

CHAPTER 6

TONE ALTERNATIONS

6.0 Introduction

In the previous description of phonologically conditioned alternations in noun stems (Section 5.1.1.1.) and primary verb stems (Section 5.1.1.2), tone and segmental phonological processes were discussed. This section will describe tone alternations in secondary verb stems. Many tones of the primary stems alternate when they appear in secondary stem forms in ways that are not conditioned by their environments.

6.1 Low tone alternation

Low tone verbs with a nasal final consonant have falling tone in their secondary stem form regardless of whether the primary stem nucleus is long or short as in (79).

(79)	Primary stem	Secondary stem	Gloss
	laŋ ²¹	laŋ ⁵²	'to appear'
	baaŋ ²¹	baŋ ⁵²	'to be tired'
	juŋ ²¹	juŋ ⁵²	'to believe'
	tsuum ²¹	tsum ⁵²	'to pound, to beat'

Diphthongs with low tone that are closed with a final nasal in a primary stem have falling tone and diphthongs are coalesced in the secondary stem as in (80):

(80)	Primary stem	Secondary stem	Gloss
	lian ²¹	len ⁵²	'to be wealthy'
	t ^h uam ²¹	t ^h om ⁵²	'to dress up'
	fiaŋ ²¹	feŋ ⁵²	'to be clear'

Low tone syllables with vowel finals have falling tone and a final /-t/ in their secondary stem forms as in (81):

(81)	Primary stem	Secondary stem	Gloss
	rii ²¹	riit ⁵²	'to be drunk'
	ɖɔɔ ²¹	ɖɔɔt ⁵²	'to be jealous'
	paa ²¹	paat ⁵²	'to be like male'
	nuu ²¹	nuut ⁵²	'to be like female'
	bɛɛ ²¹	bɛɛt ⁵²	'to add'

Syllables with sonorant finals /l, r, w, j/ which are low tone in their primary stem forms retain low tone in secondary stems. It can generally be concluded that low tone with nasal finals and vowel finals have falling tone in secondary stem form.

6.2 High tone alternation

High tone primary verbs are low in their secondary stem forms. This occurs in both closed and dead syllables, whether their nuclei are short or long as in (82). There is no vowel alternation or consonant alternation except nasal alternation (see Section 5.2.1.1).

(82)	Primary stem	Secondary stem	Gloss
	ɖaŋ ⁴⁴	dan ²¹	'to be different'
	ɬel ⁴⁴	ɬel ²¹	'to participate'
	fiir ⁴⁴	fiir ²¹	'to steal, to rob'
	ɖɔɔp ⁴⁴	ɖɔɔp ²¹	'to jump down'

High tone verbs with open syllables have falling tone and a final /-t/ in their secondary stem forms as in (83):

(83)	Primary stem	Secondary stem	Gloss
	jua ⁴⁴	juat ⁵²	'to domesticate'
	laa ⁴⁴	laat ⁵²	'to be far'
	ɲuu ⁴⁴	ɲuut ⁵²	'to be late'
	lɔɔ ⁴⁴	lɔɔt ⁵²	'to be industrious'

As seen in (82), primary stems with high tone closed syllables have low tone in their secondary stem forms and show nasal alternation. Also a high tone syllable with a vowel final has falling tone and a final /-t/ in its secondary stem form as shown in (83).

6.3 Rising tone alternation

Rising tone verbs with open syllables, especially /i/, /a/, and /u/ finals, have low tone in their secondary stem form as in (84):

(84)	Primary stem	Secondary stem	Gloss
	saa ²³	sat ²¹	'to be hot'
	puu ²³	put ²¹	'to carry on a shoulder'
	t ^h ii ²³	t ^h iɰ ²¹	'to die'

As in (84) rising tone primary stem verbs that are low in secondary stem can also be high, but this alternation in secondary stem is governed by low tone dissimilation rule in Section 4.1.4. A rising tone verb closed by a sonorant or an oral stop in the primary stem has low tone in its secondary stem as in (85):

(85)	Primary stem	Secondary stem	Gloss
	baaŋ ²³	baan ²¹	'to stop'
	keŋ ²³	ken ²¹	'to hold, to bring'
	sɔɔm ²³	sɔɔm ²¹	'to invite'
	siaɾ ²³	siaɾ ²¹	'to read'
	ɖɔɔk ²³	ɖɔɔk ²¹	'to drink'
	kaat ²³	kaat ²¹	'to be barely'

The only segmental alternation occurring in (85) is an alternation of a velar nasal and an alveolar nasal.

Some rising tone verbs with open syllables (e,i, and ɔ finals) have falling tones and a final /-t/ in their secondary stem forms as in (86):

(86)	Primary stem	Secondary stem	Gloss
	rɛɛ ²³	rɛɛt ⁵²	'to keep'
	fɛʔ ²¹ pi ²³	fɛʔ ²¹ piit ⁵²	'to go along with'
	saw ²¹ pɔɔ ²³	saw ²¹ pɔɔt ⁵²	'to be proud'

As shown in the above examples, rising tone is generally low in secondary stem whether the syllable is live or dead. Rising tone syllables with vowel finals /e/ or /ɔ/ have falling tone in their secondary stem forms and a final /t/. Also a rising tone primary stem with front high vowel /i/ final is low or falling unpredictably in secondary stem form as shown in (84) and (86).

6.4 Falling tone alternation

Many falling tone verbs with a primary stem closed with a stop have low tone in their secondary forms with accompanying vowel shortening and glottalization as in (87):

(87)	Primary stem	Secondary stem	Gloss
	ruat ⁵²	ruaʔ ²¹	'to think'
	riak ⁵²	riaʔ ²¹	'to stay overnight, to spend the night'
	saat ⁵²	saʔ ²¹	'to chop, to cut'
	suut ⁵²	suʔ ²¹	'to ask'

As in (87), falling tone verbs that are low in their secondary stems can also have high tone, but this tone change in secondary stems is governed by a tone

dissimilation rule as in Section 4.1.4. Some falling tone verbs closed with stop finals are the same in both primary and secondary forms. This condition may be affected by their nuclei, such as /i/, /e/, and /ɔ/, as in (88):

(88)	Primary stem	Secondary stem	Gloss
	siit ⁵²	siit ⁵²	'to kick'
	kɔɔk ⁵²	kɔɔk ⁵²	'to scold'
	rɛɛt ⁵²	rɛɛt ⁵²	'to keep'

Falling tone verbs closed with a sonorant or a stop also show no variation in tone. Falling tone verbs with open syllables also have no tone alternation, but there is one open syllable that is low tone in its secondary stem, that is, the word /m̩uu⁵²/ (primary) /m̩uʔ²¹/ (secondary) 'to see'. The following table illustrates a summary of the Falam tone alternations:

Tone	Primary stem	Secondary stem
1 Low (L)	21	52
2 High (H)	44	21/52
3 Rising (LH)	23	21/52
4 Falling (HL)	52	21

Table 15. A summary of tone alternation

As shown in Table 15, low tone syllables in primary stems alternate into falling tone. Low tone syllables with stop /p, t, k/ finals and sonorant (but not nasal) finals do not alternate their tones in secondary stems.

High tone primary stem syllables with sonorant finals alternate into low tone in secondary stems. High tone syllables with open syllables alternate with falling tone in their secondary stem forms.

Rising tone syllables, both open and closed with sonorants and stops, in primary stems alternate into low tone in secondary stems. Exceptionally, rising tone syllables with vowel finals (ε,i, and ɔ) alternate with falling tone as in (86):

- * Falling tone syllables with stop /p, t, k/ finals in primary stems alternate with low tone in secondary stems.

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