

## THE GRAMMAR OF THE KABARDIAN LANGUAGE

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ISBN 978-1-55238-668-2

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## *Phonetics and Phonology*

There have been two studies devoted exclusively to the phonetics of Kabardian (Catford 1942; Henderson 1970). I shall give here only a brief survey of the phonetics of this language, taking as my point of departure the phonemic inventory, rather than starting from a direct phonetic examination. The phonetics of the consonants is relatively straightforward and will be dealt with first. That of the vowels and glides is interrelated and more complex and will be dealt with second, where it is treated as part of the phonology.

### 2.1 Segmental Inventory

The phonological inventory of the consonants of Kabardian (Baksan dialect) is shown in (2). Dashes indicate where appropriate segments that are found in other dialects occur.

#### (2) Kabardian phonemes: consonants and glides

	1	2	3	4	5	6	7	8
labial	p	b	p'	f	v	f'	m	
alveolar	t	d	t'				n	r
	c	ʒ	c'	s	z	—		
(laterals)				ʃ	ʒ	ʃ'		
alveo-palatal				ʃ	ʒ	ʃ'		
palato-alveolar				ʃ	ʒ	—		
palatal	kʸ	gʸ	kʸ'	χ	ɣ			y
velar	kʷ	gʷ	kʷ'	χʷ				w
uvular	q		q'	χ	ɣ			
	qʷ		qʷ'	χʷ	ɣʷ			
pharyngeal				ħ	ʕ			
laryngeal			ʔ	h				
			ʔʷ					

**2.1.1 Source Features** There is a three-way contrast between voiceless (aspirated for stops, unaspirated for fricatives), (fully) voiced, and ejective segments.

**2.1.1.1 Voiceless Aspirated** Column 1 = voiceless, aspirated stops: plain and affricated. /k'/ and /k"/ can have affricated release as a realisation of their aspiration, while /q/ and /q"/ invariably do, as is usual with uvular aspirated stops.

**2.1.1.2 Voiceless Unaspirated** Column 4 = fricatives that are also voiceless, but tend to lack aspiration. The odd aspirated spirants of some West Circassian dialects are totally absent from East Circassian.

**2.1.1.3 Fully Voiced** Columns 2 and 5 = stops and fricatives, respectively, that are fully voiced.

**2.1.1.4 Glottal Ejective** Columns 3 and 6 = glottal ejective stops and fricatives. This glottalisation is that of creaky voice, in feature terms [+closed glottis, –stiff glottis, –lax glottis] (Halle and Stevens 1971). Only /ʔ/ and /ʔ"/ are [+stiff glottis], that is, made with distinct glottal closure.

**2.1.1.5 Sonorant** Columns 7 and 8 = voiced sonorants: [+nasal] /m/ and /n/, and [–nasal] /r/, usually a trill (sometimes a tap). The glides [–consonantal, +continuant, +sonorant] (Chomsky and Halle 1968) pattern as consonants.

**2.1.2 Points of Articulation** There are eleven of these, one short of the theoretical maximum of twelve.

**2.1.2.1 Labial** /p, b, p', m/, [+labial] (Anderson 1971).

**2.1.2.2 Labio-dental** /f, v, f', [+labial]. At the phonological level these are not distinguished from the labials.

**2.1.2.3 Dental** /t, d, t', n/, [+coronal, +anterior] (Chomsky and Halle 1968: 293–329). These are dental at the phonetic level, but at the phonological one are not distinguished from the following alveolar series.

**2.1.2.4 Alveolar** /c, ʒ, c', s, z, ʃ, λ, ʃ', r/, [+coronal, +anterior, –high, ±continuant, ±lateral, ±sonorant]. Only /ʃ, λ, ʃ'/ are [+lateral], only /r/ [+sonorant], and /c, ʒ, c'/ [–continuant]. The non-sonorant laterals are typologically very unusual, the more so in the absence of any sonorant lateral. Kuipers (1960: 20) has detected a [+high] component in the laterals. Some speakers may thus group them with the next series. I did not hear this high articulation. /r/ does not occur initially in native words.

**2.1.2.5 Alveo(lo)-palatal** /š, ž, š', [+coronal, +anterior, +high]. These are also made with the tongue tip against the lower teeth and the whole tongue tensed and advanced. The resulting laminal constriction runs from the lower teeth up along most of the front of the hard palate. Kuipers (1960: 20) hears this articulation as having “slight velarisation or pharyngealisation.” These sounds have more low frequency noise than one might normally expect. This appears to be due to advancing of the tongue root with subsequent expansion of the pharynx (Halle and

Stevens 1969). Hence, these sounds are [+ATR] ([ATR] = advanced tongue root).

2.1.2.6 *Palato-alveolar* /ʃ, ʒ/, [+coronal, –anterior, +high]. These are usually laminal.

2.1.2.7 *Palatal* /kʲ, gʲ, kʷ, ɣ̟, ɣ̟, y/, [–coronal, –anterior, +high, ±continuant]. Only /ɣ̟, ɣ̟, y/ are [+continuant]. The stops can have unconditioned coronal (affricate)allophones: [č, ʒ, čʲ], respectively. One of my informants (Ms. Hilmi) had non-affricated coronal allophones. /y/ is non-consonantal and continuant, and is grouped with the consonants because its vocalic realisation can be shown to be merely an allophone of an underlying non-syllabic form. In (3a) a rounded allophone of /ɣ̟/ ([ɣ̟ʷ]) is found. This contrasts with /ɣ̟ʷ/ ([ɣ̟ʷ]) from §2.1.2.8, cf. (3b) (Kuipers 1960: 26–27).

(3) Rounded palatal versus rounded velar

- a. /ø-ɣ̟-a-a-w-pʎə-a/ → [ɣ̟ʷó', pʎɛ]  
 3-mass-dat(ive)-pres(ent)-prog(ressive)-look-in  
 'He always looks into it.' or 'He is looking into it.'
- b. /ø-ø-ɣ̟-a-w-pʎə-a/ → [ɣ̟ʷó', pʎɛ]  
 3-3-for-pres-prog-look-in  
 'He always looks (in) for his sake.' or  
 'He is looking in for his sake.'

2.1.2.8 *Velar* /kʷ, gʷ, kʷ, ɣ̟ʷ, w/, [+high, +back, +round, ±continuant]. Only /ɣ̟ʷ/ and /w/ are [+continuant]. /ɣ̟ʷ/ can be realised either with rounding or bilabial friction: [ɣ̟ʷ] or [ɣ̟ʷʰ]. /w/ is grouped with the consonants for the same reasons that apply to /y/. It is non-consonantal and continuant. Plain unrounded velars are absent.

2.1.2.9 *Uvular* Plain /q, q', ɣ̟, ɣ̟ʷ/, and rounded, /qʷ, qʷ, ɣ̟ʷ, ɣ̟ʷʷ/, [–high, +back, ±continuant, ±round]. /q/ and /qʷ/ have substantial fricative offset as part of the realisation of their aspiration: [qʰ] and [qʷʰ], respectively. In non-initial position /ɣ̟/ and /ɣ̟ʷ/ tend to have open sonorant allophones.

2.1.2.10 *Pharyngeal* /ħ, ʕ/, [+constricted pharynx] (Halle and Perkell 1969). These two continuants, voiceless and voiced, respectively, are actually made by lowering the epiglottis over the adytus (opening of the larynx) (Sergo V. Kodzasov, personal communication). Occasionally, conventional pharyngeal occlusion also appears to be present. In both cases a raucous, turbid sound is produced, quite distinct from that of an ordinary pharyngeal. /ʕ/ occurs in baby words, interjections, and Arabic loans. In the last it can often be replaced by /ħ/, as in (4b).

## (4) Voiced pharyngeal and its voiceless substitute

- a. voiced /səʕat/ 'hour, time of day'  
 b. voiceless /səħat/ 'hour, time of day'

2.1.2.11 *Laryngeal* /ʀ, ʔ<sup>h</sup>, h/. The two glottal stops behave like consonants and are made at the glottis only as a sort of null or default point of articulation. They are therefore [+consonantal, ±round] and minus all else, save perhaps [+sonorant]. /h/ is underlyingly voiceless, but will take on the voicing of a preceding segment. It behaves as a glide (Chomsky and Halle 1968: 303) and lowers vowels, so that it is [-consonantal, +low, +continuant, +sonorant]. Its full behaviour is complex and will be discussed at length later.

2.1.3 **Typologically Interesting Features** Kabardian exhibits some highly unusual sounds.

2.1.3.1 *Ejective Fricatives* /s', χ', f'/ are rare among the world's languages, /f'/ especially so being found only in Kabardian, in the Abzhwi and Ashkharwa dialects of Abkhaz in one word, /f'a/ 'thin,' and some North American Indian languages. /χ'/ and /f'/ are made with extreme supra-glottal articulatory tension, all other ejectives being lenis.

2.1.3.2 *Lateral Spirants* /λ, λ, χ'/ are unusual in the absence of a sonorant lateral. This is especially true for the voiced member, /λ/. For my informants these were made with no trace of affrication, though this has been occasionally reported (Kuipers 1960: 45–46, n. 7).

2.1.3.3 *Bilabialisation* The bilabial allophone of the voiceless rounded velar fricative /χ'/ is highly unusual among the world's languages. It also occurs in the related Abaza.

2.1.3.4 *Adytals* The adytal pharyngeals /ħ, ʕ/ do not accord with the usual account of pharyngeals (Catford 1977: 163), but may not be as unusual as generally thought (Colarusso 1985).

## 2.2 **Dialect Variations**

Within Kabardian there is remarkable uniformity, the only large divergence coming between Besleney and Kubano-Zelenchuk, on the one hand, and the rest of Kabardian on the other.

2.2.1 **Besleney** This highly divergent dialect retains two full palato-alveolar series, laminal and retroflexed apical: /ç<sup>l</sup>, ç<sup>r</sup>, č<sup>l</sup>, č<sup>r</sup>, ž<sup>l</sup>, ž<sup>r</sup>/ and /č, č, č, ž/ respectively (Jakovlev 1930). To these the sub-dialect Kubano-Zelenchuk adds /s<sup>l</sup>/ and /s<sup>r</sup>/ (Bagov 1968). Immigrant communities of Besleney in Turkey have only the laminal series (Alparslan and Dumézil 1963: 340–41), and this shift is sporadic in Kubano-Zelenchuk (Bagov 1968: 38–39). Further, the palatals /χ, ħ/ have been fronted

(Alparslan and Dumézil 1963: 341; Paris 1974). Paris even represents /ǧ/ by /y/.

2.2.2 **Terek Kabardian** This dialect adds /s/ (Abitov et al. 1957: 21). Some speakers have merged /ʃ, ʒ/ with /s, z/ (Kuasheva 1969).

2.2.3 **Kuban Kabardian** This has retained a contrast /ʃʷ, ʒʷ/ - /ʃ, ʒ/ (Kumakhov 1961, 1969).

### 2.3 Consonantal Clusters

Bi-consonantal and tri-consonantal clusters occur. Only underlying clusters, those without internal boundary, are considered.

2.3.1 **Bi-consonantal Clusters** (5) lists the bi-consonantal clusters, after Kuipers (1960: 57). The table is laid out in the same manner as (2), save that lines are repeated as the character of the initial member of the cluster changes in series. The source feature of the initial member always agrees with that of the final. Forms in parentheses occur only in loan words. Kuipers' /ʃh/ and /sh/ occur only in /ʃhə/ 'to lie down' and /ʃhə/ 'to sit down.' They are therefore built upon /ʃh-ə/ to be prone-enter, and /s-əhə/ to be seated-enter. I have therefore omitted them. As the dashes suggest, not all expected combinations are realised.

#### (5) Kabardian bi-consonantal clusters

##### Final element

labial	(ʃp)	–	–	–	–	
alveolar	ft	–	–	–	–	
	st	zd	–	–	–	
	–	bʒ	pʷcʷ	ps	bz	
	ʃc	–	–	(ʃs)	–	
				pʃ	bʒ	pʷʃʷ
alveo-palatal				pʃ	bʒ	pʷʃʷ
palato-alveolar				pʃ	bʒ	
				ʃʃ	–	
palatal	–	(bgʷ)	pʷkʷ	pʃ	bʒ	
	–	–	tʷkʷ	tʃ	–	
	–	zgʷ	sʷkʷ	–	–	
	–	ʒgʷ	ʃʷkʷ	ʃʃ	–	
velar	–	–	tʷkʷ	tʃ	–	
	skʷ	–	sʷkʷ	–	–	
	(ʃkʷ)	–	–	ʃʃ	–	
	–	–	ʃʷkʷ	ʃʃ	–	

uvular	–	–	p'q'	pχ	bγ
	–	–	–	sχ	–
	–	–	–	ʃχ	zγ
	–	–	–	λχ	–
	–	–	–	pχʷ	bγʷ
	–	–	–	tχʷ	–
	–	–	–	ʃχʷ	–
pharyngeal				tħ	–
				sħ	–
				ʃħ	–
				λħ	–
laryngeal			tʔʷ		

**2.3.2 Stability** All the clusters in (5) are stable save for /tʔʷ/. This cluster occurs only in the numeral 'two' and derived terms. It is realised as [tʷ] with prolonged glottalic closure, as opposed to the other ejectives, which are realised with creaky voice glottalisation. It is preserved in list-like enumerations, but is simplified when used as a simple counter, as in (6).

(6) Behaviour of /tʔʷ/

- a. /ʃχ'-əy-tʔʷ/ fəz-əy-ʃ s'aal-əy-p'λ' pʃaaʃ-əy-tʃʷ/  
 man-num(eral connective)-two woman-num-three boy-num-four  
 girl-num-five  
 'two men, three women, four boys, five girls...'
- b. /ʃχ'-əy-tʔʷə-t/ → /ʃχ'-əy-t'ə-t/  
 men-num-two-abs(olutive)  
 'the two men'

**2.3.3 Tri-consonantal Clusters** (7) lists the few tri-consonantal clusters found (Kuipers 1960: 57).

(7) Kabardian tri-consonantal clusters

- pst      pʃt  
 pskʷ    p'ʃkʷ  
 p'ʃkʷ  
 stχ  
 pʃħ

There are far fewer of these than of the bi-consonantal variety.

**2.3.4 Distribution** In general, both types of cluster can begin or end a syllable, though the latter case generally arises through vowel deletion. A few clusters are confined to the onset of the second syllable of bi-syllabic words. Apart from clusters in borrowings, these are: /zd, žgʷ, λ'q', st, s'kʷ, skʷ, λx, x̣c, x̣s, x̣š/, the last three standing apart from the others in that no comparable clusters can be found in initial position (Kuipers 1960: 86).

## 2.4 Syllable Canon

**2.4.1 Sonorant Syllables** Syllables can begin or end in virtually any consonant or consonant cluster. Final syllables can be open (8a), but medial syllables are closed, either by an overt coda (8b) or by utilising the following onset as a coda (8c) to produce a slight gemination. This is distinct from true gemination (8d). Open medial syllables are long and are built upon underlying glides. Such open syllables will be treated in the sections dealing with vowels.

### (8) Syllables

#### a. Open final

/bʒa/ 'horn, nail'

#### b. Closed medial with overt coda

/ø-žə-f-ʔa-n-š/ → [ʒɪf,ʔɛnʂ]

3-back-you(pl(ural))-say-fut(ure)-aff(irmative)

'You (pl) will say it.'

#### c. Medial with copied coda

/dəda/ → [dɪd, dɛ]

'just, exactly'

#### d. True geminate ([d', d])

/wə-q'ə-t-da-kʷə-a-a-ǰ-š/ → [wuqʷ, q'ɪd', dokʷ, kʷá'š]

you-hor(izon of interest)-us-with-move-intr(ansitive)-past-aff

'You came with us.'

**2.4.2 Non-sonorant Syllables** The near minimal pairs in (9) offer evidence that Kabardian, like the West Circassian dialects, has non-sonorant syllables (9b, d).

### (9) Near minimal pairs showing non-sonorant syllables

#### a. /cə/ → [cʰɪ]

'hair'

#### b. /ø-d-sə-n-š/ → [tʰsɪnʂ]

it-we-burn-fut-aff

'We will burn it.'

- c. /θ-θ-ʒə/ → [ʒɪ]  
it-you-throw out  
‘Throw it out!’
- d. /θ-d-zə-n-ʃ/ → [dʒɪnʃ]  
it-we-decant, filter-fut-aff  
‘We will decant, filter it.’

Such syllables are hard to hear, but my informant reliably made them.

### 2.5 Stress

Stress is a mixture of strong percussion and a slight rise in pitch.

2.5.1. **Nouns and Pronouns** On nouns and pronouns it is confined to the last stem morpheme (10a, b, c, f), and does not shift back to most affixes (10d). A few affixes, however, as with (10e), can occur with a distinct secondary stress.

#### (10) Stress assignment on nouns

- a. /pʃááʃa/  
‘girl’
- b. /pʃaʃa-dááʃa/  
girl-beautiful  
‘beautiful girl’
- c. /pʃaʃa-daʃá-f/  
girl-beautiful-good  
‘beautiful, good girl’
- d. /pʃááʃa-ha-m-ra/  
girl-pl-conn(ective)-and  
‘and the girls’
- e. /pʃááʃa-ha-m-r-əy/  
girl-pl-conn-and-even  
‘and even the girls’
- f. /á-bə-ha-m/  
3 (distal)-obl(ique case)-pl-obl  
‘those things (distal, obl)’

2.5.2 **Stress Assignment on Verbs** Stress assignment on verbs is recessive, as long as the affixes are of a purely verbal character (11a–c), and not gerundive (11d), or a plural or predicative/complementiser (11e). Also, the affirmative suffix /-ʃ/ does not attract stress. Often a secondary stress can be heard either on the root or the syllable before the primary stress. Secondary stress is noted by a grave accent.

- (11) Recessive stress assignment on verbs
- a. /ø-ø-y-á-a-w-pʎə/ ([yó'pʎɪ], [yó'pʎ])  
3-3-dir(ection)-dat-pres-prog-look  
'He always looks at it.' or 'He is looking at it.'
  - b. /ø-ø-y-à-pʎ-áǧ-ś/ ([yèpʎá'ś])  
3-3-dir-dat-look-past-aff  
'He looked at it.'
  - c. /s-ø-y-a-pʎə-ž-aǧ-aǧ-sarát-t/ ([se'pʎɪžə'ǧə'serét])  
I-3-dir-dat-look-again-past-past-opt(ative)-irreal(is)  
'If only I had looked again at him (long ago)!'
  - d. /á-ha-r ø-ø-y-a-á-w-pʎə-ha-r/ ([yó'pʎhər])  
3-pl-abs 3-3-dir-dat-pres-prog-look-pl-pres  
'They always look at it.' or  
'They are looking at it.'
  - e. /à-ha-r ø-ø-y-a-á-w-pʎə-a-hə-wa/ ([yó'pʎəfiwo])  
3-pl-abs-3-3-dir-dat-pres-prog-look-in-pl-pred(icative)/comp(lement)  
'their always looking inside it' or  
'that they always look inside it' or  
'that they are looking inside it'

In either (10) or (11) stress must always fall before a coda that is overtly filled; that is, final vowels cannot receive normal stress.

**2.5.3 Citation Stress and Underlying Vowels** There is a separate form of stress that I term "citation stress." This stress has nothing to do with the effects in (10) or (11), but rather seems to be used to teach children and others about underlying vowels in roots, as in (12). The last underlying vowel bears primary stress while all other underlying vowels bear equal secondary stresses. This stress has been used explicitly in an account of West Circassian (Rogava and Kerasheva 1966: 22–28). Phonetically, it seems to make greater use of pitch than normal percussive stress, with primary stress being highest in tone.

- (12) Citation stress (ordinary stress in parentheses)
- a. /màzǎ/ (/mázǎ/)  
'forest'
  - b. /màzə-ǎ'ǎ/ (/mazǎ'ǎ/)  
forest-man  
'wild man' (mythical forest-dwelling man-like being)
  - c. /mǎ'ǎ/ (/mǎǎ/)  
'ice'

- d. /mə́λ-ə-psə́/ (/mə́λə́ps/)
   
ice-ep(enthetic) v(owel)-water
   
'melt water'
- e. \*/mə́λə́/ (/mə́λ/)
   
'ice'

Thus, even though the normal stress for 'wild man' (12b) and 'melt water' (12d) is the same, the citation stress forms of (12a) and (12c) show that 'forest' ends in an underlying /ə/ whereas 'ice' (12c, e) does not. The normally stressed syllable of 'melt water' (parenthetical form of (12d)) is thus built upon an epenthetic vowel. Citation stress will play a crucial role in dealing with the status of /ə/ in the next section.

## 2.6 The Vowels

I have taken the conservative position that Kabardian has two vowels (13).

### (13) Kabardian vowels

- |                      |   |
|----------------------|---|
| [-high, -low, -back] | ə |
| [+low, -back]        | a |

**2.6.1 Controversy** There is an enormous amount of controversy surrounding the predictability of /ə/. In many cases /ə/ can be said to be epenthetic (see (12d)), but in many others it appears best to take /ə/ as underlying (see Colarusso (1982) for full references).

**2.6.1.1 Internally Structured Segments** If one wishes to predict all instances of /ə/, then one must postulate complex, internally structured consonants of the sort in (14) (bracketed by a consonant node, {...}) (Anderson 1978).

### (14) Contrasts requiring complex consonants for wholly predictable /ə/

(Conventional representation with underlying /ə/)

- a. /p-ʃ/ → \*[pʰə́ʃə́] (/pə́-ʃ/ → [pʰə́ʃ])
   
(i) nose-lie
   
'to lie near (before) something'
- (ii) down-dangle
   
'to hang from something'
- b. /{pʃ}/ → [pʃə́] (/pʃə́/)
   
'to look'
- c. /ʃ-h-a/ → [ʃə́hǽ] (/ʃə́-hə́-a/)
   
there-enter-in
   
'to enter (there)'

- d. /ʃha/ → [sʰhæ] (/sʰha/)  
 ‘to provoke (someone)’ or ‘to reach (someone)’
- e. / [ʃh]a/ → [ʃhæ] (/ʃha/)  
 ‘head’

It should be noted that the form in (14d) ‘to provoke’ is given erroneously by Kuipers (1975: 33) as /sʰha/, whereas my informant and two dictionaries (Kardanov and Bichoev 1955: 805; Kardanov 1957: 449) all give /sʰhæ/.

**2.6.1.2 Predictable Schwa Hypothesis** The hypothesis that treats all /ə/’s as predictable is highly appealing, amounting to a formalisation of the command: “Pronounce consonant ‘C’!” to which the Kabardian replies: “[Cə].” Nevertheless, this highly natural account makes erroneous predictions in several areas.

**2.6.1.2.1 Minimal Pair with Schwa** First, /ə/ forms the basis of a minimal pair in two common words, as in (15).

- (15) Minimal pair with /ə/
- a. /psaw/ → [psə] (literary dialect)  
 ‘all, whole’
- b. /psa-wə/ → [psə́,wu]  
 life-adj(ective)  
 ‘living, live, alive’

**2.6.1.2.2 Conflict with Citation Stress** Second, the analysis is at odds with citation stress (§2.5.3), as in (14a) and in (16).

- (16) Violations of citation stress by predictable /ə/ analysis (correct form)
- a. /mλ/ → \*[mɪλɪ] ([mɪλ])  
 ‘ice’
- b. /fz/ → \*[fɪzɪ] ([fɪz])  
 ‘woman’
- c. /yarś/ → \*[yerísɪ] ([yerís])  
 ‘stubborn, persistent’
- d. /čkʷ/ → \*[c’uk’ú] ([c’uk’])  
 ‘small’
- e. /t’ak’/ → \*[t’ok’ú] ([t’ok’])  
 ‘small,’ ‘few,’ ‘a little’

2.6.1.2.3 *Problems with Non-sonorant Syllables* Third, the predictable /ə/ analysis fails to capture the non-sonorant syllable contrasts seen in (9). The personal index immediately before the root of transitive verbs is taken to be a “sub-segmental” index (Kuipers 1960: 30–31, 56). Kuipers’ assertion that no contrast of this sort is ever made, “even in artificially slow and careful speech” (Kuipers 1960: 31), seems not only to be wrong, but also to be inconsistent with his own account of a contrast between the items in (17a, b) (Kuipers 1960: 19, n. 2). The forms in (17) show that this analysis of Kabardian fails to capture ambi-syllabic behaviour of root syllables in verbs.

(17) Ambi-syllabic errors of the predictable /ə/ analysis (correct forms in parentheses)

- a. /ø-y-w-ʔ-aγ-ś/ → /ø-y-{pʔ}-aγ-ś/ → \*[yip<sup>n</sup>p<sup>á</sup>ś] ([yip<sup>n</sup>ʔáś])  
3-cont(ainer)-you-dye-past-aff  
'You dyed it.'
- b. /ø-y-p<sup>á</sup>-aγ-ś/ → [yip<sup>n</sup>p<sup>á</sup>ś]  
3-3-educate (rear)-past-aff  
'He educated (reared) him.'
- c. /ø-p-w-χ̂-aγ-ś/ → /ø-p-{pχ̂}-aγ-ś/ → \*[p<sup>h</sup>εp<sup>h</sup>pχ̂áś] ([p<sup>h</sup>εp<sup>h</sup>χ̂áś])  
3-sever-you-fall-past-aff  
'You sawed it off.'
- d. /ø-y-{pχ̂}-aγ-ś/ → [yip<sup>n</sup>pχ̂áś]  
3-3-bind-past-aff  
'He bound it up.'
- e. /ø-ʒ-f-ʔa-aγ-ś/ → /ø-ʒ-{fʔ}a-aγ-ś/ → \*[ʒif<sup>n</sup>f<sup>á</sup>ś] ([ʒif<sup>n</sup>ʔáś])  
3-back-you(pl)-say-past-aff  
'You (pl) said it.'
- f. /bʒ-f-ø-aγ-ś/ → [bʒif<sup>n</sup>f<sup>á</sup>ś]  
spear-good-be-past-aff  
'It was a good spear.'

The contrasts in (17), as in (9), are real, even if subtle and if neutralised in final position (Kuipers 1960: 54). To salvage predictable /ə/ analysis, one would have to treat verb root adjacent personal indices as exceptions to the overall phonological patterns of the language.

2.6.1.2.4 *Exceptions* Fourth, Kuipers (1960: 28–29, 41) recognises that he must mark a number of forms as exceptions to his treatment of /ə/, as in (18a–c). Forms (18d) and (18e) (Hadaghat'la 1968, vol. 1, §76: 264) show, however, that his inventory of exceptions must include such morphemes as /-ś/ 'place' and stative

positional verbs such as /-ʃ-/ ‘to be prone,’ and most likely /-s-/ ‘to be seated, situated’ as well, not to mention pre-root verbal indices.

(18) Exceptions to /ə/ realisation

- a. /fz-ø-ś/ → [fɪzś] (\*[fɪz,ziś], \*[fɪz,ziś,śɪ], \*[fɪz,śɪ])  
 woman-be-aff  
 ‘She is a woman.’
- b. /fz-ø-t/ → [fɪztʰ] (\*[fɪz,ziʰ], \*[fɪz,ziʰ,tʰɪ], \*[fɪz,tʰɪ])  
 woman-be-stand (= past stative)  
 ‘She was a woman.’
- c. /fz-ø-q'm/ → [fɪz,q'əm] (\*[fɪz,ziq',q'əm])  
 woman-be-not  
 ‘It is not a woman.’
- d. /ʃ-a-s-ś/ → [ʃəsś] (\*[ʃəs,śɪś], \*[ʃəs,śɪś,śɪ], \*[ʃəs,śɪ])  
 mass-dat-sit-place  
 ‘nest’
- e. /(w-y-ʔamś'a) ø-y-a-s-ʃ-ħa-n-ś/ → [(wi:ʔəm, mɪś', ś'ɛ) yes, ʃħánś]  
 (\*[yes, ʃəħ, ħánś], \*[yes, sɪʃ, ħánś], \*[yes, sɪʃ, ʃəħ, ħánś])  
 you-poss(essive)-handful 3-3-dat-I-lie-act(ive)-fut-aff  
 ‘I shall put it in your hand.’

The parenthetical forms in (18a, b) show, however, that the present and past statives must be exceptions in two ways, both fore and aft, lest they be in violation of citation stress forms.

2.6.1.2.5 *Sonority Arguments* Fifth, Kuipers might answer the objections in the preceding paragraph by resorting to an elaborate discussion of sonority types and syllable structure (1960: 41–42), but from the forms in (19) it is hard to see how such explanations can be consistently applied. These forms show variant realisations of the same underlying sonorant sequences (19a–c), or realisations with persistent schwa (19d).

(19) Inconsistencies in syllable structure using Kuipers’ sonority arguments

- a. /ʃ'-y-y/ → [ʃ'i'ry], [ʃ'i'']  
 man-num-eight  
 ‘eight men’
- b. /sahby-y-y/ → [sa', bí:yí'y], [sa', bí:yí''] (\*[sa', bí'yy], \*[sa', bí'yy'])  
 baby-num-eight  
 ‘eight babies’

- c. /θ-θ-t-y-a-y-χ-aγ-ś/ → [tʰri, χáś] (also [tʰər, ri, χáś])  
 3-3-surf(ace)-dir-dat-3-take-past-aff  
 'He stole it from him.'
- d. /d-y-y- {tʰ} a-ʔªa-χªa-d-ś/ → [dər, ri; tʰoʔª, ʔªoχª, χªédś]  
 (\*[dri, tʰoʔª, ʔªoχª, χªédś])  
 we-cont-dir-god-before-bend-down-aff  
 'We are the devotees of a god.' or 'We are fairies.'

The /r/ s in (19c, d) are intercalated and will be discussed below (§2.7.3).

2.6.1.2.6 *Third Person Oblique* Finally, Kuipers makes an exception in stress assignment for the oblique form of the singular third person pronoun, in violation of (10). This is shown in (20a). It is easy, however, to elicit phrases in which this supposedly stressed final syllable is elided, just as though it were not stressed (20b, c).

(20) The third person singular oblique

a. Kuipers' treatment

/a-ǃ/ → [ɑ, bɛ]

3(distal)-obl

'he/him; she/her; it; (all distal)'

b. Elided variant

/a-bə dayʒ/ → [á·b dé·ʒ] (or [á·bə dé·ʒ])

3(distal)-obl near

'near this (distal)'

c. Elided variant

/mə-bə dayʒ/ → [má·b dé·ʒ] (or [má·bə də·ʒ])

this(near speaker)-obl near

'near this (near speaker)'

Thus, these forms do not act as exceptions to stress and Kuipers cannot explain those variants with final /ə/.

2.6.1.3 *Core and Epenthetic Schwas* Despite the seductive appeal of the /ə/-less theory, /ə/ appears to be underlying at least in the core vocabulary. Epenthetic /ə/ s do exist and they tend to follow complex rules of sonority and syllable structure, but an account of the data that would be full enough to establish these rules in a convincing manner is beyond the scope of this grammar. Thus, I shall record all /ə/ s and occasionally gloss those as epenthetic (ep v) when it is entirely evident that they are due to rules.

2.6.1.4 *Isolated Schwa* In isolation /ə/ is [ɛ>] or [ə<] (see (40a, c)). In final position, however, it is often nasalised (21).

(21) Nasalisation of final /ə/

- a. /x'ə/ → [x'r̥], [x'ɛ̃>], (or [x'ɛ>])  
'man'
- b. /a-bə/ → [á'bẽ>], (or [á'be>])  
3-obl  
'that (distal, obl)'

2.6.2 **The Open Vowel** Once /ə/ was eliminated by some scholars, /a/ was reduced to the status of a feature characteristic of the syllable as a whole. When vowel-colouring is examined in section 2.6.5, it shall be shown that such an analysis is untenable.

2.6.2.1 *Reduction Phenomena* /a/ in unstressed final syllable can undergo reduction to /ə/ before the predicative ending or suffixed complementiser /-w(a)/ (22).

(22) Reduction of /a/

- a. /wóna-w/ → /wónə-w/ ([wún,nu])  
house-pred/comp  
'being a house' or 'that it is a house'
- b. /ø-x'ə-ha-w/ → /ø-x'ə-hə-w/ ([x'əfi,fiu])  
3-happen-pl-pred/comp  
'those things having happened' or  
'that those things came to pass'
- c. /ø-q'a-y-ə-faχ'-á-žə-ha-w/ → /ø-q'-ə-faχ'-á-žə-hə-w/  
([q'ɛf, fəχ', x'ɛž, žəfi, fiu])  
3-hor-3-non pres(ent)-don-in-again-pl-pred/comp  
'he having donned them again' or  
'that he donned them again' (as with a pair of shoes)

2.6.2.2 *Sequences of Open Vowels* In verbal morphology sequences of /a-a/ can arise, as in (23a-e). In (23f) the noun for 'god' can also show a type of emphatic lengthening.

## (23) /a-a/ sequences in verbs

## a. Present tense

/má-a-w-a/ → [máːwo]

3-pres-strike-in

'It is a tumult.' or 'It hurts.'

## b. Present tense

/sa-rá-a-ø-š/ → [sær,ráːš]

I-pro(nominal suffix)-pres-be-aff

'It is I.'

## c. Dative of interest

/ø-q'á-a-s-šta-š/ → [q'áːs,štʰɛš]

3-hor-dat-I-take up-then

'I picked it up, then...'

## d. Imperative

/ø-q'á-a-n-a/ → [q'áːnæ]

you(imp(erative))-hor-imp-remain-in

'Stay (in) here!'

## e. Optative

/də-γá-a-kʷə-a-t/ → [dəγ,γàːkʷótʰ]

we-let-opt-move-intr-irreal

'Let's go!'

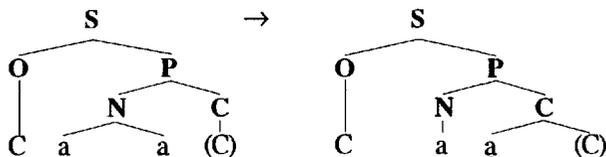
## f. /tʰa-a-m/ → [tʰaːm]

god-emph(atic)-obl

'(By) God (!)'

The forms in (23) show that /a-a/ is realised as an open [aː], filling the coda of its syllable, rule R1 (24). It can be long in citation or careful speech, as noted in the examples. (In the following, the order of presentation of the rules has been chosen for expository reasons, whereas the numbering of the rules reflects their order of application in the phonological component.)

## (24) R1, Coda-filling by /a-a/ nucleus



2.6.2.3 *Reduction Rule R2* reduces /a-a/ in unstressed position, as the counterparts to (23) show in (26).

(25) **R2**, /a-a/ reduction in unstressed syllables

aa → a/ C \_\_\_\_\_ C<sub>2</sub> V C<sub>2</sub>  
 ⟨<sub>1</sub>[+C.P.]⟩ [-stress] [-stress]  
 ('⟨1⟩...⟨2⟩' = 'if 1, then 2')

(26) Reduction of unstressed /a-a/

- a. /ma-a-w-á-žə/ → [mo, wʲž]  
 3-pres-strike-in-again  
 'It is a tumult again.' or 'It hurts again.'
- b. /sa-ra-a-ø-žə-aγ-š/ → [sɛr, rɛž, žá'š]  
 I-pro-pres-be-again-past-aff  
 'It was I again.'
- c. /ø-q'a-a-s-šta-žə-š/ → [q'ɛs, št'ɛ'žɪs]  
 3-hor-dat-I-take up-again-then  
 'I picked it up again, then...'
- d. /ø-q'a-a-n-a-žə/ → [q'ɛn, nɛž]  
 you(imp)-hor-dat-remain-in-again/finally  
 'Stay (in) here again/for good!'
- e. /də-γa-a-k<sup>w</sup>ə-a-žə-t/ → [dəγ, γok<sup>w</sup>, k<sup>w</sup>ɛž, žít<sup>h</sup>]  
 we-let-opt-move-intr-again-strong opt  
 'Let's go again!'
- f. /tʰa-a-maa<sup>x</sup>a-m/ → [tʰa', má', <sup>x</sup>ɛm]  
 god-emph-blessed-obl  
 '(By) blessed God (!)'
- g. /tʰa-a-maa<sup>x</sup>a-dəda-m/ → [tʰɛm, mo<<sup>x</sup>, <sup>x</sup>ɛd', díd', dɛm]  
 god-emph-blessed-very-obl  
 '(By) most blessed God (!)'

As (26f, g) show, /a-a/ is preserved next to a pharyngeal unless the stress is shifted at least two syllables away.

2.6.2.4 *Dominance of /a/* In verbal morphology, sequences of two dissimilar vowels are simplified in favour of the low one, rule **R3** (27), as in (28).

(27) **R3**, Vowel-deletion in verbs

ə → ø % \_\_\_\_ -a,  
 ('-' = a morpheme boundary; '%' = before or after)

## (28) Vowel-deletion in verbs

/ø-y-ha-ə-šxə-aγ-š/ → /ø-y-ha-šx-aγ-š/ → [ya, šxáʃ]

3-3-pl-non pres-eat-past-aff

'They ate it.'

**2.6.3 Vowel-Deletion in Nouns** In nominal morphology, rule **R4** (29) operates to simplify vowel sequences, as in (30). The rightmost vowel is dominant, vowel quality being immaterial.

(29) **R4**, Vowel-deletion in nouns

V → ø / \_\_\_\_\_ V

## (30) Vowel-deletion in nouns

a. /šə/

'horse'

b. /šə-a-š/ → /š-a-š/ → [šɛʃ]

horse-conn-shelter

'stable'

c. /q<sup>w</sup>a/

pig

d. /q<sup>w</sup>a-a-š/ → /q<sup>w</sup>-a-š/ → [q<sup>w</sup>ɛʃ]

pig-conn-shelter

'pigsty'

e. /q<sup>w</sup>a/

'son'

f. /q<sup>w</sup>a-əy-p'λ'ə/ → /q<sup>w</sup>-əy-p'λ'ə/ → [q<sup>w</sup>i'p'λ']

son-num-four

'four sons'

Only abstract nouns built with the suffixes /-a-γ(a)/ -conn-ness appear to be exceptions to (29). Examples may be seen in §3.1.2.6, (85c).

**2.6.4 Full-Grades in Nouns and Adjectives** In bisyllabic nouns and adjectives unanalysable long [ɑː]'s (/aa/), as in /maaχ<sup>w</sup>a/ 'blessed,' tend to exhibit the same behaviour under stress as do sequences of /a-a/ found in verbs (31), though this reduction effect can be suspended in careful or pedagogical speech.

## (31) Behaviour of unanalysable /aa/ in nouns and adjectives under stress

a. /pšaaʃa/ → [pšá, šɛ]

'girl'

- b. /pśaaśa-daaġa/ → [pśeś, śed, dá, ġə]  
 girl-beautiful  
 'beautiful girl'
- c. /pśaasá-daaġa-maaġ\*a/ → [pśeś, śed, dəġ, ġæm, má, ġ\*a]  
 girl-beautiful-lucky/blessed  
 'lucky/blessed beautiful girl'

Thus, I have recorded such reducible long vowels as /aa/.

2.6.4.1 *Predictability* Sequences of /aa/ are predictable in these bisyllabic nouns and adjectives, representing a sort of “vrddhi,” “dehnstufe,” or full-grade phenomenon, even when the morphology points to only one /a/ in the first syllable, as in (32a, b). The full-grade is quite automatic if the first member of the compound is a noun (32b). If a postposition (pre-verb) is the first member, however, then the stem shows only an /a/-grade (32c) (Kuipers 1975: 36, §43). Otherwise the /a/-grade is lexically conditioned (cf. Chapter 5).

(32) Predictable full-grade in nouns

- a. /ġə-fa/ → [ġé>f, fæ>]  
 sea-skin  
 'surface of the sea'
- b. /wa-fa/ → /waafa/ → [wá, fæ>]  
 sky-skin  
 'heaven, sky'
- c. /ś'a-a-ǰə-a/ → /ś'aǰa/ → [ś'éǰæ>]  
 under-conn-throw-dat  
 'lining (of a garment)'

Rule R8 (33) would account for such full-grades.

(33) R8, Full-grades in nouns and adjectives

+syllabic	→ [+long] / #_____ C(C)a
+low	[+noun/adjective]

2.6.4.2 *Exceptions* Only a few forms appear to be irregular exceptions, as in (34).

(34) Some unpredictable exceptions to full-grade

- a. /baaʃ/  
‘walking stick’
- b. /ʀaaɣ/  
exclamation, ‘oho!’ ‘well then!’
- c. /ʀ<sup>a</sup>a-bʒa/ → ([ʀ<sup>a</sup>ʃ>b<sup>1</sup>,bʒɛ])  
cattle pen-door  
‘gate to the cattle yard or pen’

Apart from (34b) all nouns beginning in /ʀ/ are systematic exceptions to the full-grade rule. A few examples are given in (35).

(35) Nouns and adjectives with initial /ʀ/

- a. /ʀaʃa/ ‘tool, weapon’
- b. /ʀabya/ ‘herd of beef cattle’
- c. /ʀasa/ ‘tame, quiet’
- d. /ʀaza/ ‘skillful,’ ‘master, doctor’

2.6.5 *Vowel-Colouring* The two-vowel system of Kabardian is typologically of great interest, but is also known from other regions beyond the Northwest Caucasian family (in the Ndu family of Papua New Guinea (Allen and Hurd 1972; Laycock 1965; Pike 1965), Mandarin Chinese (Chao 1934; Liu Fu 1932), Ethiopic Ge’ez (Colarusso 1975: 380), and perhaps one stage of Proto-Indo-European (Colarusso 1981: 499–502)). For a general discussion of Kabardian vowel-colouring (assuming three vowels), see Catford (1984: 30–47).

2.6.5.1 *Schwa* /ə/ merely denotes a sonorant syllable, so that /C<sub>1</sub>əC<sub>2</sub>/ means “go from onset 1 to coda 2 by the shortest possible sonorant path.”

2.6.5.2 *The Open Vowel* /a/ denotes a sonorant syllable in which the transition from onset to coda is made with some opening of the oral cavity; that is, /a/ is [+low] and involves lowering the tongue body. Such a lowering of the tongue body is antagonistic to the gesture underlying consonantal articulations, [+consonantal], which is a gesture of radical constriction in the sagittal plane of the oral cavity (Chomsky and Halle 1968: 302).

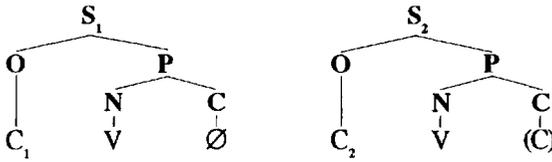
2.6.5.3 *Historical Source* The two-vowel system of Kabardian has arisen by a historical process in which the normal vowel colourings of the syllable peak have been reinterpreted as belonging to the consonants and glides of the syllable margins.

Only [+low] cannot be so reinterpreted, and so the process stopped at two vowels, with core vocabulary at least retaining instances of unpredictable /ə/.

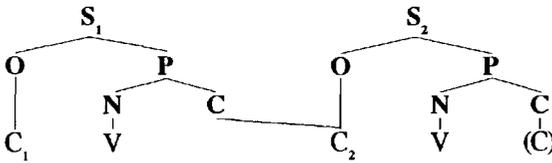
2.6.5.4 *Syllable Closure* The syllable closure rule, R13 (36), applies before the vowel-colouring rule, R14 (37). R13 thus provides the vowels with codas to which they may assimilate, as anticipatory assimilation (to a coda) predominates over lagging assimilation (to an onset).

(36) R13, Syllable closure rule

a. Input

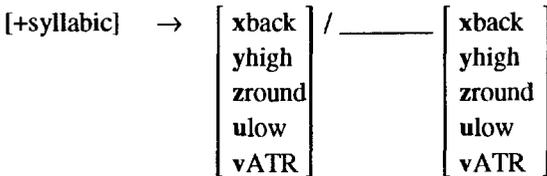


b. Output



(37) R14, Vowel-colouring by coda (disjunctively ordered with R17)

(x, y, z, u, v = ±)



The (universal) redundancy rule R15 (38) turns low vowels into mid before a high coda.

## (38) R15, Redundancy rule

$$\begin{bmatrix} +\text{high} \\ +\text{low} \end{bmatrix} \rightarrow \begin{bmatrix} -\text{high} \\ -\text{low} \end{bmatrix}$$

2.6.5.5 *Vowel-Colouring* The effects of R14 may be seen in (39).

## (39) Effects of vowel-colouring by coda (R14)

## a. Fronting

(i) /ʃəd/ → [ʃɛd] 'donkey'

(ii) /zæz/ → [zæz] 'gall, bile'

## b. Backing

(i) /bzəʔa/ → [bzəʔ, ʔa] 'slice, piece'

(ii) /baq/ → [baqʰ] 'cow-shed'

## c. Raising

(i) /ʒəŋ/ → [ʒɪ&gt;ŋ] 'tree'

(ii) /zəʃ/ → [zɛʃ] '(to) be bored, tired'

## d. Rounding

(i) /dəʔ/ → [dɔʔ] 'thief'

(ii) /daʔə/ → [dɔʔ, ʔu] 'good'

## e. Rounding and raising

(i) /cʰəkʰ/ → [cʰukʰ] 'small'

(ii) /tʰakʰ/ → [tʰokʰ] 'small,' 'few,' 'a little'

The allophone of /ə/ in (39d, (i)) overlaps with that of /a/ in (39e, (ii)). Consonantal cues are therefore crucial in distinguishing between the vowels.

2.6.5.6 *Underlying Vowels* The underlying vowels may be seen before labials and the laryngeal /ʔ/ (40). They tend to be front (note coincidental fronting in (39a)).

## (40) Underlying vowels (no colouring)

a. /bəbə/ → [bɛ&gt;bʰ, bɛ&gt;(ʰ)] '(to) fly, flutter'

b. /qʰab/ → [qʰæ&gt;b] 'pumpkin'

c. /psəʔa/ → [psɛ&gt;ʔ, ʔæ&gt;] 'wetness'

d. /naʔa/ → [næ&gt;ʔ, ʔæ&gt;] 'attention, care'

2.6.5.7 **Rounded Glottal Stop** /ʀ/ merely rounds a vowel, as in (41).

(41) Lip-rounding due to /ʀ/

- a. /sʰəʀ/ → [sʰö>ʀ]      ‘upper part, top side’  
 b. /saʀ/ → [sö>ʀ]      ‘(to) moan’

2.6.5.8 **Vowels and Pharyngeals** The contrast /ə/-/a/ is not neutralised before /ħ/. Witness (42).

(42) Maintenance of the vowel contrast before pharyngeal

(V<sup>ʕ</sup> = pharyngealised vowel)

- a. /k<sup>ʷ</sup>əħ/ → [k<sup>ʷ</sup>ə<sup>ʕ</sup>ħ]      ‘long’  
 b. /q<sup>ʷ</sup>əħ/ → [q<sup>ʷ</sup>ə<sup>ʕ</sup>ħ]      ‘ship, vessel’  
 c. /da-ħə-n/ → [da<sup>ʕ</sup>ħ, ħə<sup>ʕ</sup>n]  
     with-carry out-inf(itive)  
     ‘to carry something out with someone’s help’  
 d. /də-ħa-n/ → [də<sup>ʕ</sup>ħ, ħə<sup>ʕ</sup>n]  
     opening-enter-inf  
     (i) ‘to enter (as into a door)’; (ii) ‘to call upon someone’

The pharyngealisation of the vowels alters their colours, but not so much that they are neutralised.

2.6.5.9 **Syllable Onset** In words with a final vowel, syllable onset colours the vowel by rule R17 (43) as may be seen in (44). These lagging effects are less reliable than those produced by R14. Backing (44a, c) seems to be more reliable than raising or rounding, suggesting that R17 is really a collection of independent phonetic detail rules. Final /ə/ is frequently nasalised, apparently because empty coda is equivalent to rest position (see §2.6.5.1).

(43) R17, Vowel-colouring by onset

[+syllabic]	→	xback yhigh zround ulow vATR	/	xback yhigh zround ulow vATR	_____
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## (44) Variable vowel-colouring due to onsets

(by descending frequency of occurrence)

- a. /kʷə-a/ → [kʷwa], [kʷwæ], [kʷo]  
 move-intr  
 '(to) move'
- b. /sə/ → [sɛ], [sɛæ], [sæ]  
 'hundred'
- c. /kʷə/ → [kʰwə(ʰ)], [kʰwɛ(ʰ)], [kʰu(ʰ)]  
 'core, middle'
- d. /sə/ → [sɪ(ʰ)], [sɪɛ(ʰ)]  
 (i) 'to shear (sheep)'; (ii) 'to measure'

**2.6.6 Glide Codas and Vowel-Colouring** When a glide, such as /y, w, h/, occupies a coda, rule **R14** completely assimilates the vowel peak to the glide coda. When that coda is explicitly filled by a glide, that is, when the glide is not the result of the syllable closure rule **R13**, then rule **R18** (45) optionally applies (almost always, except in careful speech). **R18** is simply a case of loss with compensatory lengthening. If the syllable closure rule **R13** has filled the coda with a glide from the following onset, then there is no independent segment to be lost and compensated for by **R18**.

(45) **R18**, Glide coda loss ( $[{}_o X {}_o]$  = independent onset, perhaps =  $\emptyset$ )

$$\left[ \begin{array}{l} \text{-consonantal} \\ \text{+syllabic} \\ \text{xother} \end{array} \right]_1 \left[ \begin{array}{l} \text{-consonantal} \\ \text{-syllabic} \\ \text{xother} \end{array} \right]_2 \rightarrow 1 \quad \emptyset \quad [{}_o X {}_o]_{\text{[+long]}}$$

**2.6.6.1 Examples** The effects of **R13**, **R14**, and **R18** are all seen in the forms in (46).

(46) Open syllables from glide codas (**R13**, **R14**, **R18**)

- a. /qʷəw/ → [qʷu]  
 'swan'
- b. /psa-w/ → [psɔ:]  
 life-pred  
 'alive, living'

- c. /bəy/ → [bi']  
 'enemy'
- d. /cə-ya/ → /c-ay/ → [c'e']  
 wool-one of  
 'cherkesska' (national coat, lit., 'the one of wool')
- e. /ø-y-ha-λaaγ\*ə-n-š/ → /ø-y-ah-λaaγ\*ə-n-š/ → [ya', λəγ\*, γ\*ínš]  
 3-3-pl-sec-fut-aff  
 'They will see it.'

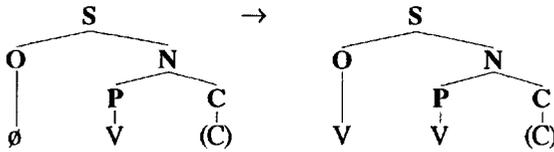
**2.6.6.2 Unreducing Long Open Vowel** Form (46e) shows the plural personal index form on verbs. It is identical to that which appears as a suffix, /-ha/. In (46e), however, it has undergone metathesis when attached to an index (in pre-root position). This metathesis will be dealt with below. Here, it suffices to point out that /h/ is a glide (Chomsky and Halle 1968: 303) and that as such it behaves analogously to the /y/ in (46d), which has also undergone metathesis. /h/ is [+low] and when put into a coda serves to make any preceding vowel [+low] as well. Such resulting long [ɑ']s, which do not reduce when stressed is shifted off of them, are represented as /ah/ (if preceded by a segment), or /ha/ (if the plural), even if they are not related to the plural suffix. Note by contrast that /aa/ in the second syllable in (46e) has reduced because of stress shift even though /ah/ has not. Such unreducing long vowels are often found in loan words, as in (47).

(47) Loan words with unreducing /ah/

- a. /sahbəy/ → [sɑ', bɪ']  
 'baby' (from Arabic)
- b. /nahrt/ → [nɑ'rtʰ]  
 'Nart' (a race of heroes)  
 (from an Iranian language, perhaps Ossetic)
- c. /nahrt-š̂\*/ → [nɑ'rtʰúš̂\*]  
 Nart-millet  
 'corn, maize' (both roots of Iranian origin)

**2.6.6.3 Empty Initial Onset** There is another source of irreducible [ɑ'] that is associated with initial syllables. There is a rule R16 (48) which fills empty onsets of initial syllables.

## (48) R16, Empty initial onset-filling rule



2.6.6.4 *Initial Schwa* If the initial vowel is /ə/, then the realisation is as in (49a). If it is /a/, then the results are as in (49b-e), with (49e) showing one of two possible vowel sequences.

## (49) Effects of filling empty initial onset (by decreasing frequency) (R16)

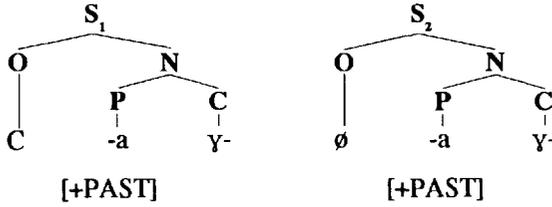
- /ə/ → [əə], [fiə] ([fi] [-low])  
pronunciation of letter for /ə/
- /a-pʂaaʂa/ → [aˈpʂ, pʂáː, ʂɛ], [ǰapʂ, pʂáː, ʂɛ], [fiapʂ, pʂáː, ʂɛ]  
'the girl'
- /a-da/ → [aˈd, dɛ], [ǰád, dɛ], [fiád, dɛ]  
inh(herent) poss(ession)-father  
'(someone's) father'
- /adəŋa/ → [aˈ, díŋ, ŋə<], [ǰadʰ, díŋ, ŋə<], [fiadʰ, díŋ, ŋə<]  
'Adyghé, Circassian'
- /mə-aʂa/ → [mɛáː, ʂɛ], [mɛǰáː, ʂɛ], [mɛfiáː, ʂɛ]  
'this billy goat'

As the forms in (49b, d) show, the resulting [aˈ] is not reduced by shift in stress. The most frequent realisation, [aˈ], is the result of something like a mirror image version of R18, with initial glide and homorganic vowel melding into a long segment (with filled onset and coda).

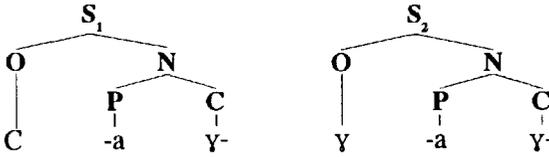
2.6.6.5 *The Past Tense* There is one further source of irreducible [aˈ]. This arises from the past tense morpheme through a rule strictly limited to it, R5 (50).

(50) R5, Onset-filling with past tense

a. Input



b. Output



R6 (51) then sonorises /ɣ/ in the codas.

(51) R6, Sonorisation of past tense codas  
/ɣ/ → /ɦ/

Then R18 (45) applies to give forms such as those in (52).

(52) Remote past tense forms

- a. (i) /sə-q'a-kʷə-a-aɣ-aɣ-ʂ/  
I-hor-move-intr-past-past-aff  
'I came long ago.'
- (ii) /sə-q'a-kʷ-a-aɣ-ɣ-aɣ-ʂ/ (by R5)
- (iii) /sə-q'a-kʷ-a-afi-ɣ-afi-ʂ/ (by R6)
- (iv) /sə-q'a-kʷ-a'-ɣ-a'-ʂ/ (by R1 and R18)
- (v) [səq<sup>n</sup>, q'ok<sup>w</sup>, k<sup>w</sup>ɑ', ɣɑ'ʂ] (surface form)
- b. (i) /sə-q'a-kʷə-a-aɣ-ʂ/  
I-hor-move-intr-past-aff  
'I came.'
- (ii) /sə-q'a-kʷ-a-afi-ʂ/ (by R6)
- (iii) /sə-q'a-kʷ-a'-ʂ/ (by R1 and R18)
- (iv) [səq<sup>n</sup>, q'ok<sup>w</sup>, k<sup>w</sup>ɑ'ʂ] (surface form)

It is only with such a concatenation of rules that one can give a coherent account of the past and the past of the past (the remote past) and still account for the phonology in a natural way. Henceforth, all instances of past tense will be transcribed underlyingly as /-aγ/.

**2.6.6.6 Stress and the Past Tense** There are two independent forms of evidence that confirm the analysis of irreducible [ɑ'] as /ah/, or /afi/ from /-aγ/. That regarding /ah/ must await the section on verbal phonology. That involving the past tense is based upon stress assignment. Stress is recessive in verbs (§2.5.2 (11b)). It falls before the last filled coda of purely verbal suffixes (no plural or participial endings). The forms in (53) show “naked” past tenses. These are passives exhibiting semantics much like English passives (see Kardanov (1955: 1025) for these relatively rare constructions). These are stressed as though [ɑ'] ended in a glide or consonant.

(53) Passives built with present auxiliary verb (unstressed) and past tense suffix

- a. /ø-ɾʷəχə-ž-aγ ma-a-χʷə/ → /ø-ɾʷəχə-ž-áfi m-a-χʷ/ →  
[ɾʷɤχ, χɪž, žá' moχʷ]

3-harvest-finally-past 3-pres-happen

‘It is being harvested.’

- b. /ø-s-λaaža-aγ ø-χʷə-aγ-š/ → /ø-z-λaž-áfi ø-χʷ-afi-š/ → [z, λɛž, žá' χʷəš]

3-I-work-past 3-happen-past-aff

‘It was done by me.’ or ‘It has been done by me.’

**2.6.6.7 Otiose Third Vowel** All the cases of [ɑ'] have thus been accounted for and there is no need to postulate a third vowel, [+low, +back, (+long)], as some linguists have done.

## 2.7 Phonology

There are a number of phonological processes, some of which have already been presented. In isolation these are simple, but feeding into one another the output can be exceedingly complex.

**2.7.1 Vowel-Deletion before Glide Onset and Glide-Vowel Metathesis** These two phenomena are captured by rules **R7** (54) and **R10** (55). While the two effects are never seen apart from one another, the two rules are nevertheless distinct, since one other rule, **R9** (58), can intervene between them (and **R8** must follow **R7**). In (62) (§2.7.5), **R10** applies recursively starting before the verb root and working leftward across the verbal indices.

(54) **R7**, Vowel-deletion before glide onset

C V G (G) V → 1 ∅ 3 4 5, G = [–round]

1 2 3 4 5

(55) **R10**, Glide-vowel metathesis after non-syllabic

C G V → 1 3 2, G = [–round]

1 2 3

**R7** must apply before the rule that gives full-grades, **R8**. **R7** and **R10**, applying in that order, are responsible for the so-called “fused” forms of (56) (Kuipers 1960: 36).

(56) Fused forms

a. /mə-ya/ → /m-ya/ → [me:y]

wild apple-one of

‘wild apple tree’

b. /da-ya/ → /d-ya/ → [de:y]

nut-one of

‘nut tree’

c. /na-ya/ → /n-ya/ → [ne:y]

eye-bad

‘malice’

d. /θ-y-ha-a-λaaγ<sup>o</sup>/ → /θ-y-ha-a-λáaγ<sup>o</sup>/ → /θ-y-ah-a-λáaγ<sup>o</sup>/ →

[ya', λá'γ<sup>o</sup>']

3-3-pl-pres-see

‘They see it.’

**R7** and **R10** (feeding into **R14** and **R18**) account for the [a'] of the third person plural verbal index (§2.6.6.1, (46e)).

**2.7.2 Rounded Glide** The glides in (54) and (55) must not be /w/, since, as (57) shows, this glide does not undergo the processes in (56).

(57) Stability of /w/

a. /da-a-w-a/ → /dáawa/ (\*daw/ by **R7** → **R10**)

with-conn-strike-at

‘to quarrel’

b. /z-a-a-w-a/ → /záawa/ (\*zaw/ by **R7** → **R10**)

recip(rocal)-dat-conn-strike-at

‘battle’

- c. /*ʃaawa*/ → /*ʃáawa*/ (\*/*ʃaw*/ by **R7** → **R10**)  
 ‘youth, pageboy (in the sagas)’
- d. /*ʃə-a-wa*/ → /*ʃáawa*/ (\*/*ʃaw*/ by **R7** → **R10**)  
 horse-conn-person  
 ‘horseman,’ ‘teamster’

**2.7.3/r/-Intercalation** One of the more unusual rules of Kabardian intercalates an /r/ between two /y/’s in a verbal index sequence (/y/ in a verbal root does not count). This phenomenon is represented by rule **R9** (58).

- (58) **R9**, /r/-intercalation in sequences of verbal indices  
 $\emptyset \rightarrow r / y (h) \text{ \_\_\_\_\_\_ } y$

**R9** must come between rules **R7** and **R10** in order to give a coherent account of the forms in (59) (see Dumézil (1975: 99) for full details of the verb ‘to give’).

(59) Forms showing the effects of the rule sequence

a. Form of indirect object index

- (i) / $\emptyset$ -q’ə-s-a-w-tə-aγ-ś/  
 3-hor-me-dat-you-give-past-aff  
 ‘You gave it to me.’ or ‘You loaned it to me.’

(ii) / $\emptyset$ -q’ə-z-a-p-t-afi-ś/ (by **R3**, **R6**, **R20**, **R24**: s → z, w → p)

(iii) [q’rɪz, zæp<sup>h</sup>, t’á’ś] (by **R13**, **R14**, **R18**)

b. With **R7** → **R10**

- (i) / $\emptyset$ -q’ə-s-a-y-ə-tə-aγ-ś/  
 3-hor-me-dat-3-non pres-give-past-aff  
 ‘He gave it to me.’

(ii) / $\emptyset$ -q’ə-z-a-y-ə-t-afi-ś/ (by **R3**, **R6**, **R24**)

(iii) / $\emptyset$ -q’ə-z-y-ə-t-afi-ś/ (by **R7**)

(iv) / $\emptyset$ -q’ə-z-ə-y-t-afi-ś/ (by **R10**)

(v) [q’rɪz, zi’, t’á’ś] (by **R14** and **R18**)

c. With **R7** → **R10**

- (i) / $\emptyset$ -q’ə-y-a-s-tə-aγ-ś/  
 3-hor-3-dat-I-give-past-aff  
 ‘I lent it to him.’

(ii) / $\emptyset$ -q’ə-y-a-s-t-afi-ś/ (by **R3** and **R6**)

(iii) / $\emptyset$ -q’-y-a-s-t-afi-ś/ (by **R7**)

- (iv) / $\emptyset$ -q'-a-y-s-t-afi-š/ (by R10)  
 (v) [q'e's, t'á'š] (by R14 and R19)
- d. Form with /r/-intercalation: R7 → R9 → R10
- (i) / $\emptyset$ -y-a-y-ə-tə-aγ-š/  
 3-3-dat-3-non pres-give-past-aff  
 'He (she) gave it to him (her).'
- (ii) / $\emptyset$ -y-a-y-ə-t-afi-š/ (by R3 and R6)  
 (iii) / $\emptyset$ -y-y-ə-t-afi-š/ (by R7)  
 (iv) / $\emptyset$ -y-r-y-ə-t-afi-š/ (by R9)  
 (v) / $\emptyset$ -y-r-ə-y-t-afi-š/ (by R10)  
 (vi) [yir, ri, t'á'š] (by R14 and R18)

**2.7.4 Schwa-Epenthesis for Initial Glides** In (59d, (vi)) a rule of /ə/-epenthesis has been at work. I have already abrogated any commitment to an exact account of this process (§2.6.1.3), since the full lineaments of the phenomenon are as yet too complex. R11 (60) merely accounts for the syllabification of initial glides.

(60) R11, /ə/-epenthesis for initial glides

$\emptyset \rightarrow \text{ə} / \# [-\text{consonantal}] \_\_\_\_\_ [+consonantal]$

This rule follows R10.

**2.7.5 /y/-Deletion** There is a rule that deletes a /y/ when it is immediately followed by a glide or a sonorant consonant, R12 (61).

(61) R12, /y/-deletion

$y \rightarrow \emptyset / \_\_\_\_\_ \left[ \begin{array}{l} +\text{sonorant} \\ -\text{syllabic} \end{array} \right]$

This rule applies recursively. It follows R11. R12 accounts for the forms in (62).

(62) /y/-deletion before sonorants

a. With loss before /r/

- (i) / $\emptyset$ -q'ə-y-a-y-ə-tə-aγ-š/  
 3-hor-3-dat-3-non pres-give-past-aff  
 'He gave it to him (act of interest to speaker).'

- (ii) /ø-q'ə-y-a-y-ə-t-afi-š/ (by R3 and R6)  
 (iii) /ø-q'ə-y-y-ə-t-afi-š/ (by R7)  
 (iv) /ø-q'ə-y-r-y-ə-t-afi-š/ (by R9)  
 (v) /ø-q'ə-y-r-ə-y-t-afi-š/ (by R10)  
 (vi) /ø-q'ə-r-ə-y-t-afi-š/ (by R12)  
 (vii) [q'ə<r,ri,tʰá'š] (by R14 and R18)

## b. With loss before /h/

- (i) /ø-y-ha-a-y-ha-ə-tə-aγ-š/  
 3-3-pl-dat-3-pl-non pres-give-past-aff  
 'They gave it to them.'  
 (ii) /ø-y-ha-ǻ-y-ha-t-afi-š/ (by R1, R3, and R6)  
 (iii) /ø-y-h-a-y-ha-t-afi-š/ (by R7)  
 (iv) /ø-y-h-a-r-y-ha-t-afi-š/ (by R9)  
 (v) /ø-y-h-a-r-y-ah-t-afi-š/ (by R10 first time)  
 (vi) /ø-y-h-a-r-ayh-t-afi-š/ (by R10 second time)  
 (vii) /ø-y-a-h-r-ayh-t-afi-š/ (by R10 third time)  
 (viii) /ø-y-a-h-r-ah-t-afi-š/ (by R12)  
 (ix) [yɑ',rɑ',tʰá'š] (by R14 and R18)

## c. With loss before /h/ twice

- (i) /ø-q'y-ha-a-y-ha-ə-tə-aγ-š/  
 3-hor-3-pl-dat-3-pl-non pres-give-past-aff  
 'They gave it to them (act of interest to the speaker).'  
 (ii) /ø-q'ə-y-ha-ǻ-y-ha-t-afi-š/ (by R1, R3, and R6)  
 (iii) /ø-q'ə-y-h-a-y-ha-t-afi-š/ (by R7 first time)  
 (iv) /ø-q'y-h-a-y-ha-t-afi-š/ (by R7 second time)  
 (v) /ø-q'y-h-a-r-y-ha-t-afi-š/ (by R9)  
 (vi) /ø-q'-a-y-h-r-ayh-t-afi-š/ (successive applications of R10)  
 (vii) /ø-q'-a-h-r-ah-t-afi-š/ (successive applications of R12)  
 (viii) [q'ɑ',rɑ',tʰá'š] (by R14 and R18)

**2.7.6 Schwa-Epenthesis and Deletion** The phenomena of /ə/-epenthesis and deletion are complex. The following is not an exhaustive account, but must be considered a substantial start toward a complete understanding of these matters.

**2.7.6.1 General Schwa-Epenthesis** Another epenthesis rule, R19 (63), accounts for the forms, both verbal and nominal, in (64).

## (63) R19, General /ə/-epenthesis rule for sonorants

$$\emptyset \rightarrow \text{ə} / [+consonantal] \text{ \_\_\_\_\_\_ } \left[ \begin{array}{l} +consonantal \\ +sonorant \end{array} \right]$$

## (64) Forms showing epenthesis

## a. Verbs

- (i) / $\emptyset$ - $\emptyset$ -t-y-a-y-ə- $\hat{x}$ ə-a $\Upsilon$ - $\acute{s}$ /  
3-3-surf-dir-dat-3-non pres-take-past-aff  
'He stole it from him.'
- (ii) / $\emptyset$ - $\emptyset$ -t-y-a-y-ə- $\hat{x}$ -afi- $\acute{s}$ / (by R3 and R6)
- (iii) / $\emptyset$ - $\emptyset$ -t-y-y-ə- $\hat{x}$ -afi- $\acute{s}$ / (by R7)
- (iv) / $\emptyset$ - $\emptyset$ -t-y-r-y-ə- $\hat{x}$ -afi- $\acute{s}$ / (by R9)
- (v) / $\emptyset$ - $\emptyset$ -t-y-r-ə-y- $\hat{x}$ -afi- $\acute{s}$ / (by R10)
- (vi) / $\emptyset$ - $\emptyset$ -t-r-ə-y- $\hat{x}$ -afi- $\acute{s}$ / (by R12)
- (vii) [t<sup>h</sup>ri,  $\hat{x}$ á<sup>h</sup>ś] (by R14 and R18)
- or (viii) / $\emptyset$ - $\emptyset$ -tə-r-ə-y- $\hat{x}$ -afi- $\acute{s}$ / (optionally from (vi) by R19)
- (ix) [t<sup>h</sup>ər<sub>i</sub>ri,  $\hat{x}$ á<sup>h</sup>ś] (by R14 and R18)

## b. Nouns

- (i) /fəz-r/ → /fəz-ər/ (by R19)  
woman-abs  
'the woman (abs)'
- (ii) /məλ-m/ → /məλ-əm/ (by R19)  
ice-obl  
'ice (obl),' 'on the ice'

R19 appears to be optional in verbs in pre-root position. In post-root position it is obligatory (65), just as in nominals.

## (65) Obligatory /ə/-epenthesis in post-root position in verbs

- a. / $\emptyset$ -k<sup>w</sup>-a-n-w- $\acute{s}$ / → / $\emptyset$ -k<sup>w</sup>-a-nə-w- $\acute{s}$ / → [k<sup>w</sup>ɣ>n, n<sup>u</sup>ś]  
3-come-intr-fut-def(inite time)-aff  
'He will come (at some definite time).'
- b. / $\emptyset$ - $\acute{x}$ <sup>w</sup>-ə- $\acute{z}$ ə-n-q<sup>m</sup>/ → / $\emptyset$ - $\acute{x}$ <sup>w</sup>-ə- $\acute{z}$ ə-nə-q<sup>m</sup>/ → [ $\acute{x}$ <sup>w</sup>r $\acute{z}$ ,  $\acute{z}$ ɪn, n<sup>ó</sup>q<sup>n</sup>, q<sup>ə</sup>m]  
3-happen-again-fut-not  
'It will not happen again.'

2.7.6.2 *Schwa-Epenthesis in Compounds* There is a distinct rule of epenthesis, R20 (66), that operates in nominal and adjectival agglutinated phrases or compounds in order to avoid consonant clusters of undue length.

(66) R20, Epenthesis in nominal or adjectival phrases or compounds

$\emptyset \rightarrow \text{ə} / [-\text{syllabic}] \text{ \_\_\_\_\_\_ } [-\text{syllabic}][(-\text{syllabic})][+\text{syllabic}]\#$

R20 inserts a /ə/ before a final member of a phrase or compound when the preceding stem ends in a consonant or glide, if that final member is an open monosyllable. These effects can be seen in (67a–c), and are to be contrasted with (67d, e).

(67) Epenthesis in phrases or compounds

- a. /warad-p'q'ə/ → /warad-ə-p'q'ə/  
 song-frame  
 'melody'
- b. /məλ-psə/ → /məλ-ə-psə/  
 ice-water  
 'melt water'
- c. /fəz-ʔə/ → /fəz-ə-ʔə/  
 woman-old  
 'old woman'
- d. /{x̣-a-mə-ṣ'}-{ʔá-a-wa}/ (\*/{x̣a-mə-ṣ'}-ə-){ʔa-a-wa}/  
 {mass-dat-not-need}-{exist-conn-adj}  
 'without loss, wholly'
- e. /{ʔ\*àx̣\*}-{ṣ'-á-a-p'a}/ (\*/{ʔ\*ax̣\*}-ə-){s'a-a-p'a}/  
 {business}-{do-intr-conn-place}  
 'institution, place of business'

2.7.6.3 *Final Schwa-Deletion in Verbs* There is a rule of /ə/-deletion, R21 (68), that can lop off a final /ə/ of a verb if the original form would have been longer than two syllables (69). Its application is marginally optional.

(68) R21, Final /ə/-deletion in long verbal forms (Σ = a sonorant syllable)

$\text{ə} \rightarrow \emptyset / \Sigma \Sigma C \text{ \_\_\_\_\_\_ } \#$

## (69) Examples of final /ə/-deletion in verbs

## a. Undeleted

/θ-s-a-w-šxə/ → [sɻ&gt;ː, šxɪː]

3-I-pres-prog-eat

'I always eat it.' or 'I am eating it.'

## b. Deleted

/θ-q'a-s-a-w-šxə/ → [q'ɛz, zɻ&gt;ːšx] ([q'ɛz, zɻ&gt;ː, šxɪː&gt;ː])

3-hor-I-pres-prog-eat

'I always eat it (at my place).' or 'I am eating it (my food).'

2.7.6.4 *Final Schwa-Deletion in Nouns and Adjectives* R21 is generalised to R22 (70) in nominals and adjectives. R22 produces monosyllabic forms, unlike the case with verbs.

## (70) R22, Final /ə/-deletion in nominals and adjectives

ə → ø / Σ C \_\_\_\_\_ #

The results of R22 are seen in (71).

## (71) Examples of final /ə/-deletion in nominals and adjectives

a. /na-gʷə/ → /na-gʷ/ → [nogʷ]

eye-zone

'face (around the eyes)'

b. /ʁ'ə-zə/ → /ʁ'ə-z/ → [ʁ'ɪz]

man-old

'old man'

c. /warad-ə-p'q'ə/ → /warad-ə-p'q'/ → [wòr, rɛd'ɪ, dáp'q']

song-ep v-frame

'melody' (67a)

d. /məλ-ə-psə/ → /məλ-ə-ps/ → [mɪλ, λ'ɪps]

ice-ep v-water

'melt water' (67b)

e. /fəz-ə-zə/ → /fəz-ə-z/ → [fɪz, zɪz]

woman-ep v-old

'old woman' (67c)

f. /na-p'c'ə/ → /na-p'c'/ → [nep'c']

eye-falsehood

'false'

**2.7.7 Rounding and Labialisation** An unusual rule is R23 (72), with a shift of [+round] to [+labial]. This assimilates the glide index /-w-/ 'you (sg)' to the consonant of a following morpheme (73).

(72) R23, /-w/-assimilation

$$\left[ \begin{array}{c} \text{-consonantal} \\ \text{+round} \end{array} \right] \rightarrow \left[ \begin{array}{c} \text{+consonantal} \\ \text{+labial} \end{array} \right] / \text{---} \left[ \begin{array}{c} \text{(+consonantal)} \\ \text{-sonorant} \end{array} \right]$$

(73) Effects of R23

- a. / $\emptyset$ -q'ə-w- $\lambda$ aa $\gamma^*$ ə-a $\gamma$ -ś/ → / $\emptyset$ -q'ə-p- $\lambda$ aa $\gamma^*$ ə-a $\gamma$ -ś/ → [q'ε>p<sup>h</sup>,  $\lambda$ a $\gamma^*$ ,  $\gamma^*$ áś]
- 3-hor-you-see-past-aff  
'You saw him.'
- b. /sə-q'ə-w-da-k<sup>m</sup>ə-a-n-ś/ → /sə-q'ə-p-da-k<sup>m</sup>-a-n-ś/ → [səq<sup>n</sup>, q'ε>b, dok<sup>m</sup>, k<sup>m</sup>énś]
- I-hor-you-com(itative)-move-intr-fut-aff  
'I shall go with you (sometime).'
- c. / $\emptyset$ -q'ə-w-t-y-a-s- $\hat{x}$ ə-ağ-ś/ → / $\emptyset$ -q'ə-p-t-y-a-s- $\hat{x}$ ə-ağ-ś/ → [q'ε>p<sup>h</sup>, t'e's,  $\hat{x}$ áś]
- 3-hor-you-surf-dir-dat-I-take-past-aff  
'I stole it from you.'
- d. / $\emptyset$ -q'ə-w- $\gamma^*$ ə-a-w- $\eta$ a/ → / $\emptyset$ -q'ə-p- $\gamma^*$ ə-a-w- $\eta$ a/ → [q'ε>p,  $\gamma^*$ ó<sup>h</sup>,  $\eta$ æ<sup>h</sup>]
- 3-hor-you-edge-pres-prog-enter  
'He is approaching you.'
- e. / $\emptyset$ -w-a-w-ś'ə/ → / $\emptyset$ -b-a-w-ś'ə/ → [bóś'] (or [wóś'])
- 3-you-pres-prog-do  
'You are doing it.'

Noteworthy in (73d) is the behaviour of / $\gamma^*$ / as [+consonantal] (see §2.1.2.11), rather than as an expected glide (Chomsky and Halle 1968: 303). (73e) shows optional dissimilation of ergative subject index /-w-/ before present progressive /-a-w-/ (Abitov et al. 1957: 110).

**2.7.8 Voice Assimilation** In (73a, c) a rule of voice assimilation was also at work upon the index /-w-/ to produce [p<sup>h</sup>]. This voicing rule is R24 (74).

(74) R24, Voice-assimilation of verbal indices ( $\alpha = \pm$ )

$$[+\text{consonantal}] \rightarrow \left[ \begin{array}{l} \alpha \text{ stiff glottis} \\ - \alpha \text{ laxed glottis} \\ \langle \langle \alpha \text{ closed glottis} \rangle \rangle \end{array} \right] \% \text{ \_\_\_\_ } \left[ \begin{array}{l} \alpha \text{ stiff glottis} \\ - \alpha \text{ laxed glottis} \\ \langle \alpha \text{ closed glottis} \rangle \end{array} \right]$$

In R24, aspiration ([+stiff glottis], redundantly [+open glottis]) is opposed to voicing ([+laxed glottis]). Most accounts of Kabardian also represent the indices as assimilating in glottalisation ([+closed glottis, +laxed glottis]) and I have included this for such dialects, even though my informant did not show a great tendency in this direction (hence the parentheses around this change in the rule output). Examples of R24 are given in (75).

## (75) Verbal index voicing

## a. Voicing between vowels

/ø-w-a-s-a-w-tə/ → [wö>ɹ, zó'tʰ]

3-you-dat-I-pres-prog-give

'I am giving it to you.'

## b. Devoiced form

/ø-w-a-d-tə-ay-ś/ → [wötʰ, t'á'ś]

3-you-dat-we-give-past-aff

'We gave it to you.'

## c. Underlying form of personal index

/ø-s-a-w-a-w-tə/ → [so>, wó'tʰ] (also [seb, ó'tʰ], see (73e))

3-me-dat-you-pres-prog-give

'You are giving it to me.'

## d. Devoiced form

/ø-s-a-w-tə-ay-ś/ → [sepʰ, t'á'ś]

3-me-dat-you-give-past-aff

'You gave it to me.'

## e. Underlying form of personal index

/ø-d-a-w-txə/ → [dó<, t'xɪʰ]

3-we-pres-prog-write

'We are writing it.' or 'We always write it.'

## f. Devoiced form

/ø-d-txə-ay-ś/ → [tʰ, t'xá'ś]

3-we-write-past-aff

'We wrote it.'

## g. Underlying form of personal index

/ø-f-a-w-t̂æ/ → [fóː, t̂ɪː]

3-you(pl)-pres-prog-write

'You(pl) are writing it.' or 'You(pl) always write it.'

## h. Glottalised form (reported by some linguists)

/ø-f-f̂a-d-a-w-t̂æ/ → [f, f̂ɛd̂, d̂óːt̂ɪː] (?[f̂, f̂ɛd̂, d̂óːt̂ɪː])

3-you(pl)-despite-we-pres-prog-write

'We are writing it (against your(pl) wishes)/(despite you(pl)).'

**2.8 Morphophonological Rule**

One process of a phonological character is conditioned by the position of certain morphemes. In effect the prefixes on a verb come only in schwa-grades when such prefixes have two or more indices between them and the stem (76).

## (76) Schwa-grade prefixes in the verb

## a. Full-grade

/sa a-ɾ ø-q'ə-w-â\*a-s-ś'ə-aɣ-ś/ ([q'ɛpâ\*ɛsś'á'ś])

I 3-abs 3-hor-you-for-I-do-past-aff

'I did it for you.'

## b. Schwa-grade

/sa a-ɾ ø-q'ə-w-â\*ə-ø-da-s-ś'ə-aɣ-ś/ ([q'ɛpâ\*ɛdesś'á'ś])

I 3-abs 3-hor-you-for-3-with-I-do-past-aff

'I did it for you with his/her help.'