

A comparative analysis of the Phonology and Morpho-syntax of Cisukwa, Cindali and Cilambya

by

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For my PhD baby Ingrid.

Thank you giving me focus and a new lease on life.

Abstract

A comparative analysis of the phonology and morpho-syntax of Cisukwa, Cindali and Cilambya (SuNdaLa)

This PhD thesis describes and compares the grammars of Cisukwa, Cindali and Cilambya (SuNdaLa) – three closely related varieties spoken in the northern region of Malawi. The analysis of the language data collected in this research project focuses on the phonological and morpho-syntactic systems of the SuNdaLa varieties by examining variation among them and by identifying the shared linguistic features. Within this research project, the linguistic distance among the three varieties has been analysed and suggestions have been made as to whether the SuNdaLa varieties should be considered as being three dialects of one language or as constituting three distinct languages. The study also places the SuNdaLa cluster into a wider context of the Bantu languages spoken in the region and more generally.

Quantitative and qualitative language data was collected in the field from “native” speakers of all three varieties. The SuNdaLa survey included the collection of a comparative word list by using a questionnaire that was designed based on existing wordlists, such as „Swadesh 100 word list“ (Swadesh 1955) as well as the SIL Comparative African Wordlist (Snider and Roberts 2006). Language data on the morpho-syntax and phonology was collected in elicitation sessions as well as by recording natural conversations among the key language consultants as well as their conversations with other community members.

With regard to the phonetic and phonological characteristics of the SuNdaLa, the thesis demonstrates that all SuNdaLa varieties have a five vowel system. Variation, however, exists among their consonant inventories. Cilambya has the richest consonant inventory, as it is the only variety which distinguishes voiced obstruents. The obstruents which have not been attested in the other two varieties seem to be an innovation in Cilambya. The nasal consonant sequences, which appear in all three SuNdaLa varieties, should according to evidence produced in this study be treated as clusters and not as unitary segments. Variation in the realization of these NC sequences exists in the SuNdaLa cluster; Cisukwa and Cindali employ a rule of post-nasal stop voicing while Cilambya aspirates its stops after a nasal. Furthermore, Cisukwa and Cindali delete a fricative after a nasal while it is maintained in Cilambya. The SuNdaLa varieties however share most other processes involving the NC sequences, such as homorganic nasal assimilation and consonant hardening.

The SuNdaLa varieties share the basic syllable structures and all three varieties disallow contiguous vowel sequences. The strategies employed by the SuNdaLa varieties to resolve hiatus are illustrated and discussed. The varieties also show similar prosodic properties. The nominal system in all three varieties is tonal, namely the realization of a high tone in nouns is not predictable and hence, underlying contrastive tones have to be marked. The verbal system behaves in sharp contrast to that. With verbs, the assignment of high tones is not only triggered by morphological categories like tense and aspectual markers, but it is also fully predictable. This analysis leads to the assumption that the verbal system is accentual, while the nominal system is tonal. For reduplication, it has been observed that tone transfer seems to be absent in this process and minimality is achieved morphologically.

All SuNdaLa varieties use a large repertoire of strategies for creating new lexical items. The most prominent word formation strategies are noun derivation, reduplication, compounding and borrowing. The incorporation of loanwords from English reveals some remarkable variation among the three varieties with regard to the noun classes assigned to the borrowed nouns.

The morpho-syntactic characteristics of SuNdaLa display the expected „classical“ Bantu language features in the noun class system, the noun formation and the noun modification processes. The SuNdaLa varieties share the verb structure common to all Bantu languages, namely a verb root with prefixes and suffixes attached to it. The components follow the order established for Bantu languages, with prefixes for the markers of the subject, tense and aspect, and the object, and suffixes for various categories of extensions, such as the applicative, reciprocal, passive and causative.

SuNdaLa varieties share most morpho-syntactic properties and they exhibit the same values with regard to object marking. They allow an overt lexical noun phrase to occur with the object marker and they employ locative object markers. Object marking is restricted to one per verb and it is the benefactive object which can be expressed by an object marker. The study further demonstrates that all SuNdaLa varieties use the same tense and mood categories, and they also share the same verbal extension affixes.

The thesis discusses the differences among the SuNdaLa varieties in the noun class system, especially in the choices made on noun class singular-plural pairing. While Cindali pairs the singular class 9 nouns commonly with the plural class 4, Cisukwa and Cilambya follow the most common pattern in choosing plural class 10 for singular class 9. In addition, the noun

class prefix for class 1a differs in Cindali from the others. Furthermore, Cisukwa and Cindali (SuNda) share the same possessive stems, while Cilambya (La) has its own. For instance,

-angu for 1sg (SuNda) vs *-ane* for 1sg (La); *-ako* for 2sg and 2pl (SuNda) vs *-ako* for 2sg and *-ache* for 2pl (La), *-ake* for 3sg and *-awo* for 3 pl (SuNda) vs *awo* for 3sg and 3pl (La).

Variation among the SuNdaLa varieties exists mainly in the phonological structure with very few differences in the morpho-syntax. Nevertheless, the outcomes of this research project lead to the analysis of the SuNdaLa cluster constituting a dialect cluster of one language. The SuNdaLa varieties appear as segments of a dialectal continuum with Cisukwa and Cindali having a closer relationship and with Cilambya being further apart.

The linguistic facts presented in this thesis are of eminent importance for language planning, the development of an orthography as well as teaching and learning materials. The speakers, however, consider Cisukwa, Cindali and Cilambya as distinct languages, and despite the linguistic findings presented in this thesis, the speakers' own judgment needs to be respected in the non-academic public discourse on the SuNdaLa cluster.

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Zikomo nonse!

List of Abbreviations

1, 2, 3, ...	noun classes
1sg	first person singular
1pl	first person plural
2sg	second person singular
2pl	second person plural
3sg	third person singular
3pl	third person plural
ASP	aspect
APP	applicative
AUG	augment
C	consonant
cd	concord
CG	consonant-glide
CGs	consonant-glide sequence
CLS	The Centre for Language Studies
FUT	future tense
FV	final vowel
H	high (tone)
HAB	habitual
INF	infinitive
INFL	inflection
IPFV	Imperfect
L	low (tone)
LG	language group
N/A	not applicable
NC	nasal-consonant
NCP	noun class prefix
NCs	nasal-consonant sequence
NEG	negative
NP	nominal phrase
NP	noun phrase
OCP	Obligatory Contour Principle
OM	object marker
OT	Optimality Theory
PASS	passive marker
PB	Proto-Bantu
pl	plural
PR	phonetic representation
Pre-NC	preceding nasal-consonant
PROG	present progressive tense marker
PFV	perfect
PST	past
REC	reciprocal marker
RED	reduplicant

Ri	reduplicated portion
Rpast	remote past
sg	singular
SM	subject marker
SuNdaLa	Cisukwa, Cindali, Cilambya
TAM	tense, aspect, mood
UR	underlying representation
V	verb

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Chapter 1

Introduction

1.0 Overview

This PhD thesis describes, analyses and compares the synchronic phonological and morpho-syntactic structures of Cisukwa, Cindali and Cilambya. This cluster of closely related varieties will be referred to as SuNdaLa. The term was invented in order to avoid the labeling of the SuNdaLa varieties, i.e. Cisukwa, Cindali and Cilambya as languages or dialects. In their language mapping survey conducted in 2006, *The Centre for Language Studies* (CLS, henceforth) of the University of Malawi grouped the SuNdaLa to form one single language on a dialect continuum based on their presumed mutual intelligibility as well as selected shared lexical and phonological features. In sharp contrast to this categorization, the speakers themselves insist that the SuNdaLa varieties constitute distinct languages (CLS 2006). This shows that a structural comparison and speakers' own language ideologies are very different things. Guthrie (1967-1971) classified the SuNdaLa cluster as belonging to zone M. The SuNdaLa varieties are predominantly spoken in Chitipa district of the northern region of Malawi.

The CLS study showed that the three varieties share most of the lexems in their vocabularies with only minor differences. For instance, the word for „butterfly“ is *ichinkhwikwi* in Cilambya and *ichingwingwi* in Cindali and Cisukwa.

The CLS report (2006) also demonstrates the phonological similarities and differences among the three varieties by briefly looking at the segmental features of some sounds and their phonological processes. The report notes, for example, that post-nasal stops in Cindali and Cisukwa are voiced while they are not in Cilambya. In addition, Cisukwa and Cindali do not employ voiced fricatives which however occur in Cilambya. These differences can be observed in the SuNdaLa words for „scorpion“ which is *kalizya* in Cilambya, *kalisha* in Cindali and *kalisya* in Cisukwa. The voiced fricative /zj/ in Cilambya corresponds with voiceless fricatives /sj/ and /ʃ/ Cindali and Cisukwa, respectively.

The absence of voiced fricatives in Cindali and Cisukwa can also be seen in the word for „maize“, with the voiced fricative /v/ in Cilambya *ivilombe*, while it is realized as *ifilombe*, with the voiceless fricative /f/ in Cindali and Cisukwa.

The CLS report's main objective was to produce a language map for Malawi. It does not elaborate on the classification of Cilambya, Cindali and Cisukwa. The report was not designed as a linguistic research project and for that reason does not provide details on the linguistic similarities and differences of the SuNdaLa varieties. This thesis will describe, analyse and compare Cilambya, Cindali and Cisukwa and based on linguistic evidence will suggest a classification.

In order to gain a first impression of the lexical relationship among the SuNdaLa varieties and to determine the percentages of cognates they share, a lexico-statistical analysis was conducted by following Swadesh's and Heine's studies. (cf. Swadesh 1951, Heine 1973, Heine et al 1977). We took into account the basic assumptions of lexico-statistics which are as follows: Firstly, that some parts of the vocabulary, for example pronouns, numerals, body parts, geographical features are less subject to change than others (cf. Swadesh 1951a:12). Secondly, that the rate of retention of vocabulary items in the basic core vocabulary is relatively stable and thirdly, that the rate of basic vocabulary loss is nearly the same in all languages.

The wordlist employed in this study is a modified version of the so-called "Swadesh 100 word list" which Morris Swadesh proposed in 1955 (Swadesh 1955). We determined the numbers and percentages of shared cognates among the three varieties. Below is the 100 wordlist of the SuNdaLa varieties. Proto-Bantu (PB) equivalents are added as far as they were available in the literature. IPA phonetic transcriptions have been used throughout the thesis to refer to the SuNdaLa data.

Table 1: Modified "Swadesh 100 word list" of the SuNdaLa varieties

	Cisukwa	Cindali	Cilambya	Proto-Bantu	English gloss
1.	<i>itʃipapa</i> („skin mostly of animal“; also 'cloths')/ <i>múβili</i>	<i>itʃipapa, umuβili</i>	<i>itʃipapa, umúβili</i>	<i>kánda</i> (3/4), <i>mókóbá</i> (3/4), <i>ngobo</i> (9/10, „skin, cloth“)	„skin of man/body“
2.	<i>Umútu</i>	<i>umútu</i>	<i>umútu</i>	<i>mu-toe</i>	„head“
3.	<i>Iliso</i>	<i>ilʃiso</i>	<i>ilinso</i>	<i>i-jico</i>	„eye“

	Cisukwa	Cindali	Cilambya	Proto-Bantu	English gloss
4.	<i>iimbuno</i>	<i>íimbuno</i>	<i>iimp^huno</i>	<i>i-jɔlɔ</i> (5/6, 3/4), <i>pɔla</i> (9/10)	„nose“
5.	<i>ilikútu</i>	<i>itíúf^wo,</i> <i>ikútu</i>	<i>ilikutu</i>	<i>kɔ-twi</i>	„ear“
6.	<i>umulómo</i>	<i>umúlomo</i>	<i>umúlomo</i>	<i>ka-nɔa</i> (12, „mouth, lip“), <i>mɔ-</i> <i>lomo</i> (3/4, „lip, mouth, beak“)	„mouth“
7.	<i>ulúlimi</i>	<i>ulúlimi</i>	<i>úlulimi</i>	<i>lɔ-lími</i> (11/10)	„tongue“
8.	<i>ilino</i>	<i>ílino</i>	<i>ilino</i>	<i>i-jíno</i> (5/6), <i>i-gego</i> (5/6, „molar tooth, tooth“)	„tooth“
9.	<i>isiŋgo</i>	<i>ifíinggo</i>	<i>isiŋgo</i>	<i>nkíngó</i> (9/10, „neck, nape, voice“), <i>nkoti</i> (5/6, 9/10, „nape, neck“)	„neck“
10.	<i>itíŋ^wili</i>	<i>itíŋ^wili</i>	<i>isisi</i>	<i>lɔ-júúli</i> (11/10, also <i>lɔ-júélé</i>), <i>lɔ-cɔkí</i> (11/10, 9/10), <i>cítí</i> , <i>ma-puko</i> (6), <i>mɔ-cinga</i> (3,4, „string, hair“)	„hair“
11.	<i>ilíbele</i>	<i>il'óoŋgo,</i> <i>ilíbéle</i>	<i>ilíbéle</i>	<i>ma-béele</i> (5/6, „breasts, udder“), <i>i-tómbo</i> (5/6), <i>nkólo</i> (9/10, „heart, breastbone, breast“), <i>i-bambo</i> (5, „rib, breast“)	„breast“
12.	<i>itíikufi</i> /kákono	<i>itíikufi</i>	<i>itíikufi</i>		„hand“
13.	<i>itíipefu</i>	<i>itíipefu</i>	<i>itíimp^hémvu</i>	<i>i-dúú</i> (5/6), <i>i-bóngó</i> (5/6), <i>i-koto</i> (5/6)	„knee“
14.	<i>ul^wáajo</i>	<i>ul^wáajo</i>	<i>ul^wáajo</i>		„foot“
15.	<i>ifupa</i>	<i>ifupa</i>	<i>ifupa</i>	<i>i-kúpa</i> (5/6, 7/8), <i>kɪ-kɔlɪ</i> (7/8); cf. also „leg“	„bone“

	Cisukwa	Cindali	Cilambya	Proto-Bantu	English gloss
16.	<i>umójo</i>	<i>umójo,</i> <i>induúmbula</i>	<i>umójo</i>	<i>m̩-tíma</i> (3/4, „heart, liver“), <i>m̩-jojo</i> (3, „life, spirit, heart“), <i>nkólo</i> (9/10, „heart, breastbone, breast“), see also „liver“	„heart“
17.	<i>lítima,</i> <i>amáf^waf^wa</i> („Lungs“)	<i>ítima</i>	<i>ítima</i>	<i>báli</i> („liver, heart“), see also „heart“	„liver“
18.	<i>íḃaanda</i>	<i>íḃaanda</i>	<i>íḃaanda</i>	<i>m̩-lopa</i> (3,5,14), <i>ma-nyínga</i> (6), <i>magilá</i> (6< <i>gil-a</i> „avoid“), <i>ma-gadí</i> (6,< <i>-gadí</i> 9,6, „oil palm, palm oil“), <i>nconde</i> (9)	„blood“
19.	<i>ḃóna</i>	<i>ḃóna</i>	<i>góna</i>	<i>lá-al-a</i> („lie down, sleep, spend night“), <i>gon-a</i> („snore, sleep, lie down“)	„sleep“
20.	<i>tés^la,</i> <i>keéta,liínga</i>	<i>keéta, téja</i>	<i>liínga,lola</i>	<i>bón-a</i> (also <i>món-a</i>)	„see“
21.	<i>pulika</i>	<i>pulika</i>	<i>pulika</i>		„hear“
22.	<i>l^haánga,</i>	<i>l^haánga</i>	<i>l^haánga</i>	<i>lí-a</i>	„eat“
23.	<i>lúma</i>	<i>lúma</i>	<i>lúma</i>	<i>lom-a, com-a, tó-a</i> („stamp, pound, bite“)	„bite“
24.	<i>ḡ^waánga</i>	<i>ḡ^waánga</i>	<i>ḡ^waánga</i>	<i>nyó-a, tóm-a;</i> („chew, drink“)	„drink“
25.	<i>ikála</i>	<i>ikála</i>	<i>ikála</i>	<i>jikal-a bvat-a</i>	„sit“
26.	<i>eénda</i>	<i>eénda</i>	<i>éenda</i>	<i>gend-a, támb-a</i>	„walk“
27.	<i>sáḃa</i>	<i>sáḃa</i>	<i>sáḃa</i>	<i>jóg-a</i> („bathe, wash, swim“), <i>camb-a</i> („wash, swim“), <i>kac-</i> <i>a</i> („paddle, swim“)	„swim“
28.	<i>imilila</i>	<i>imilila</i>	<i>imilila</i>	<i>jím (-al)-a</i>	„stand“

	Cisukwa	Cindali	Cilambya	Proto-Bantu	English gloss
29.	<i>f^wáaŋga</i>	<i>f^wáaŋga,</i>	<i>f^wáaŋga</i>	<i>kú-a</i>	„die“
30.	<i>máŋa</i>	<i>máŋa</i>	<i>máŋa</i>	<i>jíjɪ (b)-a, mánya</i>	„know (something or someone“
31.	<i>umíundu</i>	<i>umíunthu</i>	<i>umíunt^hu</i>	<i>mɔ-ntu (1/2)</i>	„human being, person“
32.	<i>umwáanalume</i>	<i>umúlifa</i>	<i>úmwanavuli, umwáanalume</i>	<i>mɔ-lɔ</i> (high tone) (1/2, „man, husband“< <i>lom-</i> <i>a</i> , „bite“), <i>bagala</i> (1, la, „man, male“)	„man (male)“
33.	<i>umwáanakasi, umúkolo</i>	<i>umúkolo</i>	<i>úmukolo, umwáanakazi</i>	<i>mɔ-kádi</i> (1/2, „woman, wife“), <i>cika</i> („girl, woman“)	„woman“
34.	<i>ukújuya</i>	<i>ukújuya</i>	<i>ukunéena</i>	<i>ti</i> („say, quote“), <i>gil-a</i> („do say“), <i>gamb-a</i> („speak, answer“), <i>tét-a</i> („speak, say, quarrel“)	„say“
35.	<i>βóya</i>	<i>βóya</i>	<i>βoya</i>	<i>jip(-ag)-a, bol(-ag)-a</i> („break, smash, kill“), <i>bom-a</i> („hit, kill“)	„kill, murder“
36.	<i>muséwu, isíla</i>	<i>muséβo, isíla</i>	<i>misewu, isíla</i>	<i>njila</i> (9/10)	„path, road“
37.	<i>iimbwa</i>	<i>úkaβwa</i>	<i>iimbwa</i>	<i>mbova</i> (9/10, 12/13)	„dog“
38.	<i>iimbeembe</i>	<i>iimbeembe</i>	<i>iimp^heembe</i>	<i>lɔ-pémbé</i> (9/10), <i>mɔ-céngo</i> (3/4, „object made form horn“), <i>lɔ-jígá</i> (11/10), <i>nyangá</i> („tusk, horn“), <i>bingá</i> (9/10)	„horn“

	Cisukwa	Cindali	Cilambya	Proto-Bantu	English gloss
39.	<i>umúsinda,</i> <i>umúswiyala</i>	<i>umúswiyala</i>	<i>ulúsiinda,</i> <i>músinda</i>	<i>mɔ-kíla</i> (3/4) , <i>mɔ-ce</i> (3)	„tail“
40.	<i>itŷijúni</i>	<i>kajúni</i>	<i>itŷijuni,</i> <i>kajúni</i>	<i>ka-jɔ</i> (high tone) <i>ní</i> (12/13, 7/8), <i>ngíla</i> (9/10, 12/13), <i>ndege</i> (9/10, „bird, weaver-“)	„bird“
41.	<i>améja</i>	<i>améja</i>	<i>améja</i>	<i>lɔ-cálá</i> (11/10, 5/6) <i>mɔ-tengá</i> (3/4, 9/10), - <i>gala</i>	„feather“
42.	<i>ifuumbi</i>	<i>ifuumbi</i>	<i>ifuumbi</i>	<i>i-gí</i> (5/6)	„egg“
43.	<i>pulúka</i>	<i>pulúka</i>	<i>pulúka,</i> <i>bulúka</i>	<i>gɔl-ok-a</i> („fly, run fast“) <i>pala-a</i> („beat wings, fly“)	„fly“
44.	<i>iiswi</i>	<i>iiswi</i>	<i>iinswi</i>	<i>ncómba</i> (9/10), <i>ncuí</i> (9/10, ncú?)	„fish“
45.	<i>ingisi</i>	<i>ingifi</i>	<i>imphani</i>		„louse“
46.	<i>ikómo</i>	<i>ilikókwe</i>	<i>ikwi, ikómo</i>	<i>mɔ-tí</i> (3/4, „tree, stick“), <i>mɔ-tóndo</i> (3/4, „ridgepole, roof-tree, tree“)	„tree“
47.	<i>il'áani</i>	<i>il'aani</i>	<i>il'aani</i>	<i>i-jáni</i>	„leaf“
48.	<i>itŷipapa</i>	<i>itŷikambi</i> (covering of fruit like banana) <i>itŷipapa</i>	<i>itŷipapa,</i> <i>itŷipátu</i>	<i>i-gola</i> (5), <i>ki-kú(ɔ)kú(ɔ)</i> (7, „skin, bark“), <i>lɔpɔ</i> (11, 7, „skin bark, peel“); see also „skin“	„bark (of tree)“
49.	<i>umúsisi</i>	<i>ifu, úmusisi</i>	<i>luβulúβusi,</i> <i>mugululúsi,</i> <i>umúsisi</i>	<i>mɔ-di</i> (3/4)	„root“

	Cisukwa	Cindali	Cilambya	Proto-Bantu	English gloss
50.	<i>iimbeju</i>	<i>iimbeju</i>	<i>iimbeju</i>	<i>mbéɣ</i> (9/10), <i>mbot-o</i> (10)	„seed“
51.	<i>ilonɣwi</i>	<i>ilonɣwi</i>	<i>ilonɣwi</i>		„earth“
52.	<i>iyamba</i>	<i>iyamba</i>	<i>iyamba</i> , <i>itʃipili</i>	<i>lo-golu</i> (11,10, „mountain, hill“, < <i>i-gulo</i> 5, „top, sky“, <i>mɔ-tomba</i> (3, „heap, mountain“))	„mountain“
53.	<i>iβwe</i>	<i>lúβwe</i> , <i>ijóondo</i>	<i>iβwe</i>	<i>i-bue</i> (5,6), <i>i-tále</i> (5/6, „stone, iron ore“), <i>i-mánya</i> (5/6), „i-bogo“ (5)	„stone“
54.	<i>umuseséenga</i>	<i>umuseséenga</i>	<i>umuseséenga</i>	<i>i-cénga</i> (5, 11, also <i>i-canga</i>), <i>mɔ-céké</i> (3)	„sand“
55.	<i>amísi</i>	<i>ámifi</i>	<i>amínzi</i>	<i>ma-jji</i> (6), <i>i-diba</i> (5/6, „water, pool“)	„water“
56.	<i>móto, mulilo</i>	<i>umulilo</i>	<i>umóto</i>	<i>mɔ-lilo</i> (3/4), <i>mɔ-jóto</i> , < <i>jót-a</i> „warm oneself“), <i>tu-pí-a</i> (13< <i>pí-a</i> „bum“) <i>tojija</i> (13)	„fire“
57.	<i>il'óosi</i>	<i>il'oofi</i>	<i>il'oosi</i>	<i>mɔ-jiki</i> (3, also <i>mɔ-jóki</i>)	„smoke“
58.	<i>il'óoto</i>	<i>il'ooto</i>	<i>ítoji</i>	<i>mɔ-tó</i> (15/6, „arm, hand, front paw“)	„ashes“
59.	<i>isuwa</i>	<i>isuwa</i>	<i>ízuwa</i>	<i>i-joba</i> (5), <i>i-tángvá</i> (5), <i>kɔmbi</i>	„sun“

	Cisukwa	Cindali	Cilambya	Proto-Bantu	English gloss
60.	<i>um^wéesi</i>	<i>um^wéefi</i>	<i>um^wéezi</i>	<i>kw-jédi</i> (15/6, 3/4 , < <i>jél-a</i> „be white, bright“), <i>ncóngé</i> (9/10), <i>ngonde</i> (9/10), - <i>cani</i>	„moon“
61.	<i>ulútoondwa</i>	<i>ulútóondwa</i>	<i>ulútoondwa</i>	<i>nyényé</i> (di) (9/10), <i>ntóndwa</i> (9/10, 11/10), <i>njota</i>	„star“
62.	<i>iifula</i>	<i>iifula</i>	<i>iimvula</i>	<i>mbúlá</i> (9/10)	„rain“
63.	<i>isaya, ísa</i>	<i>isaya, ísa</i>	<i>íza</i>	<i>jij-a, buj-a</i> („come“ or „go back“)	„come“
64.	<i>ótfa</i> („roast“), <i>ukupéemba</i>	<i>ótfa,</i> <i>ukupéemba</i> („to blow on fire“)	<i>ótfa,</i> <i>ukupéemba</i> („roast“)	<i>jok-a</i> („roast burn“, etc), <i>pi-a</i> („be burnt“, etc), <i>teem-a, tumb-a</i> („burn, roast, boil“), <i>longol-a</i> („burn, be hot“), <i>bak-a</i> („burn, be lit“), <i>lem-a</i> („blaze, burn“)	„burn“
65.	<i>kesamu</i>	<i>kesamu</i>	<i>kesamu,</i> <i>tĩβeenzu</i>	- <i>tíl-a</i> („be red“), <i>nkola</i> (9, „red substance“), <i>nkondv</i> (9, „red soil“)	„red“
66.	<i>gilini,</i>	<i>gilini</i>	<i>gilini</i>		„green“
67.	<i>tfoóka</i>	<i>třimútfene</i>	<i>tfoka</i>	- <i>moi</i>	„one“
68.	<i>wiri</i>	<i>wiri</i>	<i>wiri</i>	<i>balí</i> (also - <i>bilí</i>)	„two“
69.	<i>se</i>	<i>fe</i>	<i>nse</i>	- <i>ncé</i>	„all“
70.	<i>ĩngi</i>	<i>ĩngi</i>	<i>ĩngi</i>	- <i>řĩngi</i>	„many“
71.	<i>úne</i>	<i>úne</i>	<i>úne</i>		„I“
72.	<i>úwe</i>	<i>úwe</i>	<i>úwe</i>		„you“
73.	<i>út^we</i>	<i>út^we</i>	<i>út^we</i>		„we“

	Cisukwa	Cindali	Cilambya	Proto-Bantu	English gloss
74.	<i>i</i>	<i>i</i>	<i>i</i>		'this'
75.	<i>o</i>	<i>o</i>	<i>o</i>		„that“
76.	<i>yúyo, wíni</i>	<i>wíni</i>	<i>wewénu</i>	<i>n(d) ai</i>	„who“
77.	<i>íβiingu</i>	<i>íβiingu</i>	<i>íβiingu</i>	<i>i-dunde</i> (5/6 <i>i-londe?</i>), <i>i-bingɔ</i> (5/6)	„cloud“
78.	<i>tʃóni</i>	<i>kí, tʃóni</i>	<i>tʃí, tʃóni</i>	<i>ki-í</i>	„what“
79.	<i>ta,</i>	<i>ta</i>	<i>ta</i>		„not“
80.	<i>kulu</i>	<i>kulu</i>	<i>kulu</i>		„big“
81.	<i>tali</i>	<i>tali</i>	<i>tali</i>	<i>lai-</i> , <i>táli</i> , <i>lai-p-a</i> („be long“)	„long“
82.	<i>ijnáma</i>	<i>ijnáma</i>	<i>ijnáma</i>		„flesh“
83.	<i>máfuta</i>	<i>máfuta</i>	<i>máfuta</i>		„grease“
84.	<i>nówe, kásaamba</i> („fingers“, also „branches“)	<i>nówe</i>	<i>ínzula</i>		„fingernail“
85.	<i>lufúkwe, pakáti</i> (generally used when suffering, pregnancy)	<i>lufúkwe</i>	<i>lukáti,</i> <i>t^húmbo</i>	<i>i-bumo</i> (5/6 „belly, abdomen, pregnancy“) <i>i-tombo</i> (5/6), <i>bonda</i> (9,11 „back, belly“)	„belly“
86.	<i>ukúpa</i>	<i>ukúpa</i>	<i>ukúpa</i>	<i>pá-a, tup-a</i> („give a gift“), <i>gab-a</i> („divide, give away, make present“)	„give“
87.	<i>yélo</i>	<i>yelo</i>	<i>yelo</i>		„yellow“
88.	<i>s^weepu, ítfeelu</i>	<i>ítfeelu,</i> <i>s^weepu</i>	<i>s^weepu</i>	<i>-jél-a</i> („be white, bright“), <i>-jé-ɔ</i> („white, bright“), <i>pe</i> (ideo, „white“)	„white, clean“

	Cisukwa	Cindali	Cilambya	Proto-Bantu	English gloss
89.	<i>fitu, nale</i> („dirt“)	<i>fitu</i>	<i>fitu</i>	<i>jil-a</i> (be black“, > <i>jil-ɔ</i> ‘black“), <i>pi</i> („black, blackness“), <i>i-piipi</i>	„black, dirt“
90.	<i>úsiku</i>	<i>úfikú</i>	<i>úwusiku</i>	<i>bɔ-tikɔ</i> (14/6, also <i>bɔ-túkɔ</i>)	„night“
91.	<i>ukúp’a</i>	<i>ukúp’a</i>	<i>ukúp’a, kupiye</i>		„hot“
92.	<i>polite</i>	<i>polite</i>	<i>találite</i>	<i>pól-a</i> („be cold, cool down, be quiet“), <i>talal-a</i> („be cold, be wet, be quiet“), <i>mɔ-didi</i> (3, „cold“ > <i>didim-a</i> , „be cold“), <i>pío</i> (9, „cold“), <i>matika</i> (6, „cold weather, cold season, night“)	„cold“
93.	<i>uk^wiisula</i>	<i>uk^wiisula</i>	<i>uk^wiizula</i>	<i>jijal-a</i> („be full“)	„full“
94.	<i>itšip’a</i>	<i>itšip’a</i>	<i>itšip’a</i>	<i>-pi-a</i> (< <i>pi-a</i> , „be burnt“)	„new“
95.	<i>isa</i>	<i>isa</i>	<i>iza</i>	<i>jijá, joam-a</i> („be beautiful, be good“)	„good“
96.	<i>sjungulile</i>	<i>fungulile,</i> <i>tšiwulunganu</i>	<i>zjungulile,</i> <i>tšiwulunganu</i>	<i>bolonga, kolong-a</i> („be make round“)	„round“
97.	<i>wuma</i>	<i>wuma</i>	<i>wuma</i>	<i>jɔm-a</i> („be dry“, >, <i>jɔm-ɔ</i> , „dry“), <i>kɔt-a</i> („be dry, hard“)	„dry“
98.	<i>iljita,</i> <i>ingamu</i>	<i>ingamu, iljita</i>	<i>iizina, itaβwa</i>	<i>i-jina</i> (5/6), <i>nkombɔ</i> (9/10, „nickname, name“)	„name“
99.	<i>náandi</i>	<i>náandi</i>	<i>náandi</i>	<i>-(kée) kée, kée-p-a</i> („be small“)	„small“
100.	<i>βóna</i>	<i>βóna</i>	<i>góna</i>		„lie“

From the 100 words in the list, all three SuNdaLa varieties share 85 cognates (85%). A comparison between the individual varieties shows that Cisukwa and Cindali share 96% of the 100 words, Cindali and Cilambya 85%, and Cisukwa and Cilambya 91%.

Swadesh (1954c:326) suggests distinguishing dialects, languages, stocks and phylums by using lexicostatistical results as following:

Table 2: Swadesh’s categorization according to lexicostatistical results

Term	Divergence centuries	Cognate percent
same Language	0-5	100-81
same Family	5-25	81-36
same Stock	25-50	36-12
same Microphylum	50-75	12-4
same Mesophylum	75-100	4-1
same Macrophylum	Over 100	Less than 1

It has been shown above that all SuNdaLa varieties share at least 85% of the cognates. According to Swadesh’s (1954c) categorisation, these varieties therefore belong to the same language, thus are in a dialectal relationship to each other.

With 96% shared cognates, Cisukwa and Cindali have the closest relationship while Cindali and Cilambya with 85% are the most distant varieties. Cisukwa and Cilambya share 91% of the cognates. Thus, in a dialectal continuum Cindali and Cilambya are at the extreme ends, with Cisukwa holding a central position by sharing very high percentages with both other varieties.

The above suggested lexical relationship of the SuNdaLa varieties are based on lexicostatistics. A more thorough comparative analysis of the linguistic structures of the varieties is required to find out if these claims of relationships based on lexical data can be substantiated by correlating them with other linguistic features. The primary research question of the thesis is:

What are the internal and external relationships of Cisukwa, Cindali and Cilambya? In more detail, the thesis attempts to answer the following more specific questions:

What are the phonological and morpho-syntactic systems of the SuNdaLa varieties?

What are the shared linguistic features and in what aspects do the SuNdaLa varieties differ, i.e. what is their internal relationship?

What is the linguistic position of the SuNdaLa cluster within the neighbouring linguistic area and with respect to Bantu languages in general? What is the external relationship of the SuNdaLa cluster?

The SuNdaLa varieties are typical Bantu languages in all respects. The study demonstrates widely shared features in the morpho-syntax among all SuNdaLa varieties while variation seems to be restricted to features in their phonology. Based on linguistic analysis, the claim made in this thesis is that the SuNdaLa varieties should be considered as forming a dialect continuum with Cisukwa and Cindali being in a closer relationship and Cilambya being at a distance, especially to Cindali.

1.1 A brief sociolinguistic profile of the SuNdaLa varieties and their speakers

The Ethnologue lists Cisukwa as a dialect of Cindali. The CLS (2006) report notes that Cisukwa is spoken in the Traditional Authorities Mwabulambya, Mwenewenya and Mwenimisuku of Chitipa district as well as in the bordering Karonga district along the Misuku hills in the Songwe valley. Demographic information on the number of speakers of Cisukwa is not available.

Cindali according to in the CLS (2006) report is spoken in the Misuku hills of the Chitipa district specifically in the Traditional Authorities Mwaulambya, Kamene, Mwenemisuku and Mwenewenya. It is also said to be spoken in the northern part of Karonga district and in parts of southern Tanzania, namely in the Mbozi and Tukuyu districts. According to the Ethnologue (2016), Cindali is estimated to be spoken by 70,000 people in Malawi

Cilambya is also a cross border SuNdaLa variety as it is also spoken in Tanzania and Zambia. The CLS (2006) report notes that Cilambya speakers live in the Traditional Authorities Mwabulambya, Kameme, Mwenimusuku and Mwenewenya in Chitipa district. The report does not provide numbers of the speakers for Cilambya but mentions that it is the most widely spoken of the three SuNdaLa varieties. The Ethnologue (2016) states 40,000 Cilambya speakers in Tanzania, 59,500 in Malawi and 2,000 in Zambia.

In Malawi, the SuNdaLa varieties are spoken predominately in Chitipa district which is at the northern-most tip of the country. According to the Malawi census report of 2008, the northern region is the least populated of the three regions of the country. Out of a total of 13,006,320 Malawians, only 179,072 live in 37,780 households in the Chitipa district.

The most widely spoken language in the northern region is Citumbuka (CLS 2006) and is the lingua franca of the region. With regard to languages, Chitipa is the most heterogeneous district of Malawi and its inhabitants claim that 15 languages are spoken in the area. Based on mutual intelligibility tests and the examination of selected linguistic features, the CLS (2006) report stated that some of these speech varieties are closely related and might be considered as forming dialect clusters rather than qualify as distinct languages.

According to the CLS (2006) report, the following languages are spoken in Chitipa district: Ciwandya, Cilambya, iCibemba, Cinamwanga, Cisukwa, Citumbuka, Cindali, Ciweta, Kiswahili, Cimambwe, Cinyika /Cinyiha, Chichewa.

It is mentioned that Kiswahili and iCibemba are spoken in the district mainly by immigrants from neighbouring Tanzania and Zambia respectively.

In addition, to the list of the varieties spoken in the district, the CLS report also identified the following language groups (LG) (presented in a descending order of similarity):

LG 1: Cindali > Cisukwa > Cilambya

LG 2: Cinamwanga > Cimambwe > Ciwandya

LG 3: Cinyiha / Cinyika

LG 4: Chichewa

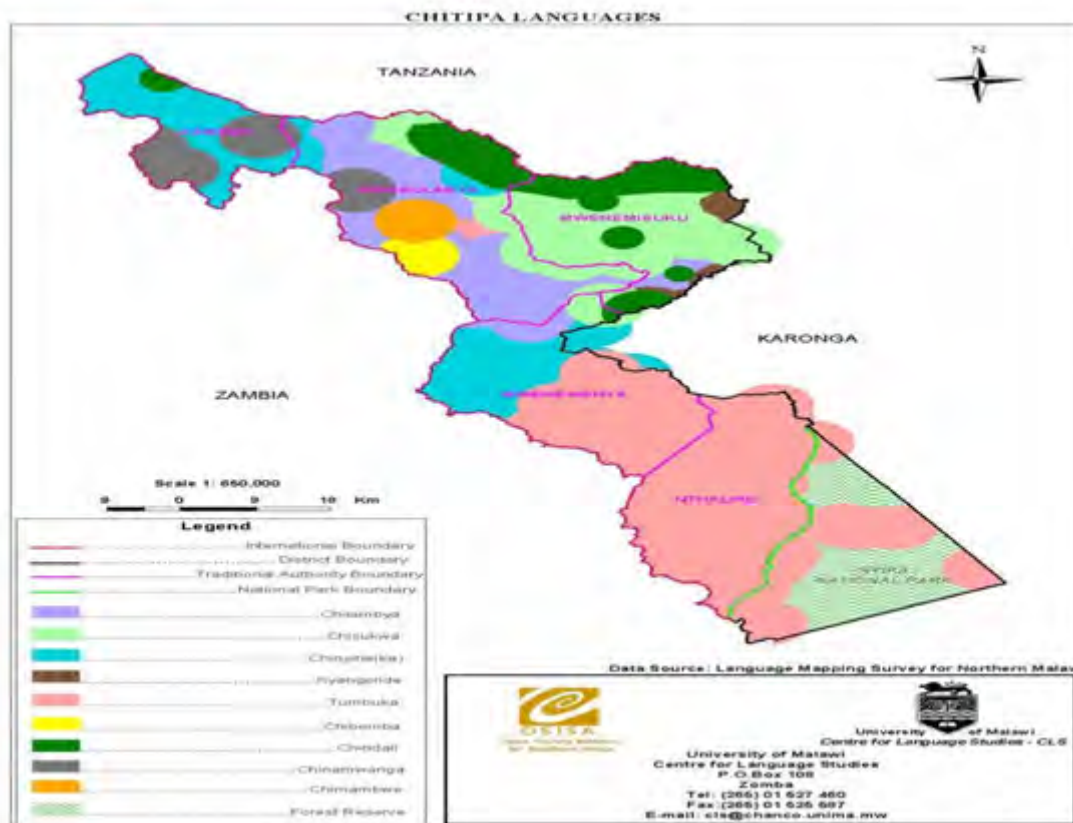
LG 5: Citumbuka

LG 6: iCibemba

LG 7: Kiswahili

The thesis examines the varieties of the language group 1, which is identical to the SuNdaLa cluster. The map of the Malawi Language Mapping report of the CLS (2006) below shows the geographic distribution of the languages and dialects of Chitipa district:

Map: Languages of the Chitipa District



Kayambazinthu (1998) includes the SuNdaLa cluster in the Ngulube group, which is made up of Kyangonde, Cinyakyusa, Cilambya, Cinyiha, Cisukwa, Cindali and Cimambwe. Kayambazinthu (1998) states that all these languages are not documented and can be functionally considered to serve as ethnic languages, used within their ethnic communities only. Phiri, Kalinga and Bhila (1992) reconstruct the arrival of the Ngulube immigrants from the northeast back to the 16th century. These immigrants are said to have founded the states of Lambya, Ngonde, Chifungwe, Sukwa and Nyakyusa. The Ngonde, Nyakyusa and Lambya are said to all originate from the Bukinga country beyond the tip of Lake Malawi.

Kayambazinthu (1998) claims that the Lambya group, under their leader Mwaulambya, can be traced back to Rungwe in Tanzania and that the Nyiha were the earliest inhabitants of the area in which the Lambya occupied and peacefully established their political authority.

Kayambazinthu (1998) agrees with Phiri, Kalinga and Bhila (1992) that Lambya is a dialect of Cinyiha and that they are in fact mutually intelligible. Phiri et al (1992:626) elaborate on the language situation in Chitipa as

„The modern language situation reflects something about the numerical strength of the various immigrant parties who founded chieftaincies as well as the means by which they assumed power and later governed the people. Chilambya and the language of Kameme are dialects of the Ngulube people’s language. In other words, the Mwaulambya and Kameme and their followers were assimilated linguistically while in Ungonde and Unyakyusa, the indigenous people were assimilated by the immigrants. Modern Chisukwa is a dialect of Chindali (a linguistic group north of the Songwe) understood by the Nyiha speakers and relatively easy to learn by the Ngonde than Nyiha proper. Chisukwa thus forms a bridge between Nyiha and Ngonde languages.“

Kayambazinthu (1998) as well as Phiri et al (1992) classify Cilambya as a dialect of Cinyiha. This is contrary to the CLS (2006) report which groups Cilambya together with Cindali and Cisukwa. We will later discuss this in greater detail and provide a more comprehensive classification of the SuNdaLa cluster.

The language mapping study of the northern region of Malawi by the CLS (2006) also examined patterns of language use, language choices, speakers’ attitudes and their language loyalty in the district. The survey showed that the SuNdaLa varieties are used predominantly in informal sectors like the private domain and in public places such as markets, hospitals, trading areas and at funerals.

As regards the use of the SuNdaLa varieties in education, the CLS (2006) study noted that even though the language policy in Malawi prescribes the use of Chichewa as a medium of instruction in Standards 1-4, pupils and teachers in the areas most commonly used the indigenous languages of Chitipa for learning and communication in the classroom.

The CLS (2006) study also shows that age is a factor in the language choices made by speakers in the area. The youth prefers using a “foreign language” (which, in this case, is Citumbuka or Chichewa) while most of the elderly people prefer to use their heritage languages. The youth in the district likes to be associated with the widely spoken “modern” Citumbuka and not with their heritage languages. Speaking Citumbuka, the dominant language of Mzuzu City and other urban areas of the Northern Region, creates the impression that one has been outside the rural countryside (CLS 2006). Most of the youth also expressed the desire to be associated with Chichewa, Malawi’s national language, for similar reasons. Citumbuka and Chichewa are both languages with a high prestige in this part of the country. Nevertheless, the language survey also showed that the people of Chitipa, in general, valued their languages and regarded them as a symbol of identity and cultural affinity (CLS 2006).

Although the CLS (2006) survey presents an informative assessment of the sociolinguistic profile of Chitipa, it does not provide demographic data on the number of speakers neither for the languages and dialects of the district, nor for those in other parts of the country. The report fully acknowledges this shortcoming and recommends that the lack of data for speakers of the respective languages should be addressed in future research. The lack of information on the size of the language communities makes it difficult to evaluate the vitality of any of the Malawian languages. It also makes it difficult for language policy makers and planners to make evidence-based decisions on language issues in domains like education, health, justice etc.

The people of Chitipa are highly multilingual. At the Chitipa district centre, many languages of the area are used and the majority also understands languages which are not indigenous to the area such as Chichewa and English.

Most inhabitants of the district engage in business activities as part of their livelihood. They run small shops, bicycle transports, taxi businesses and they sell agricultural products. They are also in regular business contact with people from the neighbouring areas in Zambia who also come to the district for amenities like hospitals and schools, or to visit relatives.

The area of Misuku lies on the eastern side of the district, where Cisukwa and Cindali are spoken. This area is rather hilly and the poor infrastructure makes travelling and transport difficult. Most inhabitants of Misuku are farmers, who cultivate bananas, beans, cabbages, maize, potatoes, vegetables and other crops. Most of Malawi's coffee is from Misuku hills. Sukwa and Ndali people are also trading, mainly with Tanzanians who live on the other side of the hills.

In the discussions during the fieldwork in the area, it became obvious that most consultants thought Cindali to be a more prestigious variety while Cisukwa was often considered to be "backward". Most of them also agreed that Cisukwa and Cindali are closely related to each other and that Cilambya differs from both. The Cisukwa speakers generally claimed that they also speak Cindali and that Cindali speakers are also proficient in Cisukwa. Despite the linguistic similarities among the three varieties and the high percentage of shared cognates, Cindali and Cisukwa speakers insisted that they were not able to speak Cilambya.

1.2 Empirical and theoretical contributions of the study

This thesis is the first in-depth descriptive and comparative linguistic study of the SuNdaLa cluster. While some of the previous work (cf. CLS 2006) had made some reference to the similarities and differences among these varieties, none has so far offered a comprehensive account of these phenomena. Many aspects of the SuNdaLa grammars remained undocumented, for instance, there is no publication on Cilambya. Aspects of Cisukwa phonology and morpho-syntax have been documented and are available (Mtenje, A.D. 2010, A.A) as well as on Cisukwa phonology and the tense and aspect system (Kershner 2001). Mtenje, A.D (2006c) studied aspects of Cindali phonology and Botne (2008) discussed various linguistic aspects of Cindali. The only other published major source on Cindali is a dictionary compiled by Botne and Schafer (2008). While these works cover various aspects of the SuNdaLa cluster, the thesis aims at bringing them together and with the data collected in this research project, it aims at providing a detailed linguistic description and analysis of each of the SuNdaLa varieties. The study provides a thorough comparison of the phonological and morpho-syntactic features of the SuNdaLa varieties and thus offers rich research-based language data and analyses of the phonology and morpho-syntax.

The thesis also contributes to the knowledge of the internal relationship of the SuNdaLa cluster of northern Malawi. As noted in sections 1.0 and 1.1 above, the CLS (2006) language survey grouped the SuNdaLa varieties as one language which forms a dialect continuum. The claim of a dialectal continuum among the SuNdaLa varieties requires empirical justification beyond the mere stipulation made by that study. An analysis of contact-induced areal features, as well as of genetically evolved differences among the varieties was therefore necessary. Detailed data collection through field work was carried out for this thesis which now allows a much better understanding of the linguistic distance between the SuNdaLa varieties and of the areal and genetic features which they share. In addition, the thesis provides genuine language data and its analysis on languages which have so far hardly or not at all been described. These new data are of interest to Bantuists and other linguists which will use them to test the validity of basic claims made on African languages.

Besides being useful to scholars working within the area of Bantu linguistics and typology in general, the analysis provided in this thesis will also be useful to linguists working on theories which deal with variation such as Optimality theory, Principles and Parameters theory and others. Although the thesis is largely descriptive, we have also highlighted and

addressed theoretical questions. The data and analysis provided in this study produces theoretical questions which require further investigation.

On the issue of language endangerment, it should be noted that for the last 20 years or so, a number of international bodies have championed the cause for studying and documenting marginalized and/or endangered languages before they vanish. These include UNESCO and academic foundations such as the Endangered Languages Fund (ELF) and the Foundation for Endangered Languages (FEL). Besides the international institutions, there has also been some work by individuals like Brenzinger (1992, 1998, 2006), Krauss (2007), Wurm (2001), Batibo (2005) and others which were involved in awareness campaigns on language endangerment.

UNESCO, with assistance from linguists, language planners, representatives of NGO's and members of endangered speech communities, has developed an instrument with nine core factors which helps to assess language vitality with regard to endangered languages. The indicators proposed are as follows:

Intergenerational language transmission

Absolute number of speakers

Proportion of speakers within the total population

Loss of existing language domains

Response to new domains and media

Material for language education and identity

Governmental and institutional language attitudes and policies, including official language status and use

Community members attitudes towards their own language

Amount and quality of documentation.

Brenzinger (1998, 2007) has pointed out that small African languages are currently still not endangered by ex-colonial languages but tend to be replaced by other major African languages. This observation is also true with regard to the SuNdaLa varieties studied in this thesis. Younger speakers of SuNdaLa varieties are shifting to the more dominant and bigger African languages, namely Chichewa and Citumbuka (cf. CLS 2006 report). In this process, they abandon their heritage languages which endangers the SuNdaLa varieties. The most relevant UNESCO factors in this context are

factors 4 to 9.

There are limited written materials such as grammars, dictionaries, religious, health and other documents in the SuNdaLa varieties. Furthermore, the language policy in Malawi does not include minority languages in formal education thus the SuNdaLa varieties are neither employed as media of instruction nor taught as subjects. Due to their marginalization by the official language policy, they are also absent in the media (TV, radio and newspapers). In fact, as noted in the CLS (2006) language survey, the use of the SuNdaLa varieties is restricted to few core domains, mainly family, friends and neighbors. The SuNdaLa varieties are not featured at a national level in Malawi and have been marginalized ethnically, politically and geographically. The documentation of these varieties is therefore, also a very important contribution to the study of language endangerment as the SuNdaLa varieties are at risk of disappearing as the remaining domains in which they are used are threatened.

Finally, the thesis contributes important facts for language planning. The documentation and description of the less studied Cisukwa, Cindali and Cilambya varieties, allows for a more informed and thus better language planning in Malawi. There have been official discussions and campaigns in the country towards the implementation of a language in education policy which recognizes and fosters the use of local languages in the first years of primary school. Some Malawian scholars have also called for the use of local languages in the dissemination of government development strategies on issues relating to combating hindrances to sustainable socio-economic progress, such as HIV and AIDS, hunger, illiteracy, gender inequalities, environmental degradation and poor governance. One of the reasons why these national policies were not implemented was the lack of concrete information on the language situation in the country. The data provided on the the three SuNdaLa varieties will greatly assist in making critical planning decisions regarding the languages or language groups to be considered for official use and on the appropriate domains.

1.3 Methodology

This section provides background information on the actual field work which was undertaken to collect the language data for this study. The language consultants involved in the language survey will be introduced, as well as the data collection techniques, the tools used and the methods employed in data analysis.

1.3.1 Sample

Language data was collected from four “native” speakers, two females and two males from each SuNdaLa variety. The language consultants for Cisukwa and Cindali resided in Traditional Authority Mwenemisuku while those for Cilambya were from Traditional Authority Mwabulambya.

The language consultants

In this section, background information for each of the main language consultants is provided.

The Cisukwa consultants

Dainess Nasilumbu was an adult female from Mwenechiwula village. She was not sure of her age but her grandchild estimated that she must have been between 65 and 68 years during the time of data collection. She is married and has never had any formal education. Her first language is Cisukwa but she indicated that she can also speak Cindali. She also claimed to speak and understand a little bit of Citumbuka and Cilambya. She normally speaks Cisukwa with members of her family.

Faiston Munyimbiri is Dainess Nasilumbu’s husband. He comes from Mwenechiwula village and they have 9 children together. He did not know his age but he appeared to be in his 70s. He attended primary school up to standard 8. His first language is Cisukwa and he claimed to also speak Cindali and iCibemba and understands Citumbuka and Chichewa. He uses Cisukwa at home with his family.

Esnala Namlenga was a 62 year old married woman and has several children. She comes from Mwenechiwula village and attended primary school up to Standard 8. She is monolingual in Cisukwa.

Witness Sichali was a 60 year old female with 9 children. Her first language is Cisukwa and she also speaks Cindali and Cilambya. She understands some Chichewa.

The Cindali consultants

Wadi Chabinga was 46 years old during the data collection period. He comes from Mwaalingo village in the Misuku hills and is married. He attended secondary school up to form 2. His first language was Cindali and he also speaks some English and Chichewa. The home language of his family is Cindali.

Martha Kawonga was 45 years old and comes from the Walasa village in the Misuku hills. She is married to Wadi Chabinga and has 8 children. She attended primary school up to standard 8. At school, she learnt some English and Chichewa and she also understands Cisukwa.

Christon Kita was 53 years old at the time of the research. He comes from Mwaalingo village in the Misuku hills. He is married and has 8 children. He attended primary school up to standard 8. His first language is Cindali which he also speaks at home with his family. He also speaks some Chichewa, Citumbuka and English.

Giveness Kalako was 43 years old at the time of data collection and comes from the Kasambara 2 village in the Misuku hills. She is married to Christon Kita and attended primary school up to standard 8. Her first language is Cindali and she also speaks some Kyangonde because she lived among the Ngondes for a short period.

The Cilambya consultants

Daison Mwakapenda was 48 years old at the time of data collection. He has two wives and 6 children. He attended primary school up to standard 8. His first language is Cilambya. He also speaks Chichewa because he lived in Lilongwe, the capital of Malawi for some time. He uses Cilambya with his family at home.

Alice Nanyondo is married to Daison Mwakapenda. She comes from the Muchemwa village. She was 46 years old at the time of data collection. She attended secondary school up to form 3. Her first language is Cilambya. She also speaks Cindali and some Citumbuka, Cinamwanga and Chichewa.

Lucky Mbale comes from the Mwailuunda village. He is 43 years old and has two wives. He speaks iCibemba since he was born in Zambia. He learnt Cilambya as a second language when the family moved to Malawi when he was still a young boy. He also speaks Cisukwa and Cindali. His father was Ndali and his mother was Lambya.

Fanny Muswele is married to Lucky Mbale and was 35 years old at the time of the research. She comes from Mwailuunda village and has five children. Her first language is Cilambya. She also speaks some iCibemba and Cindali.

All consultants earn a living by growing agricultural products such as maize, potatoes, cassava, soya, coffee and local fruits.

1.3.2 Data collection

The data was collected through fieldwork in Chitipa district in January 2014. During that period, the researcher lived among the language consultants and recorded each for between 8 and 10 hours. The researcher also had two interpreters who were undergraduate students in linguistics from Mzuzu University in Malawi. They were both multilingual and spoke English, Chichewa and the SuNdaLa varieties.

Various methods were employed in order to capture a wider range of reliable language data. Firstly, a word list was compiled for the SuNdaLa survey. This word list was a modified version of the “Swadesh 100 word list” (Swadesh 1955) as well as the SIL Comparative African Wordlist developed by Keith Snider and James Roberts (Snider and Roberts 2006). The list includes among others nouns such as kinship terms, food items, animals, body parts and plants. The word list was comprised by what are generally considered basic terms. From the initial analysis, phonological and morpho-syntactic phenomena were examined to determine if lexical correlations also indicate actual similarities in phonology and morpho-syntax. The lexical data also provided information of the noun class system which is one of the morpho-syntactic properties this study intended to consider.

Secondly, the data collection techniques also included direct elicitation sessions. For the collection of phonetic and phonological data, a Phonology questionnaire based on the one developed by Dan Everett (2012) was employed. For the data on morpho-syntax, we adapted Bernard Comrie and Norval Smith’s (1977) “The Lingua Studies Questionnaire”. This questionnaire was designed for collecting data for grammar writing.

These techniques described above were used to examine the sound system, syllable structures and phonological processes of the SuNdaLa varieties. By employing these techniques, language data on morpho-syntax such as on the noun class system, on the noun phrase structure and modification as well as on the morphology of the verb was also solicited.

All interviews and elicitation sessions were recorded with an audio digital device and notes were written in a field notebook.

1.3.3 Data analysis

Various methods and tools were employed to analyse the different kinds of language data that was collected during the fieldwork. The audio recordings were annotated and transcribed by

following the Leipzig glossing rules. Phonetic data was analysed mainly by using an auditory analyses.

The analysis of phonological and morpho-syntactic properties produced the description of the features relevant for the understanding of the patterns of each of the SuNdaLa varieties. Each phenomenon was compared against the three varieties in order to find out which properties are shared and which ones are not. For the morpho-syntactic comparison of object marking, we mainly used Marten's and Kula's (2012) parameters for micro variation in Southern Bantu Languages.

The research also adopted the lexico-statistical analysis developed by Swadesh (1949, 1950, 1951) that was reiterated by Heine (1973) and Heine et al (1977). This method was used to gain a first impression of the geneological distance among the three SuNdaLa varieties.

1.4 Outline of the thesis

The outline of the thesis is as follows: Chapter 1 is an introduction to the thesis and presents its main focus and argument. It also elaborates on the research questions of the PhD project. Furthermore, the chapter highlights the empirical and theoretical contributions of the study and presents a brief description of the sociolinguistic situation and social life of the SuNdaLa speakers. The methodology used in data collection and analysis is explained in the final section of the first chapter. Chapter 2 presents a review of the literature on the SuNdaLa varieties and also mentions gaps in the available data as well as in the analysis of specific linguistic phenomena. Chapter 3 examines aspects of the segmental phonology of the SuNdaLa varieties while chapter 4 discusses prosodic aspects of the three varieties. Chapter 5 presents the analysis of the noun class system of the SuNdaLa cluster and chapter 6 discusses the structure of the noun phrase and noun modification in the three varieties. Chapter 7 presents the morphology of the verb in the SuNdaLa varieties and chapter 8 provides the summary and conclusion of the thesis.

Chapter 2

State of the Art: Literature Review

2.0 Introduction

This chapter discusses the literature available on each of the SuNdaLa varieties as well as review selected publications on Bantu languages more generally. The research conducted for this thesis is examined within the broader context of the existing scholarly works on the language area under discussion as well as on theoretical aspects that are relevant for the topic of this thesis.

2.1 The SuNdaLa varieties

In the following the three SuNdaLa varieties, namely Cisukwa, Cindali, and Cilambya will be introduced.

2.1.1 Cisukwa

The major studies on this SuNdaLa variety are the doctoral thesis by Kershner (2001) and the Masters dissertation by Mtenje, A.A. (2010). Kershner (2001) discusses the verb in Cisukwa with a focus on tense, aspect and mood. She claims that Cisukwa has multiple tense/aspect markers and verb categories and that the expression of tense interacts with modality. Kershner (2001) argues that the expression of temporal relations in Cisukwa is organised and encoded in two separate template types namely the Actuality Template and the Non-Actuality Template. Tense, aspect or mood markers in the different templates are differentiated and are and shown in terms of how they interact in different verb types. Verbs are also categorised into different aspectual classes.

Kershner (2001) argues that the TAM system of Cisukwa cannot be represented in a linear timeline that differentiates various degrees of remoteness, which is the case with most TAM systems of other Bantu languages. In order to accommodate the complex TAM system of Cisukwa, she complements the linear representation of the tense/aspect system with a non-linear dimension in which temporal relations are encoded conceptually into two distinct domains. These are an active performative domain which interprets what is subjectively near the speaker and a non-active dissociative domain, which encodes what is subjectively distant from the speaker. The analysis provides a detailed account of the tense, aspect and mood system in Cisukwa and explains how temporal relations are encoded in the variety.

Kershner's (2001) analysis of the various morphological and morpho-syntactic systems of the verb in Cisukwa produces new insights. The present study will complement this study by providing a detailed analysis of the morpho-syntactic relations in nouns. The thesis will analyse morphological relationships of Cisukwa in a wider context.

In Mtenje, A.A. (2010, 2012), I analyse aspects of the Cisukwa phonology. I propose a five vowel system and 15 consonants running across six places of articulation. I further claim that the stops, affricates and fricatives of Cisukwa are mainly voiceless and voicing of these segments appears only after nasals. Using phonological phenomena like the distribution of sounds in a word and the prevention of deletion of the pre-prefix before NC clusters, it is proposed that nasal consonant combinations in Cisukwa should be considered as clusters and not as a single units.

In Mtenje, A.A. (2010, 2012) I also argue that that all syllables in Cisukwa are open, with the exception of the syllabic /m/. Cisukwa according to my findings has four syllable types namely: CV, V, C, NCV. CV is the most common syllable type and various phonological processes are applied in order to reach at this syllable type. The C type of syllable is the least common with few examples.

Furthermore, I discuss phonological processes identified in Cisukwa nominals and verbs. The study identifies two types of phonological processes as the most predominant, namely assimilation processes and syllable structure processes. Homorganic nasal assimilation and post-nasal stop voicing are observed while glide-formation, secondary articulation and vowel deletion are the major syllable structure processes used to break up VV sequences in structures.

I employ the Optimality Theory as the main theoretical framework for my analysis of the phonological phenomena in Cisukwa. I argue that by having simple consonants and a basic CV syllable structure, Cisukwa is a variety that ranks markedness constraints more highly than faithfulness constraints.

In its syllable structures, Cisukwa also shows that it assigns more power to markedness constraints over faithfulness constraints in order to ensure non-complex sounds and syllables. The study concludes that Cisukwa generally strives for non-complex phonological forms and this tendency is observed across the system, ranging from the type of sounds in its inventory to its syllable structure.

Mtenje, A.A (2010, 2012) provides an analysis of aspects of the phonology of Cisukwa that had not been documented previously, there are various phonological phenomena which were not addressed in these works, such as reduplication and tone. Other phonological processes involving nasals and following consonants are not discussed either. In chapters 3 and 4 the thesis will address these so far missing phonological aspects and also reanalyses assertions made in Mtenje, A.A. (2010, 2012).

2.1.2 Cindali

Cindali is the best documented among the the SuNdaLa varieties. Notable works on Cindali include Vail (1974), Swila (1998), Mtenje, A.D. (2006b, 2006c), Kishindo (1998) and Botne (2008). Vail (1974) and Kishindo (1998) focus mainly on the noun class system of Cindali. Kishindo (1998) discusses diminution, augmentation and pejorativeness in Cindali while elaborating on the semantics of classes 5/6, 3/4 and 21.

Swila (1998) describes the tenses in Cindali and concludes that Cindali tenses are similar to those found in many other Bantu languages. Swila (1998) discusses eighteen tense forms. It is established that time markers are generally pre-verb root and aspect markers, post-verb root. Swila (1998) discusses the semantic values of each of the eighteen forms and also the morphological processes that apply in the constructions with the first singular subject. The analysis shows that in Cindali, the distinction between past and non-past is more important than the traditional tripartite system of past, present and future. The analysis demonstrates that Cindali has several forms for expressing the present and the past but does not have this elaborate system for the future. The future in turn is expressed by using the present form of the motion „go“ which is followed by a verb in the infinitive to which a locative is prefixed. It can also be expressed by using the present form of a verb followed by a future time adverb. The future can finally be expressed by using the subjunctive form of the verb „come“, followed by a verb with the final vowel -e. Unlike the present and past tense forms, the future does not have forms which are particular to itself but it depends on other verbs and modalities. Swila's (1998) paper is crucial for the analysis of SuNdaLa tense and aspect and the thesis will make reference to this work when discussing these aspects of the grammar. The main objective of Swila's (1998) study was to describe the tense forms of Cindali and she does not cover other aspects of morpho-syntactic grammar such as subject and object marking and the use of extensions. This thesis extends the discussion to these missing areas of study in chapter 7.

Mtenje, A.D. (2006b) discusses tone in Cindali. This publication also highlights some phonological features of this SuNdaLa variety, such as that it has five phonemic vowels (like many other Bantu languages), and that vowels are lengthened before glides and nasals. The author argues that Cindali has two level tones namely, high and low and that contour tones are only attested as a combination of these level tones on one syllable. It is further observed by Mtenje, A.D. (2006b) that high and low tones in Cindali nouns can occur on any vowel which means that tone is unpredictable and has therefore to be lexically marked.

However in verbs, the position of underlying high tones is predictable. In this variety, all bare verb stems (imperatives) have at least one high tone which is on the penultimate vowel. The vowel is lengthened when the verb occurs before a pause, a common Bantu rule of penultimate vowel lengthening which produces a falling tone on that vowel.

The paper (Mtenje, A.D. 2006b) further shows the following tonal features for Cindali: Firstly, tone in this variety has characteristics of accent. Secondly, high tones are assigned to various domains in the verb stem based on morphological considerations such as the presence of tense affixes, but different allomorphs of the same tense can also have significant tone consequences. Thirdly, unlike in some other Bantu languages such as Chichewa in which a high tone may spread to a neighbouring vowel, there is no tone doubling in Cindali. Mtenje, A.D.'s (2006b) analysis employs the Optimality Theory (OT) as its theoretical framework.

Mtenje, A.D. (2006c) in his discussion of verbal reduplication suggests that in Cindali, like in other Bantu languages, word minimality conditions apply and words must be minimally bisyllabic or bimoraic. Various strategies for achieving this minimality are then discussed. It is also shown that there is no tone copying during reduplication and that the reduplicant in Cindali is a prefix and not a suffix. Further insights from Cindali involving the interaction between reduplication on the one hand and vowel sequences and syllable onsets on the other, are discussed in this paper.

Mtenje, A.D.'s (2006b, 2006c) work on tone and reduplication will be crucial in the discussion of this topic in the SuNdaLa cluster in chapter 4.

While the work on Cindali by Mtenje, A.D. (2006b, 2006c) discusses prosodic phenomena concerning tone and reduplication in this variety, there are gaps on other aspects of the phonology of Cindali. These include a detailed analysis of the phonemic inventory, syllable

structure and other general phonological processes. These topics will be addressed in this thesis, namely in chapters 3 and 4.

While Mtenje, A.D.'s (2006b) analysis of Cindali is on tone and reduplication, Chiona (2005) discusses phonological processes in Cindali by comparing them with Cinyika. This unpublished undergraduate dissertation focuses on syllable structure processes such as vowel deletion, glide formation and vowel coalescence which are vowel hiatus resolution strategies in Cindali.

Chiona's (2005) work deals mainly with phonological processes in verbal structures. He does not identify the phonological and morpho-syntactic conditions under which the various phonological processes occur.

Botne (2008) is the most detailed work on Cindali. In this book, various linguistic aspects of Cindali particularly, its phonology, morphology and syntax, are discussed. Under phonology, the publication discusses topics such as the vowel and consonant system, phonological processes such as vowel coalescence, elision, nasal assimilation, imbrication, and vowel harmony. The book also analyses the syllable structure and some tonal phenomena. Botne (2008) provides also a thorough analysis of the morphology and syntax of this SuNdaLa variety. He discusses the noun class system, nominal genders, the augment, nominal derivations, types of nouns in the variety, pronouns, noun modification and the verbal morphology (i.e. the structure of the verbal word, radical, extensions, constituent elements, tempus, verb types and constructions, adverbs and ideophones, etc.). The study also deals with the basic word order and its alternative word orders, prominence and agreement marking, coordination, types of clauses and invariable forms.

The research on Cindali by Botne (2008) and the other scholars mentioned above are important sources that provide the basis on which this thesis elaborates.

2.1.3 Cilambya

Cilambya is the least documented of the SuNdaLa varieties. A paper on tonal patterns and segmental characteristics of verb classes by Erickson's (1962), "The interaction of segmental and tonal components of iLyamba verbs" (iLyamba is an alternative name for Cilambya) is the only substantial source on Cilambya so far.

2.2 Overview of selected descriptive and comparative studies on Bantu languages

African languages and especially Bantu languages have been studied for several hundred years. Modern studies of Bantu languages however rely on scholars such as Bleek (1862/1869), Meinhof (1906), Cole (1955), Doke (1954), Fortune (1955), Poulos (1990), Mathangwane (1996), Sibanda (2004), Botne (2008), Rugemalira (2005), Mudzingwa (2010) and Ström (2013)

Studies on grammars of Bantu languages have described the different phonological, morphological and syntactic structures of particular languages in question. The major change from earlier grammars to recent grammars on these languages was a shift from foreign based (European) preconceptions to an analysis that is based on what the languages themselves in fact are. Cole (1955) makes this observation in his discussion of earlier grammars of Tswana. He notes that the European preconception of Bantu languages led to a distortion of facts. The main distortion was on word division, i.e. whether certain groups of syllables should be written conjunctively - as separate words, or disjunctively - as separate words.

Collectively the grammars mentioned in this chapter Cole (1955), Doke (1954), Fortune (1955), Poulos (1990), Botne (2008), Rugemalira (2005) and Ström (2013), Crane, Hyman and Tukumu (2014) have concentrated on the following phonological and morpho-syntactic properties. For phonetics and phonology, most grammars have focused on phonetic description of sounds (vowels and consonants), syllable structure, tone and phonological processes. In morpho-syntax the phenomena described includes noun class systems, concordial systems, numerals, pronouns, possessives, noun derivation, relatives, adjectives, quantitatives, adverbs, ideophones, conjunctives, noun phrases, verb conjugation, verb phrase structure, word order, tense marking, verb extensions, sentence patterns such as basic clause types, compound sentences and complex sentences, negation, relativisation, questions, adverbs and imperatives. Discussions on phonetic and phonological properties of SuNdaLa in this study will focus on the phonemic sounds of the SuNdaLa varieties, as well as on their syllable structures, phonological processes and prosodic properties such as tone and reduplication.

The comparative studies on Bantu languages date back to Wilhelm Bleek's pioneer work from the 1850s in which he already analysed the linguistic structures of these closely related languages (Bleek 1862/1869).

The linguistic comparison of the variation within the SuNdaLa cluster is so far is limited to the CLS (2006). This study establishes that the varieties are mutually intelligible, with lexical and phonological similarities, and also stated that the SuNdaLa varieties are a dialectal continuum.

The CLS (2006) survey does not systematically identify what features the SuNdaLa share and in what they differ. The report states however that Cindali and Cisukwa are closer to each other than both are to Cilambya.

As mentioned above this study observes that most of the vocabulary in the three varieties is similar with just minor differences. Differences often occur because Cisukwa and Cindali have a rule of post- nasal stop voicing which Cilambya does not share with them. Cilambya also has voiced fricatives which are not found in Cisukwa and Cindali.

While the CLS (2006) report suggests the SuNdaLa grouping, it does not provide any further details on linguistic similarities and differences between these varieties. The main objective of the research the CLS was to produce a language map of Malawi and providing a comparative analysis of the languages was not part of their assignment, and the report does not consult or quote previous linguistic studies.

Essential comparative studies on Bantu languages include the publications by Mudzingwa (2010), Toporova (1997), Kiso (2012) and Marten et al (2007).

Mudzingwa's (2010) doctoral thesis analyses repair strategies in Karanga and Zezuru and aims at investigating how the two Chishona dialects deal with onsetless syllables and subminimal words. With regard to hiatus resolution, Mudzingwa argues that glide formation in these two varieties is the default strategy, and if this is blocked by phonotactic constraints, secondary articulation is applied. If this process is blocked too, elision takes place.

The study provides the conditions under which secondary articulation replaces glide formation and when both glide formation and secondary articulation may not be possible thus leaving room for vowel elision.

Mudzingwa (2010) claims that there are two constraints that drive the repair of onsetless syllables namely NO HIATUS and ONSET. Mudzingwa's (2010) work is referred to extensively in our discussion of hiatus resolution strategies in chapter 3.

Toporova (1997) analyses the typology of Bantu noun classes by discussing aspects of phonology, the noun class distribution, locatives, diminutives and augmentatives. It is noted that there seems to be a tendency for the number of phonemes in Bantu languages to grow towards the eastern and southern directions. The work also discusses the two predominant prefix models (consonant final and final vowel) in Bantu in relation to zones. It is argued that the consonant final model is less common and occurs in the zones A, G, E, K, H, while the CV prefixes are frequent and found in all Bantu areas. The VCV prefixes with an initial vowel as a preprefix occur in zones E, J, R, S, M and G.

Toporova (1997) also notes that there is a tendency for non-standard prefix forms in the areas not central to Bantu languages whereas the PB CV form is widespread and found in all Bantu areas. In terms of noun class distribution, Toporova (1997) observes that the smallest number of classes (between 10 and 13) occurs in the northern and western zones A, B, and C while the highest number of classes are found in the languages of the eastern, northeastern and central zones.

Toporova also notes that all the Bantu languages of the north-western, zones A, B, and C and of the zone H have all three locative classes, namely 16, 17 and 18. They all also occur in some eastern G, central K, M, southern S, east-southern P and southwestern R languages as well as in part in some of the languages of the zones D, E, F, L. The two diminutive and augmentative classes extend widely all over the entire Bantu area. They are found in all zones except the west-northern languages (zones A, B and C).

Toporova's (1997) typological analysis of the noun class systems of Bantu languages is an important study for the analysis of the SuNdaLa noun class systems.

Kiso's (2012) thesis provided a comparison of tense and aspect in Chichewa, Citumbuka and Cisena, i.e. zone N languages spoken in Malawi. Among other questions, she analyses, the tense – aspect system in the three languages and identifies the categories which are distinguished and in which contexts they are used. She studies how rigid or flexible the different remoteness categories as well as the tense aspect systems are and compares them with other Bantu languages. She also reconstructs historical developments based on these similarities and differences.

The thesis also studies copula constructions in Chichewa, Cisena and Citumbuka. In Chichewa and Cisena they are marked by *-li*, *-ndi* and *-khala* while in Citumbuka *-wa* and *-ni*

occurs in a specific form used for nominal predication in the present tense clause. Negation in the main and other clauses and how it is expressed in the three languages in relation to other Bantu languages was also discussed.

Kiso (2012:239) summarises her findings on the tense and aspect systems of Chichewa, Cisena and Citumbuka as following:

„The choice of one marker over the other is not determined by the absolute temporal distance between the moment of speech and the described event.

All systems exhibit two or three remoteness distinctions for the past tenses and a two way distinction for the future tenses.

Some markers are used in more than one language for example *ku-* present tense marker and *a* as hodiernal marker or immediate past tense marker, *-da-* is used as a remote past tense marker in some Chichewa and Cisena varieties, and forms involving *-(d)za-* are found as distant future markers across the three languages. The other markers differ from one language to another.

Although Kiso's (2012) study focuses on Chichewa, Cisena and Citumbuka, the analysis of morpho-syntactic properties and especially tense and aspect characteristics of SuNdaLa in this thesis benefits from her work.

Marten, Kula and Thwala (2007) choose to provide a more systematic approach for the analysis of morpho-syntactic characteristics of Bantu languages. They propose 19 parameters that serve as the basis for cross-linguistic comparison. They employ these parameters in a comparative study of ten south-eastern Bantu languages. Marten et al (2007) point out that earlier studies on morphological and syntactic variation aimed at providing broad parameters for variation among the world's languages. These authors however observed that many of the more recent studies have examined these phenomena in much smaller and structurally more similar language groups. Examples for these are the study of the Dutch dialects in the SAND project (Barbiers Cornips and Kleij 2002) and the research conducted on variation in the syntax of Italian dialects. With regard to the studies on variation in Bantu languages, such as those of Bresnan and Moshi (1990), Demuth and Mmusi (1997), Nsuka Nkutsi (1982), Henderson (2006), and Beaudon-Leitz et al (2004), Marten et al (2007) object that these are often conducted independantly without consultation of other studies and are therefore producing results which cannot be used for comparative investigations of morpho-syntactic structures.

Marten et al (2007) note that their parameters proved to be meaningful for the sample languages, as they actually differentiate the languages chosen for the survey. They also argue that their parameters are ascertainable. This means that the value given by a parameter in the relevant language can be referred to in published sources or field material. Marten et al's (2007) parameters are binary in that a given language shows either a positive value or negative one. Finally their parameters are transferable in that they can be related to structures found outside Bantu. Because of that, their findings can feed into larger comparative studies.

The parameters developed by Marten et al (2007) address the following morph-syntactic phenomena: object marking, double object construction, relative constructions, locative inversion constructions and distinction between conjoint/disjoint forms.

After employing the parameters to 10 languages, Marten et al (2007) narrowed the number down to five languages, namely Chichewa, iCibemba, Kiswahili, siSwati and Otjiherero because there were responses for all the parameters in these languages. Their quantitative results reveal that the closest similarity exists between iCibemba and Chichewa (67%), and between iCibemba and Kiswahili (66%). When calculating the total amount of shared structures among all languages of the sample, Chichewa comes first (60%), followed by Kiswahili (55%), iCibemba (53%), Otjiherero (50%) and siSwati (42%).

Marten et al (2007) argue therefore that Chichewa is the most typical of the five Bantu languages since it shares most structural characteristics with all the other four languages.

Marten et al (2007) suggest factors or a plausible explanation for the structural resemblance between Chichewa, Kiswahili and iCibemba and the divergence of Otjiherero and siSwati as resulting from a relationship between structural similarity and geographical proximity, language contact and the function the languages have in their areas.

Marten et al's (2007) parameters allow for a systematic approach and have been employed in the study of South-Eastern Bantu languages. More Bantu languages from other areas need to be included in further studies in order to test the overall applicability of these parameters. The current study will utilize the parameters developed by Marten et al (2007) and Marten and Kula (2012) in its analysis of object marking.

This chapter reviewed the literature on the SuNdaLa varieties as well as selected relevant publications on other Bantu languages. Gaps in the previous studies and in the availability of

linguistic data on languages were identified. The following chapters will describe and compare the SuNdaLa varieties.

Chapter 3

Aspects of SuNdaLa Segmental Phonology

3.0 Introduction

This chapter is a description of segmental aspects of SuNdaLa phonology. Although the approach is generally descriptive, theoretical implications of selected phonological aspects will be discussed. In the following sections, the vowel and consonant systems of the SuNdaLa varieties, as well as the syllable structure and some common phonological processes are introduced.

The segmental systems of the three SuNdaLa varieties are similar in many respects such as in their vowel systems, in some phonological processes, and also in their syllable structures as well as in their hiatus resolution strategies. Based on the analysis of the language data collected for this thesis it can be postulated that the consonant inventory of Cilambya is larger than that of Cisukwa and Cindali. Cilambya has voiced stops and fricatives which the other two SuNdaLa varieties do not have. However, since these sounds only have a very limited distribution in Cilambya, they are most likely innovations. The basic consonant inventory must have therefore been similar to the one found in Cisukwa and Cindali. There is variation in the phonotactic constraints among the three SuNdaLa varieties in that Cisukwa and Cindali only allows a nasal and consonant sequence of a nasal and voiced stop while Cilambya permits sequences of a nasal and a voiceless stop. In addition, sequences of a nasal and a fricative are not allowed in Cisukwa and Cindali while they are admissible in Cilambya.

The analysis of the segmental phonology of SuNdaLa shows Cisukwa and Cindali having a closer relationship with Cilambya being somewhat apart.

The following is the structure of the chapter: Section 3.1 examines selected studies on Bantu phonology and relates them to aspects of the SuNdaLa segmental phonology. This section is followed by an analysis of the vowel and consonant systems in section 3.2 and 3.3 respectively. Section 3.4 examines the structure of the syllable and hiatus resolution strategies while section 3.5 discusses general phonological processes which apply in the SuNdaLa cluster. A summary follows in section 3.6.

3.1 Some remarks on Bantu phonology

Comparative studies of Bantu phonology have been published widely for example Miti (2006), Guthrie (1948, 1967/71), Labrousse (1999), Batibo (2000), Maddieson (2003), Nurse and Phillipson (2003) Hyman (2003). Other scholars have focussed on aspects of selected Bantu languages, such as the studies by Mtenje, A.D. (1986) for Chichewa, Downing (1995) for Jita, Odden (1996) for Kimatuumbi, Kula (2002) for iCibemba, Sibanda (2004) for isiNdebele, Mudzingwa (2010) for Karanga and Zezuru, Ström (2013) for Ndengeleko, and Mkochi (2014) for CiTonga. The main focus in these works is on structural characteristics such as the segmental and prosodic features of the Bantu languages.

Some Bantu languages are described as having a five vowel while others have a seven vowel system. There are yet others which have more than seven vowels. Bantu languages with a seven vowel system are for example Lingala, Mongo and Wongo (cf. Miti 2006). Tshivenda (cf. Poulos 1990), Chishona (cf. Mudzingwa 2010), iCibemba (cf. Kula 2002), Cilungu (cf. Bickmore 1989) have a five vowel system. Phuti is a language with a nine vowel system (cf. Donnelly 2009). The consonant inventories of Bantu languages vary regards to size and the contrasts they exhibit.

Most Bantu languages do not have diphthongs although a few such as siSwati and Runyambo have been reported to have them (cf. Ziervogel 1952, Rugemalira 2005). Underlying nasal vowels are rare although Schadeberg (1982) reports of nasalised vowels in Umbundu which result from phonological rules and an underlying system of three nasal vowels.

Sound sequences involving other consonants and glides as well as nasals and other consonants occur in Bantu languages under various conditions.

3.2 Vowels

The vowel inventory of the SuNdaLa cluster has underlying five short vowels with their long counterparts. The five short vowels are a reduction of the PB seven vowel system. The PB vowel system reconstructed by Meeussen (1967) is the following:

Figure 1: Proto-Bantu vowels (Meeussen 1967:82)

Vowels (long and short)

i_ː u_ː
i u
e o
a

In Mtenje, A.A. (2010, 2012), it is claimed that vowel length in one of the SuNdaLa varieties, namely, Cisukwa, is not contrastive. With the new data available, this analysis must be revised since vowel length is a distinctive feature in all three SuNdaLa varieties as shown in examples 1 below.

Figure 2: The SuNdaLa vowels

Vowels (short)

i u
e o
a

Vowels (long)

ii uu
ee oo
aa

Cindali

(1)

<i>-tima</i>	„become wet“ ¹	<i>-tiima</i>	„graze, cattle“
<i>-kema</i>	„crack“	<i>-keema</i>	„grunt“
<i>-kaba</i>	„earn“	<i>-kaaba</i>	„be late“
<i>-kola</i>	„touch, hold“	<i>-koola</i>	„cough“
<i>-futa</i>	„shape dough into a ball“	<i>-fuuta</i>	„breathe“

In examples (1), Botne (2008:7) provides these minimal pairs with vowel length as a distinctive feature for Cindali. Contrastive vowel length distinguishes *kaba* „earn“ and

¹All verbs that appear without prefixes are presented as imperatives or citation forms.

counterpart *kaaba* „be late“. Both terms in the same meanings and pronunciations also exist in Cisukwa and Cilambya.

Like in many other Bantu languages, the three SuNdaLa varieties do not have diphthongs or nasal vowels in their sound inventories.

3.2.1 Distribution of vowels

In this section, we discuss the distribution patterns for each vowel attested in the SuNdaLa cluster by starting with the vowel /a/. The examples provided are of underlying short vowels.

/a/

This is a low, central vowel. It occurs in stem initial and internal positions in verbs. It can also occur as the final vowel of the verb, as a prefix, as a suffix, as an augment, and also in stem initial, internal and final positions in nouns. Below are examples of the vowel /a/ in the SuNdaLa cluster in each of these environments. The entries in the SuNdaLa column are identical in all three varieties. The vowel under discussion is bolded.

(2)

PR ²	UR ³	English gloss	Environment
<i>ukwaǎgala</i>	/u-ku- a ŋgal- a / AUG-INF-chat-FV	„to chat“	stem initial of verb stem, stem internal vowel and final vowel
<i>ukúsaβa</i>	/u -ku- saβ - a / AUG-INF-swim-FV	„to swim“	stem internal and final vowel of verb
<i>améja</i>	/ a -meja/ AUG-feather,fur	„feathers, fur“	augment, final vowel of noun
<i>úmwaana</i>	/u-mu- ana / AUG-1-child	„child“	stem initial of noun and final vowel of noun

²PR= phonetic representation

³UR= underlying representation

PR	UR	English gloss	Environment
<i>mwaapiyite</i>	/mu-a-piy-ite/ SM2pl-PST-cook- PFV	„you (pl) cooked“	prefix (tense marker)
<i>βakulóndana</i>	/βa-ku-lónd-an-a/ SM2-want-REC-FV	„they want each other“	prefix (subject marker, suffix (reciprocal marker) and final vowel of verb

/i/

This is a high, front vowel. It can occur as a stem initial and stem internal vowel in the verb stem, an augment, as part of a prefix, as part of a suffix, as a stem internal vowel and final vowel in a noun stem. Examples are presented in (3).

3.

PR	UR	English gloss	Environment
<i>ukwiimba</i>	/u-ku-ímb-a/ AUG-INF-sing-FV	„to sing/dance“	stem initial vowel
<i>iliβele</i>	/i-lí-βele/ AUG-5-breast	„breast“	augment, as part of the noun class prefix
<i>nakomíwa</i>	/n-a-kom-íw-a/ SM1sg-PFV-kill-PASS-FV	„I have been killed“	suffix (passive marker)
<i>ukúpija</i>	/u-ku-píj-a/ AUG-INF-cook-FV	„to cook“	stem internal
<i>ifuumbi</i>	/i-fumbi/ AUG-egg	„egg“	augment, final vowel of noun stem
<i>isíla</i>	/i-síla/ AUG-path	„path“	augment, stem internal vowel in noun stem

/e/

This is a mid, high vowel. This vowel occurs as a stem initial and stem internal vowel in verbs. It can also occur as a final vowel in verbs since it is part of the perfective affix. It is also attested as a stem initial and stem final vowel in nouns. Examples with /e/ are presented in (4).

(4)

PR	UR	English gloss	Environment
<i>ukwéenda</i>	/u-ku-énd-a/ AUG-INF-walk-FV	„to walk“	stem initial vowel
<i>iβwe</i>	/i-βwe/ AUG-stone	„stone“	noun stem final vowel
<i>umuséwu</i>	/u-mu-séwu/ AUG-3-road	„road“	stem internal vowel
<i>twaapíjite</i>	/tu-a-píj-ite/ SM1pl-PST-cook-PFV	„you came“	verb final vowel
<i>umwéenda</i>	/u-mu-énda/ AUG-3-cloth	„cloth“	stem initial in nouns

/o/

This is a mid, back vowel. It is attested as a stem initial and stem internal vowel in verbs and stem initial, internal and final vowel of nouns.

(5)

PR	UR	English gloss	Environment
<i>ukóotfa</i>	/u-ku-ótʃ-a/ AUG-INF-roast-FV	„to roast“	stem initial
<i>umójo</i>	/u-mu-ójo/ AUG-3-heart/life	„heart, life“	noun stem initial, noun stem final
<i>ulútoondwa</i>	/u-lú-tondwa/ AUG-11-star	„star“	noun stem internal

ukúpotwa	/u-ku-pótw-a/ AUG-INF-fail-FV	„to fail“	stem internal
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/u/

This is a high, back vowel. It is attested in stem initial and internal verb stems, as an augment, as a prefix, as a stem initial, internal and final vowel. Examples are given in (6)+.

(6)

PR	UR	English gloss	Environment
<i>umúunt^hu</i>	/u-mú-nthu/ AUG-1-person	„person“	augment, as part of noun class prefix, noun stem final vowel
<i>ukúpija</i>	/u-ku-píj-a/ SM2sg-PROG-cook-FV	„to cook“	prefix (the second person singular marker), as part of the prefix (the present progressive tense marker)
<i>ukúuma</i>	/u-ku-úma/ AUG-INF-dry	„to dry“	augment, prefix (infinitive marker, stem initial verb stem vowel)
<i>ukupúluka</i>	/u-ku-púluka/ AUG-INF-fly	„to fly“	augment, prefix (infinitive marker), stem internal vowel

The distribution patterns of the vowels mentioned above show that the vowels /a/, /i/ and /u/ appear in all environments i.e. as stem initial and internal vowels in verbs, as stem initial, internal and final vowels in nouns, as prefixes and suffixes. The mid vowels do not occur in all these positions. They are attested as stem initial and internal vowels in verbs and as stem initial, internal and final vowels in nouns. This behaviour of non-peripheral vowels is observed in other Bantu languages (cf. Hyman (2003), Downing and Mtenje, A.D. (forthcoming)).

3.2.2 Vowel Length

The analysis of Cisukwa presented in Mtenje, A.A. (2010, 2012) lists some lexical items with long vowels and it is mentioned that the environments in which they are attested had not been examined. The data collected for this thesis allows for the claim that vowel lengthening occurs in two environments: firstly, after consonant-glide sequences (CGs) and, secondly,

before nasal-consonant sequences (NCs). Hyman (2003) identifies these two environments as common for the occurrences of long vowels.

Vowel lengthening after CG sequences.

Consonant-Glide sequences occur in two environments in SuNdaLa (cf. 4.3.3 for the discussion of CGs). Many CGs are reconstructed as consonant plus vowels sequences (CVV) in PB (Meeussen 1967:82) in which the V₁ is a glide. These CVV sequences are common in the SuNdaLa varieties and examples are presented in table 3.

Table 3: CGs in SuNdaLa

PR	UR	English gloss
<i>ukupjéela</i>	/u-ku-piel-a/	„to sweep“
<i>ukutjeelémuka</i>	/u-ku-tielemuk-a/	„to slide“
<i>umúfjaala</i>	/u-mufiala/	„cousin“
<i>umúfwiile</i>	/u-mufuile/	„widow“

Table 3 shows examples of vowel length after CGs, namely after *pj*, *tj*, *fj*, and *fw*.

The second occurrence of CGs is manifested as a process of secondary articulation in the environment of synchronic vowel concatenation. In these cases, the high vowels /i/ or /u/ are desyllabified and become glides which attach themselves to the preceding consonant when followed by another vowel. When this happens, the second vowel gets compensatory lengthening in that the mora of the first vowel disconnects and docks on to the second vowel hence lengthens this vowel. The same rule in PB CVV sequences creates CGs. Thus, in the two environments in which CGs occur, vowel lengthening is also found in the SuNdaLa varieties. Examples of vowel lengthening from synchronic vowel desyllabification are in table 4.

Table 4: CGs with vowel lengthening derived from vowel desyllabification

PR	UR	English gloss
<i>uk^wiimba</i>	/u-ku-imb-a/	„to sing/dance“
<i>uk^wéenda</i>	/u-ku-end-a/	„to walk“
<i>uk^waǎngala</i>	/u-ku-aǎgal-a/	„to chat“
<i>um^wéenda</i>	/u-mu-enda/	„cloth“

<i>im'éesi</i>	/i-mi-esi/	„months“
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In table 4, we observe that consonant glide sequences are followed by long vowels. For instance, in the word *uk^wiimba* „to sing“, the consonant glide sequence [k^w] is followed by the long vowel [ii] which is derived by desyllabifying the underlying high vowel /u/ which then docks on the preceding consonant and labialises it. The mora of this vowel docks on to the following vowel, thus lengthens it. This process is discussed in detail in 4.3.3 and 4.4.1.1.

Pre-NC lengthening

Vowels are also lengthened when they precede a NCs in SuNdaLa. Examples for vowel lengthening before NCs in SuNdaLa are presented below.

Table 5: Pre-NC lengthening

Cisukwa	Cindali	Cilambya	UR	English gloss
<i>it'ipúungu</i>			/i-tʃi-pungu/	„shoulder“
<i>iimbóombo</i>			/i-m-bombo/	„work“
<i>umúundu</i>		<i>umúunthu</i>	/u-mu-ntu/	„person“
<i>ukukiinda</i>			/u-ku-kinda/	„to run“
<i>umuléendo</i>			/u-mu-lendo/	„guest“
<i>imiléembo</i>			/i-mi-lembo/	„medicine“
<i>it'ilúunda</i>			/i-tʃi-lunda/	„heap“
<i>ipóóndo</i>			/i-pondo/	„hammer“

Pre-NC lengthening in Bantu languages is analysed as a result of compensatory lengthening by scholars such as Katamba (1985), Clements (1986), Herbert (1986) Bickmore (1989), Schadeberg (1991), Hyman (1992), Hubard (1995), Downing (1995), Piggot and Humbert (1997), Rosenthal (1988, 1994) and Odden and Odden (1999). It is argued in these works that in NCs, the nasal is resyllabified in an onset position which is non-moraic. The mora of the nasal in the input docks onto the preceding vowel and by that lengthens the vowel.

Downing (2005) argues for an analysis of N in coda position and not resyllabifying it in onset. She maintains that the analysis that claims that Pre-NC lengthening is a result of compensatory lengthening assumes that this will take place in prenasalised consonants where N is onset.

She further contends that lengthening however is observed in analyses of NCs as clusters where N is in coda position. Such analyses include lengthening in Middle English NCs and in Johore Malay where it occurs both morpheme internally and across morpheme boundaries. Another example includes reduplication data from Iraqw which show evidence of NCs best analysed as heterosyllabic clusters.

Downing (2005) therefore argues that vowel lengthening is motivated by the enhancement of the vowel's duration before tautosyllabic nasal consonant and the reduced duration of homorganic NCs. According to her, vowel lengthening is also triggered by a following tautosyllabic sonorant consonant. This is because both vowels and nasals are highly sonorous. It is therefore difficult to determine the amount of length produced by any of them. The vowel like qualities of the nasal enhance the perceived duration of the preceding vowel. Furthermore, vowels are partially nasalised when they precede a tautosyllabic nasal. This hinders the distinction between a vowel and a following nasal as discussed by Herbert (1986). This process however according to Kavitskaya (2001) also lengthens the vowel. Finally, vowel lengthening enhances an existing asymmetry in that vowels which are inherently prominent become long(er) in actual duration while the inherently less prominent nasals become shorter.

The analysis of Pre-NC lengthening in SuNdaLa seems to support Downing's (2005) explanation which bases on perceptual qualities of the nasals and the vowels. This is so because the N in the NCs is analysed in coda position and therefore the explanation on compensatory lengthening (which assumes N in onset) does not hold.

3.3 Consonants

In this section, we present the consonant inventories of the three varieties, consonant and glide sequences and the analysis of nasal consonant sequences.

3.3.1 SuNdaLa consonant inventories

The PB consonant inventory as reconstructed by Meeussen (1967) had only 11 consonants as shown in figure 3 below.

Figure 3: The Proto-Bantu consonants after (Meeussen 1967:82)

p t c k
b d j g
m n ŋ

Present day Bantu languages have remnants of this system and some modifications and addition of new sounds have been made. For example, the Chichewa inventory differs from the PB one in that it has a number of fricatives and affricates while PB had only one fricative. Chichewa also has a series of aspirated voiceless stops and an aspirated affricate, consonants that are not found in PB (Downing and Mtenje, A.D. forthcoming).

The SuNdaLa consonant inventories have sounds that range within the same places and manners of articulation. They differ from PB in that they too have more several fricatives. SuNdaLa also has labialised and palatalised consonants (cf. Section 4.3.3) which are not found in PB. The most prominent difference between the SuNdaLa varieties is that while Cisukwa and Cindali both do not have voiced counterparts of some consonants (for instance the stops and fricatives) Cilambya has those. Cisukwa and Cindali do not have the voiced sounds /b/, /d/ and /g/ that were reconstructed for PB.

As a result of the differences between the three SuNdaLa varieties mentioned above, Cilambya has a larger inventory than the two varieties. Cisukwa has 16 consonants while Cindali has 17 (with an additional consonant *f* that is not attested in Cisukwa and Cilambya). Cilambya has 22 consonants. However, in 4.3.3, we are going to discuss consonant glide sequences and analyse them as instances of secondary articulation which result in labialised and palatalised consonants. These segments are also part of the SuNdaLa phonemic inventories.

The following section will introduce the consonant inventories of the individual SuNdaLa varieties.

Consonant inventory for Cisukwa

The consonant inventory postulated for Cisukwa in Mtenje, A.A. (2010, 2012) remains valid, however the glottal fricative /h/ has been added. We identify 16 consonants which spread across seven places of articulation.

Figure 4: The phonemic chart of Cisukwa

	bilabials	labio-dentals	alveolars	palatals	velars	labio-velars	glottals
stops	p		t		k		
nasals	m		n	ɲ	ŋ		
fricatives	β	f	s		ɣ		h
affricates				tʃ			
approximants				j		w	
laterals			l				

Except for /ɣ/ and /β/, Cisukwa does not have phonemic voiced stops, fricatives and affricates in its inventory. Voiced sounds are approximants and nasals. Voiced stops only appear after nasals through the process of post-nasal stop voicing. NCs have been analysed as clusters in 3.3.2 below, and CGs are discussed in 3.3.3.

Consonant inventory for Cindali

The consonant inventory for Cindali differs from the Cisukwa inventory as it has an additional alveo-palatal sound /ʃ/. Botne (2008) also includes the voiced alveolar fricative /z/. Our Cindali data collected in the field does not provide evidence for the existence of this sound in this SuNdaLa variety.

Figure 5: The phonemic chart of Cindali

	bilabials	labio-dentals	alveolars	alveo-palatals	palatals	velars	labio-velars	glottals
stops	p		t			k		
nasals	m		n		ɲ	ŋ		
fricatives	β	f	s	ʃ		ɣ		h
affricates					tʃ			
approximants					J		w	
laterals			l					

The Cindali consonant inventory differs from Cisukwa only in that the alveo-palatal sound /ʃ/ has been added. Cindali therefore has 17 consonants.

Consonant inventory for Cilambya

The Cilambya consonant inventory is larger than those of Cisukwa and Cindali. In contrast to Cisukwa and Cindali, Cilambya has voiced stops and voiced fricatives.

Figure 6: The phonemic chart of Cilambya

	bilabials		labio-dentals		alveolars		palatals		velars		labio-velars		Glottal	
stops	p	b			t	d			k	g				
fricatives		β	f	v	s	z				ɣ				h
affricates							tʃ	dʒ						
nasals	m				n		ɲ		ŋ					
approximants							j				w			
laterals					l									

Caused by their different consonant inventories, there are sound correspondences between the three SuNdaLa varieties. In some instances where Cisukwa and Cindali have the voiceless stops /p/ and /t/, Cilambya has /b/ and /d/ respectively. Where Cisukwa and Cindali use the fricative /f/, the voiced fricatives /v/ might occur in Cilambya. There is also a three way correspondence of the voiceless fricative /s/ in Cisukwa, /ʃ/ in Cindali and /z/ in Cilambya. The CLS (2006) report mentions the correspondence between /f/ and /v/ and /s/, /ʃ/ and /z/.

The voiced velar stop /g/ in Cilambya corresponds in some cases to the bilabial fricative /β/ in Cisukwa and Cindali. The correspondence of the voiceless stop /k/ in Cisukwa and Cindali and the voiced stop /g/ in Cilambya was not attested in the data, however, /g/ also occurs only rarely in Cilambya and then in a NCs. Examples illustrating these correspondences are given below:

Correspondences of /p/ and /b/

The data did not provide evidence for the correspondence between /p/ and /b/. Only one lexical item was retrieved, namely *puluka* „fly“ for Cisukwa and Cindali which is *buluka* with a voiced bilabial stop /b/ in Cilambya.

Correspondences of t and d

There are also only the two examples provided in (7) below for the correspondence of the sounds /t/ in Cisukwa and Cindali and /d/ in Cilambya. The sound /d/ is also very rare in Cilambya and occurs mainly in NCs.

(7)

Cisukwa, Cindali	Cilambya	English gloss
<i>túβi</i>	<i>dúβi</i>	„ram“
<i>túmula</i>	<i>dúmula</i>	„cut“

The correspondence of /s/, /ʃ/ and /z/

The voiceless fricative /s/ of Cisukwa, the voiceless fricative /ʃ/ of Cindali and the voiced fricative /z/ of Cilambya have a three way correspondence. Table 6 provides examples for this common sound correspondence between the varieties.

Table 6: The correspondence of /s/, /ʃ/ and /z/

Cisukwa	Cindali	Cilambya	English gloss
<i>uméesi</i>	<i>umwéesfi</i>	<i>umwéezi</i>	„moon“
<i>iĩmbusi</i>	<i>iĩmbuʃi</i>	<i>iĩmbuzi</i>	„goat“
<i>ísi</i>	<i>íʃi</i>	<i>izi</i>	„this“
<i>ukusílika</i>	<i>ukufílika</i>	<i>ukuzílika</i>	„to faint“
<i>umúlosi</i>	<i>umúloʃi</i>	<i>umúlozi</i>	„sorcerer“
<i>amalési</i>	<i>amaléʃi</i>	<i>amalézi</i>	„millet“
<i>súumba</i>	<i>ʃúumba</i>	<i>zúumba</i>	„okra“
<i>silíka</i>	<i>ʃilíka</i>	<i>zilíka</i>	„faint“

The correspondence of /f/ and /v/

Another correspondence observed in SuNdaLa is that of Cisukwa and Cindali’s voiceless fricative /f/ and Cilambya’s voiced fricative /v/. This is also a common correspondence and examples are provided in table 7.

Table 7: The correspondence of /f/ and /v/

Cisukwa, Cindali	Cilambya	English gloss
<i>umúfiimba</i>	<i>umúviimba</i>	„corpse“
<i>ifilóombe</i>	<i>ivilóombe</i>	„maize“
<i>iindéfu</i>	<i>iindévu</i>	„beard“
<i>amáfi</i>	<i>amávi</i>	„faeces“
<i>ifisekeséke</i>	<i>ivisekeséke</i>	„rattle“
<i>ífi</i>	<i>ívi</i>	„these“

The correspondence of /g/ and /β/

The the voiced stop /g/ in Cilambya can also correspond to the bilabial fricative /β/ in Cisukwa and Cindali.

Table 8: The correspondence of /g/ and /β/

Cisukwa, Cindali	Cilambya	English gloss
<i>ukúβa</i>	<i>ukúgwa</i>	„to fall“
<i>múβosi</i>	<i>múgosi</i>	„old person“

3.3.2 Distribution of consonant phonemes in lexical items

This section presents the distribution patterns of consonants for each of the SuNdaLa varieties. We will explain particular patterns of distributions by examining the occurrence of each consonant in stem initial and stem medial positions of verbs and nouns.

Distribution patterns of consonants have been discussed in various descriptive studies of Bantu languages. Downing and Mtenje, A.D (forthcoming) for example examine the distribution of Chichewa consonants. It is shown that all consonant phonemes of the languages can occur in stem initial position, with some consonant series being mainly restricted to this position. These consonants include all aspirated voiceless consonants and fricatives, with the exception of /s/ and /z/. Consonants such as the voiced implosive or plosive stops, the affricates (except tʃ), the palatal and velar nasals are not found in prefixes. In the suffixes (excluding enclitics) only the coronal sonorants /n, l/, /k/, /dw/, /m/, /ts/ and /dz/ occur.

Downing and Mtenje, A.D.(forthcoming) explain the asymmetries found in Chichewa as the development of the synchronic consonant system from PB. For instance, the sounds which are not found outside of the stem-initial position (most fricatives and aspirated voiceless stops) are also not reconstructed for PB. Furthermore, the more marked consonant types are the ones that only appear in the stem initial position.

SuNdaLa consonant distribution patterns in stem initial and stem medial positions will be exemplified in the following.

The following are shared distribution patterns for voiceless stops /p/, /t, /k/among Cisukwa, Cindali and Cilambya.

Stem initial /p/

(8)

<i>paáŋ-a</i>	„pluck (feathers)“
<i>pótŋ-a</i>	„fail“
<i>púut-a</i>	„blow“
<i>papw-a</i>	(be) born
<i>píj-a</i>	„cook“

Stem medial /p/

(9)

<i>i-fupa</i>	„bone“
<i>kúpul-a</i>	„spill“
<i>i-t(aβúpi</i>	„gift“
<i>i-sépa</i>	„nanny goat, ewe“
<i>i-tfi-papilo</i>	„uterus“

Stem initial /t/

(10)

<i>tuúnd-a</i>	„urate“
<i>tetéŋ-a</i>	„shiver“
<i>tapik-a</i>	„vomif“
<i>túkan-a</i>	„swear“

Stem medial /t/

(11)

<i>a-má-kutu</i>	„ears“
<i>fuút-a</i>	„breathe“
<i>filóota</i>	„dream“
<i>u-βúkata</i>	„laziness“

Stem initial /k/

(12)

<i>káj-a</i>	„step“
<i>kóm-a</i>	„hit“
<i>kisa</i>	„good/well“
<i>kátote</i>	„first born“
<i>kúpul-a</i>	„spill“

Stem medial /k/

(13)

<i>howóka</i>	„(be) happy“
<i>sék-a</i>	„laugh“
<i>ikál-a</i>	„sit“
<i>i-tf-akúlja</i>	„food“

All voiceless stops occur in both stem initial and stem medial positions.

Among the SuNdaLa varieties, voiced stops /b/, /d/, /g/ only occur in Cilambya, thus the following examples are from Cilambya only.

Stem initial /b/

(14)

<i>bulúk-a</i>	„fly“
<i>u-bába</i>	„father“
<i>i-tfi-bakabáka</i>	„duck“
<i>beleméende</i>	„squirrel“

Stem medial /b/

(15)

u-bába „father“

Stem initial /d/

(16)

dúβi „ram“

dumúl-a „cut“

domók-a „jump“

díind-a „stamp with foot“

dowól-a „pierce“

Stem medial /d/

(17)

u-mu-dúdu „giant“

Stem initial /g/

(18)

gón-a „sleep“

gáv-a „divide“

goónt^h-a „limp“

gw-a „fall down“

gosip-a „become old“

Stem medial /g/

(19)

í-nzegéma „malaria“

The occurrence of the voiced stops /b/, /d/ and /g/ in Cilambya is not robust. As such, there are only a few words with these sounds attested in the language especially in the stem medial position.

The glottal fricative /h/ is not very common in the SuNdaLa varieties.

Stem initial /h/

(20)

howóka „(be) happy“**Stem medial /h/**

(21)

mahala „wisdom“

In the following, the distribution of fricatives /s/, /f/, /β/, /ɣ/, /z/, /v/ as well as /ʃ/ will be examined in stem initial and stem medial positions. The following examples are shared by all three SuNdaLa varieties if not indicated otherwise.

Stem initial /s/

(22)

<i>suuŋgíl-a</i>	„push“
<i>séend-a</i>	„slice“
<i>sék-a</i>	„laugh“
<i>sál-a</i>	„choose“
<i>sóoŋgo</i>	„old“

Stem medial /s/

(23)

<i>u-ku-kosómola</i>	„to cough“
<i>u-mu-úsi</i>	„pestle“
<i>u-lú-paso</i>	„fence“
<i>í-kasu</i>	„hoe“
<i>u-mu-seséenŋa</i>	„sand“

Stem initial /f/

(24)

<i>fuút-a</i>	„breathe“
<i>fuyamíl-a</i>	„squat“
<i>fúm-a</i>	„come out“
<i>í-fumbi</i>	„egg“
<i>fík-a</i>	„approach“

Stem medial /f/

(25)

i-tʃi-léfu „chin“

Stem initial /β/

(26)

βiɪŋ-a „hunt“

i-βiɪŋu(o) „cloud“

u-mú-βili „body“

i-li-βele „breast“

βúl-a „buy“

Stem medial /β/

(27)

βiβi „bad/unpleasant“

iβa „steal“

naluβinduβiindu „green mamba“

u-βúβi „spider“

májaβo „cassava“

Stem initial /ɣ/

(28)

u-mú-ɣaŋga „traditional healer“

u-ɣali „nsima“

i-ɣamba „mountain“

ɣán-a „hate“

ɣáw-a (Cisukwa, Cindali) „divide, share“

Stem medial /y/

(29)

<i>i-fiya</i>	„cooking stone“
<i>a-má-jiya</i>	„waves“
<i>u-ku-fuyámil-a</i>	„to squat“
<i>u-kú-moya</i>	„to dance“
<i>βóy-a</i>	„kill“

Stem initial /z/

(30)

<i>zilik-a</i>	„faint“
<i>u-mu-zúungu</i>	„white person“
<i>u-mu-zúna</i>	„younger sister“
<i>i-zina</i>	„name“
<i>zúl-a</i>	„undress“
<i>zoomphól-a</i>	„snatch“
<i>i-zuwa</i>	„sun“
<i>zim-a</i>	„to be extinguished“

Stem medial /z/

(31)

<i>kiza</i>	„good/well“
<i>palíz-a</i>	„thank“
<i>noóz-a</i>	„insult“
<i>mu-lóngozi</i>	„guide“
<i>u-mw-éezi</i>	„moon“

Stem initial /v/

(32)

<i>u-mú-viimba</i>	‘corpse’
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Stem medial /v/

(33)

<i>i-tfávu</i>	„jaw/palate“
<i>i-ndévu</i>	„beard“
<i>a-mávi</i>	„faeces“
<i>avúl-a</i>	„crawl“
<i>i-n-zovu</i>	„elephant“

The data demonstrates that /v/ is rare in stem initial positions. Only one example was attested, however /v/ is prevalent in the noun class prefix of class 8.

The following examples are from Cindali as the alveo-palatal fricative /ʃ/ is only attested in this SuNdaLa variety.

Stem initial /ʃ/

(34)

<i>i-ʃiye</i>	„eyelash“
<i>i-ʃingo</i>	„neck“
<i>ʃingúl-a</i>	„polish“
<i>ʃiʃil-a</i>	„wink“
<i>ʃúk-a</i>	„revive“

Stem medial /ʃ/

(35)

<i>i-kofi</i>	„nape of neck“
<i>a-má-tuʃi</i>	„urine“
<i>fwenyéʃ-a</i>	„sneeze“
<i>ʃúuf-a</i>	„fart“
<i>onéʃ-a</i>	„show“

The following examples will provide distribution patterns of the affricates /tʃ/ and /dʒ/.

Stem initial /tʃ/

(36)

<i>tʃimbíl-a</i> (Cilambya)	„run“
<i>tʃimbíz^j-a</i> (Cilambya)	„chase“
<i>tʃára</i> (Cisukwa)	‘God’

Stem medial /tʃ/

(37)

<i>u-mw-eeⁿé^tfo</i>	„self“
<i>u-mu-sw^atʃi</i>	„toothbrush“
<i>ó^tf-a</i>	„toast“

The /tʃ/ voiceless affricate is not found at the beginning of the stem but also in stem internal positions. It mainly occurs as the noun class prefix *tʃi*.

The voiced affricate /dʒ/ is only found in Cilambya hence the examples provided below will only be from that variety.

Stem initial /dʒ/

(38)

<i>dʒambúl-a</i>	„draw“
<i>dʒilimís^j-a</i>	„to make thunder“

The following examples will show the distribution patterns of nasals /m/, /n/, /ŋ/ and /ɲ/.

Stem initial /m/

(39)

<i>maⁿ-a</i>	„know“
<i>ma^hala</i>	„wisdom“
<i>maⁿil-a</i>	„learn“
<i>maⁿís^j-a</i> (Cisukwa, Cilambya)	„teach“
<i>maⁿif-a</i> (Cindali)	„teach“

Stem medial /m/

(40)

<i>u-mú-lomo</i>	„lip, mouth“
<i>i-tfí-nama</i>	„leg“
<i>kosómol-a</i>	„cough“
<i>tetém-a</i>	„shiver“
<i>ηanámuk-a</i>	„tum around, capsize“

Stem initial /n/

(41)

<i>náang-a</i>	„spoil, destroy“
<i>i-tfí-nanasi</i> (Cisukwa, Cindali)	„pineapple“
<i>i-tfí-nanazi</i> (Cilambya)	„pineapple“
<i>nalóli</i>	„true“

Stem medial /n/

(42)

<i>komán-a</i>	„meet, encounter“
<i>tukán-a</i>	„swear“
<i>u-mu-suni</i>	„soup“
<i>u-mú-pina</i>	„poor man“
<i>páno</i>	„here“

Stem initial /ŋ/

(43)

<i>ηanámuk-a</i>	„tum around, capsize“
<i>ηanámul-a</i>	„tum over“

Stem medial /ŋ/

(44)

<i>u-kw-iinoŋón-a</i>	„to think, to believe“
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The sound /ŋ/ is not common in stem medial positions.

Stem initial /ɲ/

(45)

<i>ɲóʃ-a</i> (Cindali)	„return, turn back
<i>ɲos^ʃ-a</i> (Cisukwa, Cilambya)	„return, turn back“
<i>ɲamúl-a</i>	„carry“
<i>u-mú-ɲithu</i>	„friend“
<i>u-mu-ɲololo</i>	„earthworm“

Stem medial /ɲ/

(46)

<i>máɲ-a</i>	„know“
<i>musáɲa</i>	„afternoon“
<i>páaɲa</i>	„pluck feathers“
<i>píɲ-a</i>	„build, mend“
<i>muhɲa</i>	„in the sky“

The following examples are on the distribution patterns of the approximants /j/ and /w/.

Stem initial /j/

(47)

<i>juɣ-a</i> (Cisukwa, Cindali)	„speak“
<i>u-mu-jemba</i>	„elder brother/sister“
<i>i-tʃi-juni</i>	„bird“

Stem medial /j/

(48)

<i>u-lu-saja</i>	„cheek“
<i>i-meja</i>	„hair“
<i>a-kaja</i>	Town, city, village

The sound /j/ is not very common in stem initial positions. It is however found in most non-stem initial positions.

Stem initial /w/

(49)

<i>u-mu-wúumba</i>	„barren person“
<i>wáwa</i>	„be painful“
<i>weréŋg-a</i>	„read“

Stem medial /w/

(50)

<i>i-ŋowe</i>	„fingers, arm, hand“
<i>luwilo</i>	„fast“
<i>i-ŋguluwe</i>	„pig“

The glide /w/ is a rare sound in the stem initial position. It occurs however in word initial positions when the subject prefix /u/ glides in a glide formation process as seen in examples (51).

(51)

UR	PR	English gloss
/u-a-líle/	<i>walile</i>	„you (sg) ate“
/u-a-ŋw-ile/	<i>wawile</i>	„you (sg) have drunk“
/u-a-pij-a/	<i>wapija</i>	„you (sg) have cooked“
/u-a-ŋw-a/	<i>wáŋ^wa</i>	„You (sg) have drunk“
/u-a-ŋwa-ŋga/	<i>wawáŋga</i>	„you (sg) used to drink“

Examples for the lateral consonant /l/ follow in (52) and (53):

Stem initial /l/

(52)

<i>lím-a</i>	„cultivate“
<i>lúm-a</i>	„bite“
<i>líl-a</i>	„cry“
<i>u-mu-lómo</i>	„lip, mouth“
<i>u-lu-limi</i>	„tongue“

Stem medial /l/

(53)

<i>u-mú-βili</i>	„body, skin“
<i>kúl-a</i>	„grow“
<i>sekelél-a</i>	„smile“
<i>u-mu-kali</i>	„fierce person“
<i>u-yali</i>	„pap“

A few observations can be made on the distribution patterns of the consonants discussed above.

All sounds can occur in stem initial and stem medial positions. However, for all the varieties, the glides /w/ and /j/, the nasals /ŋ/, the affricate /tʃ/ and the glottal fricative /h/ are not common in SuNdaLa. Most of these sounds such as /w/, /ŋ/ and /h/ do not occur in Meeussen's (1967) reconstruction of PB. The uncommon synchronic distribution of these sounds in the SuNdaLa varieties suggests a separate later incorporated in the three varieties.

Of crucial importance to variation in the distribution patterns among SuNdaLa varieties, is the occurrence of voiced stops and fricatives in Cilambya and their absence in Cisukwa and Cindali. Although /b/, /d/, /g/, /z/ and /v/ are only found in Cilambya, they are not common except for /z/. Furthermore, they occur in the stem initial position but not often in stem medial positions. Cilambya for that reason might at one point have had a phonemic inventory similar to that of Cisukwa and Cindali, i.e. without voiced stops and voiced fricatives. The synchronic distribution shows that these voiced sounds have not yet been fully integrated and for that reason Cilambya has only a limited number of lexems with these sounds. In agreement with Downing and Mtenje, A.D.'s (forthcoming) explanation that the marked sounds only occur in stem initial position, we would like to suggest that for Cilambya, the voiced obstruents are marked. This is probably the reason why they only occur in the stem initial position.

3.3.3 Consonant glide sequences

As indicated in 3.2.2.1, combinations of a consonant and a glide occur in SuNdaLa. According to Meeussen (1967), CGs often arise from the reconstructed sequences of consonant plus vowels (CVV) in PB. Kula (2002) argues for iCibemba under the Government Phonology framework, that these sequences are a result of gliding and that the glide is part of

the nucleus. She states that if the structures would be analysed as branching onsets, this would imply that there would be restrictions in the distribution of CG clusters. This is found in languages such as English which have branching onsets but is not the case in iCibemba.

The other scenario would be to treat such structures as contour segments. However, such an analysis fails to account for the fact that CG clusters in verbs always result in gliding when vowel fusion takes place. As a result, they are always followed by a long vowel. They, therefore, cannot be independent segments in the language. Kula (2002) thus concludes that the CG structures arise from the shift of /u/ or /i/ from a nucleus position to onset and this is interpreted as secondary articulation.

We follow Kula (2002) and Meeussen (1967) in their analysis of CGs as instances of secondary articulation. The process of secondary articulation is explained in detail in 3.4.1.1. In SuNdaLa, all consonants except, /tʃ/, /ʃ/, can occur with a glide as shown below. The sounds /b^j/, /z^j/, /z^w/, /v^j/ and /v^w/ do not occur in Cisukwa and Cindali because their non-palatalised counterparts do not occur in these varieties as well. We present all the consonants of the CGs in table 9.

Note: N/A means that the sound does not occur in the variety, while (-) indicates that although the sound is expected to exist, no example came up in the data.

Table 9: Consonants with consonant glide sequences

CG	Cisukwa	Cindali	Cilambya	English gloss
<i>p^j</i>	<i>p^jééla</i>			„sweep“
	<i>p^jáasa</i>		<i>p^jáa^sa</i>	
<i>p^w</i>	<i>mujíp^wa</i>			„mother’s brother“
	<i>páp^wa</i>			„be born“
<i>b^j</i>	N/A	N/A	<i>kub^jóóka</i>	„to belch“
<i>b^w</i>	<i>b^wáana</i>			„master“
<i>β^w</i>	<i>uβ^waandílo</i>			„first“
	<i>úβ^waato</i>			„boat“
<i>t^j</i>	<i>t^jelemúka</i>			„slide“
	<i>t^jelemús^ja</i>		<i>t^jelemú^sa</i>	„make smooth“
<i>t^w</i>	<i>pot^wa</i>			„fail“
	<i>ut^we</i>			„we“
<i>d^j</i>	N/A	N/A	-	
<i>d^w</i>	N/A	N/A	-	
<i>k^j</i>	-	<i>k^jáara</i>	-	„God“
<i>k^w</i>	<i>ulúk^wi</i>			„firewood“
<i>g^w</i>	N/A	N/A	-	
<i>s^j</i>	<i>t^jis^júúka</i>		N/A	„ghost“
	<i>ukufíús^ja</i>		N/A	„to fart“
	<i>ukutíús^ja</i>		N/A	„rest“
<i>s^w</i>	<i>ís^wi</i>		<i>ins^wi</i>	„fish“
	<i>umus^wáatfì</i>			„toothbrush“
	<i>t^jis^weepíte</i>			„clean thing“
<i>z^j</i>	N/A	N/A	<i>t^jiz^júuka</i>	„ghost“
			<i>uk^wiitíz^ja</i>	„to call“
			<i>kalúz^ja</i>	„gall bladder“

CG	Cisukwa	Cindali	Cilambya	English gloss
z^w	N/A	N/A	<i>ítʃakuz^wala</i>	„cloth“
	N/A	N/A	<i>ukuz^wáala</i>	„to dress“
l^w	<i>úyal^wa</i>	<i>úl^wal^wa</i>		„alcohol“
	<i>mufwil^wi</i>			„widow“
l^j	<i>l'áanga</i>			„eat“
m^w	<i>ukúm^wa</i>			„to cut hair“
m^j	<i>ukúfum^ja</i>			„to get out“
η^w	<i>ukúŋ^wa</i>			„to drink“
f^j	<i>kuf'óómba</i>		<i>kuf'óómp^ha</i>	„to kiss“
f^w	<i>múf^{wi}ile</i>			„widow“
v^j	N/A	N/A	<i>májiv^jala</i>	„mother/daughter in law“
CG	Cisukwa	Cindali	Cilambya	
	N/A	N/A	<i>ukuv^jóola</i>	„to harvest“
v^w	N/A	N/A	<i>itʃŋgov^wa</i>	„goiter“
	N/A	N/A	<i>iv^wív^wi</i>	„mudwasp“

In table 9, we observe realisations of the palatalised and labialised sounds. However, the CGs /b^w/ is only attested in the word /b^wana/ which is a borrowing from Kiswahili. There is only one example in the data for the CGs /k^j/ in Cindali, while it is not attested in the other varieties. The CGs /g^w/, /d^w/ and /d^y/, are expected to exist in Cilambya, because there are counterparts that are not palatalised and labialised in its consonant inventory. However, no examples of these sounds occurred in the data. This observation can be linked to the distribution patterns of the non-palatalised and non-labialised consonants /b/, /d/ and /g/ discussed in 3.3.2. As the occurrence of these sounds is not robust in the Cilambya data, they are considered to be innovations. This process is still in progress and Cilambya has not yet incorporated many words with this feature in stops. The same explanation may apply for why the palatalised and labialised CGs are not (yet) found in the Cilambya data.

In these palatalised and labialised segments, we also observe certain correspondences. For instance, in some contexts /f^w/ in Cisukwa and Cindali corresponds with /v^w/ in Cilambya. There is also a correspondence of /s^j/ in Cisukwa with /ʃ⁴/ in Cindali and /z^j/ in Cilambya and that of /f^j/ of Cisukwa and Cindali for /v^j/ of Cilambya. These correspondences are presented in tables 10, 11 and 12.

Table 10: Correspondence of /f^w/ and /v^w/

Cisukwa	Cindali	Cilambya	English gloss
<i>if^wíif^wi</i>		<i>iv^wíivwi</i>	„mud wasp“
<i>f^wáala</i>		<i>v^wáala</i>	„dress“

Table 11: Correspondence of /s^j/, /ʃ/ and /z^j/

Cisukwa	Cindali	Cilambya	English gloss
<i>ukukapís^ja</i>	<i>ukukapíʃa</i>	<i>ukukapíz^ja</i>	„to blink“
<i>ukwitís^ja</i>	<i>ukwitíʃa</i>	<i>ukwitíz^ja</i>	„to call/invite“
<i>ukupalís^ja</i>	<i>ukupalíʃa</i>	<i>ukupalíz^ja</i>	„to thank/praise“
<i>ukulongós^ja</i>	<i>ukulongóʃa</i>	<i>ukulongóz^ja</i>	„to lead, guide“

Correspondence of /f^j/ and /v^j/

The examples provided here are of morpheme concatenation resulting in secondary articulation (discussed in 3.4.1.1.2).

Table 12: Correspondence of /f^j/ and /v^j/

Cisukwa, Cindali	Cilambya	English gloss
<i>if^jéeni</i>	<i>iv^jéeni</i>	„forehead“
<i>if^ji</i>	<i>iv^ji</i>	„these“
<i>if^jo</i>	<i>iv^jo</i>	„those“

The examples of correspondences in table 12 correspond to those of the simple consonants discussed above, i.e. the correspondence of /f^w/ with /v^w/ and /f^j/ with /v^j/ is in line with those of /f/ with /v/. The correspondence of /s^j/, /ʃ/ and /z^j/ matches with that of /s/, /ʃ/ and /z/.

⁴Although on the surface /ʃ/ does not look like a consonant of a CGs, we provide arguments to support this claim in 3.4.

3.3.4 Nasal consonant sequences

The status of NCs as either prenasalised stops or clusters is an ongoing debate among Bantuists. One school of thought (cf. Maddieson and Ladefoged 1993, Casali 1995, Herbert 1975, 1986, Maddieson 1989, Neba 2004) supported by phonetic and phonological evidence, holds the view that these sequences should be analysed as prenasalised stops, hence as unitary. Casali (1995) provides one of the most detailed and elaborate analyses on this topic. In his analysis of Moghamo – a Grassfields Bantu language spoken in Cameroon, he takes the position that NCs are a single unit. His claim is based on data of the distribution of NCs, morphological and tonal evidence and native speakers' intuitions. Casali's (1995) analysis was a response to Stallcup (1978) who claims that because of their limited distribution the NCs are heterosyllabic clusters. He points out that intramorphemic NC clusters are basically limited to medial positions in verb roots. Stallcup (1978) claims that there is a morpheme boundary between the nasal and the consonant in NC clusters and that the N is syllabic and bears a low tone.

Casali (1995) argues against the heterosyllabic cluster analysis by showing that the N and C are not separated by a morpheme boundary. According to his analysis, NCs are simply parts of the root because there are no morphological alterations between the singular class and the plural class in which NCs occur, which does in the noun classes without NCs. Furthermore, the only initial NCs that are attested are those of a voiced consonant and a nasal. This restriction, according to Casali (1995) supports a prenasalised consonant analysis because these are preferred cross-linguistically.

Casali (1995) further argues that in certain contexts, nouns may occur without class prefixes. If the nasal (N) of word-initial NCs would be a prefix, it could optionally be omitted which is however never possible. This is another argument which shows NCs are not heterosyllabic clusters. On the issue of the N bearing a low tone and being syllabic, Casali (1995) argues that the fact that these NCs are realised as low pitched does not necessarily mean that they bear a low tone. However, no evidence has been provided that the nasals in NCs bear contrastive tone.

Casali (1995) further strengthens his contention by referring to the consultant's segmentation of words with NC clusters which shows that speakers perceive these sequences as single units.

Detailed studies on NCs have been carried out also by Kula (2002), Downing (2005) and Downing and Mtenje, A.D. (forthcoming). Kula (2002:63) reviews the arguments provided in support of a unitary segment analysis, as opposed to a heterosyllabic sequence analysis. “a) the nasal and the following stop are always homorganic, b) they have a surface duration of simple segments, c) they are widely attested in languages that have a strictly CV syllable pattern, d) they are psychologically real for native speakers whose syllabification patterns regard them as unitary.”

Downing (2005), Kula (2002), Downing and Mtenje, A.D. (forthcoming) do not support the unitary segment analysis. Kula (2002) contends that although the majority of Bantu languages have NCs that are homorganic, this is not always the case in all situations. Both homorganic and non-homorganic NC clusters may occur in a language, which is the case in Chichewa. On the durational of NCs as evidence for a unitary analysis, both Kula (2002) and Downing (2005) argue that the examples provided in the literature lacks consistency. For example, Van de Weijer (1996), citing data from Herbert (1986), Sagey (1986) and Maddieson (1989), observes that prenasalised stops have the same duration as single sounds. In contrast, Hubbard (1995), claims that in Runyambo, Sukuma and Luganda, NC clusters are not timed like single segments. Their duration can fall anywhere from one and a half to almost four times of that single segments. Kula (2002) further points out that there are inconsistencies even in analyses of one and the same language. For example, while Herbert (1975) claims that Luganda prenasalised stops are equal to single segments in terms of duration, Hubbard (1995) states that they are twice as long as single segments. The duration argument might be rejected for that reason.

Finally, the arguments derived from speakers’ intuitions are also problematic. Kula (2002) argues that while judgements of speakers are influenced by surface representation linguists’ analyses and their generalizations are essentially based on underlying, abstract structures and their representations.

Kula (2002) adopts a position which claims that such sequences should be analysed as clusters. This analysis is shared also by Downing (2005), Ström (2013), as well as Downing and Mtenje, A.D. (forthcoming).

Downing and Mtenje, A.D. (forthcoming) claim that there is a clear bisegmental and/or bimorphemic synchronic source for NCs. Classes 9/10 nouns begin with a nasal consonant which is the prefix. They further contend that articulatory gestures in NCs must be ordered

and this is typical of clusters and not single units. In addition, if NCs were single unit segments, every consonant of the language would have a prenasalised equivalent. However, Pre-NC occur only as restricted sets. They are marked segments.

Kula (2002) based on her data from iCibemba, (M.42) demonstrates that there is a restricted distribution of NCs, unlike with single segments. A similar argument is made by Ström (2013) for Ndengeleko and Downing (2005). These studies emphasise the fact that NCs do not appear in stem initial position but occur rather in the second or third consonant position. Single segments however can appear in such positions. The proponents of the cluster analysis argue that NCs only appear in stem initial positions when they are part of a morphologically complex structure involving prefixation. Ström (2013) observes that NCs in Ndengeleko also have a limited distribution and occur at morpheme boundaries between N and C but do not appear in stem-initial position.

Kula (2002) further notes that phonological processes that occur with other consonants are blocked by NCs. For example, a general rule which assimilates post-nasal recessive liquids to nasals is blocked in the presence of NC clusters. Likewise, NCs do not trigger nasal harmony effects in languages which have nasal consonant harmony such as iCibemba (M.42), Chokwe (K.11), Otjiherero (R.31), Ila (M.63), Kikongo (H.16), Kwanyama (R.21), Lamba (M.54), Lunda (L.52), Subiya (K.42) and Tonga (M.64).

Further instances of rule-blocking effects by NCs are cited by Ström (2013) who shows that the phonological process of imbrication is blocked when a short vowel is followed by a NC in Ndengeleko.

Ström (2013) also argues based on the findings in Ndengeleko that NCs are not always homorganic.

Another argument for an NC cluster analysis is given in Downing's (2005) account of Pre-NC vowel lengthening. This type of lengthening has traditionally been considered to be a case of compensatory lengthening where the NC is the input and the subsequent vowel lengthening is the output. In the analyses of NCs as a unit segment, it is argued that the nasal is (re)syllabified as an Onset, essentially, in a non-moraic position (cf. Hyman 1985, Goedemans 1988). Downing (2005) considers this claim to be ill-founded and maintains that the NC is a heterosyllabic cluster and not a unitary segment. Downing's analysis shows that

in Pre-NC vowel lengthening, the nasal actually shares a mora with the preceding long vowel and, therefore, the NCs is best treated as a cluster and not as a single segment.

The SuNdaLa data will be reviewed in order to contribute to the discussion of whether the NCs are a single segment or a heterosyllabic cluster of a nasal and a following consonant. In Mtenje, A.A. (2010, 2012 and 2013), I present a cluster analysis for Cisukwa based on evidence from distribution patterns of NCs, the blocking of augment deletion before NCs and the deletion of the nasal portion nasal plus fricative sequences. This position is maintained in this thesis, and it is extended to all three SuNdaLa varieties. Phonological evidence from distribution patterns, nasal deletion before nasal plus fricative sequences is provided and the attachment of the noun class 4 prefix /mi-/ to nouns derived from class 9 is another argument in support of analysing NCs as heterosyllabic clusters and not as unitary segments.

3.3.4.1 Distribution patterns of NCs in SuNdaLa

NCs in most Bantu languages are commonly derived from morpho-phonological processes involving prefixes and stems. They regularly occur in nouns although they are also attested in verbal constructions, especially those involving the combination of the first person subject marker, which is often a nasal, and a verb stem that starts with a consonant. Some NCs however, occur stem internally. NCs in SuNdaLa appear across morpheme boundaries and also stem internally but they never occur in the stem initial position. They, therefore, have a different distribution pattern than the other consonants discussed in 3.3.1 where consonants can occur in the stem initial position. The distribution pattern of NCs in SuNdaLa is illustrated in tables 13 and 14.

Table 13: Distribution of NCs in Cisukwa and Cindali

	NCs	English gloss	Stem initial	Stem internal	English gloss
<i>mb</i>	<i>úmbusi</i>	„goat“	-	<i>imbúúngu</i>	„funeral“
<i>nd</i>	<i>úndama</i>	„cow“	-	<i>ukukúnda</i>	„to run“
<i>ng</i>	<i>íngofu</i>	„snail“	-	<i>mbóómbo</i>	„work“

Table 14: Distribution of NCs in Cilambya

	NCs	English gloss	Stem initial	Stem internal	English gloss
<i>mp</i>	<i>iimp^huno</i>	„nose“	-	<i>iint^hamp^ha</i>	„grenary“
<i>mb</i>	<i>mbóombo</i>	„work“	-	<i>iupúumba</i>	„house“
<i>nt</i>	<i>nt^hámjo</i>	„problem“	-	<i>iint^hént^he</i>	„hen“
<i>nd</i>	<i>iindevu</i>	„beard“	-	<i>fúundo</i>	„knot“
<i>nk</i>	<i>nk^húúnda</i>	„dove“	-	<i>ukukóonk^ha</i>	„to follow“
<i>ng</i>	<i>iingolomilo</i>	„throat“	-	<i>umuzúungu</i>	„white man“
<i>ns</i>	<i>iinswi</i>	„fish“	-	<i>umuβíinsi</i>	„hunter“
<i>nz</i>	<i>iinzila</i>	„road“	-	<i>máánt^hunzi</i>	„urine“

Cisukwa and Cindali have three NCs while Cilambya has more. In table 13, all three sequences can occur across morpheme boundaries. In fact, this is the most common environment of NCs. In all three examples provided in table 13 the nasals *m*, *ŋ* and *n* are prefixes of class 9. These nasals are derived from an abstract nasal N which assimilates to the place of articulation of the following stem consonant. The prefixes concatenate with the stem consonant of the noun. Table 13 also provides examples of NCs in stem internal positions, such as *iimbúungu*, *ukukúinda* and *mbóombo* „work“. Table 14 provides examples of NCs in Cilambya.

The distribution patterns of these NCs are different from the single segments discussed above because the latter could be attested stem initially whereas the NCs do not occur in this position. NCs are only found across morpheme boundaries and stem internally. This discrepancy in distribution renders NCs different from single segments and, supports the claim that they cannot be regarded as a unitary segment.

3.3.4.2 Nasal deletion in NCs

In Cisukwa and Cindali, a sequence of a nasal and fricative never occurs. When underlyingly the two sounds concatenate, on the surface, only the fricative appears. Nouns in class 9 and class 10 in which fricatives are stem initial are realised on the surface without the nasal prefix of these noun classes. Nasals are deleted when they occur before fricatives. Examples from Cisukwa and Cindali are presented in example (54).

(54)

<i>iisófu</i>	/i-N-sofu/	„elephant“
<i>ifuu</i>	/i-N-fu/	„hippo“
<i>iisómi</i>	/i-N-somi/	„maggot“
<i>ifula</i>	/i-N-fula/	„rain“

The nasals in the nouns from examples (54) are deleted. If we were to consider these nasal consonant sequences as unit segments as proposed by Casali (1995) the analysis would fail to account for why only the nasal is deleted and not the fricative. In contrast, the analysis of NC clusters as heterosyllabic sequences allows for the deletion of the nasal alone.

3.3.4.3 Class 9 (sg) and class 4 (pl) pairings in Cindali

Further evidence for the analysis of NCs as heterosyllabic clusters can be found in the pairing of class 9 for singular and class 4 for plural by some speakers of Cindali. Some speakers of this variety use instead of the common pairing with class 9 for singular and class 10 for plural, class 4 for plural. Consider the examples presented below:

Table 15: Class 9 (sg) and class 4 (pl) pairing in Cindali

Class 9	English gloss	Class 4	Ungrammatical form	English gloss
<i>indálama</i>	„money“	<i>imitálama</i>	* <i>miláma</i>	„money“
<i>ingóngole</i>	„debt“	<i>imikóngole</i>	* <i>imióngole</i>	„debts“
<i>indéénde</i>	„cow“	<i>imitéénde</i>	* <i>imiéénde</i>	„cows“
<i>úngalamo</i>	„lion“	<i>imíkalamo</i>	* <i>imíalamo</i>	„lions“
<i>ingofu</i>	„snail“	<i>imikofu</i>	* <i>imíofu</i>	„snails“
<i>úmbula</i>	„beeswax“	<i>imípula</i>	* <i>imíula</i>	„beeswax“
<i>ingwapa</i>	„armpit“	<i>imikwapa</i>	* <i>imíwapa</i>	„armpits“
<i>ingúúmbe</i>	„pot“ (for water)	<i>imikúúmbe</i>	* <i>imíúúmbe</i>	„pots (for water)“

The data in table 15 above demonstrate that some Cindali speakers replace the nasal prefix of class 9 by /mi/ - the prefix of class 4 when forming plurals of nouns from class 9. In order for this morphological process to occur, the nasal and the following consonant must be a heterosyllabic sequence and not a single unit. This is why it is possible for the nasal consonant to be replaced while the consonant is maintained. If the nasal and the consonant were a single unit, we would have expected both of them to be replaced at the same time.

This, however, is not the case. If we, therefore, analyse the nasal as part of the stem, ungrammatical forms such as **imiéénde* and **imiwapa*, **imióngole*, etc. would be derived. An analysis which regards the NCs as clusters is therefore more plausible.

The evidence from the distribution patterns of NC clusters, nasal deletion before a fricative and the pairing of class 9 for singular and class 6 for plural has shown that NCs in SuNdaLa have to be analysed as heterosyllabic clusters. This discussion has however, only focussed on the NCs in nouns and at morpheme boundaries. NCs which occur stem-internally where NCs are underived have not been considered and these would require further investigation.

3.4 The syllable

A syllable according to Pike (1948), Clements and Ford (1979a) and Batibo (2000) is a unit that is capable of receiving tone or stress.

3.4.1 The syllable in the SuNdaLa cluster

In all SuNdaLa varieties the nucleus of the syllable is a vowel. The syllables in these varieties are mostly open except in the case of the NC cluster where N is analysed as a coda. Most syllables have onsets, although onsetless syllables are also attested. Consonant clusters are generally not allowed in the varieties unless they are of the NCs type. Combinations of a consonant and a glide are not considered as clusters but are regarded as instances of secondary articulation (cf. 3.3.4 and 3.4.1.1). In addition, the SuNdaLa varieties do not have syllabic nasals.

The SuNdaLa therefore have the following syllable types.

Vowel only syllable

This syllable type consists of a vowel. Since the SuNdaLa varieties have augments, which are vowels, this syllable is commonly attested as preprefixes of nouns. Other instances in which the V type of syllable occurs in initial positions are for example with subject markers. The V type of syllable is also rarely attested word-medially. Examples are presented in (55).

(55)

SuNdaLa	English gloss
<i>u.mú.lin.du</i>	„girl“
<i>ú.ma.ma</i>	„mother“
<i>í.ɲom.be</i>	„cow“
<i>a.kú.ǎa</i>	„s/he is eating“
<i>u.kʷ'één.da</i>	„you (sg) are walking“
<i>tí.u.ǎe</i>	„you (sg) will eat“

Consonant-Vowel (CV) syllable

Like in most Bantu languages, this syllable type is also the most common in the SuNdaLa varieties. Further below in 3.4.1.1 it will be shown how vowel-vowel (VV) sequences that occur in the varieties are „repaired“ in order to achieve this CV syllable type. Examples of the CV syllable type are provided in (56).

(56)

SuNdaLa	English gloss
<i>u.sé.ku.lu</i>	„grandfather“
<i>mu.ka.si</i>	„woman/wife“
<i>u.lú.li.mi</i>	„tongue“
<i>í.sa.ja</i>	„cheeks“
<i>í.fú.la</i>	„rain“
<i>i.tfí.pa.pí.lo</i>	„uterus“
<i>sé.ka</i>	„laugh“
<i>pu.lí.ka</i>	„listen“
<i>lú.ma</i>	„bit“
<i>sun.gí.la</i>	„push“

Nasal-Consonant heterosyllable

This heterosyllable type refers to NCs which above in 3.3.4 have been discussed extensively. Downing (2005) analyses NCs as a nasal in a coda which shares a mora with the preceding vowel. The consonant in the sequence is then regarded as an onset of a new syllable. Examples of this heterosyllabic NC type are presented in (57).

(57)

Cisukwa, Cindali	English gloss
<i>íŋ.gu.ku</i>	„chicken“
<i>íím.bu.no</i>	„nose“
<i>íín.don.dwa</i>	„star“
<i>íŋ.ga.la.mo</i>	„lion“
<i>íŋ.gu.lu.we</i>	„pig“
Cilambya	English gloss
<i>íŋ.k^hu.ku</i>	„chicken“
<i>íím.p^hu.no</i>	„nose“
<i>íín.t^hon.dwa</i>	„star“
<i>íŋ.k^ha.la.mo</i>	„lion“
<i>íŋ.gu.lu.we</i>	„pig“

In the next section, we discuss heterosyllabic sequences of vowels which are prohibited in SuNdaLa and how the SuNdaLa varieties ensure that they get rid of them and achieve the preferred CV syllable structure.

3.4.2 No hiatus constraint

Hiatus, which is the sequence of heterosyllabic vowels, is dispreferred in many of the world languages and this applies also to the Bantu languages.

3.4.2.1 Hiatus resolution strategies

There are languages which maintain heterosyllabicity for example, Modern Greek (cf. Kaisse 1977) while most others employ various strategies to avoid them. Hiatus resolution strategies are examples of what has been referred to as rule conspiracy. Kisseberth (1970) described conspiracy as rules in a language or a group of languages that apply in order to avoid or achieve certain structures. McCarthy (2002:93) refers to it as „homogeneity of target/heterogeneity of processes.“

There have been many studies which have considered hiatus resolution strategies as processes where rules „conspire“ to achieve the much preferred CV syllable structure (cf. Mtenje, A.D. 1986, 2007, Myers 1987, Casali 1996, 1997, Ngunga 2000, McCarthy and Prince 2004, Tanner 2007, Mudzingwa 2010, Rugemalira and Kadenge 2011, Mtenje, A.A. 2010, 2012,

Sabao 2013). Common hiatus resolution strategies include elision of a vowel, diphthong formation, glide formation, vowel coalescence and vowel or consonant insertion.

Mudzingwa and Kadenge (2011) compare three hiatus resolution strategies in Karanga (a Chishona dialect) and Nambya. Their study shows that the most commonly employed strategies in these languages are glide formation, secondary articulation and vowel elision. It further demonstrates that some of these hiatus resolution strategies operate within similar morphological environments, such as across a class prefix and a nominal stem or across a noun or adjectival diminutive suffix. It is also shown that glide formation in these languages functions as a default remedy.

Sabao (2013) discusses vowel hiatus resolution strategies in Chichewa. Like in other Bantu languages, Chichewa employs a number of phonological processes (including vowel deletion, glide formation and glide epenthesis) to avoid sequences of vowels in order to maintain the canonical (CV) syllable pattern. Using Optimality Theory, the study argues that the hiatus resolution strategies in the language are motivated by the highest ranking constraint, ONSET, which requires that syllables begin with an onset.

Casali's (1996) Optimality Theoretic analysis of hiatus resolution strategies in 96 languages provides a crosslinguistic overview of how the processes work. The study mainly discusses elision and coalescence processes. Among the key observations made is that there are restrictions on which of two or more juxtaposed vowels undergoes deletion. It is also argued that a language generally strives to preserve features and/or segments which appear in some morphologically or prosodically specified environments. Casali's (1996) position has been countered by Tanner (2007) in an Optimality Theory analysis of Ciyao and based on his analysis he questions the validity of some of the claims made by Casali.

Our analysis of hiatus resolution in SuNdaLa in this chapter, will adopt the approach which resorts to position sensitivity as proposed by Casali (1996, 1997) since it adequately accounts for „repair“ strategies which operate on the first vowel in the sequence, (V₁). Insights from other works discussed in the literature review above will also be considered in our discussion of hiatus resolution strategies.

3.4.2.2 Resolving hiatus in SuNdaLa

Just like in the languages discussed in the literature reviewed above, sequences of vowels are also not accepted in SuNdaLa. The varieties resolve hiatus through the processes of glide

formation (vowel resyllabification), secondary articulation and vowel elision. All these processes occur in the same morphological environments but the choice of one process over the other is mainly dependent on phonotactic constraints where one process may be blocked because if it were to be applied, it would violate some other important phonotactic constraint. This study confirms Casali's (1996) observation that in all cases, it is V_1 which undergoes changes. In this thesis it will be argued that in the environments discussed, V_1 appears in morphologically/phonologically weak positions, hence it is being targeted by the hiatus repair strategies. SuNdaLa employs the three hiatus resolution strategies discussed in the following.

3.4.2.2.1 Glide formation

Glide formation is a phonological process in which a vowel changes into a glide. In SuNdaLa, just like in Chishona and Nambya as well as in other Bantu languages, a labial or coronal vowel changes to a glide, when there is no consonant immediately preceding V_1 (cf. Mudzingwa 2010, Mudzingwa and Kadenge 2011). It has been widely stated that glide formation involves the loss of a mora and a subsequent syllabification of V_1 in onset position (cf. Rosenthal 1994, Mudzingwa 2010, Mudzingwa and Kadenge 2011 and Ström 2013). In this process, the high vowels /i/ and /u/ change into the glides [j] and [w], respectively. The round features of the vowels are therefore maintained. While in some languages, desyllabification is accompanied by compensatory lengthening on the remaining vowel (V_2), such as described for Luganda by Katamba (1989), as well as Hyman and Katamba (1993) and for Cilungu by Bickmore (2007), this does not happen in the SuNdaLa, except when there is secondary articulation as shown in the examples in (62).

As it may be noted in (58), glide formation in SuNdaLa occurs in the environment between a prefix and a noun stem as well as between a prefix and a verb root

(58)

UR	PR	English gloss
/u-a-l-île/ SM2sg-PST-eat-PVF	[walîle]	„you ate“
/u-a-ηw-ile/ SM2sg-PST-drink-PVF	[wanjwîle]	„you have drunk“

UR	PR	English gloss
/u-a-pij-a/ SM2sg-PFV-cook-FV	[wapija]	„you have cooked“
/u-a-ŋw-a/ SM2sg-PFV-drink-FV	[wáŋ ^w a]	„you have drunk“
/u-a-ŋwa-nga/ SM2sg-HAB-drink-IPVF	[waŋ ^w áŋga]	„you used to drink“
/i-N-ómbe i-a-fw-a/ AUG-9-cow SM9-PFV-die-FV	[iŋómbe ja ^f a]	„the cow has died“
/i-N-busi i-a-βúk-a/ AUG-9-goat SM9-PFV-go-FV	[iímbusi jaβúka]	„the goat has gone“

The data above shows the concatenation of the second person subject prefixes /u/ and /i/ with the past and perfect tense markers /a/. There is also the concatenation of the subject prefix /u/ and the perfective tense marker /a/. These create a VV sequence which is disallowed in SuNdaLa. The first vowel, V₁, which is the high vowel /u/ or /i/, is, therefore, resyllabified as a glide in onset to derive the new forms.

Another instance of glide formation is attested when the noun class agreement marker concatenates with the possessive stems which are vowel initial.

Noun class agreement marker with vowel initial possessive stem

(59)

UR	PR	English gloss
/u-mu-ana u-aŋgu/ AUG-1-child 1cd-POSS	[úm ^w ana wáaŋgu]	„my child“
/u-mu-tu u-aŋgu/ AUG-3-head 3cd-POSS	[umútu wáaŋgu]	„my head“
/u-mu-kolo u-ithu/ AUG-1-wife 1cd-POSS	[umúkolo wit ^h u]	„our wife“

UR	PR	English gloss
/i-N-ómbe i-ako/ AUG-9-cow 9cd-POSS	[iŋómbe jako]	„your cow“
/i-mi-jojo i-ithu/ AUG-6-heart 6cd-POSS	[im'ojó jí ^h u]	„our hearts“

In examples (59), the first in the sequence of vowels (high vowels /u/ and /i/), which are agreement markers for classes 1, 4 and 9, appear on the surface as glides when they are juxtaposed with the possessive stems *-angu*, *-ithu* and *-ako*. When the same agreement markers occur with demonstrative stems which are consonant initial (*-ju*, *-wu* and *-ji*) in the examples (60) they do not become glides. This confirms that gliding occurs indeed in environments with hiatus.

Noun class agreement marker juxtaposed with consonant-initial demonstratives

(60)

UR	PR	English gloss
/u-mu-ana u-ju/ AUG-1-child 1cd-DEM	[úm ^w ana úju]	„this child“
/u-mu-tu u-wu/ AUG-3-head 3cd-DEM	[umútu úwu]	„this head“
/u-mu-kolo u-ju/ AUG-1-wife 3cd-DEM	[umúkolo úju]	„this cow“
/i-ŋómbe i-ji/ AUG-cow 9cd-DEM	[iŋómbe iji]	„this cow“
/i-mi-jojo i-ji/ AUG-6-heart 6cd-DEM	[imjojo iji]	„these hearts“

In SuNdaLa, just as it was noted above for Karanga, Zezuru and Nambya, glide formation is blocked when the high vowels are preceded by consonants. This is because the varieties do not allow consonant clusters. Secondary articulation is therefore applied as a „repair“ strategy.

3.4.2.2.2 Secondary articulation

Secondary articulation according to Mudzingwa (2010) occurs when a high vowel is followed by another high vowel but is preceded by a consonant. The high vowel is elided but the place node is passed on to the preceding consonant thereby creating a palatalised consonant when the high vowel is /i/ and a labialized consonant when the vowel is /u/. We advance the same explanation for similar processes in SuNdaLa. This explanation is unlike the one provided for languages such as Chichewa where the process is referred to as glide formation (cf. Mtenje, A.D. 1986 and Sabao (2013)

Consonants which are diachronically derived through secondary articulation are already part of the SuNdaLa consonant inventory as discussed in 3.3.4. As shown in 3.2 palatalised and labialized consonants exist in SuNdaLa and they have the same correspondences and distribution patterns as their simple counterparts. The SuNdaLa varieties resort to secondary articulation therefore because the output segments are consonants that already exist in the SuNdaLa varieties.

Secondary articulation occurs in different environments. The first environment where secondary articulation is observed is between a noun class prefix and a noun stem. This is shown in the examples (61) below where the high vowel is superimposed on the consonant immediately preceding it, thus creating a palatalised or labialised consonant.

Secondary articulation in noun class prefix and noun stem environment

(61)

UR	PR	English gloss
/i-fi-eni/ AUG-8-forehead	<i>[iʃ'éeni]</i>	„forehead“
/i-li-ongo/ AUG-5-breast	<i>[il'óongo]</i>	„breast“
/i-li-ámbo/ AUG-5-bead	<i>[il'ámbo]</i>	„bead“

UR	PR	English gloss
/i-li-ani/ AUG-5-leaf	[i ^l aani]	„leaf“
/i-mi-enda/ AUG-4-clothes	[im ^l eenda]	„clothes“
/ú-mu-ana/ AUG-1-child	[úm ^w aana]	„child“
/ú-mu-enda/ AUG-3-cloth	[úm ^w eenda]	„clothes“

In (61), the noun class prefix vowels become part of the onsets as their place nodes are superimposed on the preceding consonants. The unrounded high front vowel /i/ palatalises the consonant thereby making the consonant non-round. The rounded high back vowel /u/ labialises the consonant resulting in a rounded consonant. These examples also demonstrate that secondary articulation results in compensatory lengthening on the initial vowel of the noun. The mora of the gliding V₁ becomes part of V₂ and consequently becomes long. This is unlike with glide formation, in which as discussed above, the hiatus repair strategy does not trigger compensatory lengthening.

In the SuNdaLa varieties, it is important for environments which have VV sequences with a preceding consonant to keep the mora for V₁ while this is not be the case when the VV sequences are not preceded by a consonant.

Secondary articulation is also observed when a noun class agreement marker with a vowel, for example *li*, *fî*, *si*, *vi*, and *zi*, concatenates with the possessive stems *-ane*, *-ako*, *-awo* which are vowel initial as seen in examples (62).

Secondary articulation in noun class prefix and vowel-initial possessive stems

(62)

Cisukwa

UR	PR	English gloss
/i-lú-wa li-ane/ AUG-5-flower 5cd-POSS	[ilúwa lʷaane]	„my flower“
/i-fi-nama fi-ako/ AUG-7-leg 7cd-POSS	[ifinama fʷaako]	„your legs“
/i-N-busi si-awo/ AUG-9-goat 9cd-POSS	[imbusi sʷaawo]	„their goats“

Cindali

(63)

UR	PR	English gloss
/i-lú-wa li-ane/ AUG-5-flower 5cd-POSS	[ilúwa lʷaane]	„my flower“
/i-fi-nama fi-ako/ AUG-7-leg 7cd-POSS	[ifinama fʷaako]	„your legs“

Cilambya

(64)

UR	PR	English gloss
/i-lú-wa li-ane/ AUG-5-flower 5cd-POSS	[ilúwa lʷaane]	„my flower“
/i-vi-nama vi-ane/ AUG-7-leg 7cd-POSS	[ivinama vʷaako]	„your legs“
/i-N-busi zi-awo/ AUG-9-goat 9cd-POSS	[imbusi zʷaawo]	„their sheep“

In the examples 62-64 above, the vowels of the noun class agreement markers trigger the palatalization of the preceding consonants.

Another environment where secondary articulation is attested is between the infinitive prefix *ku* and a vowel initial verb root. This is illustrated in the examples below where the vowel /u/ of the infinitive induces the labialization of the preceding /k/.

Secondary articulation in infinitive prefix and vowel-initial verb roots contexts

(65)

UR	PR	English gloss
/u-ku-íkal-a/ AUG-INF-sit-FV	[uk ^w iíkala]	„to sit“
/u-ku-énd-a/ AUG-INF-walk-FV	[uk ^w éenda]	„to walk“
/u-ku-áŋgal-a/ AUG-INF-chat-FV	[uk ^w áaŋgala]	„to chat“
/u-ku-ínul-a/ AUG-INF-harvest-FV	[uk ^w iinula]	„to harvest“

The examples (65) illustrate how the high vowel of the infinitive prefix in the underlying representations shifts from its nucleus position to the onset through the labialization of the preceding consonant.

The final instance of secondary articulation discussed in this section is that between a subject prefix and a tense marker. In this case, if the subject prefix has a consonant and a vowel and it is followed by another vowel, (e.g. from a tense marker), the subject marker vowel becomes part of the consonant through labialization or palatalisation. This is seen in examples (66).

Secondary articulation involving subject prefix and a tense marker vowel

(66)

UR	PR	English gloss
/tu-a- pij-ite/ SM1pl-PST-cook-PFV	[t ^w aapijite]	„we cooked“
/li-a-li-íle/ SM5-PST-eat-PFV	[ʎaalíle]	„it ate“

UR	PR	English gloss
/mu-á-li-a/ SM2pl-PFV-eat-FV	[m ^w áʎa]	„you (sg) have eaten“
/tu-á-ŋu-a/ SM1pl-PFV-drink-FV	[t ^w áaŋ ^w a]	„you (pl) have drunk“

In examples (66), the subject prefixes *tu*, *mu* and *li* are juxtaposed with the tense marker vowel /a/ and thus they create hiatus environments. Secondary articulation then takes place, which results in either labialisation or palatalisation of the subject prefix consonant.

However, there are instances when secondary articulation fails to occur because of the phonotactics of SuNdaLa. In these scenarios, elision becomes the „repair“ strategy of choice.

3.4.2.2.3 Deletion

Studies on hiatus resolution strategies such as those by Mudzingwa (2010) as well as Mudzingwa and Kadenge (2011) show that secondary articulation is blocked under three circumstances. Firstly, when the preceding consonant is one that cannot be palatalised; secondly, when V₁ is /a/, which would then require the preceding consonant to be pharyngealised if secondary articulation was to apply; and thirdly, when a labialised labial consonant is followed by a labial vowel. Examples for the first condition for the failure of hiatus resolution strategies were provided from Nambya. The other two circumstances have been observed in Nambya and Karanga. The processes described for the two first conditions for the failure of hiatus resolution strategies are similar in the SuNdaLa varieties. The last circumstances for secondary articulation fails to apply, namely when a labialised labial consonant is followed by a labial vowel has not been observed in the SuNdaLa varieties. Among them however, the process fails to apply when V₁ and V₂ are both rounded vowels. The preceding consonant can either be labial or not.

In all the contexts mentioned, secondary articulation is blocked and instead vowel deletion is adopted as the preferred repair strategy. Glide formation, too, is blocked under these circumstances because forming a glide would create clusters which are not allowed in the SuNdaLa consonant inventory.

Deletion of the vowel /i/

In SuNdaLa, the palatal-alveolar consonant /tʃ/ fails to palatalise in environments of hiatus where palatalisation would have been expected to take place as a repair strategy. The obvious explanation is that this is because the consonant is already a palatal. Mudzingwa (2010) as well as Mudzingwa and Kadenge (2011) offer a similar account in their analyses of hiatus resolution in Karanga, Zezuru and Nambya. Consider the following examples (67) where the palatal consonant /tʃ/ precedes V₁.

Failure of secondary articulation in palatal consonants

(67)

UR	PR	Ungrammatical form	English gloss
/i-tʃi-éni/ AUG-7-forehead	[itʃéni]	*itʃéni	„forehead“
/i-tʃi-ávu/ AUG-7-jaw, palate	[itʃávu]	*itʃávu	„jaw, palate“
/i-tʃi-akulja/ AUG-7-food	[itʃakulja]	*itʃakulja	„food“
/i-tʃi-úku/ AUG-7-mould	[itʃúku]	*itʃúku	„mould“
UR	PR	Ungrammatical form	English gloss
/i-tʃi-ola/ AUG-7-bag	[itʃóla]	*itʃóla	„bag“
/i-tʃi-aβupi/ AUG-7-gift	[itʃaβupi]	*itʃaβupi	„gift“

The noun prefix of class 7 /tʃi/, seen in (67), has a palatal affricate /tʃ/ and a front vowel /i/ and it is followed by a vowel. This would have been an environment for secondary articulation to apply but this is not the case as demonstrated in the ungrammatical forms. Instead V₁ is deleted. As argued above, the secondary articulation of palatalisation fails to apply here because the consonant in the noun prefix /tʃ/ is already a palatal, hence, palatalisation cannot be applied. SuNdaLa prohibits consonants that are already palatal to be further palatalised because sequences of palatal features are not allowed in these varieties.

The prohibition of sequences of features will be again discussed in 3.4.1.1.3.3 below where labialisation is involved in the deletion of rounded vowels.

The forms in (67) will be contrasted with their plural counterparts in (68) for Class 8 prefix with a non-palatal consonant *fi* in Cisukwa and Cindali, and *vi* in Cilambya are both not palatal. In these cases, the secondary articulation of palatalisation applies as a strategy for resolving hiatus. As demonstrated, deleting V₁ actually produces ungrammatical forms.

Cases of non-palatal consonants with secondary articulation

Cisukwa and Cindali

(68)

UR	PR	Ungrammatical form	English gloss
/i-fi-eni/ AUG-8-forehead	[iʃ'éeni]	*ifeni	„foreheads“
/i-fi-avu/ AUG-8-jaw, palate	[iʃ'áavu]	*ifavu	„jaws, palates“
/i-fi-akulia/ AUG-8-food	[iʃ'aakul'a]	*ifakul'a	„food“
/i-fi-uku/ AUG-8-mould	[iʃ'úku]	*ifuku	„moulds“
/i-fi-óla/ AUG-8-bag	[iʃ'óla]	*ifola	„bags“
/i-fi-aβupi/ AUG-8-gift	[iʃ'aβupi]	*ifaβupi	„gifts“

Cilambya

(69)

UR	PR	Ungrammatical form	English gloss
/i-vi-éni/ AUG-8-forehead	[iv ^ʰ éeni]	*iveni	„foreheads“
/i-vi-avú/ AUG-8-jaw, palate	[iv ^ʰ áavu]	*ivavu	„jaws, palates“
/i-vi-akulia/ AUG-8-food	[iv ^ʰ aaku ^ʰ ʌ]	*ivaku ^ʰ ʌ	„food“
/i-vi-úku/ AUG-8-mould	[iv ^ʰ úuku]	*ivuku	„moulds“
/i-vi-óla/ AUG-8-bag	[iv ^ʰ óola]	*ivola	„bags“
/i-vi-aβupi/ AUG-8-gift	[iv ^ʰ aβupi]	*ivaβupi	„gifts“

Certain occurrences of the sound /ʃ/ in Cindali seem to be the result of a deletion of a following high vowel /i/ which is followed by another vowel. In 3.3.3 we already discussed the correspondence of /ʃ/ in Cindali with /s^ʰ/ in Cisukwa and /z^ʰ/ in Cilambya. These correspondences were observed in table 13.

Further instances of this correspondence can be observed in combinations of class 9 agreement markers and possessive stems; latter begin with vowels.

Cisukwa

(70)

UR	PR	English gloss
/i-N-busi si-awo/ AUG-9-goat 9cd-POSS	[imbusi s ^ʰ awo]	„their sheep“

Cindali

(71)

UR	PR	English gloss
/i-N-busi ʃi-awo/ AUG-9-goat 9cd-POSS	[iɱbusi ʃawo]	„their sheep“

Cilambya

(72)

UR	PR	English gloss
/i-N-busi zi-awo/ AUG-9-goat9cd-POSS	[iɱbusi z ^ɨ awo]	„their sheep“

The correspondence pattern of /ʃ/ in Cindali, with /s^ɨ/ in Cisukwa and /z^ɨ/ Cilambya leads to posit /ʃi/ as the underlying form of /ʃ/ in Cindali. The surface form /ʃ/ is the result of a hiatus resolution strategy that applied to /ʃi/ and a following vowel. The obvious strategy would have been to palatalise the vowel /i/. However, because /ʃ/ is already alveo-palatal, deletion had to apply. /ʃ/ in Cindali is the result of deletion as the „repair“ strategy while /s^ɨ/ and /z^ɨ/ in Cisukwa and Cilambya respectively are the result of palatalisation.

Deletion of /a/

Another environment for the deletion of a vowel in hiatus situations is when /a/ is V₁. Mudzingwa (2010), Mudzingwa and Kadenge (2011) observe this for Karanga, Zezuru and Nambya. They argue that glide formation fails to apply because resyllabifying /a/ in onset would create clusters which are unacceptable in these languages. Applying secondary articulation, would mean passing the place node of the vowel on to the preceding consonant and thereby, creating a pharyngealised consonant which is not acceptable in these languages. The same argument applies to the SuNdaLa varieties in which the vowel /a/ is deleted in the same context, i.e. as V₁ and if preceded by a consonant.

Deletion of /a/ before another vowel

(73)

UR	PR	English gloss
/N-a-ímb-a/ SM1sg-PFV-sing-FV	[niimba]	„I have sang“
N-a-énd-a/ SM1sg-PFV-walk-FV	[néenda]	„I have walked“
/N-ka-énd-a/ SM1sg-Rpast-walk-FV	[ŋgéenda]	„I walked“
/tu-ka-énd-a/ SM1pl-Rpast-walk-FV	[tukéenda]	„we walked“
/a-ka-is-a/ SM1-Rpast-come-FV	[akíisa]	„s/he came“
/mu-ka-isa-ya/ SM2pl-Rpast-come-ASP	[mukíisaya]	„you (pl) used to come“
/N-a-imb-ite/ SM1sg-PST-sing-PFV	[niimbite]	„I sang“

In (73) /a/ as V_1 is in the hiatus situations and is deleted whenever it is preceded by a consonant and followed by another vowel. Compensatory lengthening also applies to V_2 as a consequence of the deletion of V_1 . The mora is not deleted but becomes part of the remaining vowel. As mentioned above, vowel deletion is the preferred „repair“ strategy in such contexts because resyllabification of /a/ to the onset and the gliding of V_2 would result in forms which are unacceptable in the SuNdaLa varieties.

Table 16: Resyllabification of /a/ and gliding of V₂

UR	Resyllabification	Gliding of V ₂	English gloss
/n-a-ímb-a/ SM1sg-PFV-sing-FV	*[na ^ʰ ímb-a]	*/nawmb-a/	„I have sang“
/n-a-énd-a/ SM1sg-PFV-walk-FV	*/na ^ʰ énd-a/	*/nawnda/	„I have walked“
/n-a-imb-ite/ SM1sg-PST-sing-PFV	*/na ^ʰ imbite/	*/najmbite/	„I sang“
/a-ka-is-a/ SM1-Rpast-come-FV	/aka ^ʰ isa/	/akajs-a/	„s/he came“

Deletion of the rounded vowel /u/

Deletion of a vowel in hiatus situations is also observed when the high vowel /u/ is preceded by a consonant and followed by the rounded vowel /o/. In this case, secondary articulation fails to apply. We would like to argue that putting the place node features of /u/ on the preceding consonant would create a labialized consonant and if this is followed by a rounded vowel, there would be two instances of rounding, which would not be accepted in SuNdaLa just like sequences of palatalised segments are not permitted as noted above in 3.4.1.1.3.1. In section 3.4.1.1.3 we had discussed that in Nambya and Karanga, it was noted by Mudzingwa and Kadenge (2011) that contiguous round segments were disallowed in the respective languages as well. Consider the examples (74) below for SuNdala:

Deletion of rounded vowel in hiatus situations

(74)

UR	PR	Ungrammatical form	English gloss
/u-ku-óp-a/ AUG-INFV-fear-FV	[ukóopa]	*uk ^w opa	„to be afraid“
/u-ku-onǵány-a/ AUG-INF-mix-FV	[ukoonǵána]	*uk ^w oonǵana	„to mix“
/u-ku-ótél-a/ AUG-INF-bask-FV	[ukoótela]	*uk ^w otela	„to bask“

UR	PR	Ungrammatical form	English gloss
/u-ku-óng-a/ AUG-INF-suck-FV	[ukóŋga]	*uk ^w oŋga	„to suck“
/u-ku-ókel-a/ AUG-INF-transplant-FV	[ukoókela]	*uk ^w okela	„to transplant“
/u-ku-ótfa/ AUG-INF-roast	[ukóotfa]	*uk ^w otfa	„to roast“

In examples (74), secondary articulation, which would have involved labialising the /k/ of the infinitive, does not apply. Instead, the /u/ of the infinitive is deleted to avoid a sequence of sounds with rounding features.

Hiatus situations involving more than two vowels

The hiatus forms discussed so far are the ones commonly discussed for Bantu languages, namely those that are characterised by the juxtapositioning of two vowels. In the SuNdaLa varieties however, sequences of three vowels occur. The question of how hiatus would be resolved in such more complex contexts then arises. The environments affected include the concatenation of a subject marker, a tense marker and a vowel initial verb root. One sequence involves the high vowel /u/ of the second person pronoun, the past tense marker and perfective marker /a/ and a vowel initial verb root. The vowel /u/ can also be part of the first person plural marker /tu/ and the second person plural marker /mu/. The other sequence involves the 3rd person subject marker /a/, the past tense marker /a/ and a vowel initial verb root.

In resolving hiatus in these situations, a number of processes occur. We start with the sequence which involves the vowels /u/, /a/ and a vowel initial verb root. In this context, the high vowel /u/ forms a glide (in cases where it is not preceded by a consonant) and the vowel /a/ is deleted as seen in examples (75). This is expected because the environment involving the vowel sequence /u/ and /a/ is conducive to glide formation, thus this default strategy is used in this case.

(75)

UR	PR	English gloss
/u-a-is-a/ SM2sg-PFV-come-FV	[wíisa]	„you (sg) have come“
/u-a-end-a/ SM2sg-PFV-walk	[wéenda]	„you (sg) have walked“
/u-a-imb-a/ SM2sg-PFV-sing/dance-FV	[wíimba]	„you (sg) have sang/danced“
/u-a-end-ite/ SM2sg-past-walk-PFV	[wéendite]	„you (sg) walked“

The examples in (75) show the high vowel /u/ as V₁, which is resyllabified to the onset to form a glide and the vowel /a/ of the tense marker is deleted. This process occurs when no consonant preceding it (cf. *wéendite* „you (sg) walked“, *wíimba* ‘you (sg) have sung’).

When the SM1pl /tu/ or the SM2pl /mu/ concatenates with the perfective tense marker /a/ and a vowel initial verb root, the vowel /u/ from the subject markers labialise the preceding consonant and the following vowel /a/ of the tense marker is deleted as seen in (76).

(76)

UR	PR	English gloss
/tu-a-is-a/ SM1pl-PFV-come-FV	[t ^w éenda]	„we have walked“
/mu-a-is-a/ SM2pl-PFV-come-FV	[m ^w íisa]	„you (pl) have come“
/tu-a-imb-a/ SM1pl-PFV-sing/dance-FV	[t ^w íimba]	„we have sung/danced“
/mu-a-end-a/ SM2pl-PFV-walk-FV	[m ^w éenda]	„you (pl) have walked“
/mu-a-end-ite/ SM2pl-PST-walk-PFV	[m ^w éendite]	„you (pl) walked“

V₁ labializes the preceding consonant by shifting from its nucleus position and by becoming part of the onset (cf. *t^wiimba* „we have sung/danced, *m^wéendite* „you (pl) walked“) and /a/ from the tense marker is deleted.

Sequences of subject marker /a/, tense marker /a/ and verb root

The resolution of hiatus in the context of the sequence involving the subject marker /a/, tense marker /a/ and verb root shows that the first two vowels are deleted while the vowel of the verb root is retained. The situation in which the vowel sequence occurs is not appropriate for both glide formation (because /a/ cannot become a glide) and secondary articulation (since there is no preceding consonant which can be palatalised or labialised). The only remaining option, therefore, is to delete the vowels. The relevant examples to illustrate this are given in examples (77).

Deletion of first two vowels in a sequence of three vowels:

(77)

UR	PR	English gloss
/βa-a-is-a/ SM2-PFV-come-FV	[βiisa]	„they have come“
/a-a-imb-a/ SM1-PFV-sing/dance-FV	[iimba]	„s/he sung/danced“
/βa-a-end-a/ SM2-PFV-walk-FV	[βéenda]	„they walked“

The first two vowels in the hiatus situation (the 3rd person subject marker and the past tense marker) are all deleted.

All repair strategies target V₁ (or V₁ and V₂ in cases where there are more than two vowels in hiatus) which then undergoes change. The vowels in this position get resyllabified (glide formation), superimposed on consonants (secondary articulation) or deleted.

V₁ as the target for repair strategies

The analysis of hiatus resolution strategies in SuNdaLa presented in this chapter has shown that the main target for the repair strategies is the first vowel in a sequence of vowels. The literature on this subject has raised a number of issues as to why this is the case. One is Casali's (1996, 1997) discussion on position sensitivity. Although Casali (1996, 1997) is

mainly concerned with elision, his arguments can be taken up to also account for the operation of „repair“ strategies on V₁ vowels.

Casali (1997) observed that certain prominent morphological and prosodic positions are more prone to maintaining contrasts among features and segments. These positions are

Word initial

In root morphemes

In content (as opposed to function) words

In stressed syllables

In long segments

The idea of features, positions and particular segments being prosodically and morphologically strong has also been discussed in greater detail by Mkochi (2014) where such elements are called strong accent constituents. Other works include on the topic are Trubetskoy (1939), Selkirk (1994), Alderete (1995), Beckman (1995, 1998), McCarthy and Prince (1995).

The environments where hiatus is attested in the SuNdaLa data presented above are mainly those that occur between a prefix and a stem – (possessive stem, noun stem and verb root). Following the arguments by Casali (1997), stems are morphologically prominent positions and, therefore, must preserve whatever elements they have. In terms of segments (e.g. vowels), the implication is that those which belong to stems are more likely to be maintained than those in other positions. Prefix vowels always appear as V₁ and since they are not in prominent positions, they are usually susceptible to change. This is the reason why most hiatus repair strategies target vowels in V₁ positions.

In conclusion, it can be stated that hiatus is avoided among the SuNdaLa varieties and glide formation is the default hiatus resolution strategy. If this strategy fails to operate, it gives in to the secondary articulation strategy. When both glide formation and secondary articulation can not be applied, deletion is the last „repair“ strategy. These choices of strategies are in line with what has been described for other Bantu languages and in particular for Chishona (Karanga and Zezuru varieties) and Nambya by Mudzingwa (2010) as well as Mudzingwa and Kadenge (2011).

3.5 Segmental processes

In this section, other segmental processes that occur in SuNdaLa will be discussed, especially those that involve a nasal and a following consonant. Studies by various scholars for example, Ngunga (2000), Kula (2002), and Odden (2013) have shown that various segmental processes such as homorganic nasal assimilation, post-nasal stop voicing, consonant hardening, post-nasal stop aspiration, post-nasal stop devoicing, post-nasal l deletion, nasal degemination, as well as nasal deletion occur in this environment.

3.5.1 Homorganic nasal assimilation

All SuNdaLa varieties have a phonological process that has been attested for Bantu languages more widely: a nasal copies the place of articulation features of a following consonant and thus becomes homorganic with that consonant. To account for this phenomenon, we adopt a commonly used method which posits an abstract nasal consonant as the underlying sound that changes according to the place of articulation of the following consonant. The examples provided below are nouns from class 9 which has a nasal as the prefix.

Nasal consonants

Cisukwa and Cindali

(78)

Class 9	English gloss
<i>i-ŋ-géso</i>	„ladle“
<i>íí-ŋ-gwi</i>	„firewood“
<i>i-n-dondwa</i>	„star“
<i>i-m-besu</i>	„cockroach“
<i>i-ŋ-guku</i>	„chicken“
<i>i-n-dáfu</i>	„locust“
<i>i-m-bepo</i>	„wind“
<i>íí-m-bula</i>	„beeswax“

Cilambya

(79)

Class 9	English gloss
<i>i-ŋ-k^héézo</i>	„ladle“
<i>ii-ŋ-k^hwi</i>	„firewood“
<i>i-n-t^hóndwa</i>	„star“
<i>i-m-p^henzu</i>	„cockroach“
<i>ii-ŋ-k^huku</i>	„chicken“
<i>ii-n-t^hafu</i>	„locust“
<i>i-m-p^hepo</i>	„wind“

In (78) and (79), the nasal prefix of class 9 changes its place of articulation according to the consonant of the noun stem. Thus, a velar nasal is followed by a velar stop, a bilabial nasal by a bilabial stop and an alveolar nasal by an alveolar consonant. For instance, in the word *ii-ŋ-guku* in Cisukwa and Cindali and *ii-ŋ-kuku* for Cilambya, the nasal is a velar [ŋ] because of the velars [g/k] that follow it. Likewise, the nasal is a bilabial in *i-m-bepo* in Cisukwa and Cindali and *i-m-p^hepo* in Cilambya because it takes the place of articulation features of the noun stems initial sounds [b] and [p] which are also bilabials.

3.5.2 Post-nasal stop voicing

Cisukwa and Cindali exhibit a process where a stop becomes voiced when it follows a nasal. This process has been generally been referred to as post-nasal stop voicing (cf. Mtenje, A.D 2002, Ngunga 2000 and Kula 2002). As a consequence, only voiced NC clusters are allowed in the two SuNdaLa varieties. This rule does not apply in Cilambya since NCs that have voiceless obstruents are attested. Post-nasal stop voicing is observed in examples (80) where noun stems that were originally voiceless become voiced when they follow the nasal prefix of class 10:

(80).

Class 11	English gloss	Class 10	English gloss
<i>u-lu-késo</i>	„ladle“	<i>[i-ŋ-géso]</i>	„ladles“
AUG-11-ladle		AUG-10-ladle	
<i>u-lú-kwi</i>	„firewood“	<i>[ií-ŋ-gwi]</i>	„firewood (pl)“
AUG-11-firewood		AUG-10-firewood	
<i>u-lú-tondwa</i>	„star“	<i>i -n-dondwa</i>	„stars“
AUG-11-star		AUG-10-star	

In examples (80), the noun *ulukéso* has the stem *keso* with the voiceless stop /k/, which in turn becomes a voiced stop /g/ when the nasal noun class prefix of class 10 is attached to it. Similarly, in *u-lu-tondwa*, the alveolar stop /t/ of the stem *tondwa* becomes voiced in the same process. All Cisukwa and Cindali in (80) also have voiced stops after nasals.

As pointed out above, the voicing of stops after nasals is a common phenomenon in Bantu languages and has been described for example for Ciyao, iCibemba, Otjiherero and Kikuyu.

In the standard generative phonology framework proposed by Chomsky and Halle (1968) in the “The Sound Pattern of English”, assimilation processes such as the ones discussed in this chapter namely, homorganic nasal assimilation and post-nasal stop voicing, are considered as processes where a segment copies features from a neighbouring segment. For instance, in post-nasal stop voicing, the voiceless stop copies voicing features from the neighbouring nasal. However, Goldsmith’s (1976) ground breaking articulation of autosegmental theory in the area of tonology led other linguists such as McCarthy (1982), Hayes (1986), Odden (1988) and Mtenje, A.D (1989) to extend the application of the theory to other areas such as vowel harmony, nasalisation, syllabification, non-concatenative morphology and other forms of assimilation.

Mtenje, A.D. (1986) summarises some of the arguments against feature changing rules that regard assimilation as feature copying. He points out that in principle such analyses allow for any (set of) features to undergo assimilation when in reality, it is only certain place and manner features which assimilate. This makes it difficult to constrain rules and allow them not to apply in an adhoc manner. Secondly, feature changing processes have failed to account for properties of segments such as geminates, resulting from assimilation processes such as

ambiguity, integrity, and inalterability (cf. Hayes (1986). Mtenje, A.D. (1989:83) refers to the detailed discussion in Hayes 1986 on these three phenomena. “Ambiguity” cases in which tautomorphic geminate behave like a single segment with respect to quality-sensitive rules. The case of phonological “Integrity” deals with the fact that true (tautomorphic) geminates are inseparable by rules of epenthesis while ‘Inalterability’, describes the case where halves of a geminate fail to be influenced by rules which normally apply to them. The general conclusion drawn is that these properties of geminates in a feature changing analysis would be described as strange properties for this type of segment (geminates) and also for assimilation rules and would not follow as consequences of the theory of assimilation.

The critical observations made by Hayes (1986), Mtenje, A.D (1989) and other scholars within the Autosegmental phonology theoretical framework led to the proposal that assimilation should best be considered as feature spreading where features spread over a domain. This would account for why only certain features undergo spreading. This is a more constrained theory of assimilation. These scholars also observed that this explains the behavioural characteristics of geminates derived by assimilation which becomes part of the properties of the general structure of autosegmental theory itself.

3.5.3 Post-nasal stop aspiration

Post-nasal stop aspiration refers to a process where a stop is aspirated when it precedes a nasal. While Cindali and Cisukwa have post-nasal stop voicing, the stop in Cilambya is aspirated after a nasal.

Table 17: Cilambya forms with post-nasal stop aspiration

Class 11	English gloss	Class 10	English gloss
<i>u-lú-kama</i> AUG-11-milk	„milk“	<i>i-ŋ-k^hama</i> AUG-10-milk	„milk“
<i>u-lú-paso</i> AUG-11-fence	„fence“	<i>íi-m-p^haso</i> AUG-10-fence	„fences“
<i>u-lú-konje</i> AUG-11-fishing line	„fishing line“	<i>íi-ŋ-k^honje</i> AUG-10-fishing line	„fishing lines“
<i>u-lú-tondwa</i> AUG-11-star	„star“	<i>íi-n-t^hondwa</i> AUG-10-star	„stars“

The examples in table 17 demonstrate that the nouns in class 11 have voiceless stops at the beginning of the stems. When these nouns are paired with class 10 which has a nasal prefix, the stem-initial voiceless stops after the nasal consonant are aspirated, hence the change of [k] to [k^h] in *ulúkama* and *ink^hama*, for example. The process is prevalent in the Cilambya variety as any word which has a voiceless stop following a nasal, has the voiceless stop aspirated.

More examples of Cilambya forms with post-nasal stop aspiration.

Cilambya

(81)

<i>ii-ŋ-k^hwapa</i>	„armpit“
AUG-10-armpit	
<i>ii-n-t^hám'o</i>	„problem“
AUG-10-problem	
<i>ii-nt^h-umi</i>	„messenger“
AUG-10-messenger	
<i>ú-m-p^hale</i>	„polygamy“
AUG-10-polygamy	
<i>ii-m-p^húungu</i>	„funeral“
AUG-10-funeral	

When the forms in (81) are compared with their counterparts in Cindali and Cisukwa, where there is post-nasal stop voicing (as shown in 82), we find that no aspiration occurs. This is expected since aspiration ordinarily applies to voiceless stops and once post-nasal stop voicing applies in these two varieties, the stops are no longer available for aspiration to apply to them. In a standard Generative Phonology account, the variation between Cilambya, on the one hand, and Cindali and Cisukwa on the other would be a typical example of a consequence of differences in the order of application of rules. In this case the rules of post-nasal stop voicing and post-nasal stop aspiration. In Cindali and Cisukwa, where there is no post-nasal stop aspiration due to the voicing of the stop, voicing would precede aspiration and the latter rule would be bled, hence it could not be applied. In Cilambya, which has aspiration but no post-nasal stop voicing, aspiration precedes voicing and since it is only non-aspirated stops which can be voiced, the latter rule is bled by the prior application of aspiration. The

dialectal differences between the two main groupings of the SuNdaLa varieties, namely Cilambya versus Cindali and Cisukwa, illustrate common differences in the order of rule application. Other theoretical models of phonology would of course motivate different sets of apparatus to explain these variations. For example, Optimality Theory, which accounts for dialectal variation on the basis of differences in the rankings of constraints among language varieties, would attribute these phonological variations to differences in constraint rankings in the two groupings.

Cindali and Cisukwa forms without post-nasal stop aspiration

(82)

íí -ŋ-g^wapa „armpit“

AUG-9-armpit

i i-n-dáam'ó „problems“

AUG-9-problem

íí-n-dumi „messenger“

AUG-9-messenger

i-m-bale „polygamy“

AUG-9-polygamy

i-m-búungu „funeral“

AUG-9-funeral

While the majority of Cisukwa speakers interviewed during the field work used forms without post-nasal stop aspiration, there were some who had traces of the post-nasal aspiration rule. The same speakers also used post-nasal stop voicing. Obviously, among this small group of speakers, the rule of post-nasal stop aspiration is not well-established. There are two possible hypotheses that one can propose. The first is that these Cisukwa speakers are in the transitional process of losing the rule of post-nasal stop voicing and are gradually acquiring the aspiration rule. The second is that a post-nasal stop aspiration rule existed in this variety which was replaced by post-nasal stop voicing. Then the instances of post-nasal aspiration would be remnants of this lost phonological process. In the absence of compelling empirical evidence to support one or the other of these possibilities, this question must remain open for the moment and is subject to further investigation.

3.5.4 Nasal consonant deletion before fricatives

In Cindali and Cisukwa, a nasal is deleted when it is followed by a fricative. As a result, NCs of a nasal and a fricative never occur in these varieties. Examples of this process were 3.3.4.2 (examples 55) already and are reproduced for ease of reference.

Cindali and Cisukwa Class 9 nouns with fricative stem initials consonants

(83)

PR	UR	English gloss
<i>ii-sófu</i>	<i>/i-N-sófu/</i>	„elephant“
<i>ii-fuu</i>	<i>/i-N-fu/</i>	„hippo“
<i>ii-sómi</i>	<i>/i-N-sómi/</i>	„maggot“
<i>ii-fula</i>	<i>/i-N-fula/</i>	„rain“
<i>ii-swi</i>	<i>/i-N-swi/</i>	„fish“

Cindali and Cisukwa Class 9 nouns with non-fricative stem initial consonants

(84)

PR	UR	English gloss
<i>iíndáfu</i>	<i>i-N-táfu</i>	„locust“
<i>iíngata</i>	<i>i-N-kata</i>	„headpad“
<i>iímbesu</i>	<i>i-N-pesu</i>	„cockroach“
<i>iíngalamo</i>	<i>i-N-kalamo</i>	„lion“

Noun classes 9 and 10 have nasals as prefixes. While these appear in noun stems with non-fricatives initial consonants as those in (83), they are not attested where the noun stems have fricatives in the initial position as shown in (84).

The process of nasal deletion before fricatives also occurs in other Bantu languages, for example, Ciyao, Citonga, Silunyana, Kihehe, Bukusu and iCibemba (cf. Kula 2002, Mkoichi 2005).

3.5.5 Post-nasal consonant hardening

The phonological process of hardening in Bantu languages changes voiced continuants into non continuants. A number of Bantu languages such as Kwanyama, Kikuyu, Bukusu and iCibemba share this rule (cf. Kula (2002:68).

In SuNdaLa, the hardening process involves the change of /l/ and /β/ to [d] and [b] respectively when they occur after nasals. This is shown in the examples in (85).

Consonant hardening in SuNdaLa

(85)

Class 11 (sg)	Class 10 (pl)	English gloss
<i>u-lú-limi</i>	<i>i-n-dimi</i>	„tongues“
AUG-11-tongue	AUG-10-tongue	
<i>u-lú-lefu</i>	<i>i-n-defu</i>	„beard“
AUG-11-beard	AUG-10-beard	
<i>u-lú-βweele</i>	<i>i-m-bweele</i>	„fly“
AUG-11-fly	AUG-10-fly	
<i>u-lú-βako</i>	<i>i-m-bako</i>	„calabashes“
u-11-calabash	AUG-10-calabash	
<i>u-lú-βazu</i>	<i>i-m-bazu</i>	„rib“
AUG-11-rib	AUG-11-rib	

In (85), the stem-initial consonants /l/ and /β/ in the singular forms change to [d] and [b] respectively, when they are in the plural in class 10. For instance, [b] in *imbako* is derived from /β/ of *lúβako* while [d] in *indimi* comes from /l/ in *lú-limi*.

3.6 Summary of chapter 3

This chapter has focussed on the segmental phonology of the SuNdaLa varieties. The sound inventories of the three SuNdaLa varieties have been presented. While all three SuNdaLa varieties share the same vowel inventories, they all differ in the consonant inventories. Cisukwa has the least number of consonants followed by Cindali which has only one more - the alveopalatal fricative - which does however also not occur in Cilambya. Cilambya has the highest number of consonants mainly because it has voicing contrast of obstruents. The distribution of these voiced obstruents in Cilambya, however, leads to assume that these consonants have been added to a previous consonant inventory that must have been similar to that of the present day Cisukwa and Cindali inventories.

Furthermore, due to post-nasal stop voicing, which is operational in Cisukwa and Cindali but not in Cilambya, the former only have NCs where stops are voiceless while the latter has both voiced and voiceless stops. Cilambya has a process of post-nasal stop aspiration which does not occur in Cisukwa and Cilambya. Cilambya for that reason has NCs with aspirated voiceless stops. A further difference between Cisukwa and Cindali on one hand and Cilambya on the other is that Cilambya has NCs of a nasal and a fricative while Cisukwa and Cindali do not have them because of a process which deletes nasals before fricatives in these two varieties. As discussed, the three varieties exhibit similar processes of homorganic nasal assimilation and consonant hardening.

The syllable and the syllable types attested in SuNdaLa have been discussed and it had been demonstrated that SuNdaLa varieties do not allow contiguous VV sequences. The „repair“ strategies, namely glide formation, secondary articulation and vowel deletion have been exemplified.

The comparison of various aspects of segmental phonology in the three SuNdaLa varieties shows that Cisukwa and Cindali are closely related than both are with Cilambya.

Chapter 4

Aspects of the Prosody of Cisukwa, Cindali and Cilambya

4.0 Introduction

This chapter discusses aspects of prosody in SuNdaLa, specifically tone and reduplication. We will examine tone realisation in nouns and verbs in SuNdaLa and demonstrate that the varieties exhibit similar patterns. Tone assignment in nouns is unpredictable and has therefore to be lexically marked. Verbs show purely accentual properties as there is always one high tone in a construction which is assigned in one position (either the penultimate or antepenultimate mora).

Reduplication is discussed for verbs. Aspects of reduplication that are investigated include the elements (tone and segmental material) of transfer, the nature of the transfer (the nature of affixation) and word minimality. Just like in many other Bantu languages, the SuNdaLa varieties copy material from the inflectional stem; there is no tone transfer and the process of reduplication is prefixial. In terms of minimality, the SuNdaLa varieties satisfy the word minimality requirement in Bantu languages which is that the minimal word must be bisyllabic or bimoraic by resorting to morphological measures.

The chapter is outlined as follows: 4.1 is dedicated to the discussion of tone. In 4.1.1 the key findings in the literature on tone in Bantu languages is summarized. 4.1.2 analyses tone in the SuNdaLa varieties, with 4.1.2.1 focusing on tone in nouns and 4.1.2.2 examining tone in verbs. Section 4.2 analyses reduplication in verbs by discussing the literature on reduplication in 4.2.1 and the process of reduplication in SuNdaLa follows in 4.2.2. 4.3 summarises the chapter.

4.1 Tone

This section starts with a discussion of the literature on Bantu tone, which is then followed by the analysis of the tonal phenomena in SuNdaLa nouns and verbs.

4.1.1 Literature on Bantu tone

The literature on tone in Bantu covers a wide range of topics. Studies on questions such as whether languages have „pure“ tonal or „pure“ accentual properties are numerous, and also

investigations on the type and position of tones and the rules concerning tone assignment. Some of the most notable studies on Bantu tone include Goldsmith (1981, 1982, 1983, 1984), Odden (1984), Massamba (1982, 1984), Clements (1984) Moto (1989), Kanerva (1990), Hyman (1976, 1982, 1990, 2007), Hyman and Ngunga (1994), Hyman and Mtenje, A.D. (1999), Mtenje, A.D. (1986, 2006), Mutaka (1990, 1994), Myers and Carleton (1996), Liphola (2001), Miti (2002), Bickmore (1997, 2000, 2003a 2003b, 2007), and Downing (1995, 2003, 2010, 2011).

The critical feature defining „pure“ tone languages is that almost all their tone bearing segments are specified for tone (values) and in these systems there are no general principles or rules that can predict the occurrence of tones. „Pure“ tone languages include Chinese, Kikuyu, Tshivenda, Yoruba, Igbo and Nupe (cf. van der Hulst and Smith 1982). On the other hand, in „pitch – accent“ languages, the underlying tone is predictable and there is no need to specify tone for each tone-bearing segments and only designated segments need be so specified. This is seen by the fact that there is tonal prominence (such as the presence of only one high tone per morpheme) which characterises morphemes (words) in these languages. Furthermore, a tone melody may be developed in order to capture such tonal prominence and one of the tones on the tone melody can be designated as accent bearing. In such systems, tone assignment can be done through general or language-specific rules. Several studies on accent have been done over the past decades (cf. Goldsmith (1981, 1982, 1983, 1984a) and Odden (1984b), Massamba (1982, 1984), Hyman (1982) and Haraguchi (1976). Languages for which such an analysis has been proposed include Luganda, Citonga, Kimatuumbi, Japanese, Kiswahili and Chichewa.

The literature on Bantu tone is replete with considerable details of tone structures of individual languages and how they relate to general linguistic theories. Such scholarly work includes Mtenje, A.D. (1986) on Chichewa, Cassimjee (1994) on isiXhosa, Cassimjee and Kisseberth (1998) on isiXhosa and Shingazidja, Odden (1998) on Tanzanian Ciyao, Hyman and Mathangwane (1996) on Ikalanga, Miti (2002) on Cinsenga, Mkochi (2014) on Malawian Citonga, and Bickmore (2007) on Cilungu.

The study of the tonology of African languages has contributed considerably to the advancement of linguistic theories. One notable contribution in the area of Phonology was the development of Autosegmental Phonology in the seventies as proposed, initially, by Leben (1973) and later expanded and fully elaborated by Goldsmith (1976). Using tone data from

African and other languages, the theory argued that certain feature groups, such as tone versus segmental features, define independent levels of representation (autosegments) and that there is no one-to-one relationship between the number of tones and the number of segments in a construction. The key motivation for this theory came from the behaviour of contour tones, tone preservation, stability and floating tones as attested in several Bantu languages.

Falling tones are equivalent to the tone sequence HL, and rising tones to LH and Goldsmith (1976) showed that this is demonstrated in many Bantu languages when considering the possible (assimilatory) rules that create contour tones. This fact about contour tones is eluded in linear phonology, but solved in autosegmental phonology where contour tones are considered as multiple tones linked to one vowel.

Goldsmith (1976) and others working in the same area (cf. Odden 1995), further demonstrate that a second problem solved by Autosegmental phonology is tone preservation or stability. In many Bantu languages the tone of a vowel is not deleted when the vowel disappears. In linear phonology in which tone and segmental features are viewed to be bundled in one unit hence, these phenomena could not have been accounted for, as the tone should have disappeared as well. Autosegmental phonology resolved this by arguing that tone and segmental features are independent of each other and that the deletion of a vowel does not entail the deletion of the tone linked to this vowel.

African languages also assisted in the refinement of Autosegmental phonology by providing evidence to resolve the problem of floating tones – tones that are independent of vowels. For example, certain phenomena in Ewe (Aɲlo), a Kwa language spoken in Togo and Ghana indicate the presence of floating tones. In these languages, postulating floating H tones for certain words solves various analytical puzzles, even though the floating tone is not directly observed (cf. Odden 1995).

The Autosegmental phonology theory, which was initially developed to account for tone puzzles in African languages later expanded to the analysis of other phenomena, for instance, vowel and consonant harmony, nasalization, syllabification (cf. Van der Hulst and Smith 1982).

Having discussed the general features of Bantu tone and how studies in this field have contributed to the development of Phonological theories, the next section will present the analysis of tone in SuNdaLa.

4.1.2 Tone in SuNdaLa

All SuNdaLa varieties have register (level) tones, i.e. high (H) and low (L) tones and they also exhibit contour tones in the form of rising and falling tones. As Mtenje, A.D. (2006) and Botne (2008) observe, contour tones are the result of a combination of high and low tones. Tone in SuNdaLa can also contrast meaning as observed in examples (1).

(1)

SuNdaLa	English gloss
<i>itʃipaɒŋga</i>	„gully“
<i>itʃipaáŋga</i>	„denomination“
<i>imbóombo</i>	„work“
<i>ímboóombo</i>	„navel“

However, examples showing tonal contrast are rare in the three SuNdaLa varieties.

4.1.2.1 Tone in Nouns

The prosodic system of SuNdaLa shows that nouns have tonal characteristics as opposed to accentual features. It is difficult to identify a particular position of high and low tones in words since these can appear on any mora (first, second, third or fourth in the word). This tonal pattern is not found in the verbal system as discussed later in 4.1.2.2 where the accentual characteristics of this category are discussed. The distributional characteristics of tone in SuNdaLa nouns require therefore, that nominal tone in each of the varieties to be lexically specified. In the examples below, it will be observed that a high tone can appear on the first, second, third or last mora thus confirming the typical tonal nature of SuNdaLa nouns.

Nouns with H tone on the first mora

(2)

Cisukwa	English gloss
<i>úkol^we</i>	„monkey“
<i>úpaf^va</i>	„lung“
<i>ífupa</i>	„bone“
<i>ámino</i>	„teeth“
<i>ítulu</i>	„testicle“
<i>múk^walima</i>	„son in law“

(3)

Cindali	English gloss
<i>ífiyo</i>	„kidney“
<i>ífupa</i>	„bone“
<i>múkangale</i>	„old person“
<i>kásowolo</i>	„calf of leg“
<i>íβala</i>	„scar“
<i>ífiye</i>	„eyelash“

(4)

Cilambya	English gloss
<i>ípaala</i>	„baldness“
<i>ámavi</i>	„faeces“ (pl)
<i>ámati</i>	„saliva“ (pl)
<i>úpaf^va</i>	„lung“
<i>múlemaso</i>	„cripple“
<i>múpuungano</i>	„stupid person“

Nouns with H tone on the second mora

(5)

Cisukwa	English gloss
<i>isófu</i>	„elephant“
<i>upúsi</i>	„cat“
<i>ilíta</i>	„name“
<i>umúlosi</i>	„witch“
<i>usékuru</i>	„grandfather“
<i>umúkasi</i>	„woman“

(6)

Cindali	English gloss
<i>ingóle</i>	„vein“
<i>itfúf^wo</i>	„ear“
<i>amásaja</i>	„cheeks“
<i>ifúk^we.</i>	„abdomen“ (pl)

(7)

Cilambya	English gloss
<i>ubába</i>	„father“
<i>umáma</i>	„mother“
<i>itfísa</i>	„sorrow“
<i>itfávu</i>	„jaw“
<i>amála</i>	„intestines“

Nouns with H tone on the third mora

(8)

Cisukwa	English gloss
<i>imiβili</i>	„skins“
<i>aβatáta</i>	„fathers“
<i>imiléfu</i>	„beards“
<i>imilómo</i>	„lips“

(9)

Cindali	English gloss
<i>amakóle</i>	„veins“
<i>kambangéli</i>	„bracelet“
<i>ndebebélewe</i>	„earring“
<i>tfilekés^wa</i>	„ladle“

(10)

Cilambya	English gloss
<i>ínzegéma</i>	„malaria“
<i>ndondoméko</i>	„plan“
<i>tɕimanís^o</i>	„notice“
<i>umulámu</i>	„inlaw“

It can be observed from examples (2) to (10) that a high tone is some nouns on the first mora while with others it is on the second or third mora. This demonstrates that there is no pattern in the occurrence of high tones in this category of words. This observation was also already made for Cindali by Mtenje, A.D. (2006).

Mtenje, A.D. (1986) and Miti (2002) for Chichewa and Cinsenga, respectively, propose tone classes for these languages. This thesis makes a similar proposition for SuNdaLa, namely that nouns fall under specific tone classes.

4.1.2.1.1 Tone classes

This section will introduce the various tone classes established for the SuNdaLa varieties. The nouns will be grouped according to the number of syllables they have and for each group the different tone classes are discussed. The three SuNdaLa varieties share the same tone classes, however, two additional tone classes only occur in Cilambya. The three SuNdaLa varieties may also differ in the allocation of some words, which appear in different tone classes. For example, *ɲgúluβe* „pig“ is in the HL tone class in Cilambya and Cindali but is *ɲgulúβe* LHL in Cisukwa. In Cisukwa and Cindali, the word is *muβili* „body“ is in the LHL tone class while it is *múβili* HL in Cilambya.

Generally, SuNdaLa varieties have one H tone on a mora in a word. This high tone may have following or preceding low tones forming the LHL and HL classes. Nouns from all groups occur in all tone classes. Contour tones are also observed in all noun groupings of the three

SuNdaLa and are usually attested in specific environments of a long vowel. The contour tones include the falling tone (a combination of a high tone followed by a low tone – HL sequence) and a rising tone (a combination of a low tone followed by a high tone – LH sequence). Although generally SuNdaLa words have one high tone, tone melodies such as HLHL and HHL with two underlying high tones are attested in the trisyllabic nouns.

H tones appear on all moras except the last mora. In Cilambya however, one of the language consultants violated this pattern and sometimes produced a LH pattern in bisyllabic and trisyllabic nouns with augments. We discuss each of the tone classes in the sections below.

4.1.2.1.1.1 Bisyllabic nouns

The bisyllabic nouns presented in this section are examples of nouns that optionally occurred without the augment. These nouns can be attested with the augment and become trisyllabic. However, when they do occur without the augment and become bisyllabic, the following tone classes were observed.

LL

Words in this tone class are rare and only few examples were found in each of the SuNdaLa varieties. This tone class was generally attested with bisyllabic nouns without augment.

(11)

Cisukwa	English gloss
<i>ŋgoŋa</i>	„fist“

(12)

Cindali	English gloss
<i>tʃisa</i>	„sorrow“

(13)

Cilambya English gloss

mutu „head“

HL

In this tone class, a high tone on the first mora is followed by a low tone on the second. There are several words within this tone class.

(14)

Cisukwa English gloss

táta „father“

máfi „faeces“

mbáfu „rib“

mójo „heart“

máso „eyes“

jówe „finger“

(15)

Cindali English gloss

máti „saliva“

múyi „breath“

jófu „muscle“

mála „intestine“

ndéfu „beard“

(16)

Cilambya English gloss

mójo „heart“

vís'o „face“

lízβi „word“

lája „shirt“

Nouns with a rising tone

There are some SuNdaLa nouns which have contour tones of the rising nature. Some of these tones occur in environments of lengthening as discussed in chapter 3, i.e. Pre-NC lengthening and compensatory lengthening after secondary articulation and deletion.

(17)

Cisukwa	English gloss
<i>tʃéni</i>	„forehead“
<i>ŋkoóŋgi</i>	„palm of hand“
<i>mboómbó</i>	„navel“
<i>mbuúnda</i>	„donkey“
<i>mbeéno</i>	„caterpillar“

(18)

Cindali	English gloss
<i>mbuúla</i>	„mucus“
<i>joóndo</i>	„hammer“
<i>m^wiíp^wa</i>	„mother“s brother“ (uncle)
<i>muúsi</i>	„pestle“
<i>muúnda</i>	„garden“

(19)

Cilambya	English gloss
<i>jaánda</i>	„abdomen“
<i>joóndo</i>	„hammer“
<i>muúnda</i>	„garden“
<i>m^wiít^hu</i>	„friend“
<i>uúsu</i>	„flour“

The examples (17) to (19) demonstrate that bisyllabic SuNdaLa nouns may have rising tones. These are usually attested in environments with a long vowel, such as Pre-NC environments in words like *joóndo* „hammer“ and *muúnda* „garden“. In addition to these rising tones before NCs, they also occur in other environments susceptible to lengthening such as those with compensatory lengthening resulting from secondary articulation of consonant glide sequences i.e. *m^wiít^hu* „friend“ and deletion i.e. *tʃéni* „forehead“. In the case of compensatory

lengthening, the low tone from the mora of the gliding and the deleted vowel becomes part of V₂ which was already high toned thereby creating a rising tone vowel.

Falling tone

SuNdaLa varieties also show instances of falling tones in bisyllabic nouns. Like with the rising tone nouns, falling tones can occur in environments with long vowels i.e. Pre-NC lengthening and compensatory lengthening.

(20)

Cisukwa	English gloss
<i>tʃimb^wi</i>	„leopard/hyena“
<i>múundu</i>	„person“
<i>ndáam^jo</i>	„problem“
<i>mbóombo</i>	„work“

(21)

Cindali	English gloss
<i>l^wáajo</i>	„foot“
<i>l^wóoβe</i>	„fingernail“
<i>súusu</i>	„vagina“
<i>fíingo</i>	„neck“
<i>móongo</i>	„breasts“

(22)

Cilambya	English gloss
<i>múunt^hu</i>	„person“
<i>l^wáajo</i>	„foot“
<i>nt^háam^jo</i>	„problem“
<i>mbóombo</i>	„work“
<i>mp^húungu</i>	„funeral“
<i>múusi</i>	„pestle“
<i>mbáale</i>	„plate“

The examples (20) to (22) present nouns with falling tones. Some are observed in moras that precede a nasal consonant sequence for example *mbóombo* „work“ in all the varieties, while those come after a labialised or palatalised consonant and are therefore a result of

compensatory lengthening where the tone of the mora of the gliding vowel in this case a high tone becomes part of V₂ hence creating a falling tone with the low tone of V₂. An example is the word *l^wáajo* ‘foot’ which was /lú-ajo/ underlyingly. When secondary articulation applied and /l/ became labialised, the remaining high tone of the V₁ becomes part of the V₂ which had a low tone. This creates a falling tone. The other case of compensatory lengthening is observed in the word *móongo* ‘breast’ in Cindali. This surface form is a result of a deletion process. The UR form is /mú-ongo/ and because of the hiatus situation of the vowels /u/ and /o/, the first vowel is deleted. However, it leaves a mora and a high tone which becomes part of V₂ thereby making the vowel long and one with a falling tone.

The data reported in this study show that there is no LH tone pattern in bisyllabic nouns in Cindali and Cisukwa. However, this tone class was attested in Cilambya where during data collection, it was noted that one speaker in this variety had an LH tone pattern. Interestingly, this tone class only appeared in words the speaker did not include the augment. Examples of this rare LH pattern from the speaker are presented in (23).

(23)

Cilambya	English gloss
<i>matí</i>	‘saliva’
<i>mp^hunó</i>	‘nose’
<i>ndevú</i>	‘beard’
<i>ŋk^hwapá</i>	‘armpit’
<i>ŋk^huvú</i>	‘navel’

The bisyllabic nouns we have presented so far did not have augments (they were optionally used without the augment). Bisyllabic nouns with augments are rare in the SuNdaLa. This is because the usual minimal size of a noun stem is bisyllabic. Adding an augment always makes it trisyllabic. However, during field work, a few bisyllabic nouns were identified. There was a Cilambya word with the HL melody and all varieties had a word with a falling tone pattern. Examples of these are presented in (24) to (27).

HL

(24)

Cilambya **English gloss**

íla „intestine“

Falling tone nouns

(25)

Cisukwa **English gloss**

íífuu „hippo“

(26)

Cindali **English gloss**

íífuu „hippo“

(27)

Cilambya **English gloss**

íimfwa „death“

4.1.2.1.1.2 Trisyllabic nouns

Trisyllabic nouns are the most common in SuNdaLa and they have the most number of tone classes. In this section, we are going to discuss the tone classes for trisyllabic nouns. These include the LHL, HL, rising tone and falling tone. The environments for the rising tone and falling tone classes are the same throughout every group of nouns, i.e. they involve long vowels and these are usually the ones that occur before an NC or after secondary articulation involving a consonant and a glide sequence and vowel deletion. In all these environments, the contour tones are a result of a combination of two contiguous underlying tones. We will later on discuss divergent tone classes that were attested for some trisyllabic nouns that occurred without augments.

LHL

In this tone class, the words have a low tone mora followed by a high tone on the next mora which in turn is followed by a low toned mora.

(28)

Cisukwa	„English gloss“
<i>ifúk^we</i>	„abdomen“
<i>amáti</i>	„saliva“
<i>iindéfu</i>	„beard“
<i>imála</i>	„intestine“
<i>iisófu</i>	„elephant“
<i>Ilíta</i>	„name“
<i>upúsi</i>	„cat“

(29)

Cindali	English gloss
<i>ingóle</i>	„vein“
<i>itfúf^wo</i>	„ear“
<i>ifúk^we</i>	„abdomen“

(30)

Cilambya	English gloss
<i>ubába</i>	„father“
<i>itfísa</i>	„sorrow“
<i>itfíś^o</i>	„face“
<i>itfávu</i>	„jaw/palate“
<i>amála</i>	„intestines“
<i>in^kási</i>	„wrinkles“

Falling tone

This group of nouns have long vowels with a high tone followed by a low tone.

(31)

Cisukwa	English gloss
<i>aβáandu</i>	„people“
<i>amáambo</i>	„beads“
<i>im^lúusi</i>	„pestles“
<i>íinguku</i>	„chicken“

(32)

Cindali	English gloss
<i>itʃéeni</i>	„forehead“
<i>ifʷúuf^wo</i>	„ears“
<i>iséembe</i>	„axe“

(33)

Cilambya	English gloss
<i>ivʷéeni</i>	„foreheads“
<i>ivʷáavu</i>	„jaws/palates“
<i>ináajo</i>	„feet“

As mentioned in the other group of nouns which had falling tones, this tone falls also on a long vowel in the examples (31) to (33). The environments in which they occur are the expected: on a vowel before a NCs, i.e. *iséembe* „axe“ in Cindali, derivations of secondary articulation, i.e. *ivʷáavu* „jaws, palates“ in Cilambya and *imʷúusi* „pestles“ in Cisukwa.

Rising tone

This group of nouns also have a contour tone which involves a low tone followed by a high tone.

(34)

Cisukwa	Englsih gloss
<i>iinguku</i>	„chicken“
<i>iink^hufu</i>	„navel“
<i>ufiindo</i>	„anus“
<i>um^wiifi</i>	„thief“
<i>iimbwa</i>	„dog“
<i>iindimi</i>	„tongue“
<i>iindama</i>	„cow“
<i>iimbusi</i>	„goat“

(35)

Cindali	English gloss
<i>iĩmbuʃi</i>	„goat“
<i>imboómbó</i>	„navel“
<i>iŋguúmbé</i>	„earth pot“
<i>ipʰááfo</i>	„grinding stone“
<i>iĩndama</i>	„cow“

(36)

Cilambya	English gloss
<i>iβaánda</i>	„blood“
<i>iŋeénde</i>	„scabies“
<i>úl^waánda</i>	„pregnancy“
<i>iĩnzutʃi</i>	„bee“
<i>iĩndama</i>	„cow“
<i>iĩŋk^huku</i>	„chicken“

These examples (34) to (36) of rising tones – like the examples (31) to (33) of falling tones, all appear on long vowels before NCs. *iĩŋkhuku* „chicken“ in Cilambya and instances of secondary articulation in the Cisukwa word *um^wiifi* „thief“ and in the Cindali word *ipʰááfo* „grinding stone“ are examples of these rising tones on long vowels.

HL

This tone class has one high tone on the first mora followed by a low tone.

(37)

Cisukwa	English gloss
<i>úkol^we</i>	„monkey“
<i>úpaf^wa</i>	„lung“
<i>ífupa</i>	„tongue“
<i>ítulu</i>	„testicle“
<i>ámino</i>	„teeth“
<i>iβaanda</i>	„blood“
<i>índaandi</i>	„muscle“

(38)

Cindali	English gloss
<i>ifupa</i>	„bone“
<i>ifuye</i>	„eyebrow“
<i>ifyo</i>	„kidney“
<i>úfine</i>	„illness“
<i>íβala</i>	„intestine“
<i>íβaanda</i>	„blood“
<i>ikuundu</i>	„anus“
<i>iliino</i>	„tooth“
<i>úβoongi</i>	„brain“
<i>ínoongo</i>	„liver“

(39)

Cilambya	English gloss
<i>úmutu</i>	„head“
<i>ípaala</i>	„baldness“
<i>úmuji</i>	„air“
<i>ámavi</i>	„faeces“
<i>úpaf^va</i>	„lung“
<i>ítima</i>	„liver“
<i>áβaana</i>	„children“
<i>úmukolo</i>	„woman“
<i>úβukata</i>	„laziness“
<i>ísiingo</i>	„neck“

In the SuNdaLa data we however found some tones classes that were observed in trisyllabic words without augment. This is the HHL class. We argue that the HHL tone class is not an HL tone class but rather that there are two adjacent similar tones underlyingly because SuNdaLa does not have a tone spreading rule. Furthermore, there was a LH tone class only attested in Cilambya. These tone classes are discussed in the following:

HHL

This tone class has two high tones on the first two moras which are followed by a low tone on the last mora. Examples for this tone class are presented in (40) to (42).

(40)

Cisukwa **English gloss**

mwénétfo „self“
másósi „tears“

(41)

Cindali **English gloss**

kápéle „pimple“
túxáfi „biles“
tʃínúnu „deaf/mute person“
pámúsi „daytime“
ndébéla „valley“
tʃíbébe „ringworm“

(42)

Cilambya **English gloss**

tʃínúnu „deaf/mute person“

In examples (40) to (42) above, the first mora has a high tone and it is followed by another high toned mora. The Obligatory Contour Principle (OCP) which was first mentioned by Leben (1973, 1978) and later on formulated by Goldsmith (1976) states that two adjacent tonemes must be dissimilar. This means melodic patterns such as the HHL, LLH, HH or LL are not possible. They would have to be simplified to HL, LH, H and L respectively. When they do appear on the surface, they are treated as a result of tone rules such as tone spreading/doubling.

The SuNdaLa examples which have been presented in this section have two similar high tones. We argue for SuNdaLa that the two high tones are underlyingly successive, i.e. not the result of tone spreading. They therefore violate the OCP. The argument for this claim is that there are cases of underlying high tones which do not spread and also prefixes similar to the ones in examples (40) to (42) that are high toned are followed by low toned moras.

In languages such as Chichewa that have tone doubling rules, high tones spread to the following syllable. Downing and Mtenje, A.D. (forthcoming:120), show various cases of tone doubling. Some of their examples are provided in (43).

(43)

Underlying tones	Surface tone pattern (+length)	English gloss
<i>dókotala</i>	<i>dókótaala</i>	„doctor“ (English borrowing)
<i>bilimánkhwi</i>	<i>bilimáankhwi</i>	„chameleon“
<i>w-a-ti-fotokozeera</i>	<i>w-a-tí-fótokozeera</i>	„I-PERF-1p-explain to“
<i>mw-a-í-sekeetsa</i>	<i>mw-a-í-sékeetsa</i>	„you-PERF-4OM-laugh.CAUS“

In each of the Chichewa examples in (43), the underlying H tone spreads to the following syllable.

In SuNdaLa, for this tone class which has two adjacent high tones, we argue that they are not a result of tone doubling because the SuNdaLa do not have these tone rules. For example, SuNdaLa varieties basically have one high tone in verbs either on the penult or the antepenult. This will be discussed in greater detail in 4.3. There are no successive high tones.

Examples where high tones are not followed by high tones are presented below. The first examples in (44) to (46) include the relative markers which have high tones.

(44)

Cisukwa

itfilómbe tʃó aβáana βálja

i-tʃi-lómbe tʃ-ó a-βána βa-a-lj-a

AUG-7- maize 7NCP-Relp AUG-child 3pSM-PFV-eat-FV

„The maize that the children have eaten.“

In example (44), the high tone of *tʃó* is not followed by a high tone since the tone of the first mora in *aβáana* is low toned.

(45)

Cindali

isófu fífo akuβowa

i- Ø-sófu fí-fi-o a-ku-βów-a

AUG-9-elephant 10NCP-Relp 3sSM-PROG-kill-FV

„The elephants that are being killed.“

In example (45), the relative marker *fífo* has a high tone on the first mora and is not followed by a high on the next mora.

(46)

Cilambya

ínumba yó tituzéenge

í-nuumba i-o ti-tu-zéenge

AUG-house 9NCP-Relp 1pSM-FUT-build

„The house that we will build.“

In the Cilambya example (46), the relative marker *jó* has a high tone, but this tone does not spread to the following mora in the word *tituzéenge*.

Examples in (44) to (46) of no tone spreading involve verbs in sentences which have a high tone on the penultimate syllable but the high tone does neither spread to the following syllable nor to the following noun. Further examples with no tone spreading are presented below.

(47)

Cisukwa

imbwa yakóma púsi

i-N-bwa i-a-kom-a pusi

AUG-9-dog 9SM-PFV-beat-FV cat

“The dog has beaten the cat“

In example (47), which has the verb *yakóma* with a high tone on the penultimate syllable, the H tone does not spread to the final syllable.

(48)

Cindali

nakóma ukáβwa

n-a-kom-a u-káβwa

1sSM-PFV-beat-FV AUG-dog

„I beat the dog“

The perfective tense assigns a high tone on the penultimate syllable (more details on the tone in verbs 4.1.2.2). However, we see that in *nakóma* the high tone does not spread to the following syllable.

49.

Cilambya

imbwa yamúma pusi

i-N-bwa *i-a-mum-a* *pusi*

AUG-9-dog 9SM-PFV-beat-FV cat

‘The dog has beaten the cat’

The absence of tone spreading is also observed in examples (49). The high tone in the word *yamúma* does not spread to the following syllable or the following noun.

The examples (44) to (49) and the general behaviour of high tones in verbs in the different tenses demonstrate that there is no tone spreading in SuNdaLa.

Since we have established that there is no tone spreading in the varieties, the tone patterns in the examples above cannot be HL but rather HHL where the two vowels underlyingly are assigned high tone. Furthermore, the examples in the HHL tone class all involve a high tone on the prefix and another one on the first syllable of the noun stem. There are examples of words in all varieties where the same prefixes appear with a high tone but the following noun stem syllable does not have a high tone. These words include *tʃíteende* ‘heel’ in Cisukwa, *kálundi* ‘leg’ and *túlundi* ‘legs’ in Cindali and *tʃimp^heemvu* ‘knee’ and *tʃĩŋgov^wa* ‘goitre’ in Cilambya. All these examples have a high tone on the first syllable of the noun prefixes *tʃi*, *ka* and *tu*. However, the following moras, i.e. the first mora of the noun stems have low tones. If indeed the phenomena in the HHL examples (40) to (42) were cases of tone spreading, we would have expected the first mora of the noun stem to have a high tone. Since this is not the case the successive appearance of high tones in these examples cannot be the result of tone doubling; both high tones must reflect underlying high tones.

HLHL

This tone class has two high tones. The first high tone appears on the first mora and is followed by a low tone. This low tone is in turn followed by another high tone with a successive low tone.

(50)

Cisukwa	English gloss
<i>mújiítu</i>	„friend“
<i>liitiíma</i>	„liver“
<i>liḡguúngu</i>	„hip“
<i>ípuúla</i>	„mucus“
<i>βáβoóḡgo</i>	„brains“

(51)

Cindali	English gloss
<i>tʃiipaála</i>	„baldness“
<i>námbeléle</i>	„sheep“
<i>ímboómbó</i>	„navel“

(52)

Cilambya	English gloss
<i>náseénje</i>	„father“s sister“
<i>tʃiipiíḡgo</i>	„trap“
<i>tʃiipaále</i>	„traditional cup“

The tone classes mentioned in this section are those which are common in all three SuNdaLa varieties in trisyllabic words. However, there is one tone class LH, under this category, which is attested only for Cilambya. Examples (53) present such LH Cilambya words.

LH

(53)

Cilambya	English gloss
<i>lituló</i>	„testicle“
<i>mafupá</i>	„bones“
<i>lusijí</i>	„eyebrow“

This is the only instance of a tone class in trisyllabic stems observed which ends with a high tone. Only nouns which have no augment are found in this tone class with an H tone on the final vowel. This observation corresponds to what has been described above in examples (23) for bisyllabic nouns with no augment in which a H tone is also on the final syllable.

4.1.2.1.1.3 Quadrisyllabic nouns

We discuss quadrisyllabic nouns in this section and we observe only two tone classes in this group. The tone classes are the LHL and HL. The falling tone and rising tone classes mentioned in the other groups do not occur in the data for this group.

LHL

In examples (54) to (56) a high tone on one mora and is preceded and followed by moras with low tones.

(54)

Cisukwa	English gloss
<i>imiβili</i>	„skin“
<i>aβatáta</i>	„fathers“
<i>imilómo</i>	„lips“
<i>imiléfu</i>	„beards“
<i>aβalóβi</i>	„fishermen“
<i>aβamáti</i>	„potters“
<i>ingulúwe</i>	„pig“
<i>umúlosi</i>	„witch“
<i>usékuru</i>	„grandfather“
<i>umúkasi</i>	„woman“

(55)

Cindali	English gloss
<i>amakóle</i>	„veins“
<i>ulongófi</i>	„obligation“
<i>amaβúlo</i>	„grenary“
<i>amásaja</i>	„cheeks“
<i>amáfupa</i>	„bones“
<i>aβákamu</i>	„relative“

(56)

Cilambya	English gloss
<i>uβupípi</i>	„body hair“
<i>aβamáma</i>	„mothers“
<i>ulúkole</i>	„tendon“
<i>amákutu</i>	„ears“
<i>itfílefu</i>	„jaw“

HL

This tone class is also common in this group of nouns. A high tone is on the first mora followed by a low tone mora.

(57)

Cisukwa	English gloss
<i>úkalulu</i>	„rabbit“
<i>úmukolo</i>	„girl“

(58)

Cindali	English gloss
<i>ámalimi</i>	„lips“
<i>ítfípapa</i>	„skin“

(59)

Cilambya	English gloss
<i>úmukamu</i>	„relative“
<i>úlulimi</i>	„lip“
<i>úmusana</i>	„back“

In the SuNdaLa varieties, the falling tone was only attested in two lexems, namely *malafáale* „chief“ in Cisukwa and Cindali and *múluméendo* „boy“ in Cilambya. There was no noun with rising tones in the SuNdaLa data collected.

The words *ndápatápa* „thigh“ in Cisukwa, *námbeléle* „sheep“ in Cindali and *tʃiŋk^honóno* „snore“ in Cilambya are the only attested members of the HLHL tone class.

4.1.2.1.1.4 Quinquisyllabic nouns

Nouns with five syllables are very rare in SuNdaLa and for this reason only two tone classes with one or two examples for each were recorded.

Quinquisyllabic nouns with augment

A few quinquisyllabic nouns with augment had the LHL tone pattern. The Cisukwa word for this tone class is *aβáanalume* „men“. There was only one word in Cindali *aβákangale* „old people“ and one *aβízukulu* „grandchildren“ in Cilambya with the LHL tone pattern. For the HL pattern only one example was attested in Cisukwa and in Cindali. Examples include the words *tún̄golong’oso* „knuckle“ in Cisukwa and *t̄íwollowolo* „goitre“ in Cindali.

4.1.2.1.2 Generalisations about SuNdaLa tone in nouns

The minimum number of H tones on a noun is one and the maximum number is two. However, nouns with one high tone are common in the varieties. In each group of nouns discussed in the sections above, the LHL and HL are the most common classes. There are two tone classes namely the HHL and HLHL that we discuss in the trisyllabic words and these are the only cases where we observe two high tones in a word. It was argued that HHL class consists of two consecutive underlying high tones and we dispute a tone spreading analysis that would have simplified the melody to HL.

H tones commonly can occur on all moras except the last. However, in two cases of trisyllabic and bisyllabic nouns in Cilambya a H tone was in fact on the final mora.

High tones can appear on the first, second, third or fourth mora of a word. In other words there is no particular position where H tones are assigned in nouns. This was shown in 4.2.1. The unpredictability of the assignment of high tones in nouns indicates that tone in SuNdaLa nouns show tonal properties rather than accentual features.

Furthermore, the noun class system is also independent from the tonal system in SuNdaLa for we find no correlation of these two systems. Nouns in the same noun class can occur in different tone classes. For example, in Cisukwa, the nouns *múlume* „male“ and *múlindu* „girl“ which are class 1 nouns belong to the HL tone class. However, other class 1 nouns such as *mupína* and *mukúlu* are in the LHL tone class. In addition, nouns in the same tone class can occur in different noun classes. For example, in Cilambya the words *ulúkole* „tendon“ (class

11), *amá kutu* „ears“ (class 6) and *itílefú* „jaw“ (class 7), all below to the LHL tone class even though they are in different noun classes.

In the following section tone realisation in verbs will be discussed.

4.1.2.2 Tone in Verbs

The tone system of verbs in SuNdaLa is fundamentally different from that of nominals. While for nouns the assignment of high tones is not predictable, it is predictable for verbs; thus the tone system of verbs has characteristics of an accentual rather than a pure tone system.

Studies on Bantu tone (cf. Goldsmith 1985a,b, Hyman and Byarushango 1984, Odden 1984a,b, Kisseberth 1984, Clements 1984a, Mtenje, A.D. 1986, 2005, Cassimjee 1998, 2004, Bickmore 2007, Mkochi 2014) have shown that morphological categories such as tense, aspectual and object markers have a significant effect on verb stem tones. Most importantly, they assign high tones to various domains of the verbal unit in a number of different morphological contexts.

Like in most other Bantu languages the presence of H tones in SuNdaLa is also determined largely by tense morphemes. Allomorphs can also play a role in determining the position of H tones in the verb stem. In general, a H tone is assigned on the antepenultimate mora in the infinitive. In the present and past habitual tenses and in one future tense category, the high tone is on the antepenultimate syllable. H tones are realised on the penultimate mora in the imperative but in the present progressive, in the perfective /a/, in the remote past and in the future tenses the H tone falls on the penultimate syllable. The H tone assignment will be discussed for each of these tenses. Details concerning tense are discussed in chapter 7.

4.1.2.2.1 Imperatives

In all SuNdaLa varieties, verb stems must have at least one H tone. In the imperatives, in all the three varieties a H tone usually falls on the penultimate mora. This can be observed in the verb forms of different syllable sizes as illustrated below.

It is important to note that in the discussion of the imperative and the infinitive tense we will refer to the moras as tone carrying units and not the syllables because, the realisation of a high tone seeks the mora regardless the position of the syllable in the word. In the remaining tenses we will be referring to the syllable.

Imperatives of bisyllabic verbs

(60)

Cisukwa	English gloss
<i>l'aáŋga</i>	„eat“
<i>ŋ^waáŋga</i>	„drink“
<i>lúma</i>	„bite“
<i>f^waáŋga</i>	„die“
<i>βóna</i>	„sleep“
<i>eénda</i>	„walk“
<i>kiinda</i>	„run“
<i>júya</i>	„speak“
<i>lila</i>	„cry“
<i>βúka</i>	„get up“
<i>séka</i>	„laugh“

(61)

Cindali	English gloss
<i>l'aáŋga</i>	„eat“
<i>ŋ^waáŋga</i>	„drink“
<i>keéta</i>	„see“
<i>lúma</i>	„bite“
<i>máŋa</i>	„know“
<i>f^waáŋga</i>	„die“

(62)

Cilambya	English gloss
<i>l'aáŋga</i>	„eat“
<i>éŋa</i>	„marry“
<i>lúma</i>	„bite“
<i>máŋa</i>	„know“
<i>f^waáŋga</i>	„die“
<i>βóna</i>	„see“

In all bisyllabic verbs presented in (60) to (62), H is realised on the penultimate mora.

Trisyllabic verbs

(63)

Cisukwa	English gloss
<i>pulúka</i>	„fly“
<i>namúka</i>	„get up“
<i>lalús'a</i>	„ask“
<i>sunǵila</i>	„push“
<i>putúla</i>	„cut“
<i>otéla</i>	„bask“
<i>itís'a</i>	„call“
<i>seníwa</i>	„marry“

(64)

Cindali	English gloss
<i>pulika</i>	„listen“
<i>pulúka</i>	„fly“
<i>ikála</i>	„sit“
<i>βulífa</i>	„sell“
<i>itífa</i>	„call“

(65)

Cilambya	English gloss
<i>bulúka</i>	„fly“
<i>ikála</i>	„sit“
<i>suunǵ^hila</i>	„push“
<i>dumúla</i>	„cut“
<i>βulíz'a</i>	„sell“
<i>langíz'a</i>	„show“
<i>koléla</i>	„call“

Like in bisyllabic words, H is assigned to the penultimate vowel also in trisyllabic words of SuNdaLa imperatives.

Quadrisyllabic verbs

(66)

Cisukwa	English gloss
<i>tiyilís'a</i>	„call“
<i>inojóna</i>	„know“
<i>tehelés'a</i>	„listen“

(67)

Cindali	English gloss
<i>oṅgeléfa</i>	„add“
<i>pulikífa</i>	„listen“
<i>imilíla</i>	„stand up“

(68)

Cilambya	English gloss
<i>oṅgeléz'a</i>	„add“

All examples with bisyllabic, trisyllabic and quadrisyllabic words, show that the H tone falls on the penultimate mora. Bisyllabic words with long penultimate syllables, for instance *l'áánga* „eat“, *f'wáánga* „die“ bear the high tone on the second (penultimate) mora of the syllable. These two examples demonstrate that H tone assignment targets the penultimate mora and not the syllable. If it was the syllable, one would have expected both moras of the penultimate syllable to be long and we would have then forms like **l'áánga* and **f'wáánga* which do not exist. The imperative form therefore, requires that the H tone in SuNdaLa is on the penultimate mora. Mtenje, A.D. (2006) for Cindali observed that a H tone is realised on the penultimate syllable.

However, during the data collection for this study, it was noted that one of the Cindali speakers realised a high tone on the final mora in some bisyllabic words, cf. examples (69).

(69)

Cindali	English gloss
<i>βoná</i>	„see“
<i>kiindá</i>	„run“
<i>lilá</i>	„cry“
<i>βuká</i>	„get up“
<i>seká</i>	„laugh“
<i>otelá</i>	„bask“

There are high tones on the final mora in the forms (69). Nevertheless, it is interesting to note that except for these bisyllabic forms, this speaker followed the regular H tone placement pattern in longer verbs and, thus, generally put the H tone on the penultimate mora.

The pattern of assignment of high tones in certain positions can be accounted for in the theory of Alignment, a sub theory of Prince and Smolensky's (1993) Optimality framework. The theory of Alignment was developed to explain the generalised alignment of edges of morphological and prosodic categories but also edges of phonological constituents such as the syllable, foot, prosodic word, morphological constituents such the stem, root and affix and prosodic constituents such as the mora. A high tone generally avoids to be placed on the final vowel of the stem through its realisation either on the penultimate mora, shows that the right edge of the morphological stem should not be aligned with a high tone. There is a constraint to account for this phenomenon which has been formulated by Myers and Carleton (1996) and is known as the Stem Non-Finality.

Stem Non-Finality

The right edge of the morphological stem is not aligned with a high tone.

Mtenje, A.D. (2006) proposes the Final Foot H constraint to account for the categories that assign a H tone on the penultimate mora in Cindali. The Final Foot H stipulates that:

Final Foot H: Place a high tone at the head of each foot.

4.1.2.2.2 The infinitive

Infinitives in SuNdaLa are constructed by combining the augment *u*, class 15 prefix *ku*, the verb root and the final vowel. In speech, the augment is optional and may, therefore, be omitted. In the case of tone, for this category, the high tone generally falls on the

antepenultimate mora and not the penultimate mora as was the case in the imperatives above. The high tone appears on the penultimate mora when the verb root is monosyllabic. The following SuNdaLa examples with different syllable sizes demonstrate this. A set of similar words will be used for all three SuNdaLa varieties as tone is realised in the same position in all three varieties.

Monosyllabic root verbs

(70)

SuNdaLa	English gloss
<i>ukúl'a</i>	„to eat“
<i>ukúŋ^wa</i>	„to drink“
<i>ukúf^wa</i>	„to die“
<i>ukúβ^wa</i>	„to fall“

In the monosyllabic verb roots in (70), the H tone is realised on the penultimate mora of the stem.

Verbs with bisyllabic roots

(71)

SuNdaLa	English gloss
<i>ukunáanda</i>	„to lick“
<i>ukulóonda</i>	„to want“
<i>ukúlima</i>	„to cultivate“
<i>ukúluma</i>	„to bite“
<i>ukúmana</i>	„to know“
<i>ukúβona</i>	„to sleep“
<i>ukúβoya</i>	„to kill“
<i>uk^wéenda</i>	„to walk“
<i>ukúβika</i>	„to put“
<i>ukúkoma</i>	„to beat“
<i>ukúseka</i>	„to laugh“

The data in (71) shows that when the root is not monosyllabic, a H tone is realised on the antepenultimate mora which, in most cases, is the one on the infinitive prefix *ku*. In cases where the antepenultimate mora is not the infinitive prefix due to the presence of a long

vowel in the root, it is the first mora of the long syllable which receives the high tone. (cf. *ukulóonda* „to want“, *uk^wéenda* „to walk“). These examples further support the argument mentioned above that H tone placement targets the mora and not the syllable. That is, the H tone assignment algorithm in these long verb roots seems to count the number of moras from right to left until it reaches the antepenultimate mora.

Verbs with trisyllabic roots

(72)

SuNdaLa	English gloss
<i>uk^wiikala</i>	„to sit“
<i>ukusuúŋgila</i>	„to push“
<i>ukuhówoka</i>	„to be happy“
<i>ukutétema</i>	„to shake“
<i>ukumánila</i>	„to learn“
<i>ukoótela</i>	„to bask“

In the examples (72) with trisyllabic roots, the same tone pattern occurs as with the bisyllabic root verbs, namely, a H tone falls on the antepenultimate mora.

Verbs with quadrisyllabic roots

(73)

SuNdaLa	English gloss
<i>uk^wiimílila</i>	„to stand“
<i>ukukosómola</i>	„to cough“
<i>ukukajíkila</i>	„to doubt“
<i>ukusekélela</i>	„to smile“
<i>ukusuβálila</i>	„to believe“
<i>uku^ʔesémula</i>	„to sneeze“
<i>ukuŋanámu^{ka}</i>	„to turn around“
<i>ukufuyámila</i>	„to squat“

As seen in the examples (72) and (73), even in the long verb roots, a H tone is still assigned to the antepenultimate mora. We can therefore, generalize that in the verbs of the SuNdaLa varieties, the antepenultimate mora attracts a H tone, except when the root is monosyllabic in which case the H tone moves to the penultimate mora.

Verbs with monosyllabic roots become trisyllabic words when they acquire an augment which in turn creates an antepenultimate mora. This can be seen in the examples *ukúl'a* „to eat, *ukufwa* „to die“. This would be normally the candidate for receiving the H tone. However, this does not happen since the high tone appears on the penultimate mora.

There a number of possible analyses to account for this phenomenon. The first is to propose a constraint which disallows a high tone to fall on the augment in infinitives. However, a high tone can fall on the augment in nouns as discussed in 4.1.2.1 for words like *ífupa* „bone“, *ífiyo* „kidney“. The proposed constraint would be more of a morphological explanation and not general fact which is naturally accounted for from the structure of any theoretical framework. To this extent, this alternative would be less attractive.

The second possible analysis is to appeal to metrical theoretical structure (Hayes 1986) and motivate a feet-based analysis. This would parse the verbal unit into binary branching left-headed prosodic feet from right to left with the right-most branching foot being extrametrical (i.e. invisible to phonological rules, cf. Hayes 1986). The assignment of high tones would then be sensitive to foot structure. A general rule of H tone placement which puts a high tone on the antepenultimate mora could be invoked as follows:

Rule: Antepenultimate H tone assignment

- i) Assign H to the right-most visible mora of a branching foot.
- ii) If the right-most visible mora is not part of a branching foot, assign H tone to the head mora in the branching foot to its right (by default).

Rule i predicts that the antepenultimate mora, and not the penultimate mora receives the H tone since the latter will not be visible. This accounts for the majority of the penultimate H tones in the bisyllabic, trisyllabic and quadisyllabic verbs. In the case of monosyllabic verb roots, the right-most foot would initially, not be visible to tone assignment due to its being extrametrical. However, the next visible mora to the left (which is the vowel of the augment) is not part of a branching foot and would therefore not qualify to receive a H tone. Since each verb must have at least one H tone, as shown before, the default rule ii above applies and assigns the H tone to the penultimate mora which is the head mora in the available branching foot to the right of the non-branching foot. The advantage of this analysis over the first is that H tone assignment automatically follows from the general structure of the prosodic theory which recognizes foot structure and the notion of extrametricality.

The realisation of tone on the antepenultimate mora, except in monosyllabic roots, has also been observed by Botne (2008) for Cindali. Although, the study claims that it is only in words with monosyllabic stems where the high tone is assigned to the prefix *ku*, this thesis also presents additional words with bisyllabic roots in which this prefix bears a high tone as it is in the antepenultimate position in these words, for example *ukúlima* „to cultivate“ and *ukúluma* „to bite“.

This tense is different from the imperative in that the high tone is assigned to the antepenultimate mora.

The account of H tone placement on the antepenult mora for infinitives given in this thesis is at variance with Mtenje, A.D.’s (2006) findings on high tone realisation in the infinitive in Cindali in which a high tone is assigned to the penultimate vowel. The difference in the analyses could be a result of variation among speakers of the Cindali variety or, perhaps, of the influence from other neighbouring languages, such as Citumbuka. Citumbuka always assigns a high tone to the penultimate vowel.

The data collected for this study shows that the realisation of high tone in the infinitive in SuNdaLa is more complex than it appears on the surface. In the infinitive, H tones only appear on the penultimate mora in monosyllabic verb roots, and in all other longer roots, the H tone is realised on the antepenultimate mora. A complication to this generalisation comes from some words among the infinitives which do not have monosyllabic verb roots but have a high tone attested on the penultimate syllable. Most of these SuNdaLa words have verb root endings with the sounds *s^j*, *f*, *z^j*, *l^w*, *f^j* and *v^j*. Consider the examples (74).

(74).

Infinitive	English gloss
<i>ukufuús^ja</i> (Cisukwa, Cilambya)	„to fart“
<i>ukujéz^ja</i> (Cilambya)	„to try“
<i>ukulés^ja</i> (Cisukwa, Cilambya)	„to prevent“
<i>ukoó^fa</i> (SuNdaLa)	„to frighten“
<i>ukulúv^ja</i> (Cilambya)	„to forget“
<i>ukumajís^ja</i> (Cisukwa, Cilambya)	„to teach“
<i>ukulakíl^wa</i> (Cindali)	„to choke“
<i>ukujomó^fa</i> (Cindali)	„to startle“

Infinitive	English gloss
<i>ukukapífa</i> (Cindali)	„to blink“
<i>ukuf^w enéfa</i> (Cindali)	„to sneeze“
<i>ukoonéfa</i> (Cindali)	„to show“
<i>ukumajífa</i> (Cindali)	„to teach“
<i>uk^w iitúf^ha</i> (Cindali)	„to be proud“
<i>ukwifuláfa</i> (Cindali)	„to hurt oneself“
<i>ukulaangíz^ha</i> (Cilambya)	„to show“

In the examples (74), a H tone is attested on the penultimate mora even though the verb roots are bisyllabic, such as in *ukulés^ha* „to prevent“ (Cisukwa, Cilambya) or in trisyllabic verb roots such as in *ukoonéfa* ‘to show’ (Cindali), or *ukulaangíz^ha* „to show“ (Cilambya). One crucial issue in these verbal forms is that their final consonants are complex, comprising a consonant and a glide essentially as a result of secondary articulation.

In chapter 3, section 3.2.4, we had maintained Kula’s (2002) analysis of such sequences as shifts of /u/ or /i/ from a nucleus position to onset. In the case of tone assignment, we would like to invoke a rule ordering analysis to account for the realisation of the high tone on the penultimate mora instead of the expected antepenultimate. We propose that a high tone is underlyingly assigned to the antepenultimate mora above through the regular process before the shift of the vowels /i/ and /u/ from the nucleus to the onset position. When the vowels shift to the non-moraic position, the antepenultimate moras get lost but their assigned high tones are still available and dock on to the penultimate moras hence their occurrence in that position. A similar explanation is provided by Mtenje, A.D. (2006) as he accounts for cases of the alveo-palatal /j/ and tone assignment which is dependent on allomorphy in Cindali.

The maintenance of the antepenultimate H tones even after their bearers have been demorified, is a fundamental principle of non-linear phonological theory where tones are independent of their segmental hosts. There is, therefore, no additional theoretical machinery required, which makes this analysis an attractive account.

4.1.2.2.3 The present progressive tense

In all the three SuNdaLa varieties, the present progressive is marked by *ku*. The morphological marker for the present progressive tense in all three SuNdaLa varieties assigns a high tone to the penultimate syllable of the verbal construction.

Table 18: High tone in the present progressive

Cisukwa, Cindali	Cilambya	English gloss
<i>ŋgúl'a</i> N-kú-li-a SM1sg-PROG-eat-FV	<i>ŋk^hú-lja</i> N-kúlja SM1sg-PROG-eat-FV	„I am eating“
<i>βak^wiisa</i> βa-ku-ís-a SM2-PROG-come-fv	<i>βakwiiza</i> βa-kw-íz-a SM2-prog-come-fv	„they are coming“
SuNdaLa		
<i>tukúŋ^wa</i> tu-kú-ŋu-a SM1pl-PROG-drink-FV		„we are drinking“
<i>ukupija</i> u-ku-pij-a SM2sg-PROG-cook-FV		„you (sg) are cooking“
<i>muk^wéenda</i> mu-ku-énd-a SM2pl-PROG-walk-FV		„you (pl) are walking“

In table 17, a H tone is realised on the penultimate syllable of the different verb forms. In this tense and the tenses to follow in this discussion, it is the syllable which receives the H tone because even in long vowels either mora in the particular syllable may receive an H tone as long as it is the relevant syllable.

The same analysis we proposed for the infinitives above applies here, i.e. H tones goes to the penultimate moras (syllables in this case) in bisyllabic verb stems. For instance, the verbs „I am eating“ *ŋgúl'a* in Cindali and Cisukwa and *ŋk^hú'l'a* in Cilambya, which are derived from the monosyllabic root *-li-*, are bisyllabic and hence the high tone is predicted to fall on the penultimate mora/syllable as shown earlier with infinitives. Likewise, even if bisyllabic verb stems become longer, as in *tukúŋ^wa* „we are drinking“ and *ukupija* „you (sg) are cooking“, the pattern still remains the same and the high tone appears on the penultimate syllable, as expected.

4.1.2.2.4 The present and past habitual tenses

The present habitual tense describes actions which are currently happening and on a continuous basis. The tense marker for the present is *-ku-* in all three SuNdaLa varieties. The marker however, can appear with the habitual markers *ay* or *aŋg* which, normally, appear after the verb root. More details on this tense category are discussed in chapter 7. In terms of tone assignment, it is important to note that the allomorphs *aŋg* and *ay* determine the assignment of the high tone in this tense. A H tone is assigned to the penultimate syllable when the habitual marker is *aŋg* and it is realised on the antepenultimate mora when the allomorph is *ay*. This claim was also earlier made by Mtenje, A.D. (2006) for Cindali. This is exemplified below:

Table 19: H tone in the present habitual tense

SuNdaLa		English gloss
<i>ukuŋ^waáŋga</i> u-ku-ŋu-aŋg-a SM2sg-PRES-drink-HAB-FV		„you (sg) drink“
<i>uku^laáŋga</i> u-ku-li-aŋg-a SM2sg-PRES-eat-HAB-FV		„you (sg) eat“
<i>mukiízaya</i> mu-ku-íz-aŋ-a SM2pl-PRES-come-HAB-FV		„you (sg) come“
<i>ak^wiimbaya</i> a-ku-imb-aŋ-a SM1-PRES-dance-HAB-FV		„s/he sings/dances“
Cisukwa, Cindali	Cilambya	
<i>ŋgweéndaya</i> N-ku-énd-aŋ-a SM1sg-PRES-walk-HAB-FV	<i>ŋkhweéndaya</i> N-ku-éénd-aŋ-a SM1sg-PRES-walk-HAB-FV	„I walk“
<i>βakukiíndaya</i> βa-ku-kíind-aŋ-a SM2-PRES-run-HAB-FV	<i>βakutŋimbilagya</i> βa-ku-tŋimbil-aŋ-a SM2-PRES-run-HAB-FV	„they run“

In the first two examples of table 19 *ukuŋ^waáŋga* „you (sg) drink“ and *ukulyaáŋga* „you (sg) eat“ the allomorph *aŋg* has been attached to the verb stem and a high tone is on the penultimate syllable. However, the examples with *ay* as the marker have H tone on the antepenultimate mora. For example, in the form *βakutʃimbilaya* „they run“ the H tone falls on the syllable *mbi*, which is in the antepenultimate position.

The influence of allomorphs in the assignment of high tone in the SuNdaLa varieties is also observed in the past habitual tense, which has the same allomorphs as the present habitual, see table 20. The past tense marker is *-ka-* and it indicates action which was done in the past but has stopped. The *ka* appears in front of the verb root and occurs together with the habitual marker *-ay-* which has the allomorph *-aŋg*. These markers typically occur at the end of the verb root. Like in the present habitual, the allomorphs *aŋg* also in this category assigns the H tone to the penultimate mora while the allomorph *ya* places it on the antepenultimate vowel. The choice of which allomorph goes with which verb is explained in detail in chapter 7.

Table 20: H tone in the past habitual tense

SuNdaLa	English gloss
<i>βakapíjaya</i> βa-ka-píj-ay-a SM2-PST-cook-HAB-FV	„they used to cook“
<i>tukiimbaya</i> tu-ka-ímb-ay-a SM2sg-PST-dance-HAB-FV	„we used to dance“
<i>akaŋ^waáŋga</i> a-ka-ŋu-áŋg-a SM1-PST-drink-HAB-FV	„s/he used to drink“
<i>mukal'aáŋga</i> mu-ka-li-áŋg-a SM2pl-PST-eat-HAB-FV	„you (pl) used to eat“

The past tense is marked by *-ka-* and appears with the habitual marker *aŋg* or *ay*. When the allomorph is *ay*, as in the first two examples of table 19, the H tone is assigned to the antepenultimate syllable. For instance in *βakapíjaya*, „they used to cook“, the high tone appears on *pi* which is the antepenultimate syllable. When the past habitual aspectual

allomorph is *ang*, as in the last two examples in table 20, the H tone appears on the penultimate syllable. This can be observed in *muka^láanga* „you (pl) used to eat“ where the H tone falls on the penultimate mora.

The analysis proposed by Mtenje, A.D. (2006) for Cindali is also adopted in this study. His analysis accounts for the difference in tone assignment by suggesting that the penultimate H tones are derived from underlying representations of verbs which end in a consonant plus the vowel [i] or [u] followed by the final vowel [a]. The surface forms were later on derived through rules of deletion, palatalization and glide formation. Mtenje, A.D. (2006) argues that if the moraic units are counted from the end of the verb, we see that the high tone is actually assigned to the third mora from the right, which is an antepenultimate position. After the mora has been lost, through palatalisation or deletion, the H tone re-surfaces on the surviving mora, which is in the penultimate position. In this case, the assignment of the H tone by these allomorphs follows the same principle noted above where the preferred position for H in the verb stem is the antepenultimate position. However, in cases of extrametricality or where phonological rules of vowel deletion, palatalization or glide formation result in the loss of a mora, as in the examples of the allomorphs discussed in tables 20 and 21, then the H tone docks to the penultimate mora or syllable.

This analysis accounts for the H tone in forms such as *akaj^waánga* „s/he used to drink“ and *muka^laánga* „you (pl) used to eat“, which are, underlyingly, /a-ka-ŋu-aŋg-a/ and /mu-ka-li-aŋg-a/, respectively. The first step in their derivation is for a high tone to be assigned to the antepenultimate position. After the deletion of the antepenultimate vowel /u/- which has been assigned the H tone- in /a-ka-ŋuwa-ŋga/, and the palatalisation of the H toned antepenultimate vowel /i/ in /mu-ka-li-a-nga/, it is only the segments that are affected since the high tones remain. The high tones however consequently surface on the syllable to the immediate right, which is in the penultimate position. The tonal effects of the allomorphs *ay* and *ang* are, therefore, account for with this analysis.

4.1.2.2.5 The perfective tense

In SuNdaLa, the morpheme *-a-* is used to show perfectivity. In this tense category, a high tone is assigned to the penultimate syllable as seen in the examples of table 21.

Table 21: H tone in the perfective tense

SuNdaLa		English gloss
<i>náal'a</i> N-á-li-a SM1sg-PFV-eat-FV		„I have eaten“
<i>wáaŋ^wa</i> u-á-ŋu-a SM2sg-PFV-drink-FV		„you (sg) have drunk“
<i>m^waapija</i> <i>mu-a-pij-a</i> SM2pl-PFV-cook-FV		„you(pl) have cooked“
Cisukwa, Cindali	Cilambya	
<i>t^waakinda</i> <i>tu-a-kínd-a</i> SM1pl-PFV-run-FV	<i>t^waatfimbila</i> <i>tu-a-tfimbíl-a</i> SM1pl-PFV-run-FV	„we have ran“

In the examples of table 21, the perfective marker /a-/ indicates past action which has occurred and has ended and is viewed as an entire event. It can also be used to show action which happened a short while ago before the time of making the utterance by the speaker or earlier in the day with reference to the time of the speech. In this category, as it can be observed in the examples of table 21, a H tone is assigned to the penultimate syllable. For example, in the word *t^waakinda*, „we have run“ (Cisukwa, Cindali), the H tone falls on the vowel of *ki* which is the penultimate syllable. Similarly, in *t^waatfimbila* „we have run“ (Cilambya), the H tone is also on the penultimate syllable *mbi*.

4.1.2.2.6 The immediate past tense

Speakers of SuNdaLa use the past tense marker /-a/ with the perfective aspectual marker *-ile* or its variants *-ite*, *-ife* and *-itfe* whose occurrence is phonologically conditioned. This tense category refers to actions in the past that are perceived to be close to the time of speech. The aspectual markers for this tense also determine where a high tone will be placed. The allomorphs *-ile*, *-ife* and *-itfe* assign a H tone to the penultimate syllable while *-ite* assigns it to the antepenultimate syllable.

Table 22: H tone in the immediate past tense

SuNdaLa		English gloss
<i>waalíle</i> u-a-l-íle SM2sg-PST-eat-PFV		„you (sg) ate“
<i>nafumbwíle</i> N-a-fumbw-íle SM1sg-PST-expose-PFV		„I exposed“
<i>nafub^wíle</i> N-a-fubu-ile SM1sg-PST-soak-PFV		„I soaked“
<i>nakus^wíle</i> N-a-kusu-ile SM1sg-PST-spread-PFV		„I spread“
<i>nánofíje ndaláma</i> N-a-nof-íje ndaláma SM1sg-PST-return-PFV money		„I have returned the money“
<i>notítíje ínama</i> n-a-otf-itíje ínama SM1sg-PST-roast-PFV meat		„I roasted the meat“
<i>m^waapíjite</i> mu-a-pij-ite SM2pl-PST-cook-PFV		„you (pl) cooked“
<i>naakalálite</i> N-a-kalál-ite SM1sg-PST-anger-PFV		„I was angry“
<i>m^weéndite</i> mu-a-énd-ite SM2pl-PST-walk-PFV		„you (pl) walked“
Cisukwa, Cindali	Cilambya	
<i>t^wájúwite</i> tu-a-júw-ite SM1pl-PST-talk-PFV	<i>t^wanénite</i> tu-a-nén-ite SM1pl-PST-talk-PFV	„we talked“

In the examples with *-ile*, *-itfe* and *-ife* as allomorphs, the H tone occurs on the penultimate syllable as noted in *notʃitfe* (cf. *notʃitfe ináma*) „I roasted the meat“. The H tone is assigned to the antepenultimate syllable when the allomorph is *-ite*. This can be seen in the form *naakalálite* „I was angry“, where the antepenultimate vowel [a] of the syllable *la* has the high tone.

4.1.2.2.7 The remote past tense

In the SuNdaLa, the remote past is marked by the morpheme *-ka* which indicates action which took place in an estimated time of two days after the moment of speech. In the three SuNdaLa varieties, H tone is assigned to the penultimate syllable in this tense. The examples are provided in table 23.

Table 23: H tone in the remote past tense

Cisukwa, Cindali	Cilambya	English gloss
<i>ŋgál'a</i> N-ka-li-a SM1sg-Rpast-eat-FV	<i>ŋk^hál'a</i> N-ka-li-a SM1sg-Rpast-eat-FV	„I ate“
SuNdaLa		
<i>tukáŋ^wa</i> tu-ká-ŋu-a SM1pl-Rpast-drink-FV		„we drank“
<i>likapíja</i> li-ka-píj-a SM5-Rpast-cook-FV		„it cooked“

In the examples of table 22 a high tone is assigned to the penultimate syllable, for instance, in *tukáŋ^wa* „we drank“, a high tone is on the vowel of the second syllable as this is the penultimate position. Likewise, in the word *likapíja*, „it cooked“, the high tone is on the penultimate syllable *-pí*.

4.1.2.2.8 The future tense

The future in SuNdaLa can be expressed using the markers *-ku-* and *ti*. In chapter 7, we claim that there is no clear cut off point between a near future and a distant future interpretation since speakers use these two forms interchangeably.

In verb forms which use the future marker *-ku-*, a high tone is placed on the penultimate syllable, cf. examples in table 24.

Table 24: H tone in the future tense with marker *ku*

Cisukwa, Cindali	Cilambya	English gloss
<i>ŋgúl'a</i> N-ku-li-a SM1sg-FUT-eat-FV	<i>ŋk^húl'a</i> N-ku-li-a SM1sg-fut-eat-FV	„I will eat“
SuNdaLa		
<i>ukúŋ^wa</i> u-ku-ŋu-a SM2sg-FUT-drink-FV		„you (sg) will drink“
<i>mukupija</i> mu-ku-pij-a SM2pl-FUT-cook-FV		„you (pl) will cook“

In the examples of table 24, a high tone is assigned to the penultimate syllable. In the word *ukúŋ^wa*, ‘you (sg) will drink’, for instance, the high tone is on the vowel of the syllable *ku* which is the penultimate.

Swila (1998) in her analysis of Cindali tenses observes that the future tense does not have independent verb forms but depends on other verbs or modalities. This tense form uses *-ku-* which is the same marker as that of infinitives discussed above. In the infinitive tense, the H tone is also assigned to the penultimate syllable. This tense therefore functions like the infinitive by also placing the H tone on this particular syllable. When the future marker *-ti* is used, the high tone falls on the antepenultimate syllable. For example, in *tíal'e* ‘they will eat’, the H tone falls on the vowel of the first syllable *ti* which is in the antepenultimate position. Similarly, in *tíβápije* ‘they will cook’, the high tone is placed on the second syllable *βa* since it is antepenultimate.

Table 25: H tone in future marking with *ti*

SuNdaLa	English gloss
<i>tial'e</i> tí-a-li-e FUT-SM1-eat-FV	„they will eat“
<i>tluŋ^we</i> tí-u-ŋu-e FUT-SM2sg-drink-FV	„you (sg) will drink“
<i>tíβápije</i> ti-βa-pij-e FUT-SM2-cook-FV	„they will cook“

4.1.2.3 Conclusions and generalisations on tone in SuNdaLa verbs

The realisation of a high tone is restricted and predictable in the SuNdaLa verbal morphology. In all SuNdaLa varieties, a high tone is assigned either to the penultimate or antepenultimate mora/syllable, depending on a number of morphological and phonological factors. It has been noted that when the verbal tense has aspectual markers, these markers also influence the choice of where a high tone will be assigned viz., the penultimate or the antepenultimate position. Furthermore, there is only one high tone per verb. While in other Bantu languages, such as Chichewa, Citonga, Ciyao, Kimatuumbi, Chishona, Ikalanga a high tone may spread to a neighbouring vowel, this phenomenon does not occur in the SuNdaLa varieties.

The restriction on the number of high tones and the predictability of tone assignment in the SuNdaLa verbs indicates that the verbal systems of the varieties are accentual in nature.

The data reported in this study on nominal and verbal tone does not include tonal patterns in different noun phrase structures nor does it take into account the important questions of other morphological categories, for instance how subject and object markers, contribute to the assignment of high tones in the SuNdaLa varieties. This has been observed in languages such as Chichewa (cf. Mtenje, A.D. 1986). Marlo (2013) suggests several paradigms that have to be taken into consideration for an extensive description and analysis of tone in Bantu languages. Because tone was not the only area of investigation of this thesis, these questions have to remain topics for further research.

4.2 Reduplication

Reduplication, which is a word formation process that involves partial or total repetition of a word, has received extensive attention in linguistic research and its analysis has benefitted from various theoretical models, including Autosegmental phonology and Optimality theory with its Alignment sub theory. Eminent studies on reduplication are for instance Marantz (1982), Williams (1985), Clements (1984), Mtenje, A. D. (1988) with Autosegmental phonology frameworks and McCarthy and Prince (1995), Inkelas and Zoll (2005), Downing (1997, 2001, 2003), Hyman and Mtenje, A.D. (1999), Cassimjee and Kisseberth (1998), Myers and Carleton (1996), Mtenje, A.D. (2006, 2002), Mkochi (2015) for approaches with the Optimality theory . The focus in this chapter is going to be on verbal reduplication.

The issues which have been discussed in Bantu reduplication, as an area of prosody, include the elements (tone and segmental material) of transfer, the nature of the transfer and the size of the linguistic unit affected by the transfer (word minimality). The literature on reduplication in Bantu languages in general will be examined first, before the analysis of verbal reduplication in the SuNdaLa varieties follows in 4.2.2.

4.2.1 Literature on Bantu verbal reduplication

The studies on Bantu reduplication have examined the process either cross-linguistically or focussed on particular languages. The elements that are copied in reduplication have been of particular interest in Bantu studies. Most Bantu languages show that the process considers the verb stem (elements in the inflectional stem) as the base for its application (cf. Odden and Odden 1995, Downing 1994, 1998), Mtenje, A.D. 1988, 2002, 2006.

Mtenje, A.D. (2006) states that verbal reduplication in Citonga, like in most Bantu languages, copies an inflectional verb stem and attaches it to the base as a suffix. The process in the language does not copy material dominated by the INFL (inflection) and OM (object marker) nodes. This can be seen in the infinitive forms below where the infinitive *ku* which comes under INFL and the OMs *mu* „him/her“, and *wa* „them“, which appear under OM are not part of the reduplicant (RED).

75.

<i>kuvín-á-vin-a</i>	„to dance repeatedly“
<i>ku-mú-vwíy-avwiy-a</i>	„to obey him often“
<i>ku-wá-sámbizy-asambizy-a</i>	„to teach them repeatedly“

A further area of interest concerning the elements that are copied in reduplication is the question of the transfer or non transfer of tonal information. Mtenje, A.D. (1988) presents an autosegmental analysis of tone and transfer in Chichewa reduplication. While we will not go into details of the autosegmental analysis, we will focus on the generalisations on tone and transfer in the language. In his analysis, Mtenje, (1988) observes that the nature of autosegmental theory makes an allowance for the following three logical possibilities in the reduplication of segmental and suprasegmental (tonal) material in Bantu languages Mtenje, A.D. (1988:125):

- Reduplication can „transfer“ (in the technical sense of Clements 1984) segmental material only;
- Reduplication can „transfer“ both segmental and tonal material.
- Reduplication can „transfer“ tonal material only

For Chichewa the following observations are made by Mtenje, (1988:133-134):

In tenses where H is placed on the stem-initial syllable (where tone doubling also applies) (that is the infinitive/progressive, the recent past and the past habitual), the H so assigned does not appear in the reduplicated portion Ri (reduplicated portion).

In tenses where H is placed on the penult syllable (the remote past and the present habitual), that H does appear again (or is preserved) on the penult syllable of Ri.

In other words, there are two scenarios in regards to tone transfer in Chichewa reduplication. In some tensed forms, it is only the segmental material that is „transferred“ while in other reduplicated forms both tonal and segmental material is „transferred“.

The issue of tone and transfer is further elaborated by Downing (2001) who demonstrates that some studies on reduplication (cf. Steriade 1988; McCarthy and Prince 1995, Inkelas and Zoll 2005) have argued for similarity (faithfulness) in pronunciation between the base and the RED. According to this position, there must be some likeness (faithfulness) between prosodic information, including tone, as contained in the Base unit and its representation or manifestation in the segmental material of the reduplicated portion.

Downing (2001), however, points out that there is variation within Bantu languages with regards to tone (non-) transfer in verbal reduplication. Three patterns are outlined by her. The first type of languages ensures that tone is identical in the RED and the base. Such languages are scarce and examples are Chichewa (Mtenje, 1988, Myers and Carleton 1996) and Kinande for nominal reduplication (Mutaka and Hyman 1990). In the second pattern, the tone of the entire reduplicative complex is identical to the tone of the unreduplicated complex. Languages which exhibit such patterns include Kikerewe (Odden 1996b), Kinande (for verbal reduplication) (Mutaka and Hyman 1990) and Chishona (Odden 1994). In the third type, the tone of the corresponding un-reduplicated form is realised only on one half of the reduplicated complex. Such languages are Kihehe (Odden and Odden 1985, 1996), isiNdebele (Hyman, Inkelas and Sibanda 1999), SiSwati (Downing 1994), isiXhosa (Cassimjee 1994) and Ciyao (Myers and Carleton 1996).

Another focus of prosodic studies relates to the size of the units which can be reduplicated, i.e. the minimal form which can undergo this process. Studies on the nature of the minimal word/stem in Bantu languages that can be reduplicated are for instance, Batibo and Rottland (1992), Brandon (1975), Downing (1999, 2001, 2005), Myers (1987), Odden (1999), Mtenje, A.D. (2006), Mkochi (2015). They have shown that in several Bantu languages a bisyllabic minimal word condition exists, which requires that the lexical words need to be of a minimum size, typically of two moras or two syllables. Examples to support this position have been cited extensively from imperative and reduplicated forms in various Bantu languages. The different strategies that are used by various languages to satisfy word minimality are discussed in 4.2.2.

Another important question which has been addressed in reduplication studies is on the nature of affixation of the reduplicant. There is variation in how Bantu languages deal with this affix. In Citonga, for example, Mtenje, A.D. (2006) describes the suffixation of the reduplicant. This is evidenced from the reduplication of vowel initial verbs like *-endesya-a* „drive“, *omb-esya-a* „cause to hit“ and *es-esya-a* „try hard“. When the infinitive prefix *ku* is used in reduplicating the whole stem, the process yields forms like *kwendesyakwendesya* „cause to drive repeatedly“, *kwombesyakwombesya* „cause to hit repeatedly“ or part of the stem which gives *kwendesyandesya* „cause to drive repeatedly“, *kwombesyambesya* „cause to hit repeatedly“ and *kwesesyasesya* „to try repeatedly“. In the latter cases, reduplication involves part of the verb stem without the initial vowel. Mtenje, A.D. (2006) argues that if reduplication involves prefixation, requiring the attachment of the reduplicant to the left of

the Base, all segments of the Base would have been expected to appear as part of the output of reduplication; this however is not the case here. A prefixation analysis would fail to account for the loss of the initial vowels in the Base in the truncated reduplicated form.

Downing (1998) discusses prosodic misalignment and reduplication in isiXhosa and Kihehe and shows that the reduplicant in isiXhosa is two syllables long, and is a prefix to consonant-initial stems but an infix if the stem is vowel initial. The work further illustrates the different ways in which the two languages deal with consonant and vowel initial forms and how the issue of affixation is managed in these circumstances.

The following analysis of reduplication in the SuNdaLa varieties will consider the studies mentioned above.

4.2.2 Reduplication in SuNdaLa

Reduplication in SuNdaLa, just like in many other Bantu languages, shows repetition or intensity of action. In this section, we are going to examine issues such as the elements that are copied or transferred in reduplication, the nature of affixation and minimality requirements in reduplication.

The structure of the verb we adapt is the one outlined by Downing (2001: 35) below and outlined in chapter 7.

The INFL node includes affixes such as the subject, negation, tense, aspect and mood markers while the macro stem includes the object marker (OM) and the inflectional stem. The stem consists of the base, which includes the root and extensions and the inflectional final suffix. The base for reduplication in SuNdaLa is the verb stem (root, extensions and the inflectional final suffix). This is because it is only elements in the verb stem that form the reduplicant. This is shown in examples (76) where all elements in the verb stem are reduplicated and all the prefix material is left out. The RED is underlined in the following examples.

SuNdaLa

(76)

Unreduplicated forms	UR	English gloss	Reduplicated forms	English gloss
<i>ukumajila</i>	/u-ku-majil-a/ AUG-INF-learn-FV	„to learn“	<i>u-ku-majila-majil-a</i>	„to learn repeatedly“
<i>ukupija</i>	/u-ku-pij-a/ AUG-INF-cook-FV	„to cook“	<i>u-ku-pija-pij-a</i>	„to cook repeatedly“
<i>ukuseka</i>	/u-kú-sek-a/ AUG-INF-laugh-FV	„to laugh“	<i>u-ku-seka-sék-a</i>	„to laugh repeatedly“
<i>ngufumbula</i>	/N-ku-fúmbul-a/ SM1sg-PROG-reveal-FV	„I am revealing“	<i>ŋ-gu-fumbula-fúmbul-a</i>	„I am revealing repeatedly“
<i>namajila</i>	/N-a-májnil-a/ SM1sg-PFV-learn-FV	„I have learnt“	<i>n-a-majila-májnila</i>	„I have learnt repeatedly“
<i>pijila</i>	/pij-il-a/ cook-APPL-FV	„cook for“	<i>pijila-pij-il-a</i>	„cook for repeatedly“

There are several observations which can be made in the data presented in the examples (76). Firstly, only the material in the verb stem is reduplicated while prefixes are not part of RED. For instance, in the verb roots *majil*, *pij*, *sek*, *fumbul*, the applicative *il* suffix and the final vowel *a*, which are part of the verb stem, form the base for reduplication. Secondly, the prefixes *u* (augment), *ku* (infinitive prefix), *a* and *ku*, (tense markers) and *N* (subject marker) are not copied and thus do not become part of RED.

Although the examples in (91) show that reduplication copies the verb stem only, there are two scenarios where prefixal material is copied as well. These are with vowel initial verbs and with monosyllabic verb stems. The motivation for copying prefixal information in the monosyllabic verb stems will be discussed below under the heading “Size of RED”.

In the reduplication of verb stems that begin with a vowel, the prefix is copied together with material from the verb stem and thus becomes part of the reduplicant. We follow Downing's (1998) argument advanced for Kihehe that this happens because of the requirement that the base for reduplication should begin with an onsetful syllable (i.e. CV, a syllable with a consonant and a vowel). As a result of this constraint, the prefix is syllabified with the vowel initial stem. This is shown in the SuNdaLa examples (77). The case of reduplicating prefixal material in order to fulfil onset requirements is also seen below under reduplication of tensed verbs where the subject marker which is a prefix is also reduplicated.

Vowel initial verb stems

(77).

Verb stem	UR	English gloss	Reduplicated forms	English gloss
<i>uk^wéenda</i>	/u-ku-end-a/ AUG-INF-walk-FV	„to walk“	<i>uk^weendak^wéenda</i>	„to walk repeatedly“
<i>uk^wiitifa</i>	/u-ku-itif-a/ AUG-INF-call-FV	„to call“	<i>uk^wiitifakwiitifa</i>	„to call repeatedly“
<i>uk^wiimba</i>	/u-ku-imb-a/ AUG-INF-sing-FV	„to sing/dance“	<i>uk^wiimbak^wiimba</i>	„to sing/dance repeatedly“
<i>ukóotfa</i>	/u-ku-otf-a/ AUG-INF-burn-FV	„to burn“	<i>ukóotfakóotfa</i>	„to burn repeatedly“

The reduplicants of the vowel initial stems in examples (77) occur with the prefix *ku* syllabified with the vowel initial stem. (Note: *ku* occurs as *k^w* or simply *k* due to hiatus resolution processes). As mentioned above, this strategy is used in order to satisfy the requirement that the base for reduplication begins with a full onset.

In terms of tone several observations can be made in the examples (91) and (92). In tensed verbs, the position of a high tone of the unreduplicated form is maintained in the reduplicated structures. For instance, if a high tone is realised on the penultimate or antepenultimate mora, it will still fall on these positions after reduplication. In the examples *ŋ-gu-fúmbula* „I am revealing“ and reduplicated as *ŋ-gu-fumbula-fúmbula* „I am revealing repeatedly“, and *namáñila* „I have failed“ reduplicated as *namáñilanamáñila* „I have failed repeatedly“, the tone

on the antepenult is maintained in the reduplicated forms while in *uk^wéenda* „to walk“, the tone on the penultimate syllable is preserved after reduplication in *uk^weendak^wéenda* „to walk repeatedly“. Mtenje, A. D. (2006) made a similar observation for Cindali and argued that while all tense affixes are copied during reduplication, the aspectual habitual allomorphs do not take part in reduplication in Cindali. For example, *wa-ka-pitila-gha* „they used to sleep“ is reduplicated as *wa-ka-pitila-pitila-gha* „they used to sleep repeatedly“ and not * *wa-ka-pitila-gha-pitila-gha*. Similarly, *a-ku-potwá-nga* „s/he fails“ appears *asa-ku-potwa-potwá-nga*, „s/he fails repeatedly“ and not * *a-ku-potwa-nga-potwá-nga*. The same applies to the SuNdaLa varieties.

Mtenje, A. D. (2006) suggests two explanations for this behaviour. Firstly, that the notion of habituality is already encompassed in reduplication. On semantic grounds, to reduplicate habitual allomorphs would amount to double repetition. The second explanation is the hypothesis that habitual allomorphs are not part of the verb stem and therefore not candidates for reduplication. The habitual allomorphs can be treated as clitics which are attached to the inflectional verb stem.

One basic question regarding reduplication is whether this process involves infixation or suffixation, i.e. if the RED is prefixed or suffixed to the Base. For the analysis of reduplication in the SuNdaLa varieties the position taken by Mtenje, A.D. (2006) was adopted, in which he motivates a prefixal analysis of the reduplicant in Cindali. His argument, which is based on the realisation of high tones in reduplicated forms, states that if we were to assume that the reduplicant is a suffix, then we would have to account for the fact that the high tones of the Base (the unreduplicated forms) shift and appear on the reduplicant. One possibility would be to assume that reduplication copies both segmental and tonal material, i.e. that it also copies the H tone of the Base to the RED. But then, a separate rule would be required for the deletion of the original H tone on the Base after the reduplication to explain; thus why the Base appears toneless as in *uk^weendak^wéenda* (reduplicated from *uk^wéenda*). However, if RED is analysed as a prefixial and we assume that reduplication does not copy tone, we would be able to explain why the H tones in the tensed verbs remain in the same position of the Base even after reduplication. No additional rules would be needed. According to Occam’s Razor principle attributed to William of Ockham (1287-1347), which favours a simpler analysis over a more complicated, the solution which regards reduplication as prefixal, with no tone copying, is preferred to that which treats it as a suffix with tone copying and additional H tone deletion rules.

Size of RED

As discussed in 4.2.1 studies have demonstrated that the minimal word in Bantu languages must consist of at least two moras or two syllables. There is, therefore, a bisyllabic word condition that is recognised in many Bantu languages (cf. Batibo and Rottland 1992, Brandon 1975, Downing 1999, 2001, 2005, Myers 1987, Odden 1999, Mtenje, A.D. 2002, 2006 and Mkochi 2015). In response to the prosodic hierarchy account for word minimality, Downing (2005) argues that this condition can be satisfied phonologically and morphologically. Her arguments against the prosodic hierarchy based account will not be further discussed, but we will briefly layout the strategies which languages abide by in order to adhere to minimality conditions, according to Downing's (2005) analysis. She derived the evidence from imperative forms and reduplication.

Downing (2005) observes that in imperatives which have monosyllabic verb stems, an epenthetic *i* may be added to satisfy the bisyllabicity minimality condition. Examples include Chishona, in the Zezuru dialect (Odden 1999) isiZulu (Doke 1902), Tshivenda (Ziervogel and Dau 1961), Chichewa (Kanerva 1990 and Mtenje 2006).

Downing (2005) also notes that many Bantu languages use epenthesis as a phonological strategy to satisfy word minimality in reduplication. For example, in SiSwati, the reduplicative morpheme is always bisyllabic. When the base stem is shorter than two syllables, an epenthetic *-yi-* occurs after the copying of the Base.

Other Bantu languages which have a minimally and maximally bisyllabic verbal reduplicative morpheme include Bukusu (Downing 2003), Kikerewe (Odden 1996), Kikuyu (Downing 2000), Kinande (Mutaka and Hyman 1990), Kinyamwezi (Maganga and Schadeberg 1992), isiNdebele (Downing 2001), Runyankore (Poletto 1998), Chishona (Fortune 1984/1985), isiXhosa (Cassimjee 1998) and Ciyao (Mtenje, A.D. 2002), Ngunga 2000).

As mentioned above, languages also use morphological strategies to satisfy minimality. Downing (2005) notes that a semantically vacuous morpheme can be derived through double reduplication – where a copy of the Base stem is repeated. Examples of double reduplication are found in Kinande (Mutaka and Hyman 1990, Mutaka 1994, Downing 2000) and Kinyamwezi (Maganga and Schadeberg 1992) and Ciyao (Ngunga 2000, Mtenje, A.D. 2002).

Furthermore it has been described for some Bantu languages, in which reduplication usually only copies the verb stem, that also a prefix may be reduplicated in order to support monosyllabic stems reach the required number of syllables demanded by the word minimality condition. For example, in Bukusu, (Downing 2004), and Kihehe (Odden and Odden 1985, McCarthy and Prince 1995, Downing 1998) an infinitive prefix can be copied together with a monosyllabic stem.

There are also languages which reduplicate object prefixes with monosyllabic stems to make them bisyllabic, for instance isiNdebele (Hyman, Inkelas and Sibanda 1999) and Runyankore (Polleto 1998).

In the following section the word minimality requirements and strategies to accomplish them will be discussed for the SuNdaLa varieties. Unlike many other Malawian Bantu languages such as Chichewa (Mtenje, A.D. 1988) and Citonga (Mtenje, A.D. 2006, Mkochi 2015) which satisfy minimality by epenthesising the vowel /i/ to monosyllabic stems, bisyllabicity in SuNdaLa is satisfied morphologically. The morpheme *-ang* (homophonous with the habitual aspectual marker which occurs with the present and past habitual tenses) is added to the monosyllabic stem in order to come up with a bisyllabic stem. This strategy occurs in monosyllabic imperatives and reduplication constructions of the imperatives. When monosyllabic stems are in the infinitive, they are tensed, or occur with an object marker. All the pre-stem elements (prefixes) are copied in the reduplication and appear as part of the RED. Above, in the discussion of elements that take part in the process of reduplication, it has been observed that material in INFL and the macro stem, which is all prefixed to the verb stem, is not copied. The inclusion of the pre-stem elements in the reduplication of monosyllabic stems here is, therefore, an exception which is triggered by the need to obey the bisyllabicity minimality condition. The word minimality condition is respected in the examples (78) and (79).

Imperatives of polysyllabic verb stems

SuNdaLa

(78)

Imperative	English gloss
<i>píj-a</i>	„cook“
<i>sunǵíl-a</i>	„push“
<i>sunǵ^híl-a</i> (Cilambya)	„push“
<i>βón-a</i>	„see“
<i>sék-a</i>	„laugh“

Imperatives of monosyllabic verb roots in SuNdaLa

SuNdaLa

(79)

Stem	Imperative	English gloss
<i>-li-a</i>	<i>l'áǵga</i>	„eat“
<i>-ŋu-a</i>	<i>ŋ^wáǵga</i>	„drink“
<i>-fu-a</i>	<i>f^wáǵga</i>	„die“

In the examples (78), the polysyllabic imperatives and the verb stems are similar. In the examples (79), the verb stems are monosyllabic and therefore violate the bisyllabicity requirement. Consequently, an additional morpheme *-ǵg* is suffixed to the verb stem. As discussed above /ǵg/ is a homophonous morpheme, which is a habitual marker in the habitual tense. The *-ǵg* in the imperative stems of the monosyllabic verbs in examples (79) however, is neither aspectual nor habituality marking. We, therefore, suggest that this morpheme is semantically vacuous in these contexts and that it is only employed to ensure that the bisyllabicity condition imposed by the language is satisfied.

We have discussed word minimality in unreduplicated imperatives. We observe further that the morpheme *-ǵg* is also attested in reduplicated imperatives of monosyllabic verb stems as seen below where they are compared with polysyllabic verb stems. In the reduplicated forms it is demonstrated that the RED must also be bisyllabic.

Polysyllabic verb stems

(80)

Unreduplicated	English	Reduplicated forms	English gloss
Imperative	gloss		
<i>píja</i>	„cook“	<i>pijapija</i>	„cook repeatedly“
<i>sunḡila</i>	„push“	<i>sunḡilasunḡila</i>	„push repeatedly“
<i>sunḡ^hila</i> (Cilambya)	„push“	<i>sunḡ^hilasunḡ^hila</i>	„push repeatedly“
<i>βóna</i>	„see“	<i>bonaβóna</i>	„see repeatedly“
<i>séka</i>	„laugh“	<i>sekaséka</i>	„laugh repeatedly“

Monosyllabic verb stems

(81)

Unreduplicated	English gloss	Reduplicated Imperative	English gloss
Imperative			
<i>l'aánga</i>	„eat“	<i>l'aangal'aánga</i>	„eat repeatedly“
<i>ŋ^waánga</i>	„drink“	<i>ŋ^waangaw^waánga</i>	„drink repeatedly“
<i>f^vaánga</i>	„die“	<i>f^vaangaf^vaánga</i>	„die repeatedly“

The examples in (81) indicate that the size of the reduplicant in SuNdaLa must be minimally bisyllabic, in conformity with the word-size conditions, because the reduplication of the monosyllabic verb stems involves copying the stem together with the additional morpheme -*ang*. If the SuNdaLa varieties did not satisfy the word minimality condition, we would have expected stem copying during reduplication to target only the monosyllabic verb stems without the morpheme *ang*. The following reduplicants would have therefore been well-formed: **l'aal'aánga*, **ŋ^waan^waánga*, **f^vaaf^vaánga*. The behaviour of monosyllabic verb stems in the reduplication process thus provides further support to the claim of a bisyllabic minimal word-size in the SuNdaLa varieties.

In the analysis of Cindali verbal reduplication, Mtenje, A.D. (2006) observes that monosyllabic verb stems in this SuNdaLa variety can occur as full citation forms and that it is in the reduplicated form where they obey the bisyllabicity condition and appear with an epenthetic vowel [i] for example in the words *lya* „eat which is realised as *lyailya* „eat repeatedly“ after reduplication. This analysis is in sharp contrast to what has been recorded in this research project on the SuNdaLa varieties. The variation in the language data can derive from variation among individual speakers. Some consultants during interviews for the study

presented in this thesis research indicated that there are some speakers who use the forms with epenthetic /i/ in reduplicated monosyllabic verb stems and imperatives.

When monosyllabic verb stems in SuNdaLa occur in constructions which have prefixes, for example, infinitive and tensed forms, the prefix becomes part of RED, in order to fulfil the bisyllabicity condition. Note that in the imperative forms in the examples 106, there was no prefixial material to help out in satisfying bisyllabicity. That is why the suffix *-aŋg-* was added. In infinitives and tensed constructions, these verb stems copy the prefixes to satisfy word minimality. The examples to illustrate this claim are provided in (82) to (86).

SuNdaLa

Polysyllabic verb stems

(82)

Unreduplicated form	English gloss	Reduplicated form	English gloss
<i>u-ku-píj-a</i>	„cook“	<i>u-ku-pijapíja</i>	„to cook repeatedly“
<i>u-ku-súŋgil-a</i>	„push“	<i>u-ku-sungilasúngila</i>	„to push repeatedly“
<i>u-ku-súŋk^hil-a</i> (Cilambya)	„push“	<i>u-ku-sun^hk^hilasúŋk^hila</i>	„to push repeatedly“
<i>u-ku-sék-a</i>	„laugh“	<i>u-ku-sekaséka</i>	„to laugh repeatedly“

The reduplication of polysyllabic verb stems in the infinitive does not include prefixal material hence, the prefix *-ku-* is left out of the RED. The infinitive marker, however, is included in the reduplicated forms of the monosyllabic verb stems, cf. examples 83.

Monosyllabic verb stems

(83)

Unreduplicated form	English gloss	Reduplicated Imperative	English gloss
<i>u-kú-l̥-a</i>	„to eat“	<i>u-kul̥a kú-l̥-a</i>	„to eat repeatedly“
<i>u-kú-ŋ^w-a</i>	„to drink“	<i>u-kun^wa kú-ŋ^w-a</i>	„to drink repeatedly“
<i>u-kú-f^v-a</i>	„die“	<i>u-kuf^va kú-f^v-a</i>	„to die repeatedly“

The same pattern is observed in tensed forms where monosyllabic verb stems carry with them the tense marker as part of RED.

Reduplication of tensed verbs

SuNdaLa

(84)

Unreduplicated forms	English gloss	Reduplicated forms	English gloss
<i>a-kú-p-a</i>	„s/he is giving	<i>a-kupa-kú-p-a</i>	„s/he is giving repeatedly“
<i>mu-kú-β-a</i>	„you (pl) are falling“	<i>mu-kuβa-kú-β-a</i>	„you (pl) are falling repeatedly“
<i>n-á-l̥-a</i>	„I have eaten“	<i>nal̥a-n-á-l̥-a</i>	„I have eaten repeatedly“
<i>t^w-á-η^w-a</i>	“we have drunk”	<i>t^wañ^wa- t^w-áη^w-a</i>	„we have drunk repeatedly“

Cisukwa and Cindali

(85)

Unreduplicated form	English gloss	Reduplicated form	English gloss
<i>η-ga-η^w-áηg-a</i>	„I used to drink“	<i>η-gañ^wa-ka-η^w-áηg-a</i>	„I used to drink repeatedly“
<i>η-ga-l̥-áηg-a</i>	„I used to eat“	<i>η-gal̥a-ka-l̥-áηg-a</i>	„I used to eat repeatedly“

Cilambya

(86)

Unreduplicated form	English gloss	Reduplicated form	English gloss
<i>η-k^ha-η^w-áηga</i>	„I used to drink“	<i>ηk^hañ^wa-ka-η^w-áηga</i>	„I used to drink repeatedly“
<i>η-k^ha-l̥-áηga</i>	„I used to eat“	<i>ηk^hal̥a-ka-l̥-áηga</i>	„I used to eat repeatedly“

In the examples (82) to (86) the tense prefixes are reduplicated together with the verb stem and, therefore, become part of RED. For example, *-ka* (past progressive marker) in *ηk^hañ^wakan^wáηga* and *-ku* (progressive marker) in *akupakúpa*, are copied as part of the stem even though they are prefixes.

In the perfective forms *nal̥aná^{l̥}a* „I have eaten repeatedly“ and *t^wañ^wa- t^wáη^wa* „we have drunk repeatedly“, the tense marker *-a* and the subject prefixes *-N* and *-tu* are part of RED after reduplication. In this case, two prefixes are incorporated in the reduplicated verb stems. The most obvious reason is that with this strategy, the requirement that RED must start with an onsetful syllable has been fulfilled. If the tense marker *-a-* alone were to be copied, then

reduplicants which do not have full onsets would have been derived with ungrammatical forms **alya nálja* and **aṅwatwaṅwa*. This would have violated the condition that RED begins with an onset. The subject marker, therefore, has to be copied too to satisfy this condition.

In conclusion, minimality in SuNdaLa can be achieved morphologically through two strategies: Firstly, by suffixing a semantically vacuous morpheme, such as *-aṅg* in the imperative and secondly, by copying prefixial material as it has been demonstrated in the cases involving infinitives and other tense markers.

4.3 Summary of chapter 4

In this chapter, aspects of the prosody of SuNdaLa such as tone and reduplication have been discussed and tone assignment in nominal and verbal structures have been analysed. We claim that tone in nouns has to be lexically marked because tone assignment in this category is unpredictable. Nominal tone therefore demonstrates tonal properties.

For verbs, tone assignment is predictable. It is either on the penultimate or antepenultimate syllable. This predictability of tone in verbs and the fact that there is only one H tone in verbal structures attested leads to the conclusion that verbal tone rather has accentual properties.

Verbal reduplication has also been discussed in this chapter. A special focus was on the elements that take part in reduplication, on the satisfaction of minimality conditions, as well as on tonal non-transfer and reduplication as a prefixation process. It has been shown that most of the characteristics of reduplication in the SuNdaLa varieties have been widely attested in a majority of Bantu languages.

Chapter 5

The Noun Class Systems of SuNdaLa

5.0 Introduction

This chapter is the first to discuss morpho-syntactic features of SuNdaLa. In particular, we discuss the noun class systems of the three SuNdaLa varieties. The 19 noun classes will be introduced and the concord system of the SuNdaLa varieties will be discussed. While most features are shared among the SuNdaLa varieties, variation exists in the noun class prefixes and the pairing patterns of the noun classes. How loan words are accommodated in the SuNdaLa varieties will be an additional question in the analysis of the noun class systems of SuNdaLa.

The chapter is organised as follows: Section 5.1 introduces the Bantu noun classes more generally. 5.2 outlines the noun class systems of the SuNdaLa varieties while section 5.3 discusses how loanwords are accommodated in the SuNdaLa noun class system. Section 5.4 summarises the findings of the chapter.

5.1 Brief notes on Bantu noun classes

The noun class system is one of the prominent features of Bantu languages. Nouns in this group of languages may fall into different noun or gender classes. Reconstructions of a PB noun class system propose that it had 24 classes (Meinhof (1932), Meeussen (1967), Welmers (1973), Maho (1999)). None of the present-day Bantu languages use all 24 classes and the number of classes varies among them. According to Maho (1999) and others, 21 classes as found in Ganda, seems to be the highest number of classes in modern languages. A high number of noun classes is referred to as a canonical Bantu noun class system and a system with few noun classes is labelled a reduced system. Maho (1999) refers to languages that have three or fewer classes as reduced systems and those with seven classes or more as canonical. Katamba (2003) uses the term canonical systems for those with six classes paired for singular and plural nouns as well as with about the same number of classes that are not paired in addition.

Bantu languages with a reduced noun class system are for example Kamo D23 with no noun classes and Kako A93 which only has three classes (cf. Guthrie 1971:42). Below is Maho's (1999) reconstruction of the PB noun classes with their meanings.

Table 26: Proto-Bantu noun classes (based on Maho 1999:51)

Noun class	Noun class prefix	Meanings
1	<i>mú</i>	humans
1a	∅	kings, proper names, personified animals
2	<i>βá</i>	honorific, plural to 1, 1a
2x	<i>βa – βo</i>	honorific, plural to 1a
3	<i>mu</i>	trees, plants, inanimates
4	<i>mi</i>	plural to 3
5	<i>li</i>	miscellaneous, paired things, augmentatives
6	<i>ma</i>	liquids, masses, collectives, plural to 5, 9, 11, 14, 15
7	<i>ki</i>	inanimates, manner/style, diminutives, augmentatives
8	<i>βi</i>	plural to 7
9	<i>ni</i>	animals
10	<i>li-ni</i>	plural to 9, 11
11	<i>lu</i>	long and/or thin things, abstracts
12	<i>ka</i>	diminutives
13	<i>tu</i>	plural to 12
14	<i>βu</i>	abstracts, mass nouns, plural to 12
15	<i>ku</i>	infinitives
16	<i>pa</i>	locatives, „near“ or „explicit“
17	<i>ku</i>	locatives, „remote“ or „general“
18	<i>mu</i>	locatives, „inside“
19	<i>pi</i>	diminutives
20	<i>yu</i>	augmentatives, diminutives
21	<i>yi</i>	augmentatives, pejoratives
22	<i>ya</i>	plural to 20
23	<i>ɪ</i>	locative, unspecified

The criteria for membership of nouns into the various classes have been a subject of debate but there are indications that some semantic, natural and phonological factors play a role in these groupings. Maho (1999) notes that noun classes are distinguished by noun class prefixes, a set of class specific agreement markers as well as to some extent, the particular semantic content of a given class. Crisma, Marten and Sybesma (2011) discuss the nominal

classification of Bantu, Chinese and Romance languages. They suggest that Bantu noun classes are semantically motivated, but not to the extent that predictions about class membership for specific nouns can be made on semantic grounds. They continue and state that Bantu noun classes incorporate notions of plurality, but that these have an intermediate status between syntax and semantics.

The noun in Bantu languages consists of an augment (for some Bantu languages), also known as a pre-prefix or initial vowel, a noun prefix and a stem. There is usually agreement known as concord between noun and determiners, modifiers and predicates.

Nominal classes can have both inflectional and derivational functions. Crisma et al (2011) state that evidence of the relations between classes has been used to indicate the importance of grammatical number for noun classes. In all Bantu languages, some of the noun classes are in established singular-plural pairs. In these noun class pairs grammatical-inflectional relationships express number. Meeusen (1967) reconstructs the PB pairing of noun classes as follows: (1, 2),(3,4),(5,6),(7,8),(9,10),(11,10),(12,13),(14,6),(15,6) probably also (19,13). Crisma et al (2011) state that the most common pairings of modern day languages are class (1, 2), (3, 4), (5, 6), (7, 8), and (9, 10).

The derivative function of noun classes can be observed in the use of the same noun in various classes. Crisma et al (2011) discuss the status of the three locative classes 16 to 18. Typically a locative class prefix is attached to an already inflected noun. This shows that locative nouns morphologically reflect their derivational nature. For other classes, specifically those involving count nouns shift in class membership can be accompanied by semantic changes that are regular. For instance semantic properties for class 7 are diminutive, for class 5 and 6 augmentative and for class 11 abstract nouns. The following examples from Kiswahili by Crisma et al (2011:257) demonstrate this phenomenon.

(1)

<i>m-toto</i> „child“ (class 1)	>	<i>ki-toto</i> „small child“ (class 7, diminutive)
<i>n-yumba</i> „house“ (class 9)	>	<i>jumba</i> „big house“ (class 5, augmentative)
<i>m-toto</i> „child“ (class 1)	>	<i>u-toto</i> „childhood“ (class 11, quality)

In example (1) for instance, the lexeme *m-toto* „child“ acquires a diminutive meaning when the noun stem *-toto* is used with the class 7 prefix *ki-*.

Scholars have studied noun class systems more generally or in particular languages. Among the literature consulted for the analysis of noun class systems of SuNdaLa in this thesis are: Denny and Creider (1986), Contini-Morava (1997), Toporova (1997), Maho (1999), Demuth (2000), Katamba (2003), Petzell and Hammarström (2013).

5.2 The noun classes of SuNdaLa

All varieties of SuNdaLa employ 19 noun classes. They thus have a canonical system. In previous studies and publications on Cisukwa (Mtenje, A.A. 2011, 2012, 2013), I overlooked the locative classes 16, 17 and 18 as well as class 21. The language data collected in the fieldwork for this PhD project reveal however that these four classes in fact exist in all three SuNdaLa varieties. In the following, all noun classes and the semantic meanings denoted to them, as well as the class pairings will be discussed.

The SuNdaLa varieties have optional augments or pre-prefixes which manifest themselves in the shape of /i/, /u/ and /a/. The shape of the augment in Bantu languages can be variable depending on vowel harmony. For instance, in Zulu, the augment - reliant on the vowel properties of the prefix - can be *u-*, *a-*, or *i-*.

In the noun class system of Otjiherero, the augment can be *o-* or *e-* but in this language the shape of the augment does not depend on the phonetic properties of the vowel in the prefix (c.f. Kavari and Marten 2009). It is always *o-* for the noun classes except for class 5 where it is *e-*. Examples of Otjiherero and isiZulu augments by Kavari and Marten (2009) are:

isiZulu.

(2)

<i>u-mu-ntu</i>	<i>i-li-duku</i>	<i>a-ma-nzi</i>
AUG-1-father	AUG-5-handkerchief	AUG-6-water
„father	„handkerchief“	„water“

Otjiherero

(3)

<i>o-m-bungu</i>	<i>o-m-eva</i>	<i>e-Ø-zumo</i>
AUG-9-wolf, hyena	AUG-6-water	AUG-5-stomach
„wolf, hyena“	„water“	„stomach“

In example (2) there is harmony between the augment and the prefix vowel. If the prefix vowel is *i*, the augment that occurs is *i*. The same happens with the choice of the augments *u* and *a* which also are identical with the *u* and *a* respectively which are in the prefixes.

For Otjiherero in example (3), the augments are *o* and *e* but there are no vowel harmony properties determining their occurrence since there appears to be no phonological condition under which each one of the vowels is based.

In all SuNdaLa varieties, properties of vowel harmony are observed in the choice of augment. As it can be seen from the examples in (4), the augment becomes *u*, *a*-, or *i*- when the prefix vowels are also *u*, *a* or *i* respectively.

(4)

SuNdaLa	English gloss
<i>i-mí-tu</i>	„heads“
AUG-4-head	
<i>i-tfí-fuwa</i>	‘chest’
AUG-7-chest	
<i>a-má-fupa</i>	„bones“
AUG-6-bone	
<i>a-má-fumbi</i>	„eggs“
AUG-6-egg	
<i>u-lú-limi</i>	„tongue“
AUG-11-tongue	
<i>u-mú-lindu</i>	„girl“
AUG-1-girl	

The augment in Cisukwa, Cindali and Cilambya is used in the everyday speech of the people. During field data collection by the researcher, the augments were heard in natural conversations, narration of stories and other speech discourse contexts.

In some Bantu languages, the augment seems to have lost its function. Maho (1999) cites Sommer and Vossen (1995) who note that the function of the augment in Yeyi is not or no longer clear. They argue that in the language the augment occurs in some cases and in other instances it does not appear. Hyman and Katamba (1991, 1993) as cited in Katamba (2003) demonstrate that the augment in Ganda holds various functions. It can have the pragmatic function of displaying definiteness, specificity and focus and it may also have a syntactic function. The occurrence of the augment may depend on whether the noun occurs in a main or dependent clause or whether it appears after an affirmative or negative construction. They further argue that the augment is normally present on the noun and on the adjectives and the numerals in constructions in the affirmative, in the main clause and subject nominal prefixes. However, it is absent in certain syntactic constructions after a negative verb. They provide the following example for the absence of the augment (Katamba 2003:108).

(5a)

o-mú-lími ó-mú-néné ó-mú-kâddé ó-mû a-Ø-gênda
 AG-1-farmer AG-1-fat AG-1-old AG-one 1sSM-PRES-go

„One fat, old farmer is going“

**mu-lími munéné mu-kâddé ó-mû a-Ø-gênda!*

(5b)

te-tú-Ø-laba mú-lími mú-néné
 NEG-1pSM-PRES-see 1-farmer 1-fat

„We don’t see a fat farmer“

In this example, the noun *mulimi* „farmer“ occurs with the augment in (5a) because it is in the affirmative main clause but the augment is absent in (5b) because it occurs in a construction with a negative verb.

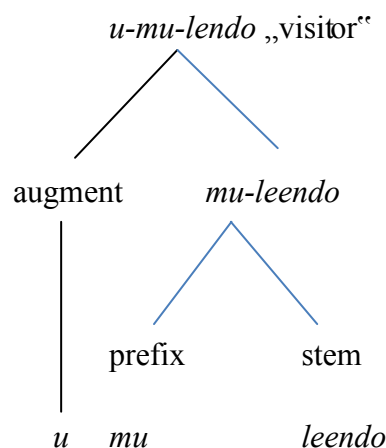
The data for SuNdaLa varieties in this project concerning the function of the augment cannot be specified at the moment because there is need for a more detailed investigation on discourse data and/or texts in order to fully determine whether the augments in the varieties

have a function or not. However, Botne (2008:21) lists environments where the augment does not appear in Cindali. These include:

- When a locative prefix is attached to the noun,
- When the noun follows the connective linker *-aa*,
- When the noun follows any form of the verb „be“, i.e. *-ba* or *-li*,
- When the noun follows the conjunction *ngáti* „like“;
- When the noun follows the complementizer *ukúti* „that“,
- When the noun follows the defective verb *-ti* „say“.

One observation in SuNdaLa is that the augments occur with all classes except with the three locative classes. They are followed by prefixes which are of the CV type, for example, *li-* (class 5), *mi-* (class 4). Classes 9 and 10 may take a nasal (N) as the prefix and classes 1a, 2a, 5, 9 and 10 may also have zero prefixes, however the augment is still prefixed to the nouns in these noun classes. The structure of the nouns in the three SuNdaLa varieties therefore consists of a pre-prefix, a prefix and a noun stem. The most common phonological shape of the augment plus prefix in nouns is the V-CV type. Other noun classes for example class 1a, 14, and for Cisukwa and Cindali sometimes class 5, 9, 10 show the V- type, and in classes 16, 17 and 18 the CV type is prefixed, while N is found in classes 9 and 10.

Figure 7: The SuNdaLa nominal structure



The language data presented in the following tables illustrate the noun class systems of the SuNdaLa varieties. Examples for each class are provided. The boundary between a prefix and a noun stem is shown with a hyphen in the surface form. Any morpho-phonological rules that exist are explained under each noun class. Where there are gaps in the data for a SuNdaLa

variety, i.e. where lexical items do not occur in a particular class, these nouns are assigned to other noun classes in this variety.

Class 1

The augment for this class is *u* and the prefix is *-mu*. The prefix becomes *-m^w* - when it is followed by a noun stem that starts with a vowel.

Table 27: Class 1 nouns

Cisukwa	Cindali	Cilambya	English gloss
<i>mu, m^w</i>			
<i>u-m^w-aána-lume</i>	<i>u-mú-lifa</i>	<i>ú-m^w-aaná-vula</i>	„man“
<i>u-mú-kasi</i>	<i>u-mú-kolo</i>	<i>ú-mu-kolo</i>	„woman“
SuNdaLa			
<i>u-mú-lindu</i>			„girl“
<i>ú-m^w-ana</i>			„child“
Cisukwa, Cindali		Cilambya	
<i>u-múu-ndu</i>		<i>u-múu-nthu</i>	„person“

The singular class 1 is paired with the plural class 2. It mainly contains nouns pertaining to humans.

Class 1a

Class 1a has a zero prefix, and the pre-prefix *u*.

Table 28: Class 1a nouns

Cisukwa, Cindali	Cilambya	English gloss
\emptyset		
<i>u-máji</i>	<i>u-máma</i>	„mother“
<i>u-táta</i>	<i>u-bába</i>	„father“
<i>u-kápu</i> (ELW)		„cup“
<i>u-bélo</i> (ELW)		„bell“
<i>u-póto</i> (ELW)		„pot“
<i>u-tomáto</i> (ELW)		„tomato“

SuNdaLa	
<i>u-nasenje</i>	„father“s sister“
<i>u-nási</i> (ELW)	„nurse“
<i>u-sója</i> (ELW)	„soldier“

Class 1a includes nouns denoting kinship, proper names, some animals and may also include some loan words. Variations in the classification of loanwords for this class will be discussed later in 5.3. Class 1a nouns (Meeussen 1967:100) are similar to class 1 noun as they denote humans and also take the agreement marking of class 1.

Class 2

Class 2 has *βa* as its prefix and *a* as the augment.

Table 29: Class 2 nouns

Cisukwa, Cindali		Cilambya	English gloss
<i>Ba</i>			
<i>a-βáa-ndu</i>		<i>a-βáa-nt^hu</i>	„people“
Cisukwa, Cilambya		Cindali	
<i>a-βa-kápu</i> (ELW)			„cups“
<i>a-βa-póto</i> (ELW)			„pots“
<i>a-βa-bélu</i> (ELW)			„bells“
<i>a-βa-násenge</i>			„fathers sisters“
<i>a-βa-nási</i> (ELW)			„nurses“
<i>a-βa-sója</i> (ELW)			„soldiers“
Cisukwa	Cindali	Cilambya	
<i>a-βá-kasi</i>	<i>a-βá-kolo</i>	<i>á-βa-kolo</i>	„women“
<i>a-βa-máji</i>		<i>a-βa-máma</i>	„mothers“
<i>a-βa-táta</i>		<i>a-βa-bába</i>	„fathers“
SuNdaLa			
<i>a-βá-lindu</i>			„girls“
<i>a-βá-na</i>			„children“

Class 2 is the plural class of Class 1 for all three SuNdaLa varieties. In Cisukwa and Cilambya, class 2 is also the plural class for class 1a. In Cindali, class 1a pairs for the plural with class 2a, which does not exist in the two other SuNdaLa varieties. Honorifics may also be expressed by choosing this class 2 prefix.

Class 2a

Cindali is the only SuNdaLa variety which uses the noun class 2a. The prefix for this class is *βo* and *a* is the augment.

Table 30: Class 2a nouns

Cindali	English gloss
<i>βo</i>	
<i>a-βó-maji</i>	„mothers“
<i>a-βó-tata</i>	„fathers“
<i>a-βó-kalulu</i>	„rabbits“
<i>a-βo-kápu</i> (ELW)	„cups“
<i>a-βo-póto</i> (ELW)	„pots“
<i>a-βo-bélu</i> (ELW)	„bells“
<i>a-βo-tomáto</i> (ELW)	„tomatoes“

Class 3

Morphologically, class 3 is marked by *u-* as the augment and *-mu-* as the prefix. The prefix can also be realised as *m^w* when the prefix is followed by a vowel in the noun stem. This is a vowel hiatus resolution strategy discussed in chapter 3. Class 3 typically includes trees, plants, inanimates, some body parts, implements, natural phenomena, augmentative and pejoratives in the three SuNdaLa varieties.

Table 31: Class 3 nouns

Cisukwa	Cindali	Cilambya	English gloss
<i>mu, m^w</i>			
<i>u-m^w-éesi</i>	<i>u-m^w-éefi</i>	<i>u-m^w-éezi</i>	„moon/month“
<i>u-mu-s^wáatfi</i>	<i>u-mu-s^wáaki</i>	<i>u-mu-s^wáatfi</i>	„toothbrush“

Cisukwa, Cindali	Cilambya	
<i>u-mu-βili</i>	<i>u-mú-βili</i>	„body“
Cindali, Cilambya	Cisukwa	
<i>u-mú-lomo</i>	<i>u-mu-lómo</i>	„lip, mouth“
SuNdaLa		
<i>u-mú-tu</i>		„head“

Class 4

Class 4 has the augment *i* and the prefix *-mi-*. The prefix can also occur as *m^j* if the vowel /i/ in *-mi-* is followed by a vowel initial noun stem. This is as a result of a vowel hiatus resolution strategy discussed in chapter 3.

Table 32: Class 4 nouns

Cisukwa	Cindali	Cilambya	English gloss
<i>mi, m^j</i>			
<i>i-mi-s^wáat i</i>	<i>i-mi-s^wáaki</i>	<i>i-mi-s^wáat i</i>	„toothbrushes“
<i>i-m^j-éesi</i>	<i>i-m^j-ééfi</i>	<i>i-m^j-éezi</i>	„moons/months“
	<i>i-mi-p^wáakasa</i>		„testicles“
	<i>i-mi-k^wapa</i>		„armpits“
	<i>i-mi-puli</i>		„fists“
	<i>i-mi-tápatápa</i>		„thighs“
	<i>i-mi-tálama</i>		„money“
	<i>i-mi-kóngole</i>		„debt“
	<i>í-mi-kata</i>		„headpads“
	<i>i-mi-βúluwe</i>		„pigs“
	<i>i-mi-kalamo</i>		„lions“
	<i>i-mi-kama</i>		„milk“
	<i>i-mi-k^wi</i>		„firewood“

Cisukwa, Cindali		Cilambya	
<i>i-mi-βili</i>		<i>i-mi-βili</i>	„bodies“
Cisukwa	Cindali, Cilambya		
<i>i-mi-lómo</i>	<i>i-mi-lomo</i>		„lips, mouths“
SuNdaLa			
<i>i-mi-tu</i>			„heads“

For all the three varieties, class 4 is the default plural class for the singular class 3. However, there is some variation since Cindali also uses this class as plural class for singular classes 9 while Cisukwa and Cilambya do not. For example the words *i-mi-p^wáakasa* „testicles“ *i-mi-kalamo* „lions“, *i-mi-tálama* „money“, *i-mi-kata* „headpads“ and *i-mi-kóngole* „debt“ have their singular counterparts *iimb^wáakasa* „testicle“, *iingalamo* „lion“, *iindálama* „money“ and *iingata* „headpads“ and *iingóngole* „debt“ respectively in class 9. In Cisukwa and Cilambya, these class 9 nouns have their plurals in class 10. Cindali also pairs class 4 with class 11 for plurals.

Class 5

Class 5 has the prefix *li*. It can also be realised as *l^h*. This form appears when the noun stem is vowel initial due to secondary articulation discussed in chapter 3. The prefix for this class can also be null. For all three SuNdaLa varieties and the augment is *i*.

Table 33: Class 5 nouns

Cisukwa	Cindali	Cilambya	English gloss
<i>Ø, li, l^h</i>			
<i>i-lí-βele</i>	<i>i-l^h-óoŋgo</i>	<i>i-li-βéle</i>	„breast“
<i>i-taláwusi</i>	<i>i-taláwusi</i> (ELW) <i>i-tulókosi</i> (ELW)	<i>i-taláwuza</i> (ELW)	„pair of trousers“
<i>i-líi-no</i>	<i>i-líi-no</i>	<i>i-li-no</i>	„tooth“
Cisukwa, Cilambya		Cindali	
<i>i-lája</i>		<i>i-fáti</i> (ELW)	„shirt“

Cisukwa, Cindali	Cilambya	
<i>i-púumba</i>	<i>i-púump^ha</i>	„grave“
SuNdaLa		
<i>í-fupa</i>		„bone“
<i>i-lúwa</i>		„flower“
<i>í-fumbi</i>		„egg“
<i>i-β^wáato</i>		„canoe“
<i>i-supúni</i> (ELW)		„spoon“
<i>kítfini</i> (ELW)		„kitchen“

Nouns in class 5 include those with paired body parts, such as *i-lí-βele* ‘breast’, natural phenomena, plants and fruits, such as *i-lúwa* ‘flower’, animals and miscellaneous nouns, such as *i-β^wáato* ‘canoe’ and loan words such as *i-supúni* ‘spoon’.

Class 6

This class contains the plurals of the singular nouns in class 5. The augment for this class is *a* and the prefix is *-ma-*.

Table 34: Class 6 nouns

Cisukwa	Cindali	Cilambya	English gloss
<i>Ma</i>			
<i>a-má-βele</i>	<i>a-m-óoŋgo</i>	<i>a-ma-βéle</i>	„breasts“
<i>a-ma-taláwusi</i> (ELW)	<i>a-ma-turówosi</i> (ELW) <i>a-ma-turókosi</i> (ELW)	<i>a-ma-taláwuzi</i> (ELW)	„pairs of trousers“
<i>á-m-isi</i>	<i>a-m-ífi</i>	<i>á-m-inzi</i>	„water“
<i>a-má-fi</i>	<i>á-ma-fi</i>	<i>á-ma-vi</i>	„faeces“
Cisukwa, Cindali		Cilambya	
<i>a-ma-púumba</i>		<i>a-ma-púump^ha</i>	„graves“

Cisukwa,Cilambya	Cindali	
<i>á-m-ino</i>	<i>á-m-eeno</i>	„teeth“
<i>a-ma-lája</i> (ELW)	<i>a-ma-fáti</i> (ELW)	„shirts“
SuNdaLa		
<i>a-má-fupa</i>		„bones“
<i>a-ma-β^vato</i>		„canoes“
<i>a-má-fumbi</i>		„eggs“
<i>a-ma-supúni</i> (ELW)		„spoons“
<i>a-ma-kítfini</i> (ELW)		„kitchens“

Class 6 is the plural class to class 5 nouns but it also contains nouns that are liquids (cf. *á-m-isi* „water“ (Cisukwa), collectives (cf. *ífula* „rain“ (Cisukwa, Cindali) and mass nouns

Class 7

The pre-prefix for this class is *i* and *tʃi* is the prefix.

Table 35: Class 7 nouns

Cisukwa	Cindali	Cilambya	English gloss
<i>tʃi</i>			
<i>i-tʃi-sʲúuka</i>	<i>i-tʃi-fúuka</i>	<i>i-tʃi-zʲúuka</i>	„ghost“
Cisukwa, Cindali		Cilambya	
<i>i-tʃi-papilo</i>		<i>i-tʃi-pápilo</i>	„uterus“
<i>i-tʃi-lóombe</i>		<i>i-tʃi-loómbe</i>	„maize“
<i>i-tʃi-péwa</i>		<i>i-tʃi-sóote</i>	„hat“
Cisukwa, Cilambya		Cindali	
<i>i-tʃi-óla</i>		<i>i-tʃi-kwáama</i>	„bag“
SuNdaLa			
<i>i-tʃ-éeni</i>			„forehead“
<i>í-tʃ-akulja</i>			„food“
<i>i-tʃi-fuwa</i>			„chest“

Class 7 in the SuNdaLa varieties includes inanimates, such as *i-tfí-péwa* „hat“ (Cisukwa, Cindali). This class may also be used to express augmentation. For example, the class 9 noun *ii-ŋ-guku* „chicken“ in the class 7 changes to *i-tfí-kuku* „a big chicken“. Miscellaneous entities are also included in this class.

Class 8

Class 8 is the plural class to the singular class 7. As discussed in chapter 3, Cisukwa and Cindali only have voiceless fricatives while Cilambya has both voiceless and voiced fricatives. The prefix for this class differs among the SuNdaLa varieties, and is *fí* - a voiceless fricative in Cisukwa and Cindali and *vi* - a voiced fricative in Cilambya. All SuNdaLa varieties use the augment *i* for this class. The prefixes can also appear as *fʰ* or *vʰ* in cases where the underlying prefixes *fí* and *vi* precede a vowel initial stem. These changes are due to secondary articulation as a vowel hiatus resolution strategy discussed in chapter 3. Examples of class 8 nouns are presented in table 36 below.

Table 36: Class 8 nouns

Cisukwa	Cindali	Cilambya	English gloss
<i>fí, fʰ</i>		<i>vi, vʰ</i>	
<i>i-fí-papílo</i>	<i>i-fí-papílo</i>	<i>i-vi-pápílo</i>	„uteruses“
<i>i-fí-sʰúuka</i>	<i>i-fí-fúuka</i>	<i>i-vi-zʰúuka</i>	„ghosts“
Cisukwa, Cindali		Cilambya	
<i>i-fʰ-éeni</i>		<i>i-vʰ-éeni</i>	„foreheads“
<i>i-fí-lóombe</i>		<i>i-vi-loómbe</i>	„maize“
<i>i-fʰ-akulja</i>		<i>i-vʰ-akulja</i>	„food“
<i>i-fí-péwa</i>		<i>i-vi-sóote</i>	„hats“
<i>i-fí-fuwa</i>		<i>i-ví-fuwa</i>	„chests“

Class 9

Class 9 mainly contains animals, but inanimate, miscellaneous properties and loan words are also in this noun class. This class pairs with class 10 for plurals for all varieties but for Cindali, we have already discussed that it can pair with class 4 for this purpose. It is however, not yet clearly established at this stage what type of nouns get plural forms in class 10 and

which ones in class 4 in Cindali. There is, therefore, a need for further research to determine if there are special characteristics involving the nouns which take this pattern in this variety.

Table 37: Class 9 nouns

Cisukwa	Cindali	Cilambya	English gloss
<i>N, Ø</i>		<i>N</i>	
<i>i-ŋ-gongóle</i>	<i>i-ŋ-góngole</i>	<i>i-ŋ-k^hok^hóle</i>	„debt“
SuNdaLa			
<i>i-m-bóombo</i>			„work“ (sg)
<i>ii-n-dama</i>			„cow“
Cindali, Cilambya		Cisukwa	
<i>ii-m-beja</i>		<i>i-m-béja</i>	„salt“
Cisukwa, Cindali		Cilambya	
<i>ii-m-buno</i>		<i>ii-m-p^huno</i>	„nose“
<i>i-n-dálama</i>		<i>i-n-daláma</i>	„money“
<i>ii-ŋ-gata</i>		<i>ii-ŋ-k^hata</i>	„headpad“
<i>ii-m-busi</i>		<i>ii-m-buzi</i>	„goat“
<i>ii-ŋ-guku</i>		<i>i-ŋ-k^huku</i>	„chicken“
<i>ii-ŋ-gulúwe</i>		<i>ii-ŋ-gúluwe</i>	„pig“
<i>ii-ŋ-galamo</i>		<i>ii-ŋ-k^halamo</i>	„lion“
<i>ii-m-batáta</i>		<i>i-m-p^hatáta</i>	„potato“
<i>ii-sofu</i>		<i>ii-n-zovu</i>	„elephant“
<i>ii-fula</i>		<i>iii-m-vula</i>	„rain“
<i>ii-njato</i>		<i>ii-n-sato</i>	„python“
<i>ii-fuu</i>		<i>ii-m-vuu</i>	„hippo“
<i>ii-ŋ-gwapa</i>		<i>ii-ŋ-k^hwapa</i>	„armpit“

For this class, the prefix for all varieties is an underlying nasal (N) which varies according to the place of articulation of the following consonant in a process called homorganic nasal assimilation (cf. chapter 3). For Cisukwa and Cindali, the prefix can also be a null prefix for example in the word *ii-fuu* „hippo“ while it is always overt in Cilambya such as in the word

for „hippo“ *ii-m-vuu*. Another example is the word *ii-sofu* ‘elephant’ in Cisukwa and Cindali which is *ii-n-zovu* in Cilambya with the nasal prefix.

It is being proposed in this thesis that the occurrence of the zero morpheme in classes 9 and 10 of Cisukwa and Cindali has to do with the phonotactic constraints of these two varieties. In Mtenje, A.A. (2010, 2012, 2013), I argue that Cisukwa does not allow sequences of a nasal and a fricative in its phonology and whenever there is an underlying nasal in such a context it is deleted. The same argument is made in chapter 3 where a similar analysis for Cisukwa and Cindali is presented. It is this process which accounts for the zero prefix morpheme in classes 9 and 10. The nasal prefix is the usual prefix for these two classes. This is because the nasal is followed by a fricative and this sound combination as pointed above is not allowed in Cisukwa and Cindali hence the nasal is deleted.

In Cilambya, the combination of a nasal and a fricative is allowed and thus the nasal occurs as a prefix in classes 9 and 10 even in contexts where this sound combination is encountered.

Another variation occurs as a result of post-nasal stop voicing also discussed in chapter 3. Nasal consonant sequences in Cisukwa and Cindali manifest as a nasal and voiced stop sequence i.e. *ii-ŋ-gata* ‘headpad’ and *ii-m-batáta* ‘potato’ where the nasals are followed by voiced stops. This is not the case in Cilambya. The NCs can consist of a nasal and a voiceless stop i.e. *ii-ŋ-k^hata* ‘headpad’ and *ii-m-p^hatáta* ‘potato’. Thus prefixes with nasal and voiceless stop structures are attested in this variety while Cisukwa and Cindali have nasal plus voiced stop combinations.

Class 10

The augment and the prefix are the same as in class 9 and also the variations are similar to those in the singular class 9. For that reason, only the concordial agreement patterns allow to differentiate between class 9 and class 10.

Table 38: Class 10 nouns

Cisukwa	Cindali	Cilambya	English gloss
<i>N, Ø</i>		<i>N</i>	
<i>ii-m-busi</i>	<i>ii-m-bufi</i>	<i>ii-m-buzi</i>	„goats“
<i>ii-η-gwi</i>		<i>ii-n-k^hwi</i>	„firewood“
<i>i-n-dálama</i>		<i>i-n-daláma</i>	„money“
<i>i-η-gongóle</i>		<i>i-η-k^hok^hóle</i>	„debts“
<i>ii-η-gata</i>		<i>ii-η-k^hata</i>	„headpads“
<i>ii-η-gwapa</i>		<i>ii-η-k^hwapa</i>	„armpits“
<i>ii-η-géeso</i>		<i>i-η-k^héezo</i>	„ladles“
Cisukwa, Cindali		Cilambya	
<i>ii-m-buno</i>		<i>ii-m-p^huno</i>	„noses“
<i>ii-sofu</i>		<i>ii-n-zovu</i>	„elephants“
<i>ii-fula</i>		<i>ii-m-vula</i>	„rain“
<i>i-n-dáfu</i>		<i>ii-n-t^hafu</i>	„locusts“
<i>ii-n-dóondwa</i>		<i>i-n-t^hoóndwa</i>	„stars“
Cisukwa	Cindali, Cilambya		
<i>ii-m-béja</i>	<i>ii-m-beja</i>		„salt“
Cisukwa, Cilambya		Cindali	
<i>ii-m-bako</i>			„calabashes“
SuNdaLa			
<i>ii-n-dimi</i>			„tongues“
<i>ii-m-bóombo</i>			„work“ (pl)
<i>ii-n-dama</i>			„cows“

Class 10 is the plural class for noun class 9 (cf. *ii-m-bóombo* „work“ and *ii-n-dama* „cows“ in all SuNdaLa varieties) and also the plural class for class 11 in all three SuNdaLa varieties, *ii-n-dóondwa* in Cisukwa and Cindali and *i-n-thoóndwa* in Cilambya.

Class 11

Class 11 has the prefix *-lu-* which is realised as *-lʷ-* when it is followed by a vowel initial noun stem. The pre-prefix for this class is *u-*.

Table 39: Class 11 nouns

Cisukwa	Cindali	Cilambya	English gloss
<i>Lu</i>			
<i>u-lú-toondwa</i>	<i>u-lú-tóondwa</i>	<i>u-lú-toóndwa</i>	„star“
	<i>u-lʷ-íimbo</i>		„song“
<i>u-lu-kéeso</i>		<i>u-lu-kéezo</i>	„ladle“
Cisukwa,Cilambya		Cindali	
<i>u-lú-βako</i>			„calabash“
SuNdaLa			
<i>u-lú-limi</i>			„tongue“
<i>u-lú-kama</i>			„milk“
<i>u-lú-kʰwi</i>			„firewood“
<i>u-lu-soko</i>			„river“

The nouns in this class include long or thin things, abstracts and miscellaneous items. Plurals for this class are in noun class 10.

Class 12

Class 12 with the prefix *ka-*, is predominantly used to express diminution and it occurs in all three SuNdaLa varieties. It is productive in that any noun from other classes can take the prefix *ka-*. This prefix replaces the noun class prefix of the original noun class. Examples of class 12 nouns are presented in table 42.

Table 40: Class 12 nouns

SuNdaLa	English gloss	SuNdaLa	English gloss
<i>ka</i>		Common class	
<i>a-ká-na</i>	„small child“	<i>u-mw-áana</i> (1)	„child“
<i>a-ká-yuluβe</i>	„small pig“	<i>i-η-gulúβe</i> (9)	„pig“
<i>a-ká-kuku</i>	„small chicken“	<i>ii-η-guku</i> (9)	„chicken“(sg)
<i>a-ká-liindu</i>	„small girl“	<i>u-mú-liindu</i> (1)	„girl“
<i>a-ká-juumba</i>	„small house“	<i>ii-η-úumba</i> (9)	„house“
<i>a-ká-soko</i>	„small river“	<i>u-lú-soko</i> (11)	„river“

The original prefix is maintained however in monosyllabic noun stems for example in the words *kamutu* „small head“, *kamuundu* „small person“ (Cisukwa, Cindali) and *kamuunt^hu* „small person“ (Cilambya) where the noun stems *tu* and *ndu/nt^hu* are monosyllabic.

Although this class shows diminution, there are some nouns which seem to have been lexicalized into this class and no longer have the otherwise expected diminutive meaning. For example, *ka-juni* „bird“ means „bird“ and not „small bird“. Similarly, *ka-lundi* does not mean small leg but rather means leg.

Class 13

Class 13 is the plural of class 12. It has the augment *u* and the prefix *tu*.

Table 41: Class 13 nouns

SuNdaLa	English gloss	SuNdaLa	English gloss
<i>tu</i>		Common class	
<i>u-tw-áana</i>	„small children“	<i>a-βá-na</i> (2)	„children“
<i>u-tu-yulúβe</i>	„small pigs“	<i>i-η-gulúβe</i> (10)	„pigs“
<i>u-tú-kuku</i>	„small chickens“	<i>ii-η-guku</i> (10)	„chicken“(pl)
<i>u-tú-liindu</i>	„small girls“	<i>a-βá-liindu</i> (2)	„girls“
<i>u-tú-juumba</i>	„small houses“	<i>ii-η-úumba</i> (10)	„houses“
<i>u-tú-soko</i>	„small rivers“	<i>a-ma-soko</i> (6)	„rivers“

Class 14

Class 14 has *u-* as the pre-prefix and *βu-* as its noun class prefix. This class mostly includes abstract nouns, cf. table 42.

Table 42: Class 14 nouns

Cisukwa	Cindali	Cilambya	English gloss
<i>Bu</i>			
<i>u-βu-lósi</i>	<i>u-βu-lófi</i>	<i>u-βú-lozi</i>	„witchcraft“
Cisukwa, Cindali		Cilambya	
<i>u-βú-fwe</i>			„death“
<i>u-βu-lími</i>		<i>u-βú-limi</i>	„agriculture“
<i>u-βu-káta</i>		<i>u-βú-kata</i>	„laziness“
<i>u-βu-piina</i>		<i>u-βú-piina</i>	„poverty“

Class 15

Class 15 is the infinitive class for all three SuNdaLa varieties. It has *u* as the initial vowel and *ku* as the prefix. The /u/ vowel in the *ku* prefix becomes part of onset through labialisation when it is followed by a noun stem with an initial unrounded vowel. The infinitive prefix is therefore realised as *k^w*. When the infinitive vowel is followed by a rounded vowel in the noun stem, it is deleted. The infinitive prefix is therefore realised as a simple /k/ which the result of a vowel hiatus resolution strategy. Infinitives are verbal nouns for they rely on the nominal morphology of class 15. They can however also have verbal properties since they can incorporate an object marker (cf. Schadeberg 2003).

Table 43: Class 15 Infinitives

SuNdaLa	English gloss
<i>ku</i>	
<i>u-kú-l'a</i>	„to eat“
<i>u-kú-lima</i>	„to cultivate“
<i>u-kú-maŋa</i>	„to know“
<i>u-kú-f^va</i>	„to die“
<i>u-kw-éenda</i>	„to walk“
<i>u-kú-lila</i>	„to cry“
<i>u-kú-seka</i>	„to laugh“
<i>u-kú-βuka</i>	„to go“

Class 16, 17, 18

Classes 16, 17, and 18 are locative classes and they occur in all the three SuNdaLa varieties. The prefixes are *ku-*, *pa-* and *mu-* respectively. They have no augments. These noun classes can distinguish nearness, distance and insiderness. Class 16 indicates general place or direction, class 17 shows specific place while class 18 designates an enclosed place.

Table 44: Class 16 nouns

SuNdaLa	English gloss
<i>ku</i>	
<i>ku ŋ-umba</i>	„at home“
<i>ku kaya</i>	„at the village“
<i>ku-lu-soko</i>	„at the river“

Table 45: Class 17 nouns

SuNdaLa	English gloss
<i>pa</i>	
<i>pa-mu-haja</i>	„at the top“
<i>pa-mbali</i>	„on the side“
<i>pa-lu-soko</i>	„on the river“

Table 46: Class 18 nouns

SuNdaLa	English gloss
<i>mu</i>	
<i>mu-ŋ-umba</i>	„in the home“
<i>mu-lu-soko</i>	„in the river“

Locative nouns are derived by combining a noun with its inherent noun class prefix with the locative prefix. For instance, in the word *mu-lú-soko* „in the river“, the locative prefix *mu-* is concatenated with the inherent class 11 prefix *lu-*. The locative nouns therefore make allowance for multiple prefixation. This is when a noun appears with more than one class prefix. Kavari and Marten (2009) explain that multiple prefixation in Otjiherero occurs in the following instances; plural formation, noun derivation and locative inversion. The SuNdaLa varieties also allow multiple prefixation sometimes in classes that denote augmentation and diminution (7, 8, 12, 13, 21). This can be seen in the following examples:

Cisukwa

(6a)

fí-mi-tu

7-4-head

„big heads“

(6b)

mu-n-umba mu-k-ingil-a a-βa-ndu
18-9-house 18-PST-enter-FV AUG-2-people
„In the house entered the people“

Cindali

(7a)

kamuundu
ka-mu-undu
12-1-person
„small person“

(7b)

kumuúnda kwithu
ku-mu-unda ku-ithu
15-3-garden SM15-POSS
„our garden“

Cilambya

(8a)

tumaso
tu-ma-so
13-6-eye
„small eyes“

(8b)

mujumba m^wit^hu
mu-N-umba mu-ithu
18-9-house 18-POSS
„Our house.“

The examples demonstrate that multiple prefixation is possible in SuNdaLa. When multiple prefixation occurs, there are languages where the retained prefix will trigger agreement while other languages will show agreement with the derivational prefix. In all the SuNdaLa varieties, once a noun has shifted to another class and obtained a new prefix, the retained prefix does not trigger agreement. This can be observed in (6b), (7b) and (8b). In these

examples, the retained prefix does not trigger agreement. For instance, in (8b), it is the class 18 locative prefix *mu* that controls agreement and not the class 9 prefix *n*.

In Otjiherero, Kavari and Marten (2009) note that the agreement is typically with the derivational class and not with the original class. Petzell and Hammarström (2013) observe the same in Kagulu. Nevertheless, in languages such as Kutu, Kwere, Nguu and Zingua agreement has to be with the inherent class. While some languages such as, Kami, Luguru and Zalamo show no preference. Kavari and Marten (2009) also observe that in siSwati (in locatives) the agreement is with the original class prefix.

Locative nouns syntactically behave like the other nouns because they can control agreement (cf. Schadeberg 2003). All the locative markers also have object markers. For a detailed discussion of this see chapter 7 section 7.3.2.1.1 on object marking.

Class 21

Class 21 has the augment *i* and the prefix *li-*. The nouns in this class indicate that something is being used in a pejorative manner or that it expresses augmentation. Examples for class 21 were not recorded for all SuNdaLa varieties and very few overall. Class 21 is a singular class and pairs with class 4 for plurals. It is not a very productive class.

Table 49: Class 21 nouns

Cisukwa	Cindali	Cilambya	English gloss
<i>li</i>			
<i>il'uki</i>			„nuisance of a bee“
	<i>il'uf'o</i>		„large ear“
	<i>ililosi</i>		„horrific witch“
	<i>ilikasu</i>		„awkward hoe“

The concordial agreement systems

The concordial agreement system is one of linguistic key features shared by most Bantu languages. Some few Bantu languages such as Kituba (cf. Maho 1999) have lost the concord system. Some languages for example Duala, Kele, Mpongwe do not have concords on certain adnominals. They for instance do not have them on objects (cf. Maho 1999). These languages are discussed under parameters that deal with object marking (cf. Marten et al 2007). There

are however, some Bantu languages that have lost the concords on all their adnominals. Maho (1999), for example cites Kituba as an example of such a language.

All three varieties in this study have a concord system where the noun classes have agreement on adnominals. This concord structure is outlined below for each SuNdaLa variety.

Table 48: SuNdaLa noun classes and their affixes

Class	Prefix	SM	Proximal demonstrative	Distal demonstrative	POSS
1	<i>mu</i>	<i>a</i>	<i>úju</i>	<i>újo</i>	<i>u</i>
1a	\emptyset	<i>a</i>	<i>úju</i>	<i>újo</i>	<i>u</i>
2	<i>βa</i>	<i>βa</i>	<i>áwa</i>	<i>áwo</i>	<i>βa</i>
2a	<i>βo</i> (Cindali only)	<i>βo</i>	<i>áwo</i>	<i>áwo</i>	<i>βo</i>
3	<i>mu</i>	<i>yu</i>	<i>úwu</i>	<i>úwo</i>	<i>u</i>
4	<i>mi</i>	<i>i</i>	<i>íji</i>	<i>íjo</i>	<i>i</i>
5	<i>li, ∅</i>	<i>li</i>	<i>íli</i>	<i>ílo</i>	<i>li</i>
6	<i>ma</i>	<i>ya</i>	<i>áya</i>	<i>áya</i>	<i>ya</i>
7	<i>tʃi</i>	<i>tʃi</i>	<i>ítʃi</i>	<i>ítʃo</i>	<i>chi</i>
8	<i>fɪ</i>	<i>fɪ</i>	<i>ífi</i> (Cisukwa, Cindali), <i>ívi</i> (Cilambya)	<i>ífo</i> (Cisukwa, Cindali), <i>ívʹo</i> (Cilambya)	<i>fɪ</i>
9	<i>N, ∅</i>	<i>i</i>	<i>íji</i>	<i>íjo</i>	<i>i</i>
10	<i>N, ∅</i>	<i>si</i>	<i>ísi</i> (Cisukwa), <i>ífi</i> (Cindali), <i>ízi</i> (Cilambya)	<i>ísʹo</i> (Cisukwa), <i>ífo</i> (Cindali), <i>ízʹo</i> (Cilambya)	<i>si</i>
11	<i>lu</i>	<i>lu</i>	<i>úlu</i>	<i>úlo</i>	<i>lu</i>
12	<i>ka</i>	<i>ka</i>	<i>áka</i>	<i>áko</i>	<i>ka</i>
13	<i>tu</i>	<i>tu</i>	<i>útu</i>	<i>úto</i>	<i>tu</i>
14	<i>u</i>	<i>βu</i>	<i>úβu</i>	<i>úβo</i>	<i>βu</i>
15	<i>ku</i>	<i>ku</i>	<i>úku</i>	<i>úko</i>	<i>ku</i>
16	<i>ku</i>	<i>ku</i>	<i>úku</i>	<i>úko</i>	<i>ku</i>
17	<i>pa</i>	<i>pa</i>	<i>ápa</i>	<i>ápo</i>	<i>pa</i>
18	<i>mu</i>	<i>mu</i>	<i>úmu</i>	<i>úmo</i>	<i>mu</i>

21	<i>li</i>	<i>li</i>	<i>ili</i>	<i>ilo</i>	<i>li</i>
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Table 48 shows the concords of the nouns of the SuNdaLa in the different classes with various adnominals i.e. the subject, demonstratives, and possessives. This indicates that in all the SuNdaLa varieties, nouns have agreement with adnominals.

Most Bantu languages still maintain a concord system only that the type of concord system may vary. Maho (1999) outlined types of concord systems for Bantu languages. There is a broad parameter that divides languages whose systems are based on animacy and those that are not. Some languages further, contextualize the operation of animacy restrictions. Maho (1999) terms the use of concords of classes 1 (singular) and 2 (plural) for all animates, irrespective of their inherent noun class, as general animate concords. The term is also used in this thesis.

A language that has general animate concords has animate nouns which take concords in class 1 and 2 regardless of the inherent class to which they belong.

All SuNdaLa varieties demonstrate that they do not follow animacy patterns on concords. This implies that if an animate noun is found in a class other than 1 and 2, it still takes the concord of that class and not that of classes 1 and 2. Observe the following examples:

Cisukwa

(9a)

ii-ŋ-gata *j-aáŋgu* / **w-aáŋgu*
 AUG-9-headpad 9PC-POSS / 1PC-POSS
 „my headpad“

(9b)

i-ŋ-gúluwe *s^j-aáŋgu* / **w-aáŋgu*
 AUG-10-pig 10PC-POSS / 1PC-POSS
 „my pigs“

(9c)

a-βá-kolo *βá-wiri* / **já-wiri*
 AUG-2-women 2NC-two / 9NC-two
 „two women“

(9d)

*i-fi-náma if-i / *is-i*
AUG-8-leg 8DC-DEM / 9DC-DEM
„These legs“

Cindali

(10a)

*ii-ŋ-galamu f-áaŋgu / *β-áaŋgu*
AUG-10-lion 10PC-POSS / 2PC-POSS
„my lions“

(10b)

*ii-m-buŋi ij-i / *áβ-a*
AUG-9-goat 9DC-DEM / 2DC-DEM
„this goat“

(10c)

*i-mi-kók^we mí-wiri / *βá-wiri*
AUG-6-tree 6NC-two 2NC-two
„two trees“

Cilambya

(11a)

*u-tú-yuni tw-áane / *β-áane*
AUG-13-bird 13PC-POSS / 2PC-POSS
„my birds“

(11b)

*ii-n-zovu z-áane / *β-áane*
AUG-10-elephants 10PC-POSS / 1PC-POSS
„my elephants“

(11c)

*á-βa-na βá-wiri / *sí-wiri*
AUG-2-child 2NC-two / 9NC-two
„two children“

In the examples (9) to (11), all SuNdaLa varieties show agreement between the noun and the adnominals. For instance, (10a) whose noun belongs to class 3 takes the possessive concord of class 13 which is *tu* and not the one for class 2 *βa*. Likewise in (10b) and (11c) from Cindali and Cilambya respectively, the same point is observed where the nouns *imbufi* and *utúyuni* take their inherent concords *íji* and *t^wáane* respectively as opposed to *áβa* and *βáane* both from class 2.

5.3 Loan words and noun classification

The SuNdaLa varieties are in close contact with other Bantu languages spoken in Chitipa district and in other parts of Malawi such as Chichewa and Chitumbuka. They are also in contact with Kiswahili which is spoken mainly in neighbouring Tanzania. Consequently, many loanwords from these languages exist in the lexicon of the SuNdaLa speakers. Furthermore, the SuNdaLa varieties have also done some considerable borrowing from English. This section of the chapter discusses the loan words from English since morphologically, the nouns from English are classified differently from those of Bantu languages therefore the process of loan adaptation from English into the SuNdaLa provides useful insights into how nouns are categorised in these varieties. An important point to note, however, is that during data collection for this study, the sample of loan words collected was rather small and for that reason the following analysis should be taken with caution. There is still a need for the analysis provided here to be compared and reviewed against a more comprehensive database. The discussion will start with the loan words in Cisukwa.

According to the data collected, Cisukwa demonstrates that it uses classes 1a, 5 and 9 for singular loan nouns and classes 2 and 6 as the plural classes. In the examples obtained from the data, the counterpart of class 9 - class 10 seems not to be productive in the production of plural nouns. The examples of loan words and their classification are presented in table 49 below. In Cindali, as we will see below, in some cases phonology plays a role in the categorisation of nouns. This occurs in environments where the initial syllable of a loan word which resembled a class prefix was reanalysed as the prefix for that class and thereby grouped in that particular class. This was not observed in the Cisukwa data.

Table 49: Loan words in Cisukwa

Class	Loan word	English gloss	Loan word + possessives	English gloss
1a	<i>u-Ø-pánti</i>	„pant“ (underwear)	<i>u-Ø-pánti w-aáŋgu</i> AUG-pant 1a-POSS	„my pant“
2	<i>a-wa-pánti</i>	„pants“	<i>a-wa-pánti w-itu</i> AUG-2-pant 2PC-POSS	„my pants“
5	<i>i-Ø-jáketi</i>	„jacket“	<i>i-Ø-jáketi l̥-aáŋgu</i> AUG-5-jacket 5PC-POSS	„my jacket“
	<i>i-Ø-taláwusi</i>	„pair of trousers“	<i>i-Ø-taláwusi l̥-aáŋgu</i> AUG-5-trouser 5PC-POSS	„my pair of trousers“
	<i>i-Ø-búku</i>	„book“	<i>i-Ø-búku l̥-aáŋgu</i> AUG-5-book 5PC-POSS	„my book“
6	<i>a-ma-taláwusi</i>	„pairs of trousers“	<i>a-ma-taláwusi γ-itu</i> AUG-6-trouser 6PC-POSS	„our pairs of trousers“
	<i>a-ma-dóŋgo</i>	„dongles“	<i>a-ma-dóŋgo γ-itu</i> AUG-6-dongo 6PC-POSS	„our dongles“
	<i>a-ma-kompjúta</i>	„computers“	<i>a-ma-kompyúta γ-aáŋgu</i> AUG-6-computer 6PC-POSS	„my computers“
	<i>a-ma-jáketi</i>	„jackets“	<i>a-ma-jáketi γ-aáŋgu</i> AUG-6-jacket 6PC-POSS	„my jackets“
	<i>a-ma-bólopeni</i>	„ball point pens“	<i>a-ma-bólopeni γ-aáŋgu</i> AUG-6-ball pen 6PC-POSS	„my ball point pens“
	<i>a-ma-fuláfi</i>	„flash drives“	<i>a-ma-fuláfi γ-itu</i> AUG-6-flash 6PC-POSS	„our flash drives“
	<i>a-ma-fóni</i>	„phones“	<i>a-ma-fóni γ-aáŋgu</i> AUG-6-phone 6PC-POSS	„my phones“
	<i>a-ma-búku</i>	„books“	<i>a-ma-búku γ-aáŋgu</i> AUG-6-book 6PC-POSS	„my books“
9	<i>i-Ø-dóŋgo</i>	„dongle“	<i>i-Ø-dóŋgo j-aáŋgu</i> AUG-9-dongle 9PC-POSS	„my dongle“
	<i>i-Ø-kompjúta</i>	„computer“	<i>i-Ø-kompyúta j-aáŋgu</i> AUG-9-computer 9PC-POSS	„my computer“
	<i>i-Ø-bólopeni</i>	„ball point pen“	<i>i-Ø-bólopeni j-aáŋgu</i> AUG-9-pen 9PC-POSS	„my ball point pen“
	<i>i-Ø-fuláfi</i>	„flash drive“	<i>i-Ø-fuláfi j-aáŋgu</i> AUG-9-flash 9PC-POSS	„my flash drive“
	<i>i-Ø-fóni</i>	„phone“	<i>i-Ø-foni j-aáŋgu</i> AUG-9-phone 9PC-POSS	„my phone“

Table 49 shows that the nouns in 1a take plurals in class 2 e.g. *upanti* „pant“ (singular) and *aβapanti* „pants“ (plural). It can also be observed that the nouns in class 5 all take their plurals in class 6 and so do those of class 9. The counterpart for class 9, class 10, for the non-loan words does not provide plurals for class 9 for loan words for as it can be seen from the table, they all go to class 6. Class 6 is therefore a very productive plural class for loan words and a lot of other non-loan nouns too.

For the Cindali loanwords, there is a tendency to use classes 1a, 5, 9 and 7 as the singular loanword classes. Class 1a then gets its plurals from class 2a, 5 in class 6, class 9 has plurals in 10 and 6 and 7 in class 8. Again class 6 is very productive class for plurals because apart from having singular nouns from its counterpart-class 5, it is also a plural class for class 9.

Table 50: Cindali loan words

Class	Loan word	English gloss	Loan word + possessive	English gloss
1a	<i>u-Ø-kápu</i>	„cup“	<i>u-Ø-kápu w-áangu</i> AUG-1a-cup 1aPC-POSS	„my cup“
	<i>u-Ø-tfóko</i>	„piece of chalk“	<i>u-Ø-tfóko w-áangu</i> AUG-1a-chalk 1aPC-POSS	„my piece of chalk“
	<i>u-Ø-swítu</i>	„sweet“	<i>u-Ø-swíti w-áangu</i> AUG-1a-sweet 1aPC-POSS	„my sweet“
	<i>u-Ø-ápo</i>	„apple“	<i>u-Ø-ápo w-áangu</i> AUG-1a-apple 1aPC-POSS	„my apple“
2a	<i>a-βo-tfóko</i>	„pieces of chalk“	<i>a-βo-tfóko β-áangu</i> AUG-2a-chalk 2PC-POSS	„my pieces of chalk“
	<i>a-βo-kápo</i>	„cups“	<i>aβo-kápo βo-tu</i> AUG-2a-cup 2aPC-POSS	„our cups“
	<i>a-βo-swíti</i>	„sweets“	<i>a-βo-swíti β-itu</i> AUG-2a-sweet 2aPC-POSS	„our sweets“
	<i>a-ma-ápo</i>	„apples“	<i>a-ma-ápo γ-itu</i> AUG-6-apple 6PC-POSS	„our apples“
5	<i>i-Ø-jékete</i>	„jacket“	<i>i-Ø-jékete l'-áangu</i> AUG-5-jacket 5PC-POSS	„my jacket“
	<i>i-Ø-búku</i>	„book“	<i>i-Ø-búku l'-áangu</i> AUG-5-book 5PC-POSS	„my book“
	<i>i-Ø-tébulo</i>	„table“	<i>i-Ø-tébulo l'-áangu</i> AUG-5-table 5PC-POSS	„my table“

Class	Loan word	English gloss	Loan word + possessive	English gloss
6	<i>a-ma-dóηgo</i>	„dongles“	<i>a-ma-dóηgu γ-itu</i> AUG-6-dongle 6PC-POSS	„our dongles“
	<i>a-ma-búku</i>	„books“	<i>a-ma-búku γ-áηgu</i> AUG-6-book 6PC-POSS	„my books“
	<i>a-ma-kompjúta</i>	„computers“	<i>a-ma-kompjúta γi-tu</i> AUG-6-computer6PC-POSS	„our computers“
	<i>a-ma-jékete</i>	„jackets“	<i>a-ma-jékete γ-áηgu</i> AUG-6-jacket 6PC-POSS	„my jackets“
	<i>a-ma-tfádza</i>	„chargers“	<i>a-ma-tfádza γ-áηgu</i> AUG-6-charger 6PC-POSS	„my phone chargers“
	<i>a-ma-tébulo</i>	„tables“	<i>a-ma-tébulo γ-áηgu</i> AUG-6-table 6PC-POSS	„my table“
	<i>a-ma-díresi</i>	„dresses“	<i>a-ma-díresi γ-áηgu</i> AUG-6-dress 6PC-POSS	„my dresses“
7	<i>i-tfi-pépala</i>	„toilet paper“	<i>i-tfi-pépala tf-áηgu</i> AUG-7-paper 7PC-POSS	„my toilet paper“
	<i>i-tf-ádza</i>	„charger“	<i>i-tfádza tf-áηgu</i> AUG-tfarger 7PC-POSS	„my phone charger“
	<i>i-tf-ókoleti</i>	„chocolate“	<i>i-tfó-koleti tf-áηgu</i> AUG-7-chocolate7PC-POSS	„my chocolate“
8	<i>i-fi-pépala</i>	„toilet papers“	<i>i-fi-pépala f-áηgu</i> AUG-8-tissue 8PC-POSS	„my toilet paper“
	<i>i-fj-ókoleti</i>	„chocolates“	<i>i-fó-koleti f^v-itu</i> AUG-8-chocolate8PC-POSS	„our chocolates“
9	<i>i-Ø-dóηgu</i>	„dongle“	<i>i-Ø-dóηgu j-áηgu</i> AUG-9-dongle 9PC-POSS	„my dongle“
	<i>i-Ø-kompjúta</i>	„computer“	<i>i-Ø-kompjúta j-áηgu</i> AUG-9-computer 9PC-POSS	„my computer“
	<i>i-Ø-fuláfi</i>	„flash drive“	<i>i-Ø-fuláfi j-áηgu</i> AUG-9-flash 9PC-POSS	„my flash drive“
	<i>i-Ø-fóni</i>	„phone“	<i>i-Ø-fóni j-áηgu</i> AUG-9-phone 9PC-POSS	„my phone“
	<i>i-Ø-díresi</i>	„dress“	<i>i-Ø-díresi j-áηgu</i> AUG-9-dress 9PC-POSS	„my dress“
10	<i>i-Ø-fuláfi</i>	„flash drive“	<i>i-Ø-fuláfi f-itu</i> AUG-9-flash 10PC-POSS	„our flash drives“

Class	Loan word	English gloss	Loan word + possessive	English gloss
	<i>i-Ø-fóni</i>	„phone“	<i>i-Ø-fóni f-áan̄gu</i> AUG-9-phone 10PC-POSS.	„my phones“

The final discussion on loan words and noun classification is from Cilambya. The singular classes for loan words in this variety are class 1a, 5 and, 9. Class 1a plurals come from class 2 and sometimes from class 6, class 5 takes them in class 6 and class 9 takes them from classes 10 and 6. This is demonstrated in table 51.

Table 51: Cilambya loan words

Class	Loan word	English gloss	Loan word + possessive	English gloss
1a	<i>u-Ø-pánti</i>	„pant“	<i>u-Ø-pánti w-áane</i> AUG-1a-panti 1aPC-POSS	„my pant“
	<i>u-Ø-póto</i>	„pot“	<i>u-Ø-póto w-ane</i> AUG-1a-pot 1aPC-POSS	„my pot“
	<i>u-Ø-tfóko</i>	„piece of chalk“	<i>u-Ø-tfóko w-áane</i> AUG-1a-chalk 1aPC-POSS	„my piece of chalk“
	<i>u-Ø-kápu</i>	„cup“	<i>u-Ø-kápu w-áane</i> AUG-1a-cup 1aPC-POSS	„my cup“
	<i>u-Ø-swíti</i>	„sweet“	<i>u-Ø-swíti w-áane</i> AUG-1a-sweet 1aPC-POSS	„my sweet“
	<i>u-Ø-tfókoleti</i>	„chocolate“	<i>u-Ø-tfókoleti w-áane</i> AUG-chocolate 1aPC-POSS	„my chocolate“
2	<i>a-βa-pánti</i>	„pants“	<i>a-βa-pánti β-itu</i> AUG-2-pant 2PC-POSS	„our pants“
	<i>a-βa-tfóko</i>	„pieces of chalk“	<i>a-βa-tfóko β-áane</i> AUG-2-chalk 2PC-POSS	„my pieces of chalk“
5	<i>i-Ø-thiláwuzi</i>	„a pair of trousers“	<i>i-Ø-thiláwuzi l̄-áane</i> AUG-5-trousers 5PC-POSS	„my pair of trousers“
	<i>i-Ø-jékete</i>	„jacket“	<i>i-Ø-jékete l̄-áane</i> AUG-5-jacket 5PC-POSS	„my jacket“
	<i>i-Ø-búku</i>	„book“	<i>i-Ø-búku l̄-áane</i> AUG-5-book 5PC-POSS	„my book“
	<i>i-Ø-dirési</i>	„dress“	<i>i-Ø-dirési l̄-áane</i> AUG-5-dress 5PC-POSS	„my dress“

Class	Loan word	English gloss	Loan word + possessive	English gloss
6	<i>a-ma-thiráwuzi</i>	„pairs of trousers“	<i>a-ma-thiráwuzi y-itu</i> AUG-6-trouser 6PC-POSS	„our trousers“
	<i>a-ma-tífu</i>	„toilet papers“	<i>a-ma-tífu y-itu</i> AUG-6-tissue 6PC-POSS	„our tissue papers“
	<i>a-ma-kompjúta</i>	„computers“	<i>a-ma-kompjúta y-áane</i> AUG-6-computer6PC-POSS	„my computers“
	<i>a-ma-jékete</i>	„jackets“	<i>a-ma-jékete y-áane</i> AUG-6-jacket 6PC-POSS	„my jackets“
	<i>a-ma-bópeni</i>	„ball point pens“	<i>a-ma-bópeni y-ane</i> AUG-6-ball pen 6PC-POSS	„my ball point pens“
	<i>a-ma-fóni</i>	„phones“	<i>a-ma-fóni y-itu</i> AUG-6-phone 6PC-POSS	„our phones“
	<i>a-ma-búku</i>	„books“	<i>a-ma-búku y-áane</i> AUG-6-book 6PC-POSS	„my books“
	<i>a-ma-póto</i>	„pots“	<i>a-ma-póto y-itu</i> AUG-6-pot 6PC-POSS	„our pots“
	<i>a-ma-tébulo</i>	„tables“	<i>a-ma-tébulo y-áane</i> AUG-6-table 6PC-POSS	„my tables“
	<i>a-ma-kápu</i>	„cups“	<i>a-ma-kápu y-itu</i> AUG-6PC-cup 6PC-POSS	„our cups“
	<i>a-ma-dirési</i>	„dresses“	<i>a-ma-dirési y-itu</i> AUG-6-dress 6PC-POSS	„our dresses“
	<i>a-ma-swíti</i>	„sweets“	<i>a-ma-swíti y-áane</i> AUG-6-sweet 6PC-POSS	„my sweets“
	<i>a-ma-tfókoleti</i>	„chocolates“	<i>a-ma-tfókoleti y-áane</i> AUG-6-chocolate 6PC-POSS	„my chocolates“
	<i>a-ma-ápo</i>	„apples“	<i>a-ma ápo y-áane</i> AUG-6-apple 6PC-POSS	„my apples“
9	<i>i-Ø-dóngo</i>	„dongle“	<i>i-Ø-dóngo j-áane</i> AUG-9-dongle 9PC-POSS	„my dongle“
	<i>i-Ø-tífu</i>	„toilet paper“	<i>i-Ø-tífu j-áane</i> AUG-9-tissue 9PC-POSS	„my tissue paper“

Class	Loan word	English gloss	Loan word + possessive	English gloss
	<i>i-Ø-kompjúta</i>	„computer“	<i>i-Ø-kompjúta j-áane</i> AUG-9-computer 9PC-POSS	„my computer“
	<i>i-Ø-bópeni</i>	„ball point pen“	<i>i-Ø-bópeni j-áane</i> AUG-9-ballpen 9-POSS	„my ball point pen“
	<i>i-Ø-fuláfi</i>	„flash drive“	<i>i-Ø-fuláfi j-áane</i> AUG-9-flash 9PC-POSS	„my flash drive“
	<i>i-Ø-fóni</i>	„phone“	<i>i-Ø-fóni j-áane</i> AUG-9-phone 9PC-POSS	„my phone“
10	<i>i-Ø-dóngo</i>	„dongles“	<i>i-Ø-dóngo z^l-itu</i> AUG-9-dongle 10PC-POSS	„our dongles“
	<i>i-Ø-tífu</i>	„tissues“	<i>i-Ø-tífu z^l-áane</i> AUG-9-tissue 10PC-POSS	„my toilet paper“
	<i>i-Ø-fuláfi</i>	„flash drive“	<i>i-Ø-fuláfi z^l-itu</i> AUG-9-flash 10PC-POSS	„our flash drives“
	<i>i-Ø-fóni</i>	„phone“	<i>i-Ø-fóni z^l-ane</i> AUG-9-phone 10PC-POSS	„my phones“

5.4 Generalisations

All three SuNdaLa varieties seem to choose the noun classes 1a, 2, 5, 6, 9 and 10 to accommodate loan words. The loan words in other Bantu languages also fall into any of these classes. Spitulnik (1989), Denny and Creider (1986), Demuth (2000) and Matiki (2001) examined the criteria for the categorisation of loan nouns in the various noun classes. Some of the approaches that have been proposed have been of a grammatical nature, while others have provided phonological, cognitive-semantic and functionalist explanations for loan word classification. The grammatical approach contends that although nominal prefixes are part of the morphological structure, they also have information that is relevant to the grammar such as that pertaining to number and gender. This argument comes in because of the fact that the noun classes are devoid of any overt meaning.

Spitulnik (1989) in her study of iCibemba noun classes shows that most of the loanwords in the language are classified according to their phonological forms of the word. Demuth (2000) also argues that loanwords can be incorporated into the noun class system on a phonological basis if both the consonant and the vowel of the first syllable correspond to a possible noun

prefix. If there is no match, the nouns will be assigned to a „default“ class which in Sesotho is class 9 and 10. She also admits that there are some semantic criteria for the classification of these loanwords where some human nouns may be assigned to human classes 1/2 or 1a/2a. It is this cognitive-semantic approach that is popular in the explanation of the categorisation of loanwords into their respective classes. Similarly, although Spitulnik (1989) argues that loan words are assigned basing on the phonological similarity of the sounds of the first syllable to the class prefixes, she also notes that in iCibemba, loanwords denoting humans go into class 1a/2 regardless of their phonological similarity. Toporova (1997) also notes that in Lingala loanwords go into two classes. Those denoting humans go into class 1a and the non human ones go into class 9.

Matiki (2001) uses functionalist notions to explain loanword classification into the noun classes. In his study of Chichewa, he argues that the distribution of loanwords in noun classes is motivated by type frequency of the noun classes and not the grammatical or semantic features upon which the noun class system is assumed to be based. Matiki (2001) argues that most of the loanwords are members of classes 5/6 or 9/10 because most of the nouns frequently used in Chichewa come from this class.

The approaches discussed above demonstrate how the explanation of loanword classification is not entirely clearcut. Obviously, a larger data sample is needed in the SuNdaLa for one to be definite about how loanwords are categorised into the varieties“ noun classes. In spite of this, a few observations can still be made. In all three varieties, the most common classes for the docking of noun classes are the so called default classes 5/6 and 9/10. These classes have been argued to have an open schema and as such allow a variety of phonological shapes. They therefore readily accept new members. Matiki (2001) also argues that although semantic approaches to noun classification show that classes 5/6 and 9/10 have some semantic coherence, they are still highly heterogenous. New nouns unable to fit into other classes are therefore easily incorporated into these classes. In this thesis, it is also argued that because these classes have null prefixes and the loanwords do not carry overt prefixes themselves, it is easier for them to be fit in these classes (cf. the prefixes of these classes in section 3). The question of why some nouns are accommodated into class 5/6 and others in classes 9/10 is not answered from the data available.

The data presented above also shows that in all the three varieties classes 1a was one of the singular classes for loanwords. The variation among the three is that class 1a pairs with 2 for

Cisukwa and Cilambya and 2a for Cindali. It is a fact that most of the loanwords denoting humanness such as *unasi* „nurse“, *usoja*, „soldier“ go to class 1a. This would be consistent with Spitulnik’s (1989), and Toporova’s (1997) explanation of semantic restriction of human nouns to be assigned to class 1a. It is important to note however, that the data also demonstrates that there are a lot of other non-human nouns such *ukapu* „cup“, *upoto* „pot“, *ubelu* „bell“, *uapo* „apple“ etc. that were still members of this class thus making its semantics partly incoherent.

In terms of productivity for the plural classes, all the SuNdaLa varieties demonstrate that class 6 is the most productive for the provision of plural nouns. Although classes 2 and 10 could get some plurals from class 1a and 9 respectively, most of the plurals for the loanwords come from the class 6. Infact the Cisukwa data does not even present any loan words from class 9 taking plurals from class 10. All of them come from class 6. This could be an indication of the dwindling productivity of class 10.

The discussion so far has concentrated on how some semantic and morphological criteria can shed light on the categorisation of loan words in the SuNdaLa. We would now like to briefly discuss some phonological criteria for classification which indicates some variation among the SuNdaLa. In the three varieties, Cindali demonstrates some assignment of nouns depending on the first syllable’s resemblance to the prefix of a class. Since the examples are from the same class generalisations cannot be claimed.

(12)

itfaja tfangu

i-tfaja *tf-angu*

AUG- charger 7PC-POSS

„my charger“

(13)

itfokoleti tfangu

i-tf-okoleti *tf-angu*

AUG-7-chocolate 7PC-POSS

„my chocolate“

The sounds /tʃ/ in the English words „charger“ and „chocolate“ resemble the sound for the class 7 prefix *tʃi*. When words with these sounds are borrowed in Cindali, they get reanalysed

as this class" prefix and are assigned to class 7. We argue that such words are reanalysed as having the class prefix *tʃi* of class 7 because when the word is rendered in plural it becomes a member of the counterpart class – class 8 and hence takes the prefix *fi*. For instance *itʃokoleti* becomes *ifʃokoleti* „chocolates“. However, it is interesting to note that while this is the case with *itʃokoleti* the plural for *itʃaja* „charger“ „*amatʃaja*“ is from class 6 and not class 8 as one would expect. This makes it difficult to stretch the phonological argument further to draw a general conclusion. The phonological criterion for some classes seems to be apparent in some Cindali cases making it have more noun classes for loanword assignment.

The data from SuNdaLa and the discussion on the assignment of loanwords into classes from other scholars has shown that the criteria for the categorisation of loanwords in the various classes are not clear cut. Morphological, semantic and phonological criteria seem to play a role in the classification of the nouns of some of the varieties but as Nurse and Hinnebusch (1993) note there is an interaction of three factors involved in the assignment of loanwords to the noun class system. These factors include the phonological similarity of the initial syllable to available prefixes; the relative semantic equivalence of the loanword and the perceived content of the nominal genders; and various manipulations of the gender systems when the other two factors do not seem to work. Indeed there is need for a large data sample on loanwords for the SuNdaLa to fully support the tentative generalizations made in this study about these varieties. Further investigation is also needed on whether the issues of frequency raised by Matiki (2001) are relevant to the SuNdaLa.

5.4 Summary of chapter 5

The SuNdaLa demonstrate that they most features in their noun class systems. They all have a canonical noun class system of 19 noun classes, they have augments that can be dropped and depend on vowel harmony. They also all have multiple prefixation where the retained prefix does not trigger agreement and they have a concord system. They also all do not have general animate concords. Variation is seen in the pairing system. For instance, Cindali has a pairing system that is different from the other two. It pairs class 1a with 2a while Cisukwa and Cilambya pairs this class with 2. In some cases Cindali also pairs class 9 nouns with class 4 while Cisukwa and Cilambya pairs such nouns with class 10. Cilambya differs from Cindali and Cisukwa with regard to class 9 and 10 prefixes where this variety does not take a zero prefix while the other two can have null prefixes in addition to the N prefix.

For the assignment of loanwords into noun classes, Cindali also uses class 2a as a plural class while the other two use class 2. Cindali also has classes 7 and 8 as classes for loanwords to fulfil some phonological criteria while these classes were not attested in Cisukwa and Cindali as classes where loanwords could be grouped in. Cisukwa also shows some variation in its non-productivity of class 10 as a plural class for loanwords.

These factors together lead to a suggestion that, Cindali diverges slightly from Cisukwa and Cilambya because it has more features different from them while Cilambya has one and Cisukwa also has one divergent feature. This may mean that for the noun classes Cisukwa and Cilambya share more features than they do with Cindali. Nevertheless with shared values for all three varieties, the claim that these varieties are a dialect continuum of one language is valid.

Chapter 6

Noun Derivation and Phrase Structure

6.0 Introduction

Chapter 5 discussed the noun class systems of the three SuNdaLa varieties and we demonstrated that while the noun class system of the three varieties share most features, some differences exist, mainly with regard to the noun class prefixes and the pairings of some of the noun classes.

This chapter discusses further aspects of nouns in SuNdaLa particularly, their derivation as well as the structure of the noun phrases. The SuNdaLa varieties derive nouns from verbs, nouns, adjectives, and furthermore form new nouns by compounding, reduplication and borrowing. All these word formation processes are also attested widely among the Bantu languages in general. We further discuss the structure of the noun phrase and show that nouns are modified by demonstratives, possessives, adjectives, quantifiers, numerals, relatives and associatives.

The analysis of the language data demonstrates that SuNdaLa varieties do not show much variation in how they derive nouns and also the structure of the noun phrase is shared among them. There is variation, however, in the linguistic forms in possessives and the relative markers.

The approach also in this chapter is mainly descriptive and the data are presented to make them available for further studies on the three SuNdaLa varieties. Nevertheless, theoretical issues that arise from the analysis of the noun derivation strategies and of the noun phrase structure as well as their implications for linguistic theory will be taken up and discussed to some extent in this chapter.

6.1 Noun formation strategies

Several descriptive studies have focussed on noun formation strategies in Bantu languages (cf Schadeberg 2008, Nurse and Phillipson 2003, Ström 2013, Rugemalira 2005, Botne 2008, Kula 2009, Mchombo 2004). Common strategies for noun formation which have been identified include: i) nouns derived from verbs, ii) nouns derived from adjectives, iii) nouns derived from nouns, iv) nouns derived from compounding, and v) nouns derived from reduplication. In this section, we provide a brief discussion of the literature on how these

derivational processes work in other Bantu languages. This will form the basis for the approach to be adopted in the analysis of the SuNdaLa nominal derivation.

Ström (2013), Rugemalira (2005) and Botne (2008) discuss nouns derived from verbs also known as deverbal nouns in Ndengeleko, Runyambo and Cindali respectively. This derivation process which is productive in most Bantu languages demonstrates a close relationship between the nominal stem and the verbal base. Schadeberg (2003) observes that the derivation involves the assigning of a final vowel to a base and the allocating of the outcome to a noun class. Ström's (2013) discussion of forming deverbal nouns includes examples from class 1, which usually denote professions, physical characteristics, and also deverbal nouns from noun class 7. According to Rugemalira (2005), deverbal nouns in Runyambo involve the adding of a final vowel or a particular suffix to a verb root and assigning the outcome to a noun class. The final vowels or suffixes can be *-o*, *a-o* (meaning the applicative plus *o*), high tone, *-ire/ere* suffix, *-i*, *-u* and *-e*.

Furthermore, nouns can be derived from other nouns. The cases examined by Ström (2013), Botne (2008) and Rugemalira (2005) show that nouns undergo secondary classification as they shift from one class to another. The productive derivations from this reassignment of nouns to other noun classes include augmentatives, diminutives, pejoratives and locatives, and all these processes have been described for Ndengeleko, Cindali and Runyambo by the three authors mentioned above.

Another part of speech from which nouns can be derived are adjectives, in which case an adjective stem is assigned to a specific noun class. In Ndengeleko (Ström 2013), for example, notes that the adjective *-koto* „fine“ can be assigned to class 5 to derive *li-koto* „the fine one“. In the same language, classes 7 and 11 can be used to construct nouns denoting manner, including manner of speech and singularity, respectively. Nouns which show quality can also be formed by moving them into class 14 with the class prefix *u-* being added to the adjective.

Apart from the noun derivation strategies mentioned so far, new nouns can also be created by compounding. Rugemalira (2005) notes that in Runyambo, compound nouns are formed mainly by joining a verb and a noun or a noun plus another noun. Rugemalira notes that in addition although, quite a few nominals are results of reduplication, this process is also found but is not productive in Runyambo.

Rugemalira (2005) furthermore discusses the incorporation of loan words into Runyambo. He observed that loan words are assigned to a class on the basis of their semantic meaning and/or their morphological shape. The obvious choices for loan words referring to humans are the classes 1 and 2. The majority of the nouns which has no apparent such affiliation to the semantic properties of one of the noun classes such as for example animals, are assigned to the classes 9 and 10. Occasionally a noun may also be reanalysed to conform to the requirements of a particular class.

Botne (2008) discusses in great detail how nouns are derived in Cindali. The Cindali nouns derived from verbs are usually agentives, attributives, or experiencers. These nouns may also explain manner of behaviour, show means and materials and may convey abstract concepts. Botne (2008) also elaborates on the fact that Cindali nouns can be created by compounding and reduplication.

It can be observed that in all the derivational processes there is a relationship with the noun class system since every resultant or derived form, is assigned a noun class and together with all other elements, it has to conform to the concord system of the language concerned.

The description of nominal derivation that we will provide in the following for the three SuNdaLa varieties will employ as its main frame of reference, the template proposed by Botne (2008).

The next section will review the noun derivation strategies as well as compounding, reduplication and borrowing in the SuNdaLa cluster. It is demonstrated that Cisukwa, Cindali and Cilambya share the same word formation strategies. These include the class changing derivations of verbs to nouns and adjectives to nouns, as well as class maintaining strategies of nouns to nouns derivations. Reduplication, compounding and borrowing are also employed in the SuNdaLa cluster to create new word.

6.1.1 Nouns derived from verbs

As noted above, one of the most productive processes of nominal derivation in Bantu languages is changing verbs to nouns. The discussion of noun derivation from verbs which follows will adopt Botne's (2008) approach and will thus present different types of derived noun categories.

6.1.1.1 Agentives

One of the most common types of nominal derivation in all SuNdala varieties, like in other Bantu languages (cf. Mchombo 2004, Crane, Hyman and Tukumu 2011) is that of agentive formation from verbs. Agentive nouns have generally been described as those that denote the performer of an action.

Mchombo (2004) discusses this process for Chichewa. He observes that in this language the final vowel [a] is replaced by either [i] for actor (agentive) nouns, or [o] for non-actor nominals. In addition, an appropriate noun class prefix is added to the noun stem to obtain a noun. The following examples are provided by Mchombo (2004:114):

Chichewa

(1)

Verb	English gloss	Agentive	English gloss
<i>phunzits-a</i>	„teach“	<i>m-phunzits-i</i>	„teacher“
<i>sangalats-a</i>	„amuse“	<i>m-sangalats-i</i>	„entertainer“
<i>lamb-a</i>	„write“	<i>m-lamb-i</i>	„secretary“

In examples (1) the vowel [i] is attached to the verb stem and the prefix *mu* -of class 1 is prefixed in order to transform the verb into an agentive. In this way, for instance, the verb *phunzitsa* „teach“ becomes *mphunzitsi* „teacher“.

Botne (2008) presents examples of Cindali noun derivation from verbs which involve affixing to the verb stem a class 1 and class 2 prefix, *u-mu-/a-ba-* in conjunction with the suffix *-i* or *-aayi*. The language data in this thesis provides additional evidence for this derivational strategy to be commonly employed in the SuNdaLa cluster with examples of agentives derived from verbs from all the three SuNdaLa varieties.

Table 52: Agentives derived from verbs in SuNdaLa.

Cisukwa	Cindali	Cilambya	English gloss	Verb	English gloss
<i>u-m-máñis-i,</i> <i>a-βa-máñis-i</i>	<i>u-m-máñif-i,</i> <i>a-βa-máñif-i</i>	<i>u-m-máñis-i,</i> <i>a-βa-máñis-i</i>	„teacher“	<i>mañif-a,</i> <i>mañis-a</i>	„teach“
Cisukwa, Cindali		Cilambya			
<i>u-mu-βiing-i,</i> <i>a-βa-βiing-i</i>		<i>u-mu-βiinsi-i,</i> <i>a-βa-βiins-i</i>	„hunter“	<i>βiing-a,</i> <i>βiins-a</i>	„to hunt“
Cisukwa, Cilambya		Cindali			
<i>u-mú-lim-i,</i> <i>a-βá-lim-i</i>		<i>u-mu-lim-i,</i> <i>a-βa-lim-i</i>	„farmer“	<i>lim-a</i>	„cultivate“
SuNdaLa					
<i>u-m-mát-i,</i> <i>a-βa-mát-i</i>			„potter“	<i>mát-a</i>	„to make pottery“
<i>u-mu-lóβ-i,</i> <i>a-βa-lóβ-i</i>			„fisherman“	<i>lóβ-a</i>	„fish“
<i>u-mu-siimb-i,</i> <i>a-βa-siimb-i</i>			„writer“	<i>simb-a</i>	„write“

As shown in table 52, the suffix *-i* is added to the verbal base which is then assigned to classes 1 or 2 in order to form an agentive noun. The derived nouns, therefore, have the prefixes *u-mu-* in the singular and *a-βa-* in the plural forms. For instance, the vowel [i] together with prefixes *u-mu* are added to *lim* of the verb *lima* „cultivate“ to derive *umúlimi* (Cisukwa, Cilambya) and *umulimi* (Cindali) „farmer“.

6.1.1.2 Attributive

The examples in table 53 present attributive nouns. An attributive noun denotes a person who has the characteristic attribute conveyed by the verb it is derived from. Botne (2008) also observes this derivational strategy in Cindali, and could have been attested in the other two SuNdaLa varieties as well. The process is implemented by adding the suffix *-e*, or *-o* to the verbal base and the modified form is then assigned to either class 1 or class 2. These nouns therefore have the noun class prefixes *u-mu-* and *a-βa-*.

Table 53: Attributives derived from verbs in SuNdaLa.

SuNdaLa		English gloss	Verb	English gloss
<i>u-mú-p-e,</i> <i>a-βá-p-e</i>		„generous person“, „generous people“	<i>-p-á</i>	„to give“
<i>u-mú-fw-e,</i> <i>a-βá-fw-e</i>		„dead person“, „dead people“	<i>-fw-á</i>	„to die“
Cisukwa,Cindali	Cilambya			
<i>u-mú-lemal-e,</i> <i>a-βá-lemal-e</i>	<i>u-mú-lemas-o</i> <i>a-βá-lemas-o</i>	„cripple“, „cripples“	<i>-lemal-a</i> (Cisukwa, Cindali) <i>-lemas-a</i> Cilambya	„be lame“

It is demonstrated in the examples in table 53 that nouns are derived from verbs to form attributive nouns. The Cisukwa and Cindali verb *-lemala* „be lame“ changes the noun *umulemale* „a cripple“ by adding the vowel [e] to the verb stem *lemal*. The meaning of the noun refers to the physical characteristic attributes expressed in the verb *lemala* „be lame“. The equivalent verb „be lame“ in Cilambya is *-lemas-a* and the vowel attached the verb stem here is [o]. All three SuNdaLa varieties prefix the augment and noun class prefix of class 1 to the modified verb stem.

6.1.1.3 Experiencer

Nouns that are experiencers refer to humans who have been subjected to some action or event Botne (2008:24). For Cindali, Botne states that the noun that is an experiencer has a class 1 prefix *umu-/aβa-* with the final vowel *-a*. All SuNdaLa varieties can derive experiencers from verbs. The nouns have the final vowels *-a*, *e* or *i* suffixed to the initial verbal base they derive from. They are assigned to class 1 or class 2. Below are examples from each of the three SuNdaLa varieties.

Table 54: Experiencers derived from verbs in SuNdaLa

Cisukwa,Cindali	Cilambya	English gloss	Verb	English gloss
<i>u-mú-fwilw-e,</i> <i>a-βá-fwilw-e</i>	<i>u-mú-fwilw-i,</i> <i>a-βá-fwilw-i</i>	„widow/er“, „widow/ers“	<i>-fw-a</i>	„die“
<i>u-mu-káβ-i,</i> <i>a-βa-káβ-i</i>	<i>u-mú-kaβ-i,</i> <i>a-βá-kaβ-i</i>	„rich person“, „rich people“	<i>-káβ-a</i>	„become rich“
SuNdaLa				
<i>u-mu-piin-a,</i> <i>a-βa-piin-a</i>		„poor person“, „poor people“	<i>-piin-a</i>	„lack“

In table 54, experiencers are derived from verbs. In the word *umukaβi* in Cilambya and *u-mu-káβ-i* in Cisukwa and Cindali in the meaning „rich person“ for instance, is derived from the verb *kaβa* or *káβa* „become rich“ by attaching the vowel [i] to the verb stem *-kaβ* in Cilambya and *-káβ* in Cisukwa and Cindali. All three SuNdaLa varieties assign the modified verb stem to noun class 1 or 2 with the prefixes *u-mu-* and *a-βa-*.

6.1.1.4 Abstract concepts

All SuNdaLa varieties derive also abstract concepts from verbs and adjectives. The process involves attaching the vowel *-i* or *-e* to a verbal base or the adjective and assigning the modified forms to class 14 with augment and noun class prefix *u-βu-*. Ström (2013) and Rugemalira (2005) also observed the same process for Ndengeleko and Runyambo respectively while Botne (2008) describes it for Cindali. Mchombo (2004) as he discusses the blurred line between inflectional and derivational morphology, provides the derivation of abstract nouns in Chichewa. Mchombo's (2004) examples of abstract nouns *uwisi* „unripeness“ *ukulu* „magnitude“, *umodzi* „unity“ and *ukali* „ferocity“ are derived from the adjectives *wisi* „unripe“, *kulu* „big“, *modzi* „one“, *kali* „fierce“. With the prefix *u* attached to the adjective it changes its class as an adjective and becomes a noun.

In the SuNdaLa cluster abstract nouns can also be derived from verbs as shown in table 55.

Table 55: Nouns depicting abstract concepts

Cisukwa	Cindali	Cilambya	English gloss	Verb	English gloss
<i>u-βú-fw-e</i>	<i>u-βú-fw-e</i>	<i>N/A</i>	„death“	<i>-fw-a</i>	„die“
<i>u-βú-los-i</i>	<i>u-βu-lóf-i</i>	<i>u-βú-loz-i</i>	„witchcraft“	<i>-loβ-a</i>	„bewitch“
<i>u-βu-lim-i</i>	<i>u-βu-lím-i</i>	<i>u-βu-lim-i</i>	„agriculture“	<i>-lim-a</i>	„cultivate“
<i>u-βu-piin-a</i>	<i>u-βu-piin-a</i>	<i>u-βu-piin-a</i>	„poverty“	<i>-piin-a</i>	„lack“

In table 55 we observe the derivation of abstract nouns which are a result of attaching [i] or [e] to the verb stem and by assigning the modified form to class 14. The output forms thereby attain the augment and noun class prefix *u-βu-*. This is seen in the example *uβulimi* „agriculture“ where *i* is suffixed to *lim* „cultivate“ and *uβu* is prefixed.

6.1.1.5 Nominalised actions

Botne (2008) defines nominalised action nouns as those denoting the concrete entity performed by the action of the verb. He notes that in Cindali, these nouns are derived from the verb by affixing classes 11 or 9 prefixes *ulu* or *iN* respectively and by suffixing *-o* to the stem. The data collected reveals that all three SuNdaLa varieties, indeed affix the suffix *-o* to the verbal base. The suffix *-a* can also be attached. The modified form may be assigned to singular classes 11, 9, 7 or the plural class 8. Examples are presented in table 56:

Table 56: SuNdaLa nominalised action nouns

Cisukwa	Cindali	Cilambya	English gloss	Verb	English gloss
<i>u-l^w-aángal-o</i>	<i>u-l^w-aangál-o</i>	<i>i-n-ngáal-o</i>	„game“	<i>aángal-a</i>	„play“
Cisukwa, Cindali		Cilambya			
<i>i-n-dáam^l-o</i>		<i>i-n-t^háam^l-o</i>	„problem, hardship“	<i>tamíw-a</i>	„be in trouble“
<i>i-tfí-lot-a</i>		<i>i-tfí-lót-a</i>	„dream“	<i>lót-a</i>	„dream“
<i>u-lú-saj-o</i>		<i>íi-n-saj-o</i> <i>u-lú-sajo</i>	„blessing“	<i>sáj-a</i>	„bless“
Cisukwa	Cindali, Cilambya				
<i>i-n-imb-o</i>	<i>i-n-imb-o</i> <i>u-lw-íimb-o</i>		„song“	<i>íimb-a</i>	„sing“

In the examples in table 58, the vowel [o] is added to the verb stem and the resultant is assigned a noun class. For instance, *ijimbo* „song“ is derived from the verb *iimba* „sing“. The suffix *-o* is added to the verb stem and the form is assigned to class 9 to get the noun. The suffix *-a* can also be attached to a verb stem for example in the word *itfilota*, the verb stem *lota* „dream“ is put in class 7 and attains the prefixes *i-tfi* to derive *itfilota* „dream“.

6.1.1.6 Means/materials

Nouns derived from verbs can also denote means used to carry out an action depicted in the verb. In the SuNdaLa data, nouns in this category are usually formed by affixing the suffix *-o* or *-a* to the verb stem and by assigning the modified form to class 7 or class 8, sometimes also to class 9 and class 10. Botne (2008) noted this phenomenon for Cindali and demonstrated that these nouns all take a final *-o*, while the noun class assignment may differ. They may affix the prefixes, *i-* or *a-ma-* of the noun classes 5 and 6 to the verb stem. They may also attach the class 7 *i-tfi* and 8 prefix *i-fi-*, class 9 *iN* and 10 prefix, *iN-* or classes 12 *aka-* and 13 prefix *utu-* to the verb stem. The examples presented in table 57 are from SuNdaLa varieties.

Table 57: Nouns denoting means/materials in SuNdaLa

SuNdaLa		English gloss	Verb	English gloss
<i>i-tfi-piing-o</i>		„trap“	<i>-piing-a</i>	„obstruct“
<i>i-tfi-kiing-a</i>		„shield“	<i>-kiing-a</i>	„shield“
<i>i-téw-o</i>		„trap“	<i>-téw-a</i>	„trap“
Cisukwa, Cindali	Cilambya			
<i>i-tfi-njuw-a</i>	<i>i-tfi-néen-o</i>	„language“	<i>-nén-a, -júw-a</i>	„say“

Table 57 examples show us that the vowel [o] or [a] is attached to the verb stem. For instance, the verb *piing-a* „obstruct“ is suffixed this vowel and the resultant form is assigned to class 7 to derive the noun *itfiplingo/itfiplingo* „trap“.

The derivational strategies discussed in this section involve affixation to verb stems. The question with regard to the prefixes that are attached to the verb stem arises as to whether these are inflectional or derivational processes. Mchombo (2004) in his discussion of Chichewa agentives argues that the prefixes ordinarily add information concerning number

and class. They therefore are inflectional but sometimes the prefixes take the role of both inflection and derivation.

A similar analysis can also be provided for SuNdaLa. For instance, the addition of the class 1 or 2 prefixes to a verb stem to derive an agentive such as *umulimi* provides information concerning number and class of the noun. The prefixes therefore are inflectional morphemes. However, there is also a change of the lexical item from the verb to the noun category which is a derivational process. Indeed, the addition of affixes to the verb stem has both derivational and inflectional functions making the morphological role of these affixes vague.

6.1.2 Nouns derived from adjectives

Nouns can be derived from adjectives by adding appropriate prefixes and then assigning the stems to a specific noun class. It was shown above that Mchombo (2004) explains that in Chichewa, abstract nouns such as *u-wisi* „lack of dryness“, *u-fupi* „nearness“, *u-tali* „length“, *u-ng'ono* „youth“, *u-kulu* „maturity“ etc. are derived from the bare adjective stems *-wisi*, *-fupi*, *-tali*, *-ng'ono*, and *-kulu*, respectively, by adding the prefixes indicated there. In Rangi, a language spoken in north-central Tanzania, this process is also prevalent. Adjectives are nominalised by assigning them to noun class 14 with prefix *o-*. This results into abstract nouns (cf. Stegen 2002:147). For example the adjective *kífi* „short“ becomes *okífi* „shortness“ by assigning the adjective to the noun class 14. The noun *ulíhi* „length“ is also derived in the same way in that the adjective *-líhi* „long“ attains the class 14 prefix *o-*

All three SuNdaLa varieties use nouns that derive from adjective stems. Most of the data on adjective-derived nouns analysed in this study denotes human beings and the word formation processes involves attaching the prefix *u-mu-* to the adjective, thus assigning them to the classes 1 or 2.

Table 58: SuNdaLa nouns derived from adjectives

Cisukwa, Cindali	Cilambya	English gloss	Adjective	English gloss
<i>u-mú-piimba</i>	<i>u-mú-fupi</i>	„dwarf“	<i>-piimba, -fupi</i>	„short“
<i>u-mú-kali</i>	<i>u-mu-káli</i>	„angry/fierce person“	<i>-kali</i>	„angry“
Cindali, Cilambya	Cisukwa			
<i>u-mu-βiβi</i>	<i>u-mú-βiβi</i>	„bad/evil person“	<i>-βiβi</i>	„bad“
<i>ú-mu-kata</i>	<i>u-mú-kata</i>	„lazy person“	<i>-kata</i>	„lazy“
SuNdaLa				
<i>u-mú-tali</i>		„tall person“	<i>-tali</i>	„tall“
<i>u-mú-kulu</i>		„giant“	<i>-kulu</i>	„big“

The SuNdaLa examples in table 58 are adjectives that become nominalised by prefixing the noun class 1 prefix including the augment *u-mu*. For instance, the adjective *-tali* „tall“ becomes *umú-tali* „tall person“, *-kali* „angry“ is nominalised as *umú-kali* „angry/fierce person“.

6.1.3 Nouns derived from nouns

Another productive derivational strategy found in many Bantu languages is the derivation of new nouns from existing nouns (c.f. Ström 2013, Stegen 2002, Schadeberg 2003, Crane, Hyman and Tukumu 2011, Nurse and Phillipson 2006 and Katamba 2003). While their word category membership as nouns is maintained in these processes, their noun class membership is changed by the assignment to another noun class. The process triggers a change in the meaning of the noun. This phenomenon was discussed in 5.2 of chapter 5 under the topic multiple prefixation (where a noun takes two prefixes). The process when a noun is assigned to another class may be called secondary prefixation.

The SuNdaLa varieties have such derivations and the ones to be discussed include locatives and evaluative nouns such as diminutives, augmentatives, pejoratives. The term evaluative nouns refers to variations on the basic noun that indicate the speaker’s judgement in terms of size and quality“ (Botne 2008:30).

6.1.3.1 Diminutives

In many Bantu languages, diminution is achieved by moving a noun from its common class to classes 12 and 13. It was demonstrated in chapter 5, that all SuNdaLa varieties show diminution by assigning a noun to class 12 with the prefix *-ka*. These nouns find their plurals in class 13 with the prefix *-tu*. However, when these nouns move to the new class, they lose their original class prefixes as seen in the examples in table 59.

Table 59: Nouns denoting diminution in SuNdaLa

SuNdaLa diminutives	English gloss	Commonclass	English gloss
<i>ka</i>			
<i>a-ká-na</i> AUG-12-child	„small child“	<i>u-mw-ána</i> AUG-1-child	„child“
<i>a-ká-yuluβe</i> AUG-12-pig	„small pig“	<i>i-η-gulúβe</i> AUG-9-pig	„pig“
<i>a-ká-kuku</i> AUG-12-chicken	„small chicken“	<i>ii-η-guku</i> AUG-9-chicken	„chicken“ (sg)
<i>a-ká-liindu</i> AUG-12-girl	„small girl“	<i>u-mú-liindu</i> AUG-1-girl	„girl“
<i>a-ká-juumba</i> AUG-12-house	„small house“	<i>ii-n-úumba</i> AUG-9-house	„house“
<i>a-ká-soko</i> AUG-12-river	„small river“	<i>u-lú-soko</i> AUG-11-river	„river“

In the SuNdaLa examples above, when nouns are assigned to class 12, they denote diminution. For instance, the noun *umwana* „child“ which belongs to class 1 attains the prefixes *a-ka-* to derive *akána* „small child“ with the class 1 prefix *mw-* being dropped.

This is a highly productive process in other Bantu languages as well. In Chichewa, words can be assigned from any other noun class to classes 12 and 13 to show diminution. Examples include words such as *kamwána* „small child“ derived from *mwána* „child“ (class 1), *kamténgo* „small tree“ derived from *mténgo* „tree“ (class 3).

In contrast to the SuNdaLa cluster strategy, Chichewa maintains the class 1 prefix and class 3 prefix and has double prefixation.

While SuNdaLa varieties, like Chichewa derive diminution by assigning nouns to class 12 and 13, there are other strategies in most Bantu languages that form diminutives through compounding (discussed in 6.1.3). In Nzadi, a language spoken in the Democratic Republic of Congo for instance, Crane, Hyman and Tukumu (2011:73) show that diminutives are formed by compounding *mwaan/baan* „children“ to a noun from a example in the the word for baby elephant *baan e ndzoo*, is a result of the combination of two words *baan* „child“ and *ndzoo* „elephant“.

6.1.3.2 Augmentatives

Augmentatives denote that something is big in size but it may also be used derogatorily. This can be seen in Malawian Citonga where a noun can be derived by shifting from one class to class 7. In examples provided by Mkochi (2015: personal communication), the noun *muu-tu* which is a class 3 noun is moved to class 7 to denote bigness and thus derives *tŷi-muu-tu* „big head“. Similarly *tŷi-n-ooli* „big chicken“ is derived from the class 9 noun *n-ooli* „chicken“. The process is done in this case to express that something not only big but undesirable. The original prefix in the examples is maintained and the noun assigned to class 7 attains the prefix for that class. The final noun therefore ends up with two prefixes. However Mkochi (2015) mentioned that Citonga speakers can also lose the original prefix. That is still acceptable in the language.

In the SuNdaLa, when nouns shift into class 7, they acquire an augmentative meaning and can also be used with a pejorative meaning. Commonly, nouns in this class 7 pair with class 8 for plural forms. The assignment of nouns to this class does not entail loss of their original class prefix as demonstrated in table 60.

Table 60: Nouns denoting augmentatives in SuNdaLa

SuNdaLa	English gloss	Common class	English gloss
<i>tʃi</i>			
<i>i-tʃ-ána</i> AUG-7-child	„big child“	<i>u-mw-ána</i> AUG-1-child	„child“
<i>i-tʃi-yuluβe</i> AUG-7-pig	„big pig“	<i>i-ŋ-gulúβe</i> AUG-9-pig	„pig“
<i>i-tʃi-kuku</i> AUG-7-chicken	„big chicken“	<i>ii-ŋ-guku</i> AUG-9-chicken	„chicken“ (sg)
<i>i-tʃi-liindu</i> AUG-7-girl	„big girl“	<i>u-mú-liindu</i> AUG-1-girl	„girl“
<i>i-tʃi-úumba</i> AUG-7-house	„big house“	<i>ii-ŋ-úumba</i> AUG-9-house	„house“
<i>i-tʃi-soko</i> AUG-7-river	„big river“	<i>u-lú-soko</i> AUG-11-river	„river“

In table 60, nouns move from their common, original classes to class 7 in order to take on an augmentative or pejorative meaning. For instance, *inguku* „chicken“ from class 9 becomes *itʃikuku* „a big chicken“ in class 7. The nouns in class 7 have the pre-prefix *i-* and the prefix *tʃi*, while they lose their original class prefix.

6.1.3.3 Pejoratives

Words with a pejorative meaning denote something that is undesirable. Nouns can be taken from their original classes to classes 7, 14, and 21 to acquire a pejorative meaning. Botne (2008) observes that this can also be attained in Cindali by assigning the nouns to singular class 3 and the plural class 4 with prefixes *umu-/imi-*. In SuNdaLa, the nouns presented in table 60 from class 7 can take on a pejorative meaning. Nominals in class 21 also denote a pejorative meaning as illustrated in the examples in table 61.

Table 61: Nouns in class 21 denoting pejoratives in SuNdaLa

SuNdaLa			English gloss	Noun	English gloss
<i>i-l'uki</i> AUG-21-bee			„nuisance of a bee“	<i>i-n-uki</i> AUG-9-bee	„bee“
<i>i-li-kasu</i> AUG-21-hoe			„awkward hoe“	<i>i-kasu</i> AUG-hoe	„hoe“
Cisukwa	Cindali	Cilambya			
<i>i-li-losi</i> AUG-21- witch	<i>i-li-lofi</i> AUG-21- witch	<i>i-li-losi</i> AUG-21- witch	„horrific witch“	<i>u-mú-losi</i>	„witch“

Table 61 presents examples of nouns that have a pejorative meaning. For instance, the noun *ilikasi* „awkward hoe“ is depicted as looking undesirable because of the prefix *li*. This is unlike the noun *ikasi* from class from which it is derived.

6.1.3.4 Locatives

Locatives in SuNdaLa, which were also discussed in chapter 5, are, like in many Bantu languages, derived from various noun classes (c.f. Ström 2013 and Rugemalira 2005). In languages which still have these classes, nouns can shift from their original classes to classes 16, 17, and 18. Despite this relocation, they still retain their original class prefixes. As already shown in chapter 5, these classes can denote nearness, distance and insiderness.

Table 62: Locative nouns in SuNdaLa

Cisukwa,Cindali	Cilambya	English gloss	Noun	English gloss
<i>mu-káti</i>	<i>mu-kási</i>	„in the bedroom“	<i>kási/káti</i>	„bedroom“
<i>pa-núma</i>	<i>pa-síinda</i>	„on the back“	<i>núma</i>	„back“
Cindali, Cilambya	Cisukwa			
<i>pa-lw-ingiilo</i>	<i>pa-lú-wasa</i>	„on the courtyard“	<i>lwasa/lwingilo</i>	„courtyard“

SuNdaLa	English gloss	Noun	English gloss
<i>pá-si</i>	„on the floor“	<i>Si</i>	„floor“
<i>ku-m-hána</i>	„at the sky“	<i>hána</i>	„sky“
<i>pa-tébulo</i>	on the table	<i>tébulo</i> (ELW)	„table“
<i>ku-sukúlu</i>	at the school	<i>sukúlu</i> (ELW)	„school“
<i>mu-kalási</i>	in the class	<i>kalási</i> (ELW)	„class“
<i>ku-máliketi</i>	at the market	<i>máliketi</i> (ELW)	„market“

To derive locatives, as it has been mentioned above, a noun is assigned into classes 16, 17, or 18. The word *lwiingilo* (class 5) „courtyard“ in Cindali and Cilambya for instance, shifts class 17 in order to say *palwiingilo* „on the courtyard“. The noun maintains its class 5 prefix *lu*.

6.1.4 Compounding

Compounding is a process where two separate words or at least two stems combine to form one word. This process is different from the ones discussed so far because it involves more than one word. The status of the resultant as being lexical or phrasal is an issue that arises in such a process. Most Bantu languages use compounding as a word formation device. Ström (2013) and Rugemalira (2005) have both described compounding as a derivational process that is not productive in Ndengeleko and Runyambo respectively.

Kula (2009) discusses nominal compounding in iCibemba in great detail. She identifies four types of compounds namely; nominal root compounds also known as „true compounds“ and synthetic compounds. The other types of compounds are associative phrases which are divided into non-argument associative phrases and argument associative phrases. Kula’s discussion hinges on evaluating whether associative phrases are compounds.

Kula (2009:495) notes that the characteristics of compounds are the following:

Nominal compounds are left-headed

The head controls agreement and modification

The non-head member of the compound does not have an augment while the head must have an augment (unless it belongs to class 1a)

It is not possible to extract out of a compound

It is not possible to create recursive structures

Prosodically, the head nominal has a final high tone despite its underlying tone while the non-head mainly retains its tone pattern although it loses the augment (and its tone)

Semantically they have fixed semantics identifying specific entities and cannot be spontaneously created.

Nominal root compounds have nominal roots. They are rare in iCibemba and mainly consist of kinship terms with fixed meanings. There are two main characteristics defining them as compounds. Firstly, the complement of the head is a bare nominal without the complement and secondly, the head of the compound ends in a high tone even if its underlying tone was low. An example of a nominal compound is *nakulu-bantu* „elderly distinguished woman“ *nakulu* „elderly woman“ from class 1a, *abantu* „people“ from class 2.

Kula further discusses synthetic compounds and she describes them as involving a deverbal noun and a nominal root. There are simultaneously two morphological processes in place; compounding and derivation. For synthetic compounds, the deverbal noun is the „head“, which carries the core meaning and the nominal root is the complement. The non-head complement also lacks an augment as in nominal compounds. Furthermore, the head determines the inflectional properties of the entire compound hence the inflectional morphology is not internal to the compound.

In addition, there are particular prosodic conditions that are characteristic of the compound namely that the head nominal has a final high tone although it is underlying low toned. The non-head material retains its tone but it loses the augment and the high tone.

Kula (2009) also notes that for both nominal and synthetic compounds, recursion is not possible. She explains that for associative phrases, non argument associative phrases denote a wide variety of meanings including possession, location, contents/theme, material/source, temporal relation, type/kind, property, function/purpose. The status of these phrases as compounds is conflicting according to Kula (2009) since associative phrases are left headed with the head controlling the agreement, the non-head also lacks the augment and it is possible not to extract out of an associative phrase. These features which have been outlined are typical of compounds. On the other hand, either nominal can be modified in associative phrases, recursion is allowed and they allow a wider range of meanings with the possibility of reversing the order of the nominal.

According to Kula (2009), argument associative nominals are like synthetic nominals in the sense that they are derived from a deverbal noun and the nominal root where the deverbal noun acts as the head noun and the nominal root takes the patient role of the base. Just like the non-argument associative nominals, the evidence for their status is conflicting. Kula (2009) argues that the difference between these nominals and the nominal root compound and synthetic compounds arise from their phrasal nature. They denote a nominal entity and they share distributional properties just like compounds. In Kula's (2009) analysis, compounds have a phrasal structure rather than that of a word. This would imply that morphology interacts with phrasal properties, a position which is highly inconsistent with the Lexical Integrity Hypothesis.

The Lexical Integrity Hypothesis argues that syntactic rules may not refer to elements of the morphological structure. In other words, the word formation component of a grammar does not interact with the syntactic component and their ordering must indeed, avoid interaction. Kula (2009) argues against this explanation and calls for a more relaxed version of the Lexical Integrity Hypothesis because associative compounds are at the boundary between compounds and phrases. She argues for a model in which syntactic structures can be derived in morphology followed by derivation in syntax.

Having presented the theoretical position on compounding, we discuss the phenomenon in SuNdaLa. Botne (2008) in his analysis of Cindali compounds claims that this is not a dynamic process in the language. We also observe this in all SuNdaLa varieties since not many examples were attested in the data.

Table 63: Compound words in SuNdaLa

Cisukwa	Cindali	Cilambya	English gloss	Source words	English gloss
<i>u-mw-ana</i> <i>mu-lume</i>	<i>u-mw-ana</i> <i>mu-lifa</i>	<i>u-mw-</i> <i>anamw-</i> <i>anavwi</i>	„son“	<i>u-mw-ana</i> + <i>mu-lume/</i> <i>mu-lifa/</i> <i>mw-anavwi</i>	„child + man“
<i>u-mw-ana</i> <i>mu-kolo</i>	<i>u-mw-ana</i> <i>mu-lindu</i>	<i>u-mw-ana</i> <i>mu-kolo</i>	„daughter“	<i>u-mw-ana</i> + <i>mu-kolo/</i> <i>mu-lindu/</i> <i>mu-kolo</i>	„child + girl“
<i>u-mu-fwa</i> <i>ma-so</i>	<i>u-mu-fwa</i> <i>ma-so</i>	<i>u-mu-fwa</i> <i>mi-so</i>	„blind person“	<i>u-mu-fwe</i> + <i>ma-so/mi-so</i>	„dead + eyes“
<i>u-lu-kama lutono</i>			„curdled milk“	<i>u-lu-kama</i> + <i>lu-</i> <i>tono</i>	„milk + rotten“

The examples in table 63 show compounds that arise from noun plus noun combinations. It is only the last example that has a noun plus adjective blend. However, Botne (2008) presents a few examples of verb plus noun combinations for Cindali including the following:

(2)

umu.paaliny'iimbo „song leader“ < *-paala* „lead“ + *iiny'iimbo* „song“
umu.pelilyooyo „annoying person“ < *-pela* „create“ + *ily.ooyo* „temper“

The compound *umu.paaliny'iimbo* is a combination of the verb *-paala* „lead“ and *iinyimbo* „song“:

Our analysis of SuNdaLa compounds is consistent with Kula's (2009) discussion of iCibemba, in that SuNdala compounds are also left headed since the complement follows the head. For instance, *umwana mulume* „son“, *umwana*, „child“, is the head of the compound while *mulume*, „male“, describes the type of child hence acts as a modifier of the head. Furthermore, in all the SuNdaLa, it is the head noun that has an augment on the head noun but it does not occur on the modifier. For example, in *umwana mulume*, it is *umwana* that has the augment /u/ while *mulume* does not take an augment.

Compounds in SuNdaLa can be also formed from the combination of a possessive and a noun as shown in example (3).

(3)

<i>mwene-misuku</i>	„owner of Misuku“ (Ruler of Misuku area)
<i>mwene-tfana</i>	„owner of the sky“ (Ruler of Chanya area)
<i>mwene-wejɲa</i>	„owner of Wenya area“ (Ruler of Wenya area)

The word *mwene* means „owner of“, thereby implying possessiveness, although the resulting forms are compound nouns which refer to Traditional Authorities (senior chiefs) of the areas under their jurisdiction.

6.1.5 Reduplication

In reduplication, the whole word or parts of the word may be repeated. Ström (2013), Botne (2008) and Rugemalira (2005) note that this process of word formation is not productive in nouns in the languages they discuss. Most of the literature on reduplication has focussed on verbs and how this process hinges on verb structure, the phonology-morphology interface, the size of the reduplicant and its implications for the size of the minimal word in Bantu (cf. Downing 1997, 2000, 2001, 2003, Hyman 1992, 2002, 2005, Mutaka and Hyman 1990 and Downing 2003). Reduplication in verbs (the process is more robust in this area) and the theoretical implications mentioned above are discussed in chapter 4.

Mchombo (2004) notes that reduplication in the verb differs from that of nouns in Chichewa in that in verbs, the process applies to a prosodic structure while in nouns the process affects only the last two syllables or the final foot. He cites Kanerva (1990) on this and presents the following examples (4) (Mchombo 2004:13):

Chichewa

(4)

Noun	English gloss	Reduplicated	English gloss
<i>mwamûna</i>	„man male“	<i>mwamúnámûna</i>	„real (macho) man“
<i>mkâzi</i>	„woman, female“	<i>mkâzikâzi</i>	„cute and cultured woman“
<i>munthu</i>	„person“	<i>munthumûnthu</i>	„a real (humane) person“

In examples (4) above it is not the whole word *mwamuna*, which is trisyllabic, that is reduplicated. Instead, it is just the last two syllables *muna* hence *mwamunamuna*.

Botne (2008) notes that reduplication in Cindali is not a productive strategy although there are nouns in the language exhibiting such a derivation. He notes that, just like in many other Bantu languages, the base for reduplication is the stem which can be partially or totally reduplicated as shown in the examples below (Botne (2008:28).

(5)

ichi.mwemwe „smile“
umu.fulafula „fine mat“

In these examples, the stems *mwe* and *fula* are repeated.

In SuNdaLa, there is a considerable number of examples which show this kind of reduplication. In some cases, what is referred to as the stem by Botne (2008) is reduplicated while in other nouns, it is only part of the stem. The relevant examples are presented below:

6.1.5.1 Total reduplication of the stem

In the reduplication process below, the whole stem is repeated.

Table 64: Total reduplication in SuNdaLa

Cisukwa	Cindali	Cilambya	English gloss
<i>i-tfĩ-papa</i>			„skin/hide“
<i>pwápwa</i>			„lung“
<i>i-tfĩ-βeβe</i>			„ringworm“
Cisukwa, Cindali		Cilambya	
<i>i-n-dapatapa</i>		<i>imphátapata</i>	„thigh“
<i>itfĩngwikwi</i>		<i>itfĩŋk^hwikwi</i>	„butterfly“
Cisukwa, Cilambya		Cindali	
<i>u-ka-s'ús'u</i>		<i>u-ka-fúfu</i>	„bat“

In the examples in table 64, the noun stem is reduplicated in its entirety. For example in *u-ka-s'ús'u*, „bat“, the stem *s'u* appears in the reduplicated form. Note that the prefix is not copied during reduplication.

6.1.5.2 Partial reduplication of the noun stem

In partial reduplication, only part of the noun stem is repeated as shown in the examples in table 65 below.

Table 65: Partial reduplication in SuNdaLa

SuNdaLa		English gloss
<i>nalubindubindu</i>		„green mamba“
<i>fifila</i>		„pus“
<i>palála</i>		„grasshopper“
<i>u-mu-seséenga</i>		„sand“
Cisukwa, Cindali	Cilambya	
<i>i-tfí-pelele</i>	<i>i-pelele</i>	„stem, stalk of maize, millet“
<i>u-mú-totofu</i>	<i>i-tatafu</i>	„foam“

In table 65, reduplication is partial in that only a part of the stem is reduplicated. For example in *umuseséenga*, it is only the *se* syllable that is reduplicated. Similarly, in the Cisukwa word *itfipelele*, it is only the syllable *le* that is repeated in order to reach *itfipelele*.

This type of reduplication identified by Botne (2008) and also the examples presented in this work differ from all the other derivation processes discussed so far, i.e. noun from verb derivation, noun from adjective derivation, noun from noun derivation, as well as compounding. These other types involve transformation of one form to another through the process of prefixation and suffixation. The sources for the derivation are transparent. A few examples from SuNdaLa that we have already presented in this chapter are provided to elucidate this point.

(6)

Derived nouns	English gloss	Source	English gloss
<i>umulimi</i>	„gardner“	<i>lima</i>	„cultivate“
<i>itfimutu</i>	„big head“	<i>mutu</i>	„head“
<i>umwaana mulifa</i>	„son“	<i>umwaana,</i> <i>mulifa</i>	„child“ „man“

In examples (6), the forms from which the derived nouns originate are independent words which can stand on their own. In the reduplication examples provided by Botne (2008) and the examples given earlier in this work, the derivation is not fully analysed. For instance, in *upwapwa* „lung“, *itʃiʃeʃe* „ringworm“ and *itʃipelele* „maize stalk“, it has been suggested that there is total reduplication of the stems *pwa*, and *ʃe* in the first two examples while in *itʃipelele*, only part of the stem (the syllable *le*) is repeated. However, there is no evidence to show that these so called stems are indeed original stems of the reduplicated words. There is no proof to show that *pwa* or *le* from which the reduplicated forms were derived are independent entities that have their own meanings in SuNdala. The stems of these nouns could inherently already be repeated forms. Hence, instead of *pwa* being the stem, the stem could inherently be *pwapwa* and that these forms are just a set of repeated sounds which are not necessarily derived from a stem with similar sounds. In that case, the apparent reduplication of the sounds could simply be an accidental phonological repetition of sounds in words and not a regular phonological or morphological reduplication of parts of stems as one finds in languages where partial reduplication occurs as a prosodic process. Another way of looking at this would be to consider such repeated forms as historical relics of reduplication which are no longer productive in the synchronic grammar of SuNdala.

To further highlight this point, this form of reduplication is different from the type of nominal reduplication discussed by Mchombo (2004) as shown earlier for Chichewa refer to example (4) in section 6.1.4.

In (4), the reduplicated word *mwamunamuna* is derived from *mwamuna*. The original word is an independent form and the derivational process is transparent. This type of synchronically productive reduplication is empirically more relevant for our discussion and we turn to this in the next section.

6.1.5.3 Partial and pseudo reduplication

The kind of reduplication argued against above may be considered as an instance of what has also been termed “Pseudo reduplication”. In the reduplication literature, this type of phenomenon where sounds are partially repeated in a word has been explained as a type of doubling of some sounds in the base with the purpose of satisfying certain conditions. The conditions could be morphological or phonological (cf. Inkelas and Zoll 2005). Avram (2011) notes that pseudo reduplication is common in creoles of Arabic languages such as Nubi, Juba Arabic, and Turku.

However, Novatna (2000) takes a different position on pseudo reduplication. According to Novatna, pseudo reduplication is understood as reduplication which involves not the doubling of segments of the base but lack of an underlying base. Novatna (2000) argues that such cases do not amount to reduplication because of the following:

The words lack their underlying forms and reduplicated ones

They represent a single entity with intact meaning

This is exactly the position which was argued for above in the discussion of the SuNdaLa data. It was indicated there that the reduplicated forms do not have independent bases and that the words represent a unit that has an integral meaning. We conclude, therefore, that the SuNdaLa reduplication cases discussed under reduplication are instances of pseudo reduplication.

6.1.6 Borrowing

Borrowing might well be the most common strategy to enrich vocabularies in the languages of the world, and this seems also to apply to the Bantu languages. Once a foreign word is borrowed from a source language, such as for example English, these loan words are incorporated into the respective noun class systems of the specific Bantu language. Class 9 and class 10 seem to be the default choices for class assignment to accommodate loans in most Bantu languages. Data from SuNdaLa illustrates that Cisukwa uses classes 1a, 5 and 9 for singular loan nouns and classes 2 and 6 as the plural classes. In Cindali, loanwords are in addition assigned to class 7 which pairs with class 8. Class 1a pairs with plurals from class 2a, class 5 with class 6, class 9 with class 10 and class 6. Cilambya is similar to Cisukwa although Cilambya uses class 10 as a plural class which Cisukwa does not. In table 66 are examples of English loanwords in SuNdaLa.

Table 66: English loan words in SuNdaLa

SuNdaLa	English source, gloss	Plural forms	English source, gloss
<i>u-Ø-nási</i> AUG-1a-nurse	„nurse“	<i>a-βa-nási</i> AUG-2a-nurse (Cisukwa, Cilambya) <i>a-βo-nási</i> AUG-2a-nurse 9 (Cindali)	„nurses“
<i>u-Ø-póto</i> AUG-1a-pot	„pot“	<i>a-βa-póto</i> AUG-2-pot (Cisukwa, Cilambya) <i>a-βo-poto</i> AUG-2a-pot (Cindali)	„pots“
<i>i-Ø-búku</i> AUG-5-book	„book“	<i>a-ma-búku</i> AUG-6-book	„books“
<i>i-Ø-fuláfi</i> AUG-9-flash	„flash“	<i>i-Ø-fuláfi</i> AUG-10-flash (Cindali, Cilambya) <i>a-ma-fuláfi</i> AUG-6-flash (Cisukwa)	„flashes“
<i>i-Ø-fóni</i> AUG-9-phone	„phone“	<i>i-Ø-fóni</i> AUG-10-phone (Cindali) <i>a-ma-foni</i> AUG-6-phone (Cisukwa, Cilambya)	„phones“

This section has discussed the key strategies in word formation in the SuNdaLa varieties and we now move on to the noun phrase structure of the SuNdala cluster.

6.2 The noun phrase structure

Nouns do not usually appear in isolation, they often occur with complements. The head noun in Bantu languages can be modified by one or two constituents. Maho (1999) names these elements adnominals – a term that is adopted by Ström (2013) and also in this thesis. In the following section we will analyse the noun in this bigger construction and examine the elements that go together with it, their ordering and the implications they have for linguistic structures. We will start with a brief survey of the literature on the structure of the noun phrase which includes elements modifying a head noun, agreement prefixes, the ordering of elements in the noun phrase and the model of the slots within the Bantu Noun Phrase. The

discussion will then be followed by a detailed analysis of the SuNdaLa noun phrase which will be done in the context of what has been generally observed in most of the literature on Bantu languages.

6.2.1 On the structure of the noun phrase in Bantu languages

The constituent structure of the Bantu noun phrase and its modifiers in Bantu has been discussed by scholars such as Maho (1999), Ngonyani (2003), Harjula (2004), Mchombo (2004), Mous (2004), Rugemalira (2007), Botne (2008), Crane, Hyman and Tukumu (2011), Morapedi (2013), Ström (2013) and Jeon, Li, Mauney, Navaro and Wittke (2015). Most scholars have noted that the head noun in a phrase may be modified by adjectives, demonstratives, possessives, numerals, quantifiers, associative constructions and relative constructions.

As discussed in chapter 5, every element that is associated with the noun has to agree within the so-called concord system. Each adnominal has a set of agreement prefixes which go together with different noun classes.

Several constituents can modify the noun and the crucial questions that arise include the order in which they can occur and whether elements can co-occur. A few scholars have so far studied aspects concord system, such as Mous (2004), Ngonyani (2003), Harjula (2004), Marie, Hyman and Tukumu (2011), Morapedi (2013) and Ström (2013) who analysed the order of elements in the individual languages of their studies. The focus in the literature on Bantu languages has been on mere descriptions of these elements. Rugemalira (2007:1) highlights this fact.

„Studies of the noun in Bantu languages have traditionally concentrated on the morphology of the noun with its elaborate class system and the underlying semantic strands. When the treatment of the noun and its dependents is undertaken or mentioned it is usually with special focus on the noun class system on the concord system“.

Nurse and Phillipson (2003) also note that scholars rarely have paid attention to the syntax of the noun and its dependents. References to the structure of the noun phrase are usually very brief and they pertain to a particular language under discussion. Rugemalira (2007) therefore sets out to examine the larger syntax of the noun and its dependent elements. He examines the elements that modify the noun and their order. Rugemalira (2007) also investigates the elements that can co-occur and recur in the modification structure and furthermore identifies

the criteria relevant in categorising the dependents of the noun and finally the saturation point in the modification structure. Rugemalira (2007) conducts a crosslinguistic survey of noun phrase structures by including various Bantu languages. He notes that the criteria of elements that can become dependents of the noun in the noun phrase are based on morphological properties, syntactic behaviour and semantic features. In this work, the order of the structure of the Bantu Noun Phrase is outlined as follows⁵:

Table 67: The order of elements in the Bantu noun phrase (Rugemalira 2007:147)

01	0	1	2	3
Predeterminer	Noun	Determiner	Modifier	Post modifier
			a b c d e	
Demonstrative		Possessive	Num Ord Qua Adj Rel cl	

In Rugemalira's (2007) discussion on order and co-occurrence, it is argued that when there is competition between possessives and demonstratives (which he refers to as determiners) for determiner status, the pre-determiner position is always available for them. He also notes that the pre-determiner slot is occupied by the distributive and it cannot co-occur with the demonstrative. The items in the modifier position i.e numerals, ordinals, quantifiers, adjectives, have variation in their ordering and the relative clause always comes last in the modifier set since it has some syntactic complexity. Rugemalira (2007) also argues that it is not possible to expand the phrase indefinitely since the restrictions have a cumulative effect.

The literature discussed in this section has examined the elements in the noun phrase and their ordering. The next section discusses the Noun Phrase Structure in the SuNdaLa taking into account the work referred to above and other sources consulted. The discussion on the structure of the noun phrase in the SuNdaLa cluster will be situated in the broader Bantu context.

6.2.2 The Noun Phrase Structure of the SuNdaLa

The structure of the Noun Phrase in the three SuNdaLa varieties is quite similar in that they have the same adnominals (variation though may be exhibited in the actual forms) and the same agreement patterns. The SuNdaLa all show that they have a predominantly head initial

⁵Num = Numeral, Ord = Ordinal, Qua = Quantifier, Adj = Adjective, Rel cl = Relative clause

structure just as is in other Bantu languages. In other words, the head noun comes first and it is followed by its modifiers.

This section discusses the noun and its modifiers in greater detail. The adnominals which will be analysed including the determiners – demonstratives and possessives, adjectives, quantifiers, numerals, the relative construction and finally the associative construction.

6.2.2.1 Determiners

Determiners are forms that are used to isolate or mark an entity designated by the noun. They clarify what a noun is referring to. The determiners that will be discussed in this section include demonstratives and possessives.

6.2.2.1.1 Demonstratives

Demonstratives in a language are used to make reference to an entity. They are prevalent in Bantu languages and they have several functions. Ström (2013) in her discussion of Ndengeleko outlines different functions of demonstratives.

Firstly, Ström (2013) notes that demonstratives can have exophoric use. This means that they refer to an entity outside the text. They focus the hearer's attention on entities in the situation surrounding the interlocutors. Secondly, demonstratives have anaphoric use. These types of demonstratives are used to track participants in the preceding discourse. Ström (2013:173) then describes discourse deictic demonstratives as elements that

„... refer to elements of the surrounding discourse, but are not co-referential with a prior NP like the anaphorics. They focus the hearer's attention on aspects of meaning expressed by the clause, a sentence, a paragraph or an entire story and establish a link between two propositions.“

She further defines recognitional demonstratives as those that are used to activate shared knowledge that is not mentioned in the preceding discourse. She refers to distal demonstratives as those that are used to show that the referent is far away from the speaker. The final category Ström (2013) discusses are proximal demonstratives. These show that the referent close to the speaker.

While Ström (2013) discusses all these categories of demonstratives, this chapter will only examine the proximal and distal demonstratives of the SuNdaLa. The varieties exhibit the

same forms throughout the noun classes. The paradigm for the demonstratives is shown in table 68.

Table 68: Demonstratives in SuNdaLa

Class	Proximal demonstrative		Distal demonstrative		
	SuNdaLa		SuNdaLa		
1	<i>úju</i>		<i>újo</i>		
2	<i>áwa</i>		<i>áwo</i>		
3	<i>úwu</i>		<i>úwo</i>		
4	<i>úwu</i>		<i>úwo</i>		
5	<i>íli</i>		<i>í'lo</i>		
6	<i>áya</i>		<i>áyo</i>		
7	<i>ífi</i>		<i>ítfo</i>		
			Cisukwa,Cindali		Cilambya
8	<i>ífi</i>		<i>ítfo</i>		<i>ív'o</i>
			SuNdaLa		
9	<i>íji</i>		<i>íjo</i>		
	Cisukwa, Cilambya	Cindali	Cisukwa	Cindali	Cilambya
10	<i>ísi</i>	<i>ífi</i>	<i>ís'o</i>	<i>ífo</i>	<i>íz'o</i>
	SuNdaLa		SuNdaLa		
11	<i>úlu</i>		<i>úlo/úlwo</i>		
12	<i>áka</i>		<i>áko</i>		
13	<i>útu</i>		<i>úto</i>		
14	<i>úβu</i>		<i>úβo</i>		
15	<i>úku</i>		<i>úko</i>		
16	<i>úku</i>		<i>úkó</i>		
17	<i>ápa</i>		<i>ápo</i>		
18	<i>úmu</i>		<i>úmo</i>		
21	<i>íli</i>		<i>ílo</i>		

The demonstratives in SuNdaLa point to something that is proximal or distal from the speaker. For example, *iji* of class 9 shows that something is near to the speaker. When the entity which is referred to is far from the speaker, a distal demonstrative used, for example, *újo* of class 1.

Each class has its own demonstrative marker which forms an agreement with the class prefix of that particular noun class. For that reason, the demonstrative forms vary across the noun class system.

6.2.2.2 Possessives

A possessive form involves a relationship which exists between someone who possesses something (a possessor) and the item that is possessed (the possessed). In some Bantu languages, the possessive is formed by attaching an appropriate class concord to a possessive stem. Possession can also be demonstrated by using the associative construction as will be explained later in section 6.2.7 in the discussion involving the associative construction.

An illustration of the structural properties of possessives in Bantu is given by Petzell (2002) for Kimwani -a language spoken in northern Mozambique. Petzell notes that possessives are formed by adding class prefixes of the possessed nouns to the possessive pronouns which are *-ygu* „my“ and *-itu* „our“. The following examples are provided by Petzell (2002:94).

Kimwani

(7)

Iye kanigwira pakiswa pangu

iye ka-ni-gw-ira pa-ki-swa pa-ngu

it 1SM-1sOM-fall- APPL 16-7-head 16-POSS

„It fell on my head“

The word *pangu* „my“ is the possessive in (7). The possessive pronoun *ngu* is prefixed by *pa* which is the class 16 agreement marker. This shows the head as the location on which something fell.

Kimwani

(8)

Mwamalume kaya kunyumba yetu katipa waraka

mw-ananlume ka-ja ku-nyumba ya-itu

1-man 1SM-come 17-9-house 9-POSS

ka-ti-pa waraka

1SM-1pOM-give 9.letter

„The man came to our house and gave us a letter“

In the example above, *yetu* „our“ is the possessive marker. It is a combination of the possessive pronoun *itu* and the agreement marker *ya* of class 9.

In the SuNdaLa varieties, possession can also be formed by attaching the agreement class prefix to a possessive stem or it can be derived through the associative construction. In the former case, there is a variation in the forms of the possessive stems among the three varieties. Cisukwa and Cindali use *-angu* for 1st person singular; *-at^hu* for 1st person plural; *-ako* for 2nd person singular and plural; *-ake* for the 3rd person singular and *-awo* for 3rd person plural. Cilambya has *-ane* for 1st person singular; *-at^hu* for 1st person plural; *-ako* and *-at^he* for the 2nd person for both singular and plural and *-awo* for 3rd person singular and plural respectively. The full paradigm for the possessive stems and their agreement class prefixes is shown below for each of the varieties.

Possessive forms in SuNdaLa

Table 69: Possessive forms in Cisukwa and Cindali

Class	1sg	2sg	3sg	1pl	2pl	3pl
1	<i>waáŋgu</i>	<i>wáko</i>	<i>wake</i>	<i>wit^hu</i>	<i>wako</i>	<i>wáwo</i>
2	<i>βaáŋgu</i>	<i>wáko</i>	<i>wake</i>	<i>wit^hu</i>	<i>wako</i>	<i>wáwo</i>
3	<i>waáŋgu</i>	<i>wáko</i>	<i>wake</i>	<i>wit^hu</i>	<i>wako</i>	<i>wáwo</i>
4	<i>jaáŋgu</i>	<i>jako</i>	<i>jake</i>	<i>jit^hu</i>	<i>jako</i>	<i>jaáwo</i>
5	<i>l'aáŋgu</i>	<i>l'ako</i>	<i>l'ake</i>	<i>lit^hu</i>	<i>l'ako</i>	<i>l'awo</i>
6	<i>yaáŋgu</i>	<i>yako</i>	<i>yake</i>	<i>jit^hu</i>	<i>yako</i>	<i>yawo</i>
7	<i>tfaáŋgu</i>	<i>tfako</i>	<i>tfake</i>	<i>tfit^hu</i>	<i>tfako</i>	<i>tfawo</i>
8	<i>f'aáŋgu</i>	<i>f'ako</i>	<i>f'ake</i>	<i>f'it^hu</i>	<i>tfithu</i>	<i>tfawo</i>
9	<i>jaáŋgu</i>	<i>jako</i>	<i>jake</i>	<i>jit^hu</i>	<i>jako</i>	<i>jaáwo</i>
10	<i>s'aáŋgu</i> (Cisukwa)	<i>s'ako</i> (Cisukwa)	<i>s'ake</i> (Cisukwa)	<i>s'it^hu</i> (Cisukwa)	<i>s'ako</i> (Cisukwa)	<i>s'aáwo</i> (Cisukwa)
	<i>faáŋgu</i> (Cindali)	<i>fako</i> (Cindali)	<i>fake</i> (Cindali)	<i>fit^hu</i> (Cindali)	<i>fako</i> (Cindali)	<i>s'aáwo</i> (Cindali)
11	<i>l^waáŋgu</i>	<i>l^wako</i>	<i>l^wake</i>	<i>l^wit^hu</i>	<i>l'ako</i>	<i>l'awo</i>
12	<i>kaáŋgu</i>	<i>kako</i>	<i>kake</i>	<i>kit^hu</i>	<i>kako</i>	<i>kawo</i>
13	<i>taáŋgu</i>	<i>tako</i>	<i>tako</i>	<i>tit^hu</i>	<i>tako</i>	<i>tawo</i>
14	<i>βaáŋgu</i>	<i>wako</i>	<i>wake</i>	<i>wit^hu</i>	<i>wako</i>	<i>wawo</i>
15	<i>k^waáŋgu</i>	<i>kwako</i>	<i>k^wake</i>	<i>k^wit^hu</i>	<i>k^wako</i>	<i>k^wawo</i>
16	<i>k^waáŋgu</i>	<i>kwako</i>	<i>k^wake</i>	<i>k^wit^hu</i>	<i>k^wako</i>	<i>k^wawo</i>
17	<i>paáŋgu</i>	<i>pako</i>	<i>pake</i>	<i>pit^hu</i>	<i>pako</i>	<i>pawo</i>
18	<i>m^waáŋgu</i>	<i>m^wako</i>	<i>m^wake</i>	<i>m^wit^hu</i>	<i>m^wako</i>	<i>m^wawo</i>
21	<i>l'aáŋgu</i>	<i>l'ako</i>	<i>l'ake</i>	<i>lit^hu</i>	<i>l'ako</i>	<i>l'awo</i>

Table 70: Possessive forms in Cilambya

Class	1sg	2sg	3sg	1pl	2pl	3pl
1	<i>wáne</i>	<i>wako</i>	<i>watfe</i>	<i>wit^hu</i>	<i>wako</i>	<i>wawo</i>
2	<i>βáne</i>	<i>βako</i>	<i>βatfe</i>	<i>βit^hu</i>	<i>βako</i>	<i>βawo</i>
3	<i>wáne</i>	<i>wako</i>	<i>watfe</i>	<i>wit^hu</i>	<i>wako</i>	<i>wawo</i>
4	<i>jáne</i>	<i>jáko</i>	<i>játfe</i>	<i>jit^hu</i>	<i>jáko</i>	<i>jáwo</i>
5	<i>l'áne</i>	<i>l'áko</i>	<i>l'átfe</i>	<i>l'iit^hu</i>	<i>l'áko</i>	<i>l'awo</i>
6	<i>ɣane</i>	<i>ɣáko</i>	<i>ɣátfe</i>	<i>ɣitu</i>	<i>ɣáko</i>	<i>ɣawo</i>
7	<i>tʃáne</i>	<i>tʃáko</i>	<i>tʃatfe</i>	<i>tʃitu</i>	<i>tʃáko</i>	<i>tʃáwo</i>
8	<i>ʋáne</i>	<i>ʋáko</i>	<i>ʋátfe</i>	<i>tʃitu</i>	<i>ʋáko</i>	<i>ʋáwo</i>
9	<i>jáne</i>	<i>jáko</i>	<i>játfe</i>	<i>jit^hu</i>	<i>jáko</i>	<i>jáwo</i>
10	<i>z'áne</i>	<i>jáko</i>	<i>z'átfe</i>	<i>z'iit^hu</i>	<i>jáko</i>	<i>z'áwo</i>
11	<i>l^wáne</i>	<i>l^wáko</i>	<i>l^wátfe</i>	<i>l^wiit^hu</i>	<i>l^wáko</i>	<i>l'awo</i>
12	<i>káne</i>	<i>káko</i>	<i>kátfe</i>	<i>kit^hu</i>	<i>káko</i>	<i>káwo</i>
13	<i>táne</i>	<i>táko</i>	<i>tátfe</i>	<i>tiit^hu</i>	<i>táko</i>	<i>táwo</i>
14	<i>βáne</i>	<i>βako</i>	<i>βatfe</i>	<i>βit^hu</i>	<i>βako</i>	<i>βawo</i>
15	<i>k^wáne</i>	<i>k^wako</i>	<i>k^watfe</i>	<i>k^wit^hu</i>	<i>k^wako</i>	<i>k^wawo</i>
16	<i>k^wáne</i>	<i>k^wako</i>	<i>k^watfe</i>	<i>k^wit^hu</i>	<i>k^wako</i>	<i>k^wawo</i>
17	<i>páne</i>	<i>pako</i>	<i>patfe</i>	<i>pit^hu</i>	<i>pako</i>	<i>pawo</i>
18	<i>m^wáne</i>	<i>m^wako</i>	<i>m^watfe</i>	<i>m^wit^hu</i>	<i>m^wako</i>	<i>m^wawo</i>
21	<i>l'áne</i>	<i>l'áko</i>	<i>l'átfe</i>	<i>l'iit^hu</i>	<i>l'áko</i>	<i>l'awo</i>

From the paradigms above, Cisukwa and Cindali have similar possessive markers which are different from the Cilambya ones. In all three varieties, the forms for the 2nd person singular and plural are the same. This means that just like in English, SuNdaLa does not have honorific marking thus the distinction between *tu* and *vous* found in languages such as French, German, Chichewa, has been neutralised, if they ever had existed.

The possessives in the SuNdaLa appear after the head noun and this can be observed in the examples presented below for each of the varieties.

Cisukwa

(9)

iijómbe s'áángu

i-N-gombe si-aángu

AUG-9-cow 9PC-1sPOSS

„my cow“

(10)

úmukasi wawo

ú-mu-kasi u-awo

AUG-1-wife 1PC-3pPOSS

„their wife“

Cindali

(11)

úm^wefi wil^hu

ú- mu-efi u-ítu

AUG-3-moon 3PC-1pPOSS

„our moon“

(12)

útulundi t^wáako

u-tu lundi tu-ako

AUG-13 leg 13PC-2sPOSS

„your legs“

Cilambya

(13)

ivínana v'áane

i-ví-nama vi-áne

AUG-8-legs 8PC-1sPOSS

„my legs“

(14)

ilúwa l'úwa ljáatfe

i-lú-wa li-átfe

AUG-5-flower 5PC-3sPOSS

„his/her flowers“

As it can be seen in (9)-(14), the possessive forms follow the head noun. For instance, in the phrase *i-lú-wa l'úwa ljáatfe* in Cilambya, the possessive form *l'atfe* appears after the head noun *ilúwa*. Similarly in the Cindali example *útulundi t'wako* „your legs“, the possessive *t'wako* comes after the noun legs and in Cisukwa, *úmukasi wawo* „their wife“, *wawo* the possessive marker occurs after *úmukasi* which is the noun.

6.2.3 Adjectives

Adjectives in Bantu languages are said to be a small closed class. They are used in a noun phrase to specify some property of the head noun of the phrase (Payne 1997:63). Because they are such a minor set, Bantu languages find other ways of expressing a property concept. Ström (2013), for example, claims that in Ndengeleko, adjectives are expressed by verbs and nouns and in Gikuyu attributive clauses and associative constructions are employed to show adjectival concepts (cf. Jeon et al 2015). Crane, Hyman and Tukumu (2011) note that adjectives constitute a subclass of nouns in Bantu languages and therefore have a similar morphology and syntax to nouns. This is reflected by the fact that most adjectives have a vowel - or nasal prefix.

In terms of semantic properties, Dixon (1982) provides a taxonomy of seven semantic types of adjectives which originate from universal speech types. These include dimension, colour, human propensity, age, value and speed. Jeon et al (2015) present an outline of the adjective stems in Gikuyu along with some of these semantic types.

Botne (2008) notes that in Cindali, unlike in many other Bantu languages, there is a large set of inherent adjectives and there are productive ways of deriving adjectives from nouns. Some of the examples of adjective stems he cites are presented below Botne (2008:48):

Attributes of sex, age, size and weight

(15)

<i>-kolo</i>	„female“
<i>-keke</i>	„young“
<i>-tali</i>	„heavy“
<i>-pese</i>	„thin“

Attributes of quality or form

(16)

<i>-iisa</i>	„good“
<i>-pepe</i>	„easy“
<i>-sheenga</i>	„round“

Attributes of human behaviour or characteristics

(17)

<i>-ooloolo</i>	„polite“
<i>-shisha</i>	„serious“
<i>-yebeshi</i>	„dever“

Colours

(18)

<i>-eelu(fu)</i>	„white“
<i>-sweepu</i>	„black“

Adjectives derived from verbs

(19)

<i>-bofu</i>	„rotten“
<i>-tona</i>	„unripe“
<i>-kala</i>	„harden“

The SuNdaLa varieties have indeed a large set of adjectives that are used to describe nouns. They fall into Dixon's (1982) categorisation and have semantic types like dimension, physical properties, colour, human propensity, age, value and speed. Adjectives in all SuNdaLa varieties behave like nouns in that the stems take noun class agreement prefixes. Below are examples of adjectives stems for the SuNdaLa.

Table 71: Adjective stems in SuNdaLa

Semantic type	SuNdaLa	English gloss
Dimension	<i>kulu</i>	„big“
	<i>náandi</i>	„small“
	<i>tali</i>	„tall“
	<i>piimba</i>	„short“

	Cisukwa, Cindali	Cilambya	
Physical properties	<i>pese</i>	<i>yanda</i>	„thin“
	SuNdaLa		
	<i>tali</i>		deep
	<i>piimba</i>		shallow
	<i>mwaama</i>		heavy
	<i>βuma</i>		„dry“
	<i>ʔelemuka</i>		„slippery, smooth“
	Cisukwa, Cindali	Cilambya	
	<i>itónde</i>	<i>itonte</i>	„soft“
	Cisukwa, Cilambya	Cindali	
	<i>jéte</i>	<i>itimite</i>	„wet“

	SuNdaLa	
Colour	<i>swepu</i>	„white“
	<i>kesama</i>	„red“
	<i>fitu</i>	„black“

Human propensity	<i>kaβi</i>	„rich“
	<i>piina</i>	„poor“

Semantic type	SuNdaLa			English gloss
Age	<i>sóongo</i>			„old“
	<i>náandi</i>			„young“
	Cisukwa	Cindali	Cilambya	
	<i>βósi</i>		<i>gósi</i>	„old“

	SuNdaLa			
Value	<i>tfisa</i>			„kind“
	<i>pe</i>			„generous“
	<i>yana</i>			„selfish“
	<i>βiβi</i>			„bad, wicked“
	<i>kali</i>			„fierce“
	<i>soóni</i>			„shy“
	<i>kata</i>			„lazy“
	<i>βili</i>			„healthy“
	Cisukwa	Cindali	Cilambya	
	<i>jasi</i>	<i>sósi</i>	<i>janja</i>	„corrupt“
	Cisukwa, Cindali		Cilambya	
	<i>iisa</i>		<i>iiza</i>	„good“

	SuNdaLa			
Speed	<i>luwilo</i>			„fast“

In terms of its structural position, the adjective in all the SuNdaLa varieties appears after the head noun as is the case in many other Bantu languages. This is illustrated in the following phrases for each of the SuNdaLa varieties.

SuNdaLa

(20)

umwáana múkulu

u-mu-ána mú- kulu

AUG-1-child 1-big

„big child“

(21)

umwáana munáandi

u-mu-ána mu-náandi

AUG-1-child 1-small

„small child“

(22)

umwáana muβíβi

u-mu-ána mu-βíβi

AUG-1-child 1-bad

„bad child“

In (20)-(22) above, the adjectives appear after the head nouns. For instance, *mukulu*, *munáandi* and *muβíβi* all follow the head nouns *umwáana*. While adjectives behave like nouns in taking on noun class prefixes, they do not prefix the additional augments. Thus one does not find forms like **u-mu-pe*, **u-mu-kali*, **u-mu-kulu*, **u-mu-naandi* etc with adjectives.

6.2.4 Numerals

Numerals can be defined as symbols or words that denote numerosity. For example, in the English sentence „there are three apples in the bag“, the word *three* represents the number of apples that are in the bag. Numerals can be divided into cardinal numbers and ordinal numbers. These two categories will be discussed below.

6.2.4.1 Cardinal numbers

Cardinal numerals are numbers that specify the number of entities. In most Bantu languages, cardinal numbers for the digits 1-8 are bound stems which are prefixed with a concord class prefix. Cardinal numbers above 8 are uninflected. According to Rugemalira (2005:25), the

Runyambo, cardinal number system has 10 as its base. For example, the meaning of the word *cikúmi* „hundred“ is “one grouping of ten “tens”; while *bikumi bíbiri* „two hundred“ is a two bunches of ten “tens”. The same principle is applied for a thousand *rukúmi* which represents 10 bunches of ten.

Petzell (2002:93) also presents numerals in Kimwani and their agreement patterns. It is shown that in the language a numeral attaches a noun class prefix of the noun it is modifying. For example, in the phrases *rino rimoja* „one tooth“, the numeral one *rimoja* takes agreement prefix *ri* of class 5 where the word *rino* „tooth“ belongs. Similarly, in the phrase *munu mmoja*, the word for person *munu* is assigned to class 1. As such, the numeral attaches the agreement marker of class one for Kimwani which is *m*.

Data collected on the numerical system in the SuNdaLa cluster clearly demonstrate that speakers of all three varieties have shifted to the English counting system. Most of them use number words borrowed from English. When specifically asked to use SuNdaLa cardinal number terms, they only knew the equivalent for „one“, „two“ and „three“, before they switched back to the English numbers they regularly use. The English borrowings from one up to ten are presented below:

SuNdaLa numerals (ELWs)

(23)

Numbers (ELW)	English gloss
<i>wáanu</i>	one
<i>túu</i>	two
<i>fíli</i>	three
<i>fóolo</i>	four
<i>fájifi</i>	five
<i>síkisi</i>	six
<i>séβeni</i> (Cisukwa, Cindali)	seven
<i>séveni</i> (Cilambya)	
<i>éjiti</i>	eight
<i>nájini</i>	nine
<i>téeni</i>	ten

Data on the numeral system of Cindali in studies by, for instance Botne (2008) reveal cardinal numbers that are not borrowed from English. Botne’s (2008) data suggest that the

Cindali speakers might have shifted from a traditional quinary system to the current decimal system with numbers borrowed from English. In the traditional quinary system, the first 5 numerals require agreement with the noun. After that new Cindali numbers might have been invented with the numerals from 6 to 9 being constructed on the basis of the figure *haano* „five“. They occurred in apposition to the noun, which is illustrated in the examples (24).

The cardinal numerical system of Cindali according to Botne (2008:56)

Cindali cardinal numbers

(24)

Numbers	Traditional	Recent shifts	Cindali (ELW)
1.	<i>-mú-eène</i>		<i>wáanu</i>
2.	<i>-bili</i>		<i>túu</i>
3.	<i>-tatu</i>		<i>pílii</i>
4.	<i>-náayi</i>		<i>fóolo</i>
5.	<i>-háano</i>		<i>fáyifi</i>
6.	<i>ntaandátu</i>	<i>-háano na-mo</i>	<i>síkisi</i>
7.	?	<i>-háano na-bili</i>	<i>sében</i>
8.	<i>lwéele</i>	<i>-háano na-tatu</i>	<i>éiti</i>
9.	?	<i>-háano na-nayi</i>	<i>náyini</i>
10.	<i>kaloongo</i>		<i>téeni</i>
11.	<i>ilóongona</i>		<i>mú-eène</i>
12.	<i>ilóongona na-bili</i>		
13.	<i>ilóongona na-tatu</i>		
20.	<i>malóongomábili</i>		
30.	<i>malóongomátatu</i>		
100.	<i>myáaa</i>		
200.	<i>myáayibili</i>		

The examples (24) from Botne (2008) demonstrate that numerals are of mixed origin and used in a quinary and a decimal system. In the SuNdaLa, cardinal numbers occur after the head noun as shown in the examples below.

The position of SuNdaLa cardinal numbers

Cisukwa

(25)

ĩnuúmba siwili

i-n-uumba si-wili

AUG-9-house 9Ncd-two

„two houses“

(26)

ifinama fitatu

i-fi-nama fi-tatu

AUG-7-leg 7Ncd-three

„three legs“

Cindali

(27)

áβaana βáwili

a-βa-ana βa-wili

AUG-2-child 2Ncd-two

„two children“

(28)

iĩmbufi fĩtatu

i-N-bufi fĩ-tatu

AUG-9-goat 9Ncd-three

„three goats“

Cilambya

(29)

áβakolo βawili

a-βa-kolo βa-wiri

AUG-2-women 2Ncd-two

„two women“

(30)

ijóombe zítatu

i-N-ómbe zí-tatu

AUG-9-cow 9Ncd-three

„three cows“

All numerals in (25)-(30) appear after the head noun. For instance, in the phrases *ifinama fitatu*, „three legs“, *ábáana βawiri* „two children“ and *ijóombe zítatu* „three cows“ of Cisukwa, Cindali and Cilambya respectively, the numerals *fitatu*, *βáwiri* and *zítatu* all occur after the nouns *ifinama*, *ábáana* and *ijóombe*.

6.2.4.2 Ordinals

Zorc and Nibagwire (2007), in studying the numerical system of Kinyarwanda and Kirundi state that ordinals are a form of numerals that set items in numerical order or in a series, such as *first*, *second*, *third*.

According to Zorc and Nibagwire (2007), in Kinyarwanda and Kirundi, the ordinal number is marked by a noun class possessive agreement prefix. For instance, the word for first *waa mbere* is marked by the agreement prefix for noun class 1 which is *u* (changed to *w*). Similarly the ordinal number fifth singular for both languages *ya gátaanu* is marked by the agreement prefix *i* (the vowel changes to *i* glide *j* to break the hiatus that occurs with the following *a*).

Ordinal numerals in SuNdala are formed by assigning the cardinal number words to class 14. The marker used to show associative constructions which is *a* is followed by the stems for the cardinal numbers. It is only the ordinal numerals equivalent to „first“ and „last“ that do not use the cardinal stems. For the numeral „first“ the verb, *-aandila* „begin“ and that for the word „last“ the verb *malila* „finish“ are used to coin these terms. Below are the ordinal numerals shared by speakers of all SuNdaLa varieties.

Ordinal numbers in SuNdaLa

(31)

1 st	<i>uβwaandilo</i>
2 nd	<i>úβufili</i>
3 rd	<i>úβutatu</i>
4 th	<i>uβunáayi</i>
last	<i>uβumalilo</i>

Just as the other modifiers discussed above, the ordinal numerals always occur after the head noun. For example, the form for first born child would be *umwáana waa uβwaandilo* while for second born child it is *umwáana waa úβufili*. In both examples, the ordinals *uβwaandilo* and *úβufili* occur after the noun *umwáana*.

6.2.5 Quantifiers

A quantifier is a functional word that provides indefinite indication of quantity. (Morapedi 2013:93). Unlike numerals which have just been discussed where the number value is definite, for quantifiers the amount of an entity is not specific. Quantifiers have been a rich field for discussion in syntax and it has informed theories such formal syntax and dependency grammar. Recent literature includes Osborne (2013) on the distribution of floating quantifiers in English and German, Miyagawa (2005) on quantifiers in Japanese and on Korean, Donohue (2003) and Benmamoun (1999).

In Setswana, a Bantu language spoken in Botswana and South Africa, quantifiers may be used to express the amount of an entity. Morapedi (2013:93) gives examples of the quantifiers *botle* „all“ and *bangwe* „some“. They occur in sentences such as the ones in below.

Quantifiers in Setswana

(32)

batho bottle baatsamaya

ba-tho bo-tle ba-a-tsamay-a

2-people 2NCP-all 3pSM-PRES-go-FV

„All the people are going“

(33)

batho bangwe baatsamaya

ba-tho ba-ngwe ba-a-tsamay-a

2-people 2NCP-some 3pSM-PRES-go-M

„Some people are going“

In (32) and (33), the quantifiers *botle* and *bangwe* indicate an indefinite amount of the noun *batho* „people“. The quantifiers are attached to the prefix *bo-* which is agreement prefix for noun class two to which the noun *batho* belongs.

Botne (2008) also describes quantifiers in Cindali and says that quantifying determiners can be divided into two groups: those that form their agreement following the pattern typical of prefixed adjectives, and those that form their agreement like determiners. The two categories are as follows

Quantifiers“ agreement types in Cindali (Botne 2008:50)

(34)

Adjectival	English gloss	Determiner	English gloss
<i>-naandi</i>	„few“	<i>-mu, mo</i>	„some“
<i>-iing</i>	„many“	<i>-ooshi</i>	„all“
<i>-nine</i>	„other“, can also mean „same“	<i>-ngi</i>	„other“, can also mean „different“
		<i>-eene</i>	„only“

The quantifier forms for SuNdaLa are generally the same for all the varieties however with phonological differences in some. They are shown below:

Table 72: Quantifiers in SuNdaLa

SuNdaLa		English gloss
<i>-náandi</i>		„few“
<i>-iiŋg</i>		„many“
<i>-nine</i>		„other“, but can also mean „same“
<i>-mu, mo</i>		„some“
<i>-ŋgi</i>		„other“, also mean „different“
<i>-eene</i>		„only“
Cisukwa, Cilambya	Cindali	
<i>-oose</i>	<i>-ooŋi</i>	„all“

The general distribution of quantifiers in the SuNdaLa illustrates that they appear after the head noun as shown in (35) and (36) below.

Cisukwa, Cilambya

(35)

aβáandu βóse

a-βá- ndu βa-ó se

AUG-2 people 2-all

„all the people“

Cindali

(36)

aβánt^hu βóŋe

a- βá-ndu βo-ó ŋe

aug-2-people 2-all

„all the people“

In examples (35) and (36), the quantifier *βóse/βóŋe* appear after the noun *aβáandu/aβánt^hu*. In addition, they occur with the prefix for noun class 2 *βo*. This is in agreement with *aβáandu/aβánt^hu* which belong to this class.

6.2.6 Relativisation

A relative clause is described as a modifier of the noun that is introduced by a relative pronoun. In English the pronoun can be *that*, *which*, *whose* or *whom*.

Zerbian (2010) outlines the uses of relative clauses in Setswana which can in turn be used for other Bantu languages. She notes that relative clauses are used for noun modification since Bantu languages have very few genuine adjectives. The relative clauses are then used to modify nouns taking on the role of adjectives in languages such as English. Zerbian (2010) further elucidates that relative clauses are used for clefting. They act as focus constructions or a way of questioning logical subjects.

Relative clauses have received considerable attention in the literature (cf. Bresnan and Kanerva 1989, Mchombo 2004, Cheng and Kula 2006 Cheng 2006, Marten et al 2007, Cheng and Downing 2009, Zerbian 2010, Downing and Mtenje, A.D. 2010 and Mtenje, A.D. 2012).

Scholars such as Marten et al (2007) have shown micro-variation in Bantu languages in relative clauses. It has been demonstrated that relative markers vary on whether they agree with the head noun or not, whether object markers are required in object relatives, whether object markers are disallowed in object relatives and whether the object marker is optional in object relatives.

In Chichewa, according to Mchombo (2004) relative constructions occur in two forms. The first type has the relative marker *-mène* „that“, which introduces the relative clause. It has the variant *-omwe* (which has an allomorph *-emwe*). The second type of the relative clause uses an invariant *-o*. It is suffixed to the verb and prefixed with a marker for agreement with the relativised head noun.

Cheng (2006) examines two different strategies of Bantu relatives which she calls the D(emonstrative) strategy – those that use the demonstrative and P(ossesive) strategy- those that use the possessive. She provides examples from iCibemba and Chishona to illustrate the strategies. (Cheng 2006:1)

D(emonstrative) strategy relatives) in iCibemba

(37)

umulumendo akabelenga ibuku

<i>u-mu-lumendo</i>	<i>a-ka-belenga</i>	<i>i-buku</i>
AUG-1-boy	1REL-1sSM-FUT- read	5-book

„The boy will read the book“

(38)

ibuku iljo umulendo akabelenga

<i>i-Ø-buku</i>	<i>i-lj-o</i>	<i>u-mu-lumendo</i>	<i>a-ka-belenga</i>
AUG-5-book	AUG-5-REL	AUG-1-boy	3sSM-FUT-read

„The book that the boy will read“

In the iCibemba examples above the demonstrative is used as the relative marker cf. *ilyo* in the second example.

Possessive strategy relatives in Chishona

(39)

Ndímí dzavánótaúra.

<i>n-dímí</i>	<i>dza-vá-nótaúra</i>
10-language	10.REL-1pSM-speak

„The languages that we speak“

(40)

Musi wandakasika.

<i>mu-si</i>	<i>wa-nd-aka-sika</i>
3-day	3.REL-1sSM-PST-arrive

„The day on which I arrived“

In the Chishona example (39) by Carter and Kahari (1978) cited in Cheng (2006:2) and example (40) by Fortune (1955) cited in Cheng (2006:2) the possessive markers have relative pronoun status. This can be seen in the first example with the form *dza*.

In the examples provided above for Chichewa, iCibemba and Chishona, the relative clauses have been marked segmentally i.e by the use of *mene* or *omwe* in Chichewa. However, prosodic cues can also be used to distinguish relative clauses. Mtenje, A.D. (2011) notes this for Chichewa and Chinsenga (he quotes Miti 2001 on Chinsenga) where tone is used for that purpose. Mtenje, A.D. (2011) claims that a relative marker may be omitted and the only distinguishing cue for relativisation would be the high tone on the subject prefix of the relative verb.

SuNdaLa varieties make extensive use of relative constructions and all use - *o* as the relative pronoun. An agreement prefix of a particular class is added to it. There is variation in the varieties for in Cindali, the agreement prefix is reduplicated.

The whole form (agreement prefix and the relative pronoun) introduces the relative construction. It in turn identifies or defines the head noun. The use of the vowel [o] as the relative pronoun has also been reported in Mtenje (2011) who notes that the relative clause in Ciwandya (spoken in Chitipa Northern Malawi) is marked by the morpheme -*o*. This usually occurs in front of the relative verb and has a consonant in front whose shape is determined by the noun class of the XP which serves as the head of the relative clause. Examples of relative constructions in each of the SuNdaLa varieties are presented below:

Relative clauses in the SuNdaLa

Cisukwa

(41)

múlindu jó Jóni amuwona

mú- lindu i-ó Jóni a-mu-won-a

1-girl 1Relcd-Relp John SM1-OM1-saw-FV

„The girl that John saw“

(42)

ibúku l'ó Jóni awerénga

i- Ø-buku li-ó Jóni a-weléng-a

AUG-5-book 5Relcd-Relp John SM1-read-FV

„The book that John read“

(43)

itfilombo tfo aβána βálja

i-tfi-lombo tfi-ó a-βa-na a-weléng-a
AUG-7-maize 7Relcd-Relp AUG-2-child SM1-read-FV

„The maize that the children ate“

(44)

ipúumba s'ó tikaséng-a

i-n-úumba si-ó ti-ka-seng-a
AUG-9-book 9Relcd-Relp SM2sg-FUT

„The house that we will build“

Cindali

(45)

u-múlindu jijó uJoni amuwona

u-mú-lindu i-i-o u-Joni a-mu-won-a
AUG-1-girl 1Relcd-Relp AUG-John SM1-OM1-see-FV

„The girl that John saw“

(46)

ibúku liljó uJóni aweléng-a

i-Ø-buku li-li-ó u-Jóni a-weléng-a
AUG-5book 5Relcd-Relp AUG-John SM1-read-FV

„The book that John read“

(47)

itfilombo tfitfó aβána βálya

i-tfi-lombe tfi-tfi-ó a-βá-ana βá-lj-a
AUG-7-maize 7Relcd-Relp AUG-2-child SM2-eat-FV

„The maize that the children ate“

Cilambya

(48)

ibúku ljó uJóni awelénga

i-Ø-buku li-ó Jóni a-weléng-a

AUG-5-book 5Relcd-Relp John SM1-read-FV

„The book that John read“

(49)

ítakúlya tfo áβana βálja

i-tfi-akú'l'a tfi-ó a-βa-ana βa-lj-a

AUG-7-food 7Relcd-Relp AUG-2-child SM2-eat-FV

The food that the children ate“

(50)

ijnúumba jó tituzéenge

i-ŋ-úumba i-ó ti-tu-zéenge

AUG-9-house 9Relcd-Relp SM1pl-FUT-build

‘The house that we will build“

In (41)-(50), the relative pronoun *-o* is prefixed by an agreement marker and thus introduces a relative clause. For example, in the Cisukwa sentence *itfilómbe tfo abána βálya*, the relative marker *o* in the word *tfo* is prefixed by the agreement prefix or concord for class 7 *tfi* since the noun *itfilombe* is in this class.

In the Cindali sentence, *ibúku liljó jóni awerénga*, *buku* „book“ being in class 5 takes the reduplicated agreement marker *li* which is attached to *o*. Finally, in the Cilambya example *ínyumba jó tituzéenge*, the relative pronoun takes the agreement marker *i* (*i* changes to *j*).

We argue that the reduplication of the agreement prefix or concord in Cindali is a result of this varieties“ adherence to the word minimality constraint discussed in chapter 4. After the concatenation of the relative pronoun [o] and the agreement prefix to derive a relative marker, the output is a monosyllabic (i.e. *tfo*, *jo*, *l'ó*) word and thus does not satisfy the word minimality condition. Consequently, Cindali resorts to reduplicating the agreement prefix thus creating bisyllabic structures i.e. *tfitfo*, *jijo*, *li'ó* which satisfy the said condition.

The question however is why it is only Cindali that satisfies minimality conditions in the relative forms and not the other two varieties. All three varieties satisfied the condition in imperative and reduplicant monosyllables (cf. our discussion in chapter 4). By invoking principles of Optimality Theory, it could be argued that in this particular morphological environment, Cisukwa and Cilambya would rather be faithful to requirements of the input (i.e. the agreement prefix plus the relative pronoun) thereby do not allow any additional elements to be added to the input structures while for Cindali, the requirement that the minimal word be bisyllabic is more important. Cindali therefore violates faithfulness constraints that require that elements in the input should be found in the output (in this case the unreduplicated agreement prefix and the relative pronoun).

The formation of relatives has raised questions on some theoretical issues in syntax. Mchombo (2004) explains that the standard analysis of relative clauses, clefts and question formation within generative grammar has treated them as outputs of *wh*-movement. (cf. Chomsky 1977). He strongly argues against this analysis and explains that the grounds for treating relative clauses as a consequence of *wh*-movement come from the fact that subcategorization requirements of the verb within the relative clause are not satisfied.

The missing argument is said to be the relative pronoun. It is used as a TOPIC element, in anaphoric binding relation with the relativised noun which is the FOCUS. However, this argument does not hold when this category is referenced by a pronominal within the VP. Mchombo (2004) argues that in Chichewa, the OM has been analysed as an incorporate pronominal argument, generated in its position and that its structural position is not determined by rules of grammar but by discourse structure. Mchombo (2004) concludes that the relative clause in Chichewa, which exploits the resumptive pronoun strategy with the presence of an OM could therefore not be handled as a case of *wh*-movement.

Apart from generative grammar, relative clause formation has played a role in explaining phonological phenomena especially the interaction between syntax and phonology and how syntactic structure influences phonological phrasing. (cf. Mtenje, A.D. 2011, Cheng and Downing 2007, Downing and Mtenje, A.D. 2010, Henderson 2006, Cheng and Kula 2006, Karneva 1990, Morimoto 2007, Morimoto and Downing 2007, Selkirk 2000, Simango 2006, Truckenbrodt 1995, 1999, Zeller 2004).

Mtenje, A.D. (2011) uses an Optimality Theoretic model for the prosody of relative clauses in Ciwandya. He describes prosodic structures of relative clauses in relation to various

syntactic structures in the language. He argues that restrictive relative clauses are right-bounded by a prosodic phrase break and that XPs which serve as heads of relative clauses, whether as subjects, objects (both direct and indirect), locatives, temporal or other adjuncts are normally phrased together with the relative clause. An exception is when such XPs occur in non-restrictive relative clauses and in cleft constructions where they are invariably phrased separately from the relative verb. Mtenje (2011) observes that Ciwandya therefore differs from some other Bantu languages where heads of relative do not phrase together with relative verbs which follow them.

Downing and Mtenje, A.D. (2010) also use relative clauses to explore the issue of prosodic phrasing in Chichewa. In their paper, they examine the effect on nominal and verbal modifiers on prosodic phrasing and they show that these two trigger phonological phrasal breaks. Their analysis disputes earlier studies by Kanerva (1990), Truckenbrodt (1995, 1999, 2007) who had argued that phonological phrasing in Chichewa mainly align with XP. Downing and Mtenje, A.D. (2010) contend that in broad focus conditions, phonological phrases in Chichewa mainly align with syntactic phase edges - *v*P and CP. They argue that Phase-edge alignment accounts for why relative clauses are followed by a phonological phrase break.

The work by Mtenje, A.D. (2011) and Downing and Mtenje, A.D. (2010) illustrate the interface or the relationship between phonology and syntax and the operation of phrasing in general. Theoretical investigation in the prosody and phrasing of the SuNdaLa would consider such studies in order to examine such interfaces and whether relative clauses have an effect on phrasing pattern in the SuNdaLa i.e. are verbs and relative clauses phrased together and whether relative clauses can be marked by tone.

6.2.7 The associative construction

This last section will discuss genitive or associative constructions. This is a nominal phrase in which the complement to the head noun is introduced by the associative marker á „of“. Mchombo (2004:59). According to Atindogbe (2013), in Mokpe – a language spoken in the southwest region of Cameroon which belongs to Guthrie’s zone A, these constructions are marked by a possessive or genitive concord. This concord is in agreement with the head noun. The genitive concord is generally followed by a low tone vowel /a/ but it may be deleted in some environments.

SuNdaLa varieties also have associative constructions. This noun phrase complement is introduced by *á* which is prefixed by an agreement marker of the noun class of the head noun. The associative construction can be used to show location, possession and attribution. Furthermore, it was discussed in section 6.2.3 that the SuNdaLa has a closed set of adjectives; the varieties therefore have to find other ways of describing nouns. The associative construction can also be used for this purpose. Below we outline the uses of the associative construction in the SuNdaLa.

Associative constructions in SuNdaLa

Location

Cisukwa and Cindali

(51)

pasi pa mésa

pa-si *p-a* *mésa*

17-down 17NCP-Assoc.M

„under the table“

(52)

kunúma kwa mpáando

ku-Ø-núma *ku-a* *mpáando*

16-9-back 16NCP-Assoc.M chair

„at the back of the chair“

Cilambya

(53)

kusiinda kwa mpáando

ku-siinda *ku-a* *mpáando*

16-back 16NCP-Assoc.M chair

„at the back of the chair“

Attribution

Cisukwa, Cindali

(54)

iinduye ja fúga

<i>i-N-</i>	<i>duye</i>	<i>i-a</i>	<i>fúga</i>
AUG-9	banana	9NCP-Assoc.M	sugar

„a sugary banana“

Cilambya

(55)

iĩkhobwe ja fúga

<i>i-N-</i>	<i>kobwe</i>	<i>i-a</i>	<i>fúga</i>
AUG-9	banana	9NCP-Assoc.M	sugar

„a sugary banana“

SuNdaLa

(56)

umpúuŋga wa mbéja

<i>u-mu-púuŋga</i>	<i>u-a</i>	<i>mbéya</i>
AUG-9-rice	9NCP-Assoc.M	salt

„salty rice“

Possession

SuNdaLa

(57)

iljiino ũa mwáana

<i>i-li-ino</i>	<i>li-a</i>	<i>mu-ana</i>
AUG-5-tooth	5NCP-Assoc.M	1-child

„the tooth of the child“

(58)

uβóoŋgo wa míundu

<i>u-βóoŋgo</i>	<i>u-a</i>	<i>mu-ndu</i>
AUG-brain	1-Assoc.M	1-child

„the brain of the child“

In all the three varieties the head noun is modified by having a marker *a* which indicates location, attribution and possession of the head noun. The example *umupíuŋga wa mbéja* describes that the „rice“ *umupíuŋga* as „salty“, thereby showing attribution. While in the example *pasi pa mesa*, the associative form *pa* shows location under the table.

6.3 Summary of chapter 6

This chapter has discussed the word formation strategies employed in the SuNdaLa cluster, such as noun derivation, compounding, reduplication as well as borrowing. In terms of noun derivation strategies, it is evident that all SuNdaLa varieties derive nouns in the same way – from verbs, adjectives, from other nouns, as well as through pseudo-reduplication and compounding. Borrowing is another strategy to create new items for the vocabulary.

The noun phrase structure is the second area of investigation in this chapter. It has been shown that the noun in the SuNdaLa can be modified by demonstratives, possessives, adjectives, numerals, quantifiers, associative constructions and relative constructions. This is in line with processes that have been attested in other Bantu languages. These modifications are similar in the SuNdaLa varieties, with the exception of the possessive marker, where Cisukwa and Cindali use the same morphemes and Cilambya different ones. In addition, Cindali forms relative markers differently as it reduplicates the agreement prefix to satisfy word minimality conditions which Cisukwa and Cilambya do not do.

One other similarity observed with the adnominals or modifiers in SuNdaLa is that they all appear after the noun in each case. Another area for further research is the ordering of adnominals, i.e. when they occur together in a construction. Rugemalira (2007) and Morapedi (2013) stated that a lot of the literature on noun modifiers in Bantu languages have simply described them and not explained their order when they occur together. This also remains an open question to be investigated for the SuNdaLa varieties.

Chapter 7

SuNdaLa Verb Morphology

7.0 Introduction

This chapter discusses the morphology of the verb in SuNdaLa. The outline of the chapter is as follows: section 7.1 makes brief statements the verb morphology of Bantu languages which is followed by the analysis of the verb structure of SuNdaLa in section 7.2. The next two sections, 7.3 and 7.4, discuss subject and object marking as well as tense and aspect, respectively. They are followed by an analysis of verbal extensions in SuNdaLa in section 7.5. The summary of the chapter is presented in section 7.6.

7.1 On the morphology of the Bantu verb

Scholars such as Nurse (2003), Nurse and Phillipson (2006), Meeussen (1967), Schadeberg (1992, 2001), Kiso (2012), Downing (2001), Bresnan and Moshi (1990), Marten et al (2007), Marten and Kula (2012), Stegen (2002), Mathangwane and Osam (2006) have discussed different aspects of the morphology of Bantu verbs. Most of these works have focussed on descriptive and theoretical issues such as the structure of the verb, object and subject marking, tense, mood and aspect and extensions. Each of these subtopics of verbal morphology will be discussed in subsequent sections by reviewing existing the relevant literature.

7.2 The structure of the SuNdaLa verb

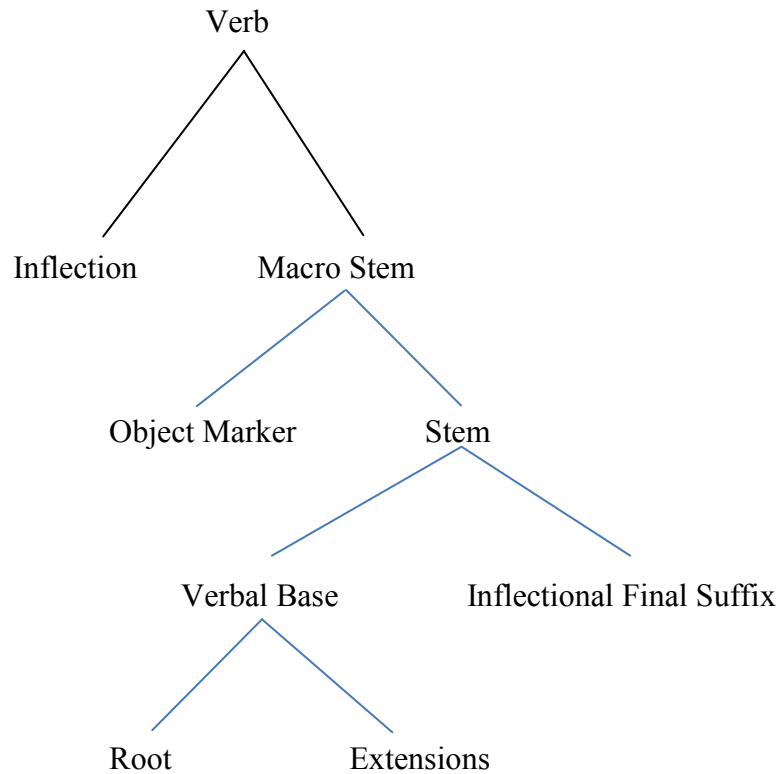
Due to the agglutinating nature of Bantu languages, the Bantu verb is highly complex. It is composed of a root or radical with prefixes and suffixes attached to it. This study adopts the analysis of the structure of Bantu verbs as outlined by Downing (2001), and it is similar to those proposed by Myers (1987), Ngunga (2000) and Mchombo (2004).

The Root or the radical is the nucleus of the verb which may have C, CVC or VVC, CVVC structures. This root may be extended by suffixes, here called Extensions or derivational suffixes. These Extensions change the meaning of the verb together with its valency. Root plus Extensions comprise the Verbal Base.

Inflection is expressed by suffixing the Inflectional Final Suffix to the Verbal Base. Inflectional Final Suffix and the Verbal Base together form the Stem, which complemented

by an Object Marker is the unit called Macro Stem. Affixes that may signal the subject, negation, tense, aspect and mood all come under the Inflection node.

Figure 8: The verb structure of Bantu languages (Downing 2001: 35)



A considerable amount of evidence has been provided to motivate the constituent structure of the Bantu verb presented above. Mchombo (2004), Mtenje, A.D. (1986), Bresnan and Mchombo (1987), Myers (1987) have convincingly argued that the unit characterized as the Base serves as the domain for the application of Bantu phonological processes (rules) like vowel harmony, tone shifting and contouring rules, vowel lengthening etc. while the Macro Stem is the domain for several tone rules.

The linear order of the components of the verb is consistent and fixed across the Bantu languages. Meeussen (1967) and Schadeberg (1992, 2001) analyse the allocation of these components and the template of the slots in Bantu verbs in table 74 is suggested by Schadeberg (1992, 2001).

Table 74: Verbal slots of Bantu languages (Schadeberg 2001)

1	2	3	4	5	6	7	8	9
Pre initial	Initial	Post Initial	Tense	Stem	Object Concord	Verbal Base	Pre final	Final
Negation Focus	Subject Concord	Negative Marker	Tense	Stem Marker	Object Concord	Verbal Base	Tense	Final Vowel

The morphemes in the slots are ordered from left to right. Slot number 1 includes the pre initial negation or focus marker, while slot 2 – initial, holds the subject concord. Slots 3 and 4 keep the negation marker and tense morphemes respectively and slot 5 holds the stem marker which is a semantically vacuous morpheme that may occur with mono-syllabic or vowel initial bases. Slot number 6 has the object concord while 7 is for the verbal base. Position 8 hosts the pre final tense morpheme and the final position, 9, holds the final vowel. The terminal vowel in partnership with other tense markers may show elements which signal time. It should be noted that all slots cannot be occupied simultaneously.

In the following sections, we are going to discuss morphemes within this verbal template of SuNdaLa. These include the subject and object concords, tense, aspect and mood and verbal extensions.

7.3 Subject and object marking in SuNdaLa

In Bantu languages, the subject marker or the subject concord is a prefix that agrees with the subject of the verb in number and noun class likewise, the object marker or object concord is the prefix that agrees with the object of the verb. The subject marker is held in slot 2 of the verbal template and across all Bantu languages, it has been argued that the subject marker is obligatory. This also holds true for the SuNdaLa varieties. The object marker on the other hand is not mandatory it is however required when there is no overt object NP. Slot number 6 of the verbal template holds the object marker. The specifics of subject and object marking in the SuNdaLa are discussed in the subsequent sections.

7.3.1 Subject marking

One of the features of Bantu languages is that they are pro drop (cf. Nurse and Phillipson 2003, Mchombo 2004, Mugari 2013). This means that the subject of a sentence may be left out. Information about the subject however, is carried by the subject marker. All SuNdaLa varieties are pro drop languages. Furthermore, the subject noun phrase and the personal pronoun can be included but when the personal pronoun is encompassed, it usually shows

emphasis. Below are sentences of each of the SuNdaLa varieties showing these various settings.

Sentences with overt subject noun phrases

Cisukwa and Cindali

(1)

mwanalúme afula ifati mumúnda

mw-analúme a-ful-a i-Ø-fati mu-mu-únda

1-man SM1-undress-FV AUG-9-shirt 18-3-garden

„The man has taken off his shirt in the garden.“

Cilambya

(2)

mwanalúme avula ifáti muúnda

mu-analúme a-vul-a i-Ø-fáti mu-mu-únda

1-man SM1-undress-FV AUG-9-shirt 18-3-garden

„The man has taken off his shirt in the garden“

In sentences (1)-(2) above, the bolded morphemes are the subject markers but the noun *mwanalúme* which is the subject also appears in the construction. It is therefore possible for the lexical subject and the subject marker to co-occur and they commonly do so in other Bantu languages too.

Table 74: Sentences with a personal pronoun as a subject

Cisukwa	Cindali	Cilambya	English gloss
<i>úne ŋ-gú-l'-a</i> PN SM1sg-FUT-eat-FV		<i>úne ŋ-k^h-ú-lj-a</i> PN SM1sg-FUT-eat-FV	„I will eat“
<i>úmwe mu-ka-lj-anga</i> PN SM2pl-PST-eat-HAB			„you (pl) used to eat“

In the sentences in table 74, the subject markers (the ones bolded) appear with the pronouns *úne* „I“ and *úmwe* „you (pl)“. However, as mentioned above, the appearance of the personal pronoun is usually to show emphasis. Finally sentences can occur with neither the overt subject noun phrase nor the personal pronoun as shown in the examples below.

Table 75: Sentences with just the subject marker

SuNdaLa	English gloss
<i>w-aa-ηgw-ile</i> SM2sg-PST-drink-PFV	„you (sg) drank
<i>tu-kw-éénd-a</i> SM1pl-PROG-walk-FV	„we are walking“

In table 75, the sentences appear with neither the subject noun phrase nor the personal pronoun. They merely occur with the subject prefixes (which have been bolded in the examples).

Subject concords in Bantu languages generally encode the 1st person and 2nd person for both singular and plural. The 3rd person also features but its forms are dependent on the noun class to which the subject belongs. This also holds true for object markers. The varieties of the SuNdaLa follow the same pattern where subject concords indicate 1st and 2nd person for both singular and plural and the concord for the 3rd person depends on the noun class. Below is a table of subject markers for the three varieties:

Table 76: 1st and 2nd person subject markers

Person	SuNdaLa
1sg	<i>N-</i>
2sg	<i>u-</i>
1pl	<i>tu-</i>
2pl	<i>mu-</i>

It should be noted that in Mtenje, A.A. (2010, 2012) it is claimed that the 1st person singular subject marker is *ni* where the vowel *i* gets deleted subsequently. However, further research on the SuNdaLa varieties as recorded in this thesis has shown that there is no apparent evidence to support this position. It is thus, being suggested that the subject marker is an abstract nasal, /N/, which changes its place of articulation depending on the following consonant. For example, in the word *ηgúlja* (from the underlying representation /N-ku-lj-a/) the subject appears as *η-* a velar nasal because of the following velar stop consonant while in the word *náálile*, (from /N-aa-l-ile/) „I ate“, the subject marker is *n*.

We advance this argument that N is the underlying representation of the subject marker firstly because it is evidenced that there are no instances of *ni* occurring independently for it to be

warranted subject marker status. The subject marker occurs as a segment that is homorganic with the following consonant except when there is a vowel where it is attested as /n/. Secondly, positing *ni* as the subject marker would need one to account for the reason why the sound /i/ is deleted. There is no phonological environment or justification to account for the process. Commonly, a vowel is deleted when it concatenates with another vowel as a hiatus resolution strategy but this vowel if we take the *ni* analysis, is deleted in less plausible environments (after another consonant i.e. N---C contexts like /Ni-ku-ly-a/). It is therefore more probable to assume that the vowel is not there in the first place than to posit it and delete it even in environments that are unmotivated.

Table 77: Subject markers for noun classes (3rd person)

Noun class	SuNdaLa
1	<i>a-</i>
2	<i>βa-</i>
3	<i>u-</i>
4	<i>i-</i>
5	<i>li-</i>
6	<i>ma-</i>
7	<i>tʃi-</i>
8	<i>fɪ- vi</i> (Cilambya)
9	<i>i-</i>
10	<i>i-</i>
11	<i>lu-</i>
12	<i>ka-</i>
13	<i>ti-</i>
14	<i>βu-</i>
15	<i>ku-</i>
16	<i>pa-</i>
17	<i>ku-</i>
18	<i>mu-</i>
21	<i>li-</i>

The subject markers for the 3rd person outlined above relate to the noun class markers as outlined in chapter 5. This is unlike the ones for the 1st and 2nd person discussed above.

7.3.2 The object and object marking

The object in most Bantu languages and also in SuNdaLa occurs after the verb. For example, in each of the three varieties one can have sentences like the ones below where the object appears post-verbally.

In comparative Bantu syntax, a common area of discussion has been the nature of the object as evidenced through studies by Givon (1972), Duranti and Byarushengo (1977), Duranti (1979) and Hyman and Duranti (1982). Further interest has been on double object and applicative constructions (cf. Alsina and Mchombo 1993, Rugemalira 1991, Marantz 1993, Harford 1993, Mchombo and Firmino 1999, Lam 2008 and Adams 2010).

The discussion of object symmetries and asymmetries in Bantu (cf. Bresnan and Moshi 1990, Rugemalira 1991), Alsina and Mchombo 1993, Bresnan and Moshi 1993, Mchombo and Firmino 1999 and Lam 2008) has also been a topic of discussion in the Bantu literature. Bresnan and Moshi (1990) define asymmetrical object type languages as those in which only one of the post-verbal NPs takes „primary object“ status. These languages exhibit syntactic object properties of passivizability, object agreement, adjacency to the verb etc. Examples of such languages are Kiswahili, Chimwi:ni, Hiberna and Chichewa. Symmetrical object type languages are those in which more than one post-verbal NP can show „primary object“ syntactic properties. Bresnan and Moshi (1990) characterise the typology of object and asymmetries using data from Kichaga (a symmetrical language spoken) and Chichewa (an asymmetrical language) and dispute previous theories of the typology (cf. Gary and Keenan 1977, Perlmutter and Postal 1983, Marantz 1984, Baker 1988, Kiparsky 1988). Bresnan and Moshi (1990) in this work argue that although these previous theories succeed in reducing the variations between symmetrical object type languages and the asymmetrical ones into a single parameter of variation, they exhibit descriptive inadequacies. They further claim that for those theories that deal with the descriptive problems multiple independent differences in the grammars of the two types arise. The theories thus fail to explain covariation. Bresnan and Moshi (1990) hence propose a new theory that is said to reduce the covariation of syntactic differences between asymmetrical and symmetrical languages to a single parameter. For details of the theories of the typologies cf. Bresnan and Moshi (1990). Our area of focus in Bresnan and Moshi's work is their characterisation of the typologies which is briefly discussed in the following paragraphs.

Firstly, Bresnan and Moshi (1990) suggest that there is a difference in the passivizability of objects. Symmetrical languages allow any of the multiple objects of an applied verb to be passivized. This is not possible in asymmetrical languages. The second difference is observed in the restriction of object marking. In Kichaga, any of the multiple object NPs can be expressed by object markers. This includes both patient and beneficiary object markers attached to the applied verb. This is not possible in Chichewa. Thirdly, the symmetrical languages allow unspecified object deletion of the patient in the presence of another object i.e the beneficiary while in the asymmetrical languages this is not possible. In Chichewa, in cases where object deletion is possible, it is prohibited when the verb takes a beneficiary object. The fourth difference between these two types of languages is in reciprocalisation. In general, the reciprocal suffix reduces the syntactic objects by one. There is however variation in which objects can be eliminated by reciprocalisation. Kichaga for example according to Bresnan and Moshi allows the patient to be reciprocalised in the presence of any applied object, the beneficiary inclusive. This is not possible in Chichewa. The final difference presented by Bresnan and Moshi (1990) concerns the interactions of object properties such as co-occurrence of passives with object markers, co-occurrence of reciprocals with passives, co-occurrence of reciprocals with object markers and co-occurrence of reciprocals with unspecified object deletion. In asymmetrical object type languages, only one argument at a time can exhibit these properties while for symmetrical object type languages different arguments can possess such object properties.

However Rugemalira (1991) contradicts Bresnan and Moshi's (1990) classification of languages into either asymmetrical or symmetrical. Citing data from Kiswahili and Runyambo, Rugemalira (1991) shows that the formal tests provided by Bresnan and Moshi (1990) are not reliable because not every test may be applicable to every language and that the tests give contradictory results. It is further argued that there are a larger set of formal or semantic strategies for keeping objects separate. Rugemalira (1991) concludes that a symmetrical language therefore does not exist.

The SuNdaLa varieties like Chichewa exhibit properties of the asymmetrical object type of languages outlined by Bresnan and Moshi (1990) for they do not allow all post-verbal objects to undergo passivisation. It is only one that does so. The varieties also only allow one object marker per construction (cf. 7.3.2.1). The topic of asymmetry in SuNdaLa will be not be the main focus of the analysis in this chapter but we will refer to it in 7.5 especially as we analyse the applicative construction in SuNdaLa.

There has been considerable focus on object marking in Bantu linguistics (cf. Morolong and Hyman 1977, Hyman and Duranti 1982, Morimoto 2002, Marten and Ramadhani 2002, Marten et al 2007, Marten and Kula 2012, Marlo 2014, Alsina and Mchombo 1989, Bresnan and Moshi 1990, Duranti 1979). Whether object marking should be analysed as agreement and/or pronominal incorporation is still a topic discussed among scholars (cf. Henderson 2006, Baker 2008 and Riedel 2009). Bresnan and Mchombo (1986) have argued that the object marker is pronominal while Deen (2004) concludes that in Kiswahili they should rather be considered as grammatical agreement morphemes.

Beaudoin-Leitz, Nurse and Rose's (2004) comparative work on the object marker examines the position of the object marker in relation to the verb. Three types are identified and these include i) those with pre-verbal object markers ii) those with post-verbal object markers and iii) those with both pre-verbal and post-verbal object markers. As demonstrated in section 7.3.2.1 below the SuNdaLa belong to type 1 languages with pre-verbal object markers – a phenomenon identified by Beaudoin-Lietz et al (2004) to be common among Bantu languages spoken in the east and south of the African continent.

Other studies have focussed on describing object marking phenomena in particular languages. Sibanda (2004) among other things discusses object marking in isiNdebele and Marten and Ramadhani (2002) provide a detailed description of Kiliguru object marking. While examining object marking in simple predicates, complex predicates, exceptional case marking constructions and conjoined noun phrases, Marten and Ramadhan (2002) conclude that object marking in Kiliguru involves semantic, syntactic and pragmatic factors.

Marten et al (2007) and Marten and Kula (2012) examine object marking from a microvariationist point of view. They develop parameters which can be used to assess variation in a number of Southern Bantu languages. Marten and Kula (2012:239) pose the following questions:

1. Can the object marker and the lexical object NP co-occur?
2. Is an object marker obligatory with particular object NPs?
3. Are there locative object markers?
4. Is object marking restricted to one object per verb?
5. Can either benefactive or theme objects be expressed by an object marker in double object constructions?
6. Is an object marker required/optional/disallowed in object relatives?

In discussing object marking in the SuNdaLa cluster, the parameters proposed by Marten and Kula (2012) were adopted.

7.3.2.1 Object marking in SuNdaLa

The object marker in SuNdaLa is placed in slot 6 of Schadeberg's (1999, 2001) template, i.e. the pre-verbal position. In Downing's (2001) verb structure, it branches from the Macro Stem together with the Stem.

Object marking in the SuNdaLa - like in other Bantu languages - is not obligatory, cf. examples (3), (4), and (5).

Cisukwa

(3a)

imbwa jakóma púsi

i-N-bwa i-a-kom-a pusi

AUG-9-dog SM9-PFV-beat-FV cat

‘The dog has beaten the cat’

(3b)

napóna mupila

n-a-póny-a mu-pila

SM1sg-PFV-throw-FV 3-ball

‘I have thrown the ball’

(3c)

nakóma ímbwa

n-a-kom-a i-N-bwa

SM1sg-PFV-beat-FV AUG-9-dog

‘I have beaten the dog’.

Cindali

(4a)

nakoma ukaβwa

n-a-kom-a u-kaβwa

SM1sg-PFV-beatFV AUG-dog

‘I have beaten the dog’

(4b)

nape umúpila

n-a-p-a

u-mu-pila

SM1sg-PFV-give-FV AUG-3-ball

„I have given the ball“

Cilambya

(5)

imbwa yamuma pusi

í-N-bwa

i-a-mum-a

pusi

AUG-9-dog SM9-PFV-beat-FV cat

“The dog has beaten the cat“

In the sentences of examples (4) to (5), there are no object markers. The constructions only have the lexical object. For instance, in the Cisukwa sentence *nakóma ímbwa* ‘I have beaten the dog’, no object marker is present, only the lexical object *imbwa*.

There are several object markers in SuNdaLa and table 78 lists the object markers in the SuNdaLa varieties. It will be noted that all of them use the same object markers except for the noun class 8 object marker which is *fí-* for Cisukwa and Cindali and *vi-* for Cilambya (a difference arising from variations in their consonant inventories discussed in chapter 3) and the class 10 object markers.

Object markers for the first and second person singular and plural are the same and the third person object prefix agrees with the class of the object noun phrase referred to. This is similar to subject marking discussed in 7.3.1 above.

Table 78: 1st and 2nd person object markers

Person	SuNdaLa
1sg	N
2sg	<i>u-</i>
1pl	<i>tu-</i>
2pl	<i>mu-</i>

Table 79: Object markers for noun classes (3rd person)

Noun class	Cisukwa, Cindali	Cilambya
1	<i>mu-</i>	
2	<i>βa-</i>	
3	<i>u-</i>	
4	<i>i-</i>	
5	<i>li-</i>	
6	<i>ma-</i>	
7	<i>tʃi-</i>	
8	<i>fɪ-</i>	<i>vi</i>
9	<i>i-</i>	
10	<i>si</i> (Cisukwa), <i>fɪ</i> (Cindali), <i>zi</i> (Cilambya)	
11	<i>lu-</i>	
12	<i>ka-</i>	
13	<i>ti-</i>	
14	<i>βu-</i>	
15	<i>ku-</i>	
16	<i>pa-</i>	
17	<i>ku-</i>	
18	<i>mu-</i>	
21	<i>li-</i>	

7.3.2.1.1 SuNdaLa object marking

In this section, we discuss object marking of SuNdaLa varieties in relation to the parameters proposed by Marten et al (2007) as well as Marten and Kula (2012).

Parameter 1. *Can the object marker and the lexical object NP co-occur?*

Marten and Kula (2012) observe variation in Bantu languages on whether the object marker and the object NP can occur together in the same clause or not. In comparing various Bantu languages, they note that in Kiswahili and iCibemba, the object marker and the object noun phrase it refers to can co-occur while this is not possible in languages such as Kivunjo-Chaga, and Otjiherero. An analysis of the SuNdaLa varieties shows that co-occurrence of the lexical NP and the object marker is possible, cf. examples (6), (7) and (8).

Cisukwa

(6a)

Ndamuβéene mwana

n-t-a-mu-βéen-e *mu-ana*

SM1sg-NEG-PFV-OM1-see-NEG 1-child

„I haven’t seen the child“

In the construction above, the object marker *mu*, which refers to the object NP *mwaana*, co-occurs with this NP.

(6b)

inúumba ndajiβeene

i-n-umba *N-t-a-i-ween-e*

AUG-9-house SM1sg-NEG-PFV-OM9-see-NEG

„I have not seen the house“

In the sentence above, the object marker *ji* appears together with its corresponding NP *inúumba*.

Cindali

(7a)

Ndamuβéeni umwana

n-t-a-mú-βéen-i *ú-mw-ana*

SM1sg-NEG-PFV-OM1-see-NEG AUG-1-child

„I have not seen the child“

(7b)

Ndajiβéeni inúumba

n-t-a-i-βéen-e *n-úmba*

SM1sg-NEG-PFV-OM9-see-NEG 9-house

„I haven’t seen the house“

The Cindali sentences above show that it is grammatical for the object marker and its related object NP to co-occur. In example (7a), the object marker *mu* occurs with its corresponding object NP *mwaana* just like the object marker *i* in (7b) does with its NP *inúumba*.

Cilambya

(8a)

Nt^hamwéeɲa umwáana

n-t-a-mu-ɛɲ-a

ú-mw-ana

SM1sg-NEG-PFV-OM1-see-FV AUG-1-child

„I haven“t seen the child“

(8b)

Nt^hajiwéeɲa ɲúumba

n-t-a-yi-βɛɲ-a

i-ɲ- úumba

SM1sg-NEG-PFV-OM9-see-FV AUG-9-house

„I haven“t seen the house“

As in the other SuNdaLa varieties, the Cilambya examples (8a) and (8b) show that an object prefix and its related object noun phrase can appear in the same construction. In (8a), for example, the object marker *mu* co-occurs with its corresponding NP *mwáana* and the same pattern is observed in (8b) where the lexical object *ɲúumba* occurs in the same clause with the object marker *i*.

Parameter 2. Is an object marker obligatory with particular NPs?

Marten et al (2007) state in this second parameter that while co-occurrence might be permissible in languages (such the SuNdaLa cluster), there might be restrictions on the patterns. In some languages, co-occurrence is obligatory with some specific NPs. In Ruwund, for instance, the simultaneous appearance of an object marker and the object NP depends on the thematic role of the object. While the benefactive object, for example, can appear together with the lexical object, it cannot do so with the theme object. In Kiswahili, the object marker is obligatory with animate NPs but that is not the case in iCibemba where the animate object can be used without an object marker. Due to limitations in the data available at this stage, it is not possible to claim if similar restrictions on co-occurrence patterns for object markers and lexical NPs exist in SuNdaLa.

Parameter 3. Are there locative object markers?

Marten et al (2007) note that some languages, for instance, Cinsenga and Setswana, have locative object markers while others do not. The latter group includes languages such as Chasu, Ciruri, Lozi, Makhuwa, siSwati and Yeyi.

The SuNdaLa data suggests that locative object markers in fact do occur in all three varieties. The locative object markers are marked in bold in the following examples.

SuNdaLa

(9a)

*Mwikómo nam**ukwé**la*

mu-ikómo n-a-mu-kwél-a

18-tree SM1sg-PERF-OM-climb-FV

„In the tree I have climbed“

(9b)

*Ku Lilóngwe nak**ú**maṅa*

ku-Lilongwe n-a-ku-maṅ-a

17- Lilongwe SM1sg-PRES-OM17-know-FV

„Lilongwe I know it (there)“

Cisukwa and Cindali

(10)

*Pa tebúlo ṅg**u**pa**p**u**p**úta*

pa-tebulo n-ku-pa-puput-a

17-table SM1sg-prog-OM17-FV

„The table I wipe it“

Cilambya

(11)

*Pa tebúlo ṅk^h**u**pa**p**u**p**úta*

pa-tebulo n -ku-pa-puput-a

17-table SM1sg-prog-OM17-FV

„The table I wipe it“

Parameter 4. Is object marking restricted to one object per verb?

In Bantu languages double object constructions with two or more post-verbal NPs exist, and the following example of such constructions is from Chichewa (Mtenje, A.A.). The verb *akulembera* is followed by two arguments *mayi* „mother“ and *kalata* „letter“.

Chichewa

(12)

Mwana akulembera mayi kalata

mu-ana a-ku- lemb-el-a mayi kalata

1-child SM1-PROG-write-APPL-FV mother letter

„The child is writing a letter to mother“

The common strategy of deriving more post-verbal arguments is through extending the verb by suffixing for example applicative and causative morphemes, which then can change the argument structure of a construction. (cf. Alsina and Mchombo 1993, Sibanda 2004).

One of the questions on double object constructions and objects marking is whether all such arguments can be marked or not. In Bantu languages there seem to be two groups of languages in relation to the number of object markers which are permissible in a verb. One group has a restriction in that only one object marker is allowed per verb while others permit multiple object marking. According to Marten and Kula (2012) Kiswahili only allows one object marker while Setswana and Kivunjo-Chaga permit several object markers. Multiple object marking is possible in Runyambo (Rugemalira 1991:203), while Chichewa only allows one object marker (Mchombo 2004, Kanerva 1990).

The SuNdaLa varieties are like Chichewa and Kiswahili which disallow multiple object marking in a verb. With the examples (13) to (15), the „a“ sentences with one object marker are grammatical while the „b“ examples with two object markers are ungrammatical.

Cisukwa

(13a)

Naamúpa

N-a-mú-p-a

SM1sg-PFV-OM1-give-FV

„I have given him/her (it)“

(13b)

**Naamutŋipa*

n-a-mu-tŋi-p-a

SM1sg-PFV-OM1-OM7-give-FV

„I gave him it“

Cindali

(14a)

ŋgumupijila iŋguku

ŋ-ku-mu-pij-il-a

SM1sg-PROG-OM1-cook-APPL-FV

„I am cooking chicken for him/her“

(14b)

**ŋgumuipijila iŋguku*

ŋ-ku-mu-i-pij-il-a

SM1sg-PROG-OM1-OM9-cook-APPL-FV

„I am cooking chicken for him/her“

Cilambya

(15a)

Akumulembera ukálata

a-ku-mu-lemb-el-a

SM1-PROG-OM1-write-APPL-FV

„S/he is writing a letter to him/her“

(15b)

**akumuilembera ukálata*

a-ku-mu-i-lemb-el-a

SM1-PROG-OM1-OM9-write-APPL-FV

„S/he is writing a letter to him/her“

Parameter 5. Can either benefactive or theme objects be expressed by an object marker in double object constructions?

Marten and Kula (2012) identify two patterns among Bantu languages in regard to whether the benefactive and theme object can be marked for object or not. In some languages, only the benefactive object in a double object construction can be marked by an object marker and in others either the benefactive or the theme object can receive marking. While Otjiherero can mark both objects, Chichewa allows the marking of the benefactive object only.

SuNdaLa follows Chichewa in this respect and only allows the benefactive object to be marked as seen in examples (16a), (17a), and (18a).

Cisukwa

(16a)

akumusimbila mwáana ukálata

a-ku-mu-simbil-a *mu-ána* *u-∅-kálata*

SM1-PROG-OM1-write-FV 1-child AUG-9-letter

„They are writing (him/her) a letter for the child“

(16b)

**akujisimbila mwana ukalata*

a-ku-i-simbil-a *mu-ána* *u-∅-kalata*

1SM-PROG-OM9-write-FV 1-child AUG-9-letter

„The are writing (it) a letter for the child“

Cindali

(17a)

aβáβííngi akuβapijila fikondamójo aβomunḡwéle

a-βá-βííngi *a-ku-βa-piy-il-a* *fi-kondamóyo* *a-βo-munḡwele*

AUG-2-hunters 1SM-PROG-OM2-cook-APPL-FV 8-pancakes AUG-2a-monkeys

„The hunters are cooking pancakes for the monkeys“

(17b)

**aβáβííngi akufipiyila fikondamoyo aβomunḡwele*

a-βá-βííngi *a-ku-fi-piy-il-a* *fi-kondamóyo* *a-βo-munḡwele*

AUG-2-hunters 1SM-PROG-OM8-cook-APPL-FV 8-pancakes AUG-2a-monkeys

„The hunters are cooking pancakes for the monkeys“

Cilambya

(18a)

namupijile úmwana iṅk^huku

N-a-mu-pij-ile *ú- mw-aana* *í -N- kuku*

SM1sg-PST-OM1-cook-PFV AUG-1-child AUG-9-chicken

„I cooked chicken for the child“

(18b)

**nayipijile úmwana iŋk^huku*

N-a-i-pij-ile ú- mw-aana í -N- kuku

SM1sg-PST-OM9-cook-ASP AUG-1-child AUG-9-chicken

„I have cooked chicken for the child“

These examples indicate that in all the SuNdaLa varieties, object marking is only allowed for the benefactive object and not the theme. For instance, in the Cilambya example, the object marker *mu* refers to the benefactive object *úmwana* „child“ and not the theme *iŋk^huku* „chicken“. When *iŋk^huku* is marked for object using the object marker *i*, in (18b) the sentence is ungrammatical.

Parameter 6. Is an object marker required/optional/disallowed in object relatives?

The last of Marten and Kula's (2012) parameters concerns relatives. Henderson (2006) has proposed that there are three types of Bantu languages: those where object markers are required in relatives, those where object markers are optional and those where object markers are not permitted in object relative clauses. Setswana is cited as a language which always requires an object marker while for Kiswahili, object relatives are possible but not required. Marten and Kula (2012) cite Lozi as a language which disallows object marking in relative clauses.

The SuNdaLa varieties all behave like Kiswahili in that object marking in relative clauses is optional. In examples (19) to (21) the object markers are in brackets to indicate that they are not obligatory.

Cisukwa

(19a)

ibúku l'ó Jóni aku(li)werénga

i-Ø-buku li-o a-ku-li-weleng-a

AUG-5-book 5-RELp SM1-PROG-OM5-read-FV

„The book that John is reading“

(19b)

mabúku wó nk^ha(βa)βóna

ma-buku u-o N-ka-βa-βon-a

6-books 2-RELP SM1sg-PST-OM2-see-FV

„The books that I saw“

(19c)

ísofu s^jó aku(si)kóma

i-∅-sofu si-o a-ku-si- kom-a

AUG-10-elephants 10-RELP SM1-PROG-OM10-kill-FV

„The elephants that they are killing“

Cindali

(20a)

ísuwa líl'ó na(li)βona

i-∅-suwa li-o N-a-li-βon-a

AUG-5-sun 5-RELP SM1sg-PROG-OM5-see-FV

„The sun that I have seen“

(20b)

íngalamo fífó aβonǵwééle aku(fi)pa

i-N-galamo fi-o a-βo-ǵgwele a-ku-fi-p-a

AUG-10-lion 10-Relp AUG-2a-monkey SM1sg-PROG-OM10-kill-FV

„The lions that the monkeys are killing“

Cilambya

(21a)

ibuku l'ó Jóni aku(li)weréǵga

i-∅-buku li-o a-ku-li-weleǵg-a

AUG-5-book 5-RELP SM1-PROG-OM5-read-FV

„The book that John is reading“

(21b)

ínzofu z'ó aku(zi)kóma

i-N-zofu zi-o a-ku-zi- kom-a

AUG-10-elephant 10-RELp SM1-PROG-OM10-kill-FV

„The elephants that they are killing“

In the Cisukwa relative clause in (19c), the object marker /si/ can be omitted and the structure “*ísofu s'ó akukoma*” would still be well-formed. Object markers in relative clauses are optional in all SuNdaLa varieties.

The SuNdaLa varieties have shown very close similarities in relation to the parameters on object marking proposed by Marten and Kula (2012). The following characteristics are shared by all three varieties:

- i) an object marker can co-occur with a lexical object;
- ii) there are locative object markers;
- iii) object marking is restricted to one object marker per verb;
- iv) it is only the benefactive object that can be expressed by an object marker and;
- v) the object marker is optional in object relatives.

Further research is needed to investigate how discourse and pragmatic factors influence the use of object marking in these varieties.

7.4 Tense, aspect and mood

Topics related to the study of tense, aspect and mood will be introduced by the discussion of the previous works in general and on Bantu languages more specifically. The discussion of the TAM system of the SuNdaLa cluster will then follow.

7.4.1 Tense and aspect

The literature on tense and aspect in Bantu is vast (cf. Dahl 1985, Nurse 2003, Nurse and Phillipson 2006, Comrie 1976, 1985, Kiso 2012, Kershner 2002, Dunham 2004, Brisard and Meeuwis 2009, Botne 1983, 2008 and Botne and Kershner 2008). Most of these studies have focused on theories of tense, aspect and mood as well as descriptions and comparative analyses of the phenomena in different languages. In this section of the chapter, we are going to start with a brief look at some of the key studies among the existing literature on this topic.

In his definition of tense and aspect, Comrie (1976:5) claims that

„[...] although both tense and aspect are concerned with time, they are concerned with time in different ways. [...] tense is a deictic category, i.e. locates situations in time, usually with reference to the present moment, though also with reference to other situations. Aspect is not concerned with relating the time of the situation to any other time – point, but rather with the internal temporary consistency of the one situation; one could state the difference as one between situation-internal time (aspect) and situation-external time (tense).“

Kiso (2012:34) agrees with Comrie and further elaborates that:

„The meaning of both categories is related to time, as both tense and aspect express different facets of time in language. Tense locates the situation in time, eg. Expressing whether the event happened/happens before, during or after the moment of speech, while aspect expresses the time structure of the event, eg. Whether the event happens habitually, repeatedly, etc and whether it is seen by the speaker as a whole or in progress etc.“

From these two discussions of tense and aspect, it can be seen that both are concerned with time. On the one hand, tense refers to the time at which an action is takes place in relation to the moment of a speech utterance. For instance, was the action performed before or after the time of speech act. On the other hand, aspect is concerned with the organisation of the event of the action, more of how the speaker views the action to have happened. For instance, whether it was a continuous process or not. Tense and aspect are therefore related and although they seem to be different, they sometimes cannot be neatly delineated because temporal and aspectual meanings can be expressed by one linguistic form.

There have been several theoretical approaches to tense and aspect. Reichenbach's (1947) analyses tense by using reference points or time points which refer to the time of speech. Smith's (1997) theory focusses on aspect. The main argument is that „the aspectual meaning of the sentence results from the interaction between two independent aspectual components, situation type and view point. While Botne and Kershner (2008) argue against Reinchbach's (1947) theory and those who reiterated it such as Comrie (1985), Givon (2001) and Fawley (1992). Using tense systems in Bantu languages, Botne and Kreshner (2008) argue for a multi-dimensional conceptualisation of time and cognitive space claiming that Bantu languages are rich and complex as seen in the fact that they exhibit many past and/or future tense markings. As stated above, there has also been a considerable amount of literature on comparative morphological analyses of Bantu languages (cf. Nurse and Phillipson 2006,

Nurse 2003, 2008, Kiso 2012) and descriptions of tense systems of individual languages (cf. Dunham 2004, Kershner 2002) are of relevance to the present study.

Kiso (2012) provides a detailed description and a comparative analysis of Chichewa (N.30), Chitumbuka (N.20) and Chisena (N.40). The study presents details of the synchronic tense markers for each of these languages and she relates observations with those from earlier studies. There is variation in the tense-aspect systems in each of these languages, and Kiso discusses individual cases, such as the present progressive marker *-ku-* which has developed into a present tense in Chichewa. The work also analyses the distinctions in remoteness involving the past and future tenses, which are common across Bantu languages. These are also found in the three languages albeit with some form of flexibility. The comparison of the overall design and the distinctions made in the three tense-aspect systems of the languages studied, shows that they are very close with some minor variations.

Kershner's (2001) work on the verb in Cisukwa, argues that the tense, aspect and mood system of Cisukwa is complex and cannot not be represented in simple linear timeline differentiated by various degrees of remoteness, as is the case with the analysis of other Bantu languages. The study complements the linear approach to tense/aspect analysis with a non-linear solution where temporal relations are encoded conceptually into two distinct domains. These are referred to as an active performative domain that encodes what is close to the speaker and a non-active dissociative domain which refers to what is remote from the speaker's view point.

Dunham (2004) describes the verbal system of Langi also known as Rangi (F.33) – a Bantu language spoken in Tanzania. With a particular focus on the tense system of the language, the study notes that the Langi verbal system is similar to most Bantu languages and the Niger-Congo languages in the sense that it expresses tense, aspect and mood through „simple“ verb forms and syntactic verbal constructions. However, due to language contact with Cushitic languages such as Alagwa and Burunge, certain areal features have been adopted for example, the formation of the future which includes the infinitive plus an auxiliary. It is further claimed that Langi has adopted a new system of distinctions within the verbal paradigm, favouring oppositions over temporal ones. This is evident in the fact that temporal distinctions are expressed through verbal constructions while those involving aspect and mood are shown directly by the morphological verbal form.

Although the analysis of the tense and aspect systems of the SuNdaLa varieties to be presented in this chapter will not base on a particular theory, inferences will still be made to some of the models discussed. For sure, insights will be drawn from some of the available descriptions on Bantu languages. In particular, we will adopt Kiso's (2012) template on tense-aspect because of its direct relevance and applicability to this cluster of varieties.

7.4.2 Tense, aspect and mood in SuNdaLa

In this section, we discuss the tense, aspect and mood systems (TAM) of the SuNdaLa by focusing in particular, on them in the affirmative. The definitions of the tense and aspect categories to be used will be adapted from Comrie (1976). Just like in other Bantu languages, tense markers usually occur before the verb root while aspectual markers appear post-verb root.

7.4.2.1 Infinitival forms

The infinitival morpheme in Bantu languages is found in class 15 of the noun classes. Dunham's (2004) description of infinitival forms in Langi shows that the language has two structures for the infinitive namely, a radical plus the final vowel *-a-* or *-ku* followed by a radical and then the final vowel *-where ku* is the class 15 prefix. The selection of one form over the other is evidently clear as the choice can indicate a difference in the marking of the future tense. Dunham claims that there are two future tenses in Langi whose distinction is based on the presence or absence of the class 15 prefix.

The infinitival morphemes in all the SuNdaLa varieties take the form of an augment, a class 15 prefix, the radical and the final vowel. The infinitive is, essentially, the nominalisation of the verb. In other words, infinitives in SuNdaLa, as in many other related languages, are verbal nouns. In many Bantu languages, the infinitival form can modify verbs and it can also serve as the subject of the verb phrase. The same form can also be used in an associative construction.

Below are examples of infinitives from the SuNdaLa:

Table 80: SuNdaLa infinitives

SuNdaLa	English gloss
<i>ukúl'a</i> u- kú -li-a AUG-INF-eat-FV	„to eat“
<i>ukúŋ^wa</i> u- kú -ŋu-a AUG-INF-drink-FV	„to drink“
<i>ukúseka</i> u- kú -sek-a AUG-INF-laugh-FV	„to laugh“
<i>ukúlima</i> u- kú -lim-a AUG-INF-cultivate-FV	„to cultivate“
<i>ukukúmba</i> u- ku -kúmb-a AUG-INF-dig-FV	„to dig“

The combination of the forms in table 80 include an augment, which is the vowel *u-*, the class 15 prefix *-ku-*, the radical of the verb and the final vowel *-a*. For instance, in *ukúl'a* „to eat“, *u* is the augment, *ku* is the class 15 prefix, *li* is the radical and *a* is the final vowel.

The infinitive forms in the SuNdaLa can occur with or without the augment. It is therefore acceptable to have forms such as *kúŋ^wa* ‘to drink’, *kúseka* „to laugh“ and *kúlima* „to cultivate“ (the forms are all from all the SuNdaLa varieties) without the augment *u*.

Infinitives can also serve as the subject of a construction as shown in (22) and (23).

Cisukwa and Cindali

(22a)

ukwéenda k^wake koobófa

u-ku-end-a ku-ake ku-oofi-a

AUG-INF-walk-FV SM15-POSS PRES-scared-FV

„His/her walking is scary“

(22b)

kwĩimba kwáke k^viisa

ku-imb-a *ku-ake* *ku-isa*
INF-dance-FV SM15-POSS PRES-good

„His/her dancing is good“

Cilambya

(23a)

ukwéenda kwake ηk^hoóǃa

u-ku-end-a *ku-ake* *N-ku-oofj-a*
AUG-INF-walk-FV SM15-POSS SM1sg-PRES-scare-FV

„His/her dancing scares me“

(23b)

kwĩimba kwáke kwĩiza

ku-imb-a *ku-ake* *ku-iza*
INF-dance-FV SM15-POSS PRES-good

„His/her dancing is good“

In the examples above, the infinitive form (the bolded forms) introduces the sentence and is the main topic of the sentence.

7.4.2.2 Imperative

The imperative is a form which is used to issue a direct command. The imperative in Bantu languages has a root and a final vowel as shown in (24) for isiNdebele by Sibanda (2004:10)

isiNdebele

(24)

thath-a „take“

qoqod-a „knock“

The examples in (24) just have the root and the final vowel *-a*.

Similarly, the imperative in the SuNdaLa comprises a radical and a final vowel suffix *-a* as seen in table 91:

Table 91: SuNdaLa imperatives

Cisukwa	Cindali	Cilambya	English gloss
<i>pulúka</i>		<i>bulúka</i>	„fly“
SuNdaLa			
<i>eénda</i>			„walk“
<i>lúma</i>			„bite“
<i>lila</i>			„cry“
<i>βúka</i>			„get up“

In table 91 above, the forms are used to direct a command at a second person and as it can be noted, they all occur without prefixes. The structure merely comprises the radical and the final vowel. For instance in *βúka* „get up“, the radical is *βuk* and the final vowel is *-a*. Similarly in *lúma*, „bite“, *lum-* is the radical and *-a* is the final vowel.

As in many other languages, the imperative is always in the second person in all the three varieties.

Monosyllabic verb roots in SuNdaLa have imperatives that add *-ang* which is then followed by a final vowel *-a*. For example *ŋ^w*, which is the verb root for drink in all three varieties, would have the imperative form *ŋ^waánga*.

The behaviour of the monosyllabic roots in the SuNdaLa is motivated by theoretical prosodic factors related to word minimality as discussed in chapter 4. It can be recalled that in our discussion on the issue that we argued that the requirement for Bantu prosodic words to be minimally bisyllabic triggers the addition of the extra syllable *-ang* in SuNdaLa. This ensures

that the resulting forms are at least two syllables long and thus adhere to the word minimality prosodic constraints. For more details on word minimality and the strategies to achieve bisyllabicity, see chapter 4.

7.4.2.3 Expressing the present

The categories expressing the present discussed in this section are the present progressive and the present habitual.

The present progressive

Comrie (1976:33) defines the progressive as being „...similar to continuousness which is definable as an imperfectivity that is not occasioned by habituality.“ The present progressive therefore refers to an action that is taking place at the time of speech. The action is not completed and is still in progress. Kiso (2012) observes that cross-linguistically, progressives are usually not found with state verbs. This is because the inherent temporal properties of state are not compatible with the progressive aspect. However, Kiso’s (2012) study notes that for some languages, such as Chichewa, this tense marking occurs with all types of verbs.

In all the three SuNdaLa varieties, the present progressive is marked by *kú*. The relevant examples are illustrated below:

Table 81: The present progressive marker in SuNdaLa

Cisukwa, Cindali	Cilambya	English gloss
<i>ŋgúl’a</i> N-kú-li-a SM1sg-PROG-eat-FV	<i>ŋk^hú-l’a</i> N-kú-li-a SM1sg-PROG-eat-FV	„I am eating“
<i>βak^wiisa</i> βa-ku-ís-a SM2-PROG-come-FV	<i>βak^wiiza</i> βa-ku-íz-a SM2-PROG-come-FV	„They are coming“

SuNdaLa	English gloss
<i>tukúŋ^wa</i> tu-kú-ŋu-a SM1pl-PROG-drink-FV	„We are dinking“
<i>ukupija</i> u-ku-pij-a SM2sg-PROG-cook-FV	„You are cooking“
<i>muk^wéenda</i> mu-ku-énd-a SM2pl-PROG-walk-FV	„You (pl) are walking“

In table 81, all the SuNdaLa examples show that they use *ku* as the marker for the present progressive. For instance, in *ukupija* „you are cooking“, the *ku* indicates that action is being done at the time of speech. Similarly, in *tukúŋwa*, „we are drinking“, the *ku* shows event taking place at the time the utterance is being made. It should be noted that the *ku* may occur as *k^hu* or *k^w* as a result of some phonological processes. In chapter 3, we observed that in Cisukwa and Cilambya, there are instances of post-nasal stop aspiration, whereby voiceless stops are aspirated when they occur after nasal consonants. This accounts for the *k^hu* in *ŋk^húŋ^wa*. We also observed in the same chapter that in all the three SuNdaLa varieties, there is a rule of secondary articulation which applies as one of the strategies for hiatus resolution in which a high vowel changes into a glide before another vowel (especially, /i/ and /a/). The occurrence of *k^w* in examples like *βak^wíza* and *βak^wísa* (from *βa-ku-iza* and *βa-ku-isa*, respectively,) is thus a result of the two vowels /u/ and /i/ coming into contact.

Present habitual

The present habitual category ordinarily stands for an action which is still happening and continues to do so for an extended period of time. Comrie (1976:27f) notes that „The feature that is common to all habituals [...] is that they describe a situation which is characteristic of an extended period of time, so extended in fact that the situation referred to is viewed not as an incidental property of the moment but precisely as a characteristic feature of a whole period.“

In the SuNdaLa, *-ku-* is the present tense marker in all the three varieties. The marker however, can appear with the aspectual marker *ay* or *ang* and these markers ordinarily appear

after the verb root. The main purpose of *aya* and *aŋg* is to show that the action is not completed yet and is still in progress. *aya* and *aŋg* are habitual markers. Examples from the three varieties are presented below:

Table 82: The present habitual tense in SuNdaLa

SuNdaLa		English gloss
<i>ukuŋ^waáŋga</i> u-ku-ŋu-aŋg-a SM2sg-PRES-drink-HAB-FV		„you drink“
<i>uku^laáŋga</i> u-ku-li-aŋg-a SM2sg-PRES-eat-HAB-FV		„you eat“
<i>mukiízaya</i> mu-ku-íz-aŋ-a SM2pl-PRES-come-HAB-FV		„you come“
<i>akwiímbaya</i> a-ku-ímb-aŋ-a SM1-PRES-dance-HAB-FV		„s/he sings/dances“
Cisukwa, Cindali	Cilambya	
<i>ŋg^weéndaya</i> N-ku-énd-aŋ-a SM1sg-PRES-walk-HAB-FV	<i>ŋk^hweéndaya</i> N-ku-énd-aŋ-a SM1sg-PRES-walk-HAB-FV	„I walk“
<i>βakukiíndaya</i> βa-ku-kíind-aŋ-a SM2-PRES-run-HAB-FV	<i>βakutŋimbílaya</i> βa-ku-tŋimbil-aŋ-a SM2-PRES-run-HAB-FV	„They run“

In the examples above, the marker *-ku-* shows that the action is in the present and the habitual marker *-aŋg* appears with verbs such as *ŋg^w-* in *ukuŋ^waáŋga* „you drink“. The marker *ay* appears with verbs such as *tŋi.mbi.l* in *βakutŋimbila* ‘they run.

The choice of the morph for the habitual marker is phonologically conditioned. We will discuss the conditions collectively below when discussing the past habitual which also has these allomorphs as habitual aspectual markers.

Kiso (2012) observes the use of the marker *ku* in Citumbuka to show habituality especially Chitumbuka speakers from Chitipa district where, it will be recalled, is also where the SuNdaLa varieties are spoken. Interestingly, it has also been noted that these Citumbuka speakers also combine this marker with the marker *-anga*.

Swilla (1998) also discusses this tense category for the Tanzanian variety of Cindali and she too identifies the preverb root marker *-ku-* and the post-verbal root *ag* as the markers indicating present habituality. In Swilla's work it is however observed that this form does not combine with future or past adverbs hence the examples presented below are ungrammatical.

(25)

**ngúbálaga mmásuba*

I count yesterday

**ngúbálaga ningéélo*

I count tomorrow

Expressing the past

The past is expressed in several ways in the SuNdaLa and we are going to discuss tense categories expressing the past in this section. These categories include; the Perfective *-a-*, past habitual, remote past and distant past.

Perfective -a-

According to Comrie (1976:16), Perfectivity „...indicates the view of a situation as a single whole, without distinction of the various separate phases that make up the situation...” Dahl (1985:85) also views perfectivity as an event that is seen as whole arguing that

„A PFV (perfective) verb will typically denote a single event, seen as an unanalysed whole, with well defined result or end-state, located in the past. More often than not, the event will be punctual, or at least, it will be seen as a single transition from one state to its opposite, the duration of which will be disregarded”.

Botne (2008) calls the marker in this tense the simple anterior as it expresses events or states that have just occurred, usually within minutes of speaking.

Kiso (2012) notes that the marker for this tense in Chichewa and argues that it has a perfective meaning which has “resultative, experiential and persistent meaning and hodiernal use). Mtenje, A.D. (1986) also calls this the perfective tense.

In the SuNdaLa, the morpheme *-a-* is used to show perfectivity. It indicates action which happened in the past and also shows that the event happened as a whole. In addition to this use, the marker may also indicate an event that happened a moment ago or earlier on in the day with reference to the time of speech. Examples of the perfective marker *-a-* are presented below for all the three varieties.

Table 83: The perfective in SuNdaLa

SuNdaLa		English gloss
<i>náaʼa</i> N-á-li-a SM1sg-PFV-eat-FV		„I have eaten“
<i>wáaŋ^wa</i> u-á-ŋu-a SM2sg-PFV-drink-FV		„you (sg) have drank“
<i>mwaapíja</i> mu-a-píj-a SM2pl-PFV-cook-FV		„you (pl) have cooked“
Cisukwa, Cindali	Cilambya	English gloss
<i>t^waakínda</i> tu-a-kínd-a SM1pl-PFV-run-FV	<i>t^waatfimbíla</i> tu-a-tfimbíl-a 2sgSM-PFV-run-FV	„we have ran“

In the examples, the marker *-a-* which on the surface appears as a long vowel, indicates past action that has happened and ended and is viewed as an entire action but it can also be used to show action which just happened a moment ago or earlier in the day with reference to the time of the speech. Swila (1998) refers to this marker as the immediate past, perfect and notes that it only co-occurs with adverbs of time which refer to the moment immediately preceding the moment of speech such as the same morning, afternoon, evening. It therefore does not refer to the day before or earlier.

Past progressive and habitual

The past habitual marker expresses an action that was characteristic in the past but is no longer done in the present. This is expressed by *-ka-* and the markers *-ang-* and *-ay-*.

-ka- is a past tense marker. It indicates an action happened in the past and stopped. *ka* is thus the tense marker which appears before the verb root but occurs together with the habitual marker *-ay-* which has the allomorph *-ang-*. These occur after the verb root.

Table 84: The past habitual in SuNdaLa

SuNdaLa	English gloss
<i>βakapijaya</i> βa-ka-píya-γ-a SM2-PST-cook-HAB-FV	„they used to cook“
<i>tukiimbaya</i> tu-ka-ímb-ay-a SM1pl-PST-dance-HAB-FV	„we used to dance“
<i>akaj^waáŋga</i> a-ka-ŋu-ááŋg-a SM1-PST-drink-HAB-FV	„s/he used to drink“
<i>mukal^laáŋga</i> mu-ka-li-áŋg-a SM2pl-PST-eat-HAB-FV	„you (pl) used to eat“

In table 84, it is demonstrated that the past is marked by *ka* which appears with the habitual marker *ang* or *ya*. For instance, in *βakapijaya*, „they used to cook“, *ka* shows that the people did the action of cooking in the past, while *ay* shows that the event was characteristic during that period of time. In this category, we also observe the two allomorphs for the habitual just like the ones we saw in our discussion of the present habitual. There is a systematic choice of one allomorph over the other and these are phonologically conditioned reasons. We now turn our discussion to these phonological conditions.

-ay- occurs with polysyllabic verb roots while *-ang-* does so with monosyllabic ones. For instance, the verb root *kimb* in table 84 above is bisyllabic which requires it to take the morph

-ay- hence the word *akwiimbaya* „S/he dances“. Similarly, the verb *pij* in table 84 has more than one syllable, it therefore selects the allomorph *ay* in *βakapíyaya*.

The verb root *-ɲu-* „drink“ in Table 82 is monosyllabic and this requires it to take the morph *-aŋg-* hence the form *ukuŋ^wááŋga* „you drink“. In table 84 too the verb *li* is monosyllabic hence the choice of *-aŋg-* as the appropriate aspectual marker in the sentence *mukal^lááŋga* „You (pl) use to eat“.

Swila (1998) in her discussion of the tense and aspect morphemes in the Cindali variety of Tanzania also notes that *-ay-* has the allomorph *-aŋg-* which occurs in monosyllabic verb roots. There are additional environments she observes such as that *-aŋg-* also appears in verb stems with a final consonant followed by a glide, all verb forms in the passive, verb stems with final *-f* and *-tf*.

During data collection for this study, it was observed that speakers generally used the same markers as the ones indicated for Cisukwa, Cindali and Cilambya but there was at least one speaker of Cisukwa who used *a* as the marker for the past and with a high tone on the final vowel. The *aŋg* and *ay* were also used though optionally by this speaker together with the tense marker *ka*. There was a high tone on the final vowel.

Cisukwa

(26)

úswé twaŋwá

úswé tu-a-ŋw-á

PN-HAB-drink-FV

„we used to drink“

Cisukwa

(27)

Kále kale úné nakiindáya

Kále kale úné n-a-kiind-áy-a

Long time ago 1sSM-HAB-run-ASP

„a long time ago I used to run“

In the example above the marker *a* is used instead of *ka*, in the form *t^waŋ^wá*. The language collected data does not allow to explain this variation.

Immediate past

Speakers of SuNdaLa, like in other Bantu languages, can refer to actions in the past as being what they perceive as close to the time of speech. Speakers use the past tense marker *aa* with the perfective aspectual marker *-ile* or its variants *-ite*, *ife* and *itfe* to refer to such actions. The aspectual marker shows completion of the action. In interviews during data collection for this study, consultants indicated that they use this marker to show that an action took place during the past one or two days. After this period, (i.e. after the two days), events are no longer marked by this morpheme, so it is no longer used.

There has been a considerable amount of debate in the literature on this tense. Botne (2008), who discusses this marker for Cindali, calls it the current completive and argues that it refers an event to an earlier time in the current time unit. For instance, if it is „today“, then the event occurred earlier in the day and if it is during „this year“, the inference is that the event took place earlier in the year.

In the discussion of similar phenomena, Nurse and Phillipson (2006) connect these two interpretations (the one that it is a recent past and that of current completive) and argue that it is impossible to make global semantic statements. The marker *-ile* refers predominantly to anterior (aspect) or to various degrees of past (tense) perfective. They further adequately contend that (Nurse and Phillipson 2006:181)

„Since combinations with *-ile* occur widely today with reference to straight past tense (perfective), it seems that the semantic shift from anterior to past is likely to have occurred often, at places and times. ... Thus there are today many languages where *-ø/ -ile* still represents anterior whereas in others where it has become a near or recent past. Similarly in many languages *-a/-ile* still represents past anterior whereas in others it has come to represent a past beyond that represented by mere */a/...*“

The interpretation of *-ile* as a marker in the past paradigm in Bantu languages has, in fact, been disputed by Brisard and Meeuwis (2009) who argue that this sort of elucidation results from privileging verbs that are dynamic, at the expense of stative ones and from misanalysing the meaning of perfect (aspect) in general. Using Lingala as the language of analysis, Brisard and Meeuwis (2009) argue within cognitive grammar, (Langacker 1991) and appeal to cognitively motivated mechanisms. It is argued that the mechanism for background-foreground organisation and that of alluding to the „epistemic problem“ are grounds to motivate for a present analysis of the form *ile*. This is because these mechanisms arise as a matter of course when expressing events that concurrently happen at the time of

speech. Brisard and Meeuwis (2009) conclude therefore that Lingala and, by extension, other languages, *ile* must be interpreted within the present.

Although there is this difference in the interpretation of what this tense refers to, the position to be adopted in this study is one which regards this marker as indicating an action that happened in the past. We now proceed to look at examples of how *ile* and its allomorphs are used in the SuNdaLa.

Table 85: The immediate past tense

SuNdaLa	English gloss
<i>waalile</i> u-a-l-ile SM2sg-PST-eat-PFV	„you ate“
<i>nafumbwiile</i> n-a-fumbw-ile SM1sg-PST-expose-PFV	„I exposed“
<i>nafubwiile</i> n-a-fubu-ile SM1sg-PST-soak-PFV	„I soaked“
<i>nakuswiile</i> n-a-kusu-ile SM1sg-PST-spread-PFV	„I spread“
<i>nánoſiſe ndaláma</i> n-a-noſ-íſe ndaláma SM1sg-PST-return-PFV money	„I have returned the money“
<i>notſítſe ijáma</i> n-a-otſ-itſe ijama SM1sg-PST-roast-PFV meat	„I roasted the meat“
<i>mwaapíjite</i> mu-a-pij-ite SM2pl-PST-cook-PFV	„you (pl) cooked“
<i>naakalálite</i> n-a-kalál-ite SM1sg-PST-anger-PFV	„I was angry“

<i>m^wééndite</i> mu-a-énd-ite SM2pl-PST-walk-PFV		„you (pl) walked“
Cisukwa, Cindali	Cilambya	English gloss
<i>t^wájúwite</i> <i>tu-a-júw-ite</i> SM1pl-PST-talk-PFV	<i>t^wanénite</i> <i>tu-a-nén-ite</i> 1pSM-PST-talk-PFV	„we talked“

The examples in table 85 appear with the forms *-ile/ite/ife/itfe* which show that an action happened in the past and it is perceived to be close to the time of speaking.

The choice of allomorph is phonologically triggered. Firstly, *ile* occurs with monosyllabic verb roots. In table 85, it occurs with the monosyllabic verb root *ɲu* hence the construction *wangwíile* „You drank“. It also occurs with verb roots that end in a nasal, consonant and glide just like in the sentence *nafumbwíile* „I exposed“. In such a construction, the verb root *fumbw* ends with the nasal m, stop b and glide w.

Thirdly *ile* occurs with verb roots that end with a consonant and glide like in the word *nafubwíile* „I soaked“ which has the verb root *fubw*.

The allomorph *ife* appears with verb roots that end with the sound ʃ. For example in table 85, the construction *náposhíshe ndaláma* has the verb root *ɲof*. The final sound of this verb root is ʃ and this triggers the choice of the allomorph *ife*.

Finally *itfe* occurs with verb roots that end with consonant ch. In table 85, in the sentence *notʃitfe ijáma*, the verb root *otf* has /tʃ/ as its final consonant. This influences the choice of the allomorph *itfe*.

Swila (1998) was the first one to identify these allomorphs and their phonologically conditioned environments in the Tanzanian variety of Cindali but she notes of an additional allomorph *ele* which we did not find in the SuNdaLa data.

Remote past

In the SuNdaLa, the remote past (Rpast) is marked by the morpheme *ka* which indicates an action that took place in an estimated time of two days after the moment of speech. Examples from the three SuNdaLa varieties are presented in table 86 below:

Table 86: The Remote past in SuNdaLa

Cisukwa, Cindali	Cilambya	English gloss
<i>ŋgaáʼa</i> N-ka-li-a SM1sg-Rpast-eat-FV	<i>ŋkʰaáʼa</i> N-ka-li-a SM1sg-Rpast-eat-FV	„I ate“
<i>βakakíinda</i> βa-ka-kíind-a SM2-Rpast-run-FV	<i>βakatʃíimbila</i> βa-ka-tʃíimbila SM2-Rpast-run-fv	„I ran“
SuNdaLa		
<i>tukáŋ^wa</i> tu-ká-ŋu-a SM1pl-Rpast-drink-FV		„we drank“
<i>likapíja</i> li-ka-píj-a SM5-Rpast-cook-FV		„it cooked“

In table 86 above, the morpheme *-ka-* is used to show that an event took place in the distant past. For instance, in the sentence *tukáŋ^wa*, *-ka-* shows the past tense. The morpheme also appears in the word *likapíja*, „it cooked“, where it also performs the same function.

Nurse and Phillipson (2006) observe that *ka-* as a past tense marker occurs in 26% of the languages in their sample and that they are largely in two areas, namely, the Savanna languages which are found around part of Lake Victoria and the central languages of zone M and adjacent areas of K, L, N, and S northeast and central. For example, this morpheme occurs in CiTumbuka it marks past tense.

Expressing the future

The future in the SuNdaLa may be expressed using the markers *-ku-* and *ti*. It seems there is no clear cut off point between a near future and a distant future interpretation as speakers use these two forms interchangeably. This positively correlates with Kiso's (2012) analysis of Citumbuka which also highlights the difficulty in distinguishing between the near future and the distant future interpretations in that language. Likewise, Nurse (2003, 2006, 2008) observe that the remoteness distinctions in the future are less fixed in a lot of Bantu languages.

The markers *ku* and *ti* indicate future tense in the SuNdaLa cluster.

Future marker *ku*

Table 87: The future marker *ku* in SuNdaLa

Cisukwa, Cindali	Cilambya	English gloss
<i>ŋgú'l'a</i> N-ku-li-a SM1sg-FUT-eat-FV	<i>ŋk^hú'l'a</i> N-ku-li-a SM1sg-FUT-eat-FV	„I will eat“
SuNdaLa		
<i>ukúŋ^wa</i> u-ku-ŋu-a SM2sg-FUT-drink-FV		„you (sg) will drink“
<i>mukupija</i> mu-ku-pij-a SM2pl-FUT-cook-FV		„we will cook“

Table 88: Future marking with *ti*

SuNdaLa	English gloss
<i>tial'e</i> tí-a-li-e FUT-SM1-eat-FV	„they will eat“
<i>tluŋ^we</i> tí-u-ŋu-e FUT-SM2sg-drink-FV	„you (sg) will drink“
<i>tiβápije</i> ti-βa-pij-e FUT-SM2-cook-FV	„they will cook“

In the data in table 87, the morpheme *ku* is the future tense marker which shows that the action will take place after the moment of speaking. For instance, in the sentence *mukupija* „you will cook“, the morpheme *ku* serves such a purpose. The examples in table 88 express the future using the marker *ti* with the final vowel *e*. Unlike the other markers discussed in this section, /ti/ appears before the subject prefix as in the sentence *tiulje* where *ti* is the marker showing future and *u* is the subject prefix. Sometimes the *ti* occurs with the marker *ka* and a form such as *tiuka'l'e* is derived. To further appreciate the positioning of this marker, a comparison can be made with *βakakiínda*, “They ran”, where *βa* is the subject marker and the tense marker *ka-* appears after it.

Botne (2008) describes this marker as a presumptive mood marker in his analysis of Cindali and further notes that the presumptive mood shows that the speaker takes for granted that the event is very likely to occur. Botne further suggests that the use of *ti...-e* (that is without *ka*) shows that there is a high likelihood, from the speaker’s judgement, that the event will occur reasonably close to the time of speech. According to Botne’s analysis, when a speaker uses *ti-ka...-e*, it shows that there is a certain amount of doubt or less confidence that the event will take place.

In this work, we adopt this analysis of the *ti* as a presumptive mood marker in the SuNdaLa.

7.4.3 Summary the tense and aspect system of the SuNdaLa

In this section, we have discussed the tense, aspect and mood categories of the SuNdaLa. We have examined how the three varieties use the infinitive and the imperative and how they express the present, past and the future. It has been observed that the systems are similar in that they share the same categories and the same markers except in one case in the past tense where a Cisukwa speaker used a different tense marker [a] in the past habitual tense. All SuNdaLa varieties show that there is no cut off point between near and remote future interpretations as these are used interchangeably.

The SuNdaLa varieties also show Bantu language features where there are distinctions in the past as observed by Nurse (2003, 2009). The positioning of the tense markers where tense categories are encoded as verbal prefixes while aspectual categories appear as suffixes is also a Bantu phenomenon. The categories discussed in this section are not exhaustive, further studies on these varieties such as additional tense and aspectual categories, the markers in negation and tense in relation to tone are needed in order to make further comparisons.

7.5 Verbal extensions

One major defining characteristic of the root in Bantu languages is that it may be extended by suffixes. These suffixes are also known as extensions. (cf. Alsina and Mchombo (1993), Harford (1993), Lohdi (2002), Mchombo (2004), Sibanda (2004), Miti (2006), Hyman (2007), Chavula (2016). These suffixes create other lexical meanings related to the meaning of the root. The role of the extensions is, therefore, largely derivational. Their shape is usually that of a -V(C) type. In this section, we are going to discuss some of the productive verbal extensions in the SuNdaLa and these include the passive, applicative, causative and the reciprocal. We will also focus on issues relating to argument structure, ordering and co-occurrence restrictions asymmetries.

7.5.1 Passive extension

The general characterization of the passive extension is that it indicates action which has taken place on the subject of a verb and which has been occasioned by some external force or agent. The passive construction can appear with or without the agent and in cases where the agent is not physically marked, it is always implied (cf. Sibanda (2004), Mchombo (2004), Kawasha (2007).

According to Schadeberg (2003a), the PB reconstructed suffix for the passive is **ɔ* occurring after a consonant and **-iɔ* after a vowel and immediately preceding the final vowel. A number of studies have provided further supporting evidence for this position. For instance, Ström (2013) shows that the passive in Ndengeleko is *-ɔ*, which glides to *-w*.

In the SuNdaLa varieties, the passive suffix is *-iw-* and it is attached to the verb root. We now demonstrate the realisation of the passive in each of the three varieties.

Cisukwa and Cindali

(28a)

fʼakúlja fʼjapijíwa nu maji

<i>fʼakúlia</i>	<i>fʼi-a-pij-iw-a</i>	<i>nu</i>	<i>maji</i>
food	SM8-PFV-cook-PASS-FV	by	mother

„The food has been cooked by mother“

(28b)

Nakomíwa ni ŋgalamo

<i>N-a-kom-iw-a</i>	<i>ni</i>	<i>N-kalamo</i>
SM1sg-PFV-kill-FV	with	9-lion

„I have been killed by a lion“

Cilambya

(29a)

múŋnuumba mwapʼeliwa nu mwaana

<i>mú-ŋ-umba</i>	<i>mu-a-piel-iw-a</i>	<i>nu</i>	<i>mu-ana</i>
18-9-house	SM18-PFV-sweep-PASS-FV	by	1-child

„The house has been swept by the child“

(29b)

vʼakúlja vʼjatajiwa nú βaana

<i>viakúlia</i>	<i>vi-a-taj-iw-a</i>	<i>nu</i>	<i>βa-ana</i>
food	SM8-PFV-throw-PASS-FV	by	2-child

„The food has been thrown away by the child“

In the examples above, we observe that the passive marker is *-iw-*. For instance in the example *fʼakúlʼa fʼjapijíwa nu maji* „the food has been cooked by mother“, in Cisukwa and

Cindali, the suffix *iw-* is used to show that an agent, *maji* „mother“, has performed the action of cooking on the food. Similarly, in Cilambya, in the example *mijnuumba mwap'eliwa nu mwaana*, „The house has been swept by the child“, the morpheme *iw* indicates that an action sweeping has been done on an object “the house”.

It should be noted that the SuNdaLa varieties have one morph *iw* for the passive while in some Bantu languages such as Chichewa (cf. Mchombo 2004, Mtenje, A.D. 1986), there are two alternating allomorphs *-idw* and *-edw* whose choice is dependent on vowel harmony. *-idw* is the suffix for roots with non-mid vowels while *-edw* is the one for roots with mid vowels.

7.5.2 The applicative extension

The applicative or the applied extension is used to indicate that an action is done on behalf of, at the disadvantage of or towards something or someone. Guthrie (1967-71) claims that the Proto-Bantu form is *-id* while Schadeberg (2003a:74) posits an *-il-*. The applicative morpheme and its interpretations have received considerable attention in the literature. Scholars include Harford (1993), Alsina and Mchombo (1993), Kimenyi (1995), Mchombo (2004), Ngonyani and Githinji (2003), Marten (2010), Marten (2011), Marten and Kula (2014), Chavula (2016).

The applicative mainly has a benefactive function. Applied morphemes can also take the semantic roles of instrument, maleficiary, goal, experiencer, recipient, location, direction/goal, patient/theme, circumstantial or reason/motive. It is however, the benefactive role that is common in many Bantu languages.

Applicatives create double object constructions and therefore change the argument structure of a sentence. In simple terms, the applicative morpheme brings in a new NP to a construction.

Discussions on the dative construction have been very critical in providing explanations about symmetric and asymmetric languages in Bantu (cf. section 7.3.2 for the discussion on symmetric and asymmetric languages).

We now turn our discussion to SuNdaLa applicatives. In particular their form, the thematic roles they introduce and their relation to object marking and passivisation.

In SuNdaLa, the applicative morpheme is *il* although in some cases the allomorph *el* is used. We would have argued that the choice of *il* or *el* is dependent on mid vowel vowel harmony just like languages such as Chichewa. However, it seems the use of *el* is very inconsistent because sometimes it is used interchangeably with *il* in verb roots that have mid vowels. Perhaps the SuNdaLa are losing this harmony feature and *il* is gradually becoming the only morpheme for the applicative.

The semantic role that the applicative performs is usually benefactive. This role is demonstrated in the examples below:

SuNdaLa

(30)

ɲgumupijila

N-ku-mu-pij-il-a

SM1s-PROG-3sOM-cook-APPL-FV

‘I am cooking for him/her’

(31)

ɲgumujimbila pulézidenti

N-ku-mu-imb-il-a *pulézidenti*

SM1sg-PROG-3sOM-sing-FV president

‘I am singing for the president’

(32)

akumulila itʃakúl'a

a-ku-mu-l-il-a *i-tʃi-akúl'a*

SM1-PROG-3sOM-eat-FV AUG-7-food

‘She is eating food on his/her behalf’

In (31)-(32), *il* is the applicative marker. It changes the meaning of the verb to mean an action is being done for or on behalf of another entity. Consider the example *ɲgumupijila* ‘I am cooking for him/her’. The *-il-* indicates that the action of cooking stated by the subject marker *-n-* ‘I’ was performed on behalf of the person referred to by the object.

Apart from the benefactive role, other semantic roles of theme, location, motive, instrument, direction and goal are also performed in SuNdaLa as shown in the examples below.

Location

Cisukwa and Cindali

(33)

áβaana akulukila mikéka pa musesénga

á-βa-ana a-kuluk-il-a mi-kéka pa-musesénga

AUG-2-child SM1-knit-APPL-FV 4-mats 17-3-beach

„The children are knitting on the mat.“

Cilambya

(34)

áβaana akulukila linyafi pa musesénga

á-βa-ana a-kuluk-il-a linyafi pa-musesénga

AUG-2-child SM1-knit-APPL-FV 3-mats 17-3-beach

„The children are knitting on the mat.“

Instrument

Cisukwa and Cindali

(35)

kálulu akupijila umútiŋgo aβomááŋga

kálulu a-ku-piy-il-a u-mu-tiŋgo a-βo-mááŋga

hare SM1-PROG-cook-APPL-FV AUG-3-cooking stick AUG-2-pumpkins

„The hare is cooking the pumpkins with a cooking stick“

Cilambya

(36)

kálulu akupijila umútinkho mjúúngu

kálulu a-ku-piy-il-a u-mu-tiŋgo mi-ungu

hare SM1-PROG-cook-APPL-FV AUG-3-cooking stick 4-pumpkins

„The hare is cooking the pumpkins with a cooking stick“

Direction

SuNdaLa

(37)

aβilile múkafima

a-βi-il -e *mu-kashima*

SM1-fell-APPL-FV 18-well

„S/he fell in the well“

Motive

Cisukwa and Cindali

(38)

aβomáanga naalilile isála

a-βo-máanga *N-a-li-il-e* *isála*

AUG-2-pumpkins SM1 sg-PFV-eat-APPL-FV hunger

„I ate the pumpkins because of hunger“

Cilambya

(39)

mjuúngu naaljela inzála

a-βo-máanga *N-a-lj-el-a* *isála*

AUG-2-pumpkins SM1 sg-PFV-eat-APPL-FV hunger

„I ate the pumpkins because of hunger“

Goal

Cisukwa and Cindali

(40)

usékulu akweyela βisukulu wake upóto

u-sékulu *a-ku-ey- el-a* *u -ake* *u-poto*

AUG-grandpa SM1-PROG-carry-APPL-FV OM3-POSS AUG-pot

Grandfather is taking the pot to his grandchildren.

(41)

úmama akusendela aβisukulu upoto

u-mama a-ku-send-el-a a-βa-sukulu u-poto

AUG-grandma SM1-PROG-carry-APPL-FV AUG-2-grandchildren AUG-pot

„Grandmother is taking the pot to the grandchildren.“

One of questions that arise in discussions on double object constructions, is whether both objects can undergo passivisation and become the subject of the sentence. Bresnan and Moshi (1990), Mchombo (2004) argue that in asymmetric languages such as Chichewa, only one object can become the subject of a passive construction. Similarly, in SuNdaLa, in examples (42) and (43), it is only the beneficiary object *aβaléendo* „guests“ that can be the subject in passive constructions. The object *iswi* in Cisukwa and Cindali and *inswi* in Cilambya fails to become the subject of the passive construction.

SuNdaLA

(42)

aβaléendo aβapilíwa iswi/inswi(Cilambya) (na uLungu)

a-βa-léendo a-βa-piy-il-íw-a iswi/inswi (na u-Lungu)

AUG-2-guests SM1-PFV-cook-APPL-PASS-FV fish (by AUG-Lungu)

„The guests have been cooked fish (by Lungu)“

(43)

**iswi/inswi yapilíwa abaléendo (na aLungu)*

iswi i-a-piy-il-íw-a a-βa-léendo (na uLungu)

fish SM9-PFV-cook-APPL-PASS-FV AUG-2-guests (by Lungu)

„Fish has been cooked guests (by Lungu)“

In (42), it is only *aβaléendo*, the beneficiary object which is the subject of the sentence. When *iswi/inswi*, the theme object is given this function in 43, the construction becomes ungrammatical.

As discussed in 7.3.2.1.1 above, a further issue that has been occupied discussions on double object constructions concerning the applicative marker is whether both the beneficiary object and the theme object can receive object marking. In asymmetrical languages, only one object can be marked. We discussed in section 7.3.2.1.1 that in SuNdaLa, it is only the beneficiary object that can be marked and when the theme object is marked, the sentence is ungrammatical, see the following examples.

Cisukwa and Cindali

(44a)

umúundu aβaβulila aβálindu ifilato

u-mú-undu a-βa- βu-lil-a a-βá-lindu i-fi-lato

AUG-1-person SM1-OM2-buy-APPL-FV AUG2-girls AUG-7-shoes

„A person has bought clothes for the girls“

(44b)

**múúundu βayiβulila ifilato aβálindu*

mú-úndu βa-a-i- βu-lil-a a-βá-lindu i-fi-lato

1-person SM2-PFV-OM9- buy-APPL-FV AUG-2-girls AUG-7-shoes

Cilambya

45.a

umúundu aβaβulila aβásungu nsapato

u-mú-undu u-a-βa- βu-lil-a a-βá-lindu i-fi-lato

AUG-1-person SM2sg-PFV-OM2-buy-APPL-FV AUG-2-girls AUG-7-shoes

„a person has bought clothes for the girls“

(45b)

**múúundu βayiβulila insapato aβásungu*

mú-úndu u-a-i-βu-lil-a a-βá-lindu i-fi-lato

1-person SM2sg-PFV-OM9-buy-APPL-FV AUG-2-girls AUG-7-shoes

7.5.3 The causative extension

The causative extension is interpreted as meaning „cause to“ or „make (do something)“. Sibanda (2004) notes that for isiNdebele when /-is/ is suffixed to a verb, the „Causer“ argument is introduced which normally takes the subject position in an active sentence. The original Agent (or Experiencer etc) subject of the uncausativized verb is moved to an object position closest to the verb. In other words when the causative morpheme is introduced to a verb a new NP appears.

In Cisukwa and Cilambya, the causative extension is *-is^j* and in Cindali it is *-if*. Just as in the applicative morpheme, mid vowel harmony in SuNdaLa seems to be disappearing as allomorphs *es^j* or *ef* seem to be used interchangeably even in verb roots that have a mid

vowel. Causative morphemes are suffixed to the verb root to mean to cause or make to do something. The examples from each of the varieties are presented below.

Cisukwa

(46)

ngumukiindis'a

N-ku-mu-kind-isi-a

SM1sg-PROG-OM1-run-CAUS-FV

„I am causing him/her to run“

(47)

ngumupijis'a

N-ku-mu-pij-isi-a

SM1sg-PROG-OM1-cook-CAUS-

FV

„I am making him/her cook“

Cindali

(48)

ngumwiimbifa

N-ku-mu-imb-ifi-a

SM1sg-PROG-OM1-sing-CAUS-FV

„I am making him/her sing/dance“

(49)

ngumukiindifa

N-ku-mu-kind-ifi-a

SM1sg-PROG-OM1-run-CAUS-FV

„I am causing him/her to run“

Cilambya

(50)

ngumupijis'a

N-ku-mu-pij-isi-a

SM1sg-PROG-OM1-cook-CAUS-FV

„I am causing him to cook“

(51)

ngumwiimbis'a

N-ku-mu-imb-isi-a

SM1sg-PROG-OM1-sing-CAUS-FV

„I am causing him/her to sing/dance“

As seen in the examples above *-is^j* is the causative morpheme in Cisukwa and Cilambya while it is *-if* for Cindali. The causative suffix just like the applicative is a valency changing morpheme. This is because as discussed above a new argument is added to a construction when the causative is introduced.

Cisukwa and Cilambya

(52a)

kalulu akúseka

kalulu a-kú-sek-a

hare SM1-PROG-laugh-FV

„The hare is laughing“

(52b)

Kálulu akusekísja umwana

kálulu a-ku-sek-ísj-a

u-mu-ana

hare SM1-PROG-laugh-CAUS-FV

AUG-1-child

„The hare is making the child laugh“

Cindali

(53a)

úmwana akúseka

ú-mu-ana a-kú-sek-a

AUG-1-child SM1-PROG-laugh-FV

„The child is laughing“

(53b)

kalulu akumuekífa umwana

kalulu a-ku-mu-sek-if-a u-mu-ana

hare SM1-PROG-OM1-laugh-CAUS-FV AUG-1-child

„The hare is making the child laugh“

In (52a) and (53a), there is only one argument, *umwana* and *ukalulu* respectively. However, when the causative suffix is added to the constructions in (52b) and (53b), new nouns are introduced. Indeed the causative morpheme changes the argument structure of a sentence.

7.5.4 The reciprocal extension

The reciprocal extension is used to indicate that an action is done by more than one agent and it is done together or against one another. The PB reconstruction is *-an*. (Schadeberg 2003).

Predictably, there are other Bantu languages, such as Ikalanga, (Mathangwane 1996), Chichewa (Mchombo 2004), Citumbuka (Chavula 2016) where the reciprocal marker is also *-an*.

Sibanda (2004) observes that the reciprocal subcategorises for one or two arguments, that is the patient or both the patient and agent. When the morpheme is suffixed to a transitive verb in isiNdebele with only an agent with the presence of the present continuous tense prefix *-ya-*, the role that is introduced is patient. When it is suffixed to a transitive verb which does not have *-ya-* and which has both agent and patient, the two roles occur in the reciprocal construction.

SuNdaLa varieties also use *-an* as the reciprocal morpheme to show that there is more than one person and the action is done by each person to the other, such as in *akuyanana* ‘they love each other’ or against each other as in the sentence *akukómana* ‘they are fighting each other’, cf. table 89 for examples.

Table 89: Reciprocal markers in SuNdaLa

SuNdaLa	English gloss
<i>βakulóndana</i> βa-ku-lónd-an-a 3pSM-PROG-want-REC-FV	„they want each other
<i>βakuyánana</i> βa-ku-yán-an-a 3pSM-PROG-love-FV	„they love each other
<i>βakukómana</i> βa-ku-kóm-an-a 3sSM-PROG-fight-FV	„they are fighting each other

7.6 Summary of chapter 7

This chapter has examined the morphology of the verb in the SuNdaLa. We have discussed the structure of the SuNdaLa verb which basically has a verb root or radical to which prefixes and suffixes are attached. The chapter then discussed subject marking where it was observed that all SuNdaLa varieties have the same subject markers. In terms of object marking, the main task was to examine the phenomena using Marten and Kula's (2012) parameters and it was observed that the SuNdaLa have similar values concerning these parameters. They all allow an overt lexical NP to occur with the object marker, they have locative object markers, either object can be adjacent to the verb, object marking is restricted to one verb and it is the benefactive object that can be expressed by an object marker. The chapter further discussed tense, aspect and mood in the SuNdala. Various tense, mood and aspect markers were discussed and it was shown that there is distinction in the expression of the past and the future but it is clearer in the past expression than it is in the future tense. The final analysis concerned extensions and in this section, the passive, applicative, causative and reciprocal suffixes were discussed. It was observed that the SuNdaLa share similar extension markers except the causative extension which is *-if* in Cindali and *-isj-* in Cisukwa and Cilambya. We also discussed how these extensions relate to argument structure. The verb in SuNdaLa therefore generally has the same structure as many Bantu languages and it operates in the same way across the three varieties.

Chapter 8

Conclusion and Summary

This thesis describes and compares the synchronic phonological and morphological structures of the three SuNdaLa varieties, namely Cisukwa, Cindali and Cilambya which are spoken in Northern Malawi. The study of variation within the SuNdaLa cluster aimed at identifying the linguistic distance among these closely related varieties. Selected areas of the phonology and morphology were examined and while most morphological forms are shared among the SuNdaLa varieties, differences between them were established in their phonological structures. Based on the linguistic analysis conducted in this thesis, the suggestion is made that SuNdaLa varieties might best be considered to form a dialect continuum with Cindali being at one end, closely related to Cisukwa and with Cilambya being somewhat apart from both other SuNdaLa varieties. The findings of this study on variation within the SuNdaLa cluster should be considered in the development of teaching and learning materials. However, while by employing a comparative approach in which the three varieties were identified as sharing a dialectal relationship in linguistic terms, the notions of dialect and language involve also extralinguistic factors. The linguistic analysis of the diverging forms is highly relevant for language policy and planning decisions in the educational sector. The communities nevertheless might insist to consider their varieties as forming a SuNdaLa language cluster, with three distinct languages.

The SuNdaLa varieties fit in well within the neighbouring Bantu languages, with whom they share most features of the phonological and morpho-syntactic structures.

Chapter 1 introduces the three SuNdaLa varieties and contextualises them in the wider linguistic environment. The basic vocabulary collected with Swadesh's 100 word list was analysed by employing the lexicostatistical method in order to evaluate the degrees of genealogical relationship between the three SuNdaLa varieties. The results demonstrate that all SuNdaLa varieties share a minimum of 85% of the words from the basic vocabulary. Cindali and Cisukwa with 95% of shared cognates show the closest relationship, while Cisukwa and Cilambya still share 91%. Cindali and Cilambya have the most distant relationship, however they still share 85% of the cognates. Cisukwa therefore is in the middle close to both other varieties, however closer to Cindali than to Cilambya.

Swadesh (1954) interprets the results of lexicostatistical exercises in regards to the different degrees of genealogical relationships. In his classification according to shared lexical cognates, 80% is the benchmark in that it defines dialectal relationship as sharing more than 80% of the basic vocabulary (while sharing less would indicate that the speech varieties are in fact distinct languages). With 85% shared lexical cognates among all varieties, the SuNdaLa cluster is clearly formed by three dialects that constitute the SuNdaLa dialect cluster. Furthermore, this chapter also provides sociolinguistic information on the language consultants of the three SuNdaLa varieties. It introduces the methodology employed, discusses briefly the empirical and theoretical contributions of the study and finally presents the outline of the thesis.

Chapter 2 reviews the existing literature for each SuNdaLa variety and also discusses selected studies on Bantu languages. Gaps in previous works and the absence of research of certain linguistic aspects on the three SuNdaLa varieties are highlighted. With that, the contributions of this thesis are put into the wider context of the academic discourse.

In chapter 3 aspects of the segmental phonology of the three SuNdaLa varieties are discussed. Shared phonological features are the five vowel system, including five short and five long vowels, the syllable structures and some phonological processes such as homorganic nasal assimilation and consonant hardening. They also employ the same vowel hiatus resolution strategies, namely glide formation, secondary articulation and vowel deletion. The main difference between the three SuNdaLa varieties in the segmental phonology is that, Cilambya has a larger consonant inventory than Cisukwa and Cindali. This variety is the only among the three which shows a voicing contrast of obstruents. The limited distribution of these segments leads us to suggest that this contrast is a more recent innovation in Cilambya and that all three varieties had a consonant inventory similar to the one of present-day Cisukwa and Cindali. Another phonological observation adds to the features shared by Cisukwa and Cindali, but not by Cilambya, namely that in nasal consonant sequences, the consonant following the nasal always has to be voiced in these two varieties but not in Cilambya. Cisukwa and Cindali have a rule of post-nasal voicing in place while Cilambya has post-nasal aspiration. Finally, Cisukwa and Cindali both do not allow sequences of a nasal and a fricative, while this is acceptable in Cilambya.

Language change might take place in the segmental phonology of Cisukwa as there are instances of post-nasal aspiration that have been presented and discussed in this chapter. On

the basis of findings in the segmental phonology, it is evident that Cisukwa and Cindali form a closer grouping while Cilambya seems to have drifted away from them.

Chapter 4 discusses aspects of prosody in the SuNdaLa cluster, specifically tone and reduplication. Tone realisation in nouns and verbs is examined and it is observed that the three SuNdaLa varieties exhibit similar properties. The nominal system appears to be tonal as the realisation of a high tone in nouns is not predictable, thus underlying contrastive tones have to be marked. In the verbal system, however, high tone assignment is triggered by morphological categories such as tense and aspectual markers. Since it is predictable it functions as an accentual system. With regard to verbal reduplication, it has been demonstrated that the SuNdaLa varieties reduplicate forms in the inflectional stem and there is no tone transfer involved; minimality is achieved morphologically.

In chapter 5, the noun class system of the SuNdaLa cluster is examined. The three SuNdaLa varieties use the established Bantu noun class system and with 19 noun classes they are in the upper range among the Bantu languages in regard to the number of noun classes.

Most features analysed are shared among the SuNdaLa varieties. Differences in the noun class systems of the three SuNdaLa varieties however, exists in prefixes of classes 9 and 10. Cilambya does not take a zero noun prefix while the other two varieties may appear with a zero prefix. Another difference is that Cindali as the only SuNdaLa variety uses class 2a for plurals of class 1a while Cisukwa and Cilambya pair the singular class 1a with the plural class 2. Cindali also differs from the other two in that there are cases in which this SuNdaLa variety pairs singular class 9 nouns with class 4 for plural forms. Cisukwa and Cilambya pair, like most Bantu languages, class 9 with class 10 for plurals. Cindali seems to develop away from Cisukwa and Cilambya, at least in some of the noun class features analysed in this study. These observations support the classification suggested on the basis of results from the lexicostatistical survey that Cindali is at one end and Cilambya at the other of a dialect continuum, in which Cisukwa is holding a central position.

Chapter 6 discusses noun derivation and noun phrase structure. We demonstrate that the SuNdaLa cluster employs the common Bantu language strategies in word formation namely, deriving nouns from verbs, nouns, adjectives, as well as by compounding, reduplication and borrowing. In the analysis of the the noun phrase structure of the SuNdaLa varieties it is exemplified that nouns are modified by demonstratives, possessives, adjectives, quantifiers, numerals, relatives and associatives. All SuNdaLa varieties are head initial but variation

exists in some linguistic forms. For instance, Cilambya uses possessive markers that are different from Cisukwa and Cindali. Cisukwa and Cindali use *-angu* for 1st person singular, *-at^hu* for 1st person plural; *-ako* for 2nd person singular and plural; *-ake* for the 3rd person singular and *-awo* for 3rd person plural. Cilambya on the other hand uses the different forms *-ane* for 1st person singular; *-at^he* along with *-ako* for the 2nd person for both singular and plural. In addition, Cindali reduplicates the agreement marker in the formation of the relative marker while they remain unreduplicated in Cisukwa and Cilambya.

Chapter 7 focusses on the SuNdaLa verb morphology and examines the structure of the verb in the SuNdaLa varieties. Like in other Bantu languages a verb root or radical takes on various prefixes and suffixes. In discussing subject marking we note that all SuNdaLa varieties use the same subject markers except for class 8, in which Cisukwa and Cindali employ the marker *fⁱ* and Cilambya *vi*. The SuNdaLa varieties also use the same object markers, with a different marker again in class 8 and class 10. In terms of object marking the varieties all allow an overt lexical NP to co-occur with the object marker. They also all have locative object markers, either object can be adjacent to the verb. Object marking is restricted to one verb and it is the benefactive object and not the theme that can be marked by an object. Tense, aspect and mood are also discussed in chapter 7, with similar categories shared by all three SuNdaLa varieties. Finally this chapter also elaborates on the verbal extensions in particular the passive, applicative, causative and reciprocal suffixes. The SuNdaLa varieties apply the same extension markers with the exception of the causative extension which is *-is^j* in Cisukwa and Cilambya while it is *if* in Cindali. The relationship between the arguments and argument structure is discussed and the asymmetrical nature of the SuNdaLa varieties is shown through the discussion of applicatives. The verb in the SuNdaLa cluster shows the same structure as most other Bantu languages and it operates in the same way across the three SuNdaLa varieties.

While this study provides a solid basis for the comparison of the three SuNdaLa varieties, many areas could not have been covered within the scope of this PhD project. The research conducted for this thesis and the analysis of the data collected, focussed on certain aspects of the phonological and morphological structures of the three SuNdaLa varieties. In order to reach a better understanding of the internal and external relationship of the SuNdaLa varieties, further research on the syntactic structures such clause structure and clause types would be required. Furthermore, prosodic features such as intonation and phrasing, the interaction of tone with object and subject prefixes as well as negation markers would be

important areas of further investigation. Tense categories ignored in this study would need to be described as well as copula constructions, and the conjoint/disjoint distinction.

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