A grammar of Makonde (Chinnima, Tanzania)

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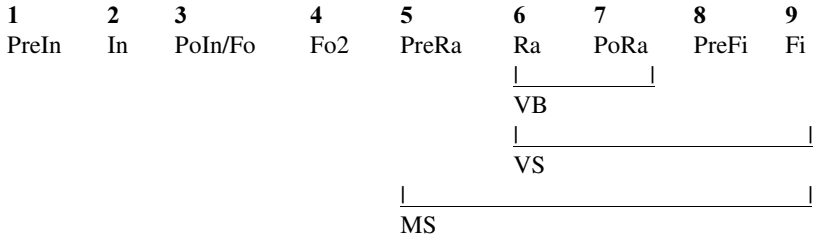
6. THE VERB

6.1 The structure of verb forms

The following positions, or slots, can be distinguished in verb forms:



1	Pre-Initial	= Indirect Relative Initial: PPx, **pa-** when, **mu-** as, **u-** while, **chi-** how; Sequential **n-**
2	Initial	= Subject Concord, Infinitive **ku-**
3	Post-Initial/	= Negative marker: **-ká-**, in Neg. Optative: **-na-**
	Formative	= Tense (= Time/Aspect/Mood) marker
4	Formative 2	= Tense (= Time/Aspect/Mood) marker
5	Pre-Radical	= Object Concord; Reflexive **-li-**
6	Radical	= Verbal Radical or Root
7	Post-Radical	= Expansion(s) and/or Extension(s)
8	Pre-Final	= Tense (= Time/Aspect/Mood) marker **-ang-**

9 Final = Past, Non-Past **-a**, Perfective **-ile**, Optative **-e**
6-7 Verbal Base (VB)
6-9 Verb Stem (VS)
5-9 MacroStem (MS)

The minimal verbal form consists of a Verbal Base and a Final (= Verb Stem). The minimal verbal form occurs as the Imperative:

iid-a come!
hween-a go!

In the maximal verbal form, the positions 1 to 9 are filled. One example is the Indirect Relative Far Past Perfective.

1	2	3	4	5	6	7	7	8	9
pa-	**tw-**	**á-**	**ná-**	**vá-**	**súm-**	**is-**	**idy-**	**aang-**	**a**

when we had constantly bought for them

The verbal base consists of the verb root, to which one or more expansions and/or extensions may be added. The verb stem consists of the verbal base, including the Pre-Final and the Final. The macrostem is formed by the verb stem plus a preceding object concord.

6.2 Concords

The forms of the subject concords (SC) and those of the object concords (OC) are the same for the participants PL and the classes 2ff. They are different for the participant 2SG and class 1. The subject concord of the participant 1SG has two basic forms, one of which is identical with the object concord. The reflexive object concord is used for all participants and classes.

	SC	OC		SC	OC
1SG	**ngu-/ni-**	**-ngu-**	1PL	**tu-**	**-tu-**
2SG	**u-**	**-ku-**	2PL	**mu-**	**-mu-**
cl.1	**á-**	**-mu-**	cl.2	**vá-**	**-va-**
cl.3	**ú-**	**-u-**	cl.4	**í-**	**-i-**
cl.5	**lí-**	**-li-**	cl.6	**lá-**	**-la-**
cl.7	**chí-**	**-chi-**	cl.8	**ví-**	**-vi-**
cl.9	**í-**	**-i-**	cl.10	**dí-**	**-di-**
cl.11	**lú-**	**-lu-**			
cl.12	**ká-**	**-ka-**	cl.13	**tú-**	**-tu-**
cl.14	**ú-**	**-u-**			
cl.15	**kú-**	**-ku-**			
cl.16	**pá-**	**-pa-**			

cl.17	**kú-**	**-ku-**
cl.18	**mú-**	**-mu-**
REFLEXIVE OC		**-li-**

The SCs of the classes have a (assigned) H tone, the subject concords of the participants have a (default) L tone. In a number of tenses, the tones of the subject concords are neutralized to H or (default) L. The object concords of the participants as well as the classes are (default) L; in one tense (Infinitive with OC), they are H.

All verbal concords have phonologically conditioned allomorphs before vowel-initial stems and tense markers. In these environments, vowel coalescence takes place, with the same results as for nominal prefixes before vowel-initial stems (see 4.1).

tw-ona miláandi	we see trees	
vona míláandi	they (cl.2) see trees	
va-ch-ona chíínu	they see it the (cl.7) thing	
tw-a-lólá víínu	we looked at things	(Far Past **-a-**)
va-lólá víínu	they (cl.2) looked at things	id.
dy-a-vélé páwéelu	they (cl.10) were outside	id.

The form of the concords of the participant 2PL, the SC of class 18 and the OC of class 1 is ˚**mu-**. This form has allomorphs that are mainly phonologically conditioned (6.2.1). The concords of the participant 1SG have forms and allomorphs that are partly phonologically and partly morphologically conditioned (6.2.2).

6.2.1 The concord ˚mu-

The concords of the participant 2PL, the subject concord of class 18 and the object concord of class 1 (˚**mu-**) are homorganic syllabic nasals in exactly the same environments as with nominal prefixes of classes 1 and 3 before consonant-initial stems (see 4.1) and of class 18 (see 4.2). The homorganic syllabic nasal in the examples below is written as **m-** before bilabials and as **n-** before other consonants.

Subject concord for 2PL:

m-pwechela vayeéni	you (pl.) receive guests	
n-toha limbéénde	you touch skin	
n-komola kukááya	you arrive home	
n-chima lwiídi	you shut a door	
m-minganga ung'áváanga	you chase a dog	cf. **-vinganga**
n-nambela chiínu	you want something	cf. **-lambela**
n-nyedya viílyo	you taste food	cf. **-yedya**
m-mwadya mwaaná waángu	you dress my child	cf. **-wadya**
m-mwika kukááya	you arrive home	cf. **-hwika**

n-nyinika chiloóongo	you cover a pot	cf. **-hinika**
m-badula chiínu	you bite off something	
n-gong'ola liyáanga	you push a stone	
n-suma chiínu	you buy something	
n-ng'ana pawéélu	you play outside	

No syllabic nasal is formed before vowel-initial stems and minisyllabic stems.

mu-uya kukááya	you return home
mw-omba likuungwa	you beat a (big) drum
muu-lya ing'oówo	you eat a banana

Subject concord of cl.18 (some examples):

n-ng'áánde n-katápéele	in the beautiful house
cf. **-katapele**, Perf. of **-katapala**	be beautiful
n-ng'áánde m-melé na-vaánu	in the house there are people
cf. **-vele**, Perf. of **-va**	be

Before consonant-initial tense markers and object concords, the subject concords of 2PL and cl.18 are also homorganic syllabic nasals, but not before object concords that start with one of the consonants that change after such a syllabic nasal (i.e. **v** and **l**) nor before object concords that are syllabic nasals themselves; the form of the subject concords in these environments is **mu-**.

n-chí-lima líháála	you (pl.) were cultivating a field
n-ká-lima lihaála	you (pl.) do not cultivate a field
n-na-líme lihaála	you (pl.) should not cultivate a field
m-pa-lola pang'áámbo	you (pl.) look at the other side
n-tu-lola tunóóndwa	you (pl.) look at the small stars
n-chi-lola chitúúvi	you (pl.) look at the bundle
n-ka-lola kanóóndwa	you (pl.) look at the small star
n-di-lola pawéélu	you (pl.) look at them outside
n-ngu-lola nng'áánde	you (pl.) look at me inside the house
mu-va-lola pawéélu	you (pl.) look at them outside
mu-li-toha limbéénde	you (pl.) touch the skin
mu-m-minganga mwáana	you (pl.) chase the child

Object concord of 2PL and cl.1 (some examples):

tu-m-pwechela mwéeénu/nááng'e	we receive you (pl.)/him	
tu-m-minganga mwéeénu/nááng'e	we chase you (pl.)/him	
tu-n-nambela mwéeénu/nááng'e	we like you (pl.)/him	
tu-n-nyakula mwéeénu/nááng'e	we carry you (pl.)/him	cf. **-yakula**
tu-m-mwadya mwéeénu/nááng'e	we dress you (pl.)/him	
tu-m-mwikila mwéeénu/nááng'e	we reach you (pl.)/him	cf. **-hwikila**
tu-n-nyinika mwéeénu/nááng'e	we cover you (pl.)/him	

tu-n-gong'ola mwéeénu/nááng'e	we push you (pl.)/him
tu-mu-udya mwéeénu/nááng'e	we ask you (pl.)/him
tu-mu-lya mwéeénu/nááng'e	we eat you (pl.)/him

The object concord of class 18 before consonant-initial stems is not **-mu-** rathar than a homorganic syllabic nasal.

	a-mu-lolite múńkúungu	(s)he has looked into the bowl
cf.	**a-n-nolite mwéeénu**	(s)he has looked at you (pl.)
	a-n-nolite múúnu	(s)he has looked at the person (cl.1)

The syllable preceding a syllabic nasal with a H tone becomes also H-toned (see 3.5.8).

pá-m´-míngaanga	when you (pl.) chase	cf. **pa-mú-víngaanga**
mú-ń-noóla	you (pl.) who look at him/her	cf. **mu-mú-loóla**
va-ná-m´-mwalaála	they (will) kill you/him,her	cf. **va-na-mú-walaála**

6.2.2 The 1SG concord

The subject concord of 1SG has forms which are partly morphologically conditioned; three environments can be distinguished: 1. preceding a verb stem, 2. preceding an object concord, and 3. preceding a tense marker.

ad 1. The subject concord is **ngu-** when it immediately preceeds a verb stem. The concord is **N-** (prenasalization) as an optional variant before polysyllabic stems starting with the consonants **p**, **t**, **ch**, **k**, **v**, **l**, **y** and **w** (i.e. those consonants that are not recoverable after prenasalization, see 4.1). Given the allomorph **ngu-** is the only acceptable form before the other consonants, the result is that all forms with **N-** are transparent.

ngu-pwechela / mwechela vayeéni	I receive guests
ngu-toha / noha limbéénde	I touch skin
ngu-komola / ng'omola kukááya	I arrive home
ngu-chima / nyima lwiídi	I shut a door
ngu-vinganga / mbinganga ung'áváanga	I chase a dog
ngu-lambela / ndambela chiínu	I want something
ngu-yedya / njedya viílyo	I taste food
ngu-wadya / mbwadya mwaaná waángu	I dress my child
ngu-badula chiínu	I bite off something
ngu-gong'ola liyáanga	I push a stone
ngu-hwika kukááya	I arrive home
ngu-suma chiínu	I buy something

ngu-hinika chiloóongo	I cover a pot
ngu-ng'ana pawéélu	I play outside
ngu-uya kukááya	I return home
ngw-omba likuungwa	I beat a (big) drum

Before minisyllabic stems, the only possible concord is **ngu-**; before disyllabic verb stems which appear without their final syllable (see 7.1.7), the concord can be **N-**.

nguu-twa malóombe	I pound maize	
nguu-lya ing'oówo	I eat a banana	
ngu-ve / mbe kukááya	I am home	cf. **-vele**, Perf. stem of **-va** 'be'

ad 2. The subject concord is **ngu-** or **ni-** preceding an object concord; prenasalization is not possible.

ngu-m-pwechela / ni-m-pwechela kukááya	I receive him/her at home
ngu-ku-pwechela / ni-ku-pwechela kukááya	I receive you (sg) at home
ngu-li-toha / ni-li-toha limbéénde	I touch the skin
ngu-va-lola / ni-va-lola valúúme	I look at the men

ad 3. The shape of the subject concord depends on the following tense marker; there are five cases:

a) The SC is **ngu-** or **ni-** before the tense marker **-chí-** (Past Progressive) and preferably **ngu-** before **-chí-** ('say') of the (compound) Future.

ngu-chí-lima / ni-chí-lima líháála	I was cultivating a field
nguu-chí-ngu-lime líháála	I will cultivate a field
? **nii-chí-ngu-lime líháála**	id.

b) The SC is **ni-** before any marker **-ka-**.

ni-ka-líima lihaála	if I cultivate a field (Conditonal)
ni-káni-líima lihaála	if I would cultivate a field (Suppositional Condit.)
ni-kana-líima lihaála	although I cultivate a field (Concessive)
ni-ka-líime lihaála	I should cultivate a field (Subsecutive Optative)
ni-ka-limiite lihaála	if I would have cultivated a field (Suppos.Cond. Pf.)
ni-ká-líima lihaála	I don't cultivate a field (Negative Present)
ni-kánáa-límá líháála	I haven't yet cultivated a field (Unexp.Neg.Perf.)

c) The SC is zero before **-na-** (Non-Past) and **-nachi-** (Non-Past Progressive).

na-yeedya chitúnduúni	I (will) taste chitunduni (= type of food)
nachi-yédyá chítúnduúni	I am/will be tasting chitunduni

d) The SC is a syllabic nasal before other tense markers starting with a **n**, i.e., **-ni-** as well as other instances of **-na-**.

ń-ní-yeedya ntandaasa	I tasted cassava porridge (Past Perfective)
n-ni-yéedya ntandaasa	I have tasted cassava porridge (Present Perfective)

ń-ná-yeedya ntandaasa	I was tasting cassava porridge (Past)
n-na-yéedye ntandaasa	I should not taste cassava porridge (Neg. Optative)

e) The SC merges with the tense marker **-a-** (Far Past tenses) into **na-**.

na-chí-lima líháála	I was cultivating a field (Far Past Progressive)
ná-ní-yeedya ntandaasa	I tasted cassava porridge (Far Past Perfective *djt*)
na-límíté líháála	I had cultivated a field (Far Past Perfective *cjt*)

The object concord of 1SG is **-ngu-**; it has an optional variant **N-** (prenasalization) in the same environments as the subject concord for 1SG.

u-ngu-pwechela / u-mwechela kukááya	you receive me at home
u-ngu-telekela / u-nelekela kukááya	you cook for me at home
u-ngu-chema / u-nyema kukááya	you call me at home
u-ngu-lola / u-ndola chiihi	you only look at me
u-ngu-vinganga / u-mbinganga pawéélu	you chase me outside
u-ngu-wadya / u-mbwadya kukááya	you dress me at home
u-ngu-sumila chiínu	you buy something for me
u-ngu-hinikila chiloóongo	you cover a pot for me
u-ngu-uyila upéehi	you return to me quickly
u-ngw-ombela likuungwa	you beat a drum for me
? **u-ngu-lya kukááya**	you eat me at home

As shown in 3.5.5, when an object concord with a H tone fuses with a vowel-initial stem, the H tone appears one TBU to the left of the fused stem. The same process occurs when the object concord is **N-**.

u-ná-lyóone	you should not see it	cf. **u-na-lí-óone**
u-ná-ndóole	you should not look at me	cf. **u-na-ngú-lóole**

6.2.3 Subject concords of the participants as copulas

The subject concords for the participants may be used as copulas to express untensed nominal predication. For the participant 1SG, the concord **ni-** is used. The subject concords may precede nominal forms (nouns, adjectives, numerals, interrogatives) as well as pronominal forms; the subject concords of the singular participants are followed by (pro)nominal forms of class 1, the subject concords of the plural participants are followed by (pro)nominal forms of class 2. The full forms can be preceded by free substitutives, as shown in the first example.

Nominals (cf. 4.6 - 4.8 for other nominals than nouns):

múńníima/váńníima 1/2 Nnima person

1SG (**náaángu**) **ni-múñníima** I am a Nnima
2SG (**wáaáko**) **u-múñníima**
1PL (**hwéeétu**) **tu-váñníima**
2PL (**mwéeénu**) **m-máñníima**

mmákóonde/vamákóonde 1/2 Makonde person

1SG **ni-mmákóonde** I am a Makonde
2SG **u-mmákóonde**
1PL **tu-vamákóonde**
2PL **m-mamákóonde**

nkwíiva/vakwíiva 1/2 thief

1SG **ni-nkwíiva** I am a thief
2SG **u-nkwíiva**
1PL **tu-vakwíiva**
2PL **m-makwíiva**

muúnu/vaánu 1/2 person; **ńtwáani** (I, interrogative) what kind of

The SC of the participant 2PL is also used for the participant 1PL before **vaánu**.

1SG**ni-munú ńtwáani** what kind of person am I
2SG**u-munú ńtwáani**
1PL/2PL **m-manú ńtwáani**

˚**-kúlungwa** (A) big; **nkúlúungwa/vakúlúungwa** cl.1/2

1SG **ni-nkúlúungwa** I am big
2SG **u-nkúlúungwa**
1PL **tu-vakúlúungwa**
2PL **m-makúlúungwa**

˚**-leéhu** (A) long, tall, high; **nnéehu/valéehu** cl.1/2

1SG **ni-nnéehu** I am tall
2SG **u-nnéehu**
1PL **tu-valéehu**
2PL **m-maléehu**

˚**-vilí** (NUM) two; **vaviíli** cl.2

1PL **tu-vaviíli** we are two
2PL **m-maviíli**

˚**-naní** (nominal interrogative) who; **nnaáni/vanaáni** cl.1/2

The class 1 form is also used for both the participants SG; alternatively, it can be considered to be a noun (as well as the class 2 form, see 4.8).

1SG/2SG **n-naáni** who am I/are you?
1PL **tu-vanaáni**
2PL **m-manaáni**

˚**-ngápi** (nominal interrogative) how many; **vangáapi** cl.2

1PL **tu-vangáapi** how many are we?
2PL **m-mangáapi**

Pronominals (cf. 5.6):

$^{\circ H}$**-.njí** other; **yúúnji/váánji** cl.1/2

This pronominal has FL tones in attributive position.

1SG	**ni-yúúnji** I am the other one	1PL	**tu-váánji**
2SG	**u-yúúnji**	2PL	**m-máánji**

$^{\circ}$**-ómi**, $^{\circ}$**-úmi** healthy, strong, whole; **móómi/vóómi** cl.1/2

The class 1 form takes the NPx.

1SG	**ni-móómi** I am fine, healthy (greeting)	2SG	**u-móómi**
1PL	**tu-vóómi**	2PL	**m-móómi**

$^{\circ}$**-lída** which; **alíida/valíida** cl.1/2

The class 1 form takes the subject concord. The form following the concords for the participants SG probably consists of the NPx of class 1 followed by the stem.

1SG	**ni-nníida** which one am I?	1PL	**tu-valíida**
2SG	**u-nníida**	2PL	**m-malíida**

$^{\circ}$**-óhe** much, many; **vóóhe** cl.2

1PL	**tu-vóóhe** we are many
2PL	**m-móóhe**

$^{\circ}$**-.mó** one (minisyllabic stem); **yuúmo** cl.1

1SG	**ni-yuúmo** I am the one
2SG	**u-yuúmo**

With two stems, **-éne** 'self' and **-ohe-óhe** 'every, all', the subject concord can also be used in a non-copulative sense.

$^{\circ}$**-éne** self; **mwééne/vééne** cl.1/2

The class 1 form takes the NPx. This pronominal has FL tones in attributive position.

1SG	**ni-mwééne** I myself/I am myself	1PL	**tu-vééne**
2SG	**u-mwééne**	2PL	**m-mééne**

$^{\circ}$**-ohe-óhe**, $^{\circ}$**-ahi-óhe** every, all; **vohevóóhe** cl.2

1SG	**tu-vohevóóhe** we all/we are all
2PL	**m-mohemóóhe**

The concords of the participant 2PL and class 2 may be used to address, or refer to, single persons in order to express respect (see 4.1 about the **a-** in terms of kinship and relation).

ń-ní-ngu-hauliíla	you told me (addressing an elder)
vá-ní-ngu-hauliíla	(s)he told me (referring to an elder)

6.3 The verb stem

With stem formation in the second lexicon, verbal bases and Finals are joined together. Verbal bases consist of a root to which one or more expansions and/or extensions may be added.

In 3.4 and 3.4.1, it is stated that monosyllabic stems do not exist because there is a structure condition which says that a stem should have at least two syllables. Monomoraic vowel-final roots and Finals **-a** and **-e** form monosyllabic stems because of the condition that the syllables within verbal stems must have an onset. They are augmented by a structural position left to the stem (indicated by a dot) which serves as the first syllable of the stem. This position gets phonetic content by a copy of the vowel of the preceding morpheme (e.g., the tense marker). In this way, these stems become disyllabic vowel-initial stems, and to distinguish them from the original VCV-stems, we call them minisyllabic stems.

In 3.5.2, it is stated that the final syllable of minisyllabic stems as well as of causative stems and passive stems is complex. In a complex final syllable, there are two vowels which appear next to each other because of the condition mentioned above that syllables within a verbal stem must have an onset. The second vowel is the Final, the first vowel is part of the root (minisyllabic stems) or the extension (causative and passive stems).

Extensions like the Passive and the Causative are part of the verbal base. The whole stem is named after the extension it contains, e.g., passive stems, causative stems, etc. In the sections below, we analyse stems with the (more or less) productive extensions as well as stems with the Pre-Final **-ang-**. We look at the form of extensions/Pre-Final, combined extensions, and we investigate them with respect to their final syllable being complex or not. We start with minisyllabic stems and we end with macrostems.

6.3.1 Minisyllabic stems

The following minisyllabic stems exist:

-.pa	bear fruit
-.pya	be scorched, be burnt
-.twa	pound
-.cha	dawn
-.swa	set (of sun)
-.hwa	die
-.va	be
-.lya	eat
-.nya	defecate

-.chi say

The verb stem **-.chi** 'say' is irregular in that it does not occur with the Finals **-a**, **-e**, or **-ile**. It may occur in a limited number of tenses, and it is more defective than the verb stem **-.va** 'be', which may occur in many (but not all) tenses; neither verb stem may have an object concord (see 6.9).

In the second lexicon, minisyllabic stems have the structure **-.**CV**a**; they contain two vowels (the root and the Final), and an initial structural position (indicated by a dot). With some stems, we know the root vowel, ˚**-.pia** 'be scorched, be burnt', ˚**-.hua** 'die', and ˚**-.lia** 'eat': it can be deduced from the harmonic vowel of extensions like the Applicative, which harmonize with the root vowel; with the other stems, the quality of the root vowel can not be told with certainty from the harmonic vowel of extensions (see 6.3.3). That all minisyllabic stems have two vowels, and thus have a complex final syllable (just as causative stems and passive stems) can be seen from the differences in tone patterns when comparing verbal forms with and without a complex final syllable (see 3.5.2). With verbal forms with SF-H tone, there is retraction to the penultimate syllable in case the final syllable is not complex, and there is no retraction to the penultimate syllable when the final syllable is complex; in the latter case, the SF-H tone retracts to the root vowel (with minisyllabic stems) or to the vowel of the extension (with causative and passive stems) and disappears with Final H Deletion (3.4.6), except with the Optative.

tu-naalya	we (will) eat
tu-naava	we (will) be
tu-na-liíma	we (will) cultivate
tu-na-liimya	we (will) make cultivate
tuulyé	we should eat
tuuvé	we should be
tu-liíme	we should cultivate
tu-liimyé	we should make cultivate

When there is no retraction to the penultimate syllable, there is also no H Tone Bridge from the S1-H tone to the retracted SF-H tone, as in the Infinitive.

ku-kátápáála	to be beautiful (< ˚**ku-kátapaála**)
ku-kátápaadya	to make beautiful (< ˚**ku-kátapaadía**)

Retraction to the penultimate syllable does not take place when the final syllable is complex. We have to mention here a remarkable similarity between stems with a complex final syllable and Imperatives. In the Imperative consisting of minisyllabic stems, the vowel **i** appears as the first TBU of the stem, and the SF-H tone does not retract to the penultimate syllable. With all Imperatives consisting of disyllabic stems, including those without a complex final syllable, the SF-H tone does not retract to the penultimate syllable.

	Imperatives:		stems:
	iipa	bear fruit!	(cf. **-.pa** bear fruit)
	iilya	eat!	(cf. **-.lya** eat)
	iiva	steal!	(cf. **-iva** steal)
	iivya	make steal!	(cf. **-ivya** make steal)
	liima	cultivate!	(cf. **-lima** cultivate)
	liimya	make cultivate!	(cf. **-limya** make cultivate)
cf.	**yangaáta**	help!	(cf. **-yangata** help)
	yangaatya	make help!	(cf. **-yangatya** make help)

We know that all Imperatives forms have SF-H tone because this tone appears on the Final when followed by a word like **kadiíki** 'a bit'.

ilyá kadiíki	eat a bit!
ivá kadiíki	steal a bit!
ivyá kadiíki	make steal a bit!
limá kadiíki	cultivate a bit!

One might suspect that these forms are too short for a SF-H tone to be assigned, and that the SF-H tone is a floating final H tone (indicated by the symbol ^{H}) which appears on the Final when followed by another word (˚**lima**^{H}). But a SF-H tone (like other H tones) is assigned to stems, not to the whole form, and with the other tenses with SF-H tone, the SF-H tone is indeed assigned to disyllabic stems. I therefore suggest that these forms are too short according to a (minimal) structure condition on verbal forms (something like: a verbal form should at least have three TBU's underlyingly), and that this lack of TBU is compensated by creating a complex final syllable analoguous to the final syllable of minisyllabic stems (and causative stems and passive stems) which contains a position to which the SF-H tone retracts. The creation of a complex final syllable also occurs with certain other stems, such as special causative and passive stems, reciprocal stems and stems with the Pre-Final, all of which are discussed below.

We have stated that syllables within a verbal stem must have an onset. Because of this condition, complex final syllables appear with minisyllabic stems, causative stems and passive stems. Without this condition, the root vowel (with minsyllabic stems) and the vowel of the extension (with causative and passive stems) would form a syllable on their own, and this syllable would be the penultimate syllable where penultimate lengthening would take place. It is clear that this is not the case: the syllable before the complex one is the penultimate syllable where penultimate lengthening occurs. So, the condition mentioned above causes complex final syllables to appear; minisyllabic stems therefore consist of one syllable, and because of another condition that stems must have two syllables, the initial (S1-)position is created which makes them structural identical with disyllabic vowel-initial stems. In 3.4.1, this analysis was supported by the fact that minisyllabic stems have the same tonal behaviour as disyllabic vowel-initial stems. It was also made clear in the same section

that the S1-position of minisyllabic stems is filled by a separate vowel, not by the vowel of the preceding morpheme itself, but by a copy of it. In the Imperative, as seen above, there is no preceding vowel, and the vowel **i** appears as the first TBU of the stem.

iipa bear fruit!
iilya eat!

With an analysis in which there is no initial S1-position with minisyllabic stems, several problems arise, and ultimately we would be unable to derive the correct surface forms. In such an analysis, the S1-H tone is assigned to the root vowel, and the SF-H tone retracts to the root vowel. An example is the Infinitive which has S1/SF H tones. The form with the verb stem ˚**-lia** 'eat', would be ˚**ku-liá**. The verb stem has one syllable because penultimate lengthening lengthens the preceding syllable: ˚**kuu-liá**. To which position should the SF-H tone retract in the form? Assuming that it stays on the Final, and assuming that the S1-H tone is realized on the preceding TBU after VC/GF (as occurs with the H tone on a fused object concord, see 3.5.5), the form would be ˚**kuú-lyá**. We then would need another rule to derive the correct surface form **kúúlya**, i.e. contour simplification, which would lead to unnecessary complication of the analysis. Another example is the Present Perfective (disjoint) which has SF-H tone and Px-H tone (H tone on the subject concord): ˚**tú-ni-liá**. The form would be ˚**tú-nii-liá** after penultimate lengthening, and the SF retracts to the root vowel being the S1-position: ˚**tú-nii-lía**. The problem here is that the H tone of a subject concord shifts to the S1-position, but this position is already occupied by the retracted SF-H tone. Where should it shift to? There is no shifting of a H tone to a position before another H tone, so if VC/GF precedes the shifting process, the H tone on the root vowel appears on the preceding TBU, there is no shifting possible, and the wrong form *__tú-nií-lya__ appears instead of the correct form **tu-níi-lya**. If the shifting process precedes VC/GF, the H tone on the root vowel would appear on the Final, and the wrong form *__tu-níi-lyá__ appears. Another example is the Conditional (˚**tu-ka-lia**) which has S2-H tone. But to which position should we assign a S2-H tone? And how to derive the surface form **tu-káálya**?

It should be noted that when monomoraic vowel-final roots and the Perfective Final **-ile** are joined together, a stem with two syllables appears after syllabification (and not three because of the condition mentioned above), and there is no need to create an initial S1-position. This is also true when extensions with the structure -VC- are added. Below, we give examples of the applicative extension, the long passive extension and the Perfective Final.

-liila	< ˚**-li-il-a**	eat for
-liiwa	< ˚**-li-iw-a**	be eaten
-liile	< ˚**-li-il(-)e**	have eaten

The S1-position is the first TBU of the disyllabic stem. This can be seen, for example, with the Present Negative which has S1-H tone (first example), with the Negative Optative of which the subject concord has a H tone which shifts to the S1-

position (second example), and with the Negative Present Perfective which has S1/SF-H tones, where the SF-H tone retracts to the penultimate syllable (third example).

tu-ká-va-líila	we do not eat for them	(< ˚**tu-ká-va-líila**)
va-na-líiwe	they should not be eaten	(< ˚**vá-na-liiwe**)
tu-ká-va-lííle	we have not eaten them	(< ˚**tu-ká-va-líilé**)

Most of these stems do not have complex final syllables, as the third example above demonstrates, where the SF-H tone has retracted to the penultimate syllable. Another example is the applicative stem in the Non-Past which has SF-H tone.

tu-na-va-liíla we (will) eat for them (< ˚**tu-na-va-lilá**)

Exceptions are causative and passive stems since these extensions have a complex final consonant where vowel incorporation has taken place (see next sections).

6.3.2 Causative stems and Passive stems

Verbal bases with the causative extension ˚**-i-** arise in two ways: when the causative extension is added at the formation of verbal bases in the second lexicon, and as lexicalized causatives in the first lexicon. See also 2.3 for the distribution of the causative forms.

Syllabification creates one (complex) syllable when verbal bases with the causative extension ˚**-i-** and the Final **-a** are joined together.

˚**-tepia**	< ˚**-tepi-a**	< ˚**-tep-i-**	make bow down	(cf. **-tepa** bow down)
˚**-kutia**	< ˚**-kuti-a**	< ˚**-kut-i-**	make cry	(cf. **-kuta** cry)
˚**-lamia**	< ˚**-lami-a**	< ˚**-lam-i-**	cure	(cf. **-lama** heal)

Lexicalized causatives:

˚**-yedia**	< ˚**-yedi-a**	< ˚**-yedi-**	taste; imitate	
˚**-wadia**	< ˚**-wadi-a**	< ˚**-wadi-**	dress	(cf. **-wala** put on)

Although the final example ˚**-wadia** can be derived directly from **-wala** (the **l** becomes **d** when occurring before the causative vowel, see 2.3), forms with combined extensions prove that the form is lexicalized (see below). After penultimate lengthening, the SF-H tone (of the Non-Past, for example) retracts to the vowel of the extension, and not to the penultimate syllable.

˚**tu-na-teepía**	< ˚**tu-na-tepiá**	(cf. **tu-na-teépa**	< ˚**tu-na-tepá**)
˚**tu-na-kuutía**	< ˚**tu-na-kutiá**	(cf. **tu-na-kuúta**	< ˚**tu-na-kutá**)
˚**tu-na-laamía**	< ˚**tu-na-lamiá**	(cf. **tu-na-laáma**	< ˚**tu-na-lamá**)
˚**tu-na-yeedía**	< ˚**tu-na-yediá**		
˚**tu-na-waadía**	< ˚**tu-na-wadiá**	(cf. **tu-na-waála**	< ˚**tu-na-walá**)

The retracted H tone disappears with Final H Deletion, a process which occurs after VC/GF when the extension becomes **y**.

tu-na-teepya we (will) make bow down
tu-na-kuutya we (will) make cry
tu-na-laamya we (will) cure

tu-na-yeedya we (will) taste
tu-na-waadya we (will) dress

When both the causative extension and the applicative extension (**-il-/-el-**) are added, the applicative appears before the causative in the verbal base (which changes the **l** of the applicative into **d**). When the Final is added, the final syllable becomes complex.

-tepedya	< ˚**-tepedia**	< ˚**-tepedi-a**	< ˚**-tep-el-i-**	make bow down for
-kutidya	< ˚**-kutidia**	< ˚**-kutidi-a**	< ˚**-kut-il-i-**	make cry for
-lamidya	< ˚**-lamidia**	< ˚**-lamidi-a**	< ˚**-lam-il-i-**	cure for

tu-na-va-tepeedya we (will) make bow down for them
tu-na-va-kutiidya we (will) make cry for them
tu-na-va-lamiidya we (will) cure for them

With lexicalized causatives, the applicative is added after the extension. The causative vowel is copied to the position after the applicative, changing the **l** of the applicative into **d**. It appears that when a morpheme is added to a form with a complex final syllable, the newly derived final syllable must also be complex; this phenomenon is also observed with other forms, e.g. with lexicalized passives (see below).

-yedyedya	< ˚**-yediedia**	< ˚**-yediedi-a**	< ˚**-yedi-el-i-**	< ˚**-yedi-el-**
-wadidya	< ˚**-wadiidia**	< ˚**-wadiidi-a**	< ˚**-wadi-il-i-**	< ˚**-wadi-il-**

tu-na-va-yedyeedya we (will) taste for them
tu-na-va-wadiidya we (will) dress for them

Next to **-yedyedya**, a form without the first glide is also possible, **-yededya**, suggesting that the applicative may also be added before the causative; in that case, we do not need to assume copying of the causative vowel. With the final example, we can see that ˚**-wadi** is lexicalized. If it were productively derived from ˚**-wala**, then the combined causative/applicative extensions would follow the same path as the non-lexicalized forms, and the form **-walidya** (via < ˚**-walidia** < ˚**-walidi-a** < ˚**-wal-il-i-**) would occur, which is not the case.

There are two other causative extensions, ˚**-ihi-/-ehi-** and ˚**-isi-/-esi-**. (For the distribution of the different forms of the causative, see 2.3.) There are also lexicalized forms with these causative extensions. When the Final is added, a complex final syllable appears.

˚**-lolehia/-lolesia** < ˚**-lolehi-a/-lolesi-a** < ˚**-lol-ehi-/-lol-esi-**
make look at (cf. **-lola** look at)

˚**-vihia/-visia** < ˚**-vihi-a/-visi-a** < ˚**-vihi-/-visi-** be angry

After penultimate lengthening, the SF-H tone retracts to the final vowel of these extensions.

˚**tu-na-loleehía** < ˚**tu-na-lolehiá**
˚**tu-na-loleesía** < ˚**tu-na-lolesiá**
cf. **tu-na-va-loleéla** < ˚**tu-na-va-lolelá** we (will) watch for them

˚**tu-na-viihía** < ˚**tu-na-vihiá**
˚**tu-na-viisía** < ˚**tu-na-visiá**

The retracted H tone disappears when the final vowel of the extension is incorporated into the preceding consonant with VC/GF. The surface forms of the extensions are **-ih-/-eh-** and **-is-/-es-**.

tu-na-loleeha we (will) make look at
tu-na-loleesa id.
tu-na-viiha we (will) be angry
tu-na-viisa id.

When both the causative extensions and the applicative extension are added, the applicative appears before the final vowel of the causative extensions (which changes the **l** of the applicative into **d**). When the Final is added, the final syllable becomes complex. Lexicalized causatives have the same form.

-lolehidya < ˚**-lolehidia** < ˚**-lolehidi-a** < ˚**-lol-eh-il-i-** observe, notice
tu-na-lolehiidya we (will) notice

With lexicalized causatives, the applicative is added after the extension. And the causative vowel is copied to the position after the applicative, changing the **l** of the applicative into **d**.

-visidya <˚**-visiidia** < ˚**-visiidi-a** < ˚**-visi-il-i-** < ˚**-visi-il-** be angry for
tu-na-va-visiidya we (will) be angry for them

Not every **h** in the final syllable indicates that the stem consists of a lexicalized causative where the vowel is incorporated with the **h**. The retraction of a SF-H tone is a good test to detect whether or not a **h** has an incorporated causative vowel. When a SF-H tone does not retract to the preceding penultimate syllable, it does contain an incorporated vowel; when a SF-H tone does retract to the penultimate syllable, it does not contain an incorporated vowel, and the stem is simple. In addition, the combination with an applicative extension also shows different forms.

lexicalized causatives:		non-causatives:	
tu-na-tooha	we touch	**tu-na-piíha**	we hide
tu-na-taaha	we look for	**tu-na-yaáha**	we throw away
-tohedya	touch for	**-pihila**	hide for
-tahidya	search for	**-yahila**	throw away for

Stems with a **s** in the final syllable are always lexicalized causatives; the **s** always has an incorporated vowel.

tu-na-viisa	we are/will be angry
tu-na-uusa	we (will) take off
-visidya	be angry for
-usidya	take off for

With the **ch**, we found one example with an incorporated vowel, probably an old lexicalized causative.

lexicalized causatives:		non-causatives:	
tu-na-yoocha	we roast	**tu-na-koócha**	we poke
		tu-na-kwichakwiícha	we sharpen
-yochedya	roast for	**-kochela**	poke for
		-kwichakwichila	sharpen for

Finally, the retraction test as well as the addition test can also be used to distinguish the palatal nasal **ny** from the palatalized nasal **ny** (˚**n+i**).

lexicalized causatives:		non-causatives:	
i-ná-tóonya	it rains	**tu-na-paánya**	we beat
tu-na-kundaanya	we mix	**tu-na-miínya**	we squeeze
-tonedya	rain for	**-panyila**	beat for
-kundanidya	mix for	**-minyila**	squeeze for

In 2.3, we also find examples of lexicalized causatives with a causative extension (e.g. **-tonyeha** make rain) as well as with a passive extension (e.g. **-udywa** be asked).

We now turn to passives. Verbal bases with the passive extension ˚**-u-** also arise in two ways: when the passive extension is added in the second lexicon, and as lexicalized passives in the first lexicon. (There is also a long passive extension **-iw-/-ew-**; for the distribution of the passive forms, see 2.3.)

When passive verbal bases are formed, syllabification creates one (complex) syllable from the extension ˚**-u-** and the Final **-a**.

˚**-tepua**	< ˚**-tepu-a**	< ˚**-tep-u-**	be bowed down	(cf. **-tepa** bow down)
˚**-kutua**	< ˚**-kutu-a**	< ˚**-kut-u-**	be cried	(cf. **-kuta** cry)
˚**-lamua**	< ˚**-lamu-a**	< ˚**-lam-u-**	be healed	(cf. **-lama** heal)

Lexicalized passives:

˚**-tamua**	< ˚**-tamu-a**	< ˚**-tamu-**	like, love
˚**-humbua**	< ˚**-humbu-a**	< ˚**-humbu-**	infect

After penultimate lengthening, the SF-H tone retracts to the vowel of the extension, not to the penultimate syllable.

˚tu-na-teepúa	**< ˚tu-na-tepuá**
˚lí-na-kuutúa	**< ˚lí-na-kutuá**
˚tu-na-laamúa	**< ˚tu-na-lamuá**
˚tu-na-taamúa	**< ˚tu-na-tamuá**
˚vá-na-huumbúa	**< ˚vá-na-humbuá**

The retracted H tone disappears with Final H Deletion, a process which occurs after VC/GF when the extension becomes **w**.

tu-na-teepwa	we will be bowed down
li-na-kúutwa	it will be cried
tu-na-laamwa	we will be healed
tu-na-taamwa	we will like
va-na-húumbwa	they will infect

With the second example and the fifth example, the subject concord has a H tone which shifts to the S1-position.

When both the passive extension and the applicative extension are added, the passive extension follows the applicative extension. When the Final is added, the final syllable becomes complex.

-tepelwa	**< ˚-tepelua**	**< ˚-tepelu-a**	**< ˚-tep-el-u-**	be bowed down for
-kutilwa	**< ˚-kutilua**	**< ˚-kutilu-a**	**< ˚-kut-il-u-**	be cried for
-lamilwa	**< ˚-lamilua**	**< ˚-lamilu-a**	**< ˚-lam-il-u-**	be healed for

tu-na-va-tepeelwa	we will be bowed down for them
li-na-vá-kútiilwa	it will be cried for them
tu-na-va-lamiilwa	we will be healed for them

With lexicalized passives, the applicative follows the passive extension. A vowel appears in the position after the applicative, changing the **l** of the applicative into **d**. It appears that the final syllable is shaped by analogy with the final syllable of causatives.

-tamwidya	**< ˚-tamuidia**	**< ˚-tamuidi-a**	**< ˚-tamu-il-i-**
			< ˚-tamu-il-
-humbwidya	**< ˚-humbuidia**	**< ˚-humbuidi-a**	**<˚-humbu-il-i-**
			< ˚-humbu-il-

tu-na-va-tamwiidya	we (will) like for them
va-na-vá-húmbwiidya	they (will) infect for them

In 2.3, we also find examples of lexicalized passives with a passive extension (e.g. **-tamwiwa** be loved) as well as with a causative extension (e.g. **-tamwiha** make love).

Causatives as well as passives have complex final syllables. When an applicative is added, they also have a complex final syllable. Lexicalized causatives and lexicalized passives have complex final syllables as well. When an applicative is added, they have a copied complex final syllable, by analogy with the non-lexicalized forms. The situation is different when separative and neuter/impositive extensions are added. Causatives as well as passives may not be combined with these extensions. Lexicalized causatives as well as lexicalized passives may be combined with these extensions, but then they do not have a copied complex final syllable (see 6.3.4).

Not every **w** in the final syllable indicates that the stem is a lexicalized passive. The retraction test and addition test can be used to distinguish the **w** from the passive **w** (˚**u**).

lexicalized passives:		non-passives:	
tu-na-paawa	we are somewhere	**tu-na-moówa**	we cut hair
tu-na-chiimwa	we are angry	**tu-na-loówa**	we do witchcraft
-pawidya	be somewhere for	**-mowela**	cut hair for
-tamwidya	like for	**-lowela**	do witchcraft for

6.3.3 Applicative stems and Perfective stems

The similarity in behaviour between the applicative extension and the Perfective Final **-ile** is striking. The applicative is added with the formation of verbal bases, while the addition of the Final occurs with stem formation.

-himbila	< ˚**-himb-il-a**	dig for	(cf. **-himba** dig)
-himbile	< ˚**-himb-ile**	have dug	

tu-na-va-himbiíla	we dig for them
tu-hímbiíle	we who have dug

When combined, the Perfective Final appears after the applicative extension, or Imbrication occurs.

-himbidile	< ˚**-himb-il-ile**	have dug for
-himbile	< ˚**-himbi-i-l-e**	have dug for

tu-hímbidiíle	we who have dug for
tu-hímbiíle	we who have dug for

When combined with the causative, the causative ˚**-i-** appears after the applicative; the Final **-a** is added, and the final syllable is complex after syllabification. Here we can see that the Perfective Final acts as if it existed of an applicative-like part **-il-** and a Final **-e**: the causative appears after the **-il-**, before the **-e**, and the final syllable becomes complex.

-himbidya	<˚**-himbidia**	<˚**-himb-il-i-a** <˚**-himb-il-i**	make dig for
-himbidye	<˚**-himbidie**	<˚**-himb-il-i-e**	have made dig

tu-na-va-himbiidya	we make them dig for (sth.)
tu-vá-hímbiidye	we who have made them dig

The passive extension ˚**-u-** appears before the final **e** of the Perfective Final **-ile**, **-ite** or Imbrication, and the final syllable is complex after syllabification.

-pilikenwe	< ˚**-piliken-u-e**	have been heard	(cf. **-pilikana** hear)
-limitwe	< ˚**-lim-it-u-e**	have been cultivated	(cf. **-lima** cultivate)
-himbilwe	< ˚**-himb-il-u-e**	have been dug	

li-pílíkeenwe	it (e.g. the word) that has been heard
li-límíitwe	it (e.g. the field) that has been cultivated
li-hímbíilwe	it that has been dug

Alternatively, the Perfective Final **-ile** may also follow the passive extension, and as we have seen in the previous section with lexicalized passives followed by the applicative extension, they have a copied complex final syllable. Note that **-ile** replaces **-ite** with **-lima**.

-limwidye	< ˚**-lim-u-il-i-e**	have been cultivated
-himbwidye	< ˚**-himb-u-il-i-e**	have been dug

li-límwíidye	it (e.g. the field) that has been cultivated
li-hímbwíidye	it that has been dug

In combination with lexicalized causatives and lexicalized passives, the applicative extension and the Perfective Final have similar behaviour. Their first vowel only differs in case vowel harmony determines that the first vowel of the applicative is **e** (the first vowel of the Perfective Final is not a harmonic vowel; it always is **i**).

-udidya	ask for	(cf. **-udya** ask (a question))
-udidye	have asked	
-lombwedya	be married for	(cf. **-lombwa** be married)
-lombwidye	have been married	

tu-na-va-udiidya	we ask for them
tu-vá-údiidye	we who have asked them
tu-na-va-lombweedya	we are married for them
tu-vá-lómbwiidye	we who have been married

When added to monomoraic vowel-final roots, the applicative extension appears after the root-final vowel; the root vowel determines vowel harmony, but this does not give us certainty about the quality of the root vowel in all cases. For example, with the applicative **-pela** (cf. **-.pa** bear fruit), there seems to be a harmonic vowel, but it is more likely that the root vowel is **a**, the applicative is **-il-**, and VC/GF results in **-el-** (there are indeed some nouns where VC/GF of **a** and **i** results in **e**, probably an old process, see 2.7). In the absence of an overt glide in the basic stem, we provisionally

analyse the root vowel as **a** in all cases of applicative **-el-**. We have not found applicatives with ˚**-.va-** 'be' and **-.chi** 'say'.

-pela	< ?˚**-pa-il-a**	(cf. **-.pa** bear fruit)
-pila	< ˚**-pi-il-a**	(cf. **-.pya** be scorched, be burnt)
-twela	< ˚**-to-el-a**	(cf. **-.twa** pound)
-chela	< ?˚**-cha-il-a**	(cf. **-.cha** dawn)
-swela	< ˚**-so-el-a**	(cf. **-.swa** set (of sun))
-hwila	< ˚**-hu-il-a**	(cf. **-.hwa** die)
-lila	< ˚**-li-il-a**	(cf. **-.lya** eat)
-nyela	< ?˚**-nya-il-a**	(cf. **-.nya** defecate)

With the Perfective forms made of these monomoraic vowel-final roots, the same forms appear as the applicatives ones, including the forms with (harmonic) **-el-** (except for the Final, which is **-e**; we assume that Imbrication applies to these applicative forms to form the Perfective, see 6.3.5). The form **-vele** comes from the root (which probably is) ˚**-va-** 'be'; there is no Perfective form of **-.chi** 'say'.

-pele	**-chele**	**-lile**	
-pile	**-swele**	**-nyele**	
-twele	**-hwile**	**-vele** < ˚**-va-ile** ?	(cf. **-.va** be)

When the applicative and Perfective Final are added to these roots, disyllabic stems occur, not minisyllabic stems where a S1-position is created to the left (see 6.3.1). In addition, their final syllable is not complex.

va-ni-tú-hwiíla	they have died for us
a-tú-hwiíle	(s)he who has died for us

Imbrication occurs in most cases when the Perfective Final is added to polysyllabic verbal bases. Many polysyllabic verbal bases appear as the result of added (productive) extensions, like in the first example below where an applicative and a passive extension are combined (˚**-tep-el-u-** < ˚**-tep-el-** < ˚**-tep-** stoop). With imbrication, the Final **-e** is added, and a harmonic vowel appears after the vowel of the preceding syllable. Imbrication applies to forms with and without a complex final syllable.

-tepelwe	< ˚**-tepeelue**	< ˚**-tepe-e-lu-e**	< ˚**-tepelu-**	be stooped
-hipwike	< ˚**-hipuike**	< ˚**-hipu-i-k-e**	< ˚**-hipuk-**	sprout
-olwete	< ˚**-oloete**	< ˚**-olo-e-t-e**	< ˚**-olot-**	point
-katapedye	< ˚**-katapaidie**	< ˚**-katapa-i-di-e**	< ˚**-katapadi-**	clean

tu-ólweéte	we who have pointed
tu-kátápeedye	we who have cleaned

See 7.1.4 for more details about the Perfective Final.

6.3.4 Separative stems and neuter/impositive stems

It remains a question how productive these extensions are. The form **-chimula** 'unfasten, open' can directly be derived from **-chima** 'fasten, close': ˚**-chim-ul-a**. But it is more likely that this form is lexicalized, just as the causative **-wadya** 'dress' and the passive **-lombwa** 'be married' are lexicalized, although they can be directly derived from resp. **-wala** 'put on clothes' and **-lomba** 'marry' (see previous sections). The structure of the separative and neuter/impositive extensions is shown by the following examples.

-malilika < ˚**-malil-ik-a** be completed (cf. **-malila** finish)

tu-na-i-chimuúla we unfasten it
chi-ni-máliliíka it is/has been completed

We did not find many examples combined with a causative or passive extension. The examples which we found are probably all lexicalized forms, for example **-chimulwa** (< ˚**-chimul-u-a** 'be opened'). But the separative and neuter/impositive extensions can be combined with lexicalized causatives and lexicalized passives. In these cases, they appear after the causative and passive extensions, but their final syllable is not a copied complex final syllable, as is the case when applicatives are added to lexicalized causatives and passives (see 6.3.2).

-tahuka	< ˚**-tahi-uk-a**	disagree, deny	(cf. **-taha** search)
-sumisika	< ˚**-sumisi-ik-a**	(can) be sold	(cf. **-sumisa** sell)
-kaleweka	< ˚**-kaleu-ek-a**	become drunk	(cf. **-kalewa** be drunk)

tu-na-tahuúka we (will) disagree, deny
tu-na-sumisiíka we are/can be sold
tu-na-kaleweéka we become drunk

One possible example of a lexicalized verbal base consisting of a monomoraic vowel-final root (˚**-to-**) is **-tula** 'set down'.

6.3.5 Reciprocal stems and forms with the Pre-Final -ang-

The reciprocal extension **-an-** and the Pre-Final **-ang-** have similar behaviour in all environments. We start with simple stems.

-lolana	< ˚**-lol-an-a**	look at each other	(cf. **-lola** look at)
-lolanga	< ˚**-lol-ang-a**	look intensively	

tu-na-lolaána we look at each other
tu-na-lolaánga we look intensively

Both the extension and the Pre-Final are added with stem formation. This is unexpected, at least for the extension, because extensions are generally added with

the formation of verbal bases. What makes them even more special is that they are added at a second stage of stem formation where stems are already formed. This means that with the examples above, the extension and the Pre-Final are added to the stem **-lola**, where they appear before the Final **-a**. Minisyllabic stems have a created S1-position after (the first stage of) stem formation, and a complex final syllable (e.g. ˚**-.lia** 'eat', the S1-position is indicated by a dot). With Imperatives, the created S1-position is filled by the vowel **i**, as documented in 6.3.1, and the final H tone retracts to the preceding vowel in the complex final syllable where it disappears with Final H Deletion, as described in 3.5.2 and 3.5.6: **iilya** < ˚**iliá** eat! When the reciprocal extension or the Pre-Final are added to minisyllabic stems, the S1-position is already created; this can be seen with reciprocal Imperatives and Imperatives with the Pre-Final, where the initial vowel **i** appears.

ilyaanga	< ˚**ili-ang-á**	keep on eating!	(stem: ˚**-.li-ang-a**)
ilyaana	< ˚**ili-an-á**	eat each other!	(stem: ˚**-.li-an-a**)

The reciprocal and the Pre-Final are inserted into the complex final syllable before the Final **-a**. Remarkably, and this is another indication that they are added to stems, the derived final syllable is also complex, as can be seen with the final H tone which does not retract to the penultimate syllable and is not realized. Probably, when added to a complex final syllable, the derived final syllable should also be complex. This means that a syllable is created in analogy with the final syllable of minisyllabic stems, causative stems and passive stems which contains a position to which the SF-H tone retracts. The same process occurs with Imperatives with disyllabic stems, where a complex final syllable is created too, but for a different reason: because of a (minimal) structure condition on verbal forms (see 6.3.1). This is a similar process as seen with lexicalized causatives and lexicalized passives to which the applicative extension is added, where the derived final syllable is shaped in analogy with the final syllable of non-lexicalized causatives (see 6.3.2).

The reciprocal and the Pre-Final are added at a second stage of stem formation where other extensions already have been added, and this means that combined with other extensions, the reciprocal and the Pre-Final appear finally at the end of the sequence. For example, when combined with causatives and passives, lexicalized or not, they appear at the end before the Final **-a**. And since both causatives and passives have complex final syllables, the derived final syllables are also complex.

-kutyanga	< ˚**-kuti-ang-a**	be constantly made to cry
-wadyana	< ˚**-wadi-an-a**	dress each other
-lolwanga	< ˚**-lolu-ang-a**	be looked at intensively
-tamwana	< ˚**-tamu-an-a**	love each other

tu-na-kutyaanga	we are constantly made to cry
tu-na-wadyaana	we dress each other
tu-na-lolwaanga	we are intensively looked at
tu-na-tamwaana	we love each other

There is also tonal evidence that the reciprocal and the Pre-Final are added to stems. Minisyllabic stems have a created S1-position after (the first stage of) stem formation, and only then are the reciprocal or the Pre-Final added. This can be seen with the tonal process Prefix-H Tone Shift. As described in 3.5.4, the H tone of a subject concord shifts to the S1-position of the stem. With minisyllabic stems, it shifts to the created S1-position (which is filled with a copy of the vowel of the preceding morpheme), also in case the reciprocal or Pre-Final are added.

va-náálya	< ˚**va-na-áliá**	< ˚**vá-na-aliá**	they eat
va-nályáanga	< ˚**va-na-áli-ang-á**	< ˚**vá-na-ali-ang-á**	they keep eating

The second H tone in the form with the Pre-Final is due to doubling of the first H tone. Here, too, the "new" final syllable is complex, just as the final sylable in the form without the Pre-Final. That the "new" final syllable is complex can be seen by the fact that there is no retraction of the final H tone to the penultimate syllable (which would result in a penultimate R).

Addition of the other extensions occurs earlier in the derivation, with the formation of verbal bases. As described in 6.3.1, when one of the other extensions (e.g. passive **-iw-**) is added to a monomoraic vowel-final root (e.g. **-li-** eat) with the formation of verbal bases (˚**-li-iw-**), and when a Final is added to them with stem formation (**-li-iw-a**), the stems consist of two syllables. They are not minisyllabic stems with a created S1-position, but their S1-position is the vowel of the first syllable.

va-na-líiwa	they are eaten
va-na-líwáanga	they are continuously eaten

Perfective reciprocal stems and Perfective stems with the Pre-Final are formed with Imbrication. Addition of the full Perfective Final is not possible because this occurs at the first stage of stem formation. Imbrication occurs at the second stage of stem formation, after addition of the reciprocal and the Pre-Final. With Imbrication, the Final is (or becomes) **-e**, and an harmonic vowel appears after the vowel of the penultimate syllable; all vowels of a stem being **a**, they (may) all change to **e** (see 7.1.4).

-lolene	< **-lolana**	have looked at each other
-lolenge	< **-lolanga**	have intensively looked
-kutyenge	< **-kutyanga**	have made constantly cry
-tamwene	< **-tamwana**	have loved each other

tu-lóleéne	we who have looked at each other
tu-lóleénge	we who have intensively looked
tu-kútyéenge	we who have made constantly cry
tu-támwéene	we who have loved each other

The examples above are examples of the Relative Present Perfective; this tense has a H-toned subject concord (which shifts to the S1-position) as well as a final H tone (SF-H). As expected, a simple final syllable remains simple after Imbrication (first two examples above) and a complex final syllable remains complex after Imbrication (final two examples above). The difference can be seen by the (absence of) retraction of the final H tone to the penultimate syllable. The second H tone in the final two examples is due to doubling of the first H tone.

Perfective stems with the Pre-Final formed from minisyllabic stems are shaped differently, just as Perfective reciprocal stems formed from minisyllabic stems. For example, the Pre-Final added to the minisyllabic stem °**-.lia** 'eat' results in the form °**-.lianga**, and we would expect the Perfective form °**-.lienge**, but this form does not exist. Instead, as we have seen in 6.3.3, the Perfective stems formed from monomoraic roots (like **-li-** 'eat') make use of the applicative forms (**-lila** 'eat for') to which Imbrication probably applies (**-lile** have eaten). Consequently, the form with the Pre-Final is shaped via the applicative form (**-lilanga** < °**-lil-ang-a**) to which Imbrication applies: **-lilenge** 'have kept on eating'. As the applicative from which it is made is a disyllabic stem and not a minisyllabic stem, there is no created S1-position and no complex final syllable. This can be seen with the example below of the Relative Present Perfective: the H tone of the subject concord shifts to the S1-position which is the vowel of the first syllable, and the final H tone retracts to the penultimate syllable.

tu-líleénge	we who have kept on eating

6.3.6 Reduplicated stems

In 3.4.1, we have shown that verbal reduplication applies to whole stems, including the Final **-a**, **-e** or **-ile** (or **-ite,** or an imbricated form). Its meaning is something like 'keep on ...'.

-himbahimba	cf. **-himba** dig
-himbehimbe	cf. **-himbe** (Optative)
-himbilehimbile	cf. **-himbile** (Perfective)
-tongolatongola	cf. **-tongola** speak
-tongoletongole	cf. **-tongole** (Optative)
-tongweletongwele	cf. **-tongwele** (Perfective)

-tohatoha	cf. **-toha** touch
-tohetohe	cf. **-tohe** (Optative)
-tohidyetohidye	cf. **-tohidye** (Perfective)
-malamala	cf. **-mala** know
-malemale	cf. **-male** (Optative)
-maitemaite	cf. **-maite** (Perfective)
-twalatwala	cf. **-twala** take away
-twaletwale	cf. **-twale** (Optative)
-twetetwete	cf. **-twete** (Perfective)

In 7.1.7, we describe how final syllables beginning with **l** and its complex variant **dy** may be omitted in verbal forms, and this can be seen with reduplication, too. Some examples follow.

-tongwetongwe, **-tongwetongwele**	cf. -**tongweletongwele**
-tohitohi, -**tohitohidye**	cf. **-tohidyetohidye**

Since extensions are part of the stem, applicative stems, passive stems, causative stems, etc., may all be reduplicated, as well as stems with the Pre-Final **-ang-**. Reduplicated forms have a complex final syllable when the unreduplicated forms from which they are derived have one.

-himbilahimbila	cf. **-himbila** dig for; **-himba** dig
-tepyatepya	cf. **-tepya** make bow down; **-tepa** bow down
-kutwakutwa	cf. **-kutwa** be cried; **-kuta** cry
-chimulachimula	cf. **-chimula** unfasten; **-chima** fasten
-malilikamalilika	cf. **-malilika** be completed; **-malila** finish
-lolanalolana	cf. **-lolana** look at each other; **-lola** look at
-limangalimanga	cf. **-limanga** cultivate on and on; **-lima** cultivate

Reduplication occurs before H Tone Assignment in the second lexicon, the reduplicated stem as a whole is assigned a tonal profile, depending on the tense. In 3.4.1, we have given examples of verbal forms with reduplicated stems of all TG's. Here, we pick out two TG's: TG A (L.S1/SF) and TG E (L.S2). The Negative Present Perfective, for example, belongs to TG A; the stem is assigned S1-H tone and SF-H tone (e.g. ˚**-límité** 'have cultivated', ˚**-límitelimité** 'have kept on cultivating') and after penultimate lengthening and retraction, a H Tone Bridge occurs (˚**-límíite**, ˚**-límítélímíite**). When there is no object concord, the H tone of the Negative marker (˚**-ká-**) immediately precedes the S1-H tone, and the S1-H tone is deleted due to Meeussen's Rule.

tu-ká-la-límíite	we have not cultivated them
tu-ká-limíite	we have not cultivated
tu-ká-la-límítélímíite	we have not kept on cultivating them
tu-ká-limítélímíite	we have not kept on cultivating

We now turn to TG E; the Conditional, for example, belongs to this TG. As described in 3.4.1, when a S2-H tone is assigned to a disyllabic stem, tonal lengthening occurs in the first syllable and the S2 is assigned to this lengthened TBU (e.g. ˚**-liíma**); the tonal structure of the first syllable becomes level H after the processes penultimate lengthening (˚**-liíima**) and structure simplification including tonal coalescence (˚**-líima**, see 3.5.6).

tu-ka-liíma	if we cultivate
tu-ka-la-liíma	if we cultivate them
tu-ka-limálíima	if we keep on cultivating
tu-ka-la-limálíima	if we keep on cultivating them

The examples with an object concord show that H Tone Assignment applies to the stem, and not to the macrostem (otherwise the S2-H tone would be on the first TBU of the stem). They also show that the stem is reduplicated, not the macrostem (the object concord appears only once).

In 3.4.1, we have described what happens with reduplication of minisyllabic stems: the reduplicated part contains the created S1-position filled with a copy of the vowel of the preceding morpheme. Some more examples follow (the copy of the vowel is underlined).

pa-tú-ú̲lya-u̲lya matandaasa	when we keep on eating cassava porridge
pa-tú-lá-á̲lya-a̲lya matandaasa	when they keep on eating the cassava porr.
tu-ní-íl̲yá-i̲lya matandaasa	we have kept on eating cassava porridge

6.3.7 The macrostem

The macrostem consists of the verb stem plus the preceding object concord (if present). The macrostem is the domain of processes at some stages of the derivation; the verb stem is the domain of other processes at other stages of the derivation. The process H Tone Assignment, for example, has the verb stem as its exclusive domain: the S1-H tone is assigned to the first TBU of the verb stem, not of the macrostem (see 3.4.1). This is a process of the second lexicon. But later tone rules, e.g. Prefix H Tone Shift which applies post-lexically, apply to the macrostem: the H tone of the subject concord shifts to the first TBU of the macrostem, i.e., to the object concord if present, otherwise to the stem (see 3.5.4).

In 3.5.5, we have presented the Object Concord H Tone Retraction rule. A H tone on the object concord retracts to the preceding TBU when the object concord merges with a vowel-initial stem. Such a retraction rule is unique to object concords; generally, it does not occur in other merging processes. Compare the following examples.

tu-na-lí-óone, **tu-ná-ly-óone** we should not see it (cl.5)

The second H tone is due to doubling of the first H tone. The merging process above is optional, but when it happens, the H tone on the object concord shifts back. The example above is an example of the Negative Optative which has a subject concord with a H tone which shifts to the object concord. The example below is an Infinitive with object concord which has its own H tone. Here, too, the H tone of the object concord shifts back in case the object concord merges with a vowel-initial stem.

ku-lí-oóna, **kú-ly-oóna** to see it

When the object concord is 1SG, the concord is **N-** (prenasalization) as an optional variant before stems starting with certain consonants (see 6.2.2). When the object concord is **N-**, in both the Negative Optative (where a H tone shifts to the object concord) and in the Infinitive (where the object concord has its own H tone), the H tone also appears on the preceding TBU.

u-na-ngú-páanye, **u-ná-máanye**	you should not beat me
ku-ngú-paánya, **kú-maánya**	to beat me

In an alternative analysis, the merging process precedes the shifting process, so that in the first case above, where the object concord gets its H tone by shifting, the shift stops on the TBU preceding the merged object concord. But there are good reasons to assume that the shifting process precedes the merging process; in particular, we need this order to derive the correct tone patterns.

In all cases but one, the merging process of an object concord and a vowel-initial stem is optional. It is obligatory in case of minisyllabic stems due to a different syllabification compared to other stems (see 3.4.1). With minisyllabic stems, the Object Concord H tone Retraction rule applies, and the H tone appears on the preceding TBU. Remember that minisyllabic stems have a created S1-position (e.g., ˚**-.lie**, ˚**-.lia** ‘eat’) which is filled with a copy of the vowel of the preceding morpheme (the object concord **-la-** of cl.6 in the example below).

tu-ná-láalye	< ˚**tu-na-lá-alie** <˚**tú-na-la-alie**	we should not eat them
kú-láalya	< ˚**ku-lá-aliá**	to eat them

6.4 Verbs ‘to be’ and ‘to say’

The verb **kúúva** ‘to be’:

The verb stem **-.va** is a minisyllabic verb stem, which is reanalyzed as a vowel-initial disyllabic verb stem with a complex final syllable underlyingly. When followed by a locative, it expresses ‘to be somewhere’; followed by **na-** introducing a nominal phrase, it expresses ‘to have’. And as we have seen in the preceding sections, it is used as part of Complex Tenses as well as Compound Tenses. No object concord is possible with this verb. The verb may occur in almost every tense (for examples, see

7.4, type 2a)), but not in a complex tense where the first part also consists of this verb (e.g. *tu-ve-nkuuva).

tuuva kukááya we are (generally) at home
vaava kúkáaya they are (generally) at home

tuuva na-vikáapu vitaátu we have three baskets
vaavá na-vikáapu vitaátu they have three baskets

The verb **kupáawa** 'to be somewhere'.

The verb stem **-pawa** is a disyllabic verb stem with a complex final syllable (this is seen, e.g., by the F tone on the penultimate syllable in the Infintive, and by the Perfective final **-idye**). The verb expresses 'to be somewhere', and it may occur without a locative. Followed by **na-** introducing a nominal phrase, it expresse 'to be together with', but not 'to have'. No object concord is possible with this verb. The verb may occur in almost every tense, but not in the Past *djt* (*ánápawa).

Negative Present:
akápáawa (s)he is not here/there
akápáawa kukááya (s)he is not at home

Present Perfective:
apawidyé na-vikáapu vitaátu (s)he is (here/there) with three baskets

The defective verb stem **-pali** 'to be somewhere'.

The verb stem expresses 'to be somewhere', and it may occur without a locative; the stem itself probably consists of cl.16 prefix **pa-**, followed by the (original) stem **-li**. When followed by **na-** introducing a nominal phrase, it expresses 'to be with', but not 'to have'. No object concord is possible. The only possible tense for this verb stem is the Negative Present; there is no H Tone Doubling of the H tone of the Negative marker to the verb stem.

akápaali (s)he is not there
akápaali kukááya (s)he is not at home

akápaali na-vikáapu vitaátu (s)he is not (here/there) with three baskets

The defective Negative **-ké** 'not to be':

It expresses 'it is not...' followed by the entity "which is not". The SC is either **a-** or the proper SC for the participants or classes. Followed by **na-** introducing a nominal phrase, it expresses 'not to have'; the SC **a-** is not possible in this case. No object concord is possible. The form is often pronounced as **-kée** with a short fall from H to a lowered H (H̲).

akée/nikée náaángu it is not me

akée/tukée hwéeétu	it is not us
akée/likée lihaámba	it is not the leave
akée/chikée chikáapu	it is not the basket

nikée na-vikáapu vitaátu I do not have three baskets

The verb **kúúchi** 'to say':

This verb is irregular in that it does not have stems with the Finals **-a**, **-e** or **-ile**, nor with the Pre-Final **-ang-**. Its use on its own is limited, but as shown in the preceding section, it is used as the first part of Compound Tenses. No object concord is possible with this verb. The verb may occur in many tenses, but not in those with the Finals **-e** and **-ile**, nor in the Perfective *djt* (*tuníichi). Some examples:

Present:

tuuchi malóóve lóóhe	we say many words
vaachi málóóve lóóhe	they say many words

Direct Relative:

túuchi málóóve	we who say words
vááchi malóóve	they who say words

Conditonal:

tukááchi malóóve if we say words

The Present form of this verb is used in greetings (but without final H tone).

uuchi dachi úlyámbá úúno	how are you this morning?
	lit. what do you say this morning?
vaachi dachi váváana	how are the children?
	lit. what do the children say?

The Infinitive form of this verb is used as a Complementizer, either on its own or together with **-doóno**. The Sequential Infinitive of the verb, also in combination of **-doóno**, is often used in stories as a reply or reaction expressing 'saying', 'and...said'.

ngu-va-hauli kúchí(doóno)...	I tell them that...
nááng'e nkúchí(doóno)...	and he said...
nkúchí(doóno)...	saying...