A grammar of Makonde (Chinnima, Tanzania)

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4. THE NOUN

4.1 Nominal prefixes

Most nouns consist of a nominal prefix (NPx) followed by a stem. The nominal prefixes are listed below in the most frequent singular-plural pairings of the noun classes. NPx's are toneless in the lexicon. They get a default L tone post-lexically in most cases (in some other cases, they get a H tone because certain noun stems carry a tonal H instruction for their NPx in the lexicon, see 3.4 and 4.4.1).

cl.1	**mu-**	———	cl.2	**va-**
cl.1A	**u-**	———	cl.2A	**a-**
cl.3	**mu-**	———	cl.4	**mi-**
cl.5	**li-**	———	cl.6	**ma-**
cl.7	**chi-**	———	cl.8	**vi-**
cl.9	**iN-**	———	cl.10	**diN-**
cl.11	**lu-**			
cl.12	**ka-**	———	cl.13	**tu-**
cl.14	**u-**			
cl.15	**ku-**			
cl.16	**pa-**			
cl.17	**ku-**			
cl.18	**mu-**			

Examples of noun classes (L tones are not marked in the remainder of this grammar):

muúnu/vaánu 1/2	person
uhíimba/ahíimba 1A/2A	lion
muúwa/miíwa 3/4	sugar cane
litáawa/matáawa 5/6	clan
chipúúla/vipúúla 7/8	knife
indiíla/dindiíla 9/10	path
lutaámbo/dinaámbo 11/10	trap
kataámbo/tutaámbo 12/13	little trap
ulíindo 14/-	hair of head
kuvíína 15	to dance
pahááli 16	place
kukáaya 17	home
muúha 18	top, above

All nominal prefixes have phonologically conditioned allomorphs; three types of allomorphs are found:

1. NPx's of the shape (C)V before vowel-initial stems, where vowel coalescence/ glide formation takes place;
2. NPx's of classes 1 and 3 (and of class 18, see 6.2) before consonant-initial stems, being homorganic syllabic nasals;
3. NPx's of classes 9 and 10 before all stems, where prenasalization takes place.

ad 1. NPx's of the shape (C)V before vowel-initial stems:

The vowel of the NPx may be **i** (classes 4, 5, 7 and 8), **a** (classes 2, 6, and 12) or **u** (classes 1, 3, 11, 13, 14, and 15). Locative NPx's are discussed in 4.2. A NPx with the vowel **i** does not change before stems starting with **i**. Before any other vowel it appears as C**y-**; the glide **y** is suppressed after **ch**.

miíhi 4	pestles	**líino** 5	tooth
myéédi 4	months	**lyeénye** 5	forehead
myááka 4	years	**lyaámbi** 5	mat
myoóngo 4	backs of bodies	**lyóóhi** 5	smoke
myuúnda 4	fields	**lyúúlo** 5	evening

chiílo/viílo 7/8	night
cháála/vyáála 7/8	finger
chuúni/vyuúni 7/8	bird

A NPx with the vowel **a** merges with any following vowel resulting in a vowel that has the quality of the stem-initial vowel. In class 6, however, all examples we found of coalescence with **i** result in **e**; this probably is a remnant of a historical process.

váana 2	children

méédi 6/-	water		
méého 6	eyes	cf. **líího** 5 eye	
mééno 6	teeth	cf. **lííno** 5 tooth	
kiíhi 12	little pestle	cf. **mwiíhi** 3	pestle
kéélu 12	little field	cf. **wéélu** 14	field
káála 12	little finger	cf. **cháála** 7	finger
koóngo 12	little back	cf. **moóngo** 3	back of body
kúúmba 12	little arrow	cf. **múúmba** 3	arrow

A NPx with the vowel **u** does not change before stems starting with **u**; before any other vowel it appears as (C)**w-**. In class 3, however, the NPx merges with a following **o** into a vowel that has the quality of the latter in both examples we found; in class 1, this merging process is optional. The merging process found with class 3 and optionally with class 1 is probably a remnant of a historical process.

		mwiíhi 3	pestle
mwééne 1	owner	**mwéédi** 3	moon, month
mwááli 1	girl after initiation	**mwááka** 3	year
móómi 1	healthy person	**moóngo** 3	back of body
mwóómi 1	healthy person	**moóoto** 3	fire
múúmi 1	healthy person	**muúnda** 3	field
lwiídi 11	door		
lwááu 11	net		
lwóógo 11	cassava		
luúnga 11	very youg child		
twiíhi 13	little pestles	cf. **miíhi** 4	pestles
twéélu 13	little fields	cf. **wéélu** 14	field
twáála 13	little fingers	cf. **vyáála** 8	fingers
twoóngo 13	little backs	cf. **myoóngo** 4	backs of bodies
túúmba 13	little arrows	cf. **myúúmba** 4	arrows
wáahi 14	grass		
wéélu 14	field		
úúchi 14	honey		
kwííva 15	to steal	cf. **iiva**	steal!
kwéénda 15	to enter	cf. **eenda**	enter!
kwóómba 15	to beat a drum	cf. **oomba**	beat a drum!
kúúya 15	to return	cf. **uuya**	return!

For restrictions on vowel coalescence between the vowel of the NPx and the vowel of vowel-initial stems, see 2.7.

ad 2. NPx's of classes 1 and 3 before consonant-initial stems:

The NPx's of classes 1 and 3 are **mu-** before monosyllabic stems.

muúnu 1 person
muúwa 3 sugar cane

Before polysyllabic stems starting with a consonant, the NPx's are homorganic syllabic nasals. Certain stem-initial consonants undergo the following changes:

v	-> **m**
l	-> **n**
h and **y**	-> **ny**
hw and **w**	-> **mw**

The homorganic syllabic nasal in the examples below is written **m-** before bilabials and **n-** before other consonants. A morphological spelling is used; there is no audible difference between, for example, **m-b** and **m-mb**.

m-píini 3	handle	cf. **mipíini** 4	(pl.)
n-tééla 3	medecine	cf. **mitééla** 4	(pl.)
n-chíila 3	tail	cf. **michíila** 4	(pl.)
n-kanuúnu 1	baby	cf. **vakanuúnu** 2	(pl.)
n-kúuka 3	boundary	cf. **mikúuka** 4	(pl.)
m-baleenga 3	hole (in lobe of ear)	cf. **mibaleenga** 4	(pl.)
n-díídi 3	rope	cf. **midíídi** 4	(pl.)
n-goongwe 3	shed	cf. **migoongwe** 4	(pl.)
m-mááhe 1	woman	cf. **vamááhe** 2	(pl.)
m-miíli 3	body	cf. **mimiíli** 4	(pl.)
n-neémba 1	boy (before initiation)	cf. **vaneémba** 2	(pl.)
m´-mbweéha 3	shadow (of things)	cf. **mímbweéha** 4	(pl.)
m-máláala 3	tree (species)	cf. **miváláala** 4	(pl.)
n-núúme 1	man	cf. **valúúme** 2	(pl.)
n-nyáavi 1	sorcerer	cf. **vaháavi** 2	(pl.)
n-nyeéni 1	guest	cf. **vayeéni** 2	(pl.)
m-mwííndi 3	tree (species)	cf. **mihwííndi** 4	(pl.)
m-múúla 3	tree (species)	cf. **miwúúla** 4	(pl.)

ad 3. NPx's of classes 9 and 10:

The NPx's of class 9 and 10 are indicated as **iN-** and **diN-**. The first part of these NPx's, **i-** and **di-**, are probably remnants of augments. The **N-** indicates prenasalization of following stem-initial consonants; the chart below lists the result of these prenasalizations.

m	**n**	**ny**	**ng'**
mb	**nd**	**nj**	**ng**
mbw			
hw	**s**	**h**	

The result is a reduced system where different underlying consonants merge into the same prenasalized consonants.

m	< °**p**	or °**m**?
n	< °**t**	or °**n**?
ny	< °**ch**	or °**ny**?
ng'	< °**k**	or °**ng'**?
mb	< °**b**	or °**v** or zero
nd	< °**d**	or °**l** or zero?
nj	< °**y**	or zero?
ng	< °**g**?	or zero?
mbw	< °**w**	
hw	< °**hw**	
s	< °**s**	
h	< °**h**	

In most nouns of classes 9 and 10, the underlying consonant can not be established with certainty: with the two productive alternations, diminutives of class 12 and 13 and augmentatives of class 5 and 6, prenasalized consonants seem to be maintained, except in two frequently used words.

imámáana 9	red ant	cf. **kamámáana** 12	(dim.)
ineémbe 9	calf	cf. **lineémbe** 5	(aug.)
inyúúchi 9	honey bee	cf. **kanyúúchi** 12	(dim.)
ing'oómbe 9	cow	cf. **ling'oómbe** 5	(aug.)
imbéeyu 9	seed	cf. **kambéeyu** 12	(dim.)
induúva 9	blossom	cf. **linduúva** 5	(aug.)
injénjeéma 9	mosquito	cf. **kanjénjeéma** 12	(dim.)
inguluúve 9	pig	cf. **linguluúve** 5	(aug.)

indiíla 9	path	cf. **kadiíla/tudiíla** 12/13	(dim.)
		but: **lindiíla/mandiíla** 5/6	(aug.)
ing'áváanga 9	dog	cf. **likáváanga/makáváanga** 5/6	(aug.)
		but: **kang'áváanga/tukáváanga** 12/13	(dim.)

(The original consonant in the last example is restored in class 13 but not in cl. 12.)

There are three other alternations involving class 9 and/or 10 where underlying consonants can be established: adjectives of class 9/10, nouns of class 9/10 indicating the seeds in the fruits of certain trees, and nouns of class 11/10.

Adjectives of class 9/10 (the full list; forms of class 2 are given for comparison):

ing'úlúungwa/ding'úlúungwa	big	cf. **vakúlúungwa**
imbíihi/dimbíihi	unripe	cf. **vavíihi**
indíkídíiki/dindíkídíiki	small	cf. **vadíkídíiki**
indééhu/dindééhu	long, tall, high	cf. **valééhu**
indéemwa/dindéemwa	idle	cf. **valéemwa**

but:	**inyóóko/dinyóóko**	small	cf. **vadyóóko**

Nouns of class 9/10 indicating seeds in fruits of trees:

	ineéngo/dineéngo 9/10	cf. **nteéngo/miteéngo** 3/4	tree sp.
	ing'wááju/ding'wáájo 9/10	cf. **nkwáájo/mikwáájo** 3/4	tree sp.
	imbiilwa/dimbiilwa 9/10	cf. **mmbiilwa/mimbiilwa** 3/4	tree sp.
	imbúúla/dimbúúla 9/10	cf. **mmúúla/miwúúla** 3/4	tree sp.
but:	**inóónji/dinóónji** 9/10	cf. **nnóónji/milóónji** 3/4	baobab

Nouns of class 11/10:

dimaápa 10	wings	cf. **lupaápa** 11	(sg.)
dinaáno 10	tales	cf. **lutaáno** 11	(sg.)
dinyíiya 10	roots	cf. **luchíiya** 11	(sg.)
ding'óombe 10	finger nails	cf. **lukóombe** 11	(sg.)
dimbaáu 10	ribs	cf. **luvaáu** 11	(sg.)
dindíimi 10	tongues	cf. **lulíimi** 11	(sg.)
dinjéeye 10	lips	cf. **luyéeye** 11	(sg.)
dimbwááni 10	fence	cf. **luwááni** 11	(sg.)
dihuúnde 10	valleys	cf. **luhuúnde** 11	(sg.)

Underlying ˚**w** becomes **mbw** after prenasalization, but when the V1 of the stem is **o** or **u**, the final **w** merges with these vowels. The full list:

dimboói 10	twisted ropes	cf. **luwoói** 11	(sg.)
dimbúúngo 10	quarters of houses	cf. **luwúúngo** 11	(sg.)

Underlying ˚**h** remains unchanged after prenasalization; there are also nouns of class 9/10 with inital **h**, e.g., **ihóomba/dihóomba** 'fish'. Parallel examples with two other initial consonants, **hw** and **s**, suggest that these consonants remain unchanged after prenasalization as well.

dihwíiyo 10/-	kidney
isúuvi/disúuvi 9/10	leopard

The NPx of class 9/10 is **inj-/dinj-** before vowel-initial stems; in the first example, the NPx is **dinjw-** before the vowel **i**. The full list:

dinjwiídi 10	doors	cf. **lwiídi** 11	(sg.)
dinjááu 10	nets	cf. **lwááu** 11	(sg.)
dinjaáyo 10	spoors	cf. **lwaáyo** 11	(sg.)
injóógo 9	very small cassava	cf. **lwóógo** 11	cassava
dinjuúko 10	ladles, spoons	cf. **luúko** 11	(sg.)
dinjuúnga 10	very young children	cf. **luúnga** 11	(sg.)

There is one exception: the noun **dimúúnji** 10 'cleared thickets' forms a pair with the singular **luúúnji** 11; with this class 11 noun, there is no vowel coalescence between the vowel of the NPx of class 11 and the following vowel of the vowel-initial stem.

Note that in the verbal system, there is a productive rule of prenasalization: the concords for the participant 1SG are (-)**ngu-**, or optionally (-)**N-** (prenasalization) before stems starting with the consonants **p**, **t**, **ch**, **k**, **v**, **l**, **y** and **w** (see 6.2.2).

Most animals are in class 9/10; animals in this gender are viewed of as "species-oriented". There is an "individualized" variant of these class 9/10 forms where the old augments of class 1/2 **u-/a-** replace the first part of the NPx's **i-/di-**; prenasalized consonants appear to be maintained. Class agreement of the forms with **u-/a-** is with class 1/2; the class of these nouns is indicated by the class numbers 1/2, followed by a "A" (of augment).

class 9/10:	class 1A/2A:	
iméémbe/diméémbe	**uméémbe/améémbe**	fly
ineémbe/dineémbe	**uneémbe/aneémbe**	calf
inyúúchi/dinyúúchi	**unyúúchi/anyúúchihoney**	bee
ing'oómbe/ding'oómbe	**ung'oómbe/ding'oómbe**	cow
imbúúdi/dimbúúdi	**umbúúdi/ambúúdi**	goat
injénjeéma/dinjénjeéma	**unjénjeéma/anjénjeéma**	mosquito
inguluúve/dinguluúve	**unguluúve/anguluúve**	pig
isúuvi/disúuvi	**usúuvi/asúuvi**	leopard
ihóomba/dihóomba	**uhóomba/ahóomba**	fish
ihíimba/dihíimba	**uhíimba/ahíimba**	lion

Animals which are in other classes than class 9/10 do not have an individualized variant of class 1A/2A.

The **a-** of class 2A is found in many relational and kinship terms. The first example is a nominalized possessive consisting of the stem **-angu** 'my', preceded by the pronominal prefix of class 9/2 **-i-/-va-**, preceded by the NPx of class 1/2A **n-/a-**.

nnyáángu/aváángu 1/2A	my companion/companions
alongá vaángu 2A	my relatives (in a broad sense)

Next to the noun **ndyáangu** 'my wife', the class 2A noun **adyáangu** also occurs: the **a-** of class 2A is also found in forms indicating one person, expressing respect. These nouns generally have class 1 agreement, but with some highly respected (elder, leading) persons, class 2 agreement is used ("honorific plurals", e.g. **ámweénye** 'village headman'). Class 2A nouns referring to a single person are formed by prefixing **a-chá-** before the stem. The class of these nouns is indicated by "2A+".

ámaáma/achámaáma 2A/2A+	mother
atáata/achátaáta 2A/2A+	father
adyáangu/achádyá vaángu 2A/2A+	my wife
ámweénye/achámweénye 2A/2A+	village headman

Another way to indicate plurality of certain kinship terms like 'father', 'mother' and the only way to indicate plurality of the kinship term for 'grandparent, ancestor' is by

making use of (**v**)**angáánya** ‘folk’, or in short **angáá-**, followed by the kinship term (see also 4.2 and 5.4); the initial **a-** of the kinship term disappears.

angáá-mááma	mothers	
angáá-táata	fathers	
angáá-víívi	grandparents, ancestors	cf. **aviívi** 2A (sg.)

Class 2A forms indicating plural (animals as well as people) can also be found as class 2 forms; this is probably an innovation under the influence of Swahili since such class 2 forms are not found in e.g. Lorenz (1914). Both forms demand class 2 agreement.

ahíimba - vahíimba 2A - 2 lions
aváángu - vaváángu 2A - 2 my companions

With some nouns of class 5, 11 and 14 with vowel-initial disyllabic stems, the (merged) NPx is interpreted as being part of the stem; these nouns are considered as complex stems with the corresponding plural forms: the complex stems are preceded by a plural NPx. These plural NPx’s are indicated by their class number plus the sign “+”. The following pairings occur: 5/6+, 14/6+ and 11/10+. The complete list:

maliídi 6+	voices	cf. **liídi** 5	(sg.)
malíína 6+	names	cf. **líína** 5	(sg.)
malyeénye 6+	foreheads	cf. **lyeénye** 5	(sg.)
malyaámbi 6+	mats	cf. **lyaámbi** 5	(sg.)
malyúúlo 6+	evenings	cf. **lyúúlo** 5	(sg.)
mawéélu 6+	fields	cf. **wéélu** 14	(sg.)
mawáála 6+	beer	cf. **wáála** 14	(sg.)
dinduúma 10+	cracks	cf. **luúma** 11	(sg.)

There is one noun without a merged NPx of which the corresponding plural form starts with **ma-** of class 6; the question is whether the **lu-** of the singular form **luwáali** (adapted from SW **liwali** ‘muslim headman’) is a NPx (of class 11) or not.

maluwáali 6(+?) judges (trad.) cf. **luwáali** 11? (sg.)

Nouns with an extra, or outer, (non-locative) NPx are discussed in 4.4.4. Next to the locative NPx’s which are described in 4.2, the most frequent outer NPx’s are cl.7 **chi-**, indicating language and nature, and cl.1/2 **mu-/va-**, indicating persons belonging to a family, clan or (ethnic) group, as well as persons with a certain activity or profession.

	chi-má-kóonde	Makonde language or nature
	m-má-kóonde/va-má-kóonde	Makonde person
cf.	**ma-koónde**	dry areas
	m-mí-téela/va-mí-téela	local docter
cf.	**mi-tééla**	medicines

When there is no overt inner NPx, and the stem starts with a prenasalized consonant (including **h** and **s**), we assume that this NPx is the class 9 **i-** which either has been merged with the preceding NPx or simply is absent. When a NPx with a H tone, not of class 1A/2A, 9/10 or 12/13 (or augmentative class 5/6), is followed by a stem with a prenasalized consonant, we may assume that the NPx in fact is an outer NPx, and that the inner NPx is the (absent) class 9 **i-**. We also give an example of a noun starting with the word formation element **na-** (which behaves as an outer NPx, see below and 4.4.4) as well as an example of a locative.

chí-háau	Yao language and nature
ń-nyáau/vá-háau	Yao person
chí-ndóonde	Ndonde dialect and nature
ń-ndóonde/vá-ndóonde	Ndonde person
lí-nyiíndwa/má-nyiíndwa	tomato
chí-nduúli	cassava vegetable
na-heembe	type of food
pa-mbúuto	instead of

As outlined in 4.4.4, the difference between locative and other outer NPx's lies in their degree of tonal integration into the word. The locative NPx's are not treated as being part of the word tonally, while other outer NPx's belong to the word from this perspective. Locative NPx's as well as some other NPx's (including **na-**) appear to get a L tone; the NPx's of cl.7 **chi-** and cl.1/2 **mu-/va-** appear to get a H tone.

There are also examples of nouns which have two NPx's from a diachronic point of view, but this is not transparent in a synchronic perspective. The first example has the NPx's of class 5 and class 15, the second example of class 14 and 5.

likuútu 5	ear
úlyaámba 14	morning

In 4.4.4, we argue that the word formation element **na-** behaves as an outer NPx. Here, we give some remarks about the structure of nouns starting with this element as well as about their class agreement. The element **na-** is followed by a full noun (except for the augmental **i** of the class 9 NPx). With some nouns, the word formation elements **-n-ka-** occur between **na-** and the full noun. The information we have about class agreement of these nouns shows the following tendency: nouns denoting people, animals and spirits have class 1 agreement, weeds and grasses have class 3 agreement and the remainder has class 9 agreement. The class of these nouns is indicated by the class number 1, 3 or 9 plus "a".

náháaku 1a	girl (before initiation)
nankakataambwe 1a	spider
namáháamba 1a	snake sp.
nakádiímu 1a	goblin, orgre
nangááhwa 3a	weed sp.
nahúúhwe 3a	weed sp.

nachíihe 9a	riddle
naheembe 9a	type of food

We classify the remainder of this group of nouns following the tendency given above: as class 1, 3 or 9 nouns. It should be noted that there is no general agreement of class 1 for people and animals (see at the end of this section). Agreement with nouns from class 3a and 9a can be avoided by using a possessive construction where the head noun is the word for 'weed', 'grass', 'dance', etc., followed by the specific noun from class 3a or 9a. Some examples:

lukwéékwe11	weed	-	**nachítáani** 3a	weed sp.
wáahi 14	grass	-	**nachítúkaana** 3a	grass sp.
imbúúla 9	rain	-	**nangwaao** 9a	late rains

tu-lu-wene lúkwéekwe lwá-nachítáani
we have seen the weed sp.
tu-u-wene wáahi wá-nachítúkaana
we have seen the grass sp.
tu-i-wene ímbúúla lyá-nangwaao
we have seen the late rains

Nouns of class 3a and 9a do not have a plural form. Nouns of class 1a have a plural form of class 2A, **a-** (followed by **-ná-** with a H tone), or of class 2A+, **a-chá-**; the embedded nouns often change to plural as well.

náháaku/anámáháaku 1a/2A	girl (before initiation)
nankakataambwe/anámíkakataambwe 1a/2A	spider
námbéeda/anámbéeda 1a/2A	insect sp.
nakádiímu/achánakádiímu 1a/2A+	goblin, orgre
nachihuúngo/achánávihuúngo 1a/2A+	snake sp.
nankadindúumba/achánánankadindúumba 1a/2A+	lizard sp.

There is a group of prefix-less nouns which have one form for both the singular and the plural; there are also prefix-less nouns which do not have a corresponding plural form. Most (all?) of these nouns are loans. The class of these prefix-less nouns is indicated by the class number plus "b". The complete list:

soómo/= 1b/2b	friend
twiíga/= 9b/10b	giraffe
doóda/= 9b/10b	dot (as decoration)
tumbáaku 5b/-	tobacco
taáma 9b/-	desire
bakúuli 9b/-	type of dance
dáámu 9b/-	blood
mbéeni 9b/-	type of dance

There is also a group of nouns with a reduced NPx of class 9/10: the class 9 prefix is zero (three nouns also occur with the prefix **i-**, but this is less common), the class 10

prefix is **di-**; with both prefixes, no prenasalization is involved. These prefixes are indicated by the class numbers 9/10 followed by "c". This group of nouns comprises two nouns with a reanalyzed NPx of class 12 as well as loans.

(i)kaanya/dikaanya 9c/10c	mouth
kááya/dikááya 9c/10c	homestead
piísi/dipiísi 9c/10c	measure for grain
(i)teéso/diteéso 9c/10c	adze
kandíili/dikandíili 9c/10c	lamp
básíkeeli/dibásíkeeli 9c/10c	bicycle
bakóola/dibakóola 9c/10c	stick
biínda/dibiínda 9c/10c	okra
(i)míía/dimíía 9c/10c	hundred
yeémbe/diyeémbe 9c/10c	mango

Finally, a very small group of nouns consists of nominalized connexives. They are analyzed as connexives, consisting of the connexive marker **-a-**, preceded by a PPx (together with the marker having a H tone) and followed by a noun. In all other respects they are nouns: they demand agreement with the class of the word-initial PPx. The class of these nouns is indicated by the class number plus "d".

wá-mwaana/vá-vaana 1d/2d	child	cf. **mwáana/váana** child
chá-kuulya/vyá-kuulya 7d/8d	food	cf. **kúúlya** to eat
?**chá-báanda/vyá-báanda** 7d/8d	insect sp.	
?**chá-ngoólo/vyá-ngoólo** 7d/8d	millipede	

We noted above (with the nouns starting with **na-**) that there is no general agreement of class 1 for people and animals. The words 'person/people', 'child/children' and 'animal/s' are class 1/2 words, demanding class 1/2 agreement. The same is true of nouns indicating persons belonging to a family, clan or (ethnic) group, as well as persons with a certain activity or profession having an (outer) NPx of class 1/2.

muúnu/vaánu 1/2	person
mwáana/váana 1/2	child
nkóoko/vakóóko 1/2	animal
múńníima/váńníima 1/2	Nnima person

Animals and various types of people belong to other classes (except probably **nkúule** 'rat', see below). Animals of the species-oriented class 9/10 demand class 9/10 agreement everywhere, from specifiers and from verbal forms. When they appear in the individualized class 1A/2A, they demand class 1/2 agreement. With all other classes, animals demand agreement of their class. An example is **nchéehe/ michéehe** 3/4 'hyena'. The noun **nkúule** (pl.**makúule**) 'rat', demands class 1 agreement; this noun probably belongs to class 1. The verbal forms and specifiers are given below without tone and penultimate lengthening.

nchéehe: SC: **u-vele**; OC: **va-u-wene**; POS: **w-angu**; CONN: **wa-a**; DEM: **a-u-no**; ADJ: **n-kulungwa**; NUM: **u-mo**; other specifiers: **u-nji**, **w-ohe**, **u-lida**

michéehe: SC: **i-vele**; OC: **va-i-wene**; POS: **y-angu**; CONN: **ya-a**; DEM: **a-i-no**; ADJ: **mi-kulungwa**; NUM: **mi-vili**; other specifiers: **i-nji**, **y-ohe**, **i-lida**

nkúule: SC: **a-vele**; OC: **va-m-wene**; POS: **w-angu**; CONN: **wa-a**; DEM: **a-yu-no**; ADJ: **n-kulungwa**; NUM: **yu-mo**; other specifiers: **yu-nji**, **w-ohe**, **a-lida**

makúule: SC: **la-vele**; OC: **va-la-wene**; POS: **la-angu**; CONN: **la-a**; DEM: **a-la-no**; ADJ: **ma-kulungwa**; NUM: **mi-vili**; other specifiers: **la-nji**, **l-ohe**, **la-lida**

The plural forms of people belonging to classes other than 1/2 demand agreement of the plural class, except with adjectives and numerals which get class 2 agreement. The examples below are **mavéelu** 6 ‘mischievous children’, and **mitóónga** 4 ‘barren women’.

mavéelu: SC: **la-vele**; OC: **a-la-wene**; POS: **la-angu**; CONN: **la-a**; DEM: **a-la-no**; other specifiers: **la-nji**, **l-ohe**, **la-lida**, **ma-ngapi**
but: ADJ: **va-kulungwa**; NUM: **va-vili**

mitóónga: SC: **i-vele**; OC: **a-i-wene**; POS: **y-angu**; CONN: **ya-a**; DEM: **a-i-no**; other specifiers: **i-nji**, **y-ohe**, **i-lida**, **mi-ngapi**
but: ADJ: **va-kulungwa**; NUM: **va-vili**

With the singular forms of people belonging to classes other than 1/2, agreement appears to vary from noun to noun (following the two examples of which we have the relevant data): **liveélu** 5 ‘mischievous child’, demands class 1 agreement everywhere, while **luúnga** 11 ‘infant’, demands class 1 agreement with some specifiers and class 11 agremeent with most others.

livéelu: SC: **a-vele**; OC: **va-m-wene**; POS: **w-angu**; CONN: **wa-a**; DEM: **a-yu-no**; ADJ: **n-kulungwa**; NUM: **yu-mo**; other specifiers: **yu-nji**, **w-ohe**, **a-lida**

luúnga: SC: **a-vele**; NUM: **yu-mo**; **yu-nji**; **a-lida**;
but: OC: **va-lu-wene**; POS: **lw-angu**; CONN: **lwa-a**; DEM: **a-lu-no**; ADJ: **lu-kulungwa**; **lw-ohe**

Speakers of younger generations, under the influence of Swahili, more and more generalize class 1/2 agreement for all people and animals.

4.2 Locative nouns

Locative nouns are nouns preceded by a locative NPx. The locative noun classes express different notions which can roughly be described as follows. Class 16 expresses a location near the object indicated, translated as “at” below. Class 17 expresses a general location, translated as “to” below. Class 18 indicates a position inside, translated as “in” below.

The locative NPx’s are **pa-** (class 16), **ku-** (class 17) and **mu-** (class 18). These locative NPx’s occur before nouns with a consonant-initial NPx as well as before nouns with a vowel-initial NPx. We use the following nouns to show the prefixing of the locative NPx’s:

vitúúvi 8	bundles
nkúungu 3	pot
inóóndwa 9	star
ulíindo 14	hair (of head)
anámíkakataambwe 2A	spiders

Before nouns with a vowel-initial NPx, locative NPx’s optionally have phonologically conditioned allomorphs, comparable to the ones found with non-locative NPx’s: class 16 **pa-** can be compared with the NPx’s of classes 2, 6, and 12, class 17 **ku-** can be compared with classes 11, 13, 14, and 15, and class 18 **mu-** can be compared with classes 1 and 3 in this respect. But there are also differences: (i) after a locative NPx, the augmental part **i** of the class 9 NPx may disappear, (ii) vowel coalescence between the vowel of the locative NPx **pa-** and the augmental part **i** of the class 9 NPx is not possible, and (iii) the locative NPx **mu-** is a homorganic syllabic nasal before consonants, but it is **mu-** if the following consonant is a syllabic nasal itself.

pavitúúvi 16	at the bundles
pankúungu 16	at the pot
painóóndwa ~ panóóndwa 16	at the star
paulíindo ~ pulíindo 16	at the hair
paanámíkakataambwe ~ panámíkakataambwe 16	at the spiders
kuvitúúvi 17	to the bundles
kunkúungu 17	to the pot
kuinóóndwa ~ kwinóóndwa ~ kunóóndwa 17	to the star
kuulíindo ~ kulíindo 17	to the hair
kuanámíkakataambwe ~ kwanámíkakataambwe 17	to the spiders
mmitúúvi 18	in the bundles
munkúungu 18	in the pot
muinóóndwa ~ mwinóóndwa ~ munóóndwa 18	in the star
muulíindo ~ mulíindo 18	in the hair
?**muanámíkakataambwe** ~ ? **mwanámíkakataambwe** 18	in the spiders

Some other examples of the locative NPx **mu-** being a homorganic syllabic nasal before following consonants are given below:

	mmikúungu 18	in the pots	cf. **mikúungu** 4	pots
	nchiínu/mmiínu 18	in the thing/s	cf. **chiínu/viínu** 7/8	thing
	nding'áánde 18	in the houses	cf. **ding'áánde** 10	houses
	nniíye/mmaáye 18	in the egg/s	cf. **liíye/maáye** 5/6	egg
	mmwéélu 18	in the field	cf. **wéélu** 14	field
but:	**muwáahi** 18	in the grass	cf. **wáahi** 14	grass

The locative nouns we have seen so far demand agreement with the inherent (non-locative) class. Some examples:

pavitúví vyeétu	at our bundles
kunkúungu uúmo	to one pot
nding'ándé díino	in these houses

A locative NPx and a following noun do not form a fully integrated phonological word from a tonal point of view. As outlined in 4.4.4, tone rules apply without taking notice of the locative NPx. All two-syllable nouns, for example, have a LH tone pattern before a possessive. With some of these nouns, this tone pattern changes to HH when a NPx is prefixed; when a locative NPx is prefixed, however, the tone pattern does not change (for more arguments and details, see 4.4.4).

liná lyaángu	my name	**welú waángu**	my field
malíná laángu	my names	**mawélú laángu**	my fields
paliná laángu	at my name	**kuwelú waángu**	to my field

Locative NPx's are also prefixed to names of places, demanding locative agreement. With names of persons, titles or kinship terms, a nominal possesive construction is used. If one person is involved, the locative PPx plus connexive marker **-a-** is followed by the element **-kí-**; if more persons are explicitly mentioned, (**v**)**angáánya** 'folk', or in short **angáá-**, appears after the connexive (see also 4.1 and 5.4).

pannyáambe	at/near Nnyambe
kumajéémbe	at/to Majembe
kumajéémbe kukáve kuléhu na-akuúno	Majembe is not far from here
kwá-kí-mariáámu	at Mariamu's
kwá-kí-nkúlúungwa	at the elder's
kw-ángáanya zakía na-wi-mariáámu, or	
kw-ángáá-zakía na-wi-mariáámu	at Zakia and Mariamu's
cf. **kwá-vamákóonde**	at the Makonde's

Some locative nouns are used to express specific locative concepts; these locative nouns consist of a locative NPx followed by a noun with a (non-locative) NPx that expresses a location or a body part. The complete list:

pamoóngo/kumoóngo 16/17+3	behind, after	cf. **moóngo** 3	back

kuméého 17+6	face, front, before		
paméého 16+6	publicly	cf. **méého** 6	eyes
pachiínu 16+7	place	cf. **chiínu** 7	thing
pawéélu 16+14	outside	cf. **wéélu** 14	field

With these locative nouns, locative agreement as well as agreement with the inherent (non-locative) class is possible; but when the inherent class is plural, only agreement with the inherent class is allowed.

pachiínu pohepóóhe ~ chohechóóhe	every place
paviínu vyohevyóóhe	all places

There also exist locative nouns of which the corresponding non-locative noun is not in use. With these nouns, the inner NPx is absent; this may be the case when the inner NPx is a vowel, which is absent after locative NPx's when it is the **i-** of class 9, or which disappears with vowel coalescence. The full list:

pambúuto 16	instead of
paáhi 16	on the ground, down to the ground
pahééli 16	place
panyéénje, **nnyéénje** 16, 18	beside, aside, apart/along
panyuúma, **kunyuúma**, **nnyuúma** 16, 17, 18	backwards, after/behind
kumaánga 17	coast; eastern direction
kundagaala 17	initiation place
kukaáti 17	room cf. **ching'ááti** 7 (in the) middle
nkaáti 18	in the middle, within
ndengaáni 18	neighbour
muunda 18	inside the body, belly
muuyo 18	front, before
muúha 18	top, above
muhíína 18	below

These locative nouns always demand locative agreement. Some examples:

pahálí peétu	our place
muuyó mwaángu	in front of me
muúha nnipyáiliíka	clear sky (lit. above has been swept)

Some locative nouns appear to have an inner NPx, but it is not clear how these nouns should be analyzed; neither it is clear whether the corresponding non-locative noun is still in use nor to which class it should belong. The full list:

panniíma 16+3?	height, above
kumisaati 17+4?	graveyard
palipaanda 16+5?	playing ground (for celebrations)
palitúnguúlu 16+5?	traditional fire place
palyáámba, **kulyáámba** 16, 17+5?	day after tomorrow/dawn

nniuúngu 18+5?	below, under
nnuvaávu 18+11?	without
pachikóóhi, **kuchikóóhi**, **nchikóóhi** 16, 17, 18+7?	behind, after
kumayaaya 17+6?	village
kuchihaanya 17+7?	doctor's place
kundóónde 17+9?	lower and desolate area to the west of the Plateau; also an indication of 'western direction'; lower and desolate parts of the Plateau near the Ruvuma

4.3 Genders

A gender is a pair of noun classes in which a noun stem occurs; a gender is also a single noun class in which a noun stem exclusively occurs. A two-class gender is a pairing of singular/plural forms. The major pairs of noun classes are:

class 1/2	**nnúúme/valúúme**	man
class 3/4	**nnáandi/miláandi**	tree
class 5/6	**liváála/maváála**	shoulder
class 7/8	**chipúúla/vipúúla**	knife
class 9/10	**ing'oómbe/ding'oómbe**	cow
class 11/10	**lutáávi/dináávi**	branch
class 12/13	**katáávi/tutáávi**	little branch

The gender of class 1/2 almost exlusively contains nouns indicating human beings; one noun is found in this gender indicating 'animal': **nkóoko/vakóóko**, another one, indicating 'rat' probably belongs to class 1: **nkúule**. For other two-class genders, the semantic notions are less clear-cut, except for class 12/13 which are diminutives. Augmentatives are derived by making use of class 5/6 (for examples of diminutives and augmentatives, see 4.1 and 4.5.1).

A frequent subgroup is gender 1A/2A which contains the individualized variants of the species oriented forms of animals occurring in gender 9/10.

uhóomba/ahóomba 1A/2A	**ihóomba/dihóomba** 9/10	fish
uhíimba/ahíimba 1A/2A	**ihíimba/dihíimba** 9/10	lion

Small subgroups are 5/6+, 14/6+ and 11/10+ which contain nouns that are considered as complex stems with the corresponding plural forms.

liídi/maliídi 5/6+	voice
wéélu/mawéélu 14/6+	field
luúma/dinduúma 11/10+	crack

Other small subgroups are 1a/2A and 1a/2A+ which contain nouns with the word formation element **na-**.

náháaku/anámáháaku 1a/2A	girl (before initiation)
nachihuúngo/achánávihuúngo 1a/2A+	snake sp.

Very small subgroups are 1b/2b and 9b/10b which contain prefix-less nouns that have one form for both the singular and the plural.

soómo/= 1b/2b	friend
twiíga/= 9b/10b	giraffe

Another subgroup is 9c/10c which contains nouns with a reduced NPx of class 9/10.

(**i**)**kaanya/dikaanya** 9c/10c	mouth
bakóola/dibakóola 9c/10c	stick

The final small subgroup is 1d/2d and 7d/8d which contains nominalized connexives which start with a PPx.

wá-mwaana/vá-vaana 1d/2d	child
chá-kuulya/vyá-kuulya 7d/8d	food

Other pairs of noun classes occur as well. The complete list:

class 1/6	**njúumbe/majúumbe**	headman
	nkúule/makúule	rat
class 3/6	**nkóóno/makóóno**	arm
	ntáváala/matáváala	marsh mongoose
	ntandaasa/matandaasa	cassava porridge
class 11/6	**ludóódo/madóódo**	foot
class 11/6+	**luwáali/maluwáali**	traditional judges
class 14/6	**upíínde/mapíínde**	bow
	uloómbi/maloómbi	marriage
	úlyaámba/mályaámba	morning
	ulwééle/malwééle	sickness
class 14/4	**ukoóti/mikoóti**	neck
	uúsi/miuúsi	spider web

The major one class genders are:

class 14	**ulíindo**	hair (of head)
class 15	**kung'áána**	to play
class 16	**pahááli**	place
class 17	**kukaáti**	room
class 18	**muuyo**	front

Class 15 exclusively contains verbal nouns. Class 16-18 are the locative classes.

Subgroups are class 3a/- and 9a/- which contain nouns with the word formation element **na-**.

nahúúhwe 3a/- weed sp.
nachíihe 9a/- riddle

Small subgroups are 5b/- and 9b/- which contain prefix-less nouns which do not have a corresponding plural form.

tumbáaku 5b/- tobacco
bakúuli 9b/- type of dance

Unpaired nouns also occur in other classes. A selected list:

múúhi 3/- daytime
muunyu 3/- salt
mpúúta 3/- traditional game
myáádi -/4 blood
liíwu 5/- ashes
liime 5/- dew
lyóóhi 5/- smoke
lipuúngo 5/- wind
litutuúnga 5/- dust
maáta -/6 saliva
mavíila -/6 twins
makwéedo -/6 urine
mahúúta -/6 oil
méédi -/6 water
chitéete 7/- trembling from anxiety
chídíidi 7/- pity
viílyo -/8 food
indaála 9/- hunger
inyóóta 9/- thirst
dimoóngo -/10 force, strenght, power
dihóóni -/10 shame
dihwíiyo -/10 kidney
luupi 11/- darkness
luwoóno 11/- sleep
kuméého 17/- face

4.4 Nominal tone: tone groups and tone patterns

The nominal tone system is the system of the possible combinations of the tones of the nominal stem with the tone of the noun class prefix (NPx).

Stems are assigned a specific tonal profile in the second lexicon. As demonstrated in 3.4.1 and repeated below, there are five tonal profiles for stems.

A	S1/SF	: a H tone on the first and final TBU of the stem
B	S1	: a H tone on the first TBU of the stem
C	SF	: a H tone on the final TBU of the stem
D	no H	: no H tones on the stem
E	S2	: a H tone on the second TBU of the stem

Noun stems may also have a tonal H instruction for their NPx. If they do not have such an instruction, NPx's get a default L tone post-lexically, just as the toneless (non H) positions of the stem. As demonstrated in the next section, the profiles A, B and E are combined with a NPx with a (default) L tone; the profiles C and D may either be combined with a NPx with a (instructed) H tone as well as with a NPx with a (default) L tone, depending on the specific noun stem. We call the combination of the tone of the NPx with the tonal profile of the stem the Tone Group (TG) to which a noun belongs. The following TG's occur (default L tones are also given below):

TG	NPx	noun stem
A	L	S1/SF
B	L	S1
C1	L	SF
C2	H	SF
D1	L	no H tones
D2	H	no H tones
E	L	S2

It should be noted that with nouns of TG D2, the resulting tone patterns would be exactly the same as those of TG B since the H tone of the NPx of TG D2 shifts to the the first TBU of the stem, the same position where the H tone of TG B is located. We didn't find a way with nouns to tell whether a H tone on the first TBU of the stem resulted from TG B or from a H tone of the NPx of TG D2. Below, we classify nouns with a H tone on the first TBU to TG B, and we leave out TG D2 in the sections 4.4.1 - 4.4.3. With nouns with an extra (outer) NPx, the situation is different, and the two TG's are distinguished (see 4.4.4). (With tenses, the two TG's can be distinguished in the following way: tenses with TG B have a H tone on the first TBU of the stem, whether or not there is an object concord. Tenses with TG D2 have a H tone on the first TBU of the stem when there is no object concord; but when there is an object concord, the H tone is found on the object concord.)

In this chapter, we deal with nouns which occur on their own (p-)phrase-finally, the so-called one-word p-phrases (see 3.5); longer p-phrases are dealt with in chapter 8 (8.2). P-phrase-final words have Penultimate Lengthening, optionally followed by Penultimate Shortening (see 3.5.9). The surface Tone Patterns (TP) resulting from the TG's include both the forms with Penultimate Lengthening as well as with Penultimate Shortening. We note here that the TP's of all one word p-phrases (nouns, adjectives, pronominal forms, verbal forms as well as invariables) are similar (see the various chapters).

First, nouns with four-syllable stems, trisyllabic stems and disyllabic consonant-initial stems are dealt with. Then, disyllabic vowel-initial stems and minisyllabic stems are considered; with these stems, the tonal and other processes which occur may result in other surface patterns than expected.

4.4.1 Nouns with four-syllable stems, trisyllabic stems and disyllabic C-initial stems

Taking nouns with four-syllable stems and trisyllabic stems together in the table below, the TG's are followed by the resulting TP's with penultimate lengthening as well as with penultimate shortening. The examples show the TP's: the nouns are followed by the specifier ˚**-óhe** 'many', with which they do not occur in the same p-phrase; so, before these specifiers, the noun may have penultimate lengthening, but this lengthening may also be shortened with fast speech (see 2.9 and 3.5.9). We did not find a clear example of a noun with a four-syllable stem of TG C2. (The tones of the NPx and the stem are separated by a dot.)

Nouns		**trisyllabic stems**	**four-syllable stems**
TG	NPx.stem	TP	TP
A	L.S1/SF	L.HH:L / L.HHL	L.HHH:L / L.HHHL
B	L.S1	L.HFL / L.HLL	L.HHL:L / L.HHLL
C1	L.SF	L.LRL / L.LHH	L.LLRL / L.LLHH
C2	H.SF	L.HRL / L.HLL	
D1	L.no H	L.LL:L / L.LLL	L.LLL:L / L.LLLL
E	L.S2	L.LFL / L.LHL	L.LHFL / L.LHLL

Some examples:

A	**u-tútúúli / u-tútúli wóóhe**	much brain
	ma-táng'úníílo / ma-táng'únílo lóóhe	many molars
B	**ma-híndíili / ma-híndili lóóhe**	many cooking stones
	va-lúmílaanga / va-lúmílanga vóóhe	many widows, bachelors
C1	**ma-kumbaátu / ma-kumbátú lóóhe**	many feet
	di-molopoóndo / di-molopóndó dyóóhe	many ditches
C2	**di-súnguúlu / di-súngulu dyóóhe**	many ridgepoles
D1	**mi-chakeeta / mi-chaketa yóóhe**	many beads
	vi-kokoloowa / vi-kokolowa vyóóhe	many empty maize cobs
E	**ma-putíila / ma-putíla lóóhe**	many traps (type)
	vi-tukútúuku / vi-tukútuku vyóóhe	many substances

With trisyllabic vowel-initial stems and four-syllable vowel-initial stems, the tone patterns lack the first L of the NPx since the NPx is fused with the stem after vowel coalescence/glide formation. — We now turn to disyllabic consonant-initial stems.

Nouns	**disyllabic C-stems**	
TG	NPx.stem	TP
A	L.S1/SF	L.H:L / L.HL
B	L.S1	L.FL / L.HL
C1	L.SF	L.RL / L.HH
C2	H.SF	H.RL / H.LL
D1	L.no H	L.L:L / L.LL
E	L.S2	L.H:L / L.HL

Some examples:

A	**ma-káála / ma-kála lóóhe**	many charcoal
B	**a-híimba / a-hímba vóóhe**	many lions
C1	**di-muúla / di-múlá dyóóhe**	many noses
C2	**má-tiínji / má-tinji lóóhe**	many pumpkins
D1	**vi-yeewe / vi-yewe vyóóhe**	many chins
E	**ma-váála / ma-vála lóóhe**	many shoulders

Nouns with disyllabic stems, just as tenses with disyllabic stems, of TG A and E have the same tone patterns: LH:L / LHL. With verbs they can be distinguished because they appear in a paradigm. With nouns they can be distinguished in the following way: they have different tonal behaviour in p-phrases consisting of two words: when they occur after a conjoint tense with final H tone, and when they occur before a Pronominal Possessive. When occurring after a conjoint tense with a final H tone, there is a H Tone Bridge (TB) between the final H tone of the verbal form and the first H tone of the following noun. Nouns with disyllabic stems of TG A have tone pattern H.H:L after TB, while nouns with disyllabic stems of TG E have tone pattern H.FL after TB (for an explanation of this difference, see 8.3.2). When occurring before a Pronominal Possessive, nouns of TG A have tone pattern L.HH, while nouns of TG E have tone pattern L.LH (for an explanation of this difference, see 8.2.2).

valawene mákáála they have seen the charcoal
valawene máváala they have seen the shoulders

makálá laángu my charcoal
mavalá laángu my shoulders

There are four nouns without a NPx (one can also occur with NPx, **míía ~ imíía**, two of them have a plural with NPx) which we can not assign to TG A or E since we have

no data on their tonal behaviour in the crucial environments: **(i)míía/dimíía** 'hundred', **náási/dináási** 'coconut', **dáámu** 'blood' and **tááti** 'father'.

There are two related nouns with disyllabic stems which have a LHL sequence on their stems: **chiloóongo/viloóongo** 7/8 'cooking pot', and **uloóongo** 14 'sand'. We assume them to belong to TG E, and, for unknown reasons, the process Structure Simplification has not occurred (see 3.5.6).

With two nouns, the singular and plural forms are tonally different. The singular forms belong to TG B, the plural forms belong to TG E.

nkóongwe/vakóóngwe 1/2	woman
nkóoko/vakóóko 1/2	animal

The plural forms have TG E which can be determined with the test mentioned above.

	vavawene vákóongwe	they have seen the women
	vakongwé veétu	our women
cf.	**vamwené ńkóongwe**	they have seen the woman
cf.	**nkóngwé weétu**	our woman
	vavawene vákóoko	they have seen the animals
	vakokó veétu	our animals
cf.	**vamwené ńkóoko**	they have seen the animal
cf.	**nkókó weétu**	our animal

(The final H tone of the verbal form with the singular forms remains H under influence of the high syllabic nasal of the following noun, see 3.5.8.)

4.4.2 Nouns with disyllabic V-initial stems and minisyllabic stems

Nouns consisting of disyllabic vowel-initial stems as well as nouns consisting of minisyllabic stems are dealt with together. Minisyllabic stems are basically CV-stems but behave tonally as well as formally (in as far as the number of morae is concerned) as VCV-stems (see 3.4 and 3.4.1). The nouns in the examples below are followed by the specifier ˚**-ohe-óhe** 'every', with which they do not occur in the same p-phrase; thus, before these specifiers, the noun may have penultimate lengthening, but this lengthening may be shortened in fast speech. The surface tones as found p-phrase-finally are given below, together with an example of a noun with a minisyllabic stem, followed by an example of a noun with a genuine VCV-stem.

H:L	**úúchi / úchi wohewóóhe**	all the honey
	mwááka / mwáka wohewóóhe	every year
FL	**-**	
	mwáana / mwána wohewóóhe	every child

RL	**muúnu / múnú wohewóóhe**	every person
	moóngo / móngó wohewóóhe	every back (of body)
L:L	**muuyo / muyo wohewóóhe**	every front
	chaanga / changa chohechóóhe	every Galago (SW. **komba**)
LFL	-	
	muúundu / múúndu wohewóóhe	every chopper

Nouns with minisyllabic stems are not found with FL tones and LFL tones. At first sight, these surface tones seem to result from the TG's A through E, but this is only partly the case. Deeper analysis gives the following results:

H:L < TG A, B and E
FL < TG C2
RL < TG C1
L:L < TG D1
LFL < TG E

The expected results according to the analysis outlined in 3.4 and 4.4 are H:L from TG A, RL from TG C1 and L:L from TG D1.

TG B has a H tone on the first TBU of the stem. Let us assume that **wéélu** 'field' belongs to this TG. Underlyingly, this would be ˚**u-élu**. Penultimate lengthening takes place (˚**u-éelu**). Vowel coalescence/glide formation gives **ue > we** (see 2.9) and tonal coalescence of LHL results in a level H sequence (see 3.5.5): **wéélu**. The noun **wéélu** could also belong to TG E. TG E has a S2-H tone which occurs on the second (lengthened) TBU of the first (= penultimate) syllable: ˚**u-eélu**. The form after penultimate lengthening is ˚**u-eéelu**. There is vowel coalescence/glide formation between the NPx and the stem: ˚**weéelu**, and, with Structure Simplification, there is coalescence within the stem: a LHL tonal sequence on a syllable becomes a level H sequence. Note that when Structure Simplification is blocked with nouns of TG E, the tonal sequence LFL surfaces, as occurs with the example given above, **muúundu** 'chopper', as well as with **moóoto** 'fire' (see 3.5.8).

TG C2 has a H-toned NPx and stem-final H tone, e.g., **mwáana** 'child', which underlyingly is ˚**mú-aná**. There is penultimate lengthening and retraction of the final H tone to the preceding penultimate syllable: ˚**mú-aána**. Vowel coalescence/glide formation occurs, together with tonal coalescence which results in a F tone (see 3.5.5).

Nouns with H:L surface tones either belong to TG A, B or E. With most nouns with H:L surface tones, we have not found a way to determine to which TG they belong. The tests in the preceding section which we used to distinguish nouns with disyllabic consonant-initial stems with L.H:L surface tones (whether they belong to TG A or E) do not work: preceded by a conjoint tense with a final H tone, they all change their tones to F (see 8.3.2); and followed by a Pronominal Possessive, these nouns (in fact all disyllabic nouns) all have LH tones (see 8.2.2). But with the first test, we could probably have filtered out nouns with H:L surface tones which belong to TG A: they

probably do not change their tones after a conjoint tense with a final H tone. Unfortunately, we do not have tonal data for all H:L nouns, but the data we have is from disyllabic nouns which have a trisyllabic plural, and these data of the plural forms confirm that nouns of TG A do not change their penultimate tones after a conjoint tense with a final H tone. Nouns of TG A get tone pattern H.H:L, while nouns of TG B and E get H.FL. With the other test, occurring before a Pronominal Possessive, we are able to distinguish nouns of TG B from nouns of TG E: those of TG B have a L.HH tone pattern, while those of TG E have a L.LH tone pattern.

A	**lwááu/dinjááu** 11/10	net
	wáála/mawáála 14/6+	beer
	vadiwene dínjááu	they have seen the nets
	dinjáú dyaángu	my nets
	valakimbidile máwáála	they have drunk the beers
	mawálá laángu	my beers
B	**líína/malíína** 5/6+	name
	wéélu/mawéélu 14/6+	field
	valapilikene málíina	they have heard the names
	malíná laángu	my names
	valawene máwéelu	they have seen the fields
	mawélú laángu	my fields

With two nouns, we are not able to determine to which TG they belong. With one of them, we do not have data about the tonal behaviour after a conjoint tense with a final H tone: **lyúúlo/malyúúlo** 11/6+ ‘evening’; with the other noun, the plural has a H tone on the second syllable, and this H tone is the right edge of the H tone Bridge which is established when occurring after a conjoint tense with a final H tone, and we can not see what happens with the stem tonally: **íínde/acháíínde** 9/2A+ ‘centipede’.

In the table below, we summarize the TG’s and the resulting TP’s of the nouns with disyllabic vowel-initial stems and minisyllabic stems. (* = not occurring with minisyllabic stems.)

Nouns		**disyllabic V-stems, minisyllabic stems**
TG	NPx.stem	TP
A	L.S1/SF	H:L / HL
B	L.S1	H:L / HL
C1	L.SF	RL / HH
C2	H.SF	*FL / HL
D1	L.no H	L:L / LL
E	L.S2	H:L, *LFL / HL

4.4.3 Distribution of nouns over tone groups

In the table below, the distribution of nouns over the TG's is given, together with the resulting TP's when occurring p-phrase-finally. The nouns are divided according to the number of syllables of the stem: 1/2v means: minisyllabic stems/disyllabic vowel-initial stems, 2c means: disyllabic consonant-initial stems, etc. The tone patterns under 3c/3v and 4+c/4+v (4+ means four or more syllables) are with initial L with consonant-initial stems and without initial L with vowel-initial stems (indicated by (L)). From the 1/2v nouns with a H:L tone pattern, we could only distinguish five nouns: two belong to TG A and three belong to TG B. The rest of this group (25 nouns, 8 with minisyllabic stems and 17 with disyllabic vowel-initial stems) is given in between TG A and B in the table below, although it is possible that some belong to TG E.

TG	TP 1/2v	TP 2c	TP 3c/v	TP 4+c/v	Total
A	H:L **-/2** { **8/17**	L.H:L **131**	(L)HH:L **15/-**	(L)HHH:L **10/1**	**172**
B	H:L **-/3**	L.FL **124**	(L)HFL **35/15**	(L)HHL:L **12/-**	**201**
C1	RL **14/17**	L.RL **204**	(L)LRL **25/1**	(L)LLRL **5/1**	**267**
C2	FL **-/5**	H.RL **15**	(L)HRL **9/2**	(L)HHRL **1/-**	**32**
D1	L:L **7/1**	L.L:L **40**	(L)LL:L **7/3**	(L)LLL:L **2/-**	**60**
E	LFL **-/2**	L.H:L **67**	(L)LFL **10/1**	(L)LHFL **2/-**	**82**
Total	**29/47**	**581**	**101/22**	**32/2**	**814**

Included are plural nouns which have a different profile compared to the singular form: **nkóongwe** 'woman' and **nkóoko** 'animal' belong to TG B, while the plural forms **vakóóngwe** and **vakóóko** belong to TG E. Also included are the nouns without a NPx (most of them have a plural with NPx). Some examples:

2c:	**mbéeni**	type of dance	(TG B)
	biínda/dibiínda	okra	(TG C1)
	kááya/dikááya	homestead	(TG E)
3c:	**jápáani/dijápáani**	type of clothing	(TG B)
	bakúuli	type of dance	(TG E)
4c.	**básíkeeli/dibásíkeeli**	bicycle	(TG B)

There are four (2c) nouns without a NPx with a H:L tone pattern (one can also occur with NPx, two of them have a plural with NPx) which we could not classify to TG A or E because of lack of tonal data (see preceding section). We have divided the number of these nouns between the two TG's (two to TG A and two to TG E, not specifically indicated in the table): (**i**)**míía/dimíía** 'hundred', **náási/dináási** 'coconut', **dáámu** 'blood' and **tááti** 'father'.

Some compound nouns are included, e.g., **adyáangu** 'my wife'; it is possible that there are more nouns included which in fact are compound nouns.

It should be noted that trisyllabic (and longer) vowel-initial stems are not always recoverable because the initial vowel may have disappeared after vowel coalescence; it is possible that the numbers under 2c in fact are a bit lower and the numbers under 3c of the same TG in fact are a bit higher, etc.

4.4.4 Nouns with an outer NPx

The outer NPx is the one which precedes the inner (inherent) NPx. There are four kinds of outer NPx's:

- the locative NPx's **pa-**, **ku-** and **mu-**;
- the pluralizing NPx's, i.e., the NPx's which precede nouns with a disyllabic vowel-initial stem in the plural (e.g. **malíína**, plural of **líína** 'name')
- cl.7 **chi-**, indicating language and nature, and cl.1/2 **mu-/va-**, indicating persons belonging to a family, clan or (ethnic) group, as well as persons with a certain activity or profession;
- the word formation element **na-**, which behaves as an outer NPx.

The differences between these four kinds of NPx's lie in their varying degree of tonal integration into the word. The element **na-** behaves as a regular part of the word for HTA and for all later tone rules. The three other kinds of NPx's are outside the domain of HTA; we claim that they are adjoined later. The locative NPx's remain outside word level tonology throughout the derivation. The addition of a pluralizing NPx does not change the pattern of the assigned H tones, but the addition of one of the NPx's **chi-** and **mu-/va-** does: all assigned H tones are deleted. Both kinds of NPx's are regarded as part of the word for the purposes of further tonal derivation.

The locative NPx's are prefixed to words to which HTA has applied; so, the locative NPx's are not part of the domain of H Tone Assignment, and they do not play a role in the tone rules that lead to the surface tone patterns. Only the general rule Default L tone insertion does apply to locative NPx's.

pa-malóóve	at words	cf. **malóóve**	words
pa-miláandi	at trees	cf. **miláandi**	trees
pa-lwááu	at the net	cf. **lwááu**	net
pa-wéélu	outside	cf. **wéélu**	field
pa-chiínu	place	cf. **chiínu**	thing
pa-moóngo	behind, after	cf. **moóngo**	back (of body)
pa-ntíima	abdomen	cf. **ntíima**	heart
pa-méého/ku-méého	publicly/face	cf. **méého**	eyes

These locative nouns are not counted separately in the table of the preceding section.

There are locative nouns for which the inherent noun does not exist on its own. Their full list is given in 4.2. The assumed inherent nouns of these locatives belong to the tone groups A through E (remember that we are not able to distinguish TG B and D2 with nouns; TG B is taken to cover both TG's, see 4.4). Nouns with disyllabic stems with a penultimate level H belong to either TG A or to TG E; to distinguish them we use one of the tests described in 4.4.1: after a conjoint tense with a final H tone, they have different tone patterns. It turns out that one noun belongs to TG A, while five belong to TG E. (A noun which appears in more than one locative class is counted as one noun here.) Below, we give the underlying forms of the inherent nouns; note that with most of them, their (inner) NPx is absent or has disappeared, indicated by an initial dot. The tone patterns are given with penultimate lengthening as well as with penultimate shortening.

TG			TP
A	L.S1/SF	˚**pa-.hálí**	L-.H:L / L-.HL
B	L.S1	˚**pa-.mbúto**	L-.FL/ L-.HL
C1	L.SF	˚**pa-nnimá**	L-L.RL / L-L.HH
		˚**n-nuvavú**	L-L.RL / L-L.HH
		˚**n-niungú**	L-L.RL / L-L.HH
		˚**pa-.hí**	RL / HH
		˚**pa-.nyumá**	L-.RL/ L-.HH
		˚**ku-.katí**	L-.RL/ L-.HH
		˚**ku-.mangá**	L-.RL/ L-.HH
		˚**n-.denganí**	L-.LRL / L-.LHH
		˚**mu-.há**	RL / HH
C2	H.SF	˚**pa-lítungulú**	L-L.HRL / L-L.HLL
D1	L.no H	˚**pa-lipanda**	L-L.L:L / L-L.LL
		˚**ku-misati**	L-L.L:L / L-L.LL
		˚**ku-mayaya**	L-L.L:L / L-L.LL
		˚**ku-chihanya**	L-L.L:L / L-L.LL

		°**ku-.ndagala**	L-.LL:L / L-.LLL
		°**mu-.nda**	L:L/ LL
		°**mu-.yo**	L:L/ LL
E	L.S2	°**pa-chikoóhi**	L-L.H:L / L-L.HL
		°**pa-lyaámba**	L-.H:L / L-.HL
		°**pa-.nyeénje**	L-.H:L / L-.HL
		°**ku-.ndoónde**	L-.H:L / L-.HL
		°**mu-.hiína**	L-.H:L / L-.HL

With TG C2, the H tone of the inherent NPx shifts to the S1-position by the process Px-H tone shift (see 3.5.4).

These (inherent) nouns are not counted in the preceding section, but they are counted in the table at the end of this section.

The pluralizing NPx's are also prefixed to words to which H Tone Assignment has applied. There are two sub-types of pluralizing NPx's. The first one consists of NPx's which are prefixed to nouns of classes 5, 11 and 14 with vowel-initial disyllabic stems, where the inherent NPx is merged with the stem. Examples are **mawáála** 'beers', **malíína** 'names' and **mawéélu** 'fields'. The second sub-type is represented by the class 10 NPx which is prefixed to a vowel-initial stem, e.g. **dinjááu** 'nets' (see 4.1). The TG's of the singular nouns are established in 4.4.2.

A	**lwááu/dinjááu**	net/s		B	**líína/malíína**	name/s
	wáála/mawáála	beer/s			**wéélu/mawéélu**	field/s

The difference between locative NPx's and pluralizing NPx's is that pluralizing NPx's become fully integrated into the word as soon as they are adjoined, whereas locative NPx's don't. This can be seen with tonal processes, but another indication might be the agreement shown by specifiers: specifiers that follow locative nouns (from which the inherent nouns exist) agree with the inherent noun, they do not have locative agreement; specifiers that follow nouns with pluralizing NPx's have agreement with the pluralized noun, not with the singular form. Some examples:

ku-welú waángu	to my field
mawélú laángu	my fields

Locative nouns behave tonally like their inherent nouns in environments such as before a pronominal possessive. This can be seen with 2v-nouns. These nouns all have a LH tone pattern before a pronominal possessive, regardless of the TG to which they belong. A locative NPx before such a noun of any TG has no influence on the tone pattern. Compare this to what happens when any other outer NPx is added to such a noun, for example one of the pluralizing NPx's. In such cases the tone pattern changes to L-HH, which is the expected tone pattern of nouns with disyllabic stems of TG A and B before pronominal possessives (see 8.2.2). For comparison, two nouns with CVCV-stems are given below, **makáála** 'charcoal' (TG A) and **litáawa** 'clan' (TG B).

A	**lwaú lwaángu**	my net			
	dinjáú dyaángu	my nets			
	pa-lwaú lwaángu	at my net			
	walá waángu	my beer			
	mawálá laángu	my beers			
	pa-walá waángu	at my beer	cf.	**makálá laángu**	my charcoal
B	**liná lyaángu**	my name			
	malíná laángu	my names			
	pa-liná laángu	at my name			
	welú waángu	my field			
	mawélú laángu	my fields			
	ku-welú waángu	to my field	cf.	**litáwá lyaángu**	my clan

After a conjoint tense with a final H tone, there is a H Tone Bridge (HTB) to the first H tone of the inherent noun, via the locative NPx. There is no HTB with nouns of TG D1 (all-L).

valiwene líina	they have seen the name
valawene málíina	they have seen the names
vapawene pá-líina	they have seen at the name
valiwené liime	they have seen the dew
vapawené pa-liime	they have seen at the dew

With nouns of TG A, it can be seen that the locative NPx is not part of the noun tonally.

valuwene lwááu	they have seen the net
vadiwene dínjááu	they have seen the nets
vapawene pá-lwáau	they have seen at the net
vaukimbidile wáála	they have drunk the beer
valakimbidile máwáála	they have drunk the beers
vapawene pá-wáala	they have seen at the beer

The different TP of nouns of TG A which are preceded by a locative NPx is explained as follows: the locative NPx does not belong to the noun tonally, and the H tone of the locative NPx and the penultimate H tones of the noun are felt as "different" H tones next to each other. Meeussen's Rule deletes the penultimate H tones, and there is H Tone Doubling from the locative NPx to the next TBU, resulting in a F tone. These processes occur with all TG's, except for TG D1 (see above) and TG C1. Nouns of TG C1 have a penultimate R tone, and TB applies to this R tone. An example is **mwiíhi** 'pestle'.

vauwene mwííhi	they have seen the pestle
vapawene pá-mwííhi	they have seen at the pestle

The first H tone of the penultimate syllable is part of the HTB, just as the H tone of the locative NPx. This is not felt as being "different" H tones, and Meeussen's Rule does not apply.

With one pair of locative nouns, of which the inherent nouns **muúnu/vaánu** 'person/people' belong to TG C1, there is no full HTB in the environment after a conjoint tense with a final H tone; the locative NPx gets a H tone, and the final H tone of the inherent noun does not retract to the penultimate syllable but appears on the final syllable.

vamwene múúnu	they have seen the person
vavawene váánu	they have seen the people
vapawene pá-muunú	they have seen at someone
vapawene pá-vaanú	theyhave seen at the people

Nouns with a pluralizing NPx are not counted separately in the preceding section.

There are also other outer NPx's (in some examples more than one) which have the same characteristics as pluralizing NPx's: they are adjoined to words after H Tone Assignment, but then they become part of these words. The inherent NPx is absent or has disappeared with some of these nouns. With **mwááli** 'girl', we are not sure whether it belongs to TG A, B or E (see 4.4.2). Note that we can use TG D2 because the initial H tone of the nouns **chínáanda** 'bed' and **chínúumba** 'calabash' indicates a H-toned NPx. The full list:

A	**nahúúhwe**	weed sp.	
	nangááhwa	weed sp.	
	nachíihe	riddle	
	?**namwááli**	s.o. taking care of girl	cf. **mwááli**
B	**nantítíili**	flea	
C1	**nkanuúnu**	baby	
	chiswahiíli/nswahiíli	Swahili language/person	
C2	**namwáana**	mother	cf. **mwáana** child
	m´mbweéha	shadow (things)	
	úlyaámba	morning	
	chínduúli	cassava vegetable	
	ámweénye	headman	
	umbwilímbwiíndi	termite sp.	
	umbulúkuúta	butterfly	
	unyukúduúmba	soldier ant	
	likambángoóhi	tool for making pots	
D2	**chínáanda**	bed	
	chínúumba	calabash	
E	**nkangóóhu**	gruel	
	nankalaváanya	lier	cf. **-lavanya** lie
	nankadindúumba	lizard sp.	

With some nouns belonging to C2 and D2, it is impossible to decide whether the inherent or the outer NPx has a H tone (or possibly both): **chínduúli**, **chínáanda**, **m´mbweéha** and **chínúumba**. With others, it is clear that the outer NPx has a H tone: **úlyaámba** and **ámweénye**; with the rest, the H tone must be on the inherent NPx. Some nouns with outer NPx's normally belonging to the third and fourth kind (to be discussed below) may also exceptionally belong to this type. There are no examples of TG D1 above, and this may due to the fact that nouns of D1 of this kind and those which are given with the fourth kind below can not be distinguished.

There are some nouns, partly loans, with penultimate level H tones which resemble nouns with an outer NPx of the kind we are describing now: they behave as if they had an inherent noun which belongs to either TG A or TG E. In the environments after a conjoint tense with a final H tone and before a pronominal possessive, their tonal behaviour is comparable to that of nouns belonging to TG A or TG E. We indicate this below by "A*" and "E*".

A*	**lipelééko**	medicine
	lipenéési	jack-fruit
	lipitíihu	stomach
	chibatááli	lamp
	chibalúúa	work
	likulambíila	type of food
E*	**litimbíisi**	sandy ground
	libulangééti	blanket
	chingwalangwáánja	type of dance

Some examples in the environments mentioned above:

A*	**vachiwene chíbátááli**	they have seen the lamp
	chibatáli cheétu	our lamp
	valiwene líkúlámbíila	they have seen the food
	likulambílá lyeétu	our food
E*	**valiwene lítímbwíisi**	they have seen the sandy ground
	litimbisí lyeétu	our sandy ground
	valiwene líbúlángeeti	they have seen the blanket
	libulangetí lyaángu	my blanket

There are two other nouns with a penultimate level H which behave the same as nouns of TG A. These nouns may be compound nouns of which the first part is **mwáana** 'child'; the second part of the first noun probably is the possessive stem 2PL ˚**-etú** or ˚**-itú**.

A*	**mwanéétu**	younger sister
	mwanéédi	neighbour

vamwene mwánéétu	they have seen the younger sister
mwanétú waángu	my younger sister

Finally, there are nominalized connexives. The merged pronominal prefix and the connexive marker precede a noun and have a H tone,. We have two clear examples of which we know the inherent noun (which probably loses its inherent tones because of the preceding H tone of the connexive by Meeussen's Rule; there is no H Tone Doubling in these cases), the other two examples are less certain. The nouns resemble tonally those of TG C2 and D2.

C2*	? **chángoólo**	millipede	
D2*	**wámwaana/vávaana**	child	cf. **mwáana/váana** child
	chákuulya/vyákuulya	food	cf. **kúúlya** to eat
	? **chábáanda**	insect sp.	

All nouns above are counted in the table at the end of this section, except for **namwááli** and **namwáana** of which the inherent noun is counted in the table of the preceding section.

The third kind of outer NPx's includes cl.7 **chi-**, indicating language and nature, and cl.1/2 **mu-/va-**, indicating persons belonging to a family, clan or (ethnic) group, as well as persons with a certain activity or profession. These NPx's are also not part of the word for the purposes of H Tone Assignment, but when they are adjoined, a derivational process occurs which deletes all H tones of the inherent noun. New nouns are formed. We assume that these NPx's have a H tone which shifts to the former inherent NPx (just as the H tone of a subject concord in verbal forms shifts to the object concord); from there, it doubles to the next TBU. With some nouns, there is no inherent NPx in the surface forms. With the two nouns with a third H tone, the extra H tone is due to the syllabic nasal (see 3.5.8); with one noun, H Tone Doubling has not applied. These nouns are classified to TG D2: a H-toned NPx, the rest has no H tones. The full list:

D2	**nkúlíima/vakúlíima**	farmer/s	cf. **kulíima** to cultivate
	mmítéela/vamítéela	local doctor	cf. **mitééla** medicine
	mmíláandi/vamíláandi	local doctor	cf. **miláandi** trees
	ńng'oole/váng'oole	musician/s	cf. **ing'oóle** dance
	múńtáanda/váńtáanda	person/people of the Ntanda clan	cf. **ntaánda** Ntanda clan
	chimákóonde/mmákóonde/ vamákóonde	Makonde language, nature/person/ people	cf. **makoónde** desert area
	chíńníima/múńníima/váńníima	Nnima dialect, nature/person/people	cf. **panniíma** heigth
	chíndóonde/ńndóonde/ vándóonde	Ndonde dialect, nature/person/ people	cf. **kundóónde** lower parts of the Plateau

There are also some examples of which we do not know the inherent noun nor a related noun.

m´míidi/vámíidi	people outside the family
chíháau/ńnyáau/váháau	Yao language, nature/person/people
chímwéela/ m´mwéela/vámwéela	Mwera language/nature/person/people

The nouns (one of each set of related nouns) are counted in the table at the end of this section.

The fourth and final kind of outer NPx's includes the word formation element **na-**, as well as the elements **n-ka-**. Together with the inherent noun, they form a new word to which H Tone Assignment applies. This means that this new word has its own tonal profile which is different from the profile of the inherent noun. The full list:

C2	**namálooóve**	echo	cf. **malóóve** words (TG A)
D2	**námwáaka**	this year	cf. **mwááka** year (TG A?)
	náńnúume	full grown man	cf. **nnúúme** man (TG A)
	namáháamba	snake sp.	cf. **mahaámba** leaves (TG C1)

We found one word with the verbal stem **-lya** 'eat'.

D2 **namúulya** glutton

For most nouns starting with **na-**, however, we did not find an existing inherent noun. In some cases, the inherent NPx is absent or has disappeared. There are some nouns to which H Tone Doubling has not applied. The full list:

C1	**nancheéta**	jackal
	namahiíhi	owl
	nachihuúngo	snake sp.
	nampalanguúla	locust
C2	**náhuúndu**	grass sp.
	námboóle	grass sp.
	náńkoónda	crow
	namáluútu	snake sp.
	nakádiímu	goblin
	nachísúveéle	grass sp.
	nkáláng'oómbe	tree sp.
D1	**naheembe**	type of food
	nangwaau	late rains
	nantiikwi	chrysalis
	nankakataambwe	spider
D2	**náháaku**	girl (before initiation)
	námweeve	hawk
	námbéeda	insect sp.
	náńkóope	cucumber

náńniidi	bereaved person
ná m´maata	rash
nachíláawa	answer to riddle
nachítáani	weed sp.
nachítúkaana	grass sp.
nkákáhíimba	type of calabash seed

There are no nouns here that belong to TG A, B and E. These TG's have S1-H tone or S2-H tone, and we assume that nouns to which **na-** is added (which in fact become new words) do not recognize a stem and can not be assigned a S1-H tone or a S2-H tone. Nouns with **na-** (**n-ka-**) are counted in the table below; not counted are their plurals (if existing) of which examples are given in 4.1.

In the table below, the distribution of the nouns with outer NPx's over the TG's as well as the resulting tone patterns are summarized. Tone patterns without H Tone Doubling and those with an extra H tone are not indicated specifically in the table, nor is the extra L tone of the locative NPx of most locatives. Since nouns with more than one outer NPx's are also included in the description above, it should be noted that in certain cases, it is not fully clear whether a particular morpheme is an outer NPx, an inherent NPx or just a part of the stem; in these cases, we have made the most likely choice. It is not useful to divide nouns with outer NPx's according to the number of syllables of stems; we classify them only according to their outer NPx.

	1. loc. NPx's	2. plur. NPx's	3. **chi-**, **mu-/va-**	4. **na-**	Total
A	L-H:L **1**	LH:L **3**			**4**
A*		(LL)LH:L **8**			**8**
B	L-FL **1**	LLHFL **1**			**2**
C1	(L-L)RL **9**	LLRL **2**		(LL)LLRL **4**	**15**
C2	L-LHRL **1**	(LL)HRL **9**		(LH)HRL **8**	**18**
C2*		HRL **1**			**1**
D1	(L-L)L:L **7**			(LL)LL:L **4**	**11**
D2		HFL **2**	(L)HFL **11**	(LH)HFL **14**	**27**
D2*		HFL **3**			**3**
E	L-(L)H:L **5**	(L)LLH:(F)L **3**			**8**
E*		(L)LLH:L **3**			**3**
Tot.	**24**	**35**	**11**	**30**	**100**

Two nouns are found with deviant tone patterns (LLFL and LLLLHFL). The first seems to be a reduplicated noun, the second seems to be a compound noun the first part of which exists of **mmútúuka** 'car'.

wapiwáapi	business
mmutukasíkéeni	motorcycle

4.5 Nominal derivation

The nouns with an outer NPx described in the previous section belong to the kind of productive nominal derivation that derives nouns from nouns. Strictly speaking, diminutives and augmentatives also belong to this type as they are formed by substituting the NPx's of class 12/13 and class 5/6, respectively, for the inherent NPx's. A similar kind of derivation concerns the fruits of trees and the kernels or stones in them (being seeds). As trees belong to class 3/4, their fruits and seeds are indicated by replacing the NPx's of class 3/4 by the NPx's of class 5/6 and 9/10, respectively. Reduplicated nouns also belong to the kind of derivation that derives nouns from nouns, though here the nominal stem is involved rather than the NPx. In 4.5.1, augmentatives (with some details about diminutives, which are discussed in 4.1) are described together with fruit-seed-derivations and reduplication. There is another kind of productive nominal derivation: verb-to-noun derivation. This kind includes the Infinitive which consists of the class 15 NPx **ku-** followed by a verbal stem. It has typical nominal as well as verbal characteristics: like other nouns, it can be preceded by the connexive and the locative prefixes, and like other verbal forms, it may contain an object concord and the Pre-Final **-ang-**. Other productive processes of this type are the formation of agent nouns, instrument nouns and manner nouns. These derivations, described in 4.5.2, consist of an NPx followed by an Infinitive (agent nouns), or by a verbal base followed by a specific final (instrument nouns and manner nouns). The descriptions of the nominal derivations in 4.5.1 and 4.5.2 include tonal information, in line with how we have treated nouns with outer NPx's in the previous section.

4.5.1 Augmentatives and reduplication

Augmentatives are formed by replacing the inherent NPx's by the NPx's of class 5/6 **li-/ma-**. (With diminutives, the inherent NPx's are replaced by the NPx's of class 12/13 **ka-/tu-**; the examples below would become diminutives accordingly.)

lipíini/mapíini	big handle/s	cf. **mpíini/mipíini** 3/4 handle/s
lichíila/machíila	big tail/s	cf. **nchíila/michíila** 3/4 tail/s
lipúula/mapúula	big knife/s	cf. **chipúula/vipúula** 7/8 knife/s

Phonological rules may change the inherent first consonant of the stem, e.g., after a syllabic nasal and after prenasalization, but with the augmentative NPx's (not being syllabic nasals nor prenasalizations) the inherent consonant reappears. Some examples follow (without separate translation of the augmentative forms).

liváláala/maváláala	cf. **mmáláala/miváláala** 3/4 tree/s
lilóónji/malóónji	cf. **nnóónji/valóónji** 3/4 baobab/s
lihoóngo/mahoóngo	cf. **nnyoóngo/vahoóngo** 1/2 snake/s

lipaápa/mapaápa	cf. **lupaápa/dimaápa** 11/10 wing/s
litaámbo/mataámbo	cf. **lutaámbo/dinaámbo** 11/10 trap/s
lilíimi/malíimi	cf. **lulíimi/dindíimi** 11/10 tongue/s

But, as noted in 4.1, in most nouns of classes 9 and 10 (which have prenasalization of the first consonant of the stem as NPx), the prenasalized consonants appear to be maintained, except in two frequently used words. Some examples follow.

limbéeyu/mambéeyu	cf. **imbéeyu/dimbéeyu**	9/10 seed/s
linduúva/manduúva	cf. **induúva/dinduúva**	9/10 blossom/s
linguluúve/manguluúve	cf. **inguluúve/dinguluúve**	9/10 pig/s
lindiíla/mandiíla	cf. **indiíla/dindiíla**	9/10 path/s
likáváanga/makáváanga	cf. **ing'áváanga/ding'áváanga**	9/10 dog/s

The initial element **na-** is not replaced by the augmentative NPx's; the augmentative NPx's precede the element. Some examples follow.

linámbéeda/ma-	cf. **námbéeda**	insect (sp.)
lináháaku/ma-	cf. **náháaku**	girl (before initiation)
linankakataambwe/ma-	cf. **nankakataambwe**	spider

Augmentatives and diminutives may be regularly formed from nouns with vowel-initial disyllabic stems, though special forms are often attested. In most cases, augmentatives are formed in the same way as nouns with a vowel-initial disyllabic stem which inherently belong to class 5, 11 and 14: the plural is formed by the singular form preceded by the NPx of class 6, e.g. **líina/malíina** 5/6+ 'name/s', **wéélu/mawéélu** 14/6+ 'field/s' (see the pluralizing NPx's of the preceding section). Diminutives often have a second possible form: the NPx's of class 12/13 followed by the forms with the inherent NPx's. The examples below give a good idea of the possibilities.

liíhi/miíhi 5/6 big pestle/s
kiíhi/twiíhi 12/13 little pestle/s
cf. **mwiíhi/miíhi** 3/4 pestle/s

lyéélu/malyéélu 5/6+ big field/s
kéélu/twéélu 12/13, **kawéélu/tuwéélu** 12+/13+ little field/s
cf. **wéélu/mawéélu** 14/6+ field/s

lyáála/malyáála 5/6+ big finger/s
káála/twáála 12/13, **kacháála/tuvyáála** 12+/13+ little finger/s
cf. **cháála/vyáála** 7/8 finger/s

lyoóngo/malyoóngo 5/6+ big back/s
koóngo/twoóngo 12/13, -/**tumyoóngo** -/13+ little back/s
cf. **moóngo/myoóngo** 3/4 back/s

lyuútwe/malyuútwe 5/6+ big head/s
kaátwe/tuútwe 12/13, -/**tumyuútwe** -/13+ little head/s

cf. **muútwe/myuútwe** 3/4 head/s

lyuúto/- 5/- big river
kuúto/tuúto 12/13, **kamuúto/**- 12+/- little river/s
cf. **muúto/myuúto** 3/4 river/s

lyúúmba/mamyúúmba 5/6+ big arrow/s
kúúmba/túúmba 12/13, **kamúúmba/tumyúúmba** 12+/13+ little arrow/s
cf. **múúmba/myúúmba** 3/4 arrow/s

Note that there are no diminutive singular forms **kamoóngo* and **kamuútwe* nor the plural form **tumyuúto*, and that the plural augmentative forms **malyuúto* and **malyúúmba* are not used, nor **mamyuúto*, contrary to **mamyúúmba**. With nouns with a vowel-initial disyllabic stem which inherently belong to class 11, the plural is formed by the singular form preceded by the NPx of class 10, e.g. **luúnga/dinjuúnga** 11/10+ infant/s. Remarkably, the augmentative and diminutive forms derived from such nouns may be built from the plural forms preceded by the augmentative and diminutive NPx's, although there are other possibilities which vary from form to form. Some examples are the following.

linjwiídi/manjwiídi 5+/6+ big door/s
kanjwiídi/tunjwiídi 12+/13+ little door/s
cf. **lwiídi/dinjwiídi** 11/10+ door/s

linjááu/manjááu 5+/6+ big net/s
kalwááu/- 12+/-, **kanjááu/tunjááu** 12+/13+ little net/s
cf. **lwááu/dinjááu** 11/10+ net/s

lyuúnga/malyuúnga 5/6+, **linjuúnga/manjuúnga** 5+/6+ big infant/s
kaluúnga/- 12+/-, **kanjuúnga/tunjuúnga** 12+/13+ little infant/s
cf. **luúnga/dinjuúnga** 11/10+ infant/s

Nouns which inherently belong to class 5/6, like **litáawa/matáawa** 'clan/s' and **lideéngo/madeéngo** 'work', are followed by the word **lituúpa/matuúpa** 'huge object/s' to indicate bigness (or, of course, by the adjectives **likúlúungwa/ makúlúungwa**, but this holds for every noun). Another way to indicate bigness, which also holds for every noun, is by reduplication. Reduplication is discussed below, but we first turn to a similar kind of derivation as augmentatives: the fruit-seed-derivation.

Names of trees belong to class 3/4, their fruits and seeds are indicated by replacing the NPx's of class 3/4 by the NPx's of class 5/6 (fruits) or class 9/10 (seeds). Here again, the inherent first consonant of the stem my change when preceded by a syllabic nasal (class 3) and after prenasalization (class 9/10). Some examples follow.

nteéngo/miteéngo 3/4 tree sp.	**liteéngo/mateéngo** 5/6 fruit **ineéngo/dineéngo** 9/10 seed/s
mmbiilwa/mimbiilwa 3/4 tree sp.	**limbiilwa/mambiilwa** 5/6 fruit

	imbiilwa/dimbiilwa 9/10 seed/s
mmúúla/miwúúla 3/4 tree sp.	**liúúla/maúúla** 5/6 fruit
	imbúúla/dimbúúla 9/10 seed/s
nnóónji/milóónji 3/4 baobab	**lilóónji/malóónji** 5/6 fruit
	inóónji/dinóónji 9/10 seed/s

Note that the baobab seeds in the final example are **inóónji/dinóónji** which is unexpected because prenasalization of the consonant **l** normally creates **nd** and not **n**.

We now continue with reduplication. With reduplication, the noun stem is repeated, and all H tones are deleted, from the stem as well as from the NPx. The TG to which reduplicated nouns belong is therefore D1 (all-L). Reduplication indicates 'bigger than normal'. Some examples are the following.

chituvituuvi/vituvituuvi 7/8 big bundle/s
cf. **chitúúvi/vitúúvi** 7/8 bundle/s
nnonjiloonji/milonjiloonji 3/4 big baobab/s
cf. **nnóónji/milóónji** 3/4 baobab/s
nnyituhiitu/mihituhiitu 3/4 big thicket/s
cf. **nnyíítu/mihíítu** 3/4 thicket/s

The inherent first consonant of the stem may be restored in the reduplicated stem, but such forms are not always possible, e.g. **nnyeniyeeni* (from **nnyeéni/vayeéni** 1/2 guest/s). With most nouns which inherently belong to class 11, of which the plural is formed by the singular form preceded by the NPx of class 10, reduplication is not possible; we only found the the following forms:

lutavitaavi/dinavinaavi 11/10+ big branch/es
cf. **lutaávi/dinaávi** 11/10+ branch/es
lunjwidinjwiidi/dinjwidinjwiidi 11/10+ door/s
cf. **lwiídi/dinjwiídi** 11/10+ door/s

The final example above is the only one we found of a reduplicated noun with a disyllabic vowel-initial stem. Reduplication is also impossible with nouns with trisyllabic and longer stems, among which most nouns starting with **na-**; we only found the following plural forms:

achanankakatambwetaambwe, **anamikakatambwetaambwe** spiders
cf. **nankakataambwe/achánáńkakataambwe**, **anámíkakataambwe** spider/s
achanambedanambeeda insects
cf. **námbéeda/achánámbeeda** insect/s

When turned into augmentatives, reduplication is possible with all nouns; its meaning is 'very big'.

lituvituuvi/matuvituuvi 5/6 very big bundle/s
cf. **litúúvi/matúúvi** 5/6 big bundle/s, **chitúúvi/vitúúvi** 7/8 bundle/s
lilonjiloonji/malonjiloonji 5/6 very big baobab/s
cf. **lilóónji/malóónji** 5/6 big baobab/s, **nnóónji/milóónji** 3/4 baobab/s

lihituhiitu/mahituhiitu 3/4 very big thicket/s
cf. **lihíitu/mahíitu** 5/6 big thicket/s, **nnyíitu/mihíitu** 3/4 thicket/s
liyeniyeeni/mayeniyeeni 5/6 very big guest/s
cf. **liyeéni/mayeéni** 5/6 big guests, **nnyeéni/vayeéni** 1/2 guest/s
litavitaavi/matavitaavi 5/6 very big branche/s
cf. **litaávi/mataávi** 5/6 big branche/s, **lutaávi/dinaávi** 11/10+ branche/s
lilimiliimi/- 5/-, **lindimindiimi/mandimindiimi** 5+/6+ very big tongue/s
cf. **lilíimi/malíimi** 5/6 big tongue/s, **lulíimi/dindíimi** 11/10+ tongue/s
linjwidinjwiidi/manjwidinjwiidi 5+/6+ door/s
cf. **linjwiídi/manjwiídi** 5+/6+ big door/s, **lwiídi/dinjwiídi** 11/10+ door/s
linjaunjaau/manjaunjaau 5+/6+ very big net/s
cf. **linjááu/manjááu** 5+/6+ big net/s, **lwááu/dinjááu** 11/10+ net/s
lyutwelyuutwe/malyutwelyuutwe 5/6+ very big head/s
cf. **lyuútwe/malyuútwe** 5/6+ big head/s, **muútwe/myuútwe** 3/4 head/s
lyundalyuunda/malyundalyuunda 5/6+ very big field/s
cf. **lyuúnda/malyuúnda** 5/6+ big field/s, **muúnda/myuúnda** 3/4 field/s
linankakatambwetaambwe/manankakatambwetaambwe 5+/6+ very big spider/s
cf. **linankakataambwe/manankakataambwe** 5+/6+ big spider/s, **nankakataambwe/achánáŋkakataambwe** spider/s
linambedanambeeda/manambedanambeeda 5+/6+ very big insect/s
cf. **linámbéeda/manámbéeda** 5+/6+ big insect/s, **námbéeda/achánámbeeda** insect/s
linahakuhaaku/manahakuhaaku 5+/6+ very big girl/s
cf. **linhááaku/manáháaku** 5+/6+ big girl/s, **náháaku/achánáhaaku** girl/s

We found one example of a reduplicated noun with basic stem longer than disyllabic:

likavangakavaanga/makavangakavaanga 5/6 very big dog/s
cf. **likáváanga/makáváanga** 5/6 big dog/s, **ing'áváanga/ding'áváanga** 9/10 dog/s

4.5.2 Agent nouns, instrument nouns and manner nouns

Agent nouns are formed by the Infinitive preceded by the NPx's of class 1 and 2. As stated in the beginning of 4.5, the Infinitive itself is a verb-to-noun derivation which consists of a verbal base preceded by the NPx of class 15. With H Tone Assignment in the second lexicon, the Infinitive gets its tonal profile S1/SF, and since the Infinitive marker does not get a H tone, the tone group to which the Infinitive belongs is TG A (L.S1/SF). With the derivation of agent nouns, the NPx's of class 1 and 2 are added. These NPx's are not part of the word with H Tone Assignment, but with adjoining them, a derivational process occurs which deletes all H tones of the inherent noun. New nouns are formed which have tonal profile "no H tones". The

added NPx's have a H tone, and the TG to which these noun belongs is therefore TG D2 (H.no H). The H tone of the NPx shifts to the Infinitive marker (like the H tone of a subject concord in verbal forms shifts to the object concord); from there, it doubles to the next TBU (if there is place).

nkúulya/vakúulya	eater/s	cf. **kúúlya** to eat
nkúlíima/vakúlíima	farmer/s	cf. **kulííma** to cultivate
nkútéleeka/vakútéleeka	cook/s	cf. **kutélééka** to cook
nkúpélekeedya/vakúpélekeedya	sender/s	cf. **kupélékeedya** to send

That agent nouns are derived from Infinitives can be seen from the fact that an object concord may be included, and that an object may follow.

nkúpócheela/vakúpócheela receiver/s
cf. **kupóchééla** to receive
nkúvápocheela/vakúvápocheela receiver/s of them
cf. **kuvápocheéla** to receive them
nkútéeya/vakútéeya person/s who trap
cf. **kutééya** to trap
nkúteya dihóómba/vakúteya dihóómba fisherman/-men
cf. **dihóómba** fish

Instrument nouns and manner nouns consist of a verbal base which is preceded by the NPx of class 6 or 7/8 and which is followed by the final **-i** or **-o**. The TG's to which these nouns belong is either A (L.S1/SF) or C1 (L.SF). Although there are exceptions, there is a clear general pattern:

Instrument nouns:	**chi-/vi-**verbal base**-o**,	TG A (L.S1/SF)
Manner nouns:	1. **ma-**verbal base**-o**,	TG A (L.S1/SF)
	2. **chi-/vi-/ma-**verbal base**-i**,	TG C1 (L.SF)

Instrument nouns often contain a verbal base with an applicative extension. The first example is a form without an applicative: **-pyaila** 'sweep' (applicative **-pyailila**).

chipyáíílo/vi-	thing/s to sweep with	cf. **-pyaila** sweep
chilímíílo/vi-	thing/s to cultivate with	cf. **-limila** cultivate with
chitwálíílo/vi-	thing/s to seize with	cf. **-twalila** seize with
chipímíílo/vi-	thing/s to measure with	cf. **-pimila** measure with
chihíníkíílo/vi-	cover/s	cf. **-hinikila** cover with
chipwéchéléélo/vi-	thing/s to receive with	cf. **-pwechelela** receive with
chipélékédíídyo/vi-	thing/s to send with	cf. **-pelekedidya** send with

The first way of forming manner nouns is by replacing the NPx of the instrument noun by the NPx of class 6. This kind of derivation is fully productive; the applicative extension is retained: **mapyáíílo** 'way of sweeping', **malímíílo** 'way of cultivating', **matwálíílo** 'way of seizing', **mapímíílo** 'way of measuring', etc. The second way of forming manner nouns involves a verbal base with the final **-i** preceded by the NPx of class 7/8 or 6. The final **-i** changes a preceding consonant **l**

into **d**, just like the causative ˚**i** and the first vowel of the Perfective final **-ile**. Below, we give examples with the same verbal bases as the ones used above with instrument nouns, to which we add examples without applicative extension.

chipyaiídi/vi-/ma-	way/s of sweeping	
chilimiídi/vi-/ma-	way/s of cultivating	
chiliími/vi-/ma-	way/s of cultivating	cf. **-lima** cultivate
chitwaliídi/vi-/ma-	way/s of seizing	
chitwaádi/vi-/ma-	way/s of seizing	cf. **-twala** seize
chipimiídi/vi-/ma-	way/s of measuring	
chipiími/vi-/ma-	way/s of measuring	cf. **-pima** measure
chihinikiídi/vi-/ma-	way/s of covering	
chihiniíki/vi-/ma-	way/s of covering	cf. **-hinika** cover
chipwecheleédi/vi-/ma-	way/s of receiving	
chipwecheédi/vi-/ma	way/s of receiving	cf. **-pwechela** receive
chipelekediídi/vi-/ma	way/s of sending	
chipelekeédi/vi-/ma	way/s of sending	cf. **-pelekedya** send

4.6 Adjectives

Adjectives are stems that are preceded by a NPx which agrees in class with the noun it specifies. The adjectives of Chinnima are listed below with their TG's and their TP's with penultimate lengthening and with penultimate shortening.

TG	NPx.stem	**Adjectives**	TP
A	L.S1/SF	˚**-dyókó** small	L.H:L / L.HL
A	L.S1/SF	˚**-víhí** unripe	L.H:L / L.HL
A	L.S1/SF	˚**-díkidikí** small	L.HHH:L / L.HHHL
B	L.S1	˚**-lémwa** idle, lazy	L.FL / L.HL
B	L.S1	˚**-kúlungwa** big	L.HFL / L.HLL
E	L.S2	˚**-leéhu** long, tall, high	L.H:L / L.HL

Examples of the adjectives in classes 3/4 and 9/10:

cl.3/4	cl.9/10
nkúlúungwa/mikúlúungwa	**ing'úlúungwa/ding'úlúungwa**
ndíkídíiki/midíkídíiki	**indíkídíiki/dindíkídíiki**
ndyóóko/midyóóko	**inyóóko/dinyóóko** (NB: no **-d-**)
nnéehu/miléehu	**indéehu/dindéehu**
nnéemwa/miléemwa	**indéemwa/dindéemwa**
mmíihi/mivíihi	**imbíihi/dimbíihi**

An adjective and the preceding noun that is specified do not occur in the same phonological phrase: the noun has penultimate lengthening, which occurs when a word is in final position of a phonological phrase (3.5.1). With fast speech, there is penultimate shortening, and the rules of tonal coalescence occur (see 3.5.9).

chitúúvi / chitúvi chikúlúungwa	big bundle
chiyeewe / chiyewe chidíkídíiki	small chin
lutáávi / lutávi ludyóóko	small branch
miláandi / milándi miléehu	high trees
náháaku / náhaku nnéemwa	idle girl
lítiínji / lítinji livíihi	unripe pumpkin

The same processes occur with adjectives when they are followed by another phonological phrase. We use the same examples as above, but in reversed order: adjective - noun. The potential differences in meaning as a result of the reversed order are not worked out here.

chikúlúungwa / chikúlungwa chitúúvi	big bundle
chidíkídíiki / chidíkídíki chiyeewe	small chin
ludyóóko / ludyóko lutáávi	small branch
miléehu / miléhu miláandi	high trees
nnéemwa / nnémwa náháaku	idle girl
livíihi / livíhi lítiínji	unripe pumpkin

Since an adjective and a preceding noun do not occur in the same phonological phrase, the tone pattern of the adjective in attributive position is the same as its tone pattern in non-attributive position.

chitúúvi chikúlúungwa	big bundle
chitúúvi chiimo chikúlúungwa	one big bundle, one bundle is big

However, there is one environment where the tone pattern of adjectives changes: when it appears directly after a conjoint tense with a final H tone; there is a H Tone Bridge (HTB) between the final H of the verbal form and the first H of the adjective. Such a HTB occurs in the same way as with nouns following such a conjoint tense with a final H tone (see 8.3). Adjectives operate as if they were the head of the complement following the verbal form. (Adjectives are the only specifiers to which this HTB may apply.)

achiwéné chíkúlúungwa	(s)he has seen the big one (cl.7)
achiwéné chídíkídííki	(s)he has seen the small one (cl.7)
aluwéné lúdyóóko	(s)he has seen the small one (cl.14)
aiwéné míléehu	(s)he has seen the high ones (cl.4)
amwéné ńnéemwa	(s)he has seen the idle one (cl.1)
aliwéné líviíhi	(s)he has seen the unripe one (cl.5)

Adjectives with disyllabic stems with the tone pattern L.H:L (**ludyóóko**, **liviíhi** and **miléehu**) either belong to TG A or E. As shown in 4.4.1 with respect to nouns with disyllabic stems with the tone pattern L.H:L, they can be distinguished according to their tonal behaviour after a conjoint tense with a final H tone where TB occurs. The TP of TG A changes to H.H:L after TB (**lúdyóóko**, **líviíhi**) while the TP of TG E changes to H.FL after TB (**míléehu**).

4.7 Numerals

The word for 'one' is a pronominal form, taking the pronominal prefix (PPx). The words for 'two' and 'three' are nominal forms, taking the NPx. The words for 'four' and 'five' are probably nouns, as are the words for 'ten' and 'hundred'.

°PPx:**-.mó**	one (a minisyllabic stem)
°NPx**-vilí**	two
°NPx**-tatú**	three

°**ncheche** 3?	four
°**nnyano** 3?	five
°**likumí/makumí** 5/6	ten
°**(i)míá/dimíá** 9/10	hundred

Examples of the words for 'one', 'two' and 'three' in some classes, followed by the other numerals.

cl.3	**uúmo**	cl.4	**miviíli/mitaátu**
cl.9	**iímo**	cl.10	**dimbiíli/dinaátu**

ncheeche
nnyaano
likuúmi/makuúmi
(i)míía/dimíía

The numbers from 'six' until 'thousand' are built from 'five' and 'ten' by addition with **na-** and by juxtaposition. Nouns with all-L tones generally get final H tone before a **na-**phrase (see 3.6.1). Non-final numerals are given with penultimate shortening in the examples below, preceding nouns are given with penultimate lengthening.

6 = 5(+)1	**nnyanó na- -.´mo**
7 = 5(+)2	**nnyanó na- -viíli**
8 = 5(+)3	**nnyanó na- -taátu**
9 = 5(+)4	**nnyanó na-ncheche**

váana nnyanó na-yuúmo	six children
malóóve nnyanó na-maviíli	seven words
dinóóndwa nnyanó na-dinaátu	eight stars
vyáála nnyanó na-ncheeche	nine fingers

11 = 10(+)1	**likúmí na- -.´mo**
12 = 10(+)2	**likúmí na- -viíli**
13 = 10(+)3	**likúmí na- -taátu**
14 = 10(+)4	**likúmí na-ncheeche**
16 = 10(+)5(+)1	**likúmí na-nnyanó na- -.´mo**
20 = 10(x)2	**makúmí maviíli**
30 = 10(x)3	**makúmí mataátu**
40 = 10(x)4	**makúmí ncheeche**
50 = 10(x)5	**makúmí nnyaano**
60 = 10(x)5(+)1	**makúmí nnyanó na-liímo**
61 = 10(x)5(+)1(+)1	**makúmí nnyanó na-límó na- -.´mo**
70 = 10(x)5(+)2	**makúmí nnyanó na-maviíli**
71 = 10(x)5(+)2(+)1	**makúmí nnyanó na-mavílí na- -.´mo**
80 = 10(x)5(+)3	**makúmí nnyanó na-mataátu**
82 = 10(x)5(+)3(+)2	**makúmí nnyanó na-matátú na- -viíli**
90 = 10(x)5(+)4	**makúmí nnyanó na-ncheeche**
93 = 10(x)5(+)4(+)3	**makúmí nnyanó na-ncheché na- -taátu**
100= 10(x)10	**makúmí likuúmi - (i)mía iímo**
200= 10(x)10(x)2	**makúmí likúmí maviíli - dimía dimbiíli**
thousand(s)	**makúmí makuúmi**

Ordinal numbers from ‘second’ onwards are nominal possessive constructions; this is also the case for ‘last’: **-a-chihwaango** (tones unknown). There is a special word for ‘first’, related to the verbal noun **kutándilíika** ‘to begin’: **-tándi/-táandi**, preceded by the NPx; penultimate lengthening is optional.

NPx-**tá(a)ndi**:	**ntándi kuvéléekwa**, or	
	ntáandi kuvéléekwa	the first to be born
	mahaámba matándi, or	
	mahaámba matáandi	the first leaves
	mwáana ntándi, or	
	mwáana ntáandi	the first child
PPx-**a-**Num:	**wá-vili kuvéléekwa**	the second to be born
	lá-ncheeche	the fourth (e.g. leaf)
	mwáana wá-chihwaango	the last child

The nouns **mwáánda/myáánda** 3/4 ‘time, period, journey’, followed by a numeral, serve as multiplicatives.

mwáánda uúmo once
myáánda miviíli twice

Finally, there is a word which resembles the numeral ‘two’, preceded by the class 12 prefix **ka-** or the (class 17?) prefix **ku-**.

kavííla ~ kuvííla again

A numeral and the preceding noun that is specified do not occur in the same phonological phrase, indicated by penultimate lengthening of the preceding noun. Two numerals following each other also do not occur in the same phonological phrase; in the examples above, we have given preceding numerals with penultimate shortening. As indicated above, nouns with L tones throughout generally get final H tone before a **na-** phrase. This is not the case in other environments.

nnyaano / nnyano dinóóndwa five stars

Numerals fall into the following tone groups:

TG	Px.stem	**Numerals**	TP
A	L.S1/SF	˚(**i**)**míá/dimíá**	L.H:L / L.HL
B	L.S1	˚**-tándi**	(L.FL) / L.HL
C1	L.SF	˚**-.mó** ˚**-vilí** ˚**-tatú** ˚**likumí/makumí**	RL / HH L.RL / L.HH L.RL / L.HH L.RL / L.HH
D1	L.no H	˚**ncheche** ˚**nnyano**	L.L:L / L.LL L.L:L / L.LL

4.8 Other nominal forms

˚**-ngápi** ‘how many’

Examples of this interrogative in some classes:

cl.2 **vangáapi**
cl.4 **mingáapi**
cl.6 **mangáapi**
cl.8 **vingáapi**
cl.10 **dingáapi**

When the interrogative is the final word of a question, it has penultimate F and final H; this is the question melody.

alawené mangáapí (s)he has seen how many ones (cl.6)?
mituupa mingáapí how many holes?

The interrogative ˚**-ngápi** and a preceding nouns with which it agrees do not occur in the same phonological phrase (as can be seen by the penultimate lengthening of the noun in the last example above), except when there is no question melody, but a surprise intonation. A question with this intonation has **yé** at the beginning, and the noun followed by the interrogative gets penultimate H and final H (see 8.2.2, 5.4 and 5.6).

yé mitúpá mingáapi (what?) how many holes

When the interrogative is not the final word in a question, it does not get the question melody; the question melody then goes to the final word in such a question, e.g. to **valúúme** and **vakanuúnu** in the examples below.

viínu vingáapi vyá-valúumé how many things of the men?
viínu vingáapi vyá-vakanúunú how many things of the babies?

The interrogative as well as the preceding noun may have penultimate shortening in this environment.

vínú vingápi vyá-valúumé
vínú vingápi vyá-vakanúunú

The tone group and the corresponding tone patterns relevant for this nominal form are given in the table below.

TG	NPx.stem		TP
B	L.S1	˚**-ngápi**	L.FL / L.HL

˚**-ninga** ‘how many’ (tones unknown)

The only information we have about this stem is that it takes a NPx of a plural class.

cl.2 **vaniinga**
cl.4 **miniinga**
cl.6 **maniinga**
cl.8 **viniinga**
cl.10 **diniinga**

˚**-naní** ‘who’

The only NPx’s that precede this stem are of class 1 and 2.

cl.1 **nnaáni**
cl.2 **vanaáni**

Alternatively, these forms can be considered to be nouns, they only occur in non-attributive position.

When the interrogative ˚**-naní** is the final word in a question, it has the question melody penultimate F and final H.

vayeéni vanáaní	the guests are who?
vayeéni vakúlúungwa vanáaní	the big guests are who?
avawené vanáaní	(s)he has seen who?

When the interrogative ˚**-naní** is not the final word in a question, it does not get the question melody; the question melody then goes to the final word in such a question, e.g. to **vayeéni** in the example below (without and with penultimate shortening).

vanaáni vayéení who are the guests?
vanáni vayéení

Finally, the nominal possessive construction is used to indicate ‘whom/whose’.

vayeéni va-vanáaní whose guests / the guests are whose?

The tone group and the corresponding tone patterns relevant for this nominal form are given in the table below.

TG	NPx.stem		TP
C1	L.SF	˚**-naní**	L.RL / L.HH