb with a final consonant c and the vowel i has pitch contour 4 in the past disjunctive form.
- A verb with a final consonant k and the vowel o has the "same" (s) pitch contour in the past disjunctive form as the base.

Table 5 gives the tone shifts for bases with vowels E, A, O, AA, and wO in past disjunctive:

base final consonant	vowel of base				
	E	A	O	AA	wO
c, (w) /l,r,m/	4	4	4	4	
p	4	4	H3 L4		
(c) (p) ^H L	3 4	3 4	3 4	3* -	3 4
k			s		

Table 5. TONE PATTERNS OF SINGLE-BASE VERBS

*In this category pitch contour type 3 has been observed for all past forms.

The tone patterns for *twin-base* verbs are different from the ones discussed above. Consider Table 6, which gives the tone shifts in past disjunctive. The other past forms and imperative have the same tone as the P-base.

final consonant of P-base	P-base	past disjunctive
p, (t)	3 (')	2
c, (w) /l,m/	2 (q)	3
k, (t)	2 (q)	2
(p)	4 (ø)	3

Table 6. TONE PATTERNS OF TWIN-BASE VERBS

IV. DERIVATION PROCEDURE

HOW TO DETERMINE THE VOWEL PATTERN FOR A GIVEN VERB

Does the dictionary entry give *one* or *two* base forms? If *one* base form is given, follow directions under A below.

If *two* base forms are given, follow directions under B below.

A. What kind of vowel do you find in the base?

1. lower case vowel: no vowel change.
2. upper case vowel (E, A, O, AA, wO):

look at Table 2.

Find the vowel and the final consonant of that verb and then look at the adjacent row of vowels to find the shifts.

8. What kind of vowel do you find in each of the base forms?
 1. if *both* forms give lower case vowels, there is no vowel change.
 2. if the *second* base form has an upper case vowel: look at Table 3.
Determine vowel and final consonant of the second base form, find the equivalents in Table 3, and there obtain the vowel changes.

HOW TO DETERMINE THE TONE PATTERNS FOR A GIVEN VERB

Does the dictionary entry give *one* or *two* base forms? If *one* form is given, determine the kind of vowel of that entry.

For *lower* case vowels follow directions under C below.

For *upper* case vowels follow directions under D below.

If *two* base forms are given in the dictionary follow directions under E below.

- C. 1. Determine the vowel and final consonant of the base form and look at Table 4. The table gives the tone shift of the past disjunctive form of the verb.
2. If the base-final consonant is (c) also determine the tone of the base. If the base is marked by 'q', look under H (which means high tone). If it is *not* marked by 'q' look under L (which means low tone) of Table 4.
- D. 1. Determine the vowel and final consonant and look at Table 5.
2. If the vowel is 0 and the final consonant p, also determine the tone of the base form in the dictionary. For high tone, marked by 'q' look under H. For low tone, which is unmarked, look under L of Table 5.
3. If the final consonant of the base form is a (c) or (p) also determine the tone of base and then look at Table 5.
- E. 1. For twin-base verbs determine the final consonant and the tone of the *second* base form given in the dictionary. Look at Table 6 and find tone shifts of the past disjunctive form of the verb.

V. SAMPLE DERIVATION

To illustrate the use of the tables and the derivation procedures we will exemplify some vowel and tone patterns. In this paper we are concerned with vowel and tone patterns. Therefore the rules that are needed to derive the principal parts from the base form, and the rules for final consonant deletion are not included here.

A. VOWEL PATTERNS

The seven principal parts are given here in the order suggested on page 114. We will derive the tone patterns for the following verbs under B. TONE PATTERNS.

'de(t) 'to stay' This dictionary entry is a single base form. The base form has a lower case vowel, which indicates that this verb does not undergo vowel shifts. We then have the following seven principal parts: 'detup 'detiN 'dekiwi 'detup 'deti 'desung 'de

s0(k) 'to collect' This base form has the upper case vowel 0 and a final parenthesised (k). The transient final (k) is grouped under (c). We look at Table 2 and obtain the principal parts: sokup sokiN sokiwi saawup saayi saasung swo

'lhAA(p)q 'to see' This is a single-base form with the upper case vowel AA and a verb final parenthesised (p). Looking at Table 2 we obtain the following vowel shift: 'lhaapq 'lhay!Nq 'lhew!q 'lhaawup 'lhaayi 'lhaasung 'lhoq

'be(t) / 'pe(t) 'to open' This is a twin-base verb. Both forms have the lower case vowel e which signals that there will be no vowel shift. The seven principal parts are: 'betup 'betiN 'bekiwi 'petup 'peyi pesungq 'pe

gem / kAmq 'to dry' This is a twin-base form. The first base having the lower case vowel e does not undergo vowel shift. The second base form, which is the past base, has the upper case vowel A and therefore will participate in vowel shift in past and imperative. The final consonant is m, which has been grouped under c. The forms of the present/future are: gembup gemiN gemgiwi Looking at Table 3 we obtain: kambupq kamiq 'kaamsung komq

B. TONE PATTERNS

Since the tone shifts of all three Tables 4, 5, and 6 apply to past disjunctive (note one exception in Table 5) we will give all examples below in the past disjunctive form only. For all other forms of the verb the tone is that of the base.

'de(t) 'to stay' This is a single-base form with the lower case vowel e and a final parenthesised (t). Looking at Table 4 we obtain 's' which means 'same'. In this case the tone is stable. 'desung

'dze(k) 'to climb' This is a single-base form with the lower case vowel e and a parenthesised final (k). The base is not marked by 'q', which indicates that we have to look under L of Table 4. For the past disjunctive we thus obtain: 4. dzesung

z0rq 'to drive cattle' This is a single-base form with the upper case vowel 0 and a final r which is grouped under c. Looking at Table 5 we obtain for the past disjunctive: 4. zaarsung

l0pq 'to study' This is a single-base form with the upper case vowel 0 and a final consonant p. The base also is marked by 'q' (high tone). From Table 5 line p looking at H we obtain: 3. 'laapsung

s0(k) 'to collect' This is a single-base form with an upper case vowel, 0, and a final parenthesised (k), which is grouped under (c). The base is not marked for tone, thereby indicating low tone (L). Entering Table 5 at line (c) and looking at L we obtain: 4. saasung

'be(t) / 'pe(t) 'to open' This is a twin-base form. The second base form has a final parenthesised (t) and is not marked by 'q'. This indicates that it has a pitch contour 3. Looking at Table 6, line 1, we obtain 2 for the past disjunctive form and 3 for the other past and imperative forms.

pesungq (past disjunctive)

'petup 'peyl 'pe

BASE FORMS OF SOME SHERPA VERBS:

'bA(k)	to hide
'be(t) / 'pe(t)	to open
'bok / pokq	to take from fire
'cak (irreg.)	to break
'chaa(w)	to become solid, freeze
chAmq	to dance
'jl(t) / 'cl(t)	to put into
'curq	to climb
dAm	to tie
'de(t)	to stay, sit
dep / 'tAp	to winnow
'd0r	to clean
dwo(p) / 'tAA(w)	to put on ornaments

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NOTES

1. I am indebted to Austin Hale for valuable suggestions in approaching this problem.

Also I wish to thank Mr Ang Nyima Lama, Mr Kunga Jangbu Sherpa, Mr Ang Gelbu Lama and Miss Ang Kandi Sherpa for their help in gathering the material.

2. We found two verbs with the vowel *a*. These verbs, however, break rules in two ways, and therefore we regard them as being irregular.

1. The vowel *a* characteristically occurs as *A*, that is it occurs generally with verbs that undergo vowel changes. In this case, *a* is stable.

2. The base final *k* ordinarily requires the same type of pitch contour throughout the paradigm. These two verbs, however, have a raised pitch contour which is different from the expected contour.

3. Since *o* following *w* patterns differently, it is listed here separately.

4. The meaning of the terms 'conjunct' and 'disjunct' are not given in terms of first, second, and third person subjects. The conjunct form signals referential conjunction of its subject with the matrix focus. The disjunct form signals referential disjunction of its subject and the matrix focus.

See papers in this volume on person markers in Newari by Hale (pp. 95-106), and in Sherpa by the present author (pp. 125-30).

5. Sherpa may be described as having two tones or four contrastive types of pitch contours:

'du(ng)	<i>to beat</i>
'dze(k)	<i>to climb</i>
Daa(w)	<i>to have eaten enough</i>
DeI / TAIq	<i>to separate</i>
gem / kAmq	<i>to dry</i>
'hi:p	<i>to hide</i>
'jAr	<i>to stir</i>
'jOk	<i>to put</i>
kA(k)q	<i>to split</i>
khAA(p)q	<i>to smell</i>
konq	<i>to wear</i>
'kwO(p)q	<i>to dig</i>
ku(t)q	<i>to apply</i>
'kyEIq	<i>to hand over</i>
kyAIq	<i>to set right</i>
'kyu(k)q	<i>to vomit</i>
'lA(k)	<i>to lick</i>
lA(ng)q	<i>to take</i>
'lhAA(p)q	<i>to look</i>
lOpq	<i>to study</i>
'lum	<i>to fall</i>
nenq	<i>to press on</i>
'ngwO(p)q	<i>to count</i>
phak (irreg.)	<i>to strike</i>
'phAp	<i>to land</i>
phIrq	<i>to jump</i>
'phu(t)	<i>to blow</i>
pu(ng)q	<i>to pour</i>
'rek	<i>to touch</i>
rhe(k)q	<i>to burn</i>
'rO(k)	<i>to study silently</i>
tAp	<i>to measure</i>
thAIq	<i>to cross</i>
'tOngq	<i>to send</i>
tshOIq	<i>to search</i>
tsI(k)q	<i>to pile</i>
'TA(k)	<i>to tie</i>
'ThII	<i>to wrap</i>
'yu(k)	<i>to walk</i>
'ze(w)	<i>to know</i>
zOrq	<i>to drive cattle</i>

	<i>basically rising pitch contour</i>			<i>basically falling pitch contour</i>
tone 1	<u>C V</u> C V	1	2	<u>C V</u> C V
tone 2	C V <u>C V</u>	3	4	C V C V

In the tone 2 basically falling contour the pitch is basically level, but may drop a little on the second syllable.

tone 1 (also high tone: H) includes pitch contour types 1 and 2.

tone 2 (also low tone: L) includes pitch contour types 3 and 4.

Pitch contour 1 is symbolised by '...q

2 " " " ...q

3 " " " '...

4 ... (unmarked)

This symbolisation of the contours is simplified somewhat for text orthography (in this and the following article) as compared with the phonemic orthography used in the preceding article. For example:

	<i>Contour</i>	<i>Phonemic</i>	<i>Text</i>
1	High Rising	'cúr	'curq
2	High Falling	"chám	chamq
3	Low Rising	'càk	'cak
4	Low Falling	"dèp	dep

