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Shona morphophonemics and morphosyntax

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It should be noted that class 10 agreement with class 9 nouns or adjectives is not the only instance of heteroconcordance in Shona. Noun class 21, {zi-} governs class 5 concords, {ri-} and {ri-}, and some nouns in class 1a can govern class 2 concords with an honorific significance.

Babá vánogara Haráre. 1a - 2
(Father lives in Salisbury.)

cf. Babá ánogara Haráre. 1a - 1
(Father lives in Salisbury)

Zisíkaná ríye rínoenda kuchkóro . 21 - 5 - 5
(*That huge girl (we spoke about) attends school.*)

3.1.3. Gender Concord Segmental Morphophonemics

Once the gender concord morphemes have been determined (§ 3.1.1.), powerful morphophonemic rules which apply to several morphemes can be formulated. As nearly all these rules apply to several morphemes, it is desirable to have some concise way of referring to all the morphemes covered by the same rule. Morphemes are therefore indicated in the rules in their canonical morphophonemic base forms. For example, rule 1 is given as:-

/CV-/ ⇒ /C-/

This rule applies to several morphemes all of the form CV (consonant-vowel), and the particular morphemes are specified at the head of the rule.

In some cases morphemes of different classes have the same morphophonemic base forms. Thus, morphemes of classes 1, 3, and 18 have the common base form /mu-/, and classes 15 and 17 the base form /ku-/. This is not meant to imply that 1, 3, and 18 are one morpheme, or that 15 and 17 are one morpheme.

MR 1 /CV-/ → /C-/ | __ V, other than before deverbative noun stems.

Applies to:-

Is	/ndi-/	8	/zvi-/
Ip	/ ti-/	10	/dzi-/
IIp	/ mu-/	12	/ ka-/
2	/ va-/	16	/ pa-/
5	/ ri-/	18	/ mu-/
7	/ ci-/	21	/ zi-/

Nouns[1]

2	/ va-/	vené	(owners)
		vaná	(children) cf. mwaná (child)
7	/ ci-/	coto	(fireplace)
		cengó	(wall)
8	/zvi-/	zvotó	(fireplaces)
		zvengó	(walls)
12	/ ka-/	kaná	(small child) cf. mwaná
21	/ zi-/	zotó	(large fireplace)
		zaná	(large child)

Subject Prefix

		Past		Exclusive	
Is	/ndi-/	ndadyá	(I ate)	ndódya	(should I eat)
Ip	/ ti-/	tadyá		tódya	
IIp	/ mu-/	madyá		módya	
2	/ va-/	vádya		vódya	
5	/ ri-/	rádya		ródya	
7	/ ci-/	cádya		códya	
8	/zvi-/	zvádya		zvódya	
10	/dzi-/	dzádya		dzódya	
12	/ ka-/	kádya		kódya	
16	/ pa-/	pákánáka	(it was nice)		
18	/ mu-/	mákánáka	(it was nice)		

[1] The phonemic realisation of the relevant morpheme is underlined in each example

		Demonstrative "that, those"	Pronoun	Quantitative "... alone"	Possessive "my, mine"
Is	/ndi-/			ndóga	
Ip	/ ti-/			tóga	
IIp	/ mu-/			móga	
2	/ va-/	avo	ívo	vóga	vángu
5	/ ri-/	iro	íro	róga	rángu
7	/ ci-/	igo	ígo	cóga	cángu
8	/zvi-/	izvo	ízvo	zvóga	zvángu
10	/dzi-/	idzo	ídzo	dzóga	dzángu
12	/ ka-/	ako	íko	kóga	kángu
16	/ pa-/	apo	ípo	póga	pángu
18	/ mu-/	umo	ímo	móga	mángu

MR 1A Classes 2 and 6 /CV-/ ⇒ /CV-/ |__ non-deverbative noun stems [-eni] and [-oko]

vaeni	2	(strangers)	cf.	mweni	1	(stranger)
maóko	6	(arms)	cf.	ruóko	11	(arm)

MR 2 /Cu-/ ⇒ /Cw-/ |__ V, other than before deverbative noun stems.

Applies to:-

11	/ru-/
13	/tu-/
14	/hu-/

Nouns

11	/ru-/	rwizí	(river)
		rwaná	(thin child)
13	/tu-/	twaná	(small children)
14	/hu-/	hwahwá	(beer)
		hwaná	(childhood)

Subject Prefix

		Past "it/they is/are nice"	Exclusive "should it/they be seen?"
11	/ru-/	rwákánáka	rwóonwa
13	/tu-/	twákánáka	twóonwa
14	/hu-/	hwákánáka	hwóonwa

	Demonstrative Pronoun "that, those"		Quantitative "... alone"	Possessive "my, mine"
11	urwo	írwo	rwóga	rwángu
13	utwo	ítwo	twóga	twángu
14	uhwo	íhwo	hwóga	hwángu

MR 2A Class 11 /ru-/ ⇒ /ru-/ | __ one vowel-commencing non-deverbative noun stem.

ruóko (arm)

MR 3 Classes 15 and 17

/ku-/ ⇒ /k-/ | __ /o/, other than exclusive {-o-^{e}}

⇒ /kw-/ (a) | __ /a/

(b) | __ {-o-} (quantitative morpheme), in free variation with /k-/.

(c) | __ {-o-^{e}} (exclusive conjugational morpheme)

Subject Prefix

	Past "it is nice"	Exclusive "should it be seen?"
15	kwákánáka	kwóonwa
17	kwákánáka	kwóonwa

	Demonstrative Pronoun		Quantitative	Possessive
15	uko	íko	kóga/kwóga	kwángu
17	uko	íko	kóga/kwóga	kwángu

MR 4 /mV-/ ⇒ /mw-/ | __ V-commencing non-deverbative noun stems

⇒ /m-/ | __ /o/-commencing non-deverbative noun stems, in free variation with /mw-/.

Applies to:-

1 /mu-/
3 /mu-/
4 /mi-/

1	mwaná	(child)
1	mwené	(owner)
3	mwedzí	(moon)
3	mwando	(breeze)
3	mwotó/motó	(fire)
3	mwoyo/moyo	(heart)
4	mwedzí	(months)
4	mwando	(breezes)
4	mwotó/motó	(fires)
4	mwoyo/moyo	(hearts)

MR 5 Classes 1, 3, 18

/mu-/ ⇒ /m-/[1] | __ polysyllabic noun and adjective stems commencing with labials and alveolars, in quick speech, as alternative to /mu-/.

1	mpérékédzi/mupérékédzi	(companion)
1	mpárídzi/mupárídzi	(preacher)
1	mjaná/mujaná	(one who has a turn)
1	mbvaná/mubvaná	(daughter who has one or two children)
3	pamsóró	(on top (loc. inflection))
3	mbvée/mubvée	(type of tree)
3	mpangará/mupangará	(type of tree)
18	mmhango/mumhango	(in the hole of the tree)

[1] This /m/ is syllabic.

MR 6 /Ci-/ ⇒ /Ca-/ | __ a few noun stems (some de-ideophonic), with some as an alternative to /Ci-/.

Applies to:-

7 / ci-/
8 /zvi-/

7	capúngú/cipúngú	(type of eagle)
7	camhémbé	(north)
7	caúnga/ciúnga	(magical medicine)
7	cavhéevhée/civhéevhée	(running, dodging in chase)
	cf. vhée (ideophone)	
7	camucaca/cimucaca	(sound of rain falling)
	cf. ca ca ca (ideophone)	
8	zvapúngú/zvipúngú	(eagles)
8	zvaúnga/zviúnga	(magical medicines)

MR 7 /Cu-/ ⇒ /Cwu-/ (a) | {V[1]-}__ (i.e. the demonstrative)

(b) | __ selector stems

(c) in other constructions as a variant of /Cu-/, apparently with pejorative significance.[1]

Applies to:-

11 /ru-/
13 /tu-/
14 /hu-/ (only (a) and (b) above)

	Demonstratives	Selectors		
	"this, these"	"this"	"that"	"which"
11	urwu	rwúno	rwúye	rwúpi
13	utwu	twúno	twúye	twúpi
14	uhwu	hwúno	hwúye	hwúpi

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1 This needs further investigation.

11	rwukúní/rukúní	noun	(piece of firewood)
11	rwukova/rukova	noun	(river)
11	rwuɓ'có/ruɓkó	noun	(arm)
11	rwukúrú/rukúrú	adj.	(big)
11	rwutete/rutete	adj.	(thin)
11	rwumwe/rumwe	enum.	(another)
13	twuvanhu/tuvanhu	noun	(small people)
13	twukómaná/tukómaná	noun	(small boys)
13	twutete/tutete	adj.	(thin ones)
13	twupfúpi/tupfúpi	adj.	(short ones)
13	twumwe/tumwe	enum.	(others)

MR 8 Class 14 /hu-/ ⇒ /u-/ | __ noun stems, in free variation with /hu-/.[1]

ubabá/hubabá	(fatherhood)
uci/huci	(honey)
usíkú/husíkú	(night)
uroyi/huroyi	(sorcery)

MR 9 /CV-/ ⇒ /CV-/ in all other cases.

Applies to:-

Is	/ndi-/	/-ngù/			8	/zvi-/	
Ip	/ ti-/				10	/dzi-/	
IIs	/ ku-/	/-kó /			11	/ ru-/	
IIp	/ mu-/				12	/ ka-/	
1	/ mu-/	/-ké/	/-ye/		13	/ tu-/	
2	/ va-/				14	/ hu-/	
2a	/ vá-/				15	/ ku-/	
3	/ mu-/				16	/ pa-/	
4	/ mi-/				17	/ ku-/	
5	/ ri-/				18	/ mu-/	
6	/ ma-/ [2]				21	/ zi-/	
7	/ ci-/				RP	/zvi-/	

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[1] Fortune, op. cit., page 95, states that /u-/ occurs as an alternant to /hu-/ before non-monosyllabic stems.

[2] There is coalescence with the first vowel of two stems. see MR 28, page 129.

Nouns

1	/mu-/	mukádzí	(woman)	10	/dzi-/	dzimbá	(houses)
		muíti	(agent)			dzimbó	(songs)
		-it-	(do)	11	/ ru-/	rudzi	(tribe)
2	/va-/	vakádzí	(women)			ruedzo	(lengthy attempt)
		vaiti	(agents)				
2a	/vá-/	vábabá	(fathers)	12	/ ka-/	kambwá	(small dog)
		váshe	(chiefs)			kamwaná	(small child)
3	/mu-/	mukaka	(milk)	13	/ tu-/	tumití	(small trees)
		muaro	(amount)			tunhu	(small things)
		~~-ef-~~	~~(measure)~~				
		~~-ita~~	~~(do)~~	14	/ hu-/	husíkú	(night)
4	/mi-/	misáná	(backs)			huſpí	(evil)
6	/ma-/	mabwe	(stones)			-ip-	(become bad)
		mapángá	(knives)	16	/ pa-/	pasí	(the floor)
		mazano	(plans)			pakatí	(the centre)
7	/ci-/	cinhu	(thing)	17	/ ku-/	kutsí	(underneath)
		ciito	(deed)			kushúre	(behind)
		-it-	(do)	18	/ mu-/	mukatí	(inside)
8	/zvi-/	zviito	(deeds)	21	/ zi-/	zibángá	(big knife)
		zvirémá	(cripples)			zimbwá	(bi. dog)

Infinitive Verbals		Possessive "mine/yours/his"		Pronoun "him"	
kudá	(to love)	Is /-ngù/	wángu		
kuóná	(to see)	IIs /-kó/	wákó		
kuitá	(to do)	I /-ké/	wáké	/-ye/	iye
kuenda	(to go)				
kubátá	(to hold)				

	Subject Prefix "I/we/you ... make"	Object Prefix "They saw me/us/you ..."
Is /ndi-/	ndinóita	vándióná
Ip / ti-/	tinóita	vátióná
IIs /-ku-/		vákuóná
IIp / mu-/	munóita	vámuóná

	Subject Prefix		Object Prefix	
	"he/she/they ... make"		"They saw him, them ..."	
1	/ mu-/		vámuóná	
2	/ va-/	vánoita	vávaóná	
5	/ ri-/	rínoita	várióná	
7	/ ci-/	cínoita	vációná	
8	/zvi-/	zvínoita	vázviónà	
10	/dzi-/	dzínoita	vádziónà	
11	/ ru-/	rúnoita	váruónà	
12	/ ka-/	kánoita	vákaónà	
13	/ tu-/	túnoita	vátuónà	
14	/ hu-/	húnoita	váhuónà	
15	/ ku-/	kúnoita	vákuónà	
16	/ pa-/	pánoita	vápaónà	
17	/ ku-/	kúnoita	vákuónà	
18	/ mu-/	múnoita	vámuónà	
RP	/-zvi-/		vázvíonà	" ....themselves"

	Adjective	Enumerative	Demonstrative	Selector
	"big"	"another"	"this"	"this"
1 / mu-/	mukúrú	mumwe		
2 / va-/	vakúrú	vamwe	ava	váno
3 / mu-/	mukúrú	mumwe		
4 / mi-/	mikúrú	mimwe		
5 / ri-/		rimwe	iri	ríno
6 / ma-/	makúrú	mamwe		
7 / ci-/	cikúrú	cimwe	ici	cíno
8 /zvi-/	zvikúrú	zvimwe	izvi	zvíno
10 /dzi-/		dzimwe	idzi	dzíno
11 / ru-/	rukúrú	rumwe		
12 / ka-/	kateté[1]	kamwe	aka	káno
13 / tu-/	tuteté[1]	tumwe		
14 / hu-/		humwe[2]		

[1] This stem means "thin".

[2] Fortune, op. cit., page 156, treats adjectives of this class as nouns.

		Adjective	Enumerative	Demonstrative	Selector
15	/ku-/	kukúrú	kumwe	uku	kúno
16	/pa-/	pakúrú	pamwe	apa	páno
17	/ku-/	kukúrú	kumwe	uku	kúno
18	/mu-/	mukúrú	mumwe	umu	múno

MR 10 /V-/ ⇒ /C-/ | __ V

/u-/ ⇒ /w-/
/i-/ ⇒ /y-/
/a-/ ⇒ /w-/ | __ /o/
⇒ ∅ | __ /a/

Applies to:-

IIs /u-/
1 /u-/ /a-/
3 /u-/
4 /i-/
6 /a-/
9 /i-/

	Pronoun	Quantitative "alone"	Subject Prefix[1] Past	Exclusive	Possessive "my, mine"
IIs		wóga	wadyá	wóonwa	
1		wóga	wádya /_ádya[2]	wóonwa	wángu
3	íwo	wóga	wákánáka	wóonwa	wángu
4	íyo	yóga	yákánáka	yóonwa	yángu
6	íwo	wóga	_ákánáka	_óonwa	_ángu
9	íyo	yóga	yákánáka	yóonwa	yángu

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1 The past examples with /-dya/ are in the recent past tense and are glossed "you/he ate." Those with /-naka/ (inchoative) are in the remote past and are glossed "it/they are nice." The exclusive forms are glossed "should you/they/.... be seen?"

2 The gender concord of the first of these forms is /u-/ and that of the second is /a-/.

MR 10A /V-/ ⇒ ∅ | __ [-e-] (quantitative morpheme), in free variation with /C-/.

Applies to:-

IIs	/u-/
1	/u-/
3	/u-/
6	/a-/

Quantitative "alone"

IIs	_óga/wóga
1	_óga/wóga
3	_óga/wóga
6	_óga/wóga

MR 11A /V-/ ⇒ /-yV/ | [V[1]-]__ (i.e. in the demonstrative).

Applies to:-

		"this/these"
1	/u-/	uyu
3	/u-/	uwu
4	/i-/	iyi
6	/a-/	aya
9	/i-/	iyi

MR 11B /V-/ ⇒ /-y-/ | [V[1]-] __ [-o] (i.e. in the demonstrative).[1]

Applies to the same forms as MR 11A.

		"that/those"
1	/u-/	uyo
3	/u-/	uyo
4	/i-/	iyo
6	/a-/	ayo
9	/i-/	iyo

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[1] This rule is equivalent to MR 1 applied to the output of MR 11A. This alternative formulation requires rule ordering.

MR 12 /V-/ ⇒ /V-/ in all other cases.

Applies to:-

IIs	/u-/	
1	/u-/	/a-/
2b	/a-/	
3	/u-/	
4	/i-/	
6	/a-/	
9	/i-/	

	Selector	Subject Prefix[1]	Object Prefix	Enumerative
	"this"		"they saw it/them"	"another"
IIs		unódyá		
1	úno	ánodyá		
3	úno	únokúrá	váuóná	
4	íno	ínokúrá	váióná	
6	áno	ánokúrá	váaóná	
9	íno	ínokúrá	váióná	imwe

Noun

2b	amái	(mother)
2b	ambúya	(grandmother)

MR 13 /~~CVC~~ VCV/ ⇒ /~~CVC~~ VCV/ in all cases other than those covered by MR 28 below.[2]

Applies to:-

Is	/iní/	/iní/
Ip	/isú/	/isú/
IIs	/iwé/	/iwé/
IIp	/imí/	/imí/

---

1 The examples are in the present habitual tense. Those with /-dya/ are glossed "you eat" and "he eats." Those with /-kura/ are glossed "it/they grow."

2 These involve coalescence of /a/ with the 1st vowel of the gender concord: a + i ⇒ e .

MR 13 also applies to:-

Ip	/-idu/	(/-idú/)
IIp	/-inyu/	(/-inyú/)

These gender concords, however, always occur in possessively inflected forms and are therefore always subject to the coalescence rule, MR 28 (see page 129).

MR 14 Class 5 {l-} has no discrete phonemic realisation, but in certain cases causes a morphophonemic change in the first consonant of the noun and adjective stems. Voiceless stops always become voiced. Voiceless affricates and voiceless fricatives become voiced affricates of the same series, or alternatively remain unchanged. When {l-} has derivative function the affriaates and fricatives appear always to change, but when {l-} is non-derivative some stems always change while others alternate freely.

/l-/ + vless stop ⇒ voiced stop of the same series

/l-/ + vless affricate ⇒ {voiced affricate of the same series / voiceless affricate

/l-/ + vless fricative ⇒ {voiced affricate of the same series / voiceless fricative

Stops	p ↓ b	t ↓ d	k ↓ g	
Affricates	pf ↓ bv	ts ↓ dz	tsv ↓ dzv	c ↓ j
Fricatives	f ↑	s ↑	sv ↑	sh ↑

There are two anomalous stems:-

/l-/ + /-enje/ (noun stem) ⇒ /zhenje/ (large torch)[1]
cf. /mwenje/ 3 (torch)

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[1] This could possibly be a class 21 form rather than class 5. In this case: /zi-/ + /-enje/ ⇒ /zhenje/.

/ǁ-/ + /-uya/ (adj. stem) ⇒ /búya/ (good)[1]

cf. 6/maúya/

Examples

/ǁ-/ + /p/ ⇒ /b/

badzá	(hoe)	cf.	mapadzá	6 (hoes)
bángá	(knife)		mapángá	6 (knives)
bako	(cave)		mapako	6 (caves)
baro	(bald man)		maparo	6 (bald men)
bamhí	(broad) adj.		mapamhí	6
benyng'ú	(alive) adj.		mapenyng'ú	6

/ǁ-/ + /t/ ⇒ /d/

dámá	(cheek)	cf.	matámá	6 (cheeks)
démó	(axe)		matémó	6 (axes)
dangá	(cattle pen)		matangá	6 (cattle pens)
dáti	(bow)		matáti	6 (bows)
dete	(thin) adj.		matete	6
demá	(black) adj.		matemá	6

/ǁ-/ + /k/ ⇒ /g/

goré	(cloud)	cf.	makoré	6 (clouds)
gánó	(battle axe)		makánó	6 (battle axes)
gova	(red soil)		makova	6 (red soil)
gángó	(potsherd)		makángó	6 (potsherds)
gúrú	(big) adj.		makúrú	6
gúkútú	(hard) adj.		makúkútú	6
gobví	(thick) adj.		makobví	6

/ǁ-/ + /c/ ⇒ /j/

jírá	(cloth)	cf.	macírá	6 (cloths)
jékó	(sickle)		maoékó	6 (sickles)
jongwé	(cockrel)		macongwé	6 (cockrels)
jena	(white) adj.		macena	6

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1 Alternatively the stem is /-puya/ with MR 14 applying in class 5. In class 6 /-puya/ ⇒ /-uya/ | {ma-} __.

/ŋ-/ + /pf/ ⇒ /bv/ or remains /pf/

bveni	(baboon)	cf.	mapfeni 6	(baboons)
bvúpá pfúpá	(bone)		mapfúpá mabvúpá 6	(bones)
pfúdzi	(shoulder)		mapfúdzi 6	(shoulders)
bvumbú	(greyish)	adj.	mapfumbú 6	
bvúpi pfúpi	(short)	adj.	mapfúpi 6	

/ŋ-/ + /ts/ ⇒ /dz/ or remains /ts/

dzuro	(big hare)	cf.	tsuro 9	(hare)
dzátsi	(bundle of fish)		matsátsi 6	(bundles of fish)
tsíme	(spring)		matsíme 6	(springs)
dzará	(big line)		matsará 3	(line)

/ŋ-/ + /tsv/ ⇒ /dzv/

dzvatsvátsva	(kind of spider)	matsvatsvátsva madzvatsvátsva	6
idzvó	(short, fat kidney)	itsvó 9	(kidney)
dzvené	(pure) adj.	matsvené 6	
dzvuku	(red) adj.	matsvuku 6	
idzvá	(new) adj.	matsvá 6	

/ŋ-/ + /f/ ⇒ /bv/ or remains /f/ [1]

bvóro	(big furrow)	cf.	fóro 9	(furrow)
bvuro	(large grazing area)		mafuro 6	(pastures)
bveve	(huge prostitute)		mafeve 6	(prostitutes)
fúró	(froth)		mafúró 6	(much froth)

/ŋ-/ + /s/ ⇒ /dz/ or remains /s/

dzóró	(big head)	musóró 3	(head)
dzíkaná	(big girl)	musíkaná 1	(girl)
simbá	(strength)	masimbá 6	(powers)

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1 Most of the following examples were first elicited by Professor Fortune.

/N-/ + /sv/ ⇒ /dzv/ or remains /sv/

dzvíngá	(big bundle of wood)	masvíngá 6	(bundles of wood)

/N-/ + /sh/ ⇒ /j/ or remains /sh/

játó	(big python)	shátó	9 (python)
jíri	(big bird)	shiri	9 (bird)
jambwá	(big calamity)	rushambwá	11 (calamity)
shizha	(leaf)	mashizha	6 (leaves)

MR 15 Class 9 {N-} has discrete phonemic realisation mainly when immediately followed by stops (but excluding /k/), and voiced fricatives, and is then realised as a nasal which is homorganic in position to such immediately following consonant. In most cases {N-} also causes a morphophonemic change in the first consonant of the stem (noun or adjective), which immediately follows {N-}. Little generalisation about these changes is possible other than that voiceless stops are neutralised to /h/, and voiceless fricatives become voiced affricates of the same series.

Voiceless stop ⇒ /h/ | {N-} __
Voiceless fricative ⇒ voiceless affricate | {N-} __

/N-/ + p ⇒ mh
+ t ⇒ nh
+ k ⇒ h
+ kw ⇒ hw

/N-/ + b ⇒ mb
+ d ⇒ nd / nh
+ g ⇒ ng
+ bh ⇒ mb
+ dh ⇒ nd

/N-/ + f ⇒ pf / f
+ s ⇒ ts / s
+ sv ⇒ tsv / sv
+ sh ⇒ sh
+ v ⇒ mb
+ z ⇒ nz
+ zv ⇒ nzv
+ zh ⇒ nj / zh
+ vh ⇒ mv
+ r ⇒ nd
+ w ⇒ nzw

/N-/ + pf ⇒ pf
+ ts ⇒ ts
+ tsv ⇒ tsv
+ c ⇒ c
+ bv ⇒ bv
+ dz ⇒ ndz / dz

/N-/ + dy ⇒ ndy
+ hw ⇒ mbv

/N-/ + n ⇒ n
+ ny ⇒ ny

/N-/ + /p/ ⇒ /mh/

mhurú	(calf)	cf.	tupurú rumhurú	} 9	(poor calf)
mhérêko	(something given)		-pérék-		(give)
mhondi	(murderer)		-pond-		(kill)
mhasá *[1]	(mats)		rupasá	11	(mat)
mhamhí	(broad)	adj.	mapamhí	6 6	
mhenyng'ú	(alive)	adj.	mapenyng'ú	6	

/N-/ + /t/ ⇒ /nh/

nhémó	(chisel)	cf.	-tém-		(cut)
nhúró	(thing unloaded from head)		-túr-		(unload from head)
nhivi *	(sides)		rutivi	11	(side)
nháró	(drawn line)		-tár-		(draw a line)
nhete	(thin)	adj.	matete	6	
nhemá	(black)	adj.	matemá	6	

/N-/ + /k/ ⇒ /h/

hova	(rivers)	cf.	rukova	11	(river)
hónzéri	(one who causes)		-kónzér-		(cause)
huvhúte	(umbilical cords)		rukuvhúte	11	(umbilical cord)
húrú	(big)	adj.	makúrú	6	
húkútú	(hard)	adj.	makúkútú	6	

---

1 * denotes that the example is also given by Fortune, op. cit., pages 83 to 86.

/N-/ + /kw/ ⇒ /hw/

hwíró	(place for climbing)	cf.	-kwír-	(climb)
hwégúri	(old person)		-kwégúr-	(live long)

/N-/ + /b/ ⇒ /mb/

mbuwo	(horsefly)	cf.	kabuwo 12	(small horsefly)
mbereko *	(cradle-skin)		-berek-	(bear)

/N-/ + /d/ ⇒ /nd/ or /nh/ (one example of each)

ndíki *	(small) adj.	cf.	madíki 6	
nhiridzo	(watered part)		-diridz-	(water)

/N-/ + /g/ ⇒ /ng/

ngaro	(settlement)	cf.	-gar-	
ngoré	(cloud)		goré 5	(cloud)

/N-/ + /bh/ ⇒ /mb/

mbanjé *	(wild hemp)	cf.	bhang	(Hindustani: hemp)

/N-/ + /dh/ ⇒ /nd/

ndaramá *	(gold)	cf.	darahám	(Arabic: coins)

/N-/ + /f/ ⇒ /pf/ or remains /f/

pfámbí	(prostitute)	cf.	-fámb-	(walk)
fufunha	(indigestion)		-fufunh-	(eat reluctantly)
fódya *	(tobacco)		folha	(Portuguese: leaf)
pfungwá *	(thought)		-fung-	(think)

/N-/ + /s/ ⇒ /ts/ or remains /s/

tsaárá	(rows)	cf.	rusará 11	(row)
tséro *	(winnowing baskets)		rusére 11	(basket)
súrúdzo *	(strained meal-ash used for salt)		-súrúdz-	(strain)
tsére	(eight)	adj.	masére 6	

/N-/ + /sv/ ⇒ /tsv/ or remains /sv/

tsvitsa	(wedding)	cf.	-svik-	(arrive)
svípó	(spittle)		-svip-	(spit)
tsvingo *	(stone-wall ruins)		rusvingo 11	(stone-wall ruin)

/N-/ + /sh/ ⇒ /sh/

shayá *	(jawbones)	cf.	rushayá 11	(jawbone)

/N-/ + /vh/ ⇒ /mv/

mvemvi [1]	(flirt)	cf.	-vhevh-	(court)
mvúrá	(water)		chivhúrá-móbwe 7	(hail)

/N-/ + /z/ ⇒ /nz/

nzarira	(diaphragms)	cf.	ruzarira 11	(diaphragm)

/N-/ + /zv/ ⇒ /nzv/ [2]

nzvárí	(something which gives birth)		-zvár-	(give birth)
nzvímbíra	(place of swelling)		-zvímbír-	(overeat)

---

1 Notice the regressive assimilation of C^2 to C^1.

2 Fortune, op. cit., page 85, gives one example for which he reports that /N-/ + /zv/ ⇒ /mv/.

imví	(grey hair)	cf. *-vi	(UrB: grey hair)

/N-/ + /zh/ ⇒ /nj/ or remains /zh/ (one example of each)

njámbó (noise) cf. -zhámb- (make a noise)
zhínjí * (many) adj. mazhínjí 6

/N-/ + /v/ ⇒ /mb/

mbiriso (baking powder, yeast) -viris- (boil trans.)
mbáváríro (intention) -vávárír- (strive after)
mbóní * (pupil) -vón- (see)
mbirí (two) adj. mavirí 6

/N-/ + /pf/ ⇒ /pf/

pfútá * (castor-oil plants) rupfútá 11 (castor-oil plant)

/N-/ + /ts/ ⇒ /ts/

tsará * (rows) cf. rutsará 11 (row)

/N-/ + /tsv/ ⇒ /tsv/

tsvukú (red) adj. cf. matsvukú 6

/N-/ + /c/ ⇒ /c/

céna * (white) adj. cf. macéna 6

/N-/ + /dz/ ⇒ /ndz/ or /dz/ (one example of each)

ndziwo (stopper) cf. chidziwo 7 (stopper)
dziviso * (obstacle) -dzivis- (hinder)

/N-/ + /r/ ⇒ /nd/

ndaramo (long life) cf. -ruram- (live, survive)
ndimo (place for ploughing) -rim- (cultivate)
ndímuré (weaned child) -rúmúr- (wean)
ndefú (tall) adj. marefú 6

/N-/ + /w/ ⇒ /nzw/

nzwaré (flat rocks) cf. ruwaré 11 (flat rock)
nzwiyó } (songs) rwiyó[1] 11 (song)
nziyó }

nzwizí (rivers) rwizí[1] 11 (river)

/N-/ + /n/ ⇒ /n/

nomwé * (seven) adj. cf. manomwé 6

/N-/ + /ny/ ⇒ /ny/

nyóró * (soft) adj. cf. manyóró 6

/N-/ + /ng/ ⇒ /ng/

nganí (how many?) adj. manganí 6

/N-/ + /dy/ ⇒ /ndy/

ndyíre-ndyíre (greed) cf. -dyír- (eat (with applied extension))

/N-/ + /hw/ ⇒ /mbw/

mbwíre-mbwíre (powdery food) -hwír- (eat powdery food)

There are also a number of nouns in class 9 which commence with /ny/, /nz/, /ng/, /ng'/ and /nj/. In nouns with initial /ny/ the stem is probably vowel-commencing, in which case:-

[N-] ⇒ /ny/ | __ V.

---

[1] These stems appear to have /w/-commencing allomorphs in the ~~singular~~ plural.

/-wiyó/ ⇒ /-wiyó/ | [N-]__
⇒ /-iyó/ (a) [ru-]__
(b) [N-] __, as free variant to /wiyó/

Some, at least, of the other nouns must in time past have had stems which were consonant-commencing. This is preserved in the morphophonemics of class 9, but the morphophonemic rules involved have not been formulated here as the initial consonants of the stems can only be ascertained by comparative study. The examples given below are all from Fortune, op. cit., pages 86 and 87, but all have been checked and are tone-marked.

nyáti	(buffalo)			
nyama	(meat)			
nyika	(country)			
nyúci	(bee)			
nyényedzí	(star)			
nyóká	(snake)			
nyótá	(thirst)			
nzendo	(journeys)	cf.	rwendo 11	(journey)
nziyó	(songs)		rwiyó 11	(song)
nzengá	(frying-pans)		rwengá 11	(frying-pan)
nzara	(hunger)			
nzira	(path)			
nzómbé	(bull)			
nzou	(elephant)			
nzungú	(groundnut)			
ngano	(fable)	cf.	mazano 6	(plans)
ngoma	(drum)			
ngomwá	(sterile man)			
nguruve	(pig)			
nguo	(cradl -skin)			
ngwena	(crocodile)			
ng'anga	(diviner)	cf.	hwanga 14	(diviner's medicines)

ng'ombe / mombe (cattle)

njiri (warthog)
njédzaná (new moon) cf. mwedzi 3 (moon)
n'éré (cleverness)
njivé (pigeon)

3.1.4. Gender Concord Tonal Morphophonemics

The tone on certain gender concords is clearly an integral part of the phonemic representation of these forms. The gender concords of this type are indicated in the following table:-

Table 3

Gender Concords with Inherent Tone

Person / Class		Gender Concord Series		
		c	d	e
		Pronoun	Poss. Nucl.[1]	Noun
Is	/iní/ /-ngú/	iní	wéngu	
Ip	/isú/ /-idú/	isú	wédú[2]	
IIs	/iwé/ /-kó/	iwé	wákó	
IIp	/imí/ /-inyú/	imí	wényú[2]	
Class 1	/-yè/ /-ké/	íye	wáké	
2a	/vá-/			váshe (chiefs)
2b	/à-/			gaái (mother)

Only the pronouns of first and second persons show tonal variation.

MR 16 /V́CV́/ ⇒ /V́CV́/ | {cop} __ ({cop} is here /ndh-/)

Is	/iní/	ndhímí	(it is me)
Ip	/isú/	ndhísú	(it is us)
IIs	/iwé/	ndhíwé	(it is you)
IIp	/imí/	ndhímí	(it is you)

---

[1] These forms are glossed: "my", "our", "your", etc.

[2] In these forms there is coalescence between the possessive /-a-/ and the first vowel of the gender concord.

njiri	(warthog)		
njédzaná	(new moon)	cf.	mwedzí 3 (moon)
njéré	(cleverness)		
njivá	(pigeon)		

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Is	/iní/ /-ngù/	iní	wángu	
Ip	/isú/ /-ídú/	isú	wédú[2]	
IIs	/iwé/ /-kó/	iwé	wákó	
IIp	/imí/ /-ínyú/	imí	wényú[2]	
Class 1	/-yè/ /-ké/	íye	wáké	
2a	/vá-/			váshe (chiefs)
2b	/a-/			amái (mother)

Only the pronouns of first and second persons show tonal variation.

MR 16 /VcV́/ ⇒ /V́cV́/ | {cop} __ ({cop} is here /ndh-/)

Is	/iní/	ndhímí	(it is me)
Ip	/isú/	ndhísú	(it is us)
IIs	/iwé/	ndhíwé	(it is you)
IIp	/imí/	ndhímí	(it is you)

[1] These forms are glossed: "my", "our", "your", etc.

[2] In these forms there is coalescence between the possessive /-a-/ and the first vowel of the gender concord.

With the exception of the gender concords mentioned above, gender concord tone presents certain problems in a morphemic analysis. The situation is summarised in the following table:-

Table 4

Gender Concord Tones

Construction	Syntactic Function of Construction	
	Substantival	Predicative
Noun	gò ~ go[1]	gó
Adjective	gò	gó
Enumerative	gò	gó
Demonstrative	gò ~ go	
Verb - Subject Prefix	gò	gó Principal I,II gó Principal III gó Subjunctive gó Pres. & Participial gó Other Participials gó Consecutive gó[1] Past tenses
Selector	gó	
Verb - Object Prefix	gó ~ gò	
Pronoun	go (2 - 18)	
Quantitative	go	
Possessive Prefix	go	

Substantival verb forms are relatives.
Blank in the Predicative column indicates either no predicative form, or inflection by segmental prefix rather than by tonal suprafix.
No tone mark on go here signifies non-occurrence of tone due to the non-syllabic form of the gender concord allomorph.

[1] In this case the go tone is carried by the immediately following vowel -- see § 3.1.5., page 88.

Clearly, in view of the occurrence of both H and L tones on gender concords in constructions having the same syntactic function, the morphophonemic base form of most of the gender concords is best regarded as being toneless. The problem is, in which of the forms do we assign the tone on the gender concord to some morpheme other than the gender concord itself, and in which forms is the tone to be assigned to the gender concord but treated as conditioned by some environmental factor?

For the subject prefix it would appear that the L occurring in the relative should be assigned to a "nominalising" morpheme whose phonemic realisation is a L tone which replaces the H on the gender concord in principal forms.[1] This implies derivation of the substantival (relative) form from the predicative, rather than vice versa.[2] This is clearly desirable for other than tonal reasons.

Adjectives and enumeratives parallel principal and relative verbs in their gender concord tone. If the analysis for verbs suggested above is adopted for adjectives and enumeratives there are difficulties in the formulation of the rule required for the tone sequences following the gender concord (the "inflected nucleus tone rule," page 91). In adjectives and enumeratives (as well as nouns, which are not considered at this point) different tone sequences after the gender concord occur in the substantive than in the predicative forms. The greatest diversity is shown in the substantival forms, as the predicative tones show neutralisation. Nouns show exactly the same tonal perturbation from substantive to predicative as do adjectives and enumeratives, but the far larger number of noun stems provides full exemplification of all the tone sequences which occur on stems. The following tone patterns clearly illustrate the nature of the problem:-

---

1 In verbal forms, tones on the gender concords are only part of the overall tonal patterning involved in signalling of contrasts between different constructions.

2 Transformationally there is good motivation for treating relatives as verbs of embedded sentences in the noun phrase, in much the same way as is done for English. Gregersen, Op. cit., pages 43 to 47, has some discussion of this.

Substantival	Predicative
gó - HHH	gó - LLL
gó - HHL	gó - LLL
gó - HLL	gó - LLL

These must clearly be accounted for by deriving the predicative tones from the substantival in terms of the following rules:-

HHH ⇒ LLL
HHL ⇒ LLL
HLL ⇒ LLL

The general rule we wish to express is that a sequence of H's in substantival forms is replaced by L's in the derived predicative forms. This situation therefore argues against the interpretation of the predicative forms of adjectives and enumeratives as basic. It should also be borne in mind that nouns have exactly the same tonal characteristics as adjectives and enumeratives. While there might well be independent syntactic motivation for regarding predicative adjectives and enumeratives as basic,[1] there is no motivation for regarding the predicative form of nouns as basic.

---

[1] In a transformational generative grammar there are strong motivations for interpreting adjectives as transformationally derived predicatives. This syntactic treatment is quite possible in a TG grammar despite the tonal patterning of the forms discussed above. The difficulties raised by the tone of these forms in a taxonomic, morphemic analysis are not present in a generative treatment. All tonal patterning (apart from lexical tone) is there accounted for by phonological rules (rather than morphemically as in the above analysis) which operate on bracketed strings of formatives. Tonal patterning is then but a surface marker of syntactic relationships. A L tone on the gender concord of adjectives, enumeratives, and verb forms (apart from I,II) is a marker of one kind of sentence embedding. In other Bantu languages this same kind of sentence embedding may be differently marked: in Zulu by the morpheme {yV-} before the gender concord, and in Sotho by the suffix {-g} on verbs. In chapter 2 some of the problems presented by taxonomic "tonal grammar" are discussed, and in Appendix II a generative treatment of tone is provided by way of contrast with this taxonomic analysis.

There appears to be no entirely satisfactory solution, as the parallelism between nouns, adjectives, and enumeratives on the one hand, and verb forms on the other, cannot be accounted for by a single homogeneous interpretation. For nouns, adjectives, and enumeratives, the substantival forms must be taken as basic, while for verb forms the predicative forms are basic. The analysis followed here is that the H of the gender concord in the predicative form of nouns, adjectives, and enumeratives, is assigned to a copulative morpheme, {cop}. The L of the subject prefix in relatives is assigned to a relative morpheme {rel}. The tones on all other gender concords are assigned to the gender concord and accounted for by gender concord morphophonemic rules.

Following this analysis, three morphophonemic rules are necessary for the tonal realisation of gender concords.

/gc/ ⇒ /ǧc/
/gc/ ⇒ /gc/ (toneless)
/gc/ ⇒ /ǧc/

It should be borne in mind that gender concord segmental realisation is covered by rules 1 to 15 above.

MR 17

/gc/ ⇒ /ǧc/ (a) |__ noun stems
adjective stems
enumerative stems
verb phrases, when gc is class 15
(i.e. infinitive inflection)

(b) | $\{v^1$-$\}$ __ (i.e. in the demonstrative)

(c) | __ in principal, positive forms of verbal and associative phrase inflections, when gc is I and II

(d) | __ in the present participial verbal inflection

(e) | __ [-ka-] (i.e. in the consecutive verbal inflection, positive and negative)

(f) | $\left\{\begin{matrix}\text{[ha-]}\\ \text{[nga-]}\end{matrix}\right\}$ __ in the subjunctive positive verbal inflection

(g) | __ in the subjunctive negative verbal inflection, to express negative commands

(h) | H __ verb root (i.e. object concords, showing polarity with the preceding tone).

Examples

MR 17 (a) /gc/ → /ĝc/ | __ noun stems
adjective stems
enumerative stems
verb phrases, when gc is 15

murúmé	(noun)		(man)
vanhu	"		(people)
mapángá	"		(knives)
tuvanhu	"		(small people)
unhu	"		(humanity)
nasí	"		(down, the ground)
zisíkaná	"		(huge girl)
mukúrú	(adj.)	1	(big)
vakúrú	"	2	(big)
mazhínjí	"	6	(big)
tuzhínjí	"	13	(big)
mumwe	(enum.)	3	(another)
rimwe	"	5	(another)
kamwé	"	12	(the same)
kudyá	(inf.)	15	(to eat, food)
kubvunza	"	15	(to ask)
kutarisa	"	15	(to look)

MR 17 (b) /gc/ ⇒ /ǵc/ | {V^1-} __ (i.e. in the demonstrative)

uyu	1	(this)
ava	2	(these)
iri	5	(this)
izvi	8	(these)

MR 17 (c) /gc/ ⇒ /ǵc/ | __ in principal, positive forms of verbal and associative phrase inflections, when gc is I and II.

ndinódyá	(I eat)
tinódyá	(we eat)
uchádya	(you will eat)
muchádya	(you (pl.) will eat)
tingádye	(we may eat)
ndirí kudyá	(I am eating)
unémvura	(you have water)

MR 17 (d) /gc/ ⇒ /ǵc/ | __ in the present participial verbal inflection.

kana ndicídyá	(if I eat)
kana acídyá	(if he eats)
kana ticíbvúnzá	(if we ask)
kana vacítárísa	(if they look)

MR 17 (e) /gc/ ⇒ /ǵc/ | __ {-ka-} (i.e. in the consecutive verbal inflection, positive and negative).

... ndikadyá	(... and then I ate)
... akadyá	(... and then he ate)
... [illegible]kasabvunza	(... and then they didn't ask)
... tikasaténgésá	(... and then we didn't sell)
... mukasaténgésá	(... and then you didn't sell)

MR 17 (f) /gc/ ⇒ /ĝc/ | {[ha-] / [nga-]} __ in the subjunctive positive verbal inflection (hortative).

hátitengese	(let us sell)
hándidye	(let me eat)
ngátibvunze	(let me ask)

MR 17 (g) /gc/ ⇒ /ĝc/ | __ in the subjunctive negative verbal inflection, to express negative commands.

usádyá	(don't eat)
musábvúnzé	(don't ask)

MR 17 (h) /gc/ ⇒ /ĝc/ | H __ verb root (i.e. object concords, showing polarity with the preceding tone).[1]

ndinómuzívá	(I know him)		
ndakámudá	(I liked him) cf.	ákamúdá	(he liked him)
ndakámuóná	(I saw him)		
vámudá	(they liked him)	ndemúda	(I liked him)
váyaóná	(they saw them)	ndayáona	(I saw them)
kana ndichímudá	(if I like him)		
tichámudá	(we will like him)		

MR 18

/gc/ ⇒ /gc/ (toneless) (a) | {cop} __ noun stems
adjective stems
enumerative stems
verb phrases, when gc is class 15

---

[1] All the examples in my corpus conform to this rule, but every verb inflection, principal, participial, and relative, positive and negative, is not represented. Further investigation is required here, but as polarity rules apply to several verbal morphemes, the object concord appears to conform to the general pattern.

(b) | {rel} __

(c) in all cases where the gender concord is non-syllabic, unless covered by MR's 20A and 20B.[1]

Examples

MR 18 (a) /gc/ ⇒ /gc/ (toneless) |{cop}__ noun stems
adjective stems
enumerative stems
verb phrases, when gc is class 15

The copulative morpheme is in the cases specified realised as as a replacive H tone on the gender concord.

múrume	(it is a man)	cf.	murúmé (man)
múti	(it is a tree)		muti (tree)
zvígáro	(they are the chairs)		zvigaro (chairs)
cíkuru (adj.7)	(it is big)		cikúrú (big)
vákuru (" 2)	(they are big)		vakúrú (big)
zvíyi (enum.8)	(what sort are they)		zviyi (what sort)
kúdya (infin.)	(it is the food)		kudyá (food)
kúcéra (")	(it is the digging)		kucera (to dig)

MR 18 (b) /gc/ ⇒ /gc/ (toneless) |{rel} __

The relative morpheme is realised as a replacive L tone on the gender concord.

amúténgá	(he who buys)
vasíngaténgo	(they who don't buy)
richádya	(it that will eat)
tisíná kuténgá	(we who didn't buy)
angábvúnze	(he who may ask)
vasíngábvunzé	(they who may not ask)
ndinémvura	(I who have the water)
vanémvura	(they who have the water)

---

[1] In two cases non-syllabic gender concord tone is passed to the next syllable. See pages 88 to 90.

MR 18 (c) /gc/ ⇒ /gc/ (toneless) in all cases where the gender concord is non-syllabic, unless MR 20 applies.

By morphophonemic rules 1, 2, 3, 4, 10 and 11B above most gender concord morphemes are phonemically realised without vowels. Class 5 {ĩ-} and class 9 {ũ-} are also always phonemically realised without vowels (MR 14 and MR 15 respectively). Examples are given under these morphophonemic rules, pages 55 to 64 above.

MR 19

/gc/ ⇒ /gc/ (a) | __ selector stems

(b) | __ in principal, positive forms of verbal and associative phrase inflections, when gc is XII

(c) | {ha-}__ (i.e. in principal negatives inflections)

(d) |__ in participial forms of verbal and associative phrase inflections, positive and negative, excluding the present participial positive verbal inflection

(e) |__ subjunctive verbal inflection, following verbs of wishing, wanting, etc.

(f) |L __ verb root (i.e. object concords, showing polarity with the preceding tone).

(g) /-ngu/ ⇒ /-ngú/ ! $\left\{\begin{matrix}\{na-\}\\\{sa-\}\\gc-[-a-]\\\{oop\}\end{matrix}\right\}$ gc-[-a-] ____

Examples

MR 19 (a)

/gc/ ⇒ /gc/ | __ selector stems

	"this"	"that"	"which"
1	ũno	ũye	ũpi
5	ĩno	ĩye	ĩpi
8	vĩno	vĩye	vĩpi

MR 19 (b)

/go/ ⇒ /gó/ | __ in principal, positive forms of verbal and associative phrase inflections, when the gender concord is III.

párí kudyá	(they are eating)
vánodyá	(they eat)
zvíodyá	(they will eat)
zvíngátárise	(they may look)
ángábvúnze	(he may ask)
vánemvúrá	(they have some water)

MR 19 (c)

/go/ ⇒ /gó/ | {ha-}__ (i.e. in principal negative verbal and associative phrase inflections).

handídye	(I do not eat)
havádye	(they do not eat)
hamúcaténga	(you will not buy)
haváná kúbvunza	(they didn't ask)
hazvíngátaríse	(they may not look)
hakúná kudyá	(there is no food)
handína mvúrá	(I don't have any water)

MR 19 (d)

/go/ ⇒ /gó/ |__ in participial forms of verbal and associative phrase inflections, positive and negative, excluding the present participial positive verbal inflection.

kana ndínemvúrá	(if I have water)
kana vásiná mvúrá	(if they do not have water)
kana tísingáténge	(if we do not buy)
kana tíodyá	(if we will eat)
kana músiná kúbvunza	(if you didn't ask)
kana vásirí kúbvunza	(if they are not asking)
kana úsingábvunzé	(if you may not ask)

MR 19 (e)

/go/ ⇒ /gó/ | __ in the subjunctive verbal inflection, following verbs of wishing, wanting, etc.

ndinódá kúti ŋdyé	(I want you to eat)
ndinódá kúti váténgé	(I want them to buy)
ndinódá kúti músébvúnzé	(I want you not to ask)

MR 19 (f) (Cf. MR 17 (h) above, page 83)

/go/ ⇒ /gó/ | L __ verb root (i.e. object concords showing polarity with the preceding tone).[1]

kumúbvúnza	(to ask him)
ndamúda	(I liked him)
tamíona	(we saw him)
tacítárísa	(we looked at it)
ákacídá	(he liked it)
kumúséka	(to laugh at him)

MR 19 (g)

$$/\text{-ngu}/ \Rightarrow /\text{-ngú}/ \;/\; \left\{\begin{matrix}\{\text{na-}\}\\ \{\text{sa-}\}\\ \text{go-}\{\text{a-}\}\\ \{\text{cop}\}\end{matrix}\right\} \text{go-}\{\text{-a-}\} \_\_$$

nédzangú	(with mine)
ndhédzangú	(it is mine)
wédzangú	(mine's)
cf. dzángu	(mine)

---

[1] All the examples in my corpus conform to this rule (and rule 17 (h) above), but every verb inflection, principal, participial, and relative, positive and negative, is not represented. Further investigation is required here, but as polarity rules apply to several verbal morphemes, the object concord appears to conform to the general pattern.

3.1.5. Gender Concord Tone Passing

In two cases the tone of gender concords realised non-syllabically is passed to the first vowel of the immediately following vowel-commencing morpheme.[1] The tone-passing rules applied in these cases are ordered in relation to morphophonemic rules 1, 2, 3, 4, 10, 17, 18, 19, and 21.

Noun Prefixes

The L gender concord tone in substantival noun forms (by MR 17(a)), and the H gender concord tone in predicative (copulative) noun forms (by MR's 27(G) below, and 18(a) above), are passed to the first vowel of non-deverbative vowel-commencing stems in all those cases, other than classes 5 and 9, where the noun prefix is realised non-syllabically.[2]

MR 20A $\begin{bmatrix} /\grave{g}c/ \\ /\acute{g}c/ \end{bmatrix} + V \Rightarrow gc$ (toneless) $+ \begin{bmatrix} \grave{V} \\ \acute{V} \end{bmatrix}$

Rule 20A follows rules 17(a), 27(G), and 18(a), and precedes rules 1, 2, 4, and 21. The following is an illustration of the rule ordering involved:-

---

1 Non-syllabic realisation is due to restrictions on vowel co-occurrence at morpheme boundaries. This is covered by morphophonemic rules 1, 2, 3, 4, and 10 above.

2 There are two cases where noun prefixes are not realised non-syllabically before non-deverbative vowel-commencing noun stems. See MR's 1A and 2A. As the prefixes in these cases are syllabic, no tone passing occurs.

vaeni	(strangers)	váéni	(they are strangers)
ruóko	(arm)	rúoko	(it is an arm)
maóko	(arms)	máoko	(they are arms)

/mu-aná/	17(a) ⇒	mù-aná	18(a) 27(G) ⇒	mú-aná
		⇓ 20A		⇓ 20A
		mu-àná		mu-ána
		⇓ 4		⇓ 4
		mw-àná		mw-ána
		(child)		⇓ 21
				mw-ánà
				(it is a child)

Examples

Substantive		Predicative "It is a / they are ..."
vené	(owners)	véne
vaná	(children)	véna
cotó	(fireplace)	cóto
zvengó	(walls)	zvéngo
kaná	(small child)	kána
zotó	(large fireplace)	zóto
rwizí	(river)	rwízi
rwaná	(this child)	rwána
twaná	(small children)	twána
hwahwé	(bear)	hwáhwa
mwaná	(child)	mwána
mwedzí	(moon)	mwédzi
mwoyó	(heart)	mwóyo
mwando	(breeses)	mwándó

Subject Prefixes

When subject prefixes (in verbal inflections) are followed by the past morpheme {-a-} they are realised non-syllabically, and their tone, whether H or L (by MR's 17, 18 and 45, or 19), is passed to {-a-}.

Principal I,II	gw-à-
Principal III	gw-á-
Relative	gw-à-
Participial	gw-á-

MR 20B $\begin{bmatrix} /gò/ \\ /gó/ \end{bmatrix}$ + /-a-/ ⇒ gɔ (toneless) + $\begin{bmatrix} /-à-/ \\ /-á-/ \end{bmatrix}$

Rule 20B follows rules 17(c), 18(b) and 45, or 19(b), 19(c), and 19(d). It precedes rules 1, 2, 3, and 10. The following illustrate the rule ordering involved:-

/ndi-a-dya/	/va-a-dya/
⇓ 17(c)	⇓ 19(b)
ndì-a-dya	vá-a-dya
⇓ 20B	⇓ 20B
ndi-à-dya	va-á-dya
⇓ 1	⇓ 1
nd -à-dya	v -á-dya
⇓	⇓
ndàdyá [1]	vádyà [1]
(I ate)	(they ate)

Examples

ndaídyá	(I used to eat)
váidyá	(they used to eat)
vaídyá	(they who used to eat)
ndaísadyá	(I who didn't used to eat)
havàíténgá	(they didn't used to buy)
kana ndáísaténgá	(if I didn't used to buy)
ndakádya	(I ate)
vákadyá	(they ate)
vakádya	(they who ate)
kana ndákadyá	(if I ate)
taténga	(we bought)
vátenga	(they bought)
vaténgá	(they who bought)
kana ndáténga	(if I bought)

---

[1] Verb stem tone changes [illegible] complex tone morpheme replacements in the va[illegible] jugational forms. This is discussed in § 3.4. below.

3.2. INFLECTED NUCLEUS TONE RULE

In adverbial, possessive, copulative, and "ownership" phrase inflections[1] the first word of the inflected phrase is in many cases tonally perturbed.[2] The same tone changes take place in noun stems following the class 2a prefix {vá-}. Certain sequences of tones are morphophonemically changed, irrespective of the status or morphemic assignment of the individual tones.

Such a situation is one which in principal cannot be handled in allomorphic terms as the changes take place across morphological boundaries. As the term "morphophonemics" is used in this work to refer to the rules covering the relationship of the phonological and morphological strata, rather than only the mapping of morphemes into phonemic sequences, cases such as this are properly covered by the term.

The morphophonemic changes are as follows:-

(a) The first L in a sequence of L's (a sequence being one or an uninterrupted succesion of two or more) is changed to H. In the case of inflections of class 1a nouns (i.e. prefix + 1a noun), the first two L's of a three-L sequence are changed to H's if the 1a noun

---

1 The morphemes {na-} and {sa- } (adverbial), go-{-a-} (possessive), {cop} (copulative), and {sá-}, {mu-zví-ná-}, {va-zví-ná } ("ownership") are prefixed to phrases. Several different kinds of phrases may be so inflected, and these are described in §§ 4.3.2. to 4.3.7. below. The inflectional prefixes are themselves subject to segmental and tonal morphophonemic rules. These rules are treated in §§ 3.3.1. to 3.3.3. below. The details of application of the three morphophonemic rules involved in phrase inflections (the nucleus tone rule, and inflectional prefix segmental and tone rules) vary somewhat with each type of inflection and the form being inflected. The situation is fairly complex and does not permit of overall generalisation.

2 The inflected phrase is in every case the nucleus of the construction (adverbial phrase, possessive phrase, etc.), hence the term "inflected nucleus tone rule."

includes a syllabic gender co ncord of some other class or, in some cases, a syllabic prefixal stem formative.

(b) A single H or an unbroken sequence of H's is changed to low.

These changes are expressed in the following rules:-

MR 21

$$\begin{bmatrix} L(L_n)\ldots \\ H_n\ldots \end{bmatrix} \Rightarrow \begin{bmatrix} H(L_n)\ldots \\ L_n\ldots \end{bmatrix}^{1} \mid \left\{ \begin{array}{l} \text{[vá-]} \\ \text{[na-]} \\ \text{[sa-]} \\ \text{go-[-a-]} \\ \text{[oop]} \\ \text{[sá-]} \\ \text{[mu-zvi-na-]} \\ \text{[va-zvi-na-]} \end{array} \right\} \text{———}$$

MR 21A

LLL ⇒ HHL | prefix - la noun with syllabic prefix

In detail, the changes are the following:-

L	⇒	H
LL...	⇒	HL...
LLL...	⇒	HLL...
		HHL... (inflected la nouns with extra syllabic prefix)
LLH...	⇒	HLH...
H	⇒	L
HH	⇒	LL
HL...	⇒	LL...
HHH	⇒	LLL
HHL...	⇒	LLL...
HLL...	⇒	LLL...
HLH...	⇒	LLH...

---

[1] Ellipses indicate that following tones, if any, are not affected.

Exemplification of these changes is given below. Tone sequences other than those listed are not affected. In particular, LH... remains LH...

In the case of the copulative inflection, the copulative morpheme is in some cases realised segmentally as a prefix, in other cases as a H tone which replaces the L of the gender concord of the inflected word. In either case, when the above rule applies, the tone sequences immediately following the realisation of the copulative morpheme are affected. The following examples illustrate the change LL ⇒ HL following different phonemic realisations of the copulative morpheme.

íshóma	(they are a few)
shoma	(a few)
cígáro	(it is a chair)
cigaro	(a chair)
ndhímámbo	(he is a chief)
mambo	(a chief)
ndheýyu	(it is this one)
uyu	(this one)

Class 2a Nouns -- Examples

váGó / váÍgo	(Mr Igo)	L(L) ⇒ H(L)
cf. Igo	(name: Igo)	
vámámbo	(chiefs)	LL ⇒ HL
cf. mambo	(chief)	
váNyákuti	(Mr So-and-so)	LLL ⇒ HLL
cf. Nyakuti	(So-and-so)	
váCígáro	(Mr Cigaro)	LLL ⇒ HHL [1]
cf. Cigaro	(name: Cigaro)	

[1] /ci/ is the class 7 gender concord and MR 21A is therefore applied.

váFúngisáyí		LLHH	⇒ HLHH
cf. Fungisáyí	(name: Fungisayi)		
váshe	(chiefs)	H	⇒ L
cf. ishé	(chief)		
vákondo	(hammer-head birds)	HH	⇒ LL
cf. kóndó	(hammer-head bird)		
vátenzi	(owners)	HL	⇒ LL
cf. ténzi	(owner)		
váGaranga	(Mr Garanga)	HHH	⇒ LLL
cf. Gárángá	(name: Garanga)		
vásakuru	(grandfathers)	HHL	⇒ LLL
cf. sákúru	(grandfather)		
vánevanjé	(first-born)	HLH	⇒ LLH
cf. névanjé	(first-born)		
vábabá	(fathers)	LH	
cf. babó	(father)		

Phrase Inflections

The inflected nucleus tone rule (MR 21 and 21A) is only applied to certain forms immediately following the various phrase inflecting morphemes. The forms affected are all nominal constructions of word, phrase, and clause types. In the latter two the rule is applied to the first phonological word of the phrase or clause. However, not all nominal constructions are subject to the inflected nucleus tone rule. Some nominal forms are only subject to the rule in certain inflections and not in others, and some nominal constructions (such as classes 2a and 2b nouns, selectors, possessive phrases, and relative phrases[1]) are not subject to the rule at all. The forms subject to the inflected nucleus tone rule are indicated in the table below.

---

1 This is a nominalised verbal construction, in transformational terms a "relativised sentence."

Table 5

Forms Subject to Inflected Nucleus Tone Rule

	Inflection		
	Adverbial	Possessive	Copulative
Nouns, class 1a	No	Yes	Yes
Nouns other than 1a, 2a, 2b	Yes	Yes	Yes
Adjectives	Yes	Yes	Yes
Enumeratives	Yes	Yes	Yes
Demonstratives	Yes	Yes	Yes
Pronouns I, II	No	No	No[1]
III	Yes[2]	Yes[3]	No
Locative Phrases	Yes	Yes	Yes[4]
"Ownership" Phrases			
{nya-}	No	Yes	No
{mu-zvi-na-} {va-zvi-na-}	No	No	Yes
Qualitative Phrases	Yes	Yes	Yes

In the "ownership" inflection, {nya-}, {a-}, {mu-zvi-na-}, and {va-zvi-na-} are prefixed to substantive phrases having nouns as nucleus. Here too, the nucleus tone rule applies to the sequence of nucleus nouns immediately following the "ownership" inflecting morphemes, with the exception of {nya-}.

---

1 But for first and second persons LL ⇒ HL. See MR 16, page 76. HH

2 Only forms without {i-}.

3 Only classes 1 and 2 without {i-}, viz. /-ye/ and /-vo/ respectively.

4 In this case {cop} ⇒ /ndha-/ or H. MR 21 applies only when {cop} ⇒ H, and this necessitates ordering the copulative morpheme morphophonemic rules (MR's 24 and 27) before MR 21.

The contexts in which the inflected nucleus tone rule operates may be fully specified in the rule, as follows:-

MR 21

Let X represent the adverbial, possessive, and copulative morphemes.

$$\begin{bmatrix} L(L_n\cdots) \\ H_n\cdots \end{bmatrix} \Rightarrow \begin{bmatrix} H(L_n\cdots) \\ L_n\cdots \end{bmatrix}$$

(a) | X { nouns, other than 1a,2a,2b; adjectives; enumeratives; demonstratives; locative phrases; infinitive phrases }

(b) | X { {vá-}; {go-{-a-}}; {cop} } nouns of class 1a

(c) | X { {na-}; {sa-} } pronouns III, without {i-}

(d) | X go-{-a-} 1,2 pronouns, without {i-}; "ownership" phrase with {nya-}

(e) | X {cop} "ownership" phrase with {mu-zvi-na-}, {va-zvi-na-}

(f) | X { {sá-}; {mu-zvi-na-}; {va-zvi-na-} } nouns

MR 21A LLL ⇒ HHL { prefix - 1a noun with syllabic prefix

Examples -- Class 1a Nouns

Possessive

rámambo	(the chief's)	LL ⇒ HL
cf. mambo	(chief)	
yáshe	(the chief's)	H ⇒ L
cf. ishé	(chief)	

wáCigáro	(Cigaro's)	LLL	⇒ HHL[1]
cf. Cigaro	(Cigaro)		
rétəzvara	(father-in-law's)	HHL	⇒ LLL
cf. tézvára	(father-in-law)		
rábabá	(father's)	LH	
cf. bábá	(father)		

Copulative

ndhímámbo	(it is the chief)	LL	⇒ HL
cf. mambo	(chief)		
ndhíshe	(it is the chief)	H	⇒ L
cf. ishé	(chief)		
ndhíCigáro	(it is Cigaro)	LLL	⇒ HHL[1]
cf. Cigaro	(Cigaro)		
ndhítenzi	(it is the owner)	HL	⇒ LL
cf. ténzi	(owner)		

Nouns other than 1a, 2a, 2b

Adverbial

sesádza	(like sadza)	LL	⇒ HL
cf. sadza	(sadza (stiff porridge))		
necígaro	(with a chair)	LLL	⇒ HHL
cf. cígaro	(chair)		
néshamwarí	(with a friend)	HLH	⇒ LLH
cf. shámwarí	(friend)		
nébanga	(a knife also)	HH	⇒ LL
cf. bángá	(knife)		
nézai	(an egg also)	HL	⇒ LL
cf. zái	(egg)		

---

[1] MR 21A, as the stem includes the class 7 gender concord (ci-).

	ńyá ńémutí	(oring the medicine)	HH
cf.	mutí	(medicine)	

Possessive

	vaná vemápfeni	(the baboons' young)	LLL ⇒ HLL
cf.	mapfeni	(baboons)	
	dzimbá dzevánhu	(people's houses)	LL ⇒ HL
cf.	vanhu	(people)	
	maśái éhuku	(the fowl's eggs)	HH ⇒ LL
cf.	húkí	(fowl)	
	muswé wéshumbo	(the lion's tail)	HL ⇒ LL
cf.	shúmba	(lion)	

Copulative

	ísádza	(it is sadza)	LL ⇒ HL
cf.	sadza	(sadza)	
	ímbwa	(it is a dog)	H ⇒ L
cf.	imbwá	(a dog)	
	mwána[1]	(it is a child)	H ⇒ L
cf.	mwaná	(a child)	
	íbanga	(it is a knife)	HH ⇒ LL
cf.	bángá	(knife)	
	múrume	(he is a man)	HH ⇒ LL
cf.	murúmé	(man)	
	músikaná	(she is a girl)	HLH ⇒ LLH
cf.	musikaná	(girl)	
	múMbira	(he is an Mbira)	HL ⇒ LL
cf.	muMbíra	(an Mbira)	

---

[1] Although the stem is /-aná/ the gender concord tone (in this case [cop] H) is passed to the first vowel of the stem. See MR 20A, page 88.

Adjectives

Adverbial

sezvíshoma	(like the few)	LLL ⇒ HLL
cf. zvishoma	(a few)	
néburu	(with a big one)	HH ⇒ LL
cf. húrú	(a big one)	
némukúrú	(with a big one)	LHH
cf. mukúrú		

Possessive

mhurú dzénhanhatú	(the calves of the six (cattle))	HLH ⇒ LLH
cf. nhánhatú	(six)	
muswé wéguru	(the big one's tail)	HH ⇒ LL
cf. gúrú	(big one)	
mwaná wémukúrú	(the child of the big one)	LHH
cf. mukúrú	(big one)	

Copulative

fshóng	(they are a few)	LL ⇒ HL
cf. shoma	(a few)	
múkuru	(he is big)	HH ⇒ LL
cf. mukúrú	(big)	
íguru	(it is a big one)	HH ⇒ LL
cf. gúrú	(a big one)	

Enumeratives

Adverbial

úyá nemúmwe	(bring another one)	LL ⇒ HL
cf. mumwe	(another one)	

úyá némumwé (bring the same one) LH
cf. mumwé (the same one)

Possessive

dzimbá dzevámwa (the others' houses) LL ⇒ HL
cf. vamwe (others)

dzimbá dzévamwé (the same ones' houses) LH

Copulative

múmwé (he is another one) L ⇒ H
cf. mumwe (another one)

múmwe (he is the same one) H ⇒ L
cf. mumwé (the same one)

Demonstrative

Adverbial

úyá neúyo (bring that one) LL ⇒ HL
cf. uyo (that one)

seúrwu rwáké (like this one of his) LL ⇒ HL
cf. urwu (this one)

Possessive

mwaná weúyu (this one's child) LL ⇒ HL
cf. uyu (this one)

mabhúku eávo (their books) LL ⇒ HL
cf. avo (them, those)

Copulative

ndheúyu (it is this one) LL ⇒ HL
cf. uyu (this one)

Pronouns (III only, without {i-})

Adverbial

navó vósé	(with them all)	L ⇒ H
cf. ívo	(them)	
cf. naívo	(with them all)	
nayé	(he too)	L ⇒ H
cf. íye	(him)	
cf. naíye	(he too)	
saró gúrú rángu	(like my big one)	L ⇒ H
cf. íro	(it)	
cf. saíro	(like it)	

Possessive (classes 1 and 2 only)

bhúku rayé	(his book)	L ⇒ H
cf. íye	(him)	
cf. bhúku raíye	(his book)	
umwé hwávó	(their unity)	L ⇒ H
cf. ívo		
cf. dangá rídzo	(their kraal)	
cf. dangá raídzo	(their kraal)	

Locative Phrase

Adverbial

nekúmushé úye	(through that village)	LLH ⇒ HLH
cf. kumushá úye	(to that village)	
nemúmushé	(through the middle of the village)	LLH ⇒ HLH
cf. mumushá	(in the middle of the village)	

Possessive

vaná vekúmushé	(the children of the village)	LLH ⇒ HLH

Copulative (only when {cop} = H)

pávánhu	(it is where the people are)	LL → HL
cf. pavanhu	(where the people are)	
pámushá wáké	(it is his headquarters)	LH
cf. mushá wáké	(his headquarters)	
cf. ndhópamushá wáké	(it is his headquarters)	

"Ownership" Phrases

Possessive (only with the morpheme {nya-})

imbwá yányámukádzí wáké	(the dog of him and his wife)
cf. nyamukádzí wáké	(he and his wife)
imbá yányámuzvínáhwahwá	(the house of the owners of the beer)
cf. nyamuzvínáhwahwá	(the owner of the beer)
imbá yávazvínáhwahwá uhwu	(the house of the owners of the beer)

Copulative (only with {mu-zvi-na-} and {va-zvi-na-})

vázvinahwahwá	(they are the owners of the beer)
cf. vazvínáhwahwá	(the owners of the beer)
cf. ndhísányíka	(he is the one in charge of the country)
cf. sányíka	(the one in charge of the country)

Infinitive Phrases

Adverbial

sekúcera gombá	(like digging a hole)
cf. kucera gombá	(digging a hole)
nékutémá mutí	(by cutting a tree)
cf. kutémá mutí	(to cut a tree)

Possessive

	mapadzá ekúcera gombá	(hoes to dig the hole with)
cf.	kucera	(to dig)
	démó rékutémá mutí	(an axe to cut the tree with)
	kutémá	(to cut)

Copulative

	kúdya kwakánáka	(it is good food)
cf.	kudyá kwakánáka	(good food)
	kúcera gombá	(it is digging a hole)
kf.	kucera gombá	(to dig a hole)

Nouns

"Ownership" (with {sá-}, {mu-zví-ha-}, {va-zví-ha-})
Here only the first part of MR 2i generally applies, viz.:-

$$L(L_n\ldots) \Rightarrow H(L_n\ldots)$$

	sáwaci iyi	(the owner of this watch)
cf.	wáci	(watch)
	sányíka iyo	(the owner of that land)
cf.	nyika	(land)
	muzvínámúnda mukúrú	(the owner of a big field)
cf.	munda	(field)
	muzvínáhwahwá	(the owner of the beer)
cf.	hwahwá	(beer)
	muzvínámhóva	(the accused in a repeated case)
cf.	mhósva	(case)
	vazvínábhóra	(football players)
cf.	bhóra	(football)

In all phrase inflections of forms other than those specified in Table 5 on page 95, the inflected nucleus tone rule does not apply. Those cases are indicated in the table below.

Table 6

Forms Not Subject to Inflected Nucleus Tone Rule

	Inflection		
	Adverbial	Possessive	Copulative
Class 1a nouns	No		
Classes 2a, 2b nouns	No	No	No
Selectors	No	No	No
Pronouns I, II	No	No	No [1]
III with {i-}	No	No	No
Pronouns (Poss. nucleus)		No	
Locative Phrases			No [2]
Possessive Phrases	No	No	No
Relative Verbal Phrases	No	No	No
Relative Associative Phrases	No	No	No
Participial Phrases		No	
"Ownership" Phrases			
{nya-}	No		No
{sá-}	No	No	No
{mu-~vi-na-} {va-zvi-na-}	No	No	

Examples -- Class 1a Nouns

Adv.	nashé	(with the chief)
cf.	i hé	(the chief)
	samambo	(like a chief)
cf.	mambo	(chief)

[1] But for pronouns I, II LL ⇒ HL. See MR 16, page 76.

[2] Only when {cop} ⇒ /ndhé-/.

Classes 2a, 2b Nouns

Adv.	savámámbo		(like the chiefs)
Poss.	matare avámámbo		(the chiefs' courts)
Cop.	ndhavámámbo		(it is the chiefs)
	cf. vámámbo	2a	(chiefs)

Adv.	navéshe		(with the chiefs)
Poss.	mombe dzavásha		(the chiefs' cattle)
Cop.	ndhavásha		(it is the chiefs)
	cf. vásha	2a	(the chiefs)

Adv.	naambúya		(with grandmother)
Poss.	durí raambúya		(grandmother's [illegible])
Cop.	ndhaambúya		(it is grandmother)
	cf. ambúya	2b	(grandmother)

Selectors

Adv.	neúnó	(with this one)
Poss.	mwaná weúnó	(this one's child)
Cop.	ndheúnó	(it is this one)
	cf. únó	(this one)

Adv.	necípi	(like which one?)
Poss.	imbá yecípi	(the house of which one?)
Cop.	ndhecípi	(which one is it?)
	cf. cípi	(which one?)

Pronouns I, II

	Adverbial "with me/you/.."	Possessive "of me/you/.."	Copulative [1] "it is me/you/.."	
Is	není	cení	ndhíní	cf. iní
Ip	nesú	cesú	ndhísú	cf. isú
IIs	newé	cewé	ndhíwé	cf. iwé
IIp	nemí	cemí	ndhímí	cf. imí

---

[1] In the copulative inflection of these forms LH ⇒ HH by MR 16, page 76.

Pronouns III with [i-] (cf. page 101)

Adv.	naívo	(with them)
Poss.	caívo	(theirs)
Cop.	ndhívo	(it is them)
	cf. ...o	(them)

Pronouns - Possessive Nucleus (cc. series d)

Poss.	Is	cángu	/ci-a-ngu/	(mine)
	Ip	cédú [1]	/ci-a-ídú/	(ours)
	IIs	cákó	/ci-a-kó/	(yours)
	IIp	cényú [1]	/ci-a-ínyú/	(yours)

Locative Phrases (when {cop} ⇒ /ndʸí-/)

Cop.	ndhépamushá wáké mukúrú	(it is his headquarters)
	cf. pamushá wáké mukúrú	(at his big village)

Possessive Phrases [2]

Adv.	néwaamái	(with mother's)
Cop.	ndhéwaamái	(it is mother's)
	cf. waamái	(mother's)
Adv.	nécomúmwe	(with another's)
Cop.	ndhécomúmwe	(it is another's)
	cf. comúmwe	(another's)
Poss.	céweímwe	(the one of another's)
	cf. weímwe	(another's)

Relative verbal Phrases

Adv.	néanoshándá kwázvo	(with the one who works hard)
Poss.	mushá wéanoshándá kwázvo	(the village of the one who works hard)

---

1 In these forms there is coalescence: /a + i/ ⇒ /e/. This is covered by MR 28, § 3.3.5.

2 See also, however, the slightly amended form of MR 21, page 115, and the examples on page 116.

Cop.	ndhéanoshándá kwázvo	(it is he who works hard)
cf.	anoshándá kwázvo	(he who works hard)

Relative Associative Phrases

Adv.	néanéimbá húrú	(with the one who has a big house)
Poss.	mwaná wéanéimbá húrú	(the child of the one who has a big house)
Cop.	ndhéanéimbá húrú	(it is the one who has a big house)
cf.	anéimbá húrú	(he who has a big house)

Participial Phrases

Poss.	mwaná wavánodá	(the child whom they like)
	mombe dzavákáúrayá	(the cattle which they killed)
	vakádzí vavácaróórá	(the women they will marry)

"Ownership" Phrases

Adv.	nasáwaci iyi	(and the owner of this watch)
cf.	sáwaci iyi	(the owner of this watch)
	nanyamukádzí wáké	(with him and his wife)
cf.	nyamukádzí wáké	(he and his wife)
	sémuzvínáhwahwá	(like the owner of the beer)
cf.	muzvínáhwahwá	(the owner of the beer)
Poss.	imbwá yáwáwaci [1]	(the dog of the watch's owner)
cf.	sáwaci [1]	(the owner of the watch)
	imbá yávazvínáhwahwá	(the house of the beer's owners)
cf.	vazvínáhwahwá	(the owners of the beer)
Cop.	ndhísáwaci iyi	(it is the owner of this watch)
cf.	sáwaci iyi	(the owner of this watch)
	ndhínyabhúku iri	(it is the owner of this book)
cf.	nyabhúku iri	(the owner of this book)

[1] There is some dialectal variation in the tones of these forms.

3.3. MORPHEMES IN /..a/

Five phrase-inflecting morphemes are characterised by the same segmental and tonal morphophonemic rules for at least certain common environments. These morphemes are:-

Adverbial	{na-}	(with, and, also)
	{sa-}	(like)
Possessive	{-a-}	(of)
Copulative	{Cop}	-- only certain phonemic realisations
Presentative	{ha-}	

3.3.1. Segmental Assimilation

The five above morphemes in some cases show regressive vowel assimilation in frontness or backness to the vowel of an immediately following gender concord.[1] The morphophonemic base forms of these morphemes are most conveniently the following:-

{na-}	/na-/
{sa-}	/sa-/
{-a-}	/-a-/
{ha-}	/ha-/
{Cop}	/ndha-/ [2]

---

[1] The assimilations are:- a ⇒ o | __ u
a ⇒ a | __ a
a ⇒ e | __ i

These morphophonemic alternations provide part of the reason for recognising a 3 x 2 vowel system rather than the customary 5 x 3.

i		u		i	u
				e	o
e	a	o		a	

If the 5 x 3 interpretation is adopted, these assimilations are in both front-backness and height.

[2] The copulative morpheme also has other realisations which are quite diverse phonemically, viz. /ndhí-/, /i-/ and R (replacive tone on the gender concord). These are treated in § 3.3.4.3. The base form /ndha-/ only covers those phonemic realisations of {Cop} which, in common with the other four morphemes indicated above, show regressive vowel assimilation.

The base forms of these morphemes may all be generalised as /(C)a-/, and the regressive assimilation rule which applies to them is the following:-

MR 22

/(C)a-/ ⇒ /(C)o-/ | __ gender concords with /u/, as a free variant to /(C)e-/

⇒ /(C)a-/ | __ gender concords with /a/, as a free variant to /(C)e-/

⇒ /(C)e-/ (a) | __ gender concords with /i/
(b) | __ class 5 {ɪ-} and class 9 {N-}
(c) as a free variant to /(C)o-/ and /(C)a-/ in the environments indicated for these.

This morphophonemic rule applies in the inflections indicated in the table below.

Table 7

Inflecting Affixes -- Regressive Vowel Assimilation

	Inflection			
	Adverbial /ha-/sa-/	Possessive /-a-/	Copulative /ndha-/	Presentative /ha-/
Nouns other than 1a, 2a, 2b	Yes	Yes	No[1]	--
Adjectives	Yes	Yes	No[1]	--
Enumeratives	Yes	Yes	No[1]	--
Demonstratives	Yes	Yes	Yes	--
Selectors	Yes	Yes	Yes	Yes
Locative Phrases	Yes	Yes	No	
Infinitive Phrases	Yes	Yes	No[1]	

[1] The form of the copulative morpheme does not show assimilation in these cases.

In addition to MR 22, most of the above cases are subject to the inflected nucleus tone rule (MR 21) and a *tonal dissimilation* rule (MR 23 below).

Nouns other than 1a, 2a, 2b [1]

Adverbial

sómutí mukúrú sémutí mukúrú	(like a big tree)
nómwaná wángu némwaná wángu	(with my child)
námazwí ávó némazwí ávó	(by means of their words)
némvura iyo	(with that water)
sesádza rángu	(like my sadza)
necígaro	(a chair also)

Possessive

vaná vamápfeni vaná vemápfeni	(the baboons' young)
mutauri wórurímí urwu mutauri wérurímí urwu	(the speaker of this tongue)
manyérényété ghari yáké	(the patterns of her pot)

---

[1] Fortune, op. cit., pages 23 and 24 (inter alia), treats these and certain other cases as involving coalescence of /a/ with a "latent initial vowel." Other similar cases are described as involving assimilation, in much the same way as my treatment. In view of these clear cases of assimilation, and despite certain apparent similarities with Nguni, the postulation of latent initial vowels in all forms but Ip and IIp pronoun replacements is uneconomic and unjustifiable. The effect of this treatment is to *increase* morphophonemic complexity by a new kind of rule: gender concords of all classes have vowel-commencing allomorphs which occur in the adverbial and possessive inflections of certain forms only.

Adjectives

Adverbial

naváshoma vakúrú
neváshoma vakúrú (with a few big ones)

séoikúrú cáké. (like his big one)

Possessive

mutauri wórurímí urwu
mutauri wérurímí urwu (the speaker of this tongue)

mhurú dzénhanhatú idzo (the calves of those six)

Enumeratives

Adverbial

úyá necínwe (bring another one)

úyá nómumwé
úyá némumwé (bring the same one)

Possessive

mwené wamámwe óga
mwené wemámwe óga (the owner of the other ones only)

dzimbé dzómumwé
dzimbá dzémumwé (the same one's houses)

Demonstratives

Adverbial

saávo vadíki
seávo vadíki (like those small ones)

noúyu mukúrú
neúyu mukúrú (with this big one)

neíci cimwé (by means of this one only)

Possessive

mabhúku aávo vadíki
mabhúku eávo vadíki (the books of those small ones)

mwaná woúyu mukúrú
mwaná weúyu mukúrú (the child of this big one)

cigaro ceíri riiwé (the chair of this one only)

Copulative

ndhoúyu mukúrú
ndheúyu mukúrú (it is this big one)

ndhaávo
ndheávo (it is those)

ndheíci ciiwé (it is this one only)

Selectors

Adverbial

noúnó
neúnó (with this one right here)

úyá naváyé
úyá neváyé (bring those yonder)

ecíyé ciiwé (like that same one)

Possessive

mwaná woúpi
mwaná weúpi (the child of which one?)

mabhúku aváyé
mabhúku eváyé (their books)

Copulative

ndhoúnó mukúrú
ndheúnó mukúrú (it is this big one)

ndhaváno vadíki
ndhevánó vadíki (it is these small ones here)

ndhecíyé (it is that one over there)

Presentative

hóhwúno hwahwá
héhwúno hwahwá (here is the bear)

háváye vadíki
héváye vadíki (there are the small ones)

hédzíno dzákó (here are yours)

Locative Phrases

Adverbial

nomúcitóro cáké
nemúcitóro cáké (through his store)

Possessive

vaná vokúmushá úye
vaná vekúmushá úye (the children of that village)

Infinitive Phrases

Adverbial

sokúcera gombá
sekúcera gombá (like digging a hole)

nókudyá sádza
nékudyá sádza (and to eat sadza)

Possessive

démó rókutémá mutí
démó rékutémá mutí (an axe to cut the tree with)

mapadzá okúcera gombá
mapadzá ekúcera gombá (hoes to dig the hole with)

3.3.2. Tonal Dissimilation

The regressive vowel assimilation of morphemes having morphophonemic base forms /(C)a-/ (§ 3.3.1. above) is accompanied in all forms but the presentative [ha-] by

simultaneous tonal dissimilation with the immediately following tone. Where the inflected nucleus tone rule applies (MR 21, § 3.2. above), this tone dissimilation rule applies after the nucleus tone rule. The inflecting prefixes /(C)a-/ therefore show tonal polarity with the first perturbed tone of the nucleus, if the nucleus is subject to perturbation by MR 21. The tone dissimilation rule may be expressed concisely as follows:-

MR 23

$$/(C)a\text{-}/ \Rightarrow /(C)\overset{-\alpha H}{a}\text{-}/ \; ! \; \underline{\quad}^{\alpha H}$$

Where: +H represents H tone
-H represents L tone
α represents either + or -
- +H represents L tone
- -H represents H tone

And where the two α's in the rule have the same value.

By this rule: /(C)a-/ H... ⇒ /(C)à-/ H...
/(C)a-/ L... ⇒ /(C)á-/ L...

Examples illustrating the vowel assimilation rule in § 3.3.1. above (pages 110 to 113) also illustrate this rule. Where the adverbial, possessive, copulative, and presentative morphemes have tones other than those accounted for by MR 23, these tonal realisations are accounted for (together with their segmental realisations) by MR's 24 to 27 below.

3.3.3. Other Morphophonemics

The adverbial, possessive, copulative, and presentative morphemes, in addition to their similar segmental and tonal realisations treated in § 3.3.1. and 3.3.2. above, have certain other similar phonemic realisations in some environments. These are accounted for by certain common morphophonemic rules below, but overall contextual generalisation for these rules is not possible.

3.3.3.1. In the adverbial, possessive, and copulative inflections of possessive phrases, relative phrases, and

relative associative phrases, and in the copulative inflection of locative phrases, the following rule applies to the inflecting morphemes:-

MR 24 /(C)a-/ ⇒ /(C)é-/ | __ {Possessive Phrase / Relative Verbal Phrase / Relative Associative Phrase}

MR 24A [cop] /ndha-/ ⇒ /ndhé-/ | __ Locative Phrase

Possessive

In the case of possessive phrase inflections, the possessive {-a-} of the inflected possessive phrase always has L tone when such phrases are multiply inflected. This L tone is in some cases due to the application of the tonal dissimilation rule (MR 23) following the inflected nucleus tone rule (MR 21). When, however, by the application of these two rules {-a-} of the inflected phrase would be H, the inflected nucleus tone rule (MR 21) is not applied, and by MR 23 the possessive prefix is then L.

The inflected nucleus tone rule has therefore to be slightly ammended to take account of this, as follows:-

MR 21 (Here formulated only for possessive phrases and multiply-inflected possessive phrases.)

(a) $H_n\ldots \Rightarrow L_n \mid go\text{-}\{a\text{-}\}$ ___

(b) $L(L_n)\ldots \Rightarrow H(L_n)\ldots \mid \left\{\begin{matrix}\{na\text{-}\}\\ \{sa\text{-}\}\\ go\text{-}\{\text{-}a\text{-}\}\\ [cop]\end{matrix}\right\}$ $go\text{-}\{\text{-}a\text{-}\}$ ____

The polarity rule (MR 23) applies to the inmost possessive {-a-}, and MR 24 to the outmost inflecting morpheme.

The 1s pronoun replacement {-ngu}, which in the simple possessive inflection has L tone, has H tone by MR 19(g) when multiply inflected.

MR 19(g)

$$/\text{-ngu}/ \Rightarrow /\text{-ngú}/ \quad \left| \begin{Bmatrix} \{\text{na-}\} \\ \{\text{sa-}\} \\ \text{go-}\{\text{-a-}\} \\ \{\text{Cop}\} \end{Bmatrix} \text{go-}\{\text{-a-}\} \underline{\qquad} \right.$$ [1]

Examples

Adverbial

	nédzashé uyu	(and those of this chief)
cf.	dzáshe uyu	(those of this chief)
cf.	ishé uyu	(this chief)
	séwaMvúrá	(like Mvura's)
cf.	wáMvura	(Mvura's)
cf.	Mvúrá	(Mvura)
	nécaamái	(with mother's)
cf.	caamái	(mother's)
cf.	amái	(mother)
	nécomúmwe	(with another's)
cf.	comúmwe	(another's)
cf.	mumwe	(another)
	nécomumwé	(with the one of the same one)
cf.	cómumwé	(the one of the same one)
cf.	mumwé	(the same one)
	séwoúnó	(like the one of this one)
cf.	woúnó	(the one of this one)
cf.	únó	(this one)
	nédzangú	(with mine)
cf.	dzángu	(mine)

---

1 Alternatively /-ngu/ could be treated as having inherent H tone which becomes L in the simple possessive by the inflected nucleus tone rule. In further inflections of possessive phrases with /-ngu/ the latter would then have its basic H tone due to non-operation of the nucleus tone rule. On the other hand the pronoun replacemnts of IIs ({ko}) and class 1 ({-ke}) have basic inherent H tone and are not subject to the nucleus rule. No homogeneous treatment is therefore possible either way.

	sévesú	(like ours)
cf.	vesú	(ours)
cf.	isú	(we)
	néradzó dzósé	(like that of them all)
cf.	rádz dzósé	(that of them all)
cf.	ídzo dzósé	(all of them)

Possessive

	cínhu céwemvá iyi	(the thing of the one (e.g. owner) of this house)
cf.	wémba iyi	(the one (e.g. owner) of this house)
cf.	imbá iyi	(this house)
	céweíyo húrú	(the one of the one of that big one)
cf.	weíyo húrú	(the one of that big one)
cf.	iyo húrú	(that big one)

Copulative

	ndhédzevánhu védú	(it is those of our people)
cf.	dzevánhu védú	(those of our people)
cf.	vanhu védú	(our people)
	ndhéyegárángá rángu	(it is the one of my second wife)
cf.	yégaranga rángu	(the one of my second wife)
cf.	gárángá rángu	(my second wife)
	ndhéwoúnó mukúrú	(it is this elder's)
cf.	woúnó mukúrú	(this elder's)
cf.	únó mukúrú	(this elder)
	ndhédzangú	(they are mine)
cf.	dzángu	(mine)

Locative Phrase

Copulative ([cop] ⇒ /ndhé-/ or Ø)

	ndhépamushá wáké mukúrú	(it is his headquarters)
cf.	pamushá wáké mukúrú	(at his big village)
cf.	pámushá wáké mukúrú	(it is his headquarters)
cf.	mushá wáké mukúrú	(his big village)

Relative Verbal Phrase

Adverbial

nésanoshándá Haráre	(with him who works in Salisbury)
cf. anoshándá Haráre	(he who works in Salisbury)
sévaivhímá musángó	(like those who used to hunt in the veld)
cf. vaivhímá musángó	(those who used to hunt in the veld)
névacácéra gombá	(with those who will dig the hole)
cf. vacácéra gombá	(those who will dig the hole)

Possessive

imbwá dzévanóvhímá	(the dogs of those who hunt)
cf. vanóvhímá	(those who hunt)
céakáténgesa mombe	(the one of him who sold the cattle)
cf. akáténgesa mombe	(he who sold the cattle)

Copulative

ndhéanoshándá Haráre	(it is he who works in Salisbury)
cf. anoshándá Haráre	(he who works in Salisbury)
ndhévaivhímá	(it is they who used to hunt)
cf. vaivhímá	(they who used to hunt)

Relative Associative Phrase

Adverbial

nésnóimbá húrú	(with the one who has a big house)
cf. anéimbá húrú	(the one who has a big house)
nékuneúyu	(through the place where this one is)
cf. kuneúyu	(where this one is)
nékunemúmwe mukúrú	(and where the other big one is)
cf. kunemúmwe mukúrú	(where the other big one is)

Possessive

	mwaná wéanéimbá	(the child of he who has a house)
cf.	anéimbá	(he who has a house)
	vaná vévanémómbe	(the children of those with cattle)
cf.	vanémómbe	(those with cattle)

Copulative

	ndhéanéimbá húrú	(it is he who has a big house)
cf.	anéimbá húrú	(he who has a big house)
	ndhévanésádza rángu	(it is those who have my sadza)
cf.	vanésádza rángu	(they who have my sadza)

3.3.3.2. MR 25 applies to the adverbial, possessive, and copulative morphemes when these inflect the forms indicated in the table below.

MR 25 /(C)a-/ ⇒ /(C)à-/

Table 8

Contexts for MR 25 Application

	Inflection		
	Adverbial	Possessive	Copulative
Nouns, class 1a	Yes	No	No
Nouns, classes 2a,2b	Yes	Yes	Yes
Pronouns: I,II	Yes	Yes	No
class 1	Yes	Yes	No
classes 2 - 18	Yes	Yes[1]	No
Ownership phrase with [nya-], [sá-]	Yes	No	No
Participial Phrase	--	Yes	--

In some cases the inflected nucleus tone rule (MR 21) also applies.

---

1 In this case only when the pronouns include the morpheme [i-].

Nouns Class 1a

Adverbial

	nashé uyu	(and this chief also)
cf.	ishé uyu	(this chief)
	samambo mukúrú	(like a senior chief)
cf.	mambo mukúrú	(a *senior chief*)

Nouns Classes 2a, 2b

Adverbial

	navánevanjé avo	(with those firstborn)
cf.	vánevanjé avo	(those firstborn)
	úyá navábabá	(come with the fathers)
cf.	vábabá	(fathers)
	naamái vóga	(with mother only)
cf.	amái vóga	(mother only)

Possessive

	matare svámámbo	(the chiefs' courts)
cf.	vámámbo	(the chiefs)
	durí raambúya	(grandmother's mortar)
cf.	ambúya	(grandmother)

Copulative

	ndhavábabá vakúrú	(*it is the elder fathers*)
cf.	vábabá	(fathers)
	ndhavámámbo	(it is the chiefs)
cf.	vámámbo	(chiefs)
	ndhaamái vóga	(it is mother only)
cf.	amái vóga	(mother only)

Pronouns

Adverbial (I,II pronouns are subject to coalescence rule MR 26 below. III pronouns without {i-} are subject to the inflected nucleus tone rule MR 21.)

není mukúrú	(with me the senior one)
sesú vakúrú	(like us old people)
nayé / naíye	(and he who studies)
navó vósé / naívo vóeé	(with them all)
saró gúrú rángu / saíro gúrú rángu	(like my big one)

Possessive (I,II pronouns are subject to coalescence rule MR 28 below. With III pronouns the possessive morpheme only occurs as /-á-/ in class 1, and in classes 2 to 18 with {i-}.)

mombe dzení mukúrú	(the cattle of me the senior one)
vaná vaáí	(our children)
musha wewé	(your village)
bhúku rayé / bhúku raíye	(his book)
zvigaro zvaívo / of. zvigaro zvávó	(their chairs)
dangá raídzo	(their cattle kraal)

Ownership Phrase (with {nya-}, {sá-})

Adverbial

nasáwaci iyi	(and the owner of this watch)
nanyamukádzí wáké	(with that fellow and his wife)
nasányika iyo	(and the one responsible for that country)

Participial Phrase

Possessive

mwaná wavánodá (the child whom they like)
mombe dzavákáúrayá (the cattle which they killed)
sadza rgvári kudyá (the sadza which they are eating)

3.3.3.3. MR 26 applies in those cases where phrase-inflecting morphemes have the phonemic realisation /(C)á-/.

MR 26 Applies to possessive {-a-}.

/-a-/ ⇒ /-á-/ | gc- __ { 1a nouns; pronouns 2 - 18 without {i-}; pronoun replacement gc's (III.1); 'ownership' phrases }

MR 26A Applies to presentative {ha-}.

/ha-/ ⇒ { /há-/ | __ selectors (/há-/ further subject to assimilation rule MR 22 above); /há-/ | __ demonstratives (/há-/ is further subject to coalescence rule MR 28 below.) }

Possessive

1a Nouns

dare rámámbo (the chief's court)
munda wáCígáro (Cigaro's field)
mombe yáshe (the chief's head of cattle)
démó rábabá (father's axe)

Pronouns classes 2 to 18 without {i-}

dangá rádzo (their cattle kraal)
kudyá kwáro (its food)
vaná vátwo (their children)

Pronoun replacement gender concords I,II, and class 1

mombe dzángu	(my cattle)
vaná védú	(our children) (also MR 28)
sadza rákó	(your sadza)
vaná vényú	(your children) (also MR 28)
mushá wáké	(his village)

"Ownership" phrases

imbwá yásáwaci	(the dog of the owner of the watch)
imbwá yányámukádzí wáké	(the dog of him and his wife)
imbá yávazvíńáhwahwá uhwu	(the house of the owners of this beer)
vaná vásányíka iyo	(the children of the one in charge of that country)

Presentative

Selectors /há-/ is also subject to vowel assimilation rule MR 22 above.

hóhwúno hwahwá	(here is the beer)
háváye vadíki	(there are the small ones)
hédzíno dzákó	(here are yours)

Demonstratives /há-/ is also subject to vowel coalescence rule MR 28 below.

héyo mombe yábabá	(there is father's ~~cattle~~ cow)
hávo vanhu váye	(there are those people)
hórwo rwaná	(there is the miserable child)

3.3.4. Summary

The morphophonemic rules for adverbial, possessive, copulative, and presentative phrase-inflecting morphemes are sub-categorised above (MR's 22 to 26) in order to permit the greatest generalisation about their highly similar morphophonemic alternations. The rules as they relate to these morphemes individually are summarised in conflated form below, and in the case of the copulative several additional phonemic realisations are also accounted for.

3.3.4.1. Adverbial Morphemes {na-} /na-/, {sa-} /sa-/

/Ca-/ ⇒

(A) [-«H /Co-/ | -«H /Ca-/ | -«H /Ce-/] | — [go with «H /u/ | go with «H /a/ | (a) go with «H /i/ | (b) «H V if go is {i-} or {N-} | (c) go, as free variant to /Co-/ and /Ca-/] | — { Noun other than 1a, 2a, 2b | Adjective | Enumerative | Demonstrative | Selector | Locative Phrase | Infinitive Phrase }

(B) /Cé-/ | — { Possessive Phrase | Relative Verbal Phrase | Relative Associative Phrase | "Ownership" Phrase {muzvína-}, {vazvína-} }

(C) /Cà-/ | — { Class 1a, 2a, 2b Noun | Pronoun | "Ownership" Phrase with {nya-} or {sá-} }

This rule is applied after the inflected nucleus tone rule (MR 21), and the tonal dissimilation in (A) is therefore dissimilation with the first perturbed tone resulting from the application of MR 21. Notice that in (A) the context specification is both of a phonological and grammatical nature.

3.3.4.2. Possessive Morpheme [-a-] /-a-/

/-a-/ ⇒ (A) [-∝H /-o-/ / -∝H /-a-/ / -∝H /-e-/] | go__ [go with ∝H /u/ / go with ∝H /a/ / go with ∝H /i/ / (b) ∝H Y if go is {i-} or {N-} / (c) go, as free variant to /-o-/ and /-a-/] | __ { Noun other than 1a, 2a, 2b / Adjective / Enumerative / Demonstrative / Selector / Locative Phrase / Infinitive Phrase }

(B) /-é-/ | go__ { Possessive Phrase / Relative Verbal Phrase / Relative Associative Phrase }

(C) /-à-/ | go__ { Class 2a, 2b Noun / Pronoun I,II, class 1 / classes 2 - 18 with {i-} / Participial Clause }

(D) /-ê-/ | go__ { Class 1a Noun / Pronoun, classes 2 - 18 without {i-} / Pronoun replacements (possessive nucleus) / "Ownership" Phrase }

3.3.4.3. Copulative Morpheme {cop}

MR 27

{cop} ∞ (A)	~∝H /ndho-/	—	gc with ∝H /u/	Demonstrative / Selector
	~∝H /ndha-/		gc with ∝H /a/	
	~∝H /ndhe-/		(a) gc with ∝H /i/	
			(b) ∝H gc, as free variant variant to /ndho-/ and /ndha-/	
(B)	/ndhà-/	—	Class 2a, 2b Noun	
(C)	/ndhé-/	—	Locative Phrase, as free variant to H Possessive Phrase Relative verbal phrase Relative Associative phrase	
(D)	/ndhí-/	—	Class 1a Noun "Ownership" Phrase with {sá-} or {nya-}	
(E)	/ndh-/	—	Pronoun	
(F)	/í-/	—	Class 5, 9 Noun Class 5, 6 Adjective	
(G)	H	$\overline{gc}$	Noun other than 1a,2a,2b,5,9 Adjective other than 5,9 Enumerative Locative Phrase, as free variant to /ndhé-/ "Ownership" Phrase with {mu-zví-na-} or {va-zví-na-} Infinitive phrase	

The forms (A), (B), and (C) have already been accounted for by morphophonemic rules 22, 23, 24, and 25, and have been illustrated above. Illustration of the remaining forms is given below.

Copulative Examples

1a Nouns (The inflected nucleus tone rule also applies.)

ndhíshe uyu	(it is this chief)
ndhímámbo	(it is the chief)
ndhítenzi	(it is the owner)
ndhíCigáro	(it is Cigaro)

"Ownership" Phrase with [nya-]ani [sá-]

ndhísáwaci iyi	(it is the owner of this watch)
ndhínyabhúku	(it is the owner of the book)

Pronouns (I,II have MR 16 applied, Lī ⇒ Nu)

ndhíní	(it is me)
ndhísú	(it is us)
ndhíwé	(it is you)
ndhíko kamwe	(it is another one)
ndhídzo dzángu	(they are mine)

Classes 5 and 9 Nouns (The inflected nucleus tone rule also applies.)

ímvura iyo	9	(it is that water)
ímbwa yédú	9	(it is our dog)
ísádza rángu	5	(it is my sadza)
íbvéni	5	(it is a baboon)

Classes 5 and 9 Adjectives (The inflected nucleus tone rule also applies.)

íguru rángu	5	(it is my big one)
íshóma idzi	9	(it is these few)
íčéte	5	(it is a thin one)

Nouns other than of classes 1a, 2a, 2b, 5, and 9.
(The inflected nucleus tone rule also applies.)

muti mukúrú	(it is a big tree)
zvígáro zvángu	(they are my chairs)
mázwi ávó	(it is their words)

mú̱sikaná	(she is a girl)
mú̱rume	(he is a man)
vákadzi	(they are women)

Adjectives other than classes 3 and 9[1]

cí̱kuru cáké	(it is his big one)
vá̱shóma vakúrú	(they are a few big ones)
zví̱nganí	(how many are they?)

Enumeratives[1]

mú̱mwé	(he is another one)
mú̱mwe	(he is the same one)
cí̱yi	(what sort is it?)

Locative Phrases[1] (H is a free variant to /ndhé-/.)

pámushá wáké mukúrú ndhépamushá wáké mukúrú	(it is his headquarters)
ndhékumushá wáké mú̱mushá wáké	(it is towards his home)

"Ownership" Phrases with [mu-zví-na-] and [va-zví-na-][1]

vá̱zvinahwahwá uhwú	(they are the owners of this beer)
mú̱zvinamhosva	(he is the accused)

Infinitive Phrases[1]

kú̱dya kwé̱ náka	(it is good food)
kú̱céra gomá	(it is digging a hole)

---

[1] The inflected nucleus tone rule also applies.

3.3.5. Non-discrete Morphophonemes -- Coalescence

Certain sequences of morphemes have non-discrete phonemic realisations, that is, the phonemes involved in these realisations cannot all be exclusively assigned to one or the other of the morphemes concerned. All such cases involve morphemes whose morphophonemic base forms end in /a/, followed by certain vowel-commencing morphemes. The /a/ of the one morpheme and the vowel (only /i/, /a/, or /u/) of the next are phonemically realised by a single vowel.

MR 28

$$/a/ + \begin{bmatrix} /i/ \\ /a/ \\ /u/ \end{bmatrix} \Rightarrow \begin{bmatrix} /e/ \\ /a/ \\ /o/ \end{bmatrix}$$

These morphophonemic changes have customarily been described as involving vowel "coalescence." In terms of the vowel system as analysed above,[1] the two juxtaposed vowels mutually assimilate in the resultant single low vowel.

The forms to which MR 28 applies are the following:-

class 6 gender concord /ma-/	__ two /i/-commencing noun stems
adverbial /na-/ and /sa-/	__ pronouns I,II
possessive /-a-/	__ { pronouns I,II ; pronoun replacements (Ip,IIp (possessive nucleus) }
presentative /há-/	__ demonstratives

Examples

Nouns

The two noun stems {zino} (tooth) and {zieo} (eye) which are subject to MR 28 when occurring with {ma-}, themselves show

---

1

	Front	Mid	Back
High	i		u
Low	e	a	o

morphophonemic variation.

MR 29

$$/\text{ziCo}/ \Rightarrow \begin{cases} /\text{-iCó}/ & \{\text{ma-}\} \_\_ \\ /\text{zíCó}/ & \begin{cases}\{\text{i-}\} \\ \{\text{ma-}\}\end{cases} \_\_ \end{cases}$$

By MR 28 /ma-/ - /-iCó/ ⇒ /meCó/.

menó / mezínó	(teeth)	cf.	zínó	5	(tooth)
mesó / mazísó	(eyes)	cf.	zísó	5	(eye)

Adverbial Inflection of Pronouns I,II

nenú	(with me)	cf.	inú	(I)
sesú	(like us)	cf.	isú	(we)
newé	(with you)		iwé	(you)
semí	(like you)		imí	(you)

Possessive Inflection of Pronouns I,II

ceni	(mine)	cf.	ini	(I)
cesú	(ours)		isú	(we)
cewé	(yours)		iwé	(you)
cemí	(yours)		imí	(you)

Possessive Inflection of Pronoun Replacements Ip, IIp

cédú	(ours)	/ci-a-idu/
cényú	(yours)	/ci-a-inyu/

Presentative Inflection of Demonstratives

héyo mombe	(there is that head of cattle)	/há-/-/iyo/ ⇒ héyo
háva	(here these are)	/há-/-/ava/ ⇒ háva
héyo	(there that one is)	/há-/-/uyo/ ⇒ héyo

3.4. CONJUGATIONAL MORPHEMES

Conjugational morphemes are of two main types; those whose phonemic realisation is segmental and tonal, and those whose realisation is only tonal. Some of the former have invariant phonemic forms, whereas others show conditioned tonal variation which is accounted for by morphophonemic rules. Forms with only tonal realisation constitute a class of mutually exclusive morphemes which occur on the "verb stem,"[1] and show conditioned variation similarly accounted for by morphophonemic rules. One conjugational morpheme has invariant segmental realisation only.

3.4.1. Morphemes with Invariant Phonemic Realisation

(a) Negative $\{ha_n\text{-}\} \Rightarrow$ /hà-/

handiténgésé	(I do not sell)
haváiténgésá	(they didn't used to sell)
havácábvunzá	(they will not ask)
hatíná kudyá	(we didn't eat)
hatíngábvunzé	(we may not ask)
havásí kúbvunza	(they are not asking)

(b) Hortative $\{ha_h\text{-}\} \Rightarrow$ /há-/

hátibvunze	(let us ask)
hátitenge mombe	(let us buy a head of cattle)

(c) Consecutive $\{\text{-}ka_c\text{-}\} \Rightarrow$ /-kà-/

... ndikadyá sádza	(... and then I ate sadza)
... vakaténgá	(... and then they bought)
... akabvunza	(and then he asked)

(d) Present Participial $\{\text{-}ci_p\text{-}\} \Rightarrow$ /-cí-/

kana ndicídyá	(if I eat)
kana acíbvá	(if he leaves)
kana acírégérera	(if he forgives)

---

[1] I.e., Verb root-(extension(s))-final suffix.

(e) Exclusive {-o_2-} ⇒ /-ó-/

ndódya	(should I start eating?)
vóbvá	(should they leave?)
tóhvúnda	(should we ask?)

(f) Past {-a-} ⇒ /-a-/ (toneless, by MR 20B /-a-/ carries the tone of the subject gender concord)

ndadyá	/ndi-a-/	(I ate)
vádya	/vá-a-/	(they ate)
vadyá	/và-a-/	(they who ate)
takátenga	/ti-a-/	(we bought)
ákátárisa	/á-a-/	(he looked)

(g) Nominalising (class 15) {ku-} ⇒ /kù-/ (MR 17(a)

kudyá sádza	(to eat sadza)
kuténgá mómbe	(to sell a head of cattle)
kucera gombá	(to dig a hole)

(h) Plural {-yi} ⇒ /-yí/

bvunzáyí mámbo	(ask the chief!)
idyáyí sádza	(eat the sadza!)
tarísáyí	(please look!)

3.4.2. Morphemes Showing Tonal Dissimilation

Several morphemes whose realisation is segmental and tonal show tonal variation which is in most cases dissimilation (polarity) with preceding or following tones. This dissimilation is expressed in the morphophonemic rules by the same notational devices utilised above, and explained on page 114. In a few cases the dissimilation is with the tone class of the verb root (the latter being high or low), irrespective of the tonal sequence actually occurring on the verb stem. This dissimilation is indicated by +R.

(a) Present habitual {-no-} [1]

MR 30A {-no-} ⇒ /-no-/ $^{\neg\ll H}$ | $^{\ll H}$ ___

ndinóḍyá	(I eat)
ánodyá	(he eats)
anódyá	(he who eats)
tinóbvunza	(we ask)

Fortune has elicited participial forms of the present habitual,[2] and here {-no-} appears to show dissimilation with the verb root tone class.

MR 30B {-no-} ⇒ /-no-/ $^{\rightarrow R}$

ndínopá	(I give)	ndínóbvá	(I leave)
ndínoténga	(I buy)	ndínóbvunzá	(I ask)
ndínosévenzá	(I work)	ndínótarísa	(I look)

(b) Past habitual {-i-}

MR 31

$$\{\text{-i-}\} \Rightarrow \begin{cases} \begin{cases} /\text{-i-}/ \mid \_\_\ \text{sà-}^{H} \\ /\text{-i-}/ \mid \_\_\ \text{sà-}^{L} \end{cases} \mid \text{go-á-}\_\_\_\_ \text{ (i.e. negative participial)} \\ /\text{-i-}/^{\neg\ll H} \mid {}^{\ll H}\_\_\ \text{, elsewhere} \end{cases}$$

Negative participial:

kana ndáísadyá	(if I didn't used to eat)
kana áísatónga	(if he didn't used to buy)
kana táísabvunza	(if we didn't used to ask)
cf. kana taísábvunza	(we who didn't used to ask)
kana váísatarisa	(if they didn't used to look)
cf. vaísátarisa	(they who didn't used to look)

---

[1] There is some dialectal variation in the tone of /-no-/.

[2] Unpublished student notes.

Other past habitual forms:

ndaſádyá	(I used to eat)
váídyá	(they used to eat)
vaídyá	(they who used to eat)
maírwa	(you used to fight)
ráírwa	(it used to fight)
raírwa	(it which used to fight)
kana ráírwa	(if it used to fight)
kana áíténgá	(if he used to buy)
handáípá	(I didn't used to give)
handáíbvunza	(I didn't used to *ask*)
aísapá	(he who didn't used to give)
vaſsátarisa	(they who didn't used to look)

(c) Negative {-si-}

MR 32

$$\{\text{-si-}\} \Rightarrow \begin{cases} /\text{-sí/} & |\{ha\text{-}\}go\text{-}\_\_ \\ \text{-}\acute{}\text{H} & \acute{}\text{H} \\ /\text{-si-/} & [\acute{}\text{H} \_\_ \end{cases}$$

handísí kudyá	(I am not eating)
havásí kútarisa	(they aren't looking)

In these examples {-si-} seems to be functioning as a so-called "deficient verb."

cf. ndisírí kudyá	(I who am not eating)
kana ndisírí kudyá	(if I am not eating)

ndisíngadyé	(I who do not eat)
vasíngábvunzé	(they who do not ask)
asíngaténgesé	(he who does not sell)

kana ndísingádye	(if I do not eat)
kana vásingábvunzé	(if they do not ask)
kana ásingáténgesé	(if he does not sell)

ndisírí kupá	(I who am not giving)
vasírí kúbvunza	(they who are not asking)
asírí kuténgésá	(he who isn't selling)
kana ndísirí kupá	(if I am not giving)
kana vásirí kúbvunza	(if they are not asking)
kana ásirí kuténgésá	(if he is not selling)
vasísapé	(they who will not give)
vasísábvunzé	(they who will not ask)
tisísátaríse	(we who will not look)
kana vásingápe	(if they will not give)
kana vásingábvunzé	(if they will not ask)
vasíná kudyá	(they who didn't eat)
asíná kúbva	(he who didn't leave)
kana vásiná kudyá	(if they didn't eat)
kana vásiná kúbva	(if he didn't leave)
ndisíngapé	(I who may not give)
asíngaténge	(he who may not buy)
vasíngábvunzé	(they who may not ask)
kana ndísingápe	(if I may not give)
kana ásingáténge	(if he may not buy)
kana vásingábvunzé	(if they may not ask)

(d) Negative {-sa-}

MR 33

{-sa-} ⇒	-«H /-sa-/	| go-à-í-___-«H-a	(past habitual neg. rel.)
	/-sá-/	| go-___-H-e	(subjunctive neg.)
	/-sà-/	elsewhere	

Past habitual negative relative:

taísạ́téngá	(we who didn't used to buy)
aísạ́téngésá	(he who didn't used to sell)
vaísạ́bvunza	(they who didn't used to ask)
ndaísạ́tárisa	(I who didn't used to look)

Subjunctive negative:

ndinódá kúti úsạ́dyé	(I want you not to eat)
ndinódá kúti vásạ́téngé	(I want them not to buy)
ndinódá kúti úsạ́bvúnzé	(I want you not to ask)
usạ́bvúnzé	(don't ask!)

Other forms:

kusạ́dyá	(not to eat)
kusạ́bva	(not to leave)
kusạ́bvunza	(not to ask)
hátisạ́dye	(let us not eat)
hátisạ́bvunze	(let us not ask)
ndikasạ́dyá	(and then I didn't eat)
vakasạ́tarisa	(and then they didn't look)
kana váísạ́téngá	(if they didn't used to buy)
kana áisạ́bvunza	(if he didn't used to ask)

(e) Several morphemes whose phonemic realisation ends with /a/ show tonal dissimilation which in some cases is progressive, in some regressive, and in other cases dissimilation with the tone class of the verb root. These morphemes are covered by the same set of morphophonemic rules, the morphemes being the following:-

{-za-}	(future)
{-nga-}	(potential)
{-ka-}	(remote past)
{-sa-$_f$}	(future negative)[1]

[1] This form is treated as being distinct from negative {-sa-} in (d) above as the future negative relative where {-sa-} in (d) above as the future negative {-si-} (go-si-sa-R-a, occurs had a negative morpheme in {-si-} (go-si-nga-R-a), and is of. future negative participial: go-si-nga-R-a), and is tonally similar to the other morphemes listed in (e).

MR 34A [-Ca-] ⇒ /-Cá-/ | $^{(H)L}$ ___ Root [1]

ndicápa	(I will give)
ticábvúnza	(we will ask)
vacábvúnza	(they who will ask)
cf. vácábvúnza	(they will ask)
tingádye	(we may eat)
ungátenge	(you may buy)
angátenge	(he who may buy)
vangátárise	(they who may look)
ndakápa	(I gave)
takábvá	(we left)
vakátárisa	(they who looked)
kana ndísingádye	(if I do not eat)
kana vásingáténge	(if they do not buy)
kana tísingábvunzé	(if we do not ask)
kana ásingátaríse	(if he does not look)

MR 34B [-Ca-] ⇒ $^{-\alpha H}$/-Ca-/ | ^{LH} ___ $^{\alpha H}$ Root [2]

handícapá	(I will not give)
handícabvá	(I will not leave)
handícábvunzá	(I will not ask)
handícaténga	(I will not buy)
havángapé	(they may not give)
havángabvé	(they may not leave)
havángábvunzé	(they may not ask)
havángaténge	(they may not buy)
tisísadyé	(we who will not eat)
tisísaténge	(we who will not buy)
tisísátaríse	(we who will not look)
vasísábvunzé	(they who will not ask)

---

1 This is a case of progressive dissimilation.

2 This is a case of regressive dissimilation.

vasíngadyé (they who may not eat)
vasíngaténge (they who may not buy)
tisíngábvunzé (we who may not ask)

MR 346 [-Ca-] ⇒ /-Ca-/ $^{+R}_{H}$ ___ Root

High roots:

ácadyá (he will eat)
vácaténgá (they will buy)

kana ácadyá (if he will eat)
kana ácaténga (if he will buy)

ángapé (he may give)
ángaténgésé (he may sell)

kana vángapé (if they may give)
kana vángaténgesé (if they may sell)

ákadyá (he ate)
ákaténgá (he bought)

Low roots:

vácábvúnza (they will ask)
vácátárisa (they will look)

kana ácábvá (if he will leave)
kana ácábvunzá (if he will ask)

ángábvé (he may leave)
ángátárise (he may look)

kana vángábvé (if they leave)
kana vángábvunzé (if they ask)

ákábvá (he left)
ákátárisa (he looked)

3.4.3. Tonal Morphemes

The sequence of tones occurring on the root-extension(s)-final suffix of a verbal form[1] is interpreted as a single morphological entity, and is assigned to a morpheme whose realisation is only tonal. There are altogether ten such morphemes, some of which occur with the high class of verb roots, some with the low verb roots, and a few with both. We are not concerned here with the substitution of one tonal morpheme for another in the various verbal inflections, but rather with the conditioned phonemic variation shown by each morpheme. In any particular verbal construction the various tone sequences of different "lengths" occurring on verb stems, with high roots on the one hand and low roots on the other, are simply different phonologically conditioned realisations of the morphemes concerned.

For example, in the following infinitive forms the sequences H, HH, HHH occur with the high roots, and the sequences L, LL, LLL occur with the low roots.

kudyá	(to eat)	kubva	(to leave)
kuténgá	(to buy)	kubvunza	(to ask)
kuténgésá	(to sell)	kutarisa	(to look at)

---

[1] The forms traditionally regarded as "verbs" are treated rather differently in this analysis (see §§ 4.2.2. and 4.3.8. below). What has commonly been called the "verb stem" is composed of the verb radical (root + extension(s)) together with the terminal suffix.

Which of the three high sequences occurs is conditioned by the number of syllables in the verb stem, and the same applies to the low sequences. Only two morphemes are therefore recognised and these have allomorphs: /H ~ HH ~ HHH/ and /L ~ LL ~ LLL/. It should be noted that stems incorporating extensions are tonally no different from those without.

The morphophonemics of these tonal morphemes may be stated in allomorphic (or "sub-selection") terms, as above, or in adjustment terms utilising base forms. In the latter case it is convenient to recognise as base forms the longest sequences being accounted for. A morphophonemic rule is necessary for each morpheme in order to specify the base form for each.

For most of the tonal morphemes, sequences of two or more are simply sequential left-to-right expansions or additions to the tone occurring on a monosyllabic stem. This is seen in the following realisations of one such morpheme:-

H
HH
HHH
HHHL.

In this case, as the verb stem is lengthened, one more tone per syllable is added (left-to-right) in accordance with the above "paradigm".

In a few cases the expansion is not simply by addition to the right, and this is illustrated in the following realisations of one such morpheme:-

H
HL
HLH
HHLH.

As the morphophonemic base forms are the maximal tone sequences being accounted *for*, *some* indication must therefore be given of the way in which base forms must be "read" or given

sequential realisation. This is indicated by subscript numbering and parenthesisation. Base forms are always read from left to right, the subscript numbering of each tone indicating the requisite number of syllables necessary for the occurrence of the tone. For example, the realisations:-

H		H
HH		HL
HHH	and	HLH
HHHL		HHLH

have the morphophonemic base forms /$H_1(H_2(H_3(H_4))$/ and /$(H_4)H_1(L_2(H_3))$/ respectively.

In addition to a morphophonemic base form, each morpheme is given an abstract morphemic citation form, the morphemes being alphabetically numbered. As nearly all these morphemes are confined to either the high verb roots or the low roots, suprascript indication of this distributional feature is included in each morphemic citation form, as follows:-

^{h}	:	high roots
^{w}	:	low roots
^{b}	:	both high and low roots.

In the morphophonemic rules below, the realisation of the tonal morphemes on stems of up to four syllables is accounted for. As there are only two contrastive tones for the phonemic realisation of the ton · tonal morphemes, there is, of course extensive neutralisation of contrast between these morphemes, particularly in the shorter tone sequences. There are comparatively few verb roots whose stem tones are aberrant, and the morphologically conditioned phonemic realisation of the tonal morphemes when occurring with stems incorporating these roots is not described below.[1]

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[1] A list of these verb roots is given above, page 22.

MR 35 $\{TM_A{}^h\} \Rightarrow /H_1(H_2(H_3(H_4)))/ \mid \overline{\text{verb stem}}$ [1]

kupá	(to give)
kuténgá	(to buy)
kuténgésá	(to sell)
kutándánísa	(to chase)[2]

MR 35A $\{TM_A{}^h\} \Rightarrow L \mid \overline{\text{verb stem}}$ (monosyllabic) in the present habitual negative)

handípe	(I do not give)
handíténgé	(I do not buy)
handíténgésé	(I do not sell)
handítándánísa	(I do not chase)

MR 36 $\{TM_B{}^h\} \Rightarrow /((H_4)H_2)L_1(H_3)/$ (cf. MR 37)

kana ndápa	(if I gave)
kana ndáténgá	(if I bought)
kana ndáténgesá	(if I sold)
kana ndátándánisá	(if I chased)

MR 37 $\{TM_C{}^h\} \Rightarrow /(H_4)H_1(L_2(H_3))/$ (cf. MR 36)[3]

handíchapá	(I will not give)
handíchaténgá	(I will not buy)
handíchaténgesá	(I will not sell)
handíchatándánisá	(I will not chase)

---

1 While in the grammatical analysis below (§§ 4.2.2. and 4.3.8.) no "verb" or "verb stem" is recognised, the latter term is useful here to indicate the substrate domain of the tonal morphemes.

2 Minimal exemplification is given here as the distribution of the tonal morphemes is treated in § 4.3.3. below.

3 Conflation of MR's 36 and 37 would require complex conditioning statements.

MR 38 $[TM_D{}^b] \Rightarrow /H_1(L_2(L_3(L_4)))/$

High Verbs

ndapá	(I gave)
ndaténgá	(I bought)
ndaténgesa	(I sold)
ndatándaisa	(I chased)

Low Verbs

ndabvá	(I left)
ndabvúnza	(I asked)
ndatárisa	(I looked)
ndarégerera	(I forgave)

MR 39 $[TM_E{}^b] \Rightarrow /L_1(L_2(L_3(L_4)))/$

Low Verbs

kubva	(to leave)
kubvunza	(to ask)
kutarisa	(to look at)
kuregerera	(to forgive)

High Verbs

ndicápa	(I will give)
ndicátenga	(I will buy)
ndicátengesa	(I will sell)
ndicátandanisa	(I will chase)

MR 40 $[TM_F{}^w] \Rightarrow /H_1(H_2(L_3(L_4)))/$

kana ndicíbvá	(if I leave)
kana ndicíbvúnzá	(if I ask)
kana ndicítárísa	(if I look)
kana ndicírégérera	(if I forgive)

MR 41 $[TM_G^W] \Rightarrow /H_1 \begin{Bmatrix} (L_2) \\ H_2 L_3 (L_4) \end{Bmatrix} /$

ámutí	(he said to him)
ámubvúnza	(he asked him)
ámutárísa	(he looked after him)
ámurégérera	(he forgave him)

MR 42 $[TM_H^W] \Rightarrow /L_1(H_2(L_3(L_4)))/$ (cf. MR 43)[1]

kana ndísingábvé	(if I will not leave)
kana ndísaingábvunzé	(if I will not ask)
kana ndísingátaríse	(if I will not look)
kana ndísaingáregérere	(if I will not forgive)

MR 43 $[TM_I^W] \Rightarrow /(L_2)H_1(L_3(L_4))/$ (cf. MR 42)

handíngabvé	(I may not leave)
handíngábvunzé	(I may not ask)
handíngátaríse	(I may not look)
handíngáregérere	(I may not forgive)

MR 44 $[TM_J^W] \Rightarrow /((L_4)L_2)H_1(H_3)/$

ibvá	(leave!)
bvunzá	(ask!)
taríá	(look!)
regerérá	(forgive!)

---

1 Conflation of MR's 42 and 43 would require complex conditioning statements.

3.5. MISCELLANEOUS MORPHEMES

3.5.1. Relative

Relatives of all verbal forms are characterised by a subject concord with L tone, and this L tone is assigned to a relative morpheme.

MR 45 {rel} ⇒ L | $\overline{\text{gc}}$

(See also MR 18(b) for related gender concord morphophonemics.)

Relative forms with first or second person subject gender concords are in some cases indistinguishable from the corresponding principal forms as the latter also have L subject concords.[1] Such homophonous forms are nevertheless morphemically different, and the morphemic structure (excluding the tonal morphemes of § 3.4.3. above) is indicated for each example below.

	ndinógara Haráre {rel-ndi-no-gar-a}	(I who live in Salisbury)
cf.	ndinógara Haráre {ndi-no-gar-a}	(I live in Salisbury)
	enógara Haráre {rel-a-no-gar-a}	(he who lives in Salisbury)
cf.	ánogara Haráre {a-no-gar-a}	(he lives in Salisbury)
	acátenga {rel-a-ca-teng-a}	(he who will buy)
cf.	ácaténgá {a-ca-teng-a}	(he will buy)

---

[1] In the recent past positive the tonal morphemes occurring on the verb stem differ in the principal and relative forms. All negative relatives are also segmentally different from the corresponding principal forms.

asísaténge (he who will not buy)
{rel-a-si-sa-teng-e}

asíngadyé (he who doesn't eat)
{rel-a-si-nga-dy-e}

vangábvé (they who may leave)
{rel-va-nga-bv-e}

cf. vángábvé (they may leave)
{va-nga-bv-e}

asíngátaríse (he who may not look)
{rel-a-si-nga-taris-e}

tingábvúnze (we who may ask)
{rel-ti-nga-bvunz-e}

cf. tingábvúnze (we may ask)
{ti-nga-bvunz-e}

In past tense forms with the morpheme {-a-} MR 45 is ordered before MR 20, the latter passing the subject gender concord tone to {-a-}.

akábvúnza (he who asked)
{rel-a-a-ka-bvunz-a}

cf. ákábvúnza (he asked)
{a-a-ka-bvunz-a}

dzabvá (they who left)
{rel-dzi-a-bv-a}

cf. dzábvá (they left)
{dzi-a-bv-a}

waíténgá (you who used to buy)
{rel-u-a-i-teng-a}

cf. waíténgá (you used to buy)
{u-a-i-teng-a}

	vaíténgésá {rel-va-a-i-teng-es-a}	(they who used to sell)
cf.	váíténgésá {va-a-i-teng-es-a}	(they used to sell)
	afsábvunza	(he who didn't used to ask)
cf.	{rel-a-a-i-se-bvunz-a}	
cf.	hafsibvunza {ha-a-a-i-bvunz-a}	(he didn't used to ask)

3.5.2. Demonstrative

The initial morpheme of demonstratives, $[V^1-]$, shows complete assimilation to the vowel of the gender concord which immediately follows $[V^1-]$.

MR 46

$$[V^1-] \Rightarrow \begin{array}{ll} /u/ & | \_\_ (C)u \\ /a/ & | \_\_ (C)a \\ /i/ & | \_\_ (C)i \end{array}$$

In demonstrative forms with [-o](meaning "that, those") MR 46 applies before MR's 1, 2, 3, and 11b which elide the vowel of the gender concord.

Class	"this/these"		"that/those"	
2	<u>a</u>va	$[V^1$-va]	<u>a</u>vo	$[V^1$-va-o]
3	<u>u</u>yu	$[V^1$-u]	<u>u</u>yo	$[V^1$-u-o]
5	<u>i</u>ri	$[V^1$-ri]	<u>i</u>ro	$[V^1$-ri-o]
6	<u>a</u>ya	$[V^1$-a]	<u>a</u>yo	$[V^1$-a-o]
7	<u>i</u>ci	$[V^1$-ci]	<u>i</u>co	$[V^1$-ci-o]
9	<u>i</u>yi	$[V^1$-i]	<u>i</u>yo	$[V^1$-i-o]
11	<u>u</u>rwu	$[V^1$-ru]	<u>u</u>rwo	$[V^1$-ru-o]

3.5.3. Quantitative

The quantitative morpheme, [-e-] shows the following morphophonemic alternation:-

MR 47

$$[-e-] \Rightarrow \left\{ \begin{array}{l} /-e-/ \\ /-\text{é}-/ \end{array} \right\} \mid go \_\_ \text{quantitative stem}$$

Class	[-ga] "alone"	[-se] "all"
1p	tóga / tǒga	tósé / tǒsé
2	vǒga / véga	vósé / vésé
8	zvóga / zvéga	zvósé / zvésé
13	twóga / twéga	twósé / twésé

3.5.4. "Stabj"aser"

The empty prefixal morph[1] which occurs with otherwise monosyllabic nouns, adjectives, pronouns, and in the imperative inflection of C type verb roots, has different tonal realisations.

MR 48

$$/i-/ \Rightarrow \begin{cases} /i-/ & \_\_ \text{ monosyllabic nouns, adjectives,[2] verb stems} \\ /í-/ & \_\_ \text{ go-[-o] (i.e. pronouns 2-18)} \end{cases}$$

ishé	1a	(chief)
ivhá	5	(soil)
ibví	5	(knee) cf. mabví (knees)
ibwe	5	(stone) cf. mabwe (stones)
itsvó	9	(kidney)
imbá	9	(dog)
itsvá	9 (adj.)	(new)
idzvá	5 (adj.)	(new)

---

1 Fortune, An Analytical Grammar of Shona, terms this form "prothetic" (pages 88, 107 note 5, 134, 155) and "epenthetic" (page 268). Doke, A Comparative Study in Shona Phonetics terms it "penultimate i (page 198). The term "stabiliser" has been used in the Department of African Languages at the University of the Witwatersrand. These various terms all serve to indicate that this morph is dictated by phonological rather than grammatical requirements. The term "empty morph" was used by Hockett, "Problems of Morphemic Analysis," Language 23, 1947, to denote morphemic segments "which have no meaning and belong to no morpheme."

2 Monosyllabic nouns and adjectives can only occur in classes 1a, 5, and 9 as forms of other classes have syllabic gender concords.

inwá		(drink!)
inwáyí [1]		(drink!)
ibvá		(leave)
iti		(say (it)!)
ivo	2 (pronoun)	(them)
iwo	3 (pronoun)	(it)
iro	5 (pronoun)	(it)
idzo	10 (pronoun)	(them)

3.6. EXTERNAL SANDHI

The following rule applies across certain word boundaries to the tone sequences indicated.

MR 49

....H + LL....	....H + HL....
...HH + H....	...HL + H....

The forms perturbed in this way include nouns, adjectives, enumeratives, infinitives, and locatives when object to an immediately preceding verbal form. The conjunction [kuti] (that) is also subject to this rule, as are final high verb tones.

Handifyúré tsámba zhinji. (I don't write many letters.)
cf. tsamba (letters)

Ákaténga bángá. (He bought a knife.)
ákaténgá (he bought)

Ánodá kúbvunza mubvunzo. (He wants to ask a question.)
cf. kubvunza mubvunzo (to ask a question)

Nyóká íri múuswá. (The snake is in the grass.)
cf. muuswá (in the grass)

Vácaúya nézvipó. (They will bring gifts.)
vácaúyá (they will come)

Ndinózivá kúti ánembwá. (I know that he has a dog.)

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[1] Notice that /i-/ occurs when [-yi] is present, although the verb stem is no longer monosyllabic.

CHAPTER FOUR

MORPHOSYNTAX

4.0. GENERAL APPROACH

The second of the two requisite levels of representation recognised here in accounting for Shona sound-meaning correlates is the morphemic, the morpheme being the minimal entity at this level.[1] Segmentation of phonemically transcribed utterances into morphemes, and morphophonemic resolution are of course mutually dependent, and the considerable complexity of the latter (treated in chapter three) relates the morphemes, whose tactic structuring is treated in this chapter, to phonemic sequences. Morphophonemic alternation is described above in terms of interstratal realisation rules. These rules differ in kind from the rules governing the arrangements of morphemes into sentences, the latter being largely tactic in nature. Questions of phonemic realisation (i.e. morphophonemics) are therefore not properly treated in a description of tactics (i.e. grammar).

At the grammatical level of sentence representation, tactic structuring is not linear but involves relations of a highly intricate and abstract nature. A description of sentence properties in part requires a statement of morpheme relationships, and such description has of necessity to utilise the concept of constructions. That is, associated with each sentence of a language is a "depth-ordering" or pyramidical structure by which certain morphemes are more intimately related to others, certain groups to certain other groups, and so on. This hierarchical organisation of the morphemes of a sentence is the constituent structure of the sentence, the ultimate constituents of the hierarchy being morphemes.

While it is clear that sentences in all languages are characterised by constituent structure, the place to be accorded to the description of such structure remains a matter of

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1 The first level of representation is the phonological, of which the phoneme is recognised as being the minimal entity.

disagreement among linguistic schools of thought. For the post-Bloomfieldian descriptive linguists in the United States linguistic analysis involves segmentation and classification of sentences into their component parts, syntax generally being conceived of as involving essentially constituent structure. This approach has been called "taxonomic" by the transformationalists who maintain that taxonomy alone is inadequate in accounting for the properties of sentences and the linguistic competence of speakers.[1]

The two best-known non-transformational approaches to constituency structure developed in the United States are IC (immediate constituent) analysis and tagmemics. The concept of construction and hierarchy is central to both, although there are some interesting differences. These differences are of interest here as the morphosyntactic description below is a "slot-and-filler" one, tagmemics being essentially of "slot-and-filler" type, although with certain additional characteristics and restrictions.[2]

IC analysis procedes on the assumption that sentence structures "can be described as layered in concentric, onion-like layers."[3] Sentence segmentation is therefore by successive dichotomous cutting, that is, the constituents of constructions at any level are in general considered to be binary.[4] Slot-and-filler, or string constituent analysis,[5] on the other hand, does

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[1] This has been explored in many transformational writings. A thorough investigation of a variety of American taxonomic constituent structure models is Postal's Constituent Structure: A Study of Contemporary Models of Syntactic Description, IJAL, 30, 1, Part III, 1964. Constituency (i.e. "phrase structure") is accepted as only one of the parameters involved in a grammatical system. Sentence relationships involving more than simply substitution of constituents (Gleason's "agnate" relations, Linguistics and English Grammar, Chapter Seven) are held to be essential in formulating a correct grammar.

[2] A lucid comparison of slot-and-filler and IC analysis is given in Chapter Seven of Gleason, op. cit. Longacre's "String Constituent Analysis," Language, 36, 1960, presents the tagmemic view of IC analysis as well as expounding and illustrating tagmemic theory. Elson and Pickett's An Introduction to Morphology and Syntax is a useful first text in tagmemic theory.

[3] Longacre, op. cit., page 64.

[4] Gleason points out, op. cit., page 163, that in the constructions for which three rather than two constituents are recognized, the constituents are coordinate.

[5] The term is used by Longacre, op. cit., to refer to the analysis of structures whose constituents "are ordered like beads on a string," rather than being "layered".

not limit constructions to only two constituents. Proceeding as it does by progressive dichotomous cutting between the constituents of a sentence, IC analysis has many more levels of structure and goes through more stages than does slot-and-filler analysis. Strictly dichotomous cutting yields constructions of varying relevance and rather too much structure is recognised through excessive cutting.

In slot-and-filler analysis the existence of a relatively small number of hierarchically arranged units such as word, phrase, clause, and sentence is assumed. The manifestation of any one of these units may be maximal (i.e. all the permitted constituents may occur) or the manifestation may be minimal. An extreme example of the latter would be a sentence manifested by a single clause, manifested by a single phrase, which in turn is manifested by a single word. For any particular sentence, therefore, empty positions or slots may be recognised, whereas in an IC analysis every construction in a sentence is complete in itself. In a slot-and-filler description an indication must be given for each construction of those slots which may be empty and those which must obligatorily be filled. A further point of difference between IC and slot-and-filler analysis is the emphasis of constituent relations in IC analysis as opposed to the focus on the place of each constituent in a construction in slot-and-filler analysis.

One major advantage of slot-and-filler analysis is that it "avoids the necessity of deciding order of cuts (or of making cuts) in precisely those places where it seems most debatable and least useful."[1] The excess cutting necessitated by the insistence on a binary segmentation in IC analysis also raises difficulties about adequate naming of the many constructions identified. In slot-and-filler analysis, on the other hand, with its recognition of maximal constructions and optionally filled slots, naming of constituents receives some degree of prominence. It should also be noted that IC analysis has generally been restricted to syntactic analysis, morphological structures usually being described in string constituent terms. By applying string constituent analysis a single homogeneous description of structures

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[1] Gleason, op. cit., page 163.

from word to sentence level results.

In the morphosyntactic description below a hierarchical structuring of grammatical constructions at various levels is recognised in which constructions from lower levels are the constituents of higher level constructions. The constituents of a construction occur in various slots, some of which are nuclear and therefore obligatorily filled, while others are peripheral and optionally filled. The fillers of the slots in a particular construction are units from the same, and/or a lower level (or levels) in the hierarchy to that of the construction in question. However, some of the upper syntactic units are "down-graded" and fill slots in constructions at lower levels.[1] It should be noted that the concepts of "slot" and "filler", "constituent" and "construction", and "construction" and "level" are correlatives.

It must be stressed that the syntactic description below is strictly limited in the breadth of coverage of Shona constructions. Derivation is not treated and sentence constructions have been limited to single clause types. Sentences having several clauses which are conjoined or subordinated in some way or another, are not described here. This is an arbitrary, although not unnatural, limitation for which there are a few reasons. Most important of these is the focus in this study on those syntactic constructions which "straddle" the conventional morphology-syntax boundary, hence "morphosyntax" in the title of this dissertation. The main demonstration of the analysis in this connection is that in describing the constituent structure of sentences a number of important constructions must be recognised in which the constituents are phonologically bound morphemes on the one hand and phrases on the other. There is therefore no clear division into morphology and syntax.[2] It is of particular interest that in this analysis there is no word construction which coincides with the traditional "verb" part of speech.[3]

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1 This gives the property of recursiveness.

2 The southern Bantu languages generally are of this type.

3 This is, of course, not a feature peculiar to strictly surface structure descriptions only. The same applies in a TG treatment, also for reasons of constituency.

A further reason for restricting the scope of this analysis is that a comprehensive investigation of the full variety of sentence constructions would be a major undertaking far exceeding the limitations of space, and purpose, of this dissertation. The surface structure nature of this description also imposes its own limitations, and it is now my view that both the questions posed by the transformationalists as being of prime importance in syntactic investigation, as well as the insights of TG theory, would lead to a better motivated and more adequate syntactic description. The limitations of this study to single clause sentences at least avoids the taxonomic difficulties associated with simultaneous multiple subject-object relations which a single noun phrase may show to several verbs.[1]

Constructions are classified below according to the level at which they occur. The classification of any particular construction is determined by the nature (in terms of levels) of its component constituents and the kinds of constructions in which it itself occurs as a constituent. All constructions therefore involve a two-way reference to other levels in the hierarchy. Contrast between constructions is dependent on the levels at which they occur and the nature and ordering of their component constituents. In the formulae for constructions, the slots are indicated by upper case notation, and the fillers of the slots by lower case. Braces indicate either/or occurrence of constituents. Thus, $A:\begin{Bmatrix} b \\ c \end{Bmatrix}$ denotes a slot A filled by constituents b or c. The constituents b and c may themselves be constructions, in which case, for example, at a lower level $B:\begin{Bmatrix} x \\ y \end{Bmatrix}$. Since the constructions constitute a hierarchy in which lower units fill slots in higher ones, the lower units are best described first and then on up through the hierarchy. The slot-fillers of a unit at a particular level are then described before the unit itself.

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[1] Subject and object are not features of constituents but rather of certain kinds of constituency. That is, they are relational rather than categorial notions.

Examples illustrating the various constructions are given in both morphemic and phonemic transcription with an indication, where necessary, of the number of the interrelating morphophonemic rule applicable to each morpheme. Appendix III, page 240, is an index to the morphophonemic rules and is provided in fold-out form to facilitate reference back to particular rules where necessary.

4.1. WORDS

Words are constructions whose constituents are stems[1] and morphemes, and which occur as constituents in phrases and sentences. Seven word constructions are recognised, and there is an addition four types of particles whose slot-filling properties are similar to those of the word constructions. Because of their distribution, the particles, although not morphologically complex, are assigned to the word level.

4.1.1. Noun

A noun is a word which consists of at least one, and at the most three,[2] of the series a gender concords, and a stem which may be morphemically complex, and whose stem does not occur with all the gender concords of series a.[3] Nouns which would otherwise be monosyllabic (only in classes 1a, 5, and 9) incorporate the segment /i-/ which serves to add a syllable.[4]

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1 These are in some cases derived, morphologically complex forms. As derivation is not treated here such stems are not described.

2 The order classes of the concords have not been investigated as the occurrence of more than one noun gender prefix is in most cases a derivational feature.

3 This is one of the differences between nouns on the one hand, and adjectives and enumeratives on the other.

4 This form is dictated by phonological requirements. Phonological words, with the exception of ideophones and interjections, cannot be monosyllabic in Zenuru. /i-/ also occurs with otherwise monosyllabic adjectives of classes 5 and 9, and in imperatives where the verb root does not contain a vowel. /i-/ occurs with pronouns of classes 1 to 18. The form of /i-/ is accounted for by MR 48.

When such nouns are the nucleus of adverbial, possessive, locative, and "ownership" inflected substantive phrases /i-/ may be retained or dropped. In copulatively inflected substantive phrases with these nouns as nucleus /i-/ is dropped.

Summary:[1] $\pm$ G:gc $\begin{Bmatrix}16\\17\\18\end{Bmatrix}$ $\pm$ G:gc e + G:gc e + NUC:noun stem

Classes 1a,5,9: + /i-/ + G:gc e $\begin{Bmatrix}1a\\5\\9\end{Bmatrix}$ +NUC:noun stem

The non-derivative gender prefixes denote gender class (not on a sex basis) and number. The latter includes such semantic categories as singular, plural, mass, and number unspecified (see §§ 3.1.2. for discussion of the latter). The derivative gender prefixes denote augmentative, diminutive (both sometimes with accompanying pejorative significance) or abstract. Some of the gender prefixes have both derivative and non-derivative function, and much further work and interpretation of the gender system is needed.

Examples of nouns are not given here as the considerable exemplification of the associated morphophonemic rules above (MR's 1, 2, 4, 5, 6, 8, 9, 14, 15, 17, 18) serves also to illustrate noun constructions. Little can be added at this stage to Fortune's treatment in his An Analytical Grammar of Shona.[2]

Series e Gender Prefixes:

Class		Class		Class	
1	mu-	5	ɨ-	12	ka-
1a	∅	6	ma-	13	tu-
2	va-	7	ci-	14	hu-
2a	vá-	8	zvi-	15	ku-[3]
2b	À-	9	N-	16	pa-
3	mu-	10	dzi-	17	ku-
4	mi-	11	ru-	18	mu-
				21	zi-

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1 Where G represents gender (slot), gc gender concord, and e the gender concord series (page 48). No slot indication is given for /i-/ as this form does not occur by grammatical requirements.

2 Chapters III and IV.

3 This is a nominalising morpheme used with verb phrases.

4.1.2. Adjective

An adjective is a word which consists of one of the series f gender concords and one of the adjective stems listed below, and whose stem can occur with all the gender concords of series f (apart from semantic incompatibilities).[1]

Summary: + G:go f + NUC: adjective stem

As is the case with nouns, adjectives which would otherwise be monosyllabic (only in classes 5 and 9 with two stems) incorporate the segment /i-/ which serves to add a syllable. In phrase inflections other than the copulative, when such an adjective is nucleus of the phrase, the /i-/ is retained or dropped. In copulative inflections /i-/ is always dropped.

Series f Gender Concords

Class		Class	
1	mu-	11	ru-
2	va-	12	ka-
3	mu-	13	tu-
4	mi-	14	hu-
5	ɸ-	15	ku-
6	ma-	16	pa-
7	ci-	17	ku-
8	zvi-	18	mu-
9	N-		

Adjective Stems

These constitute a relatively small closed class with the following members:-

-cena	(white)	-kúrú	(big)
-díki/-dúku	(small)	-mbíshí	(unripe)
-hombé	(big)	-na	(four)
-kobvú	(thick)	-nganí	(how many?)
-kúkútú	(hard)	-nomwé	(seven)

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1 An example of such incompatibility would be a diminutive gender concord with a stem denoting large size.

-nyóró	(soft)	-shora	(yellow)
-pamhí	(broad)	-tatú	(three)
-penyng'ú	(alive)	-temá	(black)
-pfumbamwe	(nine)	-tete	(thin)
-pfumbú	(blue, grey)	-tsvá	(new)
-pfúpi	(short)	-tsvené	(pure)
-refú	(long)	-tsvuku	(red)
-séré	(eight)	-uyá	(good)
-shánu	(five)	-viri	(two)
-shévé	(red)	-tánhatú	(six)
-shoma	(few, small)	-zhínji	(many)

Paradigmatic Examples[1]

Class	NR	-kúrú "big"	-pfúpi "short"	-díki "small"	-tete "thin"
1	9,17	mukúrú	mupfúpi	mudíki	mutete
2	9,17	vakúrú	vapfúpi	vadíki	vatete
3	9,17	mukúrú	mupfúpi	mudíki	mutete
4	9,17	mikúrú	mipfúpi	midíki	mitete
5		{N-kuru}	{N-pfupi}	{N-diki}	{N-tete}
	14,18	gúrú	bvúpi / pfúpi	díki	dete
6	9,17	makúrú	mapfúpi	madíki	matete
7	9,17	cikúrú	cipfúpi	cidíki	citete
8	9,17	zvikúrú	zvipfúpi	zvidíki	zvitete
9		{N-kuru}	{N-pfupi}	{N-diki}	{N-tete}
	15,18	húrú	pfúpi	ndíki	nhete
11	9,17	rukúrú	rupfúpi	rudíki	rutete
12	9,17		kapfúpi	kadíki	katete
13	9,17		tupfúpi	tudíki	tutete
14	9,17	hukúrú	hupfúpi	hudíki	hutete
16	9,17	pakúrú	papfúpi	padíki	patete
17	9,17	kukúrú	kupfúpi	kudíki	kutete
18	9,17	mukúrú	mupfúpi	mudíki	

[1] Examples are given in morphemic transcription only where the morphophonemic base forms differ from the phonemic forms.

4.1.3. Enumerative

An enumerative is a word which consists of one of the series g gender concords and one of the three enumerative stems listed below, and whose stem can occur with all the gender concords of series g.

Summary: +G:go g + NUC:enumerative stem

Series g Gender Concords

Class		Class	
1	mu-	10	dzi-
2	va-	11	tu-
3	mu-	12	ka-
4	mi-	13	tu-
5	ri-	14	hu-
6	ma-	15	ku-
7	ci-	16	pa-
8	zvi-	17	ku-
9	i-	18	mu-

Enumerative Stems

-mwe	(another, some, other)
-mwé	(one, same)
-yí	(what sort of?)

Paradigmatic Examples

Class	MR	-mwe	-mwé	-yí
1	9,17	mumwe	mumwé	muyí
2	9,17	vamwe	vamwé	vayí
3	9,17	mumwe	mumwé	muyí
4	9,17	mimwe	mimwé	miyí
5	9,17	rimwe	rimwé	riyí
6	9,17	mamwe	mamwé	mayí
7	9,17	cimwe	cimwé	ciyí
8	9,17	zvimwe	zvimwé	zviyí
9	12,17	imwe	imwé	iyí

Class	MR	-mwe	-mwé	-yi
10	9,17	dzimwe	dzimwé	dziyi
11	9,17	rumwe	rumwé	ruyi
12	9,17	kamwe	kamwé	kayi
13	9,17	tumwe	tumwé	tuyi
14	9,17	humwe	humwé	huyi
15	9,17	kumwe	kumwé	kuyi
16	9,17	pamwe	pamwé	payi
17	9,17	kumwe	kumwé	kuyi
18	9,17	mumwe	mumwé	muyi

4.1.4. Demonstrative

A demonstrative is a word which incorporates the morpheme {V^1-} and one of the series a gender concords. It may also incorporate the morpheme {-o} (that).

Summary: + DEM:{V^1-} + G:gc a ± NUC:{-o}

{V^1-} is in all cases subject to MR 46. The morphophonemic rules applicable to the gender concords are indicated below.

Series a gc's Class		"this, these" Morphemic Structure	MR	Phonemic Forms	"that, those" Morphemic Structure	MR	Phonemic Forms
1	u	V^1-u	17,11A	uyu	V^1-u-o	18,11B	uyo
2	va	V^1-va	17, 9	ava	V^1-va-o	18, 1	avo
3	u	V^1-u	17,11A	uyu	V^1-u-o	18,11B	uyo
4	i	V^1-i	17,11A	iyi	V^1-i-o	18,11B	iyo
5	ri	V^1-ri	17, 9	iri	V^1-ri-o	18, 1	iro
6	a	V^1-a	17,11A	aya	V^1-a-o	18,11B	ayo
7	ci	V^1-ci	17, 9	ici	V^1-ci-o	18, 1	ico
8	zvi	V^1-zvi	17, 9	izvi	V^1-zvi-o	18, 1	izvo
9	i	V^1-i	17,11A	iyi	V^1-i-o	18,11B	iyo
10	dzi	V^1-dzi	17, 9	idzi	V^1-dzi-o	18, 1	idzo
11	ru	V^1-ru	17, 1	urwu	V^1-ru-o	18, 2	urwo
12	ka	V^1-ka	17, 9	aka	V^1-ka-o	18, 1	ako
13	tu	V^1-tu	17, 7	utwu	V^1-tu-o	18, 2	utwo

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