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**Phonology and Morphology of Mambay (Niger-Congo, Adamawa)**  
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**Erik John Anonby**

**Phonology and Morphology of  
Mambay (Niger-Congo, Adamawa)**



# Phonology and morphology of Mambay (Niger-Congo, Adamawa)

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Erik John Anonby  
geboren te Winnipeg, Canada  
in 1975

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**Phonology and morphology of  
Mambay (Niger-Congo, Adamawa)**

Erik John Anonby

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## Abbreviations and symbols

adj.	adjective
adv.	adverb
al.	alienable
ANAPH	anaphoric demonstrative
ATTRIB	attributive copula
AUG	augmentative
borr.	borrowing
C	consonant
C/I	co-referential/impersonal
CAUS	causative
Cd	coda
CL1	class 1
COLL	collective
COREF / coref.	co-referential
dem.	demonstrative
DU	dual
EMPH	emphasis
EXCL / excl.	exclusive
EXPECT	expectation marker
F <sub>0</sub>	fundamental frequency
Fr.	French
Fulf.	Fulfulde
FUT	future
GEN	generic
H	high (tone); laryngeal
h	pharyngealization
HEAD	syntactic head
Hz	Hertz
i	identical participant reference
IDEO	ideophone
IMPERS / impers.	impersonal
IMPFV	imperfective
INAL / inal.	inalienable
INCL / incl.	inclusive

INDEP	independent pronoun
intr.	intransitive
IRR	irrealis
j	non-identical (switch) participant reference
L	low (tone); Type 2 sonorant
lex.	lexically determined
LF	linked form
lit.	literally
N	nasal consonant; Type 1 sonorant
n.	noun
NEG	negative, negation
NONPFV	non-perfective
NUM	numeral prefix
O	onset; obstruent; object
OBJ	object
OPT	optative
ORD	ordinal
PERF	perfect
PFV	perfective
PFX	prefix
PL / pl.	plural
PLUPERF	pluperfect
pn.	pronoun
POSS	possessive
Pred.	predicate
QM	question-marking particle
QUOT	quotation marker
R	rhyme; Type 3 sonorant
re.	regarding
REAL	realis
REFL	reflexive
REL	relativizer
REP	reported speech
S	subject
SG / sg.	singular
sp.	species
TAM	tense/aspect/mode
TOPIC	topicalization and related functions
tr.	transitive
TRS	tone register shift
V	vowel; oral vowel; verb
Ṽ	nasalized vowel
v.	verb

VN / v.n.	verbal noun
VV	long vowel
X	segment (C or V)
α	exhibiting a specific value
μ	mora
σ	syllable
∅	zero pronoun
1	first person
1&2	first-and-second person
2	second person
3	third person
*	ungrammatical or unattested structure
[ ]	phonetic transcription; boundary
/	either/or; phonological transcription
.	syllable boundary (used to distinguish a <b>g + b</b> sequence from unitary <b>gb</b> ); separator between words glossing a single morpheme
:	separator between glosses of fused morphemes
-	morpheme boundary
+	morpheme boundary
=	stem-clitic boundary
±	optional
~	free variation / allomorphic alternation
↓	non-automatic downstep
ˊ	high tone/pitch
ˋ	low tone/pitch
ˆ	falling tone/pitch
ˉ	mid pitch
ˊ	rising tone/pitch
≈	expectation marker
ʔ	preglottalization
˙	glottalization (vowels)
◌̃	nasalization

## Glossary

### Mambay

- ʔàzgàrà** reciprocal kinship unit used between a person and all blood relatives with the person's female in-laws who are older than his or her spouse
- fàzàrà** reciprocal kinship unit used between a woman and her female relatives with her male in-laws who are older than her husband
- fàhzàrà** reciprocal kinship term used between a man and his male relatives with his male in-laws who are older than his wife

### Regional French

- boule* ball of moist cooked grain meal; also called *cous-cous*

## INTRODUCTION

To the north of the Adamawa Massif and approximately eight hundred kilometres from the Gulf of Guinea, the Mambay ethnic group straddles the border of Cameroon and Chad. Members of the group, numbering about fifteen thousand, live along the Mayo Kebbi (Kebbi River) at the point where it flows south-west from Chad toward its confluence with the Benue River in Cameroon.

The Mambay language belongs to the Adamawa-Ubangi family, a group which has been considered “probably the most poorly documented of all the major divisions of Niger-Congo” (Bennett 1983:23). Researchers have overlooked this language family—especially the Adamawa branch of which Mambay is a part—due to its distance from the coast, the small populations of many of its constituent groups, and their dispersal among larger, unrelated languages. Other possible reasons for this situation include the Adamawa languages’ distance from urban centres as well as the sheer number and diversity of languages in this linguistically fragmented area of west-central Africa (Bennett 1983:23, Boyd 1978:190, Samarin 1971:217). Consequently, despite Strümpell’s identification of the language as early as 1910, Mambay has long managed to elude serious investigation. Those studies in which Mambay is mentioned (1.2.1) are for the most part concerned with the still-unresolved genetic structure of the larger language groupings of which it is a part, and give little information on the language itself.

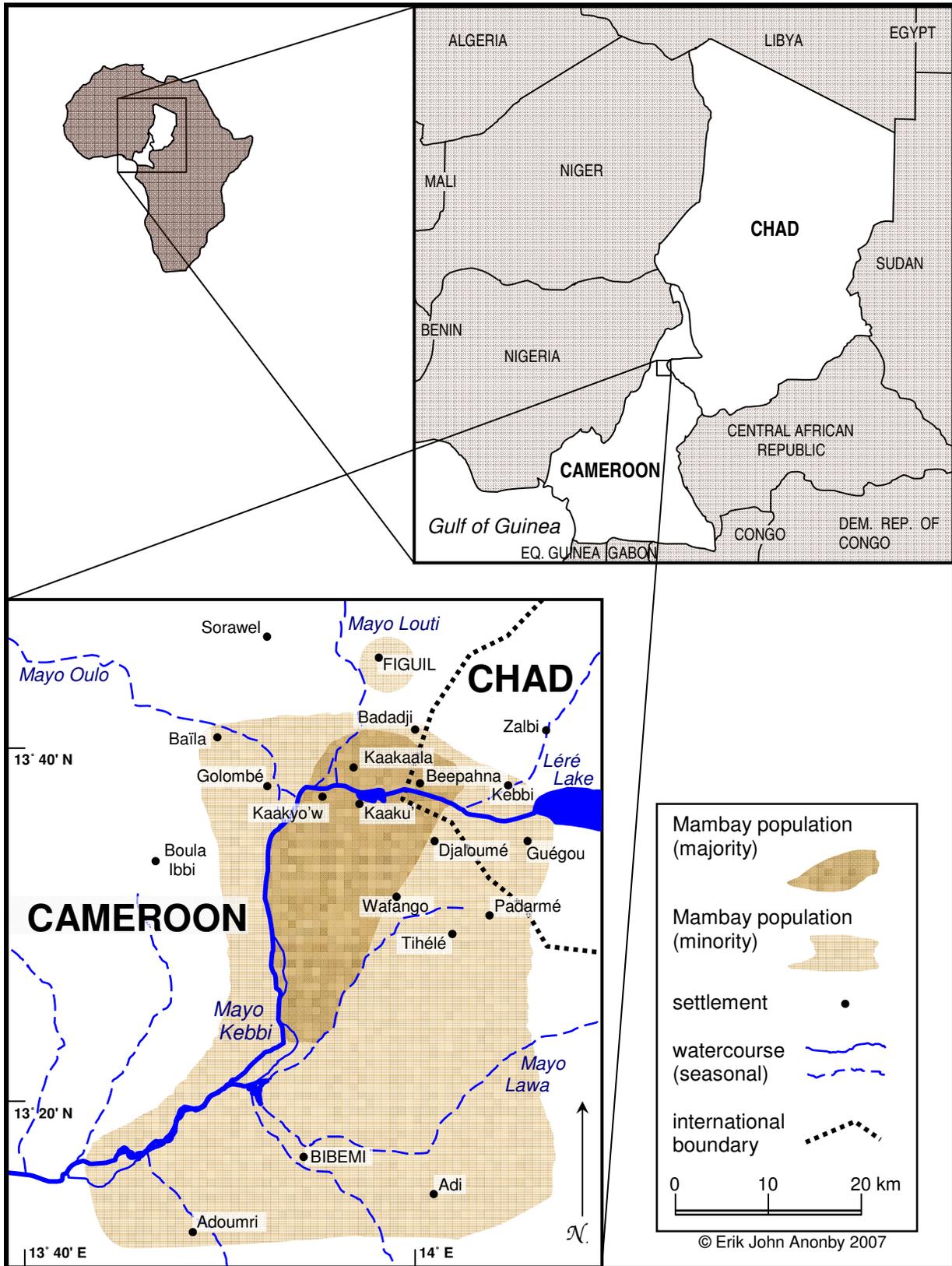
The present research responds to this lacuna by providing an in-depth description of the Mambay language, with a focus on phonology and morphology.

In the following sections of this chapter, the Mambay ethnic group is introduced within its historical context (1.1). This is accompanied by an overview of the Mambay language which gives attention to the current sociolinguistic situation and existing linguistic exploration, including genetic classification (1.2). Finally, the framework and methodology of this study are presented (1.3).

### 1.1 The Mambay ethnic group

The Mambay ethnic group is found in north-eastern Cameroon and south-western Chad (see Figure 1 on the following page). In Cameroon, they are primarily located in the Guider and Figuil Subdivisions (Mayo-Louti Division) as well as the Bibémi and Pitoa Subdivisions (Bénoué Division), all of which are found in the North Province (Dieu and Renaud 1983:387, Breton and Fohtung 1991:83–7). In Chad, the Mambay are found in Biparé Canton, which is located in the Léré Subdivision of the Lac-Léré Division

Figure 1: The Mambay ethnic area



(sources consulted for geographical data: Institut Géographique National (France) and Institut National de Cartographie (Cameroun) 1994, Institut Géographique National (France) 1974, and Defense Mapping Agency Aerospace Center 1982)

(formerly part of the larger Mayo-Kebbi Division) (Hamm 2001:7, Grimes 2000a:43, 68). There are small communities of Mambay outside the language area in the cities of Garoua, N’Gaoundéré and Maroua in Cameroon; in Chad, displaced populations live in Léré and N’Djaména.

Members of the Mambay ethnic group call themselves **tî mambày** ‘those who are (of) Mambay,’ and they refer to their language as **dâg tî mambày** ‘mouth of those who are (of) Mambay. According to Oussoumanou, the principal informant for this study, the name **mambày** comes from the phrase **màm bèyà**, which in the language as it was used by the ancestors of the Mambay people group meant ‘my friend’.

The name ‘Mambay’ has been rendered elsewhere as follows:

Mambai	(Boyd 1989a, 1989b, Église des Frères Luthériens (n.d.))
Mambaï	(Eguchi 1971)
Mambay	(Baudelaire 1944, Lembezat 1961, Lestringant 1964, Dieu and Renaud 1983, Elders 2000, Hamm 2001)
Mamgbay	(Dieu and Renaud 1983)
Mamgbei	(Dieu and Renaud 1983)
Mangbai	(Lukas 1937, Westermann 1940, Westermann and Bryan 1952, Boyd 1978, Mann and Dalby 1987, Boyd 1989a, 1989b)
Mangbaye	(Republic of Chad 1993)
Mangbei	(Strümpell 1910, Tessmann 1932, Greenberg 1949/55, 1963, Samarin 1971, Ubels and Ubels 1980, Bennett 1983)
Mangbaï	(Lembezat 1961, Westermann 1948)
Mombaye	(Republic of Chad 1993)
Mongbaï	(Republic of Chad 1993)
Mumbaye	(Hamm 2001)

Lembezat records the additional variants Bangeï, Mabai, Mambei and Mangbay (1964:437). Additional variant spellings of the name catalogued in the *Ethnologue* but for which no ulterior source has been identified are Manbai, Momboi, and Mongbay (Grimes (2000a:68). The multiplicity of transcriptions in various sources is attributable to the influence of competing orthographies (German, French, African languages, phonological orthographies) on the name used by the Mambay for themselves as well as those used by other people groups for the Mambay.

Often, the Mambay also refer to themselves as **tî bòdǵì [tî bò’]ǵì** ‘those who are (of) Bo’lgi’ (see, for example, Elders 2000:15). Oussoumanou insists that the term **bòdǵì** properly refers to the use of one’s own language as a secret or in-group language.

The Mambay have yet to form the subject of an ethnographic or historical study; documentation of their culture and history is limited to scattered references in a few sources (Lembezat 1961:136, 147, 191; Lestringant 1964; Hamm 2000:6, 8–13; Jogri 2006). In the following sections, three specific topics are addressed in relation to the Mambay. First, a jumble of population figures is evaluated and a current estimate of the

ethnic group's population is put forward (1.1.1). Second, the geography of the Mambay ethnic area and the people group's patterns of subsistence are introduced (1.1.2). Third, historical background is presented for the Mambay with reference to both oral and written sources (1.1.3).

### 1.1.1 Population

Population statistics for the Mambay are lacking, and those that exist are often outdated, incomplete or difficult to interpret. The main issues compromising the usefulness of the figures are: census reliability concerns; a poor understanding of the extent of the Mambay ethnic area (especially in the south and east) by researchers; a lack of account for other ethnic groups living in "Mambay" villages; and a converse lack of account for Mambay living outside the ethnic area.

It seems that the Mambay population declined in the first half of the 20<sup>th</sup> century (Hamm 2001:7), but that it has, on the whole, increased since the 1960s. The following sources, whose figures are variously given for Cameroon, Chad and both countries together, support the trend of a recent increase:

	Cameroon	Chad	both countries
Cameroon Colonial Administration (1944) in Lestringant (1964:297, 300)	more than 1285		
Westermann and Bryan (1952:46)	3051	860	3911
Cameroon Colonial Administration (1958) in Lestringant (1964: Appendix)	more than 1450		
Lembezat (1961:151)			1500
Voegelin and Voegelin (1964:43)			4000
Lestringant (1964:104)			less than 5000
Welmers (1971:842)			2000
Stennes in Samarin (1971:217)			2000
uncited (1982) in Grimes (2000a:43)			2500
Dieu and Renaud (1983:161)			less than 5000
Republic of Cameroon (1969) in Eguchi (1971:139)	5857		
Republic of Cameroon (1987) in Hamm (2001:8)	7288		
Republic of Chad (1993)		2067	

Figuil Diocese (1999), pers. comm. Father Vladislav (2005)			13 000
Hamm (2001:8)	8000	2000	10 000

The current population of the Mambay ethnic group has been reviewed within the context of the present study. Unfortunately, at the time of writing, the results of the 2005 Cameroon census had not been released. However, taking into account selected new (2005/6) figures gathered during polio vaccination campaigns in both countries as well as population growth rates for older census figures, and attempting to address the limitations highlighted above, the population of the Mambay ethnic group is estimated to be as follows:

Cameroon:	12 000
Chad:	3 000
Both countries:	15 000

### 1.1.2 Geography and subsistence

The Mambay ethnic area is dominated by a mountain and a river. Mambay Mountain is a long, tawny inselberg known to the Mambay simply as **zé'gà** 'the mountain.' The Mayo Kebbi (also spelled Kebi or Kébi) river, which the Mambay refer to as **tí-byàá** 'the great waters' or **sî** 'the valley, the river,' flows year-round through floodplains located around the northern and western slopes of the mountain.

While the mountain has historically been a place of refuge for the Mambay (see 1.1.3.1–1.1.3.2 below), its flora and fauna continue to serve as a source of food, medicine and building materials. When the Mambay dispersed from the mountain in the mid-19<sup>th</sup> century, the majority of the people group relocated to villages that sprinkle the floodplain. Since this time, the river has also played a major part in the livelihood of the group in the areas of agriculture and fishing.

The principal food crops are various species of millet and sorghum, white and yellow maize, peanuts, beans, taro and sweet potatoes. Wild leaves and herbs, which are gathered during the rainy season and dried, constitute an essential element in staple sauces. In some areas of the floodplain, there are lush groves of bananas and mangoes. Although it has become less lucrative than it was in the latter half of the 20<sup>th</sup> century (cf. Lembezat 1964:32–3), cotton is grown as a cash crop; in addition, onions are cultivated in the dry season with water taken from wells along the river and sold to merchants who distribute them to other parts of the two countries.

Fish was among the most important food items in the past, and fish were abundant in the Mayo Kebbi as late as the 1960s (Lembezat 1964:60). However, because of consistently low water levels and the introduction of dragnet fishing by Nigerian immigrants (now settled in Kaaku' (Kakou)) since this date, fish stocks have decreased dramatically and meals eaten with traditional fish-based sauces are the exception rather than the rule. This

change is one of many instances in which the effects of pressure on the environment and changes in the environment itself have affected the livelihood of the Mambay.

Interestingly, the Mambay lexicon is a witness to two other major environmental changes which have affected the people group. First, this is evident in the domain of animal vocabulary. Older speakers of Mambay know the names of many large mammals, and have seen and eaten some of these animals; in contrast, younger speakers of the language know only the names of a few large mammals which appear in folk tales, but have not seen or consumed them. This is an indicator that, as speakers report, almost all of the larger mammals have recently disappeared (or, as they say, “gone away”) from the ethnic area.

Second, the Mambay calendar (described in Anonby and Oussoumanou 2008 forthcoming) hearkens to a time when the rainy season lasted for about eight lunar months; the length of this period is deducible from the names of the months and their place in the agricultural cycle. In the last ten years, however, the rainy season has lasted for an average of four months. This means that rather than three major harvests in a year, which was still the norm fifty years ago, there are now usually only two. In 2005 in particular, only one harvest was gathered, and a small-scale famine resulted in the Mambay area.

Upheavals in the external cultural landscape have accompanied and, in many cases, precipitated these changes to the livelihood of the Mambay. The history of these movements is addressed briefly in the following section.

### **1.1.3 Historical background**

The origins of the Mambay have been recorded primarily by means of oral history. Written documentation on the people group’s past is meagre; the principal historical records of pre-colonial and colonial history are passing references in a few sources. For the pre-colonial period, existing sources rely on oral history.

In the present section, oral and written sources are weighed against one another, and a single historical account is presented. Oral historians who made a significant contribution to this account are Oussoumanou Bouba (the principal collaborator), Saadu Kami Taw, Kada Moïse, and Kam Kaagbungni. Written sources referring to the history Mambay are Lestringant (1964), Lembezat (1961), Adler (1982), Mohammadou (1979), and Nassourou (n.d.), who may have relied on Mohammadou’s work.

Themes which figure consistently in oral and written accounts are historical origins and arrival in the present-day ethnic area (1.1.3.1), establishment of Fulbe hegemony over the Mambay (1.1.3.2), the status of the Mambay under European colonial administration (1.1.3.3) and their present position within the independent nations of Cameroon and Chad (1.1.3.4).

### 1.1.3.1 From origins to arrival in the present-day ethnic area

According to the oral historians, the Mambay came in the distant past from a place to the east of where they are now found. However, at the point where names and places are still remembered, the Mambay were approaching their present-day ethnic area from the west.

The Fulbe (also “Fulani” or “Peul”) jihad, which began in the first years of the 19<sup>th</sup> century, spread out from Sokoto in present-day north-western Nigeria (Trimingham 1980, Mohammadou 1979:277). Within a couple of years from its inception, the movement’s effects were felt across the Sahel. One front of the movement was based in Yola, the capital of what came to be known as the Adamawa Empire. As early as 1805, the empire began to destabilize the uneasy equilibrium that had existed beforehand in northern Cameroon (Lestringant 1964:112).

Soon, the Adamawa Empire advanced west and north, and many small populations were scattered before them. The outcome for these populations was bleak: many were enslaved; some were forcibly converted to Islam and, eventually, subsumed within the Fulbe population of the empire; others were wiped out; and still others managed to flee (Lestringant 1964:85, Lembezat 1961:156, Mohammadou 1979).

One of the latter groups was a community of Fali situated at **káà zé’gì hùùrì** (Ful. *hooseere fawru*) between Yola and Garoua, the present-day capital of Cameroon’s North Province. Over a period of about twenty years, they were consistently pushed back to the west and north. Often, this group fled to mountain strongholds for refuge. Despite this, in many of the years, their position was imperilled and they were forced to establish new settlements or, in some cases, join communities living in other mountain strongholds. Eventually, they joined a Nyam-Nyam community at **gàlim**. When the Fulbe attacked this village, they fled together with the Nyam-Nyam across the Mayo-Kebbi and together founded the village of **gàrnà**; later, they moved a short distance to the south, to a village called **tàrà** (Kami Taw 2005, Lestringant 1964:103).

A second group of Fali, some of whom had recently been driven from the east, were dislocated around 1825 when a Fulbe principality attacked from the north and destroyed their settlement (located at the same place as present-day Golombé). Like the first group, these Fali fled across the Mayo Kebbi. There, they established the village of Kaakyo’w (Katchéo) on the north-western slope of Mambay Mountain (Lestringant 1964:291, Oussoumanou 2004).

A third group which fled across the Mayo Kebbi was composed of members of communities who had been part of the Guidar confederation. However, when the confederation was destroyed, some fled to Mambay Mountain. To this day, descendents of this migration are counted among the Mambay clans. However, their Guidar origin is evident in that some still speak Guidar; in addition, one of their villages located on the south-western flank of Mambay Mountain is named Biou, after the Guidar clan from which they emerged (Oussoumanou 2004, Lestringant 1964:102).

Together, these three groups formed what is now known as the Mambay ethnic group. Although there was significant interaction between the Mambay and the Mundang at a later time (1.1.3.2), and some present-day Mundang clans are reputed to originate from among the Mambay (Adler 1982:122–6), the Mambay do not view the Mundang as one of the peoples from whom they originate (Kam Kaagbungni 2000, Kada 2003, Oussoumanou 2004, Kami Taw 2005; cf. 1964:292, contra Lestringant 1964:104).

### 1.1.3.2 Establishment of Fulbe hegemony

For several decades, the Fulbe were unable to gain dominance over the Mambay living on the mountain, or over the separating floodplain of the Mayo Kebbi, since their cavalry could not control the area for much of the year. During this time, the Mambay spread out around the mountain. Their settlements extended from Kaakyo'w and Tara on the west and south-west to Gehgu (Guégou) to the east and Beepahna (Biparé) to the north (Lestringant 1964:291, Oussoumanou 2004). Lestringant states that the Mambay adopted Mundang as a common language at this time, due to close relations with the Mundang of Léré (1964:292, 296); however, Mambay historians maintain that the Mambay continued to use their own language among themselves as a **bòdǵì** 'secret code, in-group language' (Oussoumanou 2004, Kami Tao 2005; see also 1.1).

In the years leading up to 1850 and in much of the latter half of the 19<sup>th</sup> century, the Fulbe principality of Bibémi, centred thirty kilometres south of the mountain, attacked and progressively conquered the Mambay villages around the mountain (Lembezat 1964:292, Nassourou n.d.). Of all the villages, only Beepahna successfully resisted the Fulbe forces thanks to its situation by the floodplain to the west and south, and an independent Mundang principality to the north and east (Lembezat 1964:292, contra Nassourou n.d.).

While some of the Mambay from villages conquered by the Fulbe took refuge and, in time, settled on top of the mountain for over a decade, others became subjects of the Fulbe. After this period, the mountain community began to come down and settle in the now-desolate village of **bòdǵì** (Balgi or Boulgui) on the north side of the mountain near Kaaku' (Kakou). With Kaakyo'w under Fulbe dominion, the Mambay were too weak to resist the Fulbe from the north, who took over the floodplain and set up a government at Golombé. Eventually, the Mambay of **bòdǵì** consented to the Fulbe hegemony and were permitted to inhabit the north side of the floodplain, which was better suited to agriculture (Lestringant 1964:291, 312).

### 1.1.3.3 European colonial administration

The first written record of the Mambay people group was made in 1851 by Barth, who did not visit the Mambay area but distinguished them as one of many people groups in what would later become northern Cameroon (Barth 1857 in Lembezat 1964:75). In 1889, an English expedition travelled up the Mayo Kebbi and reached the Mambay village of Beepahna (Biparé), passing several Mambay hamlets along the way. However, their record of the voyage gives no further details (Meckler-Ferryman 1892 in Lembezat 1964:75).

German troops conquered the Fulbe governments of northern Cameroon between 1900 and 1902. In doing so, they acquired domination over most of the Mambay ethnic area. Beepahna, however, was claimed by both the French and German administrations: the French, since Beepahna had managed to escape Fulbe control and the Germans, because it was coveted by the intermediary Fulbe administration for the same reason. Importantly, the Mayo Kebbi on which it was situated also represented a navigable route to the Atlantic Ocean for the French colony of Chad (Tchad). In defiance of a treaty that had been established between Germany and France in 1894, the German administration decided to establish control over Beepahna. They burned it to the ground the same year (Adler 1982:25). Again in 1905, when the chief of Beepahna protested German rule on the grounds that they needed to respect a prior agreement with the French, the outlying Mambay village of Kaagbungni (Kaboni) was burned—along with its inhabitants—by the German-led police force. To this day, its names **káà-gbúŋ̀nì** ‘place of ruins’ and **káà-sá’bà** ‘place of traditional salt (collected from ashes)’ recall this event (Kam Kaagbungni 2000; Lembezat 1964:156, 297; Adler 1982:25; Schilder 1994:127, 129).

The German administration lost control of Cameroon in 1915, and the French were given a mandate over much of the former German colony. Immediately, Beepahna was reincorporated into Chad; and from that moment onward, the Mambay have been divided between Cameroon and Chad (Lembezat 1964:151, 157).

Under the French, the Fulbe traditional government endured, although it was considerably weakened by the introduction of a parallel system of direct rule (Schilder 1994:133). Aspects of infrastructure, including the promotion of a cash-based market economy and the construction of a basic transport network, government buildings, schools, and a few health care facilities, appeared during this period (pp. 219–45). However, since the Mambay were located at the fringes of two administrative districts (Guidar and Bénoué), they experienced few of these benefits (p. 243).

#### **1.1.3.4 The Mambay in independent Cameroon and Chad**

Since the independence of Cameroon in 1961, Fulbe hegemony has persisted. However, there are signs that it is being further compromised (Schilder 1994:6). For example, all of the Mambay chiefs have been relegated to the lowest level recognized by the national government until recently. However, in 2006 the chief of Kaakyo’w was invited to apply for the status of 2<sup>nd</sup>-degree chief.

In Chad, the Mambay chief in Beepahna has been recognized as a high-ranking traditional chief by the Chadian government. Because of this, Mambay in both countries give allegiance to him as the supreme chief of their ethnic group.

From an economic perspective, the Mambay continue to experience some of the marginalization that characterized their status under the colonial government (1.1.3.3). For example, there is no high school (lycée) in the Mambay area. Because of this, students who wish to pursue a high school diploma are required to relocate, usually to Figuil. Many (perhaps most) of the students who attend high school do not return to live in the ethnic area.

Another instance of marginalization is evident in the poor transportation network among the Mambay villages. The Mambay population is distributed fairly evenly between the north and south banks of the Mayo Kebbi. However, there is no bridge over the river within the ethnic area; to drive—during the dry season—from Kaakaala (Kakala, pop. 2000) to Kaaku' (Kakou, pop. 1500), five kilometers apart across the Mayo Kebbi, it is necessary to make a ten-hour detour to the south-west and south, travelling close to Garoua. In the rainy season, even this route is usually impassable...**bàhrá ?éébà** 'it is better to swim.' Nor are there any sealed (paved) roads in the Mambay ethnic area. Within living memory, the markets of Kaakyo'w and Kaakaala were the main commercial centres in the area, and people from the Fulbe, Mundang, Fali and Guidar ethnic groups came long distances every week. However, these have died out in favour of the markets of Figuil and Baïla, both more expediently located on a sealed road. It is now the Mambay who must travel for hours to buy and sell, often to one another, outside of the ethnic area.

In addition to these secular considerations, the present religious landscape of the Mambay deserves attention. For a century after the Fulbe takeover (1.1.3.2), most of the Mambay resisted conversion to Islam, since it was associated with those who had deprived them of their autonomy. However, Islam grew rapidly among the Mambay between 1950 and 1980 for several reasons. First, many soldiers were stationed in predominantly Muslim areas in northern Cameroon (see also Schilder 1994:149). Second, it provided a universal forum within which all peoples of northern Cameroon were able to express resistance to the French colonial administration. Third, in the first decades after independence, the Cameroonian president Ahidjo, who was himself Fulbe, endorsed administrative policies favourable not only to the Fulbe rulership but also to Muslim clerics and converted chiefs (Schilder 1994:6, Oussoumanou 2004).

Christianity grew most rapidly in the same time period, although its association with the previous colonial administration compromised its appeal. Rather than being directly introduced to the Mambay by western Christian missionaries, as was the case for most or all of the surrounding people groups, this faith came to them through the Mundang (Jogri 2006). As with Islam, the spread of Christianity was hampered by regional ethnic associations, in this case with the Mundang. In the end, it grew most rapidly among the Mambay villages of Chad, which the Fulbe had never conquered and where the influence of Ahidjo's policies was at best indirect. Until recently, Mundang was used in Protestant church services, much to the dismay of Mambay inside as well as outside of the Church (Schilder 1994:188–90, Kam Kaagbungni 2000). Catholic churches among the Mambay have also been moving from services conducted primarily in Fulfulde to those which are mostly in Mambay.

The last person claiming to practice traditional religion among the Mambay died in Kaakyo'w in 2003 (Oussoumanou 2004). At present, most Mambay consider themselves Muslim, and about 500 Mambay (3%) are adherents of Christianity (Hamm 2001:11, Kada 2003). There is also a sizable group of secularized Mambay, perhaps 5%, who do not claim adherence to any religion, including traditional religion; however, many people

who fall into this category have formerly practiced one of the three religions (Kada 2003).

A final issue which radically affects the Mambay are changes in population demography. A major increase in the area's population in the last half of the 20<sup>th</sup> century (1.1.1) has resulted in crises such as decreased soil productivity, diminished fish stocks, depletion of other fauna, and a scarcity of firewood for cooking (1.1.2). Some of this increase reflects the incursion of clans from other ethnic groups, in particular Mundang, Tupuri, Guidar and Guiziga. Conversely, many Mambay have left the ethnic area: the largest concentrations of Mambay emigrants are found in Figuil and Garoua (1.1.1). Both movements have destabilized traditional authority structures (families as well as villages) and have resulted in increased pressure on the Mambay language, primarily from Fulfulde (1.2.3.1).

## **1.2 The Mambay language**

In the first part of this section, earlier studies on Mambay are catalogued (1.2.1). The classification of the language and the sociolinguistic situation form the discussion in the second and third portions of this section (1.2.2 and 1.2.3).

### **1.2.1 Earlier studies on Mambay**

Mambay word lists are found in Strümpell (1910), Lukas (1937), Baudelaire (1944; numerals), Stauch (1966; fish names), Eguchi (1971), Elders (field notes from 1992/3) and Hamm (2001).

Classificatory remarks on Mambay are found in Tessmann (1932), Westermann (1940, 1948, 1952), Baudelaire (1944), Greenberg (1955, 1963), Samarin (1971), Boyd (1974, 1978, 1989a), Ubels and Ubels (1980), Hagège (1981), Bennett (1983), Dieu and Renaud (1983), Mann and Dalby (1987), Bright (1992), Elders (2000), Grimes (2000a, 2000b), and Hamm (2001). These remarks have formed the basis for the classification presented in 1.2.2.

Among these sources, the two articles which constitute important exceptions to a general tendency of brevity and uncertainty are those of Eguchi (1971) and Hamm (2001). In his *Esquisse de la langue Mambai*, Eguchi expresses the hope that “ce rapport préliminaire, sans doute plein de fautes dûes au manque d’investigation intensive, pourra être utile” (1971:139). Eguchi’s study, while basic, has nonetheless been indispensable as a starting point for the present investigation of Mambay. It provides concise background to the language before presenting a brief phonology and morphology; these sections are followed by the transcription and translation of a story as well as an 800-word lexicon. Eguchi’s work raises a number of interesting questions on the language in the areas of consonant and vowel inventory, alternations in tone, length and nasality, tone-consonant interaction (p. 155) and the absence of tongue-root vowel harmony. Perhaps most remarkable is his positing of nasal implosives (p. 144). This question is revisited in the present research in 2.1.7.1.

While Eguchi concentrates on linguistic aspects of Mambay, Hamm's (2001) *Sociolinguistic survey of the Mambay of Cameroon and Chad* provides a complementary portrayal of the language. Although its stated purpose is to examine possibilities for language development (p. 2), Hamm's study offers findings regarding key topics such as demographics, multilingualism, dialect variation, intelligibility with related varieties, language attitudes and other related sociolinguistic questions.

In addition to these two longer sources, a number of articles have been written on Mambay in the context of the present research. A provisional version of the standard Mambay orthography appeared in 2004 (Anonby 2004a; see also 1.3.3). In the same year, a paper was presented in which the labial flap was described in Mambay (2004b). In that study, which has been developed in a recent article (2007), it is argued that the labial flap is profoundly phonologized (see also 2006:224 and section 2.1.8 in the present study). Elsewhere, a preliminary description of the structure of discourse in Mambay has appeared (2005). In addition to these studies, an article has been published which outlines the phonetic inventory and basic phonological system of Mambay. It is accompanied by recordings of phonetic data, including a longer text which is also transcribed phonetically (2006). Further, in a work that is both descriptive and comparative/historical in nature, a set of vestigial noun suffixes is defined; its effect on the morphological structure of nouns is delineated, and its origins are explored (2007b). Finally, a short sketch of Mambay grammar and phonology is destined to appear in the Mambay dictionary (Anonby and Oussoumanou 2008 forthcoming) along with an updated version of the orthography which includes tone marking.

## **1.2.2 Classification**

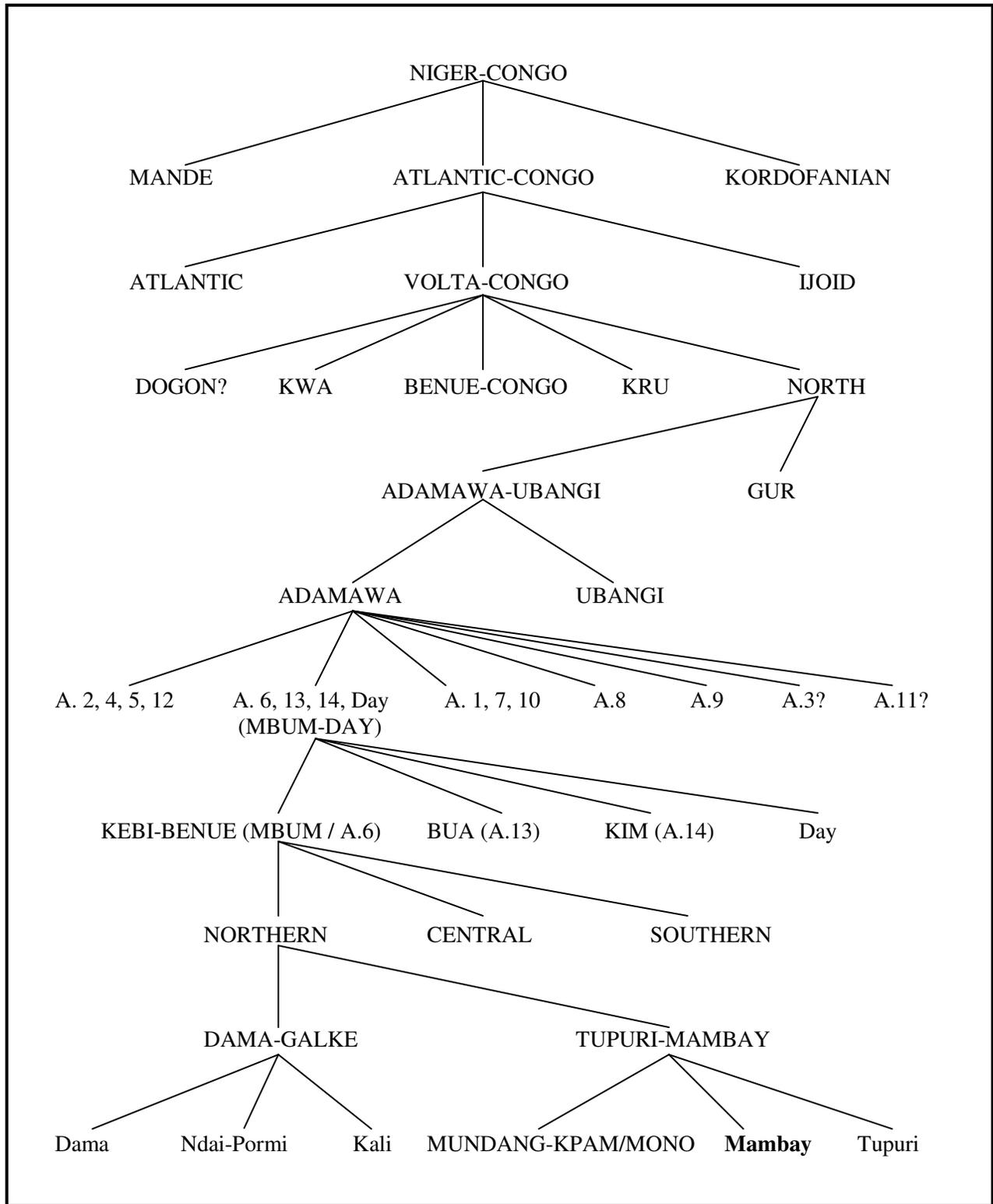
Mambay has been classified as Niger-Congo, Atlantic-Congo, Volta-Congo, North, Adamawa-Ubangi, Adamawa, Mbum-Day, Kebi-Benue, Mambay (Williamson 1989, Boyd 1989a, Elders 2000:9, Grimes 2000a:68; see also the following subsections). Figure 2 (see following page) shows how each of these divisions fits into the larger picture of Niger-Congo classification (note that relations among higher levels of classification are still the subject of discussion). In this chart, names written with upper-case letters refer to language families, and those written with lower-case letters refer to terminal nodes (i.e. individual languages).

Although other aspects of the language have been studied relatively little, the genetic classification of Mambay has been subject to some controversy. Debates affecting the classification of Mambay and the language groups to which it belongs have taken place at all levels of its genetic hierarchy, although some intermediate labels (such as "Adamawa") have—for better or for worse—remained for the most part unchallenged since their establishment. In the following sections, competing positions are reviewed, and the classification given here is defended for lower levels.

### **1.2.2.1 Early classifications**

Although the Mambay language was recognized as early as 1910, its genetic status remained poorly defined until Greenberg's (1955/63) classification. Up to that point, Mambay was often categorized with other "Sudanic" languages. However, this grouping

Figure 2: The classification of Mambay in Niger-Congo



(based on Williamson 1989, Williamson and Blench 2000, Boyd 1989a, Elders 2000 and Grimes 2000a, 2000b)

was largely based on geography and typology, both of which have proven unreliable as indicators of genetic affiliation in the fragmented central African linguistic area (Greenberg 1963, Thomas 1972, Williamson and Blench 2001:14–5).

The first mention of the Mambay language is found in Strümpell's (1910) assemblage of word lists elicited from among the "Heidensprachen Adamauas" (Adamawa pagan languages). Although Strümpell demonstrates relationships between a number of the languages under investigation, Mambay is not included in these groupings.

Delafosse (1924) refers to Strümpell's (1910) work in his classification of central African languages; however, he neglects to mention Mambay or to place it within one of the sixteen "soudanaises" families which he proposes.

Using the information provided in Strümpell's (1910) article, Tessmann (1932:187–9) provides a generic classification of Mambay within the frame of "Musiktonsprachen, Nigritische, Nichtklassensprachen: Sudansprachen (Sudanneger)." Like Strümpell, however, Tessmann is unable to relate Mambay to the numerous other languages and language groups within his classification.

Lukas (1937:107) likewise makes reference to Strümpell's article, and tentatively affirms Mambay's status as an unaffiliated language. However, paying particular attention to the data, he acknowledges the possibility of a relationship between Mambay and Mundang, and lists similarities in basic vocabulary from various domains, including lower numerals, to support this hypothesis.

Although Mouchet (1938) classifies a number of neighbouring languages under the label "Kabi-Benwe," he makes no mention of Mambay.

Westermann (1940/8) classes Mambay within a "Shari-Logone-Tshad" group, itself part of an "Innersudanische" (Inner Sudanic) division of Sudanic languages. He admits that degrees of relationship within this group are uncertain, and provides no further suggestions regarding the relationship of Mambay to other languages in this group (1948:459). Elders (2000:10) has noted that Westermann's (1940/8) classification is based on geographic and typological rather than genetic criteria; a number of the languages included in Westermann's Shari-Logone-Tshad grouping are presently classified as Chadic.

Baudelaire (1944) mentions Mambay in a comparison of numeral systems which groups together some of the "dialectes Habé" of the upper Benue region (note that the term Habé is based on the Fulfulde word *haabe* 'pagans' (Schilder 1994:37, 43), and is more accurately viewed as a cultural (rather than linguistic) designation. However, he does not attempt to relate these languages to larger genetic groupings. Oblivious to the suggestions of Lukas (1937) and in contradiction to the similarity evident (in retrospect) between numerals in his "Mbum-Laka-Mundang" subgrouping and those of his Mambay list, Baudelaire concludes that Mambay appears unrelated to any other language in the region (1944:24, 27).

In their (1952) classification of Sudanic languages, Westermann and Bryan provide a more conservative grouping of Inner Sudanic than that of Westermann (1940/8). In the later work, many of the Inner Sudanic languages are moved back into unclassified “isolated groups.” Significantly, for the first time Mambay is included within the isolated “Mbum” group (1952:145–7) which had itself been posited as early as Tessmann (1932:188). This grouping prefigures most of the later lower-level classifications of Mambay.

### **1.2.2.2 Position and labelling of Kebi-Benue (“Mbum”/“Adamawa 6”)**

The earlier placement of Mambay within the “Mbum” group by Tessman (1932) and Westermann (1952) is confirmed in Greenberg’s (1963; cf. 1949/55) influential classification of African languages. Greenberg (1955:11) makes an additional advance, however, in that he links the Mbum group with higher levels of classification. His (1949) partition of the Sudanic languages into Niger-Kordofanian (now generally referred to as Niger-Congo; see Williamson 1989:19) and Nilo-Saharan phyla is well-known. Within Niger-Kordofanian, one of his innovations is the collection of a number of unclassified languages and language families, including Mbum, under the label “Adamawa” (1955:11). Ultimately, he joins the Adamawa languages to a neighbouring family “Eastern” to constitute the “Adamawa-Eastern” (now Adamawa-Ubangi) branch of Niger-Congo (1963; cf. Samarin 1971:213, 225). While some sources originally queried this decision (e.g. Voegelin and Voegelin 1964:38–9), it has gained widespread acceptance, although it has been defined in recent classifications as a continuum (which may even include Gur) rather than a monolithic family (Williamson and Blench 2000:18). As regards Mambay’s inclusion among the Adamawa languages, only Caprile (1977:18, contra 1972:36 and 1977:16) has questioned this assessment. However, he admits that his skepticism is tentative, and does not defend it.

In Greenberg’s work, then, the Mbum family is re-labelled “Adamawa 6”—one of fourteen Adamawa families. Boyd, who has subsequently (1974, 1978, 1989) examined the internal structure of the Adamawa languages, views Greenberg’s groupings as generally accurate but also as conservative: “...ces groupes sont assez homogènes, souvent à tel point que les langues appartenant à chacun représentent plutôt de simples dialectes d’une seule langue” (1978:187). Boyd thus proposes a conflation of Adamawa 6 (Mbum) with 13 (Bua) and 14 (Kim) into a single division (p. 190). In a (1989) revision, he also adds the language Day to this core within Adamawa (pp. 179–80). Essentially, the Mbum group remains an integral unit in later classifications, although typically subsumed under the higher Adamawa 6/13/14/Day node described here (Bennett 1983, Dieu et Renaud 1983:359 in Elders 2000:10, cp. Mann and Dalby 1987, Boyd 1989, Bright 1992, Grimes 2000, Williamson and Blench 2000:27–8).

In addition to the terms “Mbum” and “Adamawa 6,” several other labels for this lower-level group have been proposed: “Lakka,” and more recently, “Kebi-Sanaga” and “Kebi-Benue.” Boyd (1974:17–8), followed by Ubels and Ubels (1980:1–3), uses the term “Lakka.” However, in a later work (1989) Boyd reverts to the term “Mbum” due to the imprecise and possibly pejorative nature of the term “Lakka.” Later suggestions informally put forward by Boyd (pers. comm. 2004) are “Mbumoid” and “Southwestern.”

Elders (2000:10) has argued that the term “Kebi-Sanaga” would be preferable to “Mbum” since it avoids the confusion caused by a single label (“Mbum”) which applies to both a language family and a member of that family; additionally, it follows the Niger-Congo convention of naming language families after rivers (cf. Williamson 1989:18–20). In a later statement, issued after discussion with other scholars working in the language family, he refines the term as “Kebi-Benue” (Elders 2006). In addition to sharing the stated advantages of “Kebi-Sanaga,” this term is geographically appropriate, since most of the languages in the group fall within the basins of the Kebi and Benue rivers. Finally, it has the appeal of posterity: Mouchet proposed the term “Kabi-Benwe” for a group containing a number of the same languages as the family under discussion as early as 1938 (1.2.2.1). Because of these reasons, the term “Kebi-Benue” has been used in this study.

### 1.2.2.3 Internal structure of Kebi-Benue

Academic understanding of the genetic relationship among languages of the Kebi-Benue family is still inadequate. Unfortunately, most of the classifications proposed have been impressionistic rather than methodical.

The first major contribution to the internal classification of Kebi-Benue is that of Boyd (1974), who shows a close relationship among many of the languages. Although it does not include the whole group, Boyd’s (1974) classification of Kebi-Benue is unique in that it is the only study in which satisfactory comparative evidence has been provided for a large portion of the group. Although some of the northern Kebi-Benue languages (including Mambay) signalled by Greenberg (1963:9) are absent from Boyd’s classificatory comments, he divides the rest of the group into two divisions: Eastern (“oriental”), which is composed of languages closely related to the major language Mbum, and Western (“occidental”), which accounts for the other languages under investigation. The Eastern languages are further divided into two sub-groups, “type Pandjama” and “type **ndó mbàli**” (1974:17).

The next major attempt at classification of Kebi-Benue is that of Ubels and Ubels (1980). While following Boyd’s general Eastern/Western structure, a number of languages passed over by Boyd (1974) are accounted for. Mundang and Kali are placed in the Western division; the languages of the Eastern division are revised in terms of inventory, names, and internal classification; and several unclassified languages are added (Ubels and Ubels 1980:5). Mambay, however, is once again omitted from the discussion.

Dieu and Renaud (1983:359) alter the internal classification of Kebi-Benue with the addition of a Northern division. Importantly, Mambay is recognized as a Kebi-Benue language and is included in this division along with Tupuri and Mundang. The remainder of Kebi-Benue languages are relegated to a single Southern division.

Although Boyd (1989a) cites Ubels and Ubels (1980) as his primary authority, his classification diverges from theirs in some respects. He splits the Kebi-Benue family into three divisions: Northern, Central and Southern. Boyd’s Northern division accounts for the languages found in Dieu and Renaud’s (1983:359) new Northern division, but differs

in that it subsumes the remainder of Ubels and Ubels' Western languages: Dama, Galke (Ndai)/Pormi, and Kali. His Central and Southern divisions correspond to the two branches of Ubels and Ubels' (1980) Eastern division, but in contrast are seen as primary divisions within Kebi-Benue. Boyd's (1989a) resulting classification is thus as follows:

- A. Northern
  - 1. Tupuri, Mundang, Mambay
  - 2. Dama, Galke (Ndái)/Pormi, Kali
- B. Central
  - 1. Koh [Kuo], Sakpu
  - 2. Karang, Pana, Njak Mbai, Ngumi, Kãrẽ
- C. Southern: Mbum, Mbere, Kpere ~ Kepere

Unclassified languages: Pondo, Gonge, Tale, Dek

Stefan Elders (2000:8–9) accepts this classification of Kebi-Benue for the most part, but makes the important observation that Kpam/Mono has been accidentally (“fortuitement”) omitted and places it in along with Mundang as a separate node of Kebi-Benue’s first Northern group (Tupuri-Mundang-Mambay).

Elders (2006) provides a comprehensive overview of issues in the classification of the Kebi-Benue group. In addition to cataloguing research which has been done in the languages, a history of classification of Kebi-Benue is given and a number of corrections of and additions to Boyd's (1989a) inventory are offered. Importantly, Gikaw is added and assigned to the same subgroup as Kpam/Mono, and Man and Tali (Tale) are included in the Southern division (but cf. Davis and Seguin 1990:33–4).

Final modifications accepted in the present study are the placement of Gonge as a variety of Njak Mbay, and Pondo as a variety of Pana (Davis and Seguin 1990:35, cf. Elders 2006). Considering the discussion in the present section and the sources to which it refers, the following provisional classification of Kebi-Benue is offered:

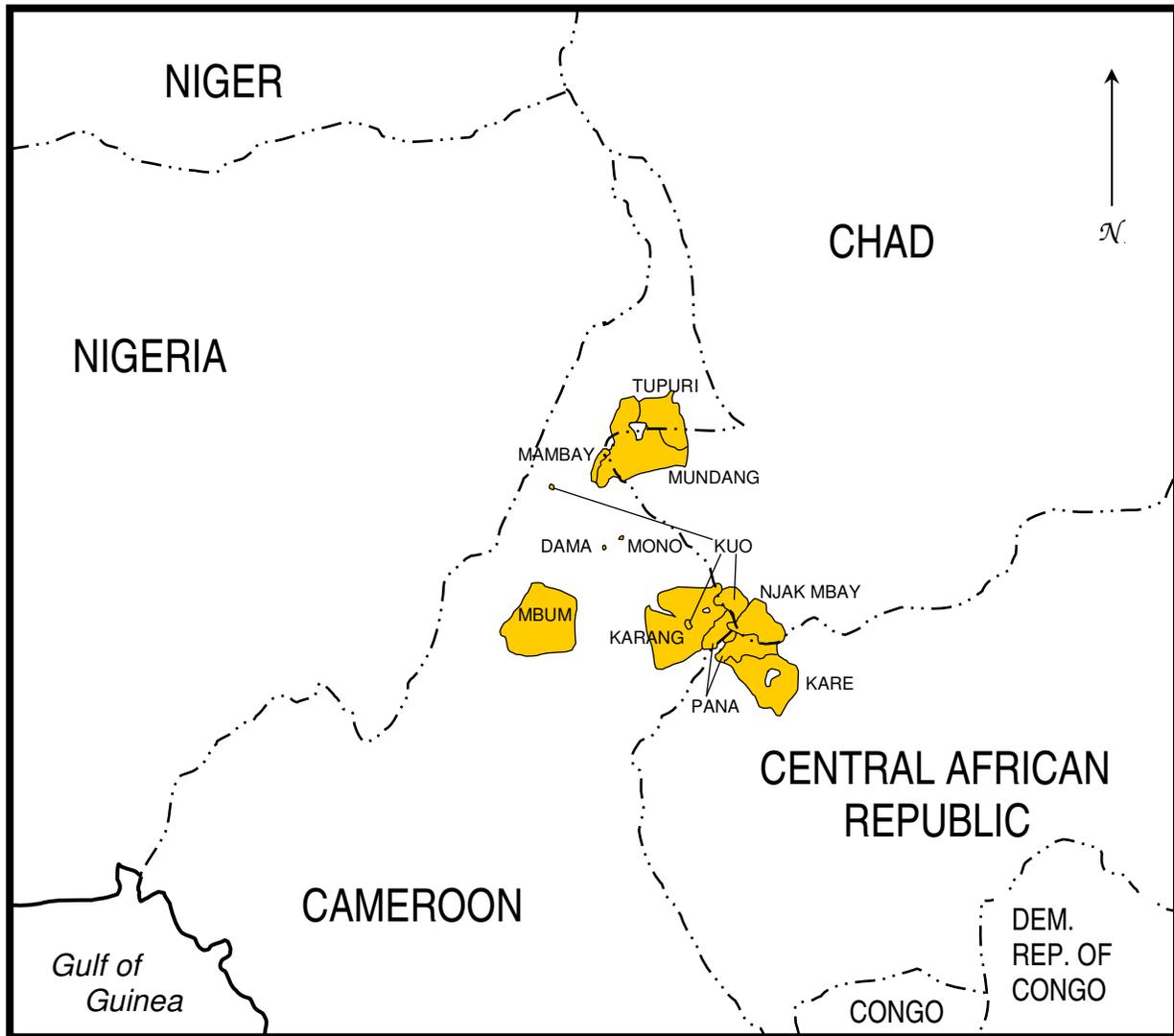
Figure 3: Classification of Kebi-Benue

- |  |
|--|
| <ul style="list-style-type: none"> <li>I. Northern           <ul style="list-style-type: none"> <li>A. Tupuri</li> <li>B. Mundang, Kpam/Mono, Gikaw</li> <li>C. Mambay</li> </ul> </li> <li>II. Southern           <ul style="list-style-type: none"> <li>A. Dama, Galke (Ndai)/Pormi, Kali</li> <li>B. 1. Mbum, Mbere, Man, Kpere               <ul style="list-style-type: none"> <li>2. a. Kuo, Sakpu</li> <li>    b. Karang, Pana/Pondo, Njak Mbai/Gonge, Ngumi, Kare, Tali</li> </ul> </li> </ul> </li> </ul> <p>Unclassified language: Dek</p> |
|--|

(based on Boyd 1989a, Elders 2000, 2006 and Davis and Seguin 1990)

Kebi-Benue languages whose location is specified in the sources consulted are shown in Figure 4.

Figure 4: The Kebi-Benue languages



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(based on Boyd 1989a and Grimes 2000)

#### 1.2.2.4 Controversy over Mambay's position within Kebi-Benue

Notwithstanding a widespread acceptance of the Kebi-Benue group, the status of Mambay within this group has been questioned on several occasions. While such perspectives do not reflect the thrust of the comparative literature in general (1.2.2.3), they are maintained here as residue since all arguments for Mambay's position have up to this point been supported with little data.

Samarin (1971) attributes Mambay's categorization within Kebi-Benue to undue geographical considerations and recommends a revision. He states:

Fali, Mangbei and Mundang, although not at all closely related, are all found in the same geographical area.... On the basis of his own linguistic observations, de Waard (pers. comm.) supports the integrity of this [Kebi-Benue] group with the exception of Mangbei. Since Stennes (pers. comm.) considers Mangbei to be closer to Fali (Group 9) [*sic*: Fali is Greenberg's Group 11] than it is to Mundang of this group, it would seem that Mangbei may indeed have to be excluded. (217)

Hagège (1981) supports the view that Mambay should be excluded from the Kebi-Benue group. Although Hagège makes reference to “une information complémentaire,” he does not provide evidence for this decision; he states simply that Mambay is too different from the other languages of the Kebi-Benue group to be attached to it (1981:4).

Bennett (1983:33, 42) implicitly acknowledges this position by calling the Kebi-Benue group “Mangbei-Mbum,” but Mambay is not investigated as part of his sample for classification.

Based on a bare 10% apparent lexical similarity (among 227 words) between Mambay and Mundang, Hamm (2001:6, 10) concludes that while Mambay may belong to the Kebi-Benue group, it is likely that it should be excluded from the Tupuri-Mundang-Mambay subgroup.

In contrast to these sources, and in keeping with other classifications starting with Westermann (1952; see 1.2.2.1–1.2.2.3), Boyd (1989a) accepts that Mambay belongs to the Northern division of the Kebi-Benue group. Reflecting on his previous comparative work in the Adamawa languages (1974, 1978a), he responds skeptically to the exclusion of Mambay from the Kebi-Benue group, claiming that no evidence has been presented to support such a claim:

A doubt was raised about the classification of Mangbai by Samarin (1971) for reasons that are unclear. Early word lists published by Strümpell (1910) and Lukas (1937) reveal a clearly, if distantly, related language. Eguchi's (1971) publication confirms this impression. (185)

Boyd's (1989a) resulting classification presents Mambay within the Northern division of Kebi-Benue. Elders (2000, 2006) tentatively reiterates this position.

Given these hesitations, an in-depth comparison of Mambay with other members of the Northern division of Kebi-Benue is needed to clarify the relationship among these languages.

### **1.2.3 Sociolinguistic situation**

In the following subsections, three topics are addressed: multilingualism (1.2.3.1), domains of use of Mambay (1.2.3.2), and the dialect situation (1.2.3.3). While some of the information is based on Hamm's (2001) sociolinguistic survey, these observations have been weighed in the light of field research for the present study, and additional observations have been incorporated.

### **1.2.3.1 Multilingualism**

Mambay is situated in the north-central African linguistic “core,” at the crossroads of three linguistic phyla (Niger-Congo, Afro-Asiatic and Nilo-Saharan) and host to myriad sub-families. While genetic diversity is high, contact among languages impacts their composition to a remarkable degree (Thomas 1972, Greenberg 1983:4).

Most Mambay speakers are proficient in at least one other language. The most common languages of multilingualism are (in order of decreasing frequency) Fulfulde (the language of the Fulbe), French and Mundang. Proficiency in Hausa and Arabic, two other languages of multilingualism, is limited to a small minority of men (Hamm 2001:12).

In the Mambay language area, as throughout most of Northern Cameroon, the dominance of Fulfulde is an inescapable part of the sociolinguistic equilibrium. This dominance is the result of a century and a half of Fulbe hegemony (1.1.3.2–1.1.3.4); it has steadily increased among the Mambay, with the possible exception of the last decade, since the ethnic community has begun to show interest in the preservation of their language (1.2.3.2). Even in interethnic encounters involving groups other than Fulbe, Fulfulde is almost always used as a language of wider communication.

Proficiency in French is, unsurprisingly, correlated to level of education in the French-language school systems of Cameroon and Chad. Because Mambay men have, on average, a higher level of education than women, bilingualism in French is generally limited to men (Hamm 2001:12–3).

Interestingly, proficiency in additional languages is also correlated to religious adherence. The Mambay view Fulfulde as an Islamic language, and while Arabic is used for prayer, imams in the area use Fulfulde for religious teaching; use of Mambay (or any language other than Arabic or Fulfulde) is discouraged for Muslims in religious contexts. Because of this, Mambay who are Muslim tend to be more proficient in Fulfulde than those who are Christian (Hamm 2001:11–2).

In contrast, Mambay who consider themselves Christian (particularly those who are protestant) generally have a higher level of proficiency in Mundang than those who are Muslim. This is particularly true of Mambay Christians living on the Chad side of the border because until recently, Mundang was the primary language used there in Christian celebrations.

Finally, geographic proximity to other language areas is related to multilingualism: proficiency in Mundang is more common in Chad, where the Mambay and Mundang language areas are adjacent to one another (Hamm 2001:12). Still, although Grimes (2000a:68) states that Mambay “speakers are reported to understand Mundang,” Hamm demonstrates that even among the Mambay population in Chad, average proficiency in Mundang is low (2001:12).

### 1.2.3.2 Domains of use of Mambay

As the previous section indicates, languages other than Mambay are used primarily in situations where members of other ethnic groups are present, and in domains where written languages are used.

Among Mambay speakers, the only place where another language is used in an oral domain is in conversation in and around the mosque; until recently, only Fulfulde has been permitted (Moussa Taw, pers. comm. 2005/6).

Recently, the use of Mambay has expanded into several new domains: religious services and conversation, radio and writing. Changes in language use in religious services and conversation are addressed in the previous section (1.2.3.1). As concerns radio, COLAMA (Comité de Langue Mambay) has sponsored a weekly radio program in Mambay since mid-2005.

However, the most important expansion of Mambay has been the development of a writing system (see 1.3.3). As has been the case for other ethnic groups in the area, it has opened a major avenue for the Mambay to assert themselves as a people, and has acted as a catalyst for the expansion of the other domains mentioned here.

To date, numerous written materials have appeared in Mambay (transcriptions for titles in the lists below are given as they appear on the materials). The first publication in Mambay was a probably a catechism and prayer service, which the Catholic Church produced. A recent revision of the prayer service has been reproduced by COLAMA in conjunction with the Catholic Church and SIL.

**Catechisme ma dag ti Mambay** [Mambay catechism]

**Zimfinu geh Badazi** [Sunday prayer service]

On its own, COLAMA has published a calendar, and for the past few years has regularly produced schedules, reports and minutes for language committee meetings.

Oral texts transcribed by COLAMA in conjunction with SIL in the context of narrative discourse workshops, named with their oral sources, are as follows:

Adoum Kami:

**Sahna** [A prayer]

Bégui Démas:

**Zooga pazi kohmna** [Conference of the birds]

Kami Philippe Daouda:

**Namza kohmzi** [Conference of the animals]

Koué Agabus:

**Kaa wji yo pale ka keti kpargile ma sigro na ?** [*Why is it that the sky has become distant from the earth?*]

Koué Lazare Bessoum:

**Gogra ma nahurdenge** [The bee and the wasp]

**Kwe Lazar** [A story about Koué Lazare]

Kwe Nathaniel:

**Asyaṅmiya** [It-doesn't-concern-me]

**Nasah** [A question]

**Paa fugzo ma sa'nni ee** [The cotton farmer and his commerce]

Oussoumanou Bouba:

**Big tivin rama** [The blind woman's child]

**Geeri nii si'la ma gyah** [The north wind and the sun]

**Hurtigohm** [The locust]

**Kaga ma liba** [The chicken and the guineafowl]

**Mu kyahri laa kyah, mú ku'l gbahna** [You want to eat fish, so learn to fish!]

**Nahrā** [The star]

**Natu'** [Proverbs]

**Taw Namuura** [Taw Namuura] (with Kwe Nathaniel)

**Tawso yah gwaare** [Tawso took the sickle]

**Wahwah** [Hubbub]

**Yih Mambay** [The name "Mambay"]

Saadu Kami Taw:

**Dag du'lo** [The sacred enclosure] (with Younoussa Wouri)

**Saadu Kami Taw** [Autobiography of Saadu Kami Taw]

Younoussa Wouri:

**Mi kyah sehro** [What I desire for you]

Five of the oral texts have been selected for analysis; these texts appear in at the end of this study.

Editions published by COLAMA in conjunction with the Église des Frères Luthériennes include a hymnbook and a pre-primer.

**Chio-hi'in Siketi ma-dag tiMambai** [Songs to worship God in Mambay]

**Ku'ul de'e igga ma dag ti Mambai** [Learning to write things in Mambay]

Works which have been published or are being prepared for publication in Mambay by COLAMA in conjunction with SIL are as follows:

**Abeseder twa ma dag ti Mambay** [A new alphabet chart in Mambay]  
**Ig nii seh paa tu'n ku'l daga yag tii naa izire keh iga ma dag bin**  
 [Resource for teachers of those who are literate in another language]  
**La' inaa koozi Yeeso** [This is how Jesus was born]  
**Mah ro'ra ma dag ti Mambay** [Mambay dictionary]  
**Ná ku'l keh iga ma dag ti Mambay** [Let's learn to write in Mambay]  
**Naga, mú nu ga! Dehmtere ku'lni ɓurni dag ti Mambay** [Naga, don't  
 sleep! A book for learning to read the Mambay language]  
**Namzi sigri ti Mambay** [Animals of the land of the Mambay]  
**Dehmtere ku'lni ɓurni dag ti Mambay 2** [A book for learning to read the  
 Mambay language, part 2]

### 1.2.3.3 Dialect situation

There is little linguistic variation among varieties of Mambay, and the variation that exists does not significantly impede comprehension between speakers of different varieties (Hamm 2001:9).

Three main dialect areas, which constitute links in a modest continuum, have been identified. Varieties south of the Mayo Kebbi are at one end of the continuum, and those in Chad, which are in the north-eastern part of the language area, are at the other end. Varieties in the north-western section of the language area, situated north of the Mayo Kebbi in Cameroon, are ambivalent in their affinities to the dialects at the ends of the continuum. 20<sup>th</sup>-century migrations have disrupted this neat distribution, so that two of the villages north of the Mayo Kebbi (Bisooli~Bissolé and Kaaguma~Kagouma) speak a “southern” dialect, and a village south of the river (Kaaku'~Kakou) speaks a “northern” dialect. According to some sources, the variety spoken on the south side of Mambay Mountain, from Pyahga (Piaga) to Lam, constitutes an additional dialect area. However, it has not been possible to gather data from this variety.

Most of the dialect differences are lexical, and are often limited to tone, nasality or a single segment. In the database, these differences affect only about 1% of the lexicon. A representative selection of attested variations grouped by dialect area is given in Figure 5 (see following page):

Figure 5: Lexical variation among Mambay dialects

	southern	northern (Cameroon)	northern (Chad)
eight	<b>fwàrnáǵà</b>	<b>fwàrnáǵà</b>	<b>fwàrnâh</b>
soldier	<b>gáhlbú</b>	<b>gáhlbú</b>	<b>gáhlbó</b>
money	<b>kóbò</b>	<b>kóbò</b>	<b>kóbò</b>
giant rat	<b>màà-rààrà</b>	<b>màà-rààrà</b>	<b>màà-rààrà</b>
weakness	<b>tì-dúgrì</b>	<b>tì-dúgrì</b>	<b>tà-dúgrì</b>
with (adv.)	<b>mà-gèn</b>	<b>mà-gèn</b>	<b>mà-gèé</b>
up to, until	<b>háá</b>	<b>háá ~ háǵ</b>	<b>háǵ</b>
knock over	<b>fwàr</b>	<b>fwàr ~ fòr</b>	<b>fèr</b>
walk (v.n.)	<b>té'là</b>	<b>té'là ~ dá'là</b>	<b>sé'là ~ dá'là</b>
our (incl.)	<b>?ánzá</b>	<b>?ánzyá</b>	<b>?ánzyá</b>
impatient	<b>fǵhw</b>	<b>fǵy</b>	<b>fǵy</b>
give	<b>híí</b>	<b>hǵí</b>	<b>hǵí</b>
learning	<b>kúǵgó</b>	<b>kúǵvó</b>	<b>kúǵvó</b>
green monkey	<b>kpùm káà kpèèǵá</b>	<b>kpùm pùǵá</b>	<b>kpùm pùǵá</b>
water turtle	<b>lǵàngǵá</b>	<b>lǵàngǵá</b>	<b>lǵàngǵá</b>
star	<b>nǵhrà</b>	<b>rǵhnà</b>	<b>rǵhnà</b>

In addition to lexical variants, two regionally defined phonological differences have been identified. The most important difference concerns the inventory of nasalized vowels. While the other dialects exhibit three peripheral nasalized vowel positions **ĩ ǵ ǹ** (2.2.1, 3.1), the dialect in Chad also allows nasalized mid vowels, at least on the surface. This shows up in the linked forms of **yǵX-** and **wǵX-**final nouns (5.2.2.2.2):

	default form, all dialects	linked form, Chad dialect	linked form, other dialects
fish	<b>kyǵh</b>	<b>kǵh</b>	<b>kǵh</b>
wink (n.)	<b>nà-ryǵà</b>	<b>nà-rǵè</b>	<b>nà-rǵì</b>
cricket sp.	<b>nà-syǵ'</b>	<b>nà-sǵ'</b>	<b>nà-sǵ'</b>
hole, den	<b>nwǵ'</b>	<b>nǵ'</b>	<b>nǵ'</b>
fool	<b>rwǵà</b>	<b>rǵò</b>	<b>rǵù</b>
bracelet	<b>twǵh</b>	<b>tǵh</b>	<b>tǵh</b>

The Chad dialect's expanded inventory may reflect the influence of Mundang, which exhibits nasalized vowels in seven positions (Elders 2000:40).

Another conspicuous difference exhibited by the dialect in Chad as against the other dialects is its realization of **s** and **z** as [ʃ] and [ʒ] respectively with the semivowel **y** or, with some speakers, before the high front vowel **ĩ**.

	phonological form, all dialects	phonetic realization, Chad dialect	phonetic realization, other dialects
tree sp.	syáà	[ʃ]áà	[sy]áà
shine	syé	[ʃ]é	[sy]é
song	syóò	[ʃ]óò	[sy]óò
net	zyáà	[ʒ]áà	[zy]áà
jackal	zyâh	[ʒ]âh	[zy]âh
mistake (v.)	zyàgrí	[ʒ]àgrí	[zy]àgrí
crocodile	sígò	[ʃ]ígò	[s]ígò
valley, river	sî	[ʃ]î	[s]î
year	sìrǎ	[ʃ]ìrǎ	[s]ìrǎ
large hoe	zí'gò	[ʒ]í'gò	[z]í'gò
fish sp.	zìrì	[ʒ]ìrì	[z]ìrì
gnaw	zìr	[ʒ]ìr	[z]ìr

Because of these differences, Mambay speakers often state that the Mambay in Chad speak with a Mundang accent (local French: *ton*) (Hamm 2001:9). This promotes the prevailing perception (in all dialect areas) that the varieties spoken in Cameroon are “purer” than those spoken in Chad (13). In particular, the variety spoken in Kaakyo’w is esteemed: the historical primacy of Kaakyo’w (see 1.1.3.1) as well as its geographical isolation, which has minimized the influence of other languages, contribute to this opinion.

### 1.3 Research framework

In this section, the research framework of this study is addressed. The first subsection (1.3.1) outlines the scope of the research and gives an overview of the topics that are addressed in each chapter. The next part (1.3.2) summarizes the organization and process of field research. A final portion (1.3.3) describes the emergence of the standard Mambay orthography and compares it to the phonological orthography used in this study, which is based upon it.

#### 1.3.1 Scope and overview of this study

This study is a description of Mambay as it is spoken today. The variety under investigation is that of the principal collaborator, Oussoumanou Bouba (see 1.3.2) of Kaakyo’w (Katchéo), Cameroon. This variety falls within the dialect spoken by Mambay living south of the Mayo Kebbi (1.2.3.3).

Description revolves around the phonological and morphological structure of the language. Pertinent issues in phonetics are treated within the framework of the phonological system, and topics in syntax, discourse structure and semantics are treated in reference to morphological classes. A number of linguistic theories and sub-theories have been taken into account in the present study. These are, in particular, the structuralist tradition, functional grammar, the generative movement and its progeny

Autosegmental Phonology, Lexical Phonology and Optimality Theory. When appropriate, theoretical insights have been incorporated<sup>1</sup>; however, the descriptive focus of the study assumes a minimal amount of theoretical background on the part of the reader.

In this first chapter, the Mambay ethnic group is situated geographically as well as historically. Existing studies on the Mambay language are catalogued, and the classification of the language and its sociolinguistic situation are considered in detail. The final section of this chapter presents the framework and methodology of the study.

The phonology of Mambay is addressed in chapters 2–4. In chapter 2, an overview of the phonology is presented. Contrastive phonological constituents are examined starting with consonants and vowels, and syllable and word structure are treated in turn. A number of interpretive issues are probed; of these, the interpretation of pharyngeal and glottal articulations is the most involved.

Chapter 3 examines the role of nasality in the language. Nasality is shown to be contrastive for vowels as well as consonants, and the determination of its source is often problematic. The distribution and spread of nasality is therefore treated in reference to domains of association, within morphemes as well as across morpheme boundaries.

Chapter 4 is devoted to an analysis of the tone system. The Mambay tone system is depicted as a register tone system with two contrastive levels, High and Low. These levels are organized into seven contrastive tone melodies which may be associated with morphemes. Tonal processes, both lexical and postlexical, are also addressed. In addition, the role of intonational phenomena, which interact with tonal phenomena, is accounted for.

The word classes in the language are dealt with in chapters 5–9. First of all, nouns are described in chapter 5. Of the various classes, nouns show the greatest diversity in attested root structures. Affixational and template morphology is also a significant attribute of nouns: this is evident in the widespread occurrence of prefixation, some instances of which have been lexicalized, and some of which continue to function grammatically. Template morphology, for its part, plays an active role in pluralization and in a pervasive free vs. linked distinction on nouns. The left-headed possessive construction, which is the primary context in which linked forms of nouns are found, is then described in reference to three axes: spontaneous vs. lexicalized, obligatory vs. optional possession, and alienable vs. inalienable possession. Additionally, specific types of nouns and noun-related constructions are considered: participant noun constructions, ideophonic nouns, proper names, compounding and other types of derivation and the

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<sup>1</sup> The contribution of Autosegmental Phonology (Leben 1973, Goldsmith 1990) is especially evident in the description of the internal structure of consonants (2.1.5), syllable structure and syllable weight (2.4.2, 2.4.3), nasality (Chapter 3) and tone (Chapter 4); that of Lexical Phonology (Kiparsky 1982, Kenstowicz 1994) is evident in the lexical/postlexical distinction that has informed the description of tone association and tonal processes (4.1–4.3); and the insights of Optimality Theory (Archangeli and Langendoen 1997) have been incorporated in the discussion of constraints on the distribution of nasality (3.1.1, 3.4.1, 3.4.2) and the distribution of vowels in adjectives (8.4.2.1.1).

locative function of nouns are all taken into account. A final section provides an inventory of attested noun phrase types.

Chapter 6, which is concerned with pronouns, is an appropriate transition between chapter 5 on nouns and chapter 7, which is concerned with verbs. While, prototypically, pronouns take the place of nominal referents, they also play an important role in the verbal system, where they bear TAM (tense, aspect and mode) distinctions. The larger part of the chapter is concerned with the basic categories of personal pronouns distinguished in Mambay: subject, object and possessive pronouns. Each of these pronoun types also has emphatic forms produced by various strategies. A final section deals with interrogative pronouns.

Chapter 7 examines verbs. First, canonical morphologically simple stems are examined. This is followed by a discussion of non-canonical stems, most of which are morphologically complex; the most prominent group of non-canonical stems contain verbal extensions. A description of verb word morphology then leads into a discussion of verbal inflection, which is marked on the verb word, subject pronouns and by means of expanded verb forms, including those which incorporate auxiliary verbs and TAM adverbs and particles. A final section describes composite verbal expressions: these are constructions composed of a verb stem recurrently found with another element (noun, prepositional phrase, etc.) in the lexicon.

Chapter 8 deals with two classes of modifiers: adverbs and adjectives. Since ideophones comprise a majority of adverbs as well as adjectives, they are also treated in this chapter as a parallel topic with major implications for both of these word classes. One striking trait of ideophones in Mambay is the existence of several derivational ideophonic templates. Apart from ideophones, directional and TAM adverbs as well as a poorly defined group of non-ideophonic adjectives are addressed.

Chapter 9 brings together three minor word classes, all of which are closed in the lexicon: numerals, demonstratives and prepositions. Numerals in particular are morphologically diverse; a small group of underived numerals is found, but many numerals are derived from other parts of speech, especially nouns.

Chapter 10 serves to introduce the structure of clauses and clause combinations. The section on clause structure, which comes first, deals with constituent order, clause and clause constituent particles and verbless clauses; independent utterances other than clauses are also considered. The section on clause combinations then concentrates on strategies of coordination and subordination, giving special attention to conjunctions and particles.

At the end of this study, a collection of five texts is transcribed and interlinearized. These texts have been selected from a variety of genres—song, proverb, legend (account of origins), and fable—in order to illustrate a range of morphological, syntactic and discourse structures. In addition, there are two appendices: Appendix 1 provides an

inventory of inalienable possession paradigms, and Appendix 2 presents conjugations of verbal inflection as it patterns with contrastive tonal verb classes.

One theme that is recurrently invoked in the description is that of canonicity. Phonological structures from some of the word classes fall between two ends of a continuum: canonical and non-canonical. Canonical structures belong to the homogeneous phonological core of the language and represent the vast majority of structures in the language. However, there are small but persistent groups of marked and highly varied structures in all of the lexically open word classes; and often, non-canonical roots exhibit a cluster of uncommon features. The sections which discuss canonicity reveal that some non-canonical structures, such as nasalized mid vowels (3.1.1), are attested only a handful of times in the data. Words borrowed from other languages usually exhibit the same behaviour as other non-canonical items in the same class (e.g., 5.2.2.3, 7.1.2.3). In later chapters, canonicity is considered in reference to the following topics:

- geminate consonants (2.1.2.7);
- repetition of consonants within a syllable (2.1.2.8);
- distribution of vowels within morphemes (2.2.2.3);
- syllable weight (2.4.3);
- inventory of nasalized vowels (3.1);
- noun CV structure (5.2.1.1) and tone melody (5.1.1.2);
- noun-to-noun derivation with prefixes (5.1.2.3.1);
- linked form (5.2.2.2) and plurality (5.5.1.1) templates;
- verb stem structure (7.1);
- ideophones (8.2; see also 5.11 and 7.1.2.2); and
- prepositions vs. locational nouns (9.3.3).

The Fulfulde examples given in the text have been verified using SIL (2003) and Noye (1974), and Hausa examples are from Abraham and Mai Kano (1949) and Maarten Kossmann (pers. comm. 2007).

### **1.3.2 Field research**

My initial exposure to Mambay was as part of an SIL Chad team that conducted a sociolinguistic survey on Mambay (Hamm 2001) in May 2000. Along with Cameron Hamm and Mbernodji Calvin, I received a warm welcome and introduction to the Mambay language and culture. Aspects of Mambay phonology such as pharyngealization, glottalization and the labial flap were some of the unfamiliar phenomena that whetted my desire to better understand the phonology of the language. In addition, the well-watered plain of the Mayo Kebbi with its lush pastures and orchards groves was a refreshing change from the hotter, drier areas of north-east Chad where we had been working previously (Anonby and Johnson 2001). But the kindness, hospitality and humour of our hosts were, in the end, what drew me back to the Mambay language area.

I was able to return to the Mambay area three and a half years later under a collaborative arrangement among SIL Chad, SIL Cameroon, COLAMA (Comité de Langue Mambay) and MINREST (Ministère de la recherche scientifique et technique) of Cameroon. While most of my time was to be devoted to fieldwork, I was given an opportunity to contribute as a consultant by applying the result of my linguistics research to the development of an orthography as part of a larger language development project (this is described in detail in the following section). Eventually, the scope of my involvement expanded to embrace a number of additional activities.

Much of my commitment to the language development project centred on the facilitation of linguistics and computer courses and workshops for members of COLAMA and, later on, the Bible translation team. This included training on phonetics and orthography, data management, community vocabulary collection and lexicography, transcription of texts, literacy primer construction, narrative discourse and translation. I was also privileged to play a part in the reorganization of COLAMA, which evolved from a church-run Bible translation committee into a non-partisan language committee whose increased repertoire of activities came to represent and serve the Muslim as well as Christian segments of the ethnic group.

Rather than taking away from the contemporaneous investment in fieldwork, involvement in the language development project enriched my awareness of the Mambay language and culture (see Kutsch Lojenga's (1996) discussion of participatory research). In this capacity, I was able to visit most of the larger Mambay villages; happily, these were distributed in all three of the major dialect areas (1.2.3.3). Since all of the language committee's activities were conducted in Mambay (see 1.2.3.2), I was forced to pay close attention to the language, especially at the point when colleagues in the committee felt that it was no longer necessary to translate everything for me because I was beginning to speak and understand the language. In addition, the vocabulary collection efforts of several members of the language committee resulted in a lexicon of almost 2000 items. This lexicon formed an underpinning for the 3450-word vocabulary prepared for the purposes of this study and which will, hopefully, be published in a Mambay dictionary (COLAMA in preparation).

Fieldwork was conducted between October 2003 and February 2006, and interposed by two periods of write-up at Leiden University in the Netherlands: six months in 2004 and three months in 2005. Three principal localities of field research may be distinguished: 1) the Mambay ethnic area, especially Kaakaala and the Mambay quarter of Figuil; 2) the small Mambay community of N'Djaména; and 3) Maroua, where, with reliable electricity, intensive instruction and elicitation sessions were conducted.

A large number of Mambay speakers assisted by providing and collecting data.

The principal collaborator for this study is Oussoumanou Kada Bouba of Kaakyo'w (Katchéo), Bibémi Subdivision, Bénoué Division, North Province, Cameroon. He speaks the dialect on which this study has been primarily based, namely that which is found south of the Mayo Kebbi River (1.2.3.3). Oussoumanou, who is 47 years old, works as a

geotechnical engineer, Bible translator, linguist, and cultivator. He is also a member of COLAMA (Comité de Langue Mambay), and is active as a lay reader for the Catholic community in Kaakyo'w and Bookiré. In addition to helping with hundreds of hours of elicitation, Oussoumanou assisted by collecting vocabulary for a dictionary (COLAMA in preparation), proofreading transcriptions, and helping defining orthographic conventions and linguistic terminology for Mambay (see 1.3.3).

Other collaborators who contributed significantly to this study are acknowledged in the following paragraphs.

Kada Moïse was born in Kaakaala (Kakala), Cameroon, where he still lives. He is the deputy chief of Kaakaala, where he also works as a cultivator and community health care facilitator. Kada hosted our family when we first moved to Kaakaala. He taught us much useful vocabulary, and oriented us to the culture and historical context of the Mambay people.

Sadou Kami Tao was born in Kaalaw (Kalao), Cameroon. He has lived for many years in Figuil, Cameroon, where he worked as a civil servant until his retirement. Sadou recounted and allowed me to record the early history of the Mambay, his own life story and some of the vanishing religious rituals of the Mambay.

Yunusa Wuri was born in Kaagbungni (Kaboni), Chad. He now lives in Figuil, and has worked as a merchant's assistant. Yunusa helped with the translation of numerous texts into French, and collaborated extensively in the production of data for tone analysis.

Titogo Tao Justin is from Kaakaala, although his family is originally from Kaagbungni. He is now located in Figuil, where he has finished his studies and works as a tutor. Tao was the principal resource person using the Chadian dialect of Mambay, and helped with the elicitation of vocabulary.

Kwe Nathaniel was born in Kaagbungni, and continues to live there. He works as a grain merchant and cultivator, and is the coordinator for COLAMA's literacy programme. He provided a number of texts, contributed to vocabulary collection for the dictionary, and was active in the development of the orthography.

Koué Agabus was born in Kaagbungni. Presently, he is a pastor of an EFL (Église des Frères Luthériens) church in Bidé, which is near Bibémi, Cameroon. Koué is a member of the Bible translation team. He was involved in a number of training events, and provided consistent criticism of transcribed texts and COLAMA publications.

Pévina Salomon, originally from Kaakaala and Kaagbungni, is currently studying in a technical training school in N'Djaména. He helped with elicitation for a major initial portion of vocabulary for the dictionary.

Badilou Kada is originally from Kaakaala. He now lives in Figuil, where he works in a cement factory. Badilou who was the main informant from the dialect area north of the

Mayo Kebbi in Cameroon, thoughtfully and enthusiastically answered selected questions on the language over a year-long period.

As the previous list shows, all of the major contributors to the present research were men. The selection of collaborators reflects the choice of COLAMA and, indirectly, cultural considerations since in Mambay culture a respectful distance is observed between the sexes in most social contexts. Despite this shortcoming, numerous smaller selections of data were consistently collected from women in public contexts.

### **1.3.3 Orthography used in this study**

The phonological orthography used in this study is based on the standard Mambay orthography (Anonby 2004a), but has been modified to reflect additional phonological considerations.

The standard orthography reflects the work of many individuals and the collaboration of the Mambay language community as a whole. The first version of the orthography, which appeared in three publications (1995–2000), was designed by COLAMA (Comité de Langue Mambay) based on the orthography of other regional languages and the phonological transcriptions used in Eguchi's (1971) study. Several additional orthographic issues were addressed in consultation with Gravina (2001).

While significant strides had been made toward the development of a standard orthography, a number of issues continued to detract from its utility: these included an incomplete alphabetic inventory, inconsistency, problematic interpretations of ambiguous sequences, lack of tone marking, and variation between dialects (cf. 1.2.3.3). In a series of workshops co-sponsored by SIL and COLAMA, Anonby and members of COLAMA began to address these issues, and conventions set forth in Tadadjeu and Sadembouo's (1984) *Alphabet générale des langues camerounaises* and DAPLAN's (2000) manuscript *Les lettres de l'alphabet national des langues du Tchad* were put into practice. A provisional version of the standard orthography was written up in Anonby (2004a), and a refined version which includes some tone marking is to appear in Anonby and Oussoumanou (2008 forthcoming).

The orthography used in this study is based on the latest version of the standard orthography, but is more phonologically robust. The principal ways in which the two writing systems differ are summarized in Figure 6 on the following page, and examples are provided.

Phonetic transcriptions of Mambay data are given in square brackets; phonetic detail is reserved for realizations of the segments under discussion in a given section. For the most part, the phonetic transcription follows IPA (International Phonetic Association) conventions. Minor divergences from the IPA alphabet are explained in 2.1.1.

Figure 6: Comparison of the standard Mambay orthography with the orthography used in this study

standard Mambay orthography	examples	orthography used in this study	examples
tone marking is limited to aspectual and modal distinctions on subject pronouns	<b>suuzo</b> ‘hair’ <b>ró voro</b> ‘[you (2pl.)] go!’	lexical and grammatical tone are both fully marked	<b>sùùzó</b> ‘hair’ <b>ró vòró</b> ‘[you (2pl.)] go!’
predictable nasality on vowels is unmarked within a syllable	<b>nama</b> ‘animal’ <b>bjiru</b> ‘cobra’	all nasality on vowels is marked	<b>nàmə</b> ‘animal’ <b>bjǐrǔ</b> ‘cobra’
morpheme-final CyVV and CwVV sequences are written with a single vowel	<b>zya</b> ‘net’ <b>rwə</b> ‘fool’	morpheme-final CyVV and CwVV sequences are written with a double vowel	<b>zyáà</b> ‘net’ <b>rwáà</b> ‘fool’
preglottalized nasals are written as implosives followed by a nasalized vowel	<b>ɓərə</b> ‘friend’ <b>ɗə</b> ‘flow’	preglottalized nasals are demonstrated to be contrastive (2.1.2.3) and are written as such	<b>ʼmərə</b> ‘friend’ <b>ʼnə</b> ‘flow’
glottalization on vowels and preglottalization on consonants are not orthographically distinct	<b>ku</b> ‘sand’ <b>ʼwəhra</b> ‘debt’	glottalization on vowels is marked with a curved apostrophe, and preglottalization on consonants is marked with a straight apostrophe	<b>kû</b> ‘sand’ <b>ʼwàhrá</b> ‘debt’
morpheme-initial glottal stops are unmarked	<b>ahra</b> ‘canoe’ <b>oo</b> ‘braid (v.)’	glottal stops are marked everywhere	<b>?àhrá</b> ‘canoe’ <b>?óó</b> ‘braid (v.)’
morpheme boundaries within words are unmarked	<b>tivina</b> ‘woman (respect form)’ <b>heezi</b> ‘they climbed’	morpheme boundaries within words are marked	<b>tí-vǐnà</b> ‘woman (respect form)’ <b>hèè-zí</b> ‘they climbed’
capitalization is used for proper names and at the beginning of sentences	<b>Taw</b> ‘(personal name)’	capitalization is not used	<b>tâw</b> ‘(personal name)’

## PHONOLOGICAL STRUCTURE

The Mambay language is characterized by a rich system of phonological structures. In this chapter, consonants and vowels are treated first (2.1 and 2.2). While some of the phonetic phenomena that have been explored in Anonby (2006) are reviewed here, analyses of phonological structures, in particular issues relating to both consonants and vowels (2.3), are pursued in greater detail. These sections are followed by descriptions of syllable structure (2.4) and word structure (2.5). Additional chapters have been devoted to nasality (Chapter 4) and tone (Chapter 5); each of these phenomena represents an involved system which functions in reference to the structures described in the present chapter.

The section on consonants presents an inventory of twenty-nine contrastive consonants in Mambay, with four additional consonants found in borrowed words (2.1.1). The six attested places of articulation (labial, alveolar, palatal, velar, labial-velar and glottal) reflect a system typical of the Niger-Congo phylum in general (Williamson and Blench 2000:37) and the Kebi-Benue languages in particular (Boyd 1974:21, Elders 2006). However, the palatal series in particular is less developed than that which has been described in closely related languages (*ibid.*); contrastive palatal stops, prenasalized stops, fricatives and nasals are all absent in Mambay.

Nine distinct manners of consonant articulation are represented (see the chart in 2.1.1 below). These are, for the most part, the same as those of closely related languages. However, the prenasalized stops found in other Kebi-Benue languages (Boyd 1974:21–2)—albeit on a reduced scale in the Northern group (Elders 2006)—are lacking in words of Mambay origin. Two other conspicuous components of the consonant inventory are a profoundly phonologized labial flap (2.1.8) and a robust glottalic series consisting of eight members, five of which are oral and three of which are nasal. Along with other glottalic segments, the two implosives in the language pattern as sonorants rather than obstruents, since they are sensitive to nasality (2.1.1 below and 3.2; see also Kaye 1981, Creissels 1994:107 and Clements 2000:132).

The distribution of consonants, which is discussed in various syllable and morpheme positions (2.1.2), is followed by an establishment of contrast among members of the inventory (2.1.3). Further sections devoted to consonants regard interpretive issues (2.1.4), internal structure of consonants (2.1.5), phonetic realizations (2.1.6), airstream mechanisms (2.1.7) and the labial flap (2.1.8).

The section on vowels presents a system with five basic units: **i e a o u** (2.2.1). This basic inventory is simpler than those found in most other Kébi-Bénue languages, some of which contain ten basic vowels (Boyd 1974:38–40, 56; Elders 2000:39). In contrast to many other Niger-Congo languages, there is no ATR (advanced tongue root) vowel harmony in Mambay; the additional vowel qualities [ɛ] and [ɔ] are found only as realizations of **e** and **o** in closed syllables (2.2.5). However, the basic vowels in Mambay occur with four other vowel modifications: length, nasalization, glottalization and pharyngealization. In some cases, only a reduced inventory is found with a particular modification. Since several combinations of the vowel modifications are permitted, a total of thirty contrastive vowel qualities are represented. While vowel modifications may have originated as consonants (Boyd 1974:56–7), they have been interpreted as synchronically vocalic in Mambay (2.3.3.2, 2.3.3.3). The existence of pharyngeal articulations in particular is fascinating, since in Africa this phenomenon is for the most part restricted to the Afro-Asiatic languages of the north and north-eastern parts of the continent, and Khoisan languages in the southwest (Clements 2000:128, 139).

The distribution of vowels in the language is presented in 2.2.2. Contrasts between vowels are established in 2.2.3, and interpretive issues relating to vowels (2.2.4) are followed by a discussion of their phonetic realizations (2.2.5).

The section on issues relating to both consonants and vowels first outlines limitations on which consonants and vowels may occur with each other (2.3.1). The establishment of contrast for glottalic sequences across syllable boundaries (2.3.2) is followed by an in-depth examination of possible interpretations for semivowels (2.3.3.1 and 2.3.3.4), pharyngeal articulations (2.3.3.2), and glottalic articulations in syllable rhymes (2.3.3.3). The perplexing behaviour of glottalic articulations in this position is reminiscent of that found in mid 20<sup>th</sup>-century descriptions of the Oto-Manguean languages of southern Mexico (Aschmann 1946, Pickett 1951, Longacre 1955, Robbins 1961, Pike 1967:387), and a later study on Duru / Yag Dii of north-central Cameroon (Bohnhoff 1976, 1987). While the Mexican studies treat glottalization as the distribution of glottal consonants within syllable nuclei, Bohnhoff assigns this phenomenon to structurally discrete “double vowels.”

The section on syllable structure catalogues the seven attested syllable shapes in the language (2.4.1) and provides a description of syllable structure (2.4.2) and syllable weight (2.4.3). Four noteworthy properties of syllables in Mambay, especially within the context of sub-Saharan African languages are: the requirement that all syllables have an onset; the existence of complex (CC) onsets; syllable codas in which most consonants may be found; and the existence of a number of morphemes containing superheavy CVVC syllables.

The chapter concludes with a section on word structure. The possibilities available to phonological words are discussed in reference to syllable structure and derivational as well as inflectional morphology (2.5).

The phonetic transcription in this chapter is concerned with segmental phonology; details pertaining to nasality and tone are presented more fully in the relevant chapters (4 and 5). In addition, phonetic detail is reserved for realizations of the segments under discussion in a given section.

## 2.1 Consonants

In the present section, an inventory of consonants is provided (2.1.1). The distribution of consonants in various morpheme and syllable positions (2.1.2) is coupled with a demonstration of contrast among them (2.1.3). Additional topics are interpretive issues (2.1.4), the internal structure of certain consonants (2.1.5), phonetic realizations (2.1.6) and airstream mechanisms (2.1.7). A special section is devoted to a discussion of the labial flap (2.1.8).

### 2.1.1 Inventory of consonants

The consonant inventory of Mambay, presented in phonological orthography, may be schematized as follows:

		place					
		labial	alveolar	palatal	velar	labial- velar	glottal
obstruents	voiceless stops	<b>p</b>	<b>t</b>		<b>k</b>	<b>kp</b>	(?)
	voiced stops	<b>b</b>	<b>d</b>		<b>g</b>	<b>gb</b>	
	voiceless fricatives	<b>f</b>	<b>s</b>				(h)
	voiced fricatives	<b>v</b>	<b>z</b>				
sonorants	nasal glottalic series	<b>'m</b>	<b>'n</b>		<b>'ŋ</b>		
	nasals	<b>m</b>	<b>n</b>		<b>ŋ</b>		
	flaps and trills	<b>vb</b>	<b>r</b>				
	oral glottalic series	<b>ɸ</b>	<b>ɖ</b>	<b>y</b>		<b>'w</b>	<b>ʔ</b>
	approximants		<b>l</b>	<b>y</b>		<b>w</b>	<b>h</b>

Besides these consonants, which form a core within the inventory, four additional stops **j** **<sup>m</sup>b** **<sup>n</sup>d** **<sup>ŋ</sup>g** are found in words borrowed from Fulfulde.

Default phonetic realizations of consonants whose orthographic symbolization differs significantly from counterparts in the IPA alphabet are as follows:

- y** preglottalized palatal approximant (IPA [**ʔj**])
- y** palatal approximant (IPA [**j**])

<b>vb</b>	bilabial flap	(IPA [ɸ]; cf. 2.1.8)
<b>j</b>	voiced palatal-alveolar affricate	(IPA [d͡ʒ])

Phonetic realizations are described in greater detail for the consonant inventory as a whole in 2.1.6.

As shown by the chart, consonants are articulated in six different places, and nine manners of articulation are attested. An additional precision regarding place of articulation is that the consonants **ɸ** and **r** are realized with either alveolar or retroflex alveolar articulation depending on their position within a morpheme (2.1.6.2, 2.1.6.4).

Among the nine manners of articulation, a basic division exists between obstruents and sonorants. Only for obstruents, which are represented by stops and fricatives, is a distinction in voicing contrastive (although it is only found in morpheme-initial position; see 2.1.3.2). In addition, obstruents are impervious to the effects of nasality, and block the association of nasality within morphemes (3.2.1, 3.4.2).

Sonorants, in contrast, are generally voiced, and are either nasal or inherently nasalizable (3.2). Although implosives contain a glottalic stop component, they pattern with sonorants rather than obstruents, since they cannot retain their oral quality when nasality is found elsewhere within the same morpheme (3.3.2.1). The glottal stop is placed in the same category based on symmetry, although there is no language-internal phonological evidence that points either way regarding its behaviour in reference to nasality. The patterning of the glottal fricative **h** is also uncertain; it likely patterns as a sonorant, since it does not block the spread of nasality within a morpheme (note however that there is only one example in which the behaviour of nasality in relation to **h** can be observed; cf. 3.4.1), and since it alternates with **y** and **w** in certain morphological contexts (5.2.2.2.1). For this reason, **h** has been classified in the table above as an approximant rather than a fricative.

The obstruent/sonorant identity of the labial flap **vb** cannot be determined with respect to nasality, since it is overwhelmingly found in morpheme-initial position (2.1.2.1), where the blocking of nasal association within morphemes is not testable, and where there is no attested spread of nasality to or from morphemes on the left side; also, there are no morpheme-internal co-occurrences of **vb** and nasality in the data (3.4.1).

While the schematization of sonorants on the consonant chart for the most part reflects a sonority hierarchy, glottalic sonorants and their non-glottalic counterpart have been placed in adjacent rows (see 2.3.3.3.1.1 for further discussion of this phonological pairing).

## 2.1.2 Distribution

There are limitations on the distribution of consonants related to positions in syllables (2.4) and morphemes (2.5). The following four positions are relevant for Mambay:

1. morpheme-initial onsets (2.1.2.1);
2. non morpheme-initial onsets (2.1.2.2);
3. morpheme-final codas (2.1.2.3); and
4. non morpheme-final codas (2.1.2.4).

Distributional possibilities in consonant sequences are discussed separately for morpheme-initial (2.1.2.5) and morpheme-internal (2.1.2.6) positions. Geminates, which pattern differently than individual consonants in sequences, are treated in 2.1.2.7. All other consonantal distribution patterns that have been observed are considered in 2.1.2.8.

### 2.1.2.1 Morpheme-initial onsets

Almost all consonants are found in morpheme-initial onsets; only the velar nasals **ŋ** and **'ŋ** are absent. Examples of consonants in this position are as follows:

<b>p</b>	<b>páá</b>	cultivate
<b>b</b>	<b>bàà</b>	grow, harden
<b>t</b>	<b>táá</b>	stir
<b>d</b>	<b>dáá</b>	fight (v.)
<b>k</b>	<b>káh</b>	like, ask, tip over
<b>g</b>	<b>gáà</b>	state of fasting
<b>gb</b>	<b>gbáh</b>	catch, thicken, befit
<b>kp</b>	<b>kpàg</b>	call with the hand
<b>f</b>	<b>fáh</b>	seduce
<b>v</b>	<b>váá</b>	bless
<b>s</b>	<b>sáá</b>	tell, trick, finish
<b>z</b>	<b>zàà</b>	cross (tr.)
<b>'m</b>	<b>'máá</b>	respect (v.)
<b>'n</b>	<b>'náá</b>	stretch
<b>m</b>	<b>màà</b>	give an opinion
<b>n</b>	<b>náá</b>	touch
<b>vb</b>	<b>vbáh</b>	share, divide
<b>r</b>	<b>ráá</b>	spread out
<b>ɓ</b>	<b>ɓáà</b>	tree sp.
<b>ɗ</b>	<b>ɗáá</b>	find, succeed, have
<b>y</b>	<b>yáá</b>	move away
<b>'w</b>	<b>'wáá</b>	split
<b>ʔ</b>	<b>ʔáá</b>	open, lose taste
<b>l</b>	<b>làà</b>	eat
<b>y</b>	<b>yáh</b>	take
<b>w</b>	<b>wáà</b>	fig, fig tree
<b>h</b>	<b>hàà</b>	surround

In words borrowed from Fulfulde, the consonants **j** **<sup>m</sup>b** **<sup>n</sup>d** **<sup>ŋ</sup>g** are found in this position.

<b>j</b>	<b>jám</b>	good
<b><sup>m</sup>b</b>	<b><sup>m</sup>bây</b>	manioc
<b><sup>n</sup>d</b>	<b><sup>n</sup>dóò</b>	that (anaphoric demonstrative)
<b><sup>ŋ</sup>g</b>	<b><sup>ŋ</sup>gàm</b>	because

### 2.1.2.2 Non morpheme-initial onsets

In syllable onsets in non morpheme-initial position, the following consonants are found:

<b>p/b</b>	<b>zábà</b>	scorpion
<b>t</b>	<b>kètí</b>	sky, life, above
<b>k/g</b>	<b>kágà</b>	chicken
<b>f/v</b>	<b>rájàvà</b>	grass sp.
<b>s/z</b>	<b>bàzá</b>	dancing skirt
<b>'m</b>	<b>tì-gó'mì</b>	wrinkle
<b>'n</b>	<b>ná-bìbù'nà</b>	small bee sp.
<b>m</b>	<b>sámà</b>	pregnancy
<b>n</b>	<b>nà'nà'</b>	maternal uncle
<b>vb</b>	<b>féévbà</b>	pair of twins
<b>r</b>	<b>pàrà</b>	goodness
<b>ɓ</b>	<b>pábà</b>	milk
<b>ɗ</b>	<b>wáɗà</b>	<i>boule</i> with sauce
<b>y</b>	<b>'màyá</b>	fast
<b>l</b>	<b>sàlá</b>	cowrie shell
<b>y</b>	<b>fáyáŋ</b>	light (weight), agile
<b>w</b>	<b>ná-wíwàh</b>	belt made of bells
<b>h</b>	<b>bàhà</b>	ibis sp.

Since oral obstruents (with the marginal exception of **t** and **ɗ**; see 2.1.2.7) show no contrast in non morpheme-initial position, they are paired in the lists in this section, and are written in the phonological orthography using a single symbol, namely that of the voiced counterpart (see 2.1.3.2 for further explanation).

The absence of velar nasals **ŋ** and **'ŋ** in non morpheme-initial onsets parallels their absence in morpheme-initial onsets (2.1.2.1). The labial-velars **kp** and **gb** and the glottal stop **ʔ** are also absent here.

Since other glottalized consonants and semivowels are found here, the absence of **'w** likely reflects its sparse representation in the lexicon rather than a phonological restriction.

The absence of **ɗ** in non morpheme-initial onsets may be relegated to a general historical weakening of **ɗ** to **r** in non morpheme-initial position (Boyd 1974:23); alternatively, it could be viewed as a synchronic neutralization of contrast between members of the pair

**d/r.** More surprising than the absence of **d** is the presence of **t** in this position in seven words in the data:

<b>ɓàtì</b>	two
<b>gbàrgàtàng</b>	completely
<b>kètí</b>	sky, life, above
<b>sí-kètí</b>	God
<b>tí-kúr-kùùtí</b>	water plant sp.
<b>vbàhtátá</b>	strong and healthy, solid
<b>wátùtáà</b>	salt, sugar

The presence of **t** in this position is in contradiction to the distribution of other obstruents, all of which are voiced; for at least some of the words, this asymmetry may be due to synchronic or historical morphological complexity.

### 2.1.2.3 Morpheme-final codas

In morpheme-final codas, the following consonants are found:

<b>p/b</b>	<b>ràb</b>	hug
<b>t</b>	<b>kpàt</b>	far
<b>k/g</b>	<b>ɓág</b>	meet, support
<b>f/v</b>	<b>ròv</b>	scald
<b>s/z</b>	<b>gbìrìz</b>	frighteningly
<b>'m</b>	<b>dè'm</b>	comment (v.)
<b>'n</b>	<b>gù'n</b>	accompany
<b>m</b>	<b>ɓám</b>	trample, carve
<b>n</b>	<b>kàn</b>	pass, exceed, abuse
<b>ŋ</b>	<b>lájŋ</b>	move
<b>r</b>	<b>zèr</b>	comb
<b>ɓ</b>	<b>sàɓ</b>	vomit
<b>ɗ</b>	<b>yàɗ</b>	feel, rub
<b>y</b>	<b>tày</b>	sway rhythmically
<b>'w</b>	<b>nà'w</b>	spank
<b>l</b>	<b>sèl</b>	dispute (v.)
<b>y</b>	<b>lèy</b>	groan, crash, order
<b>w</b>	<b>wàhw</b>	bark (v.)

(The pairing and orthographic representation of obstruents, for which there is no voicing contrast in this position, is explained in 2.1.3.2).

Missing from this position are the labial-velars **kp** and **gb**, the glottal consonants **ʔ** and **h**, the preglottalized nasal **'ŋ**, and the labial flap **vb**. The additional lack of **d** in this position is discussed in 2.1.2.2.

The inventory of consonants in morpheme-final codas is surprisingly rich. Two comments relate to this. First, the lexicon reveals that sonorants are much more common in this position than obstruents. Second, some of the consonants appear to have arisen here historically as verbal extensions which have been fused to the verb root (7.2).

#### 2.1.2.4 Non morpheme-final codas

In non morpheme-final codas, the following consonants are found:

<b>p/b</b>	<b>gáhblà</b>	hare
<b>t</b>	<b>kpâtgá</b>	distance
<b>k/g</b>	<b>ná-kógrà</b>	worm
<b>f/v</b>	<b>gbòvvi</b>	wash clothes
<b>s/z</b>	<b>mìzzí</b>	sprinkle
<b>'m</b>	<b>ná-dó'mnà</b>	anus
<b>'n</b>	<b>mù'nrá</b>	moan, groan
<b>'ŋ</b>	<b>sù'ŋgá</b>	razor
<b>m</b>	<b>nà-kêmrá</b>	youthfulness (man's)
<b>n</b>	<b>kàngà</b>	male circumcision
<b>ŋ</b>	<b>kpòŋrú</b>	tibia (of animal)
<b>r</b>	<b>bêrgá</b>	sweetness
<b>ɓ</b>	<b>lóbà</b>	island
<b>ɗ</b>	<b>ɗádrá</b>	sowing
<b>'w</b>	<b>kpé'wrà</b>	melon
<b>l</b>	<b>hàlgá</b>	crab
<b>y</b>	<b>nà-lêyrá</b>	grinding, command
<b>w</b>	<b>gáwrà</b>	savannah

(As mentioned in the preceding section, the pairing and orthographic representation of obstruents, for which there is no voicing contrast in this position, is explained in 2.1.3.2).

As is the case for morpheme-final codas, the consonants **d kp gb vb ? h** are missing in this position (re. the absence of **d**, see 2.1.2.2). In addition, **y'** is not attested. In contrast, **'ŋ** appears in this position even though it is not attested in morpheme-final codas.

For a number of consonants that are attested in non morpheme-final codas, there are significant morphological restrictions in distribution. The consonants **'n n ɗ** are only found in fossilized verbal nouns (5.9.2); **f/v** and **s/z** are only found as part of geminates in ideophonic verbs (2.1.2.7, 7.1.2.2); and **t** is limited to these two morphological contexts.

#### 2.1.2.5 Morpheme-initial consonant sequences

Syllable onsets may be simple or complex (2.4.2). A complex onset, which is always morpheme-initial, contains two C positions (2.4.2). There are distributional limitations on the consonants that may occur in either position. In the second C position, only the semivowels **y** and **w** may be found (the interpretation of **y** and **w** in this position is

defended in 2.3.3.1). As the following list shows, most consonants are attested in the first onset position preceding these semivowels:

<b>p</b>	<b>pyâh</b>	stream, spring	<b>pwáh</b>	wet (v.)
<b>b</b>	<b>byàá</b>	water	<b>bwáà</b>	roan antelope
<b>t</b>	<b>tyáà</b>	fish sp.	<b>twáà</b>	newness
<b>d</b>	—		<b>dwáh</b>	shoot, sting, bud (v)
<b>k</b>	<b>kyáh</b>	ask, love, praise	<b>kwáà</b>	grass
<b>g</b>	<b>gyàà</b>	care for a child	<b>gwàà</b>	rob
<b>kp</b>	<b>kpyáà</b>	leopard	—	
<b>f</b>	<b>fyáà</b>	moon, month, festival	<b>fwáh</b>	wash, bless
<b>v</b>	<b>vyáh</b>	winnow	<b>vwáà</b>	dog
<b>s</b>	<b>syáà</b>	tree sp., bark used for rope	<b>swáh</b>	tree sp.
<b>z</b>	<b>zyáà</b>	net	<b>zwâ'</b>	ancestry
<b>m</b>	<b>myû'</b>	cat	<b>mwî'</b>	smile
<b>n</b>	—		<b>nwâ'</b>	hole, den
<b>'m</b>	—		<b>'mwǎ'</b>	snake sp.
<b>vb</b>	<b>vbyâh</b>	cheek	<b>vbwáh</b>	fog, cloudburst
<b>r</b>	<b>ryáh</b>	curse, mourn	<b>rwáh</b>	anoint liberally
<b>ɓ</b>	<b>ɓyáj</b>	growl	—	
<b>ɗ</b>	<b>ɗyóò</b>	grass sp.	<b>ɗwá'</b>	bloom, push aside
<b>l</b>	—		<b>lwàhná</b>	edible plant sp.

Consonants after which neither **y** nor **w** is found within an onset are **gb ɲ 'n 'ŋ y'w ? y w h**. While the absence of **ɲ 'ŋ y'w y w h** in the first onset position is systematic, that of **gb** and **'n** may be due to their modest frequency in the lexicon, since the analogous consonants **kp** as well as **'m** and **n** are found in this context. The absence of **?** is related to the interpretation of preglottalized semivowels presented in 2.1.4.2.

In addition, **y** is not found after **'m** or the alveolar consonants **d n** and **l**; and **w** is not found after the consonants **kp** and **ɓ**, both of which also exhibit a labial articulation.

### 2.1.2.6 Morpheme-internal consonant sequences

Because of the robust consonant inventory in morpheme-internal onsets (2.1.2.2) and codas (2.1.2.4), many different consonant sequences are attested across syllable boundaries within morphemes. (Geminate consonants are treated separately in 2.1.2.7).

The inventory of consonants in the first position of heterosyllabic consonant sequences is addressed in the section dealing with non morpheme-final codas (2.1.2.4), since the two positions are structurally equivalent in Mambay.

The inventory of consonants found in the second position of heterosyllabic consonant sequences is more restricted than that found in the first position. In addition to **d kp gb ɲ 'ŋ 'w**, which are absent from morpheme-internal onsets, **t, h**, the glottalic consonants **ɓ**

**d y 'w 'm 'n** and the semivowels **y w** are absent from the second position of morpheme-internal consonant sequences. Only the following consonants are found there:

<b>p/b</b>	<b>kàrbá</b>	lungfish
<b>k/g</b>	<b>hàlgá</b>	crab
<b>f/v</b>	<b>kúdfvò</b>	smoke
<b>s/z</b>	<b>sígzò</b>	middle
<b>m</b>	<b>tàrmá</b>	harmattan, haze
<b>n</b>	<b>márnà</b>	older sibling
<b>vb</b>	<b>lwágvbá</b>	tenderness, youngness
<b>r</b>	<b>ná-kógrà</b>	worm
<b>l</b>	<b>pìrlá</b>	torch, flashlight

Once positional distribution of consonants in heterorganic clusters is taken into consideration, there are few systematic restrictions on the combinations that may be found. Of these constraints, the obligatory sharing of nasality is the most important, and is discussed in 3.4.2. Another important gap concerns the sequences **nr** and **lr**, since elsewhere **l n** and **r** are all frequently attested in both positions of consonant sequences. In contrast, remaining patterns of combinatory possibilities are allowed. For example, even heterorganic nasal-stop sequences, which are cross-linguistically marked, are attested in Mambay:

	<b>fàngá</b>	announcement
	<b>kángà</b>	male circumcision
cf.	<b>đángà</b>	ground squirrel

### 2.1.2.7 Geminate consonants

Geminate consonants are uncommon, and most of the words in which they are attested are non-canonical (1.3.1). Still, it is basically the high-frequency, phonologically non-complex consonants which are found as geminates; a conspicuous gap in the inventory of geminates is that of glottalic consonants and labial-velars.

Several consonants appear as geminates where they are absent in sequences: **d t** (first and second sequence positions; **d** only in borrowed words) and **y w** (second position; cf. 2.1.2.6).

An exhaustive list of words with geminate consonants is as follows:

<b>p/b</b>	<b>nà-bàbbá</b>	locust sp.
<b>d</b>	<b>ʔaddá</b>	older female relative (cf. Fulf. <i>adda</i> )
	<b>bèddí</b>	increase (cf. Fulf. <i>bezd-</i> )
	<b>dàddà-yùhrí</b>	bunting (bird sp.) (cf. Fulf. <i>dadda</i> 'grandmother')

<b>t</b>	<b>bìttí</b>	pull away
	<b>nà-túttè</b>	soap
	<b>tùttí</b>	pluck
	<b>vbìttí</b>	unroll (shutters)
<b>k/g</b>	<b>nà-syàggàm</b>	(in <b>nà-syàggàm bàhy</b> ‘electric fish’)
<b>f/v</b>	<b>gbòvví</b>	wash clothes
<b>s/z</b>	<b>gìzzìg</b>	with a flop
	<b>mìzzí</b>	sprinkle
<b>m</b>	<b>?àmmá</b>	but (cf. Arabic <i>ammā</i> ‘but,’ via Fulf. <i>amma</i> )
<b>n</b>	<b>'mánnà</b>	truth
	<b>kpánnà</b>	penis
	<b>sànná</b>	pus
<b>l</b>	<b>nà-kùllá</b>	youthfulness (woman’s)
	<b>nà-táállá</b>	ant sp.
<b>y</b>	<b>?áhyyáà</b>	oh dear!
	<b>?àyyéé</b>	indeed! (cf. Chadian Arabic <i>ayyē</i> ‘yes’)
<b>w</b>	<b>kpàhwwà</b>	rattling and glittering
	<b>?òwwó</b>	yes

### 2.1.2.8 Other distributional patterns

In addition to the distributional constraints on consonants defined by positions in syllables and morphemes (2.1.2.1-2.1.2.7), two other patterns have been observed. First, there are constraints on the shared nasal value of consonants occurring together in syllables and morphemes. This phenomenon is discussed at length in 3.4.

Second, there are only a few instances of morpheme-internal syllables in the data where the same consonant is found in the onset and the coda of a single syllable. Where this does occur, examples are largely limited to non-canonical words (1.3.1) and verb stems which contain synchronically fused verbal extensions (7.2). An exhaustive list of words containing a syllable with the same consonant in onset and coda is as follows:

<b>p/b</b>	<b>nà-bàbbá</b>	locust sp.
<b>t</b>	<b>nà-túttè</b>	soap
	<b>tùttí</b>	pluck
<b>k/g</b>	<b>gàg</b>	prevent, be capable

	<b>góg</b>	jump, fly
	<b>gógrà</b>	bee, flock of birds (cf. <b>góg</b> jump, fly)
	<b>gyáglè</b>	flute
	<b>kàgzàg</b>	with a flop
	<b>kòg</b>	see (VN)
	<b>kyág</b>	hurt
	<b>nà-kógrà</b>	look (n.) (cf. <b>kòg</b> 'see (VN)')
	<b>nà-kógrà</b>	fish sp., worm
<b>m</b>	<b>màmbày</b>	Mambay
	<b>nà-màm</b>	opinion
<b>n</b>	<b>nàn</b>	touch (cf. <b>nàṣ</b> 'touch')
	<b>nànzà</b>	1&2PL.INDEP
<b>ḍ</b>	<b>ḍàḍ</b>	sow, plant
	<b>ḍàḍrà</b>	sowing (cf. <b>ḍàḍ</b> 'sow, plant')
<b>l</b>	<b>làl</b>	eat time after time (cf. <b>làà</b> 'eat')
	<b>lòl</b>	crunch, chomp, snack on

While the distribution and frequency of consonants in codas may contribute to this tendency, it does not explain it adequately, since CVC and CCVC syllables with a wide range of coda consonants are extremely common in the lexicon (2.1.2.3, 2.1.2.4, 2.4.1).

No other restrictions on the co-occurrence of non-contiguous consonants within morphemes have been observed.

### 2.1.3 Contrast

Contrast among oral consonants may be established from the morpheme-initial inventory (2.1.2.1), and contrast between nasal and oral consonants is evident in morpheme-final position (2.1.2.3). Outstanding issues in contrast which call for additional evidence are the inventory of nasals (2.1.3.1) and the limitation of voicing contrast in obstruents (2.1.3.2).

Additional questions involving the interpretation of consonants are addressed in 2.1.4.

#### 2.1.3.1 Contrast among nasals

Since **ŋ** and **'ŋ** are not found in syllable onsets, contrast among nasal consonants must be demonstrated in coda position. The following set of words shows this:

<b>'m</b>	<b>hà'mgá</b>	bluntness
<b>'n</b>	<b>mìnmì'ngá</b>	sterility (soil)
<b>'ŋ</b>	<b>sù'ŋgá</b>	razor

<b>m</b>	<b>fàmgá</b>	announcement
<b>n</b>	<b>kángà</b>	male circumcision
<b>ŋ</b>	<b>dángà</b>	ground squirrel

### 2.1.3.2 Limitation of voicing contrast in obstruents

Voiced and voiceless oral obstruents contrast in morpheme-initial position (2.1.2.1). However, in non morpheme-initial positions, voicing contrast is almost always absent.

For the obstruent pairs **p/b**, **k/g**, **f/v** and **s/z**, phonetically voiceless obstruents are found in codas, while phonetically voiced counterparts are found in non morpheme-initial onsets. **k/g** is exceptional in that it may be optionally voiced in codas (2.1.6.1), but it is consistent with the other obstruents in that there is no contrast signalled by voicing in this position. In other words, non morpheme-initial obstruents are specified for place of articulation, but not for voicing. Examples of obstruents in each position, along with phonetic realizations, are as follows:

non morpheme-initial onsets:

<b>p/b</b>	<b>zá(p/b)à</b>	<b>[zábà]</b>	scorpion
<b>k/g</b>	<b>ká(k/g)à</b>	<b>[kágà]</b>	chicken
<b>f/v</b>	<b>nù(f/v)à</b>	<b>[núvà]</b>	fat (n.)
<b>s/z</b>	<b>má(s/z)à</b>	<b>[mázà]</b>	first child after remarriage

non morpheme-final codas:

<b>p/b</b>	<b>nà-ré(p/b)là</b>	<b>[nàréplà]</b>	tuber sp.
<b>k/g</b>	<b>pí(k/g)lò</b>	<b>[píklò] ~ [píylò]</b>	bile
<b>f/v</b>	—	—	—
<b>s/z</b>	—	—	—

morpheme-final codas:

<b>p/b</b>	<b>rà(p/b)</b>	<b>[ràpʰ]</b>	hug
<b>k/g</b>	<b>ḃá(k/g)</b>	<b>[ḃákʰ] ~ [ḃáy]</b>	meet, support
<b>f/v</b>	<b>rò(f/v)</b>	<b>[ròf]</b>	scald
<b>s/z</b>	<b>gbìrì(s/z)</b>	<b>[gbìrìs]</b>	frighteningly

When voiced oral obstruents in syllable onsets are reassigned to coda position as a result of syntactic and morphophonological processes, they lose their voicing (2.1.6.1). This is evident in the following possessive constructions (cf. 5.3):

<b>zá(p/b)à</b>	<b>[zábà]</b>	scorpion
<b>zâ(p/b) ?íí</b>	<b>[zâp ?íí]</b>	my scorpion

<b>ká(k/g)à</b>	<b>[kágà]</b>	chicken
<b>kâ(k/g) ?íí</b>	<b>[kâk ?íí] ~ [kây ?íí]</b>	my chicken
<b>nú(f/v)à</b>	<b>[núvà]</b>	fat
<b>nû(f/v) ?íí</b>	<b>[nûf ?íí]</b>	my fat
<b>má(s/z)à</b>	<b>[mázà]</b>	first child after remarriage
<b>mâ(s/z) ?íí</b>	<b>[mâs ?íí]</b>	my first child after remarriage

This phenomenon strengthens the argument that the obstruent pairs do not exhibit contrast non morpheme-initially. If the present discussion is taken into consideration, the resyllabification of the obstruents as coda consonants is sufficient to explain the change in voicing.

Since (with the exception of **t** and **d**) they show no contrast in non morpheme-initial position, oral obstruents are written throughout this study using a single symbol, namely that of the voiced counterpart (which is, as mentioned in the preceding paragraph, devoiced as a result of resyllabification in codas). This is consistent with the standard Mambay orthography (1.3.3).

**t** and **d** differ from other oral obstruents in three ways. First, it is the voiceless obstruent **t** rather than **d** that is found (albeit uncommonly) in non morpheme-initial onsets (2.1.2.2).

<b>bàtì</b>	two
<b>gbàrgàtàng</b>	completely
<b>wátùtáà</b>	salt, sugar

Second, there is a marginal contrast between the two consonants morpheme-internally when they appear as geminates (2.1.2.7).

<b>t</b>	<b>bìttì</b>	pull away
	<b>ná-túttè</b>	soap
<b>d</b>	<b>?àddá</b>	older female relative (cf. Fulf. <i>adda</i> )
	<b>bèddì</b>	increase (cf. Fulf. <i>bezd-</i> )

Third, and unlike other obstruents, **t** seems to be inherently voiceless, since it causes consonants which follow it to be devoiced (2.1.6.6).

<b>kpâtgá</b>	<b>[kpâtʰká]</b>	distance
<b>kpàtgì</b>	<b>[kpàtʰkì]</b>	become distant

For these reasons, the two consonants are not treated as a set, and in all contexts each consonant retains its own symbol in the phonological orthography.

## 2.1.4 Issues in consonant interpretation

The phonological status of three consonantal phenomena requires interpretation: that of the glottal stop in morpheme-initial position (2.1.4.1), preglottalized semivowels (2.1.4.2), and palatal and labialized velar nasals (2.1.4.3).

### 2.1.4.1 The glottal stop in morpheme-initial position

The glottal stop poses interpretive challenges in morpheme-initial position as well as in syllable rhymes. In morpheme-initial position, it is debatable whether or not the glottal stop is a contrastive consonant or whether it is demarcative (that is, a predictable effect of its morphological context); this question is posed in Anonby (2006:224) but is not answered there. In syllable rhymes, the glottal stop could be interpreted as a consonant, a vowel feature, or a feature associated with glottalic consonants that follow vowels. The two issues are related, since positing contrast for the glottal stop in one position would have consequences for the other position. The phonological status of the glottal stop in morpheme-initial position is addressed in the present section, and its status elsewhere is pursued in 2.3.3.3.

The glottal stop is phonetically salient in morpheme-initial position:

<b>ʔáá</b>	<b>[ʔáá]</b>	open, lose taste
<b>ʔìn</b>	<b>[ʔìn]</b>	lift, carry
<b>ʔéé</b>	<b>[ʔéé]</b>	fail, miss
<b>ʔóó</b>	<b>[ʔóó]</b>	braid rope, compress
<b>ʔùl</b>	<b>[ʔùl]</b>	blow

Even at the beginning of utterance-internal morphemes, including those that follow words ending in consonants, it is retained:

<b>ná-ʔáà</b>	<b>[náʔáà]</b>	bean leaves (cf. noun prefix <b>ná-</b> , <b>ʔáà</b> ‘bean’)
<b>ná-ráh-ʔáà</b>	<b>[náráhʔáà]</b>	snake sp. (cf. <b>ná-ráh</b> ‘snake sp.’, <b>ʔáà</b> ‘bean’)
<b>tí-kpâ-kpàr-ʔáà</b>	<b>[tíkpâkpàrʔáà]</b>	wheat ear (bird sp.) (cf. <b>ʔáà</b> ‘bean’)
<b>làà ʔígà</b>	<b>[làà ʔígà]</b>	to eat something (cf. <b>làà</b> ‘eat (VN),’ <b>ʔígà</b> ‘thing’)
<b>kàm ʔígà</b>	<b>[kàm ʔígà]</b>	to weave something (cf. <b>kàm</b> ‘weave (VN),’ <b>ʔígà</b> ‘thing’)
<b>kòg ʔígà</b>	<b>[kòg ʔígà]</b>	to see something (cf. <b>kòg</b> ‘see (VN),’ <b>ʔígà</b> ‘thing’)

There are two interpretive possibilities for the glottal stop: it could arise predictably before vowels in morpheme-initial position, or it could be a contrastive consonant there.

On the one hand, it is not unreasonable to posit the predictable articulation of the glottal stop whenever a morpheme is vowel-initial. Studies of other Kebi-Benue languages have uniformly followed this interpretation (see Elders 2006 for a listing), and the most

important comparative/historical study in this family does not regard the glottal stop as a member of the proto-language's morpheme-initial consonant inventory (Boyd 1974:33).

On the other hand, there are some satisfactory arguments that the glottal stop contrasts with other consonants in morpheme-initial position. The invariable realization of the glottal stop before morpheme-initial vowels, as in the above examples, is one of these indicators. The contrastive value of glottalic articulations elsewhere in the language as part of glottalic consonants (2.1.5) and glottalized vowels (2.2.1) also supports this possibility, and one morphophonological process in which a glottal stop contributes its glottalic feature to a vowel (5.12.1.1) underlines such a phonological relationship. Further, the positing of contrast here would help to address the relatively low incidence of morphemes which would otherwise be considered vowel-initial (about 1% of nouns and 5% of verbs). Finally, and perhaps most importantly, it promotes a simpler inventory of allowable CV shapes (cf. 2.4.1); there is no need to posit several additional V-initial syllables.

Given these factors, the morpheme-initial glottal stop is treated as a consonant in the present study.

#### 2.1.4.2 Preglottalized semivowels

The categorization of phonetically preglottalized semivowels [ʔy] and [ʔw] in syllable onsets also calls for interpretation. Given the interpretation of the glottal stop as contrastive (2.1.4.1), and given that the language permits consonant sequences in morpheme-initial syllable onsets where y or w is the second consonant (2.1.2.5), then two options are available for the interpretation of [ʔy] and [ʔw] onsets: as CC clusters ʔy and ʔw, or as contrastive C units y' (=y) and w'. There is no contrast between these two phonological possibilities in the language, so a single interpretation is appropriate.

Both [ʔy] and [ʔw] are moderately represented in the lexicon; in fact, there are about as many words beginning with these onsets as there are words beginning with [ʔ] followed by a vowel. This lends a small amount of support in favour of a unitary interpretation of [ʔy] and [ʔw], but is not decisive.

The existence of preglottalized stops in syllable codas (2.1.2.3, 2.1.2.4 above) should be a crucial factor in determining their status in morpheme-initial onsets; however, preglottalized stops are also ambiguous in coda position, since they depend on the interpretation of V-glottal-C sequences as vowels followed by a preglottalized consonant (2.3.3.3).

There is, in fact, one substantial problem with an interpretation of [ʔy] and [ʔw] as sequences: the occurrence of [ʔy] in a morpheme-internal onset in two lexical items.

'màyá	['màʔyá]	'fast'
ná-dâr-kwéyâ	[náðârkwéʔyà]	'tree sp.'

Since syllables with **y** and **w** as the second onset consonant are always morpheme-initial (and never morpheme-internal), a unitary interpretation of these onsets as **ỵ** is necessary here. The parallel interpretation of **ỵ** as a single C in morpheme-initial position is a natural consequence of this assessment.

In order to maintain symmetry with **ỵ**, it is appropriate to interpret [**?w**] as the unit consonant 'w. The resulting analysis of **ỵ** and 'w as contrastive units accords well with descriptions of several other Kébi-Benue languages (Ubels and Ubels 1984:20; Elders 1995:1, 2000:23, 2006; see also ambiguous data in Ruelland 1992:30).

### 2.1.4.3 Palatal and labialized velar nasals

The consonant chart given in 2.1.1 shows that palatal and labialized velar nasals **ɲ** and **ɲʷ** are not included in the inventory of contrastive consonants. The same is true for the glottalized counterparts of these nasals. In reality, these gaps in the inventory result from the interpretation of phonetic palatal and labialized velar nasals as nasalized semivowels. The reasoning behind this interpretation is given in the present section first for palatal nasals, and then for labialized velar nasals.

Phonetically, the palatal nasal [**ɲ**] and the preglottalized palatal nasal [**?ɲ**] are found in a subset of onset and coda positions. In utterance-initial position and following morphemes that end in an oral segment, both [**ɲ**] and [**?ɲ**] are found. However, when they follow nasal or nasalized segments within an utterance, they are realized as nasalized semivowels [**ỹ**] and [**?ỹ**] respectively (cf. 3.3.2).

<b>[ɲ]âh</b>	stalk (n.)
<b>sââ [ỹ]âh</b>	in the stalk
<b>[?ɲ]âh</b>	name
<b>sââ [?ỹ]âh</b>	in the name

Elsewhere, morphophonological evidence shows that the palatal semivowel **y** is nasalized and pronounced as [**ỹ**] when it is found next to a nasalized vowel in the same phonological word (3.3.2.2, 3.4.3).

<b>pââ</b>	<b>-í</b>	→	<b>pâ[ỹ]</b>
man	1SG.POSS.INAL		my father (inal.)
<b>pââ-vââ</b>	<b>-í</b>	→	<b>pââ-vâ[ỹ]</b>
husband	1SG.POSS.INAL		my husband (inal.)
<b>mîí</b>	<b>kúú</b>	<b>=yá</b>	→ <b>mîí kúú = [ỹ]á</b>
1SG:PFV.NEG	grab:PFV	NEG	I did not grab

cf. **mǐ̀**                      **kù̀**                      = **yá**                      →    **mǐ̀ kù̀ = yá**  
 1SG:PFV.NEG    gather.firewood:PFV    NEG                      I did not gather firewood

This causes difficulty for the interpretation of a nasal(ized) palatal consonant after a nasalized vowel: it could either be a palatal nasal **ɲ** which is structurally equivalent to **y** before nasal vowels; it could be a **ny** sequence, since such sequences are found with other consonants; or it could be **y** underlyingly. There is no contrast between the three structures in any position.

[**ɲ**] is also found in syllable codas, but its occurrence there gives no additional support to the existence of **ɲ** as a contrastive consonant, since it is explainable as a realization of **ŋ** after front vowels (2.1.6.7).

	<b>bǐ̀</b>	<b>[bǐ̀ɲ]</b>	forest
	<b>bèlè̀</b>	<b>[bèlè̀ɲ]</b>	eagle sp.
cf.	<b>sǎ̀</b>	<b>[sǎ̀ɲ]</b>	ill omen
	<b>tì-tồ</b>	<b>[tìtồɲ]</b>	remains
	<b>kpú̀</b>	<b>[kpú̀ɲ]</b>	hill

Similar issues relate to the labialized velar nasals in the data. Parallel to [**ɲ**] and [**ʔɲ**], both [**ɲ<sup>w</sup>**] and [**ʔɲ<sup>w</sup>**] are found in utterance-initial position and following morphemes that end in an oral segment. When [**ɲ<sup>w</sup>**] and [**ʔɲ<sup>w</sup>**] are found after nasal or nasalized segments within an utterance, they too are realized as approximants:

	<b>[ɲ<sup>w</sup>]áà</b>	nose
	<b>sáà [w̃]áà</b>	in the nose
	<b>[ʔɲ<sup>w</sup>]íh[ʔw̃]íh</b>	achy and restless

Theoretically, the underlying identity of the labialized velar nasals [**ɲ<sup>w</sup>**] [**ʔɲ<sup>w</sup>**] and nasalized labial-velars [**w̃**] [**ʔw̃**] in these words could be any of the following pairs of contrastive consonants or consonant sequences:

1. **ɲ<sup>w</sup> / ʔɲ<sup>w</sup>**
2. **ɲw / ʔɲw**
3. **nw / ʔnw**
4. **mw / ʔmw**
5. **ɲm / ʔɲm**
6. **w / ʔw**

The first possibility (**ɲ<sup>w</sup> / ʔɲ<sup>w</sup>**) is rejected because labialization is not a feature of the consonant system (2.1.1). The consonant sequences **ɲw** and **'ɲw** in (2) are not viable alternatives, since a more basic consonant **ɲ** is never found in onset position without labialization (2.1.2.1, 2.1.2.2). The sequences in (3) and (4) **nw mw 'mw** (and **'nw** by

extension) should be ruled out because they contrast with [ŋ<sup>w</sup>] in morpheme-initial position, as shown by the following words:

[ŋ <sup>w</sup> ]áà	nose
nwǎh	wound (n.)
mwì'	smile
'mwǎ'	snake sp.

The possibility that the pair **ŋm** / **?ŋm** (6) underlies the realizations [ŋ<sup>w</sup>] [ʔŋ<sup>w</sup>] as well as [w̃] [ʔw̃] should be regarded with caution because there are no examples of underlyingly nasal consonants in the language which lose their oral closure (resulting in realizations like [w̃] [ʔw̃]) any environment.

While (in contrast to **y**) there is no morphophonological evidence that proves that [w̃] is a realization of **w** in a nasal context, there is one morphophonological process in which [ŋ<sup>w</sup>] ~ [w̃] behaves like the consonant **w**: namely, when **w** is found before a back vowel as the result of its morphological context, it alternates with **h** as follows (see 5.2.2.2.1):

[ŋ <sup>w</sup> ]áà	+	?íí	→	húyè ?íí
chief		1SG.POSS		my chief
wáà	+	?íí	→	hóò ?íí
fig		1SG.POSS		my fig

Since this process reveals that [ŋ<sup>w</sup>] is subject to the same constraints as **w** in a particular context, it is not unlikely that [ŋ<sup>w</sup>] is **w** underlyingly. Intuitively, the transformation of [ŋ<sup>w</sup>] into **h** in this process seems less plausible than that of **w** into **h**, since between [ŋ<sup>w</sup>] and **h** an additional difference in nasal value needs to be accounted for.

In the end, arguments for the contrastive status of the nasals **ɲ** 'ɲ ŋ<sup>w</sup> and 'ŋ<sup>w</sup> are not convincing. Such a decision would add complexity to the consonant inventory without simplifying the analysis of other aspects of the phonology. Additionally, the distinction between these nasals and their nasalized semivowel counterparts (shown above) would remain unclear. Nor is the alternative analysis of these segments as the sequences **ny** 'ny ŋw and 'ŋw a viable possibility for the consonant sequences **ŋw** and 'ŋw because, as stated earlier, **ŋ** and 'ŋ are never found in onset position without labialization. The limitation of this interpretation to **ny** and 'ny would therefore introduce asymmetry into the system by treating palatal semivowels differently than labial-velar semivowels in reference to nasality. In contrast, an analysis where nasalized semivowels are preferred can account for all aspects of the data. For these reasons, palatal and labialized velar nasals [ɲ] and [ŋ<sup>w</sup>] have been excluded from the consonant inventory in the present study, and have been analyzed as realizations of palatal and labial-velar semivowels **y** and **w** in the context of nasality.

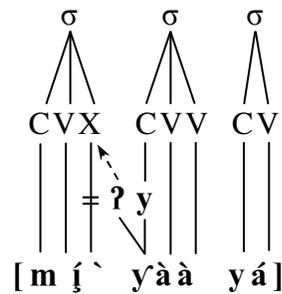
## 2.1.5 Internal structure of consonants

Two categories of consonants, both of which employ complex articulations, show signs of internal structure: glottalic consonants **ɓ ɗ ʎ 'w 'm 'n 'ŋ**, which exhibit a secondary glottalic articulation (2.1.5.1), and labial-velar stops **kp gb**, which exhibit double articulation (2.1.5.2). The labial-velar approximant **w**, which has no stop quality, does not pattern with these consonants.

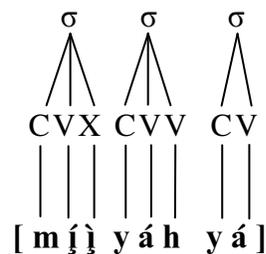
### 2.1.5.1 Glottalic consonants

There are four indicators of internal complexity for glottalic consonants, that is, consonants with secondary glottalic articulation **'m 'n 'ŋ ɓ ɗ ʎ 'w**. Three of these indicators are distributional and the other is based on morphophonological evidence. Morpheme-internally, these consonants are never found after long vowels (2.3.1.2), nor are they found in the second position of a morpheme-internal consonant cluster (2.1.2.6). Additionally, they are never geminated (2.1.2.7). Finally, when a glottalic consonant is found morpheme-initially, any long vowel which precedes it in the utterance is phonetically shortened. This suggests that, given an appropriate environment, the glottalic element of the preglottalized segment associates with the coda position of the previous syllable.

**m̩ yàà yá**  
 1SG:NONPFV.NEG finish:FUT NEG  
*I will not finish*



cf. **m̩ yáh yá**  
 1SG:NONPFV.NEG take:FUT NEG  
*I will not take*



### 2.1.5.2 Labial-velars

The evidence for the complex internal structure of doubly-articulated labial-velar stops **kp gb** is weaker, since their relegation to morpheme-initial position (2.1.2.1) limits the contexts in which they may display internal complexity. However, consider the following example:

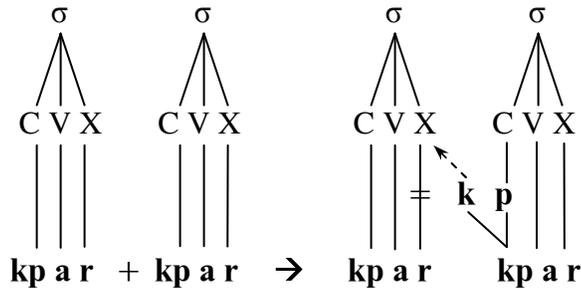
**tí-kpâ-kpàr-ʔáà** wheatear (bird sp.) (cf. **ʔáà** bean)

This example is ideophonic (5.11, 8.2) and probably shows reduplication (5.11.2) of the syllable **kpàr**. There are two difficulties with this word. First, it shows a pattern of segmental reduplication that differs from other patterns in the lexicon, such as those found in the following comparable words:

**lèŋ-léŋ-gérmù** kingfisher sp. (cf. **gérmù** women)  
**tí-kéé-kèèrú** firefly (cf. **kéè** brilliant, intense (red))

The reduplication of the onset and nucleus of **kpàr** rather than the whole syllable is surprising, since there are no other examples where this template is applied (reduplication of whole syllable rhymes is, in contrast, common; see 8.4.2.1). However, the fact that **kp** does not occur in non morpheme-initial position elsewhere in the data suggests that there is indeed a morpheme boundary before both occurrences of **kp** in **tí-kpâ-kpàr-ʔáà**, attributable to a morphological phenomenon such as reduplication. The question remains, then, as to why the **r** of **kpàr** is not reduplicated along with the rest of the syllable.

A promising resolution to this puzzle is the recognition of internal structural complexity for the labial-velar **kp** in Mambay, as has been described in other languages (Clements and Hume 1995; Kutsch Lojenga 1994:47ff.). When **kp** is viewed as complex, it helps explain the obstruction to the reduplication of **r** along with the rest of the syllable **kpàr**: the coda position in the preceding syllable is thus dominated by the **k** portion of the **kp** from the second syllable. This situation may be represented as follows:



attested in: **tí-kpâ-kpàr-ʔáà** ‘wheatear (bird sp.)’

Although no similar evidence has been observed for **gb**, there is no reason to posit an internal structure differing from that of **kp**, since a double articulation is characteristic of both consonants.

### 2.1.6 Phonetic realizations

The phonetic realization of some consonants may be predicted with reference to the consonant chart (2.1.1). However, as detailed in Anonby (2006), a number of consonants exhibit more than one realization based on their position in syllables and phonological

phrases or due to the articulatory features of adjoining segments. These consonants, which represent a large part of the consonant inventory, are:

1. stops,
2. implosives,
3. preglottalized semivowels in onsets,
4. the central approximant **r**,
5. the semivowels **y** and **w**,
6. consonants which follow **t**,
7. the nasal **ŋ**,
8. glottalic consonants in codas, and
9. oral sonorants affected by nasality.

While the first seven topics are addressed here, glottalic consonants in codas are described in the section dealing with glottalization in syllable rhymes (2.3.3.3.1), and oral sonorants affected by nasality are discussed in the chapter on nasality (3.3.2).

### 2.1.6.1 Realizations of stops in syllable codas

Typically, in addition to being voiceless (see 2.1.3.2), the three oral stops which are found in codas (**p/b**, **t**, and **k/g**; see 2.1.2.3, 2.1.2.4) are unreleased. This is the case utterance-finally as well as utterance-internally.

	utterance-finally			utterance-internally		
<b>p/b</b>	<b>ràb</b>	[ràp̚]	hug	<b>nà-bàhbgá</b>	[nàbàhp̚gá]	acacia sp.
<b>t</b>	<b>kpàt</b>	[kpàt̚]	far	<b>kpâtgá</b>	[kpât̚ká]	distance
<b>k/g</b>	<b>lèg</b>	[lèk̚]	suck	<b>nà-nìg.bó</b>	[nànìk̚bó]	civet

(The pairing and orthographic representation of obstruents, for which voicing contrast is neutralized in this position, is explained in 2.1.3.2; the voiceless realization of the velar stop in **kpâtgá** is accounted for in 2.1.6.6).

Realizations are more varied for the velar stop **k/g** than for the other stops, which are always unreleased. Utterance-finally, **k/g** is realized as an unreleased voiceless velar stop [k̚] after front vowels **i e**, and as an unreleased voiceless uvular stop [q̚] after back vowels **a o u**.

<b>víg</b>	[vík̚]	plug, look longingly
<b>lèg</b>	[lèk̚]	suck
<b>ràg</b>	[ràq̚]	straddle, sling
<b>lóg</b>	[lóq̚]	uproot
<b>rùg</b>	[rùq̚]	pour

In careful speech, the same realizations are also found in utterance-internal codas.

vǐg-nà	[vǐk`nà]	plugging, looking longingly
lêg-nà	[lêk`nà]	sucking
râg-nà	[râq`nà]	straddling, slinging
lǒg-nà	[lǒq`nà]	uprooting
rûg-nà	[rûq`nà]	pouring

In normal and fast speech, however, **k/g** is voiced and softened to [ɣ] or [ʝ] in utterance-internal codas (as in the previous examples, a uvular articulation is found after back vowels). It is optionally realized with an open transition.

vǐg-nà	[vǐɣnà] ~ [vǐɣ <sup>i</sup> nà]	plugging, looking longingly
lêg-nà	[lêɣnà] ~ [lêɣ <sup>e</sup> nà]	sucking
râg-nà	[râɣnà] ~ [râɣ <sup>a</sup> nà]	straddling, slinging
lǒg-nà	[lǒɣnà] ~ [lǒɣ <sup>o</sup> nà]	uprooting
rûg-nà	[rûɣnà] ~ [rûɣ <sup>u</sup> nà]	pouring

### 2.1.6.2 Realizations of **ɓ** and **ɗ**

The implosives **ɓ** and **ɗ** each exhibit several realizations, depending on their position in utterances and syllables.

In utterance-initial position, **ɓ** is pronounced as a voiced bilabial implosive [ɓ], and **ɗ** as a voiced retroflex alveolar implosive [ɗ] (see Welmers 1973:50 as well as Ladefoged and Maddieson 1996:53–5, 82–7 for acoustic characteristics of preglottalized implosives, and Greenberg 1970:129 for comments on retroflexion of alveolar implosives).

ɓám	[ɓám]	trample, carve
ɓúú	[ɓúú]	create, sprout
ɗáj	[ɗáj]	roll along
ɗúú	[ɗúú]	hit

In non utterance-initial onsets, both implosives are preglottalized.

lúɓò	[lú <sup>ʔ</sup> ɓò]	sesame
páɓà	[pá <sup>ʔ</sup> ɓà]	milk
húɗò	[hú <sup>ʔ</sup> ɗò]	death, corpse
wáɗà	[wá <sup>ʔ</sup> ɗà]	<i>boule</i> with sauce

In syllable codas, **ɓ** is realized as an unreleased voiceless preglottalized stop [ʔp̚]. The lack of voicing and release in this realization is parallel to that of oral stops (2.1.6.1). In contrast, **ɗ** is realized as a voiced preglottalized and glottalized lateral approximant [ʔl̥].

<b>sàb</b>	[sà <sup>ʔ</sup> p̣]	vomit (v.)
<b>lóbà</b>	[lò <sup>ʔ</sup> p̣là]	island
<b>yàd</b>	[yà <sup>ʔ</sup> ]	feel, rub
<b>bâdǵá</b>	[bâ <sup>ʔ</sup> ǵá]	club (stick)

The effect of syllable position on the realization these consonants is evident in the following possessive constructions (cf. 2.1.3.2):

<b>pâb ʔíí</b>	[pâ <sup>ʔ</sup> p̣ dùǵú]	their milk
cf. <b>pábà</b>	[pá <sup>ʔ</sup> bà]	milk
<b>wâd ʔíí</b>	[wâ <sup>ʔ</sup> dùǵú]	their <i>boule</i> with sauce
cf. <b>wádâ</b>	[wá <sup>ʔ</sup> dâ]	<i>boule</i> with sauce

### 2.1.6.3 Realizations of **y** and **w** in syllable onsets

Typically, **y** and **w** are realized as preglottalized semivowels in syllable onsets.

<b>yâh</b>	[ <sup>ʔ</sup> yâh]	call, invite
<b>wâh</b>	[ <sup>ʔ</sup> wâh]	tie, decide

(Coda realizations of **y** and **w** are described in the section dealing with glottalization in syllable rhymes; see 2.3.3.3.1.1).

However, when **y** is found before a nasalized and pharyngealized high vowel as a result of morphophonological alternation, the sequence is pronounced as a syllabic nasalized voiced aryepiglottic trill [ʔ̣] (this trill is sometimes non-technically described as epiglottal) with an epiglottal stop [ʔ] onset (Anonby 2006:229).

<b>yîh</b>	[ʔ̣îh]	name, call, invitation of ...
<b>yîh ʔám</b>	[ʔ̣îh ʔám]	your name, call, invitation
cf. <b>yâh</b>	[ <sup>ʔ</sup> yâh]	name, call, invitation

Prominent perceptual characteristics of this sequence's articulation include a stop followed by a plainly audible voiced trill whose origin is clearly further back than the oral cavity; this is coupled with the croaking quality associated with pharyngeals. Esling, who emphasizes the epiglottal properties of pharyngeal articulations in general (1996:84), gives a detailed articulatory comparison of the aryepiglottic trill with other pharyngeal and epiglottal articulations (1996, 2002).

#### 2.1.6.4 Realizations of r

Like the implosives **ɓ** and **ɗ** (2.1.6.2), the central approximant **r** has several realizations which correspond to its position in utterances and syllables. In utterance-initial position it is realized as a retroflex alveolar flap [ɽ] or, less commonly, as an alveolar trill [r].

<b>ríí</b>	[ɽíí] ~ [ríí]	carry
<b>ráá</b>	[ɽáá] ~ [ráá]	spread out
<b>ròò</b>	[ɽòò] ~ [ròò]	trick, amuse

In syllable-initial positions within utterances, the realization [ɽ] is found.

<b>zìrì</b>	[zìɽì]	fish sp.
<b>pààrá</b>	[pààɽá]	field, farm
<b>dúùrú</b>	[dúùɽú]	hyrax

In syllable codas, **r** is realized as an alveolar trill [r]. If it is not utterance-final, it may also be realized with an open transition.

<b>bìr</b>	[bìr]	praise, snatch
<b>kàr</b>	[kàr]	put, set
<b>sùr</b>	[sùr]	put in order
<b>bîr-ná</b>	[bîrná] ~ [bîr <sup>1</sup> ná]	praising, snatching
<b>kâr-ná</b>	[kârná] ~ [kâr <sup>a</sup> ná]	putting, setting
<b>sûr-ná</b>	[sûrná] ~ [sûr <sup>u</sup> ná]	putting in order

#### 2.1.6.5 Realizations of y and w in complex onsets

When **y** and **w** are found in complex onsets (2.1.2.5), they are normally realized as semivowels.

<b>gyáálà</b>	[gyáálà]	medicine, fetish
<b>kyàáàrì</b>	[kyàáàrì]	paternal aunt
<b>gwàáàrè</b>	[gwàáàrè]	sickle
<b>kwààvbá</b>	[kwààvbá]	bush sp.
<b>tyáà bàtì</b> fish.sp two	[tyáà bàtì]	two fish (sp.)
<b>kwàà bàtì</b>	[kwàà bàtì]	two necks, two voices neck/voice two

However, when the syllable in which they are found is utterance-final, they are phonetically realized as vowels: their duration is increased, and they carry pitch which

signals the underlying tone melody. The duration of the following vowel, in contrast, is reduced.

<b>tyàà</b>	<b>[tíà]</b>	fish sp.
<b>tyàá</b>	<b>[tíá]</b>	hole-digger, jackhammer
<b>kwàá</b>	<b>[kùá]</b>	neck, voice
<b>kwáà</b>	<b>[kúà]</b>	grass

The interpretation of these semivowels as underlyingly consonantal is defended in 2.3.3.1.

### 2.1.6.6 Realizations of consonants after t

When a consonant follows the inherently voiceless alveolar stop **t** (see 2.1.2.2) across a syllable boundary, it is devoiced. Such a sequence is only found in two related words in the data, where it is realized as follows:

<b>kpâtgá</b>	<b>[kpâṯká]</b>	distance (cf. <b>kpàt</b> ‘far,’ <b>-ga</b> (historical noun suffix; see 5.1.3.2))
<b>kpàtgí</b>	<b>[kpàṯkí]</b>	become distant (cf. <b>kpâtgá</b> ‘distance’; see 7.1.2.1 on derived verbs)

This contrasts with the realization of consonants following the stops **p/b** and **k/g** (2.1.3.2); in this environment, consonants are not devoiced.

<b>nà-bàhbgá</b>	<b>[nàbàhp`gá]</b>	acacia sp.
<b>vòbgí</b>	<b>[vòp`gí]</b>	daub
<b>síblè</b>	<b>[síp`lè]</b>	termite sp.
<b>nà-nìg.bó</b>	<b>[nàṯk`bó]</b>	civet
<b>rág.bà</b>	<b>[ráq`bà]</b>	triviality, trifle
<b>dèglèm</b>	<b>[dèk`lèm]</b>	insect sp.

(Realizations of **g** are described in 2.1.6.1).

### 2.1.6.7 Realizations of ŋ after vowels

When the nasal **ŋ** follows non-front vowels **a o u**, it is realized with a velar place of articulation.

<b>săŋ</b>	<b>[săŋ]</b>	ill omen
<b>tì-tôŋ</b>	<b>[tìtôŋ]</b>	remains
<b>kpúŋ</b>	<b>[kpúŋ]</b>	hill
<b>sáŋnì</b>	<b>[sáŋnì]</b>	mortar

<b>kpòŋrǎ</b>	<b>[kpòŋrǎ]</b>	tibia (of animal)
<b>gbúŋnì</b>	<b>[gbúŋnì]</b>	shack

It is also realized as **ŋ** when it follows a front vowel **i** or **e** and is itself followed by a velar stop **k/g**.

<b>tíŋgà</b>	<b>[tíŋgà]</b>	monitor lizard
<b>nà-réŋgéré</b>	<b>[nà-réŋgéré]</b>	hanging roots

However, when it follows a front vowel in any other context, it is realized as a palatal nasal.

<b>bîŋ</b>	<b>[bîŋ]</b>	forest
<b>bèlèŋ</b>	<b>[bèlèŋ]</b>	eagle sp.
<b>tîŋ-nǎ</b>	<b>[tîŋnǎ]</b>	to start (cf. <b>tîŋ</b> ‘start,’ <b>-nǎ</b> verbal noun suffix)
<b>nǎ-sèŋrǎ</b>	<b>[nǎsèŋrǎ]</b>	toothache

The weakly attested preglottalized nasal **'ŋ** is not found after any front vowels in the data, so it is not possible to establish its realization in this environment.

### 2.1.7 Airstream mechanisms

The Mambay language employs three airstream mechanisms. As is likely the case in all languages, egressive pulmonic air is the primary mechanism by which segments are articulated. In Mambay, however, two groups of consonants employ other airstream mechanisms: implosives are articulated with an ingressive glottalic airstream (2.1.7.1), and labial-velar stops are articulated with egressive pulmonic air accompanied by an ingressive velaric airstream (2.1.7.2). In addition, a paralinguistic “nasal click” exhibits a variation on a typical ingressive velaric airstream, since its release is nasal rather than oral (2.1.7.3).

#### 2.1.7.1 Ingressive glottalic

The implosives **ɓ** and **ɗ** are produced with an ingressive glottalic airstream in syllable onsets (2.1.6.2).

In Eguchi’s presentation of the Mambay consonant inventory, he also includes two implosive nasals and symbolizes these consonants as **ɱ** and **ɳ** (1971:145). Ladefoged and Maddieson admit the articulatory possibility of implosive nasals, but they state that none have been attested in the world’s languages (1996:102–3). Careful observation reveals that their assertion holds true for Mambay. While these nasal consonants are contrastive and pattern with implosives as part of a glottalic series (2.1.1), they are phonetically preglottalized rather than implosive. Consequently, they have been symbolized as **'m** and **'n** in the present study.

### 2.1.7.2 Ingressive velaric

In Mambay, the labial-velar stops **kp** and **gb** are articulated with a combination of the egressive pulmonic and ingressive velaric airstreams. Ladefoged (1968:9) catalogues this type of articulation as one of three ways in which labial-velar stops may be produced, and describes its articulatory and phonetic qualities in detail. In short, this airstream mechanism is made by negative pressure in the oral cavity, accomplished by the lowering of the jaw at the point when both velar and labial closure have been achieved. The ingressive velaric quality of these stops in Mambay is confirmed by a “popping” sound which is present upon their release, when air rushes into the oral cavity from both front and back. This sound is more clearly heard with **kp** than it is with **gb**.

### 2.1.7.3 Ingressive velaric with rear oral release

A variation on the ingressive velaric airstream described above (2.1.7.2) is found in a “nasal click” used by speakers of Mambay. Like labial-velar stops, it is produced with an ingressive velaric airstream; however, for the nasal click the ingressive velaric airstream mechanism is primary, and its release takes place at the back rather than the front of the mouth.

The nasal click is a paralinguistic utterance used in Mambay as the default means of communicating agreement or assent. It is typically repeated, especially when a speaker wants to signal strong agreement. This articulation is used by speakers of many other languages for an equivalent function; its areal distribution extends to much of northern Cameroon, southern Chad and likely other adjacent regions. Sang-Yong Lee (pers. comm. 2003) has suggested that the same clicking sound is also used in south-eastern dialects of Korean, where it expresses sympathy and condolence. A similar phenomenon is the “ingressive nasal accompaniment” which occurs with clicks in some Khoisan languages (Ladefoged and Maddieson 1996:102). However, in that context, there is also a release at the front of the mouth.

Descriptions of this intriguing phenomenon as it occurs in Mambay and other languages in the region are uncommon in the literature, and those that do exist provide only modest phonetic detail. For Mundang, Elders depicts the sound as an “injectif uvulaire” (uvular implosive) (2000:586). He also quotes Lukas (1937:147), who describes its articulation in Kanuri (a Saharan language of Nigeria) as a postvelar click in which the lips are closed.

More may be said regarding the articulation of the nasal click in Mambay, some of which is likely pertinent to its realization in other languages. Visual and auditory observation reveals that, similar to what happens with the production of labial-velar stops (2.1.7.2), negative pressure in the oral air chamber is accomplished by the lowering of the jaw and/or the tongue during velar and labial closure. However, rather than releasing the negative balance of pressure at the lips, the back of the tongue is dropped. When the tongue’s seal with the velum is broken, air rushes into a newly unified oropharyngeal cavity from an open nasal/pharyngeal breathing tract. The resulting sound is a sharp click with a high-pitched onset and a low, dull reverberation in the oropharyngeal cavity,

and the sound may be heard from the nose as well as through the cheeks. There is no voicing at any time during the articulation.

The direction of an accompanying pulmonic airstream is irrelevant to the accomplishment of the articulation; in fact, breathing normally takes place through the nose throughout the period of articulation. The negative balance of oral air pressure described in the previous paragraph is compensated for by an increase of air rushing in through the nose (during incidental inhalation) or an egressive pulmonic airstream (during incidental exhalation).

### **2.1.8 The labial flap**

The labial flap, rare among the world's languages, is the most unusual member of the Mambay consonant inventory.

Important cross-linguistic studies on the labial flap are those of Thomas (1972), Greenberg (1983) and Olson and Hajek (1999, 2001, 2003, 2004; Olson 2004). For the most part, the labial flap has been documented among languages of north-central Africa, but it is also attested in a few languages in the south-east portion of the continent and in a single Malayo-Polynesian language of Indonesia. In Africa, the languages in which the labial flap has been reported belong to three major phyla: Niger-Congo, Nilo-Saharan and Afro-Asiatic (Chadic only). By far the highest concentration is found in the Adamawa-Ubangi branch of Niger-Congo, of which Mambay is a member (Olson and Hajek 2003:157–60, 1.2.2).

According to Olson and Hajek, “the labial flap is produced by retracting the lower lip into the mouth well behind the upper teeth and then bringing it forward rapidly, striking the upper lip or teeth in passing” (2003:157). The term “labial flap” thus acts as a cover term for two distinct phonetic entities: the labiodental flap and the bilabial flap. However, as these two units are not known to contrast in any language, they have often been given the same phonological label. In actual fact, most languages exhibit the labiodental sound as the sole or primary place of articulation. Only three languages, including Mambay, are reported to employ a bilabial articulation in all environments (Thomas 1972:113, Olson and Hajek 2003:166). The photographs on the following page, which are taken from Anonby (2007) and which feature the study's principal collaborator Oussoumanou Bouba, confirm this assessment for the labial flap in Mambay.

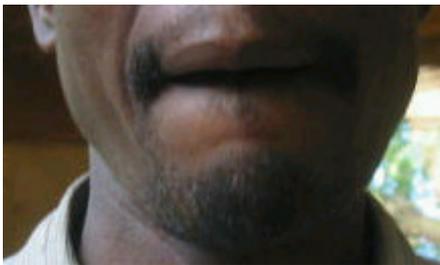
Photographic documentation of the labial flap in Mambay



**Figure 1.** The labial flap is shown in the word **vb̥n̥á** ‘male (n.).’ At 0.00 seconds, the mouth is in resting position.



**Figure 2.** At 0.30 seconds, the lower lip has been pulled behind the upper teeth.



**Figure 3.** At 0.45 seconds, the upper lip is pulled down as the lower lip begins to move forward into contact with it. The tightening and dropping of the upper lip is characteristic of the bilabial variant of the flap, which is attested in Mambay.



**Figure 4.** At 0.55 seconds, the lower lip comes rapidly forward into contact with the upper lip, sealing the oral cavity briefly. Air pressure builds up behind the closure. There is a popping sound when the seal is released.



**Figure 5.** At 0.60 seconds, the outward motion of the lower lip is complete.

In most of the languages which contain the labial flap, it is phonologically peripheral (Olson and Hajek 2003:167). However, Anonby (2004b, 2007) argues that for Mambay the labial flap must be considered a basic and contrastive member of the consonant inventory: it is shown that the labial flap is found in about 120 lexical items representing several word classes, and additionally occurs among a variety of phonological environments, including complex morpheme-initial onsets (2.1.2.5) and morpheme-internal onsets (2.1.2.2). These characteristics are evident in the following sample of words with the labial flap (represented by **vb** in the phonological orthography; see 2.1.1):

<b>bùvbúŋ</b>	net sp.	<b>vbèd'</b>	peel off
<b>bàvbâw</b>	fish sp.	<b>vbìgim</b>	green, unripe
<b>féévbà</b>	pair of twins	<b>vbíí</b>	cut, cut up
<b>kààvbèègà</b>	cucumber, squash	<b>vbilá</b>	piece of <i>boule</i>
<b>kàvbâw</b>	the end (story margin)	<b>vbízò</b>	fishhook
<b>lwâgvbá</b>	tenderness, youngness	<b>vbì'n</b>	hard-boil
<b>nǎ-vbâh</b>	distribution	<b>vbó'</b>	mix
<b>pùgvbí</b>	scatter	<b>vbòlvbòl</b>	furiously
<b>vbáhrà</b>	clod of earth	<b>vbúù</b>	grass sp.
<b>vbàhtátá</b>	strong and healthy, solid	<b>vbwâh</b>	fog, cloudburst
<b>vbààlá</b>	testicle	<b>vbyâ'</b>	marsh
<b>vbá'là</b>	chunk, muscle	<b>vbyâh</b>	cheek

There is a growing body of evidence for languages (like Mambay) in which the labial flap patterns as an integral, contrastive phonological unit (Olson and Hajek 2001, 2003, 2004; Anonby 2004b). Because of this, the International Phonetic Association has recently adopted the transcription [v] for the labiodental flap (IPA 2005:261). For the bilabial flap, the modified symbolization [ɸ] has been proposed, since it admits an articulation further forward than the labiodental place of articulation (Olson and Hajek 1999:12).

## 2.2 Vowels

In the present section, an inventory of vowels is provided (2.2.1). The distribution of vowels in the language (2.2.2) is followed by a demonstration of contrast among them (2.2.3). Additional topics are vowel interpretation issues (2.2.4) and phonetic realizations of vowels (2.2.5).

### 2.2.1 Inventory of vowels

The vowel inventory of Mambay consists of five basic vowel units which may be lengthened, or modified by nasalization, glottalization or pharyngealization. These vowels, which represent thirty distinct qualities, may be schematized in eight sets. Each set provides contrast among its members, and a number of the sets may be contrasted with one another, since they are morphologically equivalent. Contrasts which are not satisfactorily demonstrated by these sets are shown in 2.2.3.

basic (short) vowels:

	front	central	back			
high	<b>i</b>		<b>u</b>	<b>i</b>	<b>zím</b>	bend to the ground, pray
mid	<b>e</b>		<b>o</b>	<b>e</b>	<b>sèm</b>	sneeze, avoid
low		<b>a</b>		<b>a</b>	<b>zám</b>	weave or braid finely
				<b>o</b>	<b>vbòm</b>	divide, spread, ruin
				<b>u</b>	<b>vúm</b>	blow

long vowels:

	front	central	back			
high	<b>ii</b>		<b>uu</b>	<b>ii</b>	<b>ríí</b>	carry
mid	<b>ee</b>		<b>oo</b>	<b>ee</b>	<b>réeé</b>	melt
low		<b>aa</b>		<b>aa</b>	<b>ráá</b>	spread out
				<b>oo</b>	<b>ròò</b>	trick, amuse
				<b>uu</b>	<b>rúú</b>	leave without warning

short nasalized vowels:

	front	central	back			
high	<b>ĩ</b>		<b>ɥ</b>	<b>ĩ</b>	<b>hùùrĩ</b>	hyena
mid				<b>ɔ̃</b>	<b>bùùrɔ̃</b>	millet sp.
low		<b>ɔ̃</b>		<b>ɥ</b>	<b>bíírɥ</b>	cobra

long nasalized vowels:

	front	central	back			
high	<b>ĩĩ</b>		<b>ɥɥ</b>	<b>ĩĩ</b>	<b>ríí</b>	clean out, wink
mid				<b>ɔ̃ɔ̃</b>	<b>ráá</b>	blind (v.), singe
low		<b>ɔ̃ɔ̃</b>		<b>ɥɥ</b>	<b>đúú</b>	slip something into a person's hand

glottalized vowels:

	front	central	back			
high	<b>i'</b>		<b>u'</b>	<b>i'</b>	<b>bí'</b>	dip
mid	<b>e'</b>		<b>o'</b>	<b>e'</b>	<b>bé'</b>	spy (v.)
low		<b>a'</b>		<b>a'</b>	<b>bá'</b>	fill up
				<b>o'</b>	<b>bó'</b>	put in one's mouth
				<b>u'</b>	<b>bú'</b>	gather up

pharyngealized vowels:

	front	central	back			
high				<b>eh</b>	<b>sêh</b>	hand of ... (cf. 5.2.2.2)
mid	<b>eh</b>		<b>oh</b>	<b>ah</b>	<b>zàh</b>	cow of ...
low		<b>ah</b>		<b>oh</b>	<b>tòh</b>	snake of ...

nasalized and glottalized vowels:

	front	central	back			
high	<b>ĩ'</b>		<b>u'</b>	<b>ĩ'</b>	<b>rĩ'</b>	glue, be infected
mid				<b>ą'</b>	<b>rą'</b>	rot
low		<b>ą'</b>		<b>u'</b>	<b>ru'</b>	twist, extract

nasalized and pharyngealized vowels:

	front	central	back			
high	<b>ĩh</b>		<b>uh</b>	<b>ĩh</b>	<b>rĩh</b>	slip, crawl
mid				<b>ąh</b>	<b>yąh</b>	call, invite
low		<b>ąh</b>		<b>uh</b>	<b>ruh</b>	polish

These eight vowel sets reveal three gaps in the inventory:

- 1) there is no phonological distinction between high and mid nasalized or pharyngealized vowels; nasalized mid vowels are absent (see 3.1.1 for discussion), as are high oral pharyngealized vowels (see 2.2.4);
- 2) there is no contrast in length for glottalized or pharyngealized vowels (see 2.3.3.2 and 2.3.3.3); and
- 3) although glottalization and pharyngealization may be found with nasality, they never occur with one another.

## 2.2.2 Distribution

There are a number of limitations on the distribution of vowels. In addition to general frequency patterns (2.2.2.1), some limitations depend on the syllable shape (2.2.2.2) or morpheme position in which vowels are found (2.2.2.3). There are also restrictions on which vowels may occur together within a morpheme; these restrictions differ according to the morphological class of the morpheme (2.2.2.4).

### 2.2.2.1 General frequency patterns

The presentation of vowels in 2.2.1 above is valuable in showing the range of attested vowel possibilities. However, two additional observations regarding the frequency of different types of vowels are instructive in communicating a more balanced picture of vowel frequencies in the language.

First, a cursory survey of the lexicon reveals that the low vowel **a/aa** is by far the most frequent vowel. High vowels **i/ii** and **u/uu** are also frequent. However, mid vowels **e/ee** and **o/oo** are uncommon.

Second, vowels which are modified by nasalization, glottalization, and pharyngealization are less common than unmodified vowels.

When these two patterns overlap, individual vowels representing low-frequency tendencies are poorly attested. Thus, mid pharyngealized and mid glottalized vowels, as well as nasalized glottalized and nasalized pharyngealized vowels, are scarce.

Because of such frequency patterns, it is difficult in some cases to find contrasts which are morphologically equivalent for mid and modified vowels (cf. 2.2.3).

### 2.2.2.2 Vowels in syllables

All vowels are found in open syllables (for a discussion of syllable types, see 2.4.1; for examples of vowels in open syllables, see word lists in 2.2.1 and 2.2.3).

Almost all instances of vowels in closed syllables are short vowels. These vowels are generally oral or modified only by nasalization. Additionally, according to the interpretations presented in 2.3.3, there are some instances of pharyngealized and glottalized vowels in closed syllables. In five morphemes, unambiguously long vowels are also found in closed syllables (2.4.1).

### 2.2.2.3 Vowels in morphemes

As is evident in the lists presented to demonstrate contrasts among vowels (2.2.1, 2.2.3), all vowels are found in root-initial syllables of morphemes.

In all other morphological positions, however, the vowel inventory is restricted; long, glottalized, and pharyngealized vowels are almost absent. In the data, the only exceptions to this pattern which could be construed as monomorphemic are found in the lists which follow.

long vowels:

<b>ʔáhyyáà</b>	oh dear!
<b>ʔàyyéé</b>	indeed!
<b>bàhàà</b>	ibis sp.
<b>bàrgúú</b>	both

<b>pìpùùrì</b>	horn (instrument)
<b>tí-tòòntî</b>	lark (bird sp.)
<b>wátùtáà</b>	salt, sugar

glottalized vowels:

<b>bìzápé'</b>	five
<b>mǎhǎ'</b>	animal sp.
<b>nǎ-dídá'</b>	summit
<b>ràfá'</b>	brownness

pharyngealized vowels:

<b>fwàrnâh</b>	eight
<b>gàgàhŋ</b>	drumstick
<b>gìwâh</b>	cup
<b>kàrwâhz</b>	abruptly and desperately
<b>nǎ-bíbáhrâm</b>	bedbug
<b>nǎ-wíwâh</b>	belt made of bells
<b>nǎ-zìzâh</b>	dance sp., instrument sp.

The distribution of long, glottalized and pharyngealized vowels in these words is unquestionably marginal in the language, and even in the words presented in the list above, a simple morphological identity is tentative. In many cases, the words' forms hint at structural complexity, or may point to borrowing from Mundang (note in particular the **Ci**-initial forms, which are reminiscent of the **Cə**-initial “preformatives” in Mundang; see Elders 2000:125ff.). In addition, the atypical distribution of vowels in words such as interjections, species names and musical instruments may be related to the employment of non-canonical structures available to ideophonic words (8.2).

#### 2.2.2.4 Co-occurrence restrictions

Within morphemes, two factors in addition to syllable (2.2.2.2) and morpheme position (2.2.2.3) relate to restrictions on which vowels may occur in the same morpheme: the morphological class to which a morpheme belongs, and the distribution of nasality in the morpheme.

Morphological classes demonstrate varying degrees of restrictions on which vowels may occur together within a morpheme. On the one hand, strong co-occurrence tendencies are evident between vowels in the first and second syllable of nouns: identical  $V_1$ - $V_2$  vowels and  $V_1$ -**a** sequences are by far the most common (Anonby 2008), but these are not binding. The following list shows attested  $V_1$ - $V_2$  sequences for the five basic vowel qualities (2.2.1) in nouns. Whenever possible, short vowels are given; modified (long or glottalized) vowels are shown when no short vowels are attested for a given sequence.

<b>i-i</b>	<b>wízì</b>	wagtail (bird sp.)
<b>i-e</b>	<b>bíbél</b>	summit
<b>i-a</b>	<b>gílà</b>	rainy season
<b>i-o</b>	<b>vbízò</b>	fishhook
<b>i-u</b>	<b>ná-kpígù</b>	fish sp.
<b>e-i</b>	<b>yèrí</b>	clothing
<b>e-e</b>	<b>bègé</b>	small
<b>e-a</b>	<b>béyà</b>	hoe sp., friend (archaic)
<b>e-o</b>	—	
<b>e-u</b>	<b>tè'nú</b>	side (body)
<b>a-i</b>	<b>làbí</b>	left (n.), left-handedness
<b>a-e</b>	<b>tálè</b>	roof
<b>a-a</b>	<b>bàlá</b>	elephant
<b>a-o</b>	—	
<b>a-u</b>	<b>gà'rú</b>	binga (flying fish)
<b>o-i</b>	<b>bóólì</b>	intelligent
<b>o-e</b>	<b>kóólè</b>	swaddling clothes, nest lining
<b>o-a</b>	<b>tórà</b>	seed
<b>o-o</b>	<b>rógò</b>	tomorrow (n.)
<b>o-u</b>	—	
<b>u-i</b>	<b>tùúrì</b>	<i>boule</i>
<b>u-e</b>	—	
<b>u-a</b>	<b>kùgá</b>	plant sp.
<b>u-o</b>	<b>túbò</b>	blood
<b>u-u</b>	<b>sùmú</b>	potter's kiln

These data do not show any categorical limitations on which vowels may occur together within a noun root. Rather than suggesting synchronic restrictions, the unsystematic gaps that are found likely point to tendencies in historical noun suffixation (Anonby 2008).

On the other hand, there are tight synchronic restrictions on ideophonic modifiers, which prohibit vowels of differing value to be found together within certain morpheme or word structures (8.4.2.2.1). Canonical verb stems are monosyllabic (7.1.1), and are thus exempt from a discussion of vowel co-occurrence; and other word classes do not have enough members with more than one syllable from which to draw authoritative conclusions on the topic.

Restrictions on the nasality of vowels in morphemes are addressed in detail in 3.4.2.

### 2.2.3 Contrast between vowels

The word sets given with the vowel inventory in 2.2.1 demonstrate contrast among the members of each set. In addition, a number of the sets given there may be contrasted with one another, since they uniformly present verbs consisting of an open syllable. This is the case for the following sets:

- long vowels
- long nasalized vowels
- glottalized vowels
- nasalized glottalized vowels
- nasalized pharyngealized vowels

However, there are a few vowel sets whose context is not comparable (i.e., it is something other than a verb consisting of an open syllable). Consequently, in the present section, additional evidence is presented for contrasts in length on oral and nasalized vowels (2.2.3.1), pharyngealized vowels with short and long vowels (2.2.3.2), and short vowels with glottalized vowels (2.2.3.3).

#### 2.2.3.1 Length

Each of the short, basic vowel qualities **i e a o u** contrasts with a long counterpart.

<b>i</b>	<b>gílà</b>	rainy season
<b>ii</b>	<b>gìllá</b>	quiver (for arrows)
<b>e</b>	<b>bègé</b>	slave
<b>ee</b>	<b>bèèlá</b>	pangolin
<b>a</b>	<b>bàlá</b>	elephant
<b>aa</b>	<b>báálà</b>	captive
<b>o</b>	<b>tórà</b>	seed
<b>oo</b>	<b>gòòrá</b>	roof, preparation
<b>u</b>	<b>súgò</b>	ear
<b>uu</b>	<b>sùùgó</b>	thought, wisdom

This contrast in length is also characteristic of nasalized vowels:

<b>ĩ</b>	<b>nĩnù</b>	eye, face, life
<b>iĩ</b>	<b>niĩnú</b>	bottom, meaning
<b>ą</b>	<b>wą́rą́</b>	mosquito
<b>ąą</b>	<b>wą̀àrą̀</b>	valley, used pasture

<b>ɥ</b>	<b>bùrí</b>	wild manioc sp.
<b>ɥɥ</b>	<b>pìpùùrí</b>	horn (instrument)

### 2.2.3.2 Pharyngealization

Pharyngealized vowels, which do not exhibit distinctions of length (cf. 2.2.1, 2.3.3.2), contrast with basic short vowels and long vowels:

<b>eh</b>	<b>béhlég</b>	small	<b>eh</b>	<b>dèh</b>	bow low
<b>e</b>	<b>délej</b>	intelligent	<b>ee</b>	<b>pèè</b>	cease, be limited
<b>ah</b>	<b>wàhlá</b>	nape (of neck)	<b>ah</b>	<b>bǎh</b>	rain
<b>a</b>	<b>wálà</b>	orphan	<b>aa</b>	<b>báà</b>	cane rat
<b>oh</b>	<b>kpòhròm</b>	blunt	<b>oh</b>	<b>gòh</b>	narrow
<b>o</b>	<b>tí-tórój</b>	small bronze bell	<b>oo</b>	<b>tí-góò</b>	window (in <b>dâg</b> <b>tí-góò</b> ‘window’)

Pharyngealized vowels also contrast with glottalized vowels:

<b>eh</b>	<b>héh</b>	stop
<b>e’</b>	<b>hé’</b>	bang, bang into
<b>ah</b>	<b>sáh</b>	ask, rip, play
<b>a’</b>	<b>sá’</b>	buy
<b>oh</b>	<b>tòh</b>	snake of ...
<b>o’</b>	<b>dò’</b>	belly of ... , centre of ...

### 2.2.3.3 Glottalization and short vowels

Glottalized vowels contrast with short vowels:

<b>i’</b>	<b>sí’là</b>	cold (n.)
<b>i</b>	<b>tílà</b>	sickness, blight
<b>e’</b>	<b>pè’gá</b>	tree hollow, beehive
<b>e</b>	<b>bègé</b>	slave
<b>a’</b>	<b>sà’lá</b>	rope, trap
<b>a</b>	<b>sàlá</b>	cowrie shell
<b>o’</b>	<b>ò’lá</b>	tumor
<b>o</b>	<b>tóra</b>	seed
<b>u’</b>	<b>kù’rá</b>	melon
<b>u</b>	<b>túra</b>	millet

## 2.2.4 Issues in vowel interpretation

There are two major issues related to vowels which necessitate interpretation: lack of contrast in length on glottalized and pharyngealized vowels, and the underlying height of non-low pharyngealized vowels. The first issue is addressed in 2.3.3.2 and 2.3.3.3, where it forms part of a general discussion considering the consonantal vs. vocalic identity of glottalized and pharyngealized vowels; the second issue is addressed in the present section.

### *Underlying height of non-low pharyngealized vowels*

A comparison of oral and nasalized inventories of pharyngealized vowels reveals that, at least on the surface, oral non-low pharyngealized vowels are mid ([**eh**] and [**oh**]), but nasalized non-low pharyngealized vowels are high ([**ih**] and [**uh**]).

Three possible interpretations for the underlying height of non-low pharyngealized vowels are as follows:

1. Other than a basic low/non-low distinction, pharyngealized vowels are not underlyingly specified for height (i.e., mid vs. high).
2. Non-low pharyngealized vowels are all underlyingly mid.
3. Non-low pharyngealized vowels are all underlyingly high; the mid phonetic value of the oral members is an articulatory consequence of pharyngealization.
4. Oral non-low pharyngealized vowels are underlyingly mid, and nasalized non-low pharyngealized vowels are underlyingly high.

The first, second and third explanations are helpful in that they advocate symmetry between the oral and nasalized pharyngealized vowel inventories. While the second explanation does not respect restrictions on nasalized mid vowels in the language (cf. 3.1.1), the third explanation does so explicitly. The second explanation also falls short in that it needs to account for the high realization of the nasalized pharyngealized vowels.

The fourth explanation, in contrast, advocates asymmetry between oral pharyngealized and nasalized pharyngealized vowels. Like the third explanation, it explicitly respects the absence of nasalized mid vowels in the language. However, it is less abstract; it conveniently proposes underlying forms which correspond exactly to surface realizations.

A final piece of evidence in support of the fourth explanation relates to vowel distribution in ideophones. As described in 8.4.2.1.1, there are strong limitations on which vowels may occur within the same ideophonic modifier. In most cases, a single vowel position is permitted.

<b>kpìgzìm</b>	thick (dimension)
<b>làrbàg</b>	flat-nosed
<b>vbérgé</b>	runt-like
<b>bòglòm</b>	bulging

This is the case even if one of the vowels is modified by glottalization or pharyngealization.

<b>gàhḡgàràḡ</b>	abnormally doubled
<b>vbàhtátá</b>	strong and healthy, solid
<b>kàrwàhz</b>	abruptly and desperately

The following list shows ideophones which contain pharyngealized vowels **eh** and **oh** in the same ideophonic modifier as another unmodified vowel.

<b>béhlég</b>	small, a bit	(* <b>béhlíg</b> )
<b>gòhḡròḡ</b>	bent	(* <b>gòhḡrùḡ</b> )
<b>kpòhròm</b>	blunt	(* <b>kpòhrùm</b> )
<b>póhḡgòḡgòḡ</b>	narrow	(* <b>póhḡgùḡgùḡ</b> )

Forms such as those on the right (marked with asterisks) are not permitted. In each of the attested cases, however, the value of the unmodified vowel, which represents the same vowel position as the pharyngealized vowel, is mid rather than high.

Because of these data, and weighing the other factors given above in support of each explanation, the fourth explanation has been chosen for this study: oral non-low pharyngealized vowels are treated as underlyingly mid (**eh** and **oh**), and nasalized non-low pharyngealized vowels are treated as underlyingly high (**ih** and **uh**).

## 2.2.5 Phonetic realizations

Three types of vowels exhibit more than one phonetic realization depending on where they are found in syllables and utterances and, in some cases, the speed and register at which they are articulated: short mid vowels, glottalized vowels and pharyngealized vowels. Realizations of short mid vowels are described in the present section. However, realizations of glottalized and pharyngealized vowels are described in the sections on the interpretation of those vowels (2.3.3.2 and 2.3.3.3).

### *Short mid vowels*

Short mid vowels **e** and **o** are realized as phonetic close-mid vowels [e] and [o] in open syllables.

<b>bègé</b>	[bègé]	slave
<b>tì-kóólè</b>	[tìkóólè]	pipe
<b>tórà</b>	[tórà]	seed
<b>gùgò</b>	[gùgò]	firewood

In closed syllables, however, they are realized as open-mid vowels [ɛ] and [ɔ].

<b>gèmná</b>	<b>[gèmná]</b>	entrance hut
<b>kêrgá</b>	<b>[kêrgá]</b>	loose-weave basket

<b>kómnà</b>	<b>[kómnà]</b>	hunger
<b>gòg.bá</b>	<b>[gògbá]</b>	ill omen

<b>bègé</b> [bègé]	<b>-z-</b>	<b>→</b>	<b>bègzé</b> [bègzé]	(cf. singular form above)
slave	PL		slaves	

<b>tórà</b> [tórà]	<b>-z-</b>	<b>→</b>	<b>tórzà</b> [tórzà]	(cf. singular form above)
seed	PL		seeds	

## 2.3 Issues relating to both consonants and vowels

In the present section, issues relating to both consonants and vowels are explored. A discussion of consonant/vowel distribution patterns (2.3.1) is followed by a demonstration of contrast for specific sequences (2.3.2). Four interpretive issues, all of which have major implications for the phonological structure of the language, are addressed in 2.3.3.

### 2.3.1 Consonant/vowel distribution patterns

Besides restrictions defined by positional distribution constraints (2.1.2, 2.2.2), there are few limitations on the consonants and vowels that may occur next to one another.

Within syllables, most possibilities are attested. With the exception of nasal consonants and the semivowels **y w ɣ 'w**, all onset consonants (2.1.2.1) are followed by vowels representing all of the five basic vowel positions (2.2.1). Similarly, with the exception of the same consonants, there do not appear to be any systematic constraints on which of the basic vowels may occur together with attested coda consonants (2.1.2.3 and 2.1.2.4). While the distribution of vowels after nasal consonants is treated in 3.4.1, the distribution of vowels next to semivowels is discussed in the following subsection (2.3.1.1).

In morphemes with more than one syllable, long vowels, glottalized vowels and pharyngealized vowels are not found before glottalized consonants, even across a syllable boundary (2.3.1.2). No other heterosyllabic inventory constraints have been observed.

#### 2.3.1.1 Limited distribution of vowels with semivowels

Within syllables, a limited inventory of vowels is found adjacent to the semivowels **y w** and glottalized semivowels **ɣ 'w** in all positions: simple onsets (2.3.1.1.1), complex onsets (2.3.1.1.2), and codas (2.3.1.1.3).

##### 2.3.1.1.1 After simple onsets

After simple syllable onsets (2.4.2), the high front vowel **i** never follows **y** or **ɣ**, and the distribution back vowels **o u** is almost excluded after **w** and **'w**.

<b>yi</b>	—		<b>wi</b>	<b>wîr</b>	then
<b>ye</b>	<b>yèb</b>	peace, wholeness	<b>we</b>	<b>wéy</b>	virginity
<b>ya</b>	<b>yàg</b>	ululate	<b>wa</b>	<b>wàr</b>	leave
<b>yo</b>	<b>yôm</b>	enough	<b>wo</b>	<b>?dòwó</b>	yes
<b>yu</b>	<b>yúh</b>	narrow	<b>wu</b>	<b>?úùwú</b>	3SG.POSS (fast speech)
<b>yí</b>	—		<b>'wi</b>	<b>'wîh'wîh</b>	achy and restless
<b>ye</b>	<b>yêl</b>	disturb	<b>'we</b>	<b>'wéy</b>	fish sp.
<b>ya</b>	<b>yáď</b>	feel, rub	<b>'wa</b>	<b>'wàg</b>	such
<b>yo</b>	—		<b>'wo</b>	—	
<b>yu</b>	<b>yúú</b>	penetrating like an arrow	<b>'wu</b>	—	

The absence of **yó** in the data is probably due to chance rather than a systematic gap, since **yo** is found and because the sequence is pronounced without alteration in words of Fulfulde origin such as **yóólà** (place name).

Conversely, occurrences of **wo** and **wu** are limited. While **wo** is found only in the word **?dòwó ~ ?dwwó** ‘yes,’ **wu** is limited to the morphemes **?úùwú** and **-`wú**, casual speech variants of **úùrú** (3SG.POSS) and **-`rú** (3SG.POSS.INAL; cf. 6.1.4). Words of Fulfulde origin with the sequence **wu** are reinterpreted with **hu** in Mambay; for example, Fulfulde **wuro** ‘village’ is pronounced **húrò**. In addition, the arisal of **wo** and **wu** in some complex morphological contexts results in the alternation of **w** with **h** before back vowels (5.2.2.2.1).

### 2.3.1.1.2 After complex onsets

Distribution restrictions on vowels after complex syllable onsets are parallel to those found after simple onsets (2.3.1.1.1), although only **y** and **w** are found here (2.1.2.5). The high front vowel **i** is absent after **y**, and back vowels **o u** are absent after **w**.

<b>yi</b>	—		<b>wi</b>	<b>zwî'gá</b>	beauty, fineness
<b>ye</b>	<b>byèď</b>	repeat oneself	<b>we</b>	<b>kwéré</b>	fence
<b>ya</b>	<b>byàá</b>	water	<b>wa</b>	<b>kwàá</b>	neck, voice
<b>yo</b>	<b>ďyóò</b>	grass sp.	<b>wo</b>	—	
<b>yu</b>	<b>fyùú</b>	completely	<b>wu</b>	—	

Although all of these sequences are attested, the vast majority CCy and CCw sequences are found with the vowel **a** and its modified counterparts.

### 2.3.1.1.3 Before codas

As is the case in syllable onsets, there are restrictions on the inventory of vowels that may occur next to semivowels in syllable codas. The following sequences have been attested:

<b>iy</b>	—		<b>iw</b>	—	
<b>ey</b>	<b>wéy</b>	virginity	<b>ew</b>	<b>nà-gbéhwrà</b>	wild hibiscus sp.
<b>ay</b>	<b>fǎy</b>	fish sp.	<b>aw</b>	<b>kǎw</b>	frog sp.
<b>oy</b>	—		<b>ow</b>	<b>támbyòw</b>	billy goat
<b>uy</b>	—		<b>uw</b>	—	
<b>iỵ</b>	—		<b>i'w</b>	<b>kpí'wsí</b>	shallow
<b>eỵ</b>	—		<b>e'w</b>	<b>kpé'wrà</b>	melon
<b>aỵ</b>	<b>kpạ̀ỵ</b>	swing the hips	<b>a'w</b>	<b>nà'w</b>	spank (v.)
<b>oỵ</b>	—		<b>o'w</b>	<b>kyô'w</b>	warthog, pig
<b>uỵ</b>	—		<b>u'w</b>	—	

A number of factors limit this inventory of combinations.

1. The sequences **iy** and **uw** do not contrast with the long vowels **ii** and **uu**; all instances of these sequences have been interpreted as long vowels (2.3.3.4).
2. Similarly, the sequences **iỵ** and **u'w** do not contrast with the glottalized vowels **i'** and **u'**; all instances of these sequences have been interpreted as glottalized vowels (2.3.3.3), which do not show a distinction in length.
3. There are no instances where the vowel-semivowel sequences **uy** and **iw** contrast with the semivowel-vowel sequences **wi** / **wii** and **yu** / **yuu**. All potential occurrences of these sequences have been interpreted as semivowel-vowel sequences (2.3.3.4); the length of the vowel in each case is determined by behaviour of the word in non utterance-final position (cf. 2.1.6.5). A parallel interpretation is not available for and **uỵ** (which is not in any case attested) and **i'w**, since V'C sequences are in most cases interpreted as a vowel followed by a glottalized consonant (see 2.3.3.3).
4. The sequence **oy** appears to be supplanted by **we** / **wee** in Mambay. Evidence of this comes from the borrowed Mambay word **bwéè** 'domestic helper,' which is a reinterpretation of the word *boy* (Colonial British English via Hausa and Fulfulde *boy*).
5. **aw** and **ow** are in variation in non morpheme-final syllables (for example, **lâwrá** ~ **lôwrá** 'large egret sp. '), where **aw** is the preferred variant in careful speech.
6. The glottalized semivowels **ỵ** and **'w** are only modestly attested in coda position. Consequently, especially as concerns **ỵ**, inherent restrictions on the vowels that may follow these consonants are difficult to establish.

### 2.3.1.2 Limitation of vowel length and quality before glottalized consonants

With the exception of words borrowed from Fulfulde, there are no Mambay words in which long vowels are found before glottalized consonants, even across a syllable boundary. In addition, glottalized and pharyngealized vowels are never found in this position. The apparent restriction on glottalized vowels results from the interpretation of most syllable-internal V'C sequences as vowels followed by glottalized consonants (2.3.3.3). In contrast, the absence of pharyngealized vowels before glottalized consonants reflects a manifest gap in the phonological system.

These distributional restrictions likely originate in the complex internal structure of glottalized consonants (2.1.5.1).

### 2.3.2 Contrast

Although most contrasts have been established in the sections devoted to consonants (2.1.3) and vowels (2.2.3), additional contrasts involving glottalic sequences (2.3.2.1) and codas affected by nasality (2.3.2.2) relates to both groups of segments.

#### 2.3.2.1 Glottalic sequences

There are a number of distributional gaps (2.3.1.2) and ambiguous sequences (2.1.4.1, 2.1.4.2, 2.3.3.3) associated with glottalic articulations. Over a syllable boundary, however, glottalized vowels followed by a **b** contrast with non-glottalized vowels followed by the implosive **ɓ**. This contrast persists in spite of the penetration of glottalization from glottalic consonants into the vowels of preceding syllables (2.1.5.1). Phonetically, the contrast is signalled by the presence vs. absence of glottalization on the vowel in the first syllable, the persistence of phonetic implosion on the (phonetically preglottalized) implosive stops, and the possibility of a phonetically open vs. closed transition (i.e., oral release) between the glottalic element and the stop element.

<b>lè'ba</b>	<b>[lê:bá] ~ [lɛʔ'ba] ~ [lɛʔba]</b>	metal, money
<b>tí-sì'ba</b>	<b>[tísì:bá] ~ [tísìʔ'ba] ~ [tísìʔba]</b>	honour
<b>páɓà</b>	<b>[pá'ɓà]</b>	milk
<b>túɓò</b>	<b>[tú'ɓò]</b>	blood

This contrast suggests that vocalic glottalization and consonantal glottalization are phonologically independent of one another in this environment.

An equivalent contrast that might be expected with **d** and **ɗ** is not possible because **d** is never found non morpheme-initially in Mambay (2.1.2).

#### 2.3.2.2 Codas affected by nasality

There is contrast between **Vŋ** and **V̥V̥** codas. This is evident in the following examples:

<b>dúŋ</b>	bend down
<b>dúú</b>	slip something into a person's hand

**nà-kààrà** faithful companion, disciple  
**nà-kànrá** cane, coward

### 2.3.3 Interpretive issues

There are number of interpretive issues involving both vowels and consonants. This topic has major implications for segmental and syllable inventories. These issues concern the interpretation of **y** and **w** in complex onsets (2.3.3.1), pharyngeal articulations (2.3.3.2), glottalic articulations in syllable rhymes (2.3.3.3), and syllable rhymes ending in high vowels and semivowels (2.3.3.4).

#### 2.3.3.1 **y** and **w** in complex onsets

Clements has noted that “it is often hard, in synchronic analysis, to determine whether a phonetic segment such as [kw] should be analysed phonemically as /ku/, /kw/, or even as the single segment /k<sup>w</sup>/” (2000:130). In other words, it is possible that onsets comprised of a consonant-semivowel sequence be interpreted as CV, CC or C. In Mambay, where this interpretive question arises, none of the three alternatives is without shortcomings.

The weakest of the three possible interpretations is that of CV (**Ci** and **Cu**). Arguments for this alternative are that:

1. In utterance-final monosyllables, **y** and **w** are phonetically realized as vowels: their duration is greater in this position, and they carry pitch which signals the underlying tone melody (2.1.6.5).

<b>tyáà</b>	<b>[tíà]</b>	fish sp.
<b>kwáà</b>	<b>[kúà]</b>	grass

2. **y** and **w** participate in vowel height assimilation processes in certain multimorphemic contexts (5.2.2.2.2).

<b>tyáà</b>	+	<b>?íí</b>	→	<b>tèè ?íí</b>
fish sp.		1SG.POSS		my fish sp.
<b>kwáà</b>	+	<b>?íí</b>	→	<b>kóò ?íí</b>
grass		1SG.POSS		my grass

However:

1. The designation of **y** and **w** as vowels in this context would require an introduction of vowel diphthongs or non-identical vowel sequences into the phonology, since none are found unambiguously in the language.
2. Even more problematic is the existence of a marginal contrast in vowel length after **Cy** and **Cw** sequences. **CyVV** and **CwVV** syllables are not uncommon. On the contrary, there are only ten words in the data with **CyV** and **CwV** syllables; and of these, two are borrowed, and at least one is a morphologically complex

ideophone. Still, in light of certain data (for example: **kwéré** fence, **nà-dwàràṅ** sore, pimple; vs. **gwàárè** sickle, **gwáálá** thief, robbery), this contrast in vowel length must be recognized. An interpretation of **y** and **w** as V in this context would therefore necessitate the recognition of three-mora vowels (VVV) syllables in the phonology, even though there is no evidence for these elsewhere in the language.

Somewhat more satisfactory is a C ( $C^y$  and  $C^w$ ) interpretation, where **y** and **w** are seen as palatal or labial modifications of consonants. The key argument for this is that syllable-initial consonant clusters are otherwise unattested; with this interpretation, all complex onsets can be accounted for as single consonants rather than sequences, and no new syllable types need to be accounted for in the inventory (cf. CV and CC interpretations).

However:

1. Phonetically, **y** and **w** typically accompany consonants as an off-glide rather than as a secondary articulation. That is, the point of greatest palatal and labial closure is after the release of the accompanied consonant, not with it. The lack of phonetic connection between the consonant and **y** or **w** is even greater in utterance-final syllables, where **y** and **w** are pronounced as vowels (cf. the first argument in favour of CV above, and 2.1.6.5).
2. **y** and **w** may accompany most consonants, including those which are labial (2.1.2.5). Thus, rather than applying to a limited number of consonantal series (especially velar consonants), this interpretation would entail the applicability of palatalization and labialization to the consonant inventory as a whole. While possible, this is a marked configuration.
3. Complex onsets involving **y** and **w** are limited to morpheme-initial position (2.1.2.5). If the interpretation of these onsets as  $C^y$  and  $C^w$  were followed, the relegation of all palatalized and labialized consonants to morpheme-initial position would lend imbalance to the distributional patterns of consonants in the language, since codas as well as onsets have rich inventories (2.1.2). However, because syllabic complexity is typical of morpheme-initial syllables (2.4), it could be more appropriate to assign **y** and **w** to an additional syllable position as in the third alternative (CC) below.
4. The morphophonological process in which **y** and **w** coalesce with adjacent vowels (given just above and in 5.2.2.2.2) is difficult to explain if **y** and **w** are interpreted as consonantal features. If this were the case, one would expect that in addition to affecting the following vowels, the palatal or labial feature would remain on the host consonant. However, it does not; the only remaining indications of **y** and **w**'s presence are the fronting or backing of a following vowel and its raising from low to mid.

A CC ( $Cy$  and  $Cw$ ) interpretation is also worth considering. Arguments for this alternative are that:

1. The phonetic realizations of **y** and **w** in this position are best represented by this option (cf. the first arguments presented in favour of CV and C interpretations).
2. Although this interpretation is perhaps less satisfying than a CV interpretation in explaining the morphophonological process in which **y** and **w** coalesce with adjacent vowels (cf. the second argument in favour of a CV interpretation and the fourth argument in favour of a C interpretation; see also 5.2.2.2), it is more convincing than a C interpretation, since the dissociation of the palatal and labial features from the syllable-initial consonant is not an issue in need of resolution.

Still, in spite of these advantages:

1. Significantly, it requires the recognition of CC-initial syllables in the phonology, and there are no other kinds of syllable-initial consonant clusters in the language.

Although neither the second (C<sup>y</sup> and C<sup>w</sup>) nor the third (Cy and Cw) interpretation of complex onsets is without limitations, both are adequate. Throughout this study, the third interpretation is used as a basis for transcription and discussion.

### **2.3.3.2 Pharyngeal articulations**

Pharyngeal articulations are contrastive in Mambay, and present a major interpretive challenge. In examining the issue, topics which have been invoked range from phonetics, distribution, and syllable structure to the analysis of systematic errors by learners of Mambay as a written language. Even in light of all these issues, none of the analytical alternatives is entirely satisfying.

Interpretive possibilities allow that pharyngeal articulations pattern as one of three structures:

1. an inherent quality of a pharyngeal consonant;
2. an inherent quality of pharyngealized vowels; or
3. a suprasegmental pharyngeal feature which associates with larger units such as syllable rhymes or syllables.

In the analysis that follows, the distribution and phonetic realizations of pharyngeal articulations are reviewed (2.3.3.2.1). Evidence for a consonantal interpretation (2.3.3.2.2) is followed by that which supports a vocalic interpretation (2.3.3.2.3). Drawbacks to each position are assessed (2.3.3.2.4 and 2.3.3.2.5), and a suprasegmental interpretation is briefly considered (2.3.3.2.6). The issue is concluded in 2.3.3.2.7.

#### **2.3.3.2.1 Distribution and phonetic realizations**

Pharyngeal articulations are primarily associated with syllable rhymes, although the articulatory effect of pharyngealization sometimes extends to onset consonants (2.1.6.3).

Phonetically, such articulations exhibit both vocalic and consonantal qualities. Because an understanding of the phonetic situation contributes toward an interpretation,

realizations will be described here in each of the three contexts in which they occur: non utterance-final open syllables, utterance-final open syllables, and closed syllables.

In an utterance-final syllable which is otherwise open, the only realization which is attested is a pharyngealized vowel followed by a voiceless pharyngeal fricative component.

f[áçh̥] path

In a non utterance-final syllable which is otherwise open, a pharyngeal articulation is realized with at least a pharyngealized vowel. In some cases, it is realized with an accompanying pharyngeal fricative component, which is itself optionally voiced. In addition, an open transition consisting of a pharyngealized echo vowel optionally follows the fricative component in this position. (Transcriptions are arranged from slow, careful speech to fast, casual speech).

f[áçh̥]là ~ f[áçh̥<sup>av</sup>]là ~ f[áçʕ]là ~ f[áçʕ<sup>av</sup>]là ~ f[áç:]là frog sp.

In an unambiguously closed syllable, attested realizations are slightly different. Here, a pharyngealized vowel may be realized without a following pharyngeal fricative component; and when a fricative component is present, it is never accompanied by an echo vowel. In every case, the syllable-final consonant is also pharyngealized.

k[áçh̥]çgá ~ k[áçʕ]çgá ~ k[áç]çgá bitterness

With these phonetic realizations in mind, it is appropriate to evaluate each of the three interpretive possibilities listed above.

### 2.3.3.2.2 Factors supporting a consonantal interpretation

Four factors support a consonantal interpretation for pharyngealization in Mambay.

First, and most obviously, a consonantal quality is evident in most phonetic realizations of pharyngeal articulations (this is shown in the examples immediately above). According to this line of reasoning, pharyngealization found on vowels (and, in some cases, on other consonants in the same syllable) would be interpreted as a phonetic effect of an adjacent or nearby pharyngeal consonant. In addition, the optional presence of an echo vowel after the point of greatest consonantal closure is in keeping with the articulation of the consonant **g** in coda position (2.1.6.1).

A second factor in favour of a consonantal interpretation is the attractive possibility that pharyngeal articulations reflect the realization of **h** in coda position. This is the conclusion given by Eguchi (1971:147–8).

A third argument is based on morpheme-internal distributional patterns: namely, glottalized consonants never follow pharyngeal articulations (2.3.1.2). This is parallel to

the morpheme-internal prohibition on glottalized consonants following other consonants (2.1.2.6).

A final point in favour of a consonantal interpretation for pharyngealization relates to the acceptance of complex onsets in the language (2.4.2). As is shown in the examples above, a pharyngeal articulation may precede another coda consonant. If complex onsets—and ones in which the C position next to the nucleus is restricted to a subset of the consonant inventory—are permitted in the language, then why not complex codas, which would be a near-mirror image of the onsets?

### **2.3.3.2.3 Factors supporting a vocalic interpretation**

There are also two substantial arguments which support the interpretation of pharyngealization as an inherent quality of a subset of the vowel inventory.

First, and even more decisive than the equivalent argument given for consonants, is the point that whenever it occurs, the phonetic realization of pharyngeal articulations is always found at least on vowels. According to a vocalic interpretation, although pharyngealization is underlyingly vocalic, it may be phonetically realized with an accompanying consonantal quality in some environments (cf. 2.3.3.2.1).

Second, pharyngealization occurs with only three of the five oral vowel positions, and with three nasalized vowels (two of which have a different underlying place of articulation than unmodified vowels) (2.2.1). The fact that pharyngealization is found with specific vowels corresponding to all five of the basic vowel positions, but not with any complete oral or nasalized set of five vowels, suggests that it is an inherent quality of the vowels with which it is found.

### **2.3.3.2.4 Arguments against a consonantal interpretation**

Several arguments of varying significance highlight difficulties with a consonantal interpretation of pharyngealization.

First, if pharyngeal consonants were accepted, two additional syllable shapes would have to be accounted for: CVCC and CCVCC (incidentally, because of the lack of vowel length contrast in pharyngeal articulations (2.2.1), no C(C)VVCC syllables would arise). Still, the existence of CC onsets is itself the result of an interpretation; and, based on ambiguous data, the positing of configurations which necessitate the recognition of additional syllable shapes cannot be done lightly.

C(C)VCC syllables, of which there would be many if one were to follow a consonantal interpretation of pharyngealization, would contain three segments in the syllable rhyme. In this respect, they would be comparable to CVVC syllables, which are superheavy (i.e., three-mora; cf. 2.4.3), since all vowels and coda consonants contribute a unit of weight in Mambay (2.4.3). However, there are very few (only five) unambiguous examples of morphemes containing CVVC syllables (2.4.3). Elsewhere, a constraint against morpheme-internal superheavy syllables holds sway. And although superheavy syllables arise in some complex morphological contexts, they are resisted in others (see, for

example, the plural form of **wàá** ‘hump’ in the following paragraph). The general constraint against superheavy syllables, then, should be considered when positing additional syllables of this type.

If C(C)VCC syllables were, after all, accepted as part of the inventory, one might expect that other glide-like consonants be allowed to fill the first coda position. However, semivowels **y** and **w** are never followed by another consonant in the same coda. Also, in plural constructions, morphemes ending in glides **y** and **w** or other consonants consistently avoid the insertion of **r** or **l** that is obligatory in pharyngeal rhymes without an additional consonant, and that also occurs often with syllables containing long vowels (5.5.2.1), as shown in the following examples:

syllables with pharyngeal rhymes and long vowels:

**vâh** + **-zV** → **vâhlzà**  
 arrow PL arrows

**wàá** + **-zV** → **wàlzá**  
 hump PL humps

cf. syllables ending in semivowels and other consonants:

**kăw** + **-zV** → **kàwzá** (\*kàwlzá)  
 frog sp. PL frogs (sp.)

**kâŋ** + **-zV** → **kâŋzà** (\*kâŋlzá)  
 bowstring PL bowstrings

A further factor which weakens a consonantal interpretation of pharyngealization is a constraint on the distribution of vowels before the purported pharyngeal consonant. In contrast to the regular gaps in the distribution of vowels before semivowels within syllable rhymes (2.3.1.1.3), restrictions on vowels before a pharyngeal consonant would be odd: while underlying high vowels are absent from the oral inventory, underlying mid vowels are absent from the nasal inventory (cf. 2.2.1). This shows that even if a pharyngealized consonant avoids co-distribution with high vowels, it accepts a high vowel under the pressure of the language-wide constraint against nasalized mid vowels (3.1.1).

A final argument against a consonantal interpretation comes from observations of errors Mambay speakers already literate in French, Fulfulde and in some cases, Mundang, make when learning to write their own language. In the standard Mambay orthography (1.3.3), word-initial **h** is written as **h**, and syllable rhymes with a pharyngeal articulation are written **Vh** (i.e., **eh**, **ah**, **oh**, etc.). Although no systematic errors are made when writing **h** in syllable onsets, it is common that subjects write long (orthographically double) vowels in place of **h** in pharyngealized syllable rhymes (in particular, those with no

additional coda consonant). The number of segment places is still correct, but there is no consonant marked there. If pharyngealization were the realization of **h** in syllable codas, one would not expect this systematic error. This situation may also show that pharyngeal articulations are not perceived as underlyingly consonantal: if a consonantal interpretation of pharyngealization is upheld, it is difficult to account for the systematically erroneous writing of a double vowel rather than the coda consonant symbol used in the standard orthography.

### 2.3.3.2.5 Arguments against a vocalic interpretation

Although the factors supporting a vocalic interpretation of pharyngeal articulations are less decisive than those supporting a consonantal interpretation, the arguments against a vocalic interpretation are less numerous.

Crucially, following an interpretation of pharyngealization as an inherent quality of some vowels in the inventory, there is no contrast between short and long pharyngealized vowels. In itself, this is not problematic, and evidence could be gathered which would indicate whether pharyngealized vowels are short or long. For example, they occur in nouns comprised of an open syllable, a structure never attested with a short vowel (in other words, there are no CV nouns in the data; see 5.1.1.1):

<b>fâh</b>	path
<b>kăh</b>	placenta
<b>vbăh</b>	large mixing stick

In addition, they are commonly found in closed syllables, an environment where, with the exception of five non-canonical words (2.4.3), long vowels are not found unambiguously. A selection from the numerous words in which pharyngeal vowels are found in closed syllables is as follows:

<b>dĭht</b>	warbler
<b>fêhm</b>	fish sp.
<b>gâhlbó</b>	soldier
<b>kâhlgá</b>	bitterness
<b>kăhm</b>	wool
<b>róhlgóm</b>	joint (body)
<b>rôhŋgá</b>	smoothness, slipperiness

In sum, the interpretation of pharyngealized vowels as either uniformly long or uniformly short is problematic. It is precisely this problem which the consonantal interpretation of pharyngealization given above attempts to resolve by positing additional syllable types.

### 2.3.3.2.6 A suprasegmental interpretation of pharyngealization

Because of the drawbacks associated with consonantal and vocalic interpretations of pharyngealization, it is instructive to consider a suprasegmental interpretation of the issue.

In one case, pharyngealization could be viewed uniquely as a feature that associates with syllable rhymes or even syllables as a whole. Such an explanation corresponds to facts relating to the wide-ranging realization of pharyngealization within syllables (2.1.6.3, 2.3.3.2.1); however, since these realizations are predictable, it is not necessary to invoke pharyngealization as an independently operating feature. A suprasegmental solution would be preferable if there were evidence of long-distance alignment or spread of pharyngealization among units on the same tier (such as vowels with vowels, or consonants with consonants), but in the data there is no evidence of this.

Alternatively, pharyngealization could be viewed as a feature usually hosted by a contrastive pharyngeal consonant but one which is hosted by a vowel when the syllable is closed. This alleviates a major concern of the consonantal interpretation, namely the positing of complex codas. However, the dual identity (consonant and feature) of pharyngealization is unsettling, especially since there are no demonstrably contrastive pharyngeal consonants in the language, even in syllable onsets. Finally, because of the other concerns mentioned for a consonantal interpretation, this solution is less than ideal.

### **2.3.3.2.7 Conclusion**

In sum, none of the interpretations of pharyngealization is without significant limitations. For the remainder of this study, the interpretation of pharyngealization as an inherent quality of some vowels in the inventory has been employed. In regard to CV structure, pharyngealized vowels in open syllables are treated along with long vowels, and in closed syllables these vowels are treated along with short vowels. The possibilities for phonetic realizations given in 2.3.3.2.1 above suggest, but do not prove, that this reading may be phonologically suitable. Additionally, this convention respects the commonly attested morpheme structures for each word class.

### **2.3.3.3 Glottal articulations in syllable rhymes**

The interpretation of glottal articulations in syllable rhymes presents many of the same possibilities and challenges as the interpretation of pharyngeal articulations (2.3.3.2). While evidence from a variety of areas has been examined, there is no single clear interpretive solution that emerges.

Interpretive possibilities allow that glottalic articulations pattern as one of several structures:

1. an inherent quality of a glottal or preglottalized consonant;
2. an inherent quality of glottalized vowels; or
3. a suprasegmental glottalic feature which associates with larger units such as syllable rhymes or syllables.

Additionally, it should be noted that Bohnhoff (1976:26–9, 1987:15–6), who has tackled a comparable issue with Duru / Yag Dii in north-central Cameroon, posits structurally discrete “double vowels.” However, his conclusion has yet to be successfully integrated into a theory of segment and syllable structure (cf. Segerer 1995:69–75).

In the analysis that follows, the distribution and phonetic realizations of glottalic articulations are described (2.3.3.3.1). Complexities pertaining to the behaviour of glottalic articulations in unambiguously closed syllable rhymes are given special attention (2.3.3.3.1.1). Two consonantal interpretations (0) are contrasted with a vocalic interpretation of the issue (2.3.3.3.3). The issue is concluded in 2.3.3.3.4.

### 2.3.3.3.1 Distribution and phonetic realizations

In syllable rhymes, glottalic articulations are realized in various ways depending on the environment in which they are found. Three pertinent environments, each with its own characteristic phonetic realizations, are: non-utterance final syllable rhymes which could be interpreted as open; utterance-final syllable rhymes which could be interpreted as open; and syllable rhymes which are unambiguously closed. In each environment, there are striking similarities with the phonetic realizations associated with pharyngealization (2.3.3.2.1).

In a non utterance-final syllable rhyme which is otherwise open, a glottalic articulation is realized with at least a glottalized vowel. In some cases, there is glottal closure. In addition, a glottalized echo vowel optionally follows the glottal closure in this position. (Transcriptions are arranged from slow, careful speech to fast, casual speech).

$k[\text{ù}ʔ]r\grave{a} \sim k[\text{ù}ʔ^{\text{h}}]r\grave{a} \sim k[\text{ù}:]r\grave{a}$       melon

In an utterance-final syllable rhyme which is otherwise open, glottal closure after the glottalized vowel is obligatory, and a glottalized echo vowel is optional in fast speech.

$k[\text{ú}ʔ] \sim k[\text{ú}ʔ^{\text{h}}]$       sand

In an unambiguously closed syllable, there are two types of glottal articulations. In glottal articulations where the syllable-final consonant is glottalized or has a glottalized counterpart, there is always glottalization on a vowel and a coda consonant, and there is an optional glottal closure between the two segments; however, there is no vocalic articulation after the closure (see 2.1.6.2).

$d[\text{è}ʔ\text{m}] \sim d[\text{è}\text{m}]$       comment (v.)

Otherwise, there is variation between a lack of complete glottal closure and an open transition (echo vowel) between the glottal closure and the syllable-final consonant.

$[\text{ʔ}^{\text{h}}\text{á}\text{ʔ}^{\text{h}}\text{r}]v\grave{a} \sim [\text{ʔ}^{\text{h}}\text{á}\text{r}]v\grave{a}$  run (VN) (cf.  $\text{ʔ}^{\text{h}}\text{á}$  ‘run (perfective)’; this and similar examples are analyzed in 0)

At this point, it is appropriate to address further complexities regarding glottalic articulations in unambiguously closed syllable rhymes (2.3.3.3.1.1), since these have major implications for the interpretation of glottalic articulations elsewhere.

### 2.3.3.3.1.1 Description of glottalic articulations in closed syllable rhymes

A detailed account of glottalic articulations in unambiguously closed syllable rhymes is an important step toward their interpretation in general.

Obstruents appear to be absent in rhymes with glottalic articulations. Consonants which are permitted may be divided into two categories. The first category contains consonants which are glottalized or, alternatively, have a non-glottalic counterpart (see the discussion in this section below). These consonants, shown in the context of glottalized syllable rhymes, are as follows:

y, y	t[ $\underset{\sim}{\text{a}}\text{y}$ ] ~ t[ $\underset{\sim}{\text{a}}\text{ʔy}$ ]	sway rhythmically
w, 'w	n[ $\underset{\sim}{\text{a}}\text{w}$ ] ~ n[ $\underset{\sim}{\text{a}}\text{ʔw}$ ]	spank
m, 'm	d[ $\underset{\sim}{\text{e}}\text{m}$ ] ~ d[ $\underset{\sim}{\text{e}}\text{ʔm}$ ]	comment (v.)
n, 'n	g[ $\underset{\sim}{\text{u}}\text{n}$ ] ~ g[ $\underset{\sim}{\text{u}}\text{ʔn}$ ]	accompany
ŋ, 'ŋ	s[ $\underset{\sim}{\text{u}}\text{ŋ}$ ]gá ~ s[ $\underset{\sim}{\text{u}}\text{ʔŋ}$ ]gá	razor
(p/b), <b>ḃ</b>	s[ $\underset{\sim}{\text{a}}\text{p}^{\text{ʔ}}$ ] ~ s[ $\underset{\sim}{\text{a}}\text{ʔp}^{\text{ʔ}}$ ]	vomit
(t, d), <b>ḏ</b>	y[ $\underset{\sim}{\text{a}}$ ] ~ y[ $\underset{\sim}{\text{a}}\text{ʔ}$ ]	feel, rub

Importantly, there is no contrast between glottalic and non-glottalic consonants in syllable rhymes which contain glottalic articulations.

While the symmetry between the first five pairs of non-contrasting consonants is clear, non-glottalic counterparts of **ḃ** and **ḏ** need further explanation. In this context, **p/b** is not an ideal non-glottalic counterpart for **ḃ**, nor is **t** or **d** for **ḏ**, since no obstruents are found unambiguously in this glottalic environment. Interestingly, **l** is a preferable candidate for the non-glottalic counterpart of **ḏ**. There are five reasons for this:

- 1) **l** is not an obstruent, and is therefore (in contrast to **t** and **d**) not barred from glottalic syllable rhymes;
- 2) **ḏ** is realized as **ʔl** in codas (2.1.6.2);
- 3) **Vḏ** does not contrast with **V'l** in rhymes;
- 4) verbs which appear to contain a historical verbal extension **-l** on a glottalized verb root (7.2) exhibit the same phonetic realization;
- 5) there is no open transition realization of **V'l** in syllable rhymes parallel to that of **V'r** (see the next paragraph as well as the following section).

The second category of consonants is limited to **r**. Glottalized syllable rhymes with **r** differ from those with other consonants in three ways. First, **r** is the only non-glottalic sonorant consonant found in syllable codas that does not have a glottalic counterpart in the phonology. Second, the phonetic realization of **r** in a glottalized rhyme is unique. Unlike other consonants, when glottal closure is employed, it is accompanied by an open transition consisting of a glottalized echo vowel. It is an open question whether

differences in its realization are the product of a contrastive phonological identity or whether they are a phonetic consequence of its rhotic or periodic (exhibiting repeated movement) articulation. Third, unlike other consonants in the same position, it is extremely uncommon; its distribution is restricted to four irregular verbal nouns (see the following section for further discussion).

### 2.3.3.3.2 Consonantal interpretations of glottalization

Two types of consonantal interpretation are available for glottalic articulations in syllable rhymes. While the first interpretation is relevant for all syllable rhymes, the second interpretation is relevant in particular for glottal articulations in closed syllable rhymes.

The first interpretation is that glottalic articulations in this position are contrastive realizations of an independently occurring glottal stop. This interpretation is, on the whole, acceptable for glottalic articulations in open syllables. It reflects the consonantal quality found in some realizations of such utterances (2.3.3.3.1). Also, as is the case for pharyngeal articulations (2.3.3.2), the optional presence of an echo vowel after the point of greatest consonantal closure is reminiscent of the articulation of the unambiguously consonantal **g** in coda position (2.1.6.1). Notably, an interpretation in which glottalic articulations in syllable rhymes are consonantal also respects the positing of a contrastive glottal stop at morpheme boundaries (2.1.4.1). There are even two situations in which a glottal stop at a morpheme boundary alternates with a glottal articulation in a syllable rhyme<sup>2</sup>:

<b>sá'</b> -	+	<b>n</b>	→	<b>sàʔán</b>
buy		CAUS		sell
<b>tí-</b>	+	<b>ʔízà</b>	→	<b>tí'zà</b>
AUG		(female name)		(female name, respect form)

One objection to this first consonantal interpretation, that of evidence from writing errors, is parallel to that presented in the discussion on a consonantal interpretation of pharyngealization (2.3.3.2.4). As stated above, observations have been made concerning the errors Mambay speakers already literate in French, Fulfulde and in some cases, Mundang, make when learning to write their own language. In the standard Mambay orthography (1.3.3), the contrastive morpheme-initial glottal stop (2.1.4.1) is not written, and otherwise open syllable rhymes with a glottalic articulation are written Vʔ. When writing an open syllable rhyme with this articulation, it is common that subjects write a long (orthographically double) vowel (VV) rather than a glottalized vowel (Vʔ). This may indicate that glottalic articulations in such syllable rhymes are perceived as vocalic rather than consonantal.

<sup>2</sup> The first of these alternations is productive and occurs whenever a suffix consisting of a nasal consonant is added to a root ending in a glottalic rhyme (6.1.4.2.1, 7.2.3.1, 7.3.1.2.1, 7.3.1.5.1); the second (5.12.1.1) is idiosyncratic. Also, the first applies in one direction and the other in the opposite direction.

A similar objection to a consonantal interpretation of glottalic articulations originates in an observation on the language style used in Mambay choral music (this style includes both traditional dance music and church music). Importantly, in choral lyrics there is no glottalic quality in open syllable rhymes, even in articulations which in spoken language are glottalic. In other words, open glottalic rhymes are sung as unmodified vocalic rhymes. This differs from morpheme-initial glottal stops and preglottalized consonants, where glottalic articulations are retained in singing.

This first interpretation, where glottalic articulations in this position are contrastive realizations of an independently occurring glottal stop, is faced with a major difficulty in unambiguously closed syllables. As is the case for a consonantal interpretation of pharyngeal articulations, it would lead to the creation of CC codas and, consequently, the recognition of new superheavy syllable types (cf. 2.4.3). For example, the word **d[ɛ̃m]** ~ **d[ɛ̃ʔm]** ‘comment (v.)’ would be interpreted as a CVCC sequence **d-è-ʔ-m** (or **d-è-ʔ-'m**). The positing of such syllables causes the same difficulties as have been discussed in 2.3.3.2.4.

However, a second possibility exists for a consonantal interpretation of glottalic articulations in unambiguously closed syllable rhymes: namely, that glottalization is part of the coda consonant (V-'C). Importantly, this rhyme sequence never contrasts with V<sup>2</sup>-C or V<sup>2</sup>-'C rhymes. A review of attested glottalic articulations in such syllables (2.3.3.3.1.1), when compared with the inventory of contrastive glottalized consonants (2.1.1), shows that in the vast majority of cases, a closed glottalic rhyme could be interpreted as an unmodified vowel followed by a preglottalized consonant. Thus, a word like **d[ɛ̃m]** ~ **d[ɛ̃ʔm]** ‘comment (v.)’ would be analyzed as a CVC sequence **d-è-'m**.

The only difficulty facing this interpretation is the presence of four irregular verbal nouns in the data, in which a glottalic articulation accompanies the consonant **r** within a syllable rhyme (there are no other words with this configuration):

**[ʔá̃r]và** ~ **[ʔá̃ʔ<sup>4</sup>r]và** run (VN) (cf. **ʔà'** (perfective))

**'m[í̃r]và** ~ **'m[í̃ʔ<sup>1</sup>r]và** go down (VN) (cf. **mì'** (perfective))

**k[í̃r]và** ~ **k[í̃ʔ<sup>1</sup>r]và** grow to a gigantic size (VN) (cf. **kì'** (perfective))

**m[á̃r]và** ~ **m[á̃ʔ<sup>4</sup>r]và** make a sound (VN) (cf. **mà'** (perfective))

These four examples are ambiguous, and it is evident from the consonant inventory presented in 2.1.1 that there are no unambiguous examples of a contrastive preglottalized counterpart '**r**'. Thus, a CVC interpretation is problematic for CV'**r** rhymes, which in addition exhibit phonetic characteristics slightly different than those containing other consonants in the same position (2.3.3.3.1.1). If a CVC analysis is adhered to for all other glottalized articulations in closed rhymes, three possibilities are available to account for CV '**r** sequences:

- 1) even though 'r only occurs ambiguously, it should be classified as part of the consonant inventory;
- 2) the four words with CV'r rhymes should be analyzed as containing exceptional CVCC syllables; or
- 3) the verbal nouns in which CV'r rhymes are found should be analyzed as morphologically complex.

The first explanation is obviously weak, since contrast or another strong argument should be demonstrated for each segment in the consonant inventory. The second explanation exhibits the same weakness in relation to the syllable inventory (note that, if adhered to, it would create additional ambiguity by alleviating the necessity of a CVC interpretation for other unambiguously closed glottalic syllable rhymes).

The third explanation, however, deserves further consideration; and since CV'r rhymes are only found in four words, it is useful to examine these words. One pattern that emerges is that all four words have a nasalized first syllable. While there may be a historical explanation for this, nasality does not appear to provide insight into the preferability of any of the three interpretations. More promising in this regard is the likelihood of morphological complexity. All four words are irregular verbal nouns and, as shown in their presentation above, each may be identified with a source verb stem. However, in the description of verbal nouns (5.9.2), it is stated that fossilized verbal nouns are structured in (almost) the same way as other nouns, including the historical noun suffixes that are found with most of them. Although there are correspondences between irregular verbal nouns and the verbs from which they originate, these correspondences are varied and in many cases idiosyncratic. Consequently, the morphological boundary between verbal noun root and verbal noun suffix is probably better considered a historical boundary.

In the end, the third explanation does not provide a way out of the interpretive difficulties which CV'r sequences pose to a consonantal interpretation of glottalic articulations. It is possible that, as suggested by the second explanation, CVCC syllables have arisen or are arising in the language as a result of morphological reconfigurations driven by historical processes such as that which has generated irregular verbal nouns.

#### **2.3.3.3.3 A vocalic interpretation of glottalic articulations**

The most basic argument in support of a vocalic interpretation for glottalic articulations in syllable rhymes is the fact that such articulations are always realized at least on vowels. A vocalic interpretation maintains that although glottalic articulations are underlyingly vocalic, they may be phonetically realized with an accompanying consonantal quality in some environments (cf. 2.3.3.3.1).

Simply put, the only other factors in support of a vocalic interpretation are those which stand in opposition to a consonantal interpretation (0).

One oddity resulting from a uniform vocalic interpretation of glottalic articulations in syllable rhymes is a complete absence of preglottalized consonants in this position. In

cases where preglottalized consonants in syllable onsets are resyllabified as coda consonants due to morphophonological processes (see especially the free/linked alternation of nouns in 5.2.2.2), the glottalic quality of the rhyme would be reassigned to the preceding vowel (recall phonetic realizations and the discussion of the relationship between **ɗ** and **l** specified in 2.3.3.3.1.1):

<b>páɓà</b> milk	+ <b>ʔíí</b> 1SG.POSS	→ <b>*pâ'b ʔíí</b> my milk (cf. preferable form <b>pâɓ ʔíí</b> )
<b>wáɗà</b> <i>boule</i> with sauce	+ <b>ʔíí</b> 1SG.POSS	→ <b>*wâ'l ʔíí</b> my <i>boule</i> with sauce (cf. preferable form <b>wâɗ ʔíí</b> )

This is unfortunate, because it promotes a phonological identity for these coda consonants which is less defensible than one where a glottalized consonant retains its identity even when it has been reassigned to a new syllable position. In addition, it masks the phonetically salient contrast between glottalized vowel / non-glottalic consonant and non-glottalized vowel / preglottalized stop sequences across a syllable boundary (2.3.2).

Also, as is the case for pharyngealized vowels (2.3.3.2), there would be no contrast between short and long glottalized vowels. Further, it would be unclear whether these vowels which do not have a contrast in length were underlyingly short, long, or both. What would be interpreted as glottalized vowels are found in some environments in which short vowels are never found, such as nouns consisting of a single open syllable (5.1.1.1):

<b>fǎ'</b>	mouse sp.
<b>kâ'</b>	medicine, care
<b>nǎ'</b>	side chamber

In contrast, with an across-the-board vocalic interpretation these vowels would be found in closed syllables, an environment where, with the exception of five non-canonical words (2.4.3), long vowels are not found unambiguously. Example words containing syllables which would have to be interpreted as long vowels followed by a consonant have been given in 2.3.3.3.1.1 above.

#### 2.3.3.3.4 Conclusion

In sum, each interpretation of glottalic articulations is significantly limited. While arguments in favour of a consonantal interpretation are stronger than those for a vocalic interpretation, so are objections toward it. Also, as is the case for pharyngealized vowels, a suprasegmental interpretation does not provide additional insight into the issue. Bohnhoff's (1976, 1987) ad hoc positing of structurally discrete "double vowels" as a convenient interpretation, but has yet to be integrated into a theory of segment and syllable structure.

For the remainder of this study, a split interpretation has been followed in regards to length. For syllables which are otherwise open, glottalic articulations have been

interpreted as long glottalized vowels phonologically parallel to pharyngealized vowels (2.3.3.2). In light of the lack of contrast between V'-C, V-'C and V'-'C rhymes, and considering the identical articulation of these syllable rhymes with those containing unambiguous preglottalized stops in syllable onsets which have been resyllabified as codas (2.1.3.2), glottalic articulations in closed syllable rhymes with consonants other than **r** are treated as short unmodified vowels followed by glottalic consonants. Syllable-final V-glottal-**r** sequences, which do pattern neatly with either of these other groupings (0), are treated as short glottalized vowels followed by a non-glottalized consonant.

#### 2.3.3.4 Rhymes ending in high vowels and semivowels

There is no contrast between syllable rhymes ending in high vowels and those ending in semivowels (non-glottalized or glottalized). Rhymes which exhibit a single place of articulation are interpreted as long vowels rather than VC sequences. This interpretation assures that the inventories of long and glottalized vowels (2.2.1) are complete.

<b>ii/iy</b>	<b>sî</b> <b>sîgó</b>	valley, river mosquito larva
<b>uu/uw</b>	<b>kúù</b> <b>kúúra</b>	fields, bushland hunt (n.)
<b>i'/iy'</b>	<b>sí'</b> <b>sí'là</b>	fish (v.), bloat cold (n.)
<b>u'/u'w</b>	<b>kû'</b> <b>kû'rá</b>	sand melon

All attested rhymes in which the vowel's place of articulation differs from the unit which follows it are ambiguous, since they contain a high element which could be semivocalic rather than vocalic. In order to avoid the positing of non-identical vowel sequences based on ambiguous data, these rhymes are interpreted as VC sequences, since VC rhymes occur commonly in the language (2.4.1). Examples of each attested sequence are given below; whenever possible, both morpheme-final and morpheme-internal examples are shown.

<b>ei/ey</b>	<b>wéy</b> <b>nà-lêyrá</b>	virginity grinding, command
<b>ai/ay</b>	<b>făy</b>	fish sp.
<b>eu/ew</b>	<b>nà-gbéhwrà</b>	wild hibiscus sp.
<b>au/aw</b>	<b>kăw</b> <b>gáwrà</b>	frog sp. savannah

<b>ou/ow</b>	<b>támbyòw</b>	billy goat
<b>a'i/ay</b>	<b>kpàɣ</b>	swing the hips
<b>i'u/i'w</b>	<b>kpí'wsí</b>	shallow
<b>e'u/e'w</b>	<b>kpé'wrà</b>	melon
<b>a'u/a'w</b>	<b>nà'w</b>	spank (v.)
	<b>tâ'wgá</b>	rope
<b>o'u/o'w</b>	<b>kyô'w</b>	warthog, pig

Reasons for distributional gaps in attested vowel-semivowel sequences are given in 2.3.1.1.3.

## 2.4 Syllable structure

A number of syllable shapes are attested in Mambay, and some of them are reasonably complex. In the present section, an inventory of allowable syllable shapes is provided (2.4.1). This is followed by a description of syllable structure (2.4.2) and a discussion of syllable weight (2.4.3).

### 2.4.1 Inventory of syllable shapes

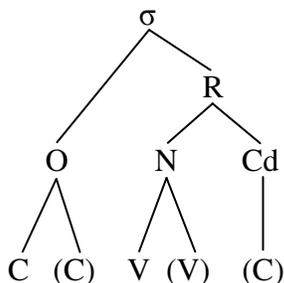
The following syllable shapes are found in Mambay:

CV	<b>gé</b>	get lost	CCV	<b>syè</b>	shine
CVV	<b>dée</b>	chop	CCVV	<b>gyáá</b>	take out, gather up
CVC	<b>dím</b>	faint	CCVC	<b>bwàr</b>	untie
CVVC	<b>fááw</b>	light (weight)			

Words containing examples of attested syllable shapes are found in relevant sections at the beginning of descriptions of each word class (Chapters 6–9).

### 2.4.2 Syllable structure

Syllables ( $\sigma$ ) contain three parts: onset (O), nucleus (N), and coda (Cd). Together, the nucleus and coda constitute the rhyme (R) of the syllable. Possible syllable structures in Mambay are accounted for in the following diagram:



As the diagram shows, all syllables are found with a consonantal onset. Syllable onsets may be simple, consisting of a single C, or complex, in which case they are comprised of a CC sequence (see 2.3.3.1). The lack of V-initial syllable shapes in the inventory is in keeping with the interpretation of the glottal stop as a contrastive unit (2.1.4.1).

A syllable nucleus contains a single vowel. This vowel is either short (V) or long (VV) (2.2.3.1).

Codas are optional syllable constituents. When they occur, they contain a single C. Although the vast majority of codas are found following a V nucleus, a few morphemes exhibit syllables containing codas after a VV nucleus (2.4.3 below).

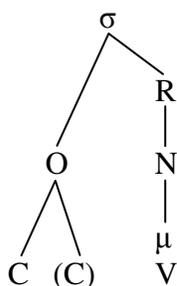
The maximal potential syllable CCVVC, which contains a complex onset, a long vowel and a coda, is not attested in the data.

### 2.4.3 Syllable weight

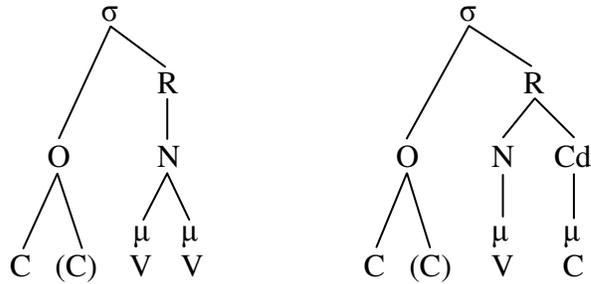
In Mambay, syllables may be light, heavy or superheavy.

In Mambay, each segment in a syllable rhyme contains a single unit of weight, called a mora ( $\mu$ ) (cf. Broselow 1995). A light syllable contains a single mora, and a heavy syllable contains two. Superheavy syllables, which are uncommon, contain three morae (see Broselow 1995:202 for other descriptions which appeal to more than two morae; see also the Mambay example in this section below). These structures may be schematized with reference to syllable weight as follows:

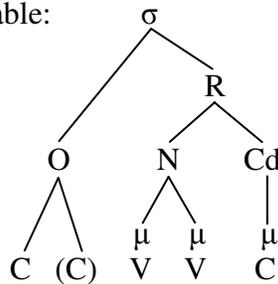
light syllable:



heavy syllables:



superheavy syllable:



While light and heavy syllables are common, five non-canonical (cf. 1.3.1) morphemes in the data contain a superheavy syllable:

<b>fááw̃</b>	light (weight)
<b>fííí</b>	(sound of fingers wiping a plate clean)
<b>nà-táállá</b>	ant sp.
<b>rùùgè</b>	cylindrical shape
<b>tí-tòòntî</b>	lark (bird sp.)

However, superheavy syllables also arise when stems take suffixes comprised of a consonant:

<b>fàà</b>	+	<b>-m̃</b>	→	<b>fààm̃</b>	your (sg.) back, skin (inal.)
back:LF		2SG.POSS.INAL			(cf. 6.1.4.2)
<b>làà</b>	+	<b>-ñ</b>	→	<b>lààñ</b>	feed (i.e., cause to eat; cf. 7.2.3.1)
eat:PFV		CAUS			

The defining of syllable weight is useful for two reasons. First, distribution of syllables in words is constrained by the weight of the syllables (see the distribution sections in each chapter). Second, syllable weight is central to an understanding of the tone system, since tones associate with the morae which are made available by segments in syllable rhymes (4.1.2.1). While a light (one-mora) syllable may bear only one tonal unit, two tonal units may be associated with a heavy syllable, and up to three with a superheavy syllable. An instance of the mapping of three tonal units on a superheavy syllable is as follows:

	HLH
	μ μ μ

yáà-ń  
 move.away:PERF-2SG.REFL

in: mỳ yáàń ‘you have moved away’

## 2.5 Word structure

Many word structures are attested in Mambay. The diversity in allowable forms is in keeping with a rich syllable inventory (2.4.1), the fact that morphemes of more than one syllable are allowed in the language (see following paragraph), and inflectional and derivational morphology. Word structure, for which association of a single tonal melody is the primary defining criterion in this study (cf. 4.1.2, especially 4.1.2.3), varies according to morphological class and is therefore addressed in the relevant sections in chapters on each word class.

Minimally, a phonological word is comprised of a single morpheme. Morphemes range in shape from a single light syllable to several syllables. While verbs and some minor word classes exhibit some monomorphemic words comprised of a light syllable, nouns are minimally comprised of a heavy syllable (5.1.1.1). Monomorphemic nouns in particular may contain three syllables, more than one of which may be heavy.

For a number of word classes, derivational morphology results in the formation of complex stems. This is achieved through affixation (nouns and verbs), compounding (nouns), and the application of morphological templates (modifiers).

Inflectional morphology, which is found on nouns and verbs, allows further complexity in the structure of phonological words. Usually, but not always, nasality and tone function within composite phonological words in the same way they function within morphemes (3.4.3, 4.1.2.3).

Nasality in Mambay is a feature of vowels as well as consonants. It cannot be described with reference to only one or the other; there are numerous examples of words in which nasality is only found on consonants, or only on vowels (see 3.4.1).

Nasality is found with short as well as long vowels (3.1), and may co-occur with pharyngealization and glottalization. However, restrictions on nasalized mid vowels result in the limitation of nasality to a subset of the vowel inventory (3.1.1).

Consonants may be split into the basic categories of obstruents, which cannot bear nasality, and sonorants, which can (3.2). In particular, sonorants are divided into several types based on their behaviour in reference to nasality.

Two issues relate to nasality on vowels as well as consonants: degrees of phonetic nasalization, and effects of vocalic nasality on oral consonants (3.3).

Nasality exhibits consistent distributional patterns. The domains in which nasality is found are described within syllables, within morphemes and across morpheme boundaries (3.4).

In the phonological orthography used throughout this study (1.3.3), a cedilla<sup>3</sup> is used to mark nasalization on vowels. In the phonetic transcriptions in this chapter, phonetic detail is limited to issues pertaining to nasality; otherwise, the phonological orthography is used.

### 3.1 Vocalic nasality

Several sets of contrastively nasalized vowels are found in Mambay (2.2.1). Both short and long nasalized vowels are found. Also, nasalization on vowels may co-exist with pharyngealization and glottalization. In the latter situations, however, there is no contrastive distinction for length (cf. 2.2.1, 2.3.3.2, 2.3.3.3). Contrast between oral and nasalized vowels as well as contrast among nasalized vowels is established in 2.2.1 and 2.2.3. As shown earlier (2.2.1), the four sets of nasalized vowels are:

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<sup>3</sup> The use of the cedilla to mark nasalization is in keeping with the conventions established in Tadadjeu and Sadembouo's (1984) *Alphabet générale des langues camerounaises* as well as that which is used for the standard Mambay orthography (1.3.3). For this reason, and due to limitations in available fonts at the time of research, other conventions such as the typographically similar Polish hook (also known as the ogonek), the tilde and the under-tilde (cf. Pullum and Ladusaw 1996:254–5, 261) have not been adopted.

short nasalized vowels:

**ĩ**                      **ũ**  
**ą**

long nasalized vowels:

**ĩĩ**                      **ũũ**  
**ąą**

vowels with nasalization  
and glottalization:

**ĩʔ**                      **ũʔ**  
**ąʔ**

vowels with nasalization and  
pharyngealization:

**ĩh**                      **ũh**  
**ąh**

The vowel **ɔ** also appears in two morphemes in the data (see 3.1.2).

### 3.1.1 Restrictions on nasalized mid vowels

The most prominent restriction on the inventory of nasalized vowels is a near-absence of nasalized mid vowels in morphologically simple items; with only two exceptions (3.1.2), no mid vowels are nasalized—either contrastively or non-contrastively. Even pharyngealized vowels, which in oral contexts are phonologically mid (2.2.4), are high when associated with nasality.

An indicator that nasalized mid vowels are also disfavoured in morphologically complex contexts is found with the linked forms of nouns in noun phrases (5.2.2). For nouns ending in a **Cy-** or **Cw-**plus-low vowel sequence, the sequence in the corresponding linked form is usually levelled to **C-plus-mid** vowel. However, sequences in nouns ending in **Cyąą** or **Cwąą** are changed to high vowels rather than mid vowels (see 5.2.2.2.2).

	<b>kyąą</b>	+	<b>?ĩĩ</b>	→	<b>kũũ ?ĩĩ</b>
	container		1SG.POSS		my container
cf.	<b>tyáà</b>	+	<b>?ĩĩ</b>	→	<b>tée ?ĩĩ</b>
	fish sp.		1SG.POSS		my fish sp.
	<b>kwąą</b>	+	<b>?ĩĩ</b>	→	<b>kúy ?ĩĩ</b>
	fly		1SG.POSS		my fly
cf.	<b>kwáà</b>	+	<b>?ĩĩ</b>	→	<b>kóò ?ĩĩ</b>
	grass		1SG.POSS		my grass

In addition to conforming to the language’s patterns of the distribution of nasality (3.4), the following borrowings show the same intolerance for mid vowels in a nasal environment:

**tí-ríírì** onion (cf. Fulf. *tinyeere*)  
**tí-búúnújè** date (fruit) (cf. Fulf. *dibinooje* (pl.))

### 3.1.2 Exceptional nasalized mid vowels

A phonologically peripheral nasalized vowel **ɔ̃** is found in a morphologically simple context in two items in the data:

**nògtí** knead  
**tì-gó'mì** wrinkle (n.)

Since **ɔ̃** is in each case found beside a nasal consonant, it is possible to attribute its nasality to the presence of the nasal consonant rather than to inherent nasality in the vowel. In any case, both interpretations highlight an inconsistency in the phonological system, since no other examples of a mid vowel are found in a morphologically simple environment where nasalization is obligatory (3.4.1, 3.4.2).

Nasalized mid vowels also arise in one morphologically complex environment: when the second person singular reflexive suffix is attached to a stem ending in a consonant or a short vowel, the second person reflexive suffix **-m̃** is realized as **-nV́m̃** (where V is a vowel which echoes the final vowel of the stem) (7.3.1.2.1).

**mù b̀ar-nám** you got better  
 2SG get.better:PFV-2SG.REFL

**mù nú-núm** you had slept  
 2SG sleep:PLUPERF-2SG.REFL

This process applies equally to mid vowels, which are restricted from bearing nasality in almost all other contexts (3.1.1). Taking this into consideration, the mid quality of the vowel and/or its nasality may better be viewed as an effect of its phonetic context rather than an underlying trait.

**mù ?̀er-ném** you got up  
 2SG get.up:PFV-2SG.REFL

**mù ròv-nóm** you scalded yourself  
 2SG scald:PFV-2SG.REFL

## 3.2 Consonantal nasality

Consonantal nasality functions as part of a complex system; consonants may be classified based on their behaviour in reference to nasality. A basic phonological division may be made between (oral) obstruents, which are not nasalizable, and sonorants, which are (cf. Le Saout 1973, Bole-Richard 1985, Kaye 1981, Creissels 1994:107 and Clements 2000:132).

If a complete analysis of contrast has not been done for consonants, it may appear at first that there is full complementarity between nasal sonorants and a corresponding set of oral sonorants, depending on the oral or nasal specification of adjacent vowels. Such analyses have been presented for other Niger-Congo languages (Le Saout 1973; Kutsch Lojenga 1976, 1985:3–4; Bole-Richard 1985:6; cf. Schadeberg 1982a). The possibility of an equivalent situation in Mambay is taken into consideration by the presentation of sonorants in the following chart (cf. the consonant chart in 2.1.1; non-contrastive phonetic realizations are included in square brackets):

manner \ place	labial	alveolar	retroflex alveolar	palatal	(labial-) velar
nasal glottalic series	'm	'n		['ɲ]	'ŋ
oral glottalic series	ɸ	ɗ		y	'w
nasals	m	n	[ɳ]	[ɲ]	ŋ
oral approximants		l	r [ɽ]	y	w

In actual fact, the situation is more complex than this. Five groups of consonants must be distinguished based on their behaviour in regard to nasality:

1. obstruents, which are inherently oral (3.2.1);
2. Type 1 sonorants, which are inherently nasal (3.2.2);
3. Type 2 sonorants, which are oral but which alternate with contrastive nasal counterparts (3.2.3);
4. Type 3 sonorants, which alternate non-contrastively for nasality (3.2.4); and
5. remaining consonants, for which there is insufficient evidence for placement in one of the other groups (3.2.5).

Contrast among consonants has been established in 2.1.2 and 2.1.3, but patterns of contrast and complementarity will be addressed in the following discussion. The distribution of these groups of consonants in syllables and larger units is discussed in detail separately in 3.4.

### 3.2.1 Obstruents

At one end of the spectrum, obstruents are inherently and necessarily oral. These consonants cannot be nasalized by the presence of an adjacent nasalized vowel or nasal sonorant.

**b p t d k g kp gb f v s z**

Examples of words with obstruents are as follows:

<b>mààbá</b>	tail hair, mane, trap
<b>páàgá</b>	dirtiness, black filth
<b>vbààzá</b>	fish sp.

### 3.2.2 Type 1 sonorants

Type 1 sonorants are at the other end of the nasality spectrum: they are inherently nasal. These consonants are as follows:

**m n ŋ 'm 'n 'ŋ**

Examples of words with Type 1 sonorants are as follows:

<b>kpònrá</b>	tibia (of animal)
<b>ná-dó'mnà</b>	anus
<b>nàmá</b>	meat, animal

Type 1 sonorants may not occur in the onset of a syllable with an oral vowel. However, they may be found in the coda of a syllable with an oral vowel, where they contrast with Type 2 sonorants, which are contrastively oral (3.2.3).

Interpretation and realizations of preglottalized nasals in particular have been addressed in 2.1.4.2 and 2.1.4.3.

### 3.2.3 Type 2 sonorants

Another group of contrastively oral sonorants, labelled Type 2, is as follows:

**l ɓ ɗ**

Examples of words with Type 2 sonorants are as follows:

<b>ɓàrá</b>	(female proper name)
<b>ɗáá</b>	find, succeed, have
<b>làà</b>	eat

Type 2 sonorants **l ɓ ɗ** contrast with Type 1 sonorants (i.e., nasals) in syllable codas (2.1.2.3). Contrast between the two groups is, however, neutralized in syllables which contain a nasalized vowel, since realizations are necessarily those of the nasal counterparts (**n 'm** and **'n** respectively; see 3.3.2.1) in this position.

### 3.2.4 Type 3 sonorants

A third group of sonorants alternates for nasality, but nasal vs. oral counterparts are never contrastive. These sonorants are nasalized in the presence of an adjacent nasalized vowel or contrastively nasal consonant (i.e., Type 1 sonorant), and only then. Type 3 sonorants are as follows:

r y y' w 'w

Examples of words with these sonorants are as follows:

mààrà	[mããǎǎ]	gift
'mâyá	['mãỹǎ]	fast (adv.)
nwǎh	[nũǎh]	wound

Type 3 sonorants exhibit an array of realizations based on nasality and position within a syllable. Oral realizations of this group of sonorants are presented in greater detail in 2.1.6, and nasal realizations are presented in 3.3.2.1 and 3.3.2.2. A summary is as follows:

Group 3 consonant	realization in oral onset	realization in oral coda	realization in initial nasal onset	realization in medial nasal onset	realization in nasal coda
r	[r]	[r]	[ǎ]	[ǎ]	[ř]
y	[y]	[y]	[ɲ]	[ỹ]	[ỹ]
y'	[ʔy]	[ʔy]	[ʔɲ]	[ʔỹ]	[ʔỹ]
w	[w]	[w]	[ŋ <sup>w</sup> ]	[ũ]	[ũ]
'w	[ʔw]	[ʔw]	[ʔŋ <sup>w</sup> ]	[ʔũ]	[ʔũ]

### 3.2.5 Remaining consonants

There is not adequate evidence to place the remaining Mambay consonants **h ʔ** and **vb** in any of the other categories with confidence. This is because (with the exception of **h** in one ideophonic noun: **bàhàà** ‘ibis sp.’) the three consonants are not found in nasalized word-medial environments where their distribution in relation to the minimal domain of nasality (in particular, two light syllables separated by Type 1 or Type 3 sonorants; see 3.4.2) may be observed. Phonetic evidence is ambivalent, since the voicelessness of the laryngeals **h ʔ** and the brief articulation of **vb** (cf. 2.1.8) makes a nasal value difficult to determine. Given that laryngeals such as **h** and **ʔ** are often considered to be unspecified for nasality (Kenstowicz 1994:146), they would likely behave as Type 3 (non-contrastively alternating) sonorants (3.2.4). There is no evidence in the language or (to the author’s knowledge) in accounts of other languages which could be confidently used to predict the potential behaviour of **vb**.

Similarly, the phonological identity of the peripheral borrowed consonants **j m b n d ŋ g** does not fall neatly into any of the above categories. As stated earlier (2.1.1), the words in which they are found in the data are all borrowed from Fulfulde. Since Fulfulde (and thus material of Fulfulde origin in the data) does not have nasalized vowels, it is not possible to confirm the behaviour of the borrowed consonants when they are adjacent to a nasalized vowel. The restriction of these consonants to positions in front of oral vowels

is therefore better considered a case of limited distribution. In sum, because the consonants **j** **m** **b** **d** **ŋ** **g** do not observably participate in the system of nasality, they will not be included into the present discussion.

### **3.3 Issues relating to vowels and consonants**

Two topics in nasality which must be discussed in reference to vowels as well as consonants are degrees of phonetic nasality (3.3.1) and effects of nasality on oral consonants (3.3.2).

#### **3.3.1 Degrees of phonetic nasality**

Similar to what has been described in some related languages (Bentinck 1975:10–4, Ruelland 1992:26, Elders 2000:65), the researcher's impressions suggest that there are several degrees of phonetic nasality in Mambay.

Obviously, nasality is phonetically strongest on nasal and nasalized sonorants; there, it is always strongly articulated, even when the nasality originates from adjacent vowels rather than from the consonants themselves. This is especially evident in the nasalized realizations shown in 3.3.2.1.

On vowels, phonetic nasality is strongest on nasalized vowels which follow an oral obstruent.

In addition to being perceptually less salient, nasality seems to be more weakly articulated on vowels which follow a nasal or nasalized sonorant. It is weakest on short vowels which follow a nasal(-ized) sonorant, but it is also weak on long vowels in the same position. Along with articulatory factors, the weakness with which nasality is realized on these vowels could be attributable to the fact that nasality is automatic rather than contrastive in this context (3.4.1).

A final environment in which weak nasality appears is on phonologically oral vowels which precede a contrastively nasal sonorant. The conclusion that such vowels are not contrastively nasalized is supported by the occurrence of mid vowels, which resist nasalization (3.1.1).

#### **3.3.2 Effects of nasality on sonorants**

Nasality influences sonorants in different ways. Sonorants which are not inherently nasal (i.e., those which are not Type 1) are influenced by nasality in syllable onsets (3.3.2.1) as well as codas (3.3.2.2). Obstruents, on the other hand, are typically impervious to the effects of nasality (3.3.2.3).

##### **3.3.2.1 Sonorants in syllable onsets**

Sonorants which are not inherently nasal (i.e., those which are not Type 1) are influenced by nasality in syllable onsets. This is due to a constraint whereby the nasal value of a sonorant must be the same as that of the vowel which follows it (3.4.1). Although the phonetic consequences of this constraint are equivalent for Type 2 and Type 3 sonorants, their distributional status in this position falls into two groups.

For Type 2 sonorants **l b d** (3.2.3), there is contrast with Type 1 nasal counterparts **n 'm 'n** in codas but complementarity in syllable onsets. Contrast in codas is shown by the following data (see also 2.1.2.3):

Type 2 sonorants	Type 1 counterparts
<b>l</b> sèl dispute (v.)	<b>n</b> sìn pick up tiny things
<b>b</b> sàb vomit (v.)	<b>'m</b> dè'm comment (v.)
<b>d</b> gbùd germinate	<b>'n</b> bé'n first

Complementary distribution in onsets is reflected by the following data:

<b>l</b> làà eat	<b>n</b> náá touch
<b>b</b> bàrá (female proper name)	<b>'m</b> 'márá friend
<b>d</b> dáá find, succeed, have	<b>'n</b> 'náá stretch

There are no examples of Type 2 sonorants followed by a nasalized vowel, nor of their contrastive nasal counterparts followed by an oral vowel (see also 3.4.1).

<b>l</b> *làá	<b>n</b> *náá
<b>b</b> *bàrá	<b>'m</b> *'márá
<b>d</b> *dáá	<b>'n</b> *'náá

There is clear morphophonological evidence that **l** alternates with **n** when it comes under the influence of nasality across a morpheme boundary (3.4.3.3). Evidence from similar contexts shows that **b** alternates with **'m** (3.4.3.8.1) and **d** with **'n** (3.4.3.2). This suggests that in respect to nasality **l b** and **d** pattern sonorants rather than with obstruents.

For Type 3 sonorants **r y ʏ w 'w** (3.2.4), nasality spreads from an adjacent nasal(-ized) segment onto the onset sonorant. The attribution of underlying nasality to somewhere other than the sonorant is possible because nasalized realizations of the sonorant are only ever found in the immediate environment of another contrastively nasal consonant or nasalized vowel.

This application of nasality to the second set of sonorants generates a series of striking realizations a) in utterance-initial position and b) whenever the onset follows an oral segment over a syllable boundary. In these two contexts, all of these sonorants are articulated with oral closure:

<b>r</b> [r̥]	<b>w</b> [w̥]
<b>y</b> [ɲ]	<b>'w</b> [ʔw̥]
<b>ʏ</b> [ʔɲ]	

Example realizations of these sonorants in utterance-initial onsets, both oral and nasalized, are as follows:

consonant	oral environment	nasal environment
<b>r</b>	<b>ráá</b> spread out (v.)	<b>ráá</b> [r̥áá] blind (v.)
<b>y</b>	<b>yáh</b> take	<b>yáh</b> [ɲáh] stalk (n.)
<b>y'</b>	<b>yáh</b> press	<b>yáh</b> [ʔɲáh] call, invite
<b>w</b>	<b>wáá</b> fig, fig tree	<b>wáá</b> [ɲ <sup>w</sup> áá] nose, chief
<b>'w</b>	<b>'wáá</b> split	<b>'wíh'wíh</b> [ʔ <sup>w</sup> íhʔwíh] achy and restless (for the realization of the second instance of <b>'w</b> in this word, see the next paragraphs)

In syllable onsets which are preceded by a nasal or nasalized segment, all of the Type 3 sonorants are nasalized; here, only **r** exhibits an oral closure.

<b>r</b>	[r̥]	<b>w</b>	[w̃]
<b>y</b>	[ỹ]	<b>'w</b>	[ʔw̃]
<b>y'</b>	[ỹ]		

Example realizations of these sonorants in onsets preceded by a nasal(-ized) segment are as follows:

consonant	example
<b>r</b>	<b>mààŕ</b> [mààŕ̥] gift
<b>y</b>	<b>sáà yáh</b> [sáà ỹáh] inside the stalk (cf. <b>sáà</b> 'inside,' <b>yáh</b> 'stalk')
<b>y'</b>	<b>'mààý</b> ['mààỹ́] fast
<b>w</b>	<b>sáà wáà</b> [sáà w̃áà] inside the nose (cf. <b>sáà</b> 'inside,' <b>wáà</b> 'nose')
<b>'w</b>	<b>'wíh'wíh</b> [ʔ <sup>w</sup> íhʔwíh] achy and restless (for the realization of the first instance of <b>'w</b> in this word, see the previous paragraphs)

The phonetic effect of nasality on the semivowel portion of complex onsets **Cy** and **Cw** is the same as on those which are in onsets preceded by a nasal(-ized) segment (as shown in the previous paragraph).

<b>Cy</b>	<b>kyáà</b>	[kỹáà]	container
<b>Cw</b>	<b>kwáà</b>	[kw̃áà]	fly (n.)

### 3.3.2.2 Sonorants in syllable codas

The phonetic effect of nasality on sonorants in codas is similar to that observed in onsets (3.3.2.1), with the exception that Type 1 (inherently nasal) sonorants may follow oral vowels. This is caused by a partial independence of coda nasality from that of the nucleus (3.4.1).

After an oral vowel, there is contrast among all sonorants—both nasal (3.2.1) and oral (3.2.1). After a nasalized vowel, nasality will necessarily spread to sonorants. Because of this oral sonorants **l b d** (Type 2, which have contrastive nasal counterparts; see 3.2.1) are absent; only nasal sonorants and nasalizable oral sonorants **r y y' w 'w** (Type 3) are found (see 3.4.1).

As is the case before a nasalized vowel, Type 3 sonorants are nasalized after a nasalized vowel. Except for **r**, their realization is the same as when they are found in an onset after a nasal or nasalized segment in the preceding syllable (3.3.2.1). In a nasalized coda, **r** is realized as a nasalized trill [**ř**] (cf. [**r**], which is the oral realization of **r** in codas; see 2.1.6.4).

Example realizations of these sonorants in codas affected by a preceding nasalized vowel are as follows:

consonant	example		
<b>r</b>	<b>kúrgún</b>	[kúřgun]	oval
<b>y</b>	<b>fây</b>	[fãỹ]	twist up one's mouth
<b>y'</b>	<b>kpà'y'</b>	[kpãỹ']	swing the hips
<b>w</b>	<b>kàvbâw</b>	[kàvbãw̃]	the end (of a story)
<b>'w</b>	<b>nà'w</b>	[nã'w̃]	spank (v.)

### 3.3.2.3 Obstruents

Typically, obstruents are impervious to the effects of nasality (3.2.1, 3.4.2). None of the obstruents can be phonologically nasalized, and they inhibit the spread of nasality within words.

It should be noted that the labial-velar **kp**, which employs a secondary velaric airstream mechanism (Ladefoged 1968:9–13, 2.1.7.2), exhibits a phonetically nasal release before nasalized vowels (cf. Elders 2000:64):

**kpáávirá** [kp<sup>nm</sup>áávirá] plant sp. with bulb  
 cf. **kpáhlà** [kpáhlà] stool, chair

This obvious nasal release does not surface with the voiced labial-velar **gb**, however:

<b>gb̩̀gú</b>	<b>[gb̩̀gú]</b>	game bird sp.
<b>gb̩̀gú</b>	<b>[gb̩̀gú]</b>	goat milk

### 3.4 Distribution and spread

The feature of nasality is associated with individual vowels and consonants (3.1, 3.2); however, it is also limited to specific phonological domains within syllables (3.4.1) and morphemes (3.4.2), and it spreads across morpheme boundaries (3.4.3).

#### 3.4.1 Distribution within syllables

Within syllables, there are clear limitations on the distribution of the feature of nasality depending on the types of consonants in the syllable.

In the distribution table on the next page, the following symbols are used (symbols refer to the types of consonants described in 3.2):

N	Type 1 sonorant (i.e., inherently nasal consonant)
L	Type 2 sonorant (i.e., oral with contrastive nasal counterpart)
R	Type 3 sonorant (i.e., alternates non-contrastively for nasality)
H	laryngeal
O	obstruent
V	oral vowel
Ṽ	nasalized vowel

Distribution of nasality within syllables

onset	rhyme											
	V	Ṽ	VV	ṼṼ	VN	ṼN	VR	ṼR	VL	ṼL	VO	ṼO
N	—	<b>nạmạ</b> animal	—	<b>nự</b> defecate	—	<b>nạn</b> touch	—	<b>nạr</b> drive	—	—	—	<b>nụng</b> sleep (tr.)
L	<b>lágà</b> mud shelter	—	<b>làà</b> eat	—	<b>lòm</b> prepare drink	—	<b>làr</b> rinse	—	<b>lòl</b> crunch	—	<b>lèg</b> suck	—
R	<b>wágà</b> skin	<b>wạrạ</b> mosquito	<b>wàá</b> hump	<b>wạạ</b> diminish	<b>wạᅇ</b> gossip	<b>yạn</b> spread out	<b>wàr</b> leave	(accid. gap?)	<b>wàl</b> bring up	—	<b>ràg</b> straddle	(accid. gap?)
H	<b>húgò</b> bone	<b>hụmụ</b> kapok fruit	<b>hàà</b> surround	<b>hạạ</b> squeeze	<b>húm</b> crush	<b>hụm</b> swell	<b>hàr</b> hurry	<b>hạr</b> tear	<b>hàᅇ</b> cough	—	<b>hàg</b> break (VN)	<b>hịg</b> give (VN)
O	<b>dágà</b> mouth	<b>gựrạ</b> crane	<b>zàà</b> cross	<b>zạạ</b> pull	<b>zám</b> weave	—	<b>zàr</b> tread	<b>zịr</b> gnaw	<b>zàl</b> explain	—	<b>góg</b> jump	—

A number of clear patterns are visible in this table. First, there is complementarity in the first two rows, since oral vowels never follow a nasal (N = Type 1 sonorant) onset, and nasalized vowels never follow Type 2 sonorants **l b d** (i.e., L = oral sonorants with nasal counterparts). In other words, where nasality can be shared by onset and nucleus, it must.

The distribution of Type 2 sonorants **l b d** in codas mirrors distribution in onsets: these consonants are never found after a nasalized vowel in the same syllable. However, in contrast to the absence of oral vowels after nasal (N) onsets mentioned in the first paragraph above, oral vowels may be found before a nasal coda. This situation allows for contrast between nasal (Type 1) and Type 2 sonorants **l b d** in the coda following an oral vowel (2.1.2.3). The oral identity of some vowels before a nasal coda is confirmed by three factors: frequent distribution of mid vowels (which resist nasality; see 3.1.1) in this position (ex. **vbòm** ‘divide’); the presence of Type 2 sonorants in onsets preceding the vowels (ex. **lám** ‘prepare drink’), keeping in mind that Type 2 sonorants always share the nasal value of the following vowel; and, surprisingly, contrast between oral and nasalized vowels before a nasal coda consonant in word pairs like **húm** ‘crush’ vs. **húm** ‘swell.’

Obstruents (O) and Type 3 sonorants **r y y' w 'w** (i.e., R = those which alternate non-contrastively for nasality) may precede or follow oral as well as nasalized vowels within a syllable. In both positions, Type 3 sonorants alternate for nasality in keeping with the nasal value of the adjacent nucleus vowel; however, this alternation is never contrastive in itself. The same pattern of non-contrastive alternation appears to hold for laryngeals (i.e., H, cf. 3.2.5), which are only found in onsets.

Since specification for nasality is always shared between a sonorant onset (nasal or oral) and the nucleus but, as stated above, may differ between the nucleus and a sonorant coda, it seems in Mambay that—at least in terms of nasality—the nucleus is more intimately linked with the onset than it is with the coda.

An additional group of patterns involve constraints on nasality on short vowels in closed syllables, especially those that begin with an obstruent. Most importantly, as indicated by the dashed line in the table, there are no examples of oral/nasal contrast on short vowels between an obstruent and a nasal (N) coda. The example (**zám** ‘weave’) has been placed in the oral vowel column because, as noted above, the oral identity of some or all vowels in this position is confirmed by frequent occurrence of mid vowels (ex. **vbòm** ‘divide’). Contrast exists between oral and nasal vowels for closed syllables beginning with laryngeal (H) consonants, but there are very few examples (ex. **hàr** ‘hurry’ vs. **hàr** ‘tear’; **hâg** ‘break (verbal noun)’ vs. **hîg** ‘give (verbal noun)’). A parallel contrast with Type 3 sonorants, while to be expected if these sonorants function like laryngeals (cf. the paragraph on Type 3 sonorants above and 3.2.5), is absent from the data; all examples of this structure are found with oral vowels (ex. **wàr** ‘leave,’ **râg** ‘straddle’). Finally, short nasalized vowels are conspicuously absent from syllables with both obstruent onset and obstruent coda. Taken together, these facts show that, whether historically or synchronically, contrast in nasality for short nasalized vowels is disfavoured in closed syllables.

In the five instances of morpheme-internal superheavy syllables within a morpheme (2.4.3), two patterns should be noted. First, as is the case for short oral vowels, long oral vowels are allowed before a nasal coda (**tí-tòòntî** ‘lark (bird sp.)’). Second, in contradiction to restrictions on nasality for short vowels in a syllable with obstruents in both onset and coda, nasality is allowed for long vowels in this context (**fíít** ‘(sound of fingers wiping a plate clean)’).

### 3.4.2 Distribution within morphemes

In morphemes, as in syllables (3.4.1), there are coherent patterns in the distribution of nasality; these are consistent across all word classes. The following patterns hold for the vast majority of data:

If nasality is found in a morpheme with no obstruents (cf. 3.2.1) and no mid vowels (cf. 3.1.1), it is found throughout the morpheme.

<b>'màýá</b>	fast
<b>níínà</b>	lower millstone, mill
<b>rámà</b>	blindness, blind person
<b>wárá</b>	mosquito

If there is nasality in a morpheme with an obstruent, it does not associate with or through the obstruent.

<b>kpáávirá</b>	plant sp. with bulb
<b>páàgá</b>	dirtiness, black filth
<b>súúbà</b>	urine
<b>vbààzá</b>	fish sp.

Similarly, if there is nasality in a morpheme with a mid vowel, it does not associate with or through the mid vowel.

<b>dǒŋnì</b>	wealth
<b>kpòŋrǎ</b>	tibia (of animal)
<b>lómǎ</b>	sourness, acidity
<b>pémǎ</b>	ant sp.

In six Mambay items in the data, the distribution of nasality is irregular: it is incomplete within the morpheme even where it is not blocked by an obstruent or a mid vowel.

<b>dàrmí</b>	clay
<b>hùùnú</b>	thigh (cf. historical body part suffix <b>-nú</b> ; see 5.1.3.2)
<b>límà</b>	lameness, lame person
<b>lwàhná</b>	edible plant sp.
<b>màlà</b>	art, craft
<b>sùùná</b>	in-law

*Minimal domain of association*

Nasality requires a specific minimal domain in order to associate. Minimal domains are as follows (the first four of these five domains have already been delineated in 3.4.1):

- a nasal coda (ex. **vbòm** ‘divide’);
- a long vowel (ex. **zǎǎ** ‘pull’);
- a nasal(-ized) onset plus a nasal(-ized) nucleus (ex. **núg** ‘sleep (tr.)’);
- a nasal(-ized) nucleus plus a nasal(-ized) coda (ex. **zìr** ‘gnaw’); or
- two short vowels separated by a nasal(-ized) sonorant (ex. **gùrá** ‘crane’).

Thus, within a morpheme, nasality may be limited to a single nasal consonant if that consonant is in syllable-final position (3.4.1; see also 3.4.2 immediately above).

<b>dǎngà</b>	ground squirrel
<b>fáyǎŋ</b>	light (weight), agile
<b>lám</b>	prepare hot peanut drink
<b>vbóm</b>	divide, spread, ruin

Otherwise, there must at least two adjacent nasalizable vowel or consonant units in the morpheme (a long vowel being two units), as is the case for the following examples, some of which are repeated from above:

<b>gùrá</b>	crane
<b>hàr</b>	tear
<b>kúmù</b>	herder
<b>má</b>	with, and
<b>núg</b>	sleep (tr.)
<b>pǎǎgá</b>	dirtiness, black filth
<b>zǎǎ</b>	pull
<b>zìr</b>	gnaw

The first and third items given in the list above express an additional constraint on the minimal domain of nasality in morphemes with more than one syllable: a nasalized short vowel in an open syllable is only found when there is another nasalized vowel in the morpheme, and the two vowels are separated by a nasal(-ized) sonorant. A single divergence from this pattern is the allowing of short nasalized vowels in the first syllable after a nasal consonant if an obstruent begins the second syllable. Thus, plausible morphemes of the following types are absent (C here refers to any type of consonant):

1. \*CVCṼ;
2. \*C̃VCV (except for ÑVOV, which is permitted).

The only items in the data which do not conform to this pattern are the following two words (both of which also exhibit non-canonical obstruent voicing suggestive of morphological complexity; cf. 2.1.3.2):

**ràfá'**        brownness  
**wátùtáà**    salt, sugar

### 3.4.3 Spread across morpheme boundaries

There are six cases in which nasality spreads across morpheme boundaries:

1. between inalienable pronominal suffixes and nouns (3.4.3.1);
2. between reflexive verb suffixes and verb stems (3.4.3.2);
3. between nouns and plural affixes (3.4.3.3);
4. between verb stems and a perfect affix (3.4.3.4);
5. between Optative verb stems and an appended vowel (3.4.3.5); and
6. between a phrase-final constituent and a negation clitic (3.4.3.6).

The first case of spread involves the leftward incorporation of a suffix's nasality into a stem vowel. In the second case, the leftward direction of spread is even clearer. The other four cases of spread are rightward. Of these, two are from stem to affix, and the last one is from any preceding verb phrase constituent onto a clitic.

The extent and limitations of the spread of nasality are considered in 3.4.3.7. Contexts in which the nasal feature is lost are discussed in 3.4.3.8.

#### 3.4.3.1 Inalienable pronominal suffix to noun

In all six cases where a noun ending in a long oral vowel takes the 1SG inalienable possessive pronominal suffix **-í** (cf. 6.1.4.2 and Appendix 1), the nasality of the suffix appears in the syllable into which the suffix is incorporated.

<b>páà</b> man	<b>-í</b> 1SG.POSS.INAL	→	<b>páy</b> my father (inal.)
<b>páà-vàà</b> husband	<b>-í</b> 1SG.POSS.INAL	→	<b>páà-váy</b> my husband (inal.)
<b>túù</b> mother	<b>-í</b> 1SG.POSS.INAL	→	<b>túí</b> my mother (inal.)
<b>kwàá</b> neck	<b>-í</b> 1SG.POSS.INAL	→	<b>kwùí</b> my neck (inal.)
<b>syâh</b> hand	<b>-í</b> 1SG.POSS.INAL	→	<b>síh</b> my hand (inal.)

<b>dwǎ'</b>	<b>-í</b>	→	<b>dwǐ'</b>
belly	1SG.POSS.INAL		my belly (inal.)

None of the stems with which the 1SG inalienable possessive pronominal suffix is found end with a nasalizable oral consonant, so the possible effect of nasality in this exact context cannot be determined; however, the behaviour of nasal-initial reflexive suffixes (3.4.3.2) suggests that leftward spread could occur.

### 3.4.3.2 Nasal-initial reflexive suffix to verb stem

When nasal-initial reflexive suffixes follow a stem-final Type 2 sonorant **l b** or **ɗ**, the nasality of the pronoun assimilates to the left and the stem-final oral sonorant is realized as the respective nasal counterpart **n 'm** or **'n** (cf. 3.2.3, 7.3.1.2.3).

<b>nà</b>	<b>zòl</b>	+	<b>-nǎ</b>	→	<b>nà zònnǎ</b>	we (you (sg.) and I) left
1&2	leave:PFV		-1&2SG.REFL			
<b>mì</b>	<b>sàb</b>	+	<b>-ní</b>	→	<b>mì sà'mní</b>	I vomited
1SG	vomit:PFV		-1SG.REFL			
<b>mù</b>	<b>zàɗ</b>	+	<b>-n'ým</b>	→	<b>mù zà'nnám</b>	you trembled
2SG	tremble:PFV		-2SG.REFL			

### 3.4.3.3 Noun to plural affix

Various strategies are used to pluralize nouns (5.5.2). In one type of construction, when the plural template **-lzV** is applied to a noun in which the last syllable contains a nasalized vowel, the nasality of the noun spreads rightward onto it.

<b>kwǎà</b>	<b>-lzV</b>	→	<b>kwánzà</b>
fly	PL		flies
cf. <b>kwáà</b>	<b>-lzV</b>	→	<b>kwálzà</b>
grass	PL		grasses
<b>gǎh</b>	<b>-lzV</b>	→	<b>gàhnzá</b>
beard	PL		beards
cf. <b>nà-kpyǎh</b>	<b>-lzV</b>	→	<b>nà-kpyàhlzá</b>
francolin (bird sp.)	PL		francolins

In the above examples, the transcription appears to suggest that the nasalized vowel is actually denasalized when its nasality spreads onto the adjacent **l**. However, this is simply a consequence of the non-marking of nasality in syllables with an obstruent onset and a nasal coda, since nasality is never contrastive in this position (3.4.1).

### 3.4.3.4 Verb stem to Perfect affix -rì

When the Perfect affix **-rì** is attached to a verb stem ending in a nasalized vowel or a nasal consonant, the nasality of the verb stem spreads rightward onto it (7.3.1.3). In the pairs of examples below, the first example shows the spread of nasality onto **-rì**, and the second example shows a similar context in which there is no spread of nasality.

	<b>m̀</b>	<b>kúú</b>		<b>-rì</b>	→	<b>m̀ kúúrì</b>
	1SG	grab:PERF		PERF		I have grabbed
cf.	<b>m̀</b>	<b>kùù</b>		<b>-rì</b>	→	<b>m̀ kùùrì</b>
	1SG	gather.firewood:PERF		PERF		I have gathered firewood
	<b>m̀</b>	<b>yáh</b>		<b>-rì</b>	→	<b>m̀ yáhrì</b>
	1SG	call:PERF		PERF		I have called
cf.	<b>m̀</b>	<b>yáh</b>		<b>-rì</b>	→	<b>m̀ yáhrì</b>
	1SG	press:PERF		PERF		I have pressed
	<b>m̀</b>	<b>dúŋ</b>		<b>-rì</b>	→	<b>m̀ dúŋrì</b>
	1SG	bend.down: PERF		PERF		I have bent down
cf.	<b>nà</b>	<b>dúŋ</b>	<b>-zí</b>	<b>-rì</b>	→	<b>nà dúŋzìrì</b>
	1&2	bend.down:PERF	PL	PERF		we (incl.) have bent down

### 3.4.3.5 Optative verb stem to appended vowel -í

When there is no explicit object with an Optative and the verb is phrase-final, an additional vowel **-í** is appended after some consonants (7.4.2.1). If **-í** follows a stem-final nasal consonant, nasality spreads from the consonant onto it.

<b>m̀</b>	<b>kàn-í</b>	[you (sg.)] pass (something)!
2SG:OPT	pass:OPT-V	
<b>m̀</b>	<b>zò'm-í</b>	[you (sg.)] fix (something)!
2SG:OPT	fix:OPT-V	

cf. the oral vowel **-í** after stems ending in an oral consonant:

<b>m̀</b>	<b>lòl-í</b>	[you (sg.)] crunch (something)!
2SG:OPT	crunch:OPT-V	
<b>m̀</b>	<b>sàb-í</b>	[you (sg.)] vomit (something)!
2SG:OPT	vomit:OPT-V	

### 3.4.3.6 Negation particle yá

The particle **yá** is used in negation (10.1.2.3). In terms of nasality, it functions as a clitic: whenever it follows any morpheme ending in a nasalized vowel or nasal consonant, nasality spreads from that morpheme onto the clitic.

<b>mǐ</b>	<b>kúú</b>	= <b>yá</b>	→	<b>mǐ kúú = yá</b>	
1SG:PFV.NEG	grab:PFV	NEG		I did not grab	
cf. <b>mǐ</b>	<b>kùù</b>	= <b>yá</b>	→	<b>mǐ kùù = yá</b>	
1SG:PFV.NEG	gather.firewood:PFV	NEG		I did not gather firewood	
<b>mǐ</b>	<b>làà</b>	<b>nəmá</b>	= <b>yá</b>	→	<b>mǐ làà nəmá = yá</b>
1SG:PFV.NEG	eat:PFV	meat	NEG		I did not eat meat
cf. <b>mǐ</b>	<b>làà</b>	<b>vúù</b>	= <b>yá</b>	→	<b>mǐ làà vúù = yá</b>
1SG:PFV.NEG	eat:PFV	goat	NEG		I did not eat the goat

### 3.4.3.7 Extent and limitations of spread

Nasality spreads across morpheme boundaries only in the six contexts described above (3.4.3.1–3.4.3.6). Even within phonological words, the spread of nasality is sensitive to morphological boundaries (cf. 2.5.1, 4.1.2.2). For example, nasality does not spread across prefix-noun or other noun-internal boundaries:

prefix-noun boundary (5.1.2.2):

<b>nǎ-ʔáà</b>	bean leaves
<b>nǎ-rúvò</b>	phlegm, moist object
<b>tí-nǎǎnì</b>	dragonfly
<b>tí-kà-rǎhgú</b>	large heron sp.

boundary between a regular verbal noun and a dummy object (5.9.1.1):

<b>làà</b>	<b>-nǎ</b>	→	<b>làánǎ</b>
eat:VN	-OBJ		eating (something)
<b>gír</b>	<b>-nǎ</b>	→	<b>gírǎ</b>
insult:VN	-OBJ		insulting (something)

other noun-internal boundaries (5.4.2):

<b>lèŋ-lèŋ-gérmù</b>	kingfisher sp. (cf. <b>gérmù</b> ‘women’)
<b>tâw-nǎn-gáhlàn</b>	fish sp. (cf. <b>tâw</b> ‘(male proper name),’ <b>nǎnù</b> ‘eye,’ <b>gáhlàn</b> ‘faceted’)
<b>tôr-nǎ-múùrǎ</b>	maize (cf. <b>tórà</b> ‘seed,’ <b>nǎ-múùrǎ</b> ‘jinn’)

Conversely, while nasality spreads across the boundary to the negation clitic **yá** from the word that precedes it (3.4.3.6), tonal boundaries remain intact in this context. This is evident in the following example:

**mùùrǎ = yá**  
silt = NEG

(in: **mùù kó mùùrǎ = yá** you did not see the silt)

If there were no tonal boundary between the two morphemes, the sequence would constitute a single tonal word **mùùrǎyá** with a HLH melody, like other HLH words of the same shape (4.1.2.2). However, this is not the case.

### 3.4.3.8 Loss of the nasal feature

There are four contexts in which a nasal feature is lost. In the first case, it is lost from a consonant (3.4.3.8.1), and in the other cases it is lost from a vowel (3.4.3.8.2–3.4.3.8.4).

#### 3.4.3.8.1 The ideophone plural template

In the plural template used with ideophones (8.5.1), the nasal feature is lost from a consonant. In this context, the consonant **'m** is copied to a position immediately before an oral vowel **û**; as a result, its nasality evaporates and it is realized as **ɓ**.

source ideophone	derived ideophone
<b>'mǐ'n-'mǐ'n</b> very thin	<b>ɓû-'mǐ'n</b> very thin (pl.)

The data contain no examples of the derivation of ideophones beginning with other nasal consonants.

#### 3.4.3.8.2 Plural marking on nouns

When a plural template containing **z** (5.5.2) applies to a noun ending in a light syllable with a nasalized vowel, the nasal feature is lost from that syllable. This happens because when it is preceded by the obstruent **z**, the short nasalized vowel is deprived of the minimal domain required for the hosting of nasality (3.4.2).

singular		plural
<b>bùrǐ</b> wild manioc sp.	→	<b>bùrzí</b> wild maniocs (sp.)
<b>rámà</b> blind person	→	<b>rámzà</b> blind people

**ná'rà** → **ná'nzà**  
sauce sauces

**núúrú** → **núrzó**  
breast breasts

### 3.4.3.8.3 The 1SG inalienable possessive suffix -í

It appears that when the 1SG inalienable possessive suffix -í (6.1.4.2) attaches to one of three obligatorily possessed nouns (5.3.3.2), its nasal feature is lost. As is the case with plural marking on nouns (3.4.3.8.2), a constraint against a short nasalized vowel after an obstruent (cf. 3.4.2) is active here.

**ʔázi´** + **-í** → **ʔázi** my member of  
member.of. 1SG.POSS.INAL member.of.**ʔàzgàrà**: **ʔàzgàrà** (inal.)  
**ʔàzgàrà**:LF 1SG.POSS.INAL (see Glossary)

**fàḷzi** + **-í** → **fàḷzi** my member of  
member.of. 1SG.POSS.INAL member.of.**fàḷzàrà**: **fàḷzàrà** (inal.)  
**fàḷzàrà**:LF 1SG.POSS.INAL (see Glossary)

**fàhzi** + **-í** → **fàhzi** my member of  
member.of. 1SG.POSS.INAL member.of.**fàhzàrà**: **fàhzàrà** (inal.)  
**fàhzàrà**:LF 1SG.POSS.INAL (see Glossary)

The underlying forms of these three nouns have been established with reference to their shapes throughout the inalienable possession paradigms (see Appendix 1). They may be historically composed (note the consistent **-zi** ending). Still, whatever morphological complexities may be present, the loss of the suffix's nasal feature is clear.

An alternative explanation, and one which is *ad hoc* but admissible, is that the 1SG inalienable possessive suffix is a floating H tone without segmental support (the deletion of the excess H tone in **ʔázi´** is discussed in 4.3.1.4).

In the two other examples of nouns ending in an obstruent-V syllable which are found with inalienable pronominal possession, the suffix -í retains its nasality.

**súgò** + **-í** → **súgí**  
ear 1SG.POSS.INAL my ear (inal.)

**sábà** + **-í** → **sabí**  
tail 1SG.POSS.INAL my tail (inal.)

The reasons for this difference in nasal value of -í in comparable environments (**z** vs. **g** and **b**) are unclear, but it is worth noting that neither of the final examples is obligatorily possessed, and that both refer to body parts rather than social relations.

#### 3.4.3.8.4 Irregular verbal nouns

Long nasalized vowels found before an obstruent in the context of irregular verbal nouns (5.9.1.2) alternate with Vŋ. In these cases, the nasal value of the vowel evaporates.

<b>súŋgà</b>	lie down (VN)
<b>súŋzírà</b>	lie down (VN:PL)
cf. <b>sùù</b>	lie down
<b>yáŋgà</b>	sit, be, stay (VN)
<b>yáŋzírà</b>	sit, be, stay (VN:PL)
cf. <b>yàà</b>	sit, be, stay

The difference in vocalic nasality is confirmed by the realization of the **y**, which is strongly nasalized (as described in 3.3.2.1) in **yàà**.

## TONE AND INTONATION

Like the vast majority of Niger-Congo languages, Mambay is tonal. All syllables in all utterances are affected by tone, and its behaviour in the language is systematic.

In the context of a rich inventory of consonants, vowels, syllable and word shapes, and contrastive nasality (Chapters 2 and 3), the functional load of tone in distinguishing lexical items within word classes is moderate, and minimal tone pairs within classes are surprisingly uncommon. However, its role in the language is much broader than this. Among other things, tone is an important means of distinguishing among word classes (4.1.2.4). In addition, tone plays a central role in the verbal system, where it is used as a basic means of TAM (tense/aspect/mode) marking (7.3.2.2). Further, tone is sensitive to boundaries of phonological phrases (4.3); the resulting limitation of tonal processes in phrase-final position helps provide pragmatic coherence and contrast in discourse.

Two contrastive tone levels are found in Mambay: H (high) and L (low). Tones from these two levels are organized into contrastive tone melodies and associated with morphemes or, in some cases, phonological words (4.1).

Additional structural aspects of the tone system include floating tones, replacive tone melodies, and interaction between tone and other phonological structures (4.2).

Four major processes affect the tone system. While tone deletion is a lexical process, postlexical processes consist of downstep, H tone spread and L tone spread (4.3).

In addition to a complete tonal system, two important intonational phenomena are attested in Mambay: tone register shift (which is different than downstep) and an expectation marker. Both interact closely with the tone system (4.4).

### *Terminology and transcription*

Whenever phonologically contrastive tonal elements are under discussion, the terms “tone” and “tone melody” are used. In contrast, the term “pitch” is limited to phonetic descriptions of tonal realizations.

Regarding the transcription of tone, several comments are in order. For typographical reasons, the phonological orthography used in this study consistently limits tone marking to orthographic vowels; the tone marked on vowels is thus applicable to the whole

syllable. This convention is pertinent for syllables with a VC coda, which have two tone-bearing units (2.4.3). In cases where the tonal value of the coda C is different than that of the preceding V, it is transcribed on the V as follows:

underlying phonological form	simplified phonological orthography	example
/káŋ/	<b>kâŋ</b>	bowstring, drum snare
/kùm/	<b>kũm</b>	baobab

This convention also applies to pharyngealized and glottalized vowels (whether phonologically long or short; see 2.2.1, 2.3.3.2–3), which are represented with **Vh** and **V'** in the phonological orthography.

/fáh/	<b>fâh</b>	path
/fá'/	<b>fă'</b>	mouse sp.

Exceptionally, in superheavy syllables (2.4.3), tone is marked on all the tone-bearing units.

<b>fááw</b>	light (weight)
<b>nà-táállá</b>	ant sp.
<b>yáà-m</b>	(in: <b>mù yáàm</b> 'you have moved away')
	move.away:PERF-2SG.REFL

In the present chapter, the phonetic detail provided in the transcriptions between square brackets is limited to pitch. Otherwise, the transcription is phonological. Phonetic phenomena relating to structures other than tone are addressed in the sections on consonants (2.1), vowels (2.2), and nasality (Chapter 3).

## 4.1 Tone inventory

The following sections provide an inventory of the tone levels in Mambay (4.1.1), and the melodies which are produced by combining these two levels (4.1.2).

### 4.1.1 Tone levels

Two underlying tone levels are found in Mambay: H (high) and L (low).

<b>ká</b>	(attributive copula)
<b>kà</b>	when, and then
<b>hâh</b>	gather
<b>hâh</b>	prevent

yáá move away  
 yâà finish

The phonetic interval between H and a following L is twice as great as the interval between L and a following H; this difference is attributable to the effect of downstep (see pitch traces in 4.3.2).

In addition to the level pitches at which H and L are often realized, contour pitches are also found. A phrase-final light syllable may host a falling pitch, and heavy syllables (cf. 2.4.3) may be realized with falling or rising pitch. However, according to the present analysis, contour pitches are not in and of themselves contrastive. Rather, they may be attributed to contrastive tone melodies (4.1.2) associated with words as well as postlexical processes which affect the realization of these melodies (4.3).

A mid pitch, halfway between H and L, is also attested in restricted contexts (4.3.3.1.2). However, as is the case for contour pitches, it can be explained with reference to postlexical processes.

#### 4.1.2 Tone melodies

H and L tones combine to produce various underlying tone melodies. Seven melodies have been observed in morphologically simple words in Mambay:

H	L
HL	LH
HLH	LHL
HLHL	

The following discussion describes the association of these tone melodies with tone-bearing units (TBUs) (4.1.2.1), and shows that the melodies which may be associated with a word are limited by the number of TBUs in that word (4.1.2.2). The formation of tone melodies in composite phonological words is then examined (4.1.2.3). In addition, it is pointed out that each word class exhibits its own inventory of tone melodies, and that frequencies of attested melodies vary greatly from one class to another (4.1.2.4). Contrasts between melodies are demonstrated (4.1.2.5) and examples, including phonetic realizations, are given for each of the attested combinations of CV shape and tone melody in the data (4.1.2.6).

##### 4.1.2.1 Tone-bearing units (TBUs)

The most important limitation on the melodies which can be found with a word is the word's quantity of tone-bearing units (TBUs). In Mambay, the pertinent TBU is the mora ( $\mu$ ). A mora is acknowledged for each V or C found in a syllable's nucleus or coda (see 2.4 for discussion of the mora). Each mora is associated with a single underlying H or L tonal value. Thus, words comprised of a single light (one- $\mu$ ) syllable may only host the melodies H or L.

H  
 |  
 μ  
**ká** (attributive copula)

L  
 |  
 μ  
**kà** when, and then

In contrast, words with two morae—and this may be represented by either a single heavy (two-μ) syllable or two light syllables—may host melodies with up to two tonal values, namely: H, L, HL and LH.

H  
 ^  
 μμ  
**yáá** move away

L  
 ^  
 μμ  
**yàà** finish

HL  
 ||  
 μμ  
**láà** gourd

LH  
 ||  
 μμ  
**làá** haunch

H L  
 | |  
 μ μ  
**lágà** mud shelter, scaffolding

H L  
 | |  
 μ μ  
**làgá** lie, Mundang

Likewise, three- and four-mora words may be found with up to three and four alternating (between H and L) tonal values respectively. This pattern of tone-melody distribution, which is almost completely consistent throughout the data, may be summarized as follows:

tone melody	1-μ word	2-μ word	3-μ word	4+-μ word
H	x	x	x	x
L	x	x	x	x
HL	—	x	x	x
LH	—	x	x	x
HLH	—	—	x	x
LHL	—	—	x	x
HLHL	—	—	—	x

Two morphologically simple exceptions to this pattern have been observed in the data; both of these are two-mora kinship terms with a three-unit (HLH) melody of which the third unit floats on the right edge of the morpheme:

H L H     μ μ <b>nánà</b> ' maternal uncle	H L H     μ μ <b>ʔázi</b> ' member of ʔàzgàrà (see Glossary)
---	---

At the end of a phrase, the final H tone is not realized on such words (4.3.1.4); however, in the context of possessive constructions (5.3), its effects are evident (4.3.3.3).

In addition, the verbal noun dummy object suffix **-nà** exhibits polar behaviour which may be related to the presence of more tones than tone-bearing units in verbal nouns; see the extended discussion in 5.9.1.1.1.

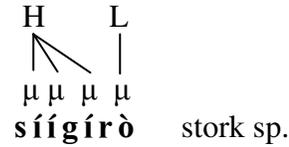
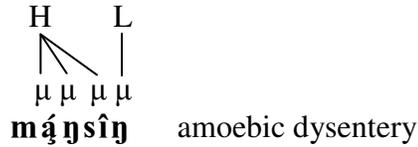
<b>gír</b> insult:VN	<b>-nà</b> -OBJ	→	<b>gírná</b> insulting (something)
<b>kòg</b> see:VN	<b>-nà</b> -OBJ	→	<b>kǒgnà</b> seeing (something)

#### 4.1.2.2 Association of tones with TBUs

It is generally acknowledged that initial association of tones with TBUs proceeds on a one-to-one basis from the left edge of the word to the right (Yip 2002:93). Still, at the point when postlexical processes apply in Mambay (cf. 4.3), tones appear to be associated in reference to the right edge of the word. This configuration shows up when the number of available TBUs is greater than the number of tones, since the associated tone furthest to the left is associated with the remaining TBUs all the way to the left edge of the word.

This situation suggests that, after initial left-to-right association, there is a subsequent lexical shift of all tonal units as far to the right as possible, with a one-to-one tone-to-TBU re-association taking place. Thus, for example, a HL melody will associate at the lexical level with various CV shapes as follows (an exhaustive table of association with attested CV shapes is found in 4.1.2.6):

H L     μ μ <b>láà</b> gourd	H L     μ μ <b>kâŋ</b> bowstring, drum snare
H L     μ μ <b>lágà</b> mud shelter, scaffolding	H L \   μ μ μ <b>léérà</b> poultry flea, louse

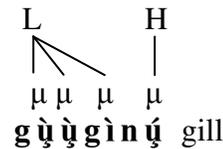
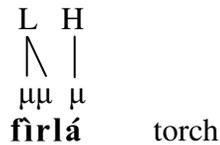
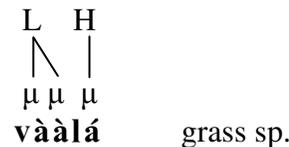
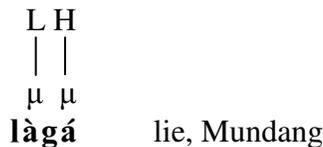
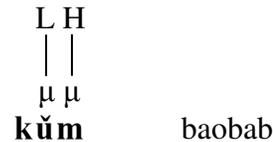
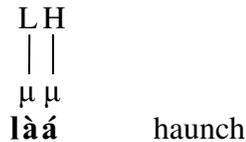


For words which (like the three examples in the right column) contain more TBUs than tonal units, a hypothetical lexical association pattern other than that which is given here is not possible.

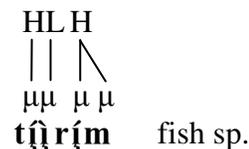
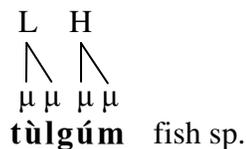


Thus, tone melodies associate according to a subset of possible tone sequence possibilities.

In the same way, a LH melody will associate at the lexical level with various CV shapes as shown in the following examples (an exhaustive table of association configurations is found in 4.1.2.6):



There are two restricted exceptions to this language-wide pattern of lexical association. First, there is an intolerance for the association of LH (i.e., a rising contour) on a heavy syllable if a mora to the left is available to host the L tone (cf. the monosyllabic LH examples immediately above, where there is no available mora to the left).



Second, in the two nouns in the data with more tones than tone-bearing units, the rightmost tone is underlyingly floating on the right edge of the morpheme (cf. 4.1.2.1); it only makes itself known non phrase-finally, in the context of possessive constructions (4.3.3.3):

H L H     μ μ <b>nánà'</b>	maternal uncle	H L H     μ μ <b>?ázi'</b>	member of <b>?àzgàrà</b> (see Glossary)
-------------------------------------	----------------	-------------------------------------	---

The fact that the floating tone is on the right rather than the left edge of these words supports the idea of an initial left-to-right association, whereby the excess tone is left floating on the right. However, since there are only two such examples in the data, conclusions about their implications for the tone system as a whole should be held lightly.

#### 4.1.2.3 Phonological word melodies

The melody of a phonological word (2.5.1) is usually the sum of the melodies of its constituent morphemes.

<b>fàà</b> back:LF	+	<b>-ró</b> 2PL.POSS.INAL	→	<b>fààró</b> your (pl.) back, skin (inal.) (cf. 5.3.4.2.4)		
<b>hèè</b> climb:PFV	+	<b>-zí</b> PL	+	<b>-n̄</b> to.here	→	<b>hèèzín</b> they climbed to here (cf. 7.3.2.2.3)

When adjacent morphemes in a phonological word exhibit identical tones, these tones are usually merged in accordance with the Obligatory Contour Principle (OCP; cf. Leben 1973, Snider 1999:32, Yip 2002:84).

<b>káà</b> head:LF	+	<b>-rú</b> 3SG.POSS.INAL	→	<b>káàrú</b> his/her/its head (inal.) (cf. 5.3.4.2.4)		
<b>hèè</b> climb:PERF	+	<b>-zí</b> PL	+	<b>-ré</b> 3PL.REFL	→	<b>hèèzìré</b> they climbed to here (cf. 7.3.2.2.3)

However, simple addition and merging of the tone melodies does not always take place within a phonological word. In some cases, the melody of a phonological word is simpler than that of the melodies of its constituents.

<b>káà</b> head:LF	+	<b>-í</b> 1SG.POSS.INAL	→	<b>káání</b> my head (inal.) (cf. 5.3.4.2.4)
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Additional instances of simplification are examined in the section on lexical tone deletion below (4.3.1).

In other cases, the mismatch between the melody of the phonological word and those of its constituents cannot be explained as simplification. This is the case for replacive tone melodies (see 4.2.2).

**yaa** + **-zí** + **-ré** → **yààzíré** they have finished (intr.)  
 finish:PERF PL 3PL.REFL

Finally, there are two cases where merging of tones within a phonological word does not take place. First, the tone melody of noun prefixes is tonally separate from that of the nouns to which they are attached (5.1.2.2).

**tì-kúrgú** dwelling, main room (cf. hypothetical single tonal word \***tìkùrgú**)  
**nà-dígzìlè** algae (cf. hypothetical single tonal word \***nàdìgzìlè**)

Second, each of the nouns that makes up a compound usually retains its distinctive tone melody (5.4).

**ná-rím-byàá** cormorant, darter (bird sp.)  
 1&2:OPT-dip:OPT-water

**tòò-n̄n-gáhlàn** fish sp.  
 Taw:LF-eye:LF-faceted

#### 4.1.2.4 Tone melodies and word classes

Possibilities for tone melodies associated with words are limited not only by the quantity of available TBUs (4.1.2.1), but are also restricted by the word class to which a word belongs. For example, although most verb roots are comprised of a single heavy syllable (2.4.3), in their basic (Perfective) form they make use of only two of four possible melodies (H and L but not HL and LH) (7.3.2.2.1). The vast majority of nouns, in contrast, are associated with complex tone melodies (especially HL, LH and HLH), and the simple melodies H and L are associated with non-canonical nouns (5.1.1.2).

An inventory of tone melodies associated with attested CV shapes of members of each word class is found at the beginning of the relevant sections in the following chapters.

#### 4.1.2.5 Contrasts between tone melodies

Each of the seven underlying tone melodies is contrastive. Word pairs are given in a table on the following page to demonstrate these contrasts, and a minimal distinction between the words in the same word class (here: nouns or verbs) is provided whenever possible (an exhaustive list of each of the melodies associated with all attested shapes is given in 4.1.2.6).

Contrast between tone melodies

H	L	HL	LH	HLH	
<b>yáá</b> ‘move away’ <b>yàà</b> ‘finish’					L
<b>kpúŋ</b> ‘hill’ <b>kāŋ</b> ‘bowstring’	<b>màrvà</b> ‘regret’ <b>màrnà</b> ‘older sibling’				HL
<b>fém</b> ‘stupidity’ <b>kǔm</b> ‘baobab’	<b>kpàŋ</b> ‘different’ <b>kpǎŋ</b> ‘salty’	<b>sùmù</b> ‘night’ <b>sùmú</b> ‘potter’s kiln’			LH
<b>nùúrú</b> ‘breast’ <b>mùúrú</b> ‘silt’	<b>wàrbà</b> ‘strength’ <b>bêgá</b> ‘sweetness’	<b>gyáálà</b> ‘medicine’ <b>gyáàlá</b> ‘nanny’	<b>ḃòòzá</b> ‘seam’ <b>ḃóòzá</b> ‘clod’		HLH
<b>nùúrú</b> ‘breast’ <b>màájù</b> ‘mother (al.)’	<b>wàŋgà</b> ‘hardness’ <b>dǒŋ̀nì</b> ‘wealth’	<b>gbúŋ̀nì</b> ‘shack’ <b>dǒŋ̀nì</b> ‘wealth’	<b>dàmná</b> ‘thatch’ <b>dǒŋ̀nì</b> ‘wealth’	<b>séègá</b> ‘red-brownness’ <b>lèégè</b> ‘nightjar’	LHL

Because its CV shape lacks a close equivalent with other morphemes, there are no solid illustrative pairs for tonal contrasts with the single HLHL morpheme in the data; the existence of HLHL as a distinct tone melody has instead been established with reference to principles of tone association (4.1.2.1) in order to account for the idiosyncratic phonetic form of the HLHL example in the data (4.1.2.6).

#### 4.1.2.6 Examples of tone melodies associated with attested CV shapes

Each of the seven attested tone melodies is shown here with all of the CV shapes with which it is found in the morphologically simple data.

Where postlexical processes (4.3) cause the tone melody of a morpheme to be realized differently than might be inferred from the orthographic representation of its underlying form (see the introduction to this chapter), underlying forms as well as surface realizations are provided.

The exclusion of lexical prefixes from the CV shape and from the tone melody of nouns is discussed in 4.1.2.3 and 5.1.2.2.

tone melody	CV shape	example	surface realization	gloss
H	CV	<b>ká</b>		(attributive copula)
	CVV	<b>nájá</b>		this, these
	CVC	<b>kpún</b>		hill
	CVVC	<b>fíít</b>		(sound of fingers wiping a plate clean)
	CV.CV	<b>ḃóró</b>		deep, far away
	CV.CVV	<b>(náj-)dídá'</b>		summit
	CV.CVC	<b>kókól</b>		small drum
	CVV.CV	<b>núúrú</b>		breast
	CVC.CV	<b>kpángú</b>		early
	CVC.CVC	<b>ḃúndún</b>		dwarf, withered
	CV.CV.CV	<b>ḃúnúnú</b>		pursed (lips)
	CVV.CV.CV	<b>béhlégí</b>		few
	CVC.CV.CV	<b>májdírí</b>		tree sp.
	CVC.CV.CVC	<b>káḃkárán</b>		dried out and hard
L <sup>4</sup>	CV	<b>kà</b>		when, and then
	CVV	<b>bèè</b>		without
	CVC	<b>gàl</b>		baldness, receding hairline
	CVVC	<b>rùùgè</b>		cylindrical shape
	CV.CV	<b>màlà</b>		art, craft

<sup>4</sup> Note that in contrast to most other Niger-Congo languages (Snider 1999:46), the pitch of L does not fall in phrase-final position in Mambay.

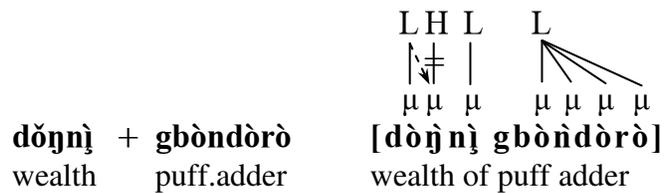
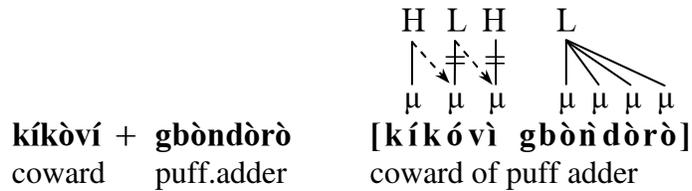
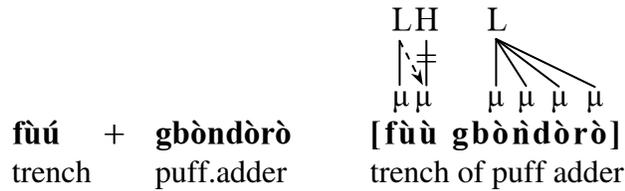
	CV.CVC	<b>gàràm</b>		hippo-hide whip
	CVV.CV	<b>gbòòrò</b>		bald, bare
	CVV.CVC	<b>zùùrùm</b>		fish sp.
	CVC.CV	<b>màrvà</b>		regret
	CVC.CVC	<b>dèglèm</b>		insect sp.
	CV.CV.CV	<b>gàzèrè</b>		short
	CV.CVC.CV	<b>(nà-)gbògòngà</b>		waterlily bulb
	CVV.CV.CV	<b>wààgùnà</b>		large basket
	CVV.CV.CVC	<b>bààbùrùm</b>		main room
	CVC.CV.CV	<b>gbòndòrò</b>		puff adder
	CVC.CV.CVC	<b>kùṅkùrùṅ</b>		hunched
	CVC.CVC.CV	<b>sìnzàhwlà</b>		porcupine
HL	CVV	<b>sî</b>	<b>[sî]</b>	valley, river
	CVC	<b>kâṅ</b>	<b>[káṅ]</b>	bowstring, drum snare
	CVVC	<b>fááw</b>	<b>[fááw]</b>	light (weight)
	CV.CV	<b>bádâ</b>	<b>[bádâ]</b>	tamarind
	CV.CVV	<b>(nà-)wíwâh</b>	<b>[nàwíwâh]</b>	belt made of bells
	CV.CVC	<b>zódôm</b>	<b>[zódôm]</b>	ten
	CVV.CV	<b>tíflò</b>	<b>[tíflò]</b>	eagle sp.
	CVV.CVC	<b>(tí-)fúúgûm</b>	<b>[tífúúgûm]</b>	edible wild plant sp.
	CVC.CV	<b>búglì</b>	<b>[búglì]</b>	hat
	CVC.CVC	<b>màṅsîṅ</b>	<b>[màṅsîṅ]</b>	amoebic dysentery
	CV.CVV.CVC	<b>(nà-)bíbáhrâm</b>	<b>[nàbíbáhrâm]</b>	bedbug
	CV.CVC.CV	<b>dídóhṅgì</b>	<b>[dídóhṅgì]</b>	bent
	CV.CVC.CVV	<b>(nà-)kúúrumbáà</b>	<b>[nàkúúrumbáà]</b>	fish sp.
	CVV.CV.CV	<b>síígíró</b>	<b>[síígíró]</b>	stork sp.
	CVC.CV.CV	<b>(nà-)dígzílè</b>	<b>[nàdígzílè]</b>	algae
	CVC.CV.CVC	<b>(tì-)kónkórôn</b>	<b>[tìkónkórôn]</b>	red ant sp.
	CVC.CVV.CV	<b>tám búúra</b>	<b>[tám búúra]</b>	pigeon, dove
LH	CVV	<b>fùú</b>		trench
	CVC	<b>kǔm</b>	<b>[kùóm]</b>	baobab
	CV.CV	<b>gùrá</b>		fish trap
	CV.CVV	<b>ràfá'</b>		brownness
	CV.CVC	<b>bùvbúṅ</b>		net sp.
	CC.CC	<b>mèmhím</b>		yes
	CVV.CV	<b>vbààlá</b>		testicle
	CVC.CV	<b>fírlá</b>		torch
	CVC.CVC	<b>tùlgúm</b>		fish sp.
	CV.CVV.CV	<b>pìpùrìrì</b>		horn (instrument)
	CVV.CV.CV	<b>gùùgìnú</b>		gill
	CVC.CV.CV	<b>(nà-)gìzgìró</b>		antelope sp.







nouns with LH and LHL melodies pattern as L; and the final H on linked forms of nouns with an HLH melody is not realized (5.2.2.1).



Idiosyncratically, the linked form of the single HLHL noun in the data (**wátùtáà** ‘salt, sugar’) retains the full tone melody of its free form (5.2.2.1).

#### 4.3.1.2 HL nouns in inalienable possessive constructions

When they are found with inalienable possessive pronouns (6.1.4.2), HL nouns undergo, in addition to segmental reduction (5.3.4.2.1), the deletion of their L tone (5.3.4.2.4).



This tone deletion does not take place in alienable possessive constructions.



#### 4.3.1.3 Idiosyncratic linked forms of HL nouns

There are a handful of idiosyncratic HL nouns which, in addition to segmental reduction (5.3.4.2.1), lose their L tone when they are found as linked nouns in a possessive construction (5.2.2.1).



This contrasts with the normal realization of HL nouns in the same context, where the retention of the L tone is signalled by downstep (4.3.2) on subsequent H tones.

**bígà** + **'màrà** → **bíg 'màrà** [**bíg 'màrà**]  
 child friend child of friend

#### 4.3.1.4 Floating H tones in phrase-final position

There are two nouns in the data with floating H tones on their right edge (4.1.2.2).

H L H     μ μ <b>nánà'</b> maternal uncle	H L H     μ μ <b>ʔázi'</b> member of ʔàzgàrà (see Glossary)
--	--

Only **nánà'** may occur phrase-finally, because **ʔázi'** is obligatorily possessed (5.3.3.2) and therefore only found in the initial position of possessive constructions. At the end of a phrase, the final H tone does not surface on **nánà'**, which is realized tonally like other two-mora CVCV nouns: [**nánà**]. For evidence of the floating tone on underlying form of this word, see 4.3.3.3.

### 4.3.2 Downstep

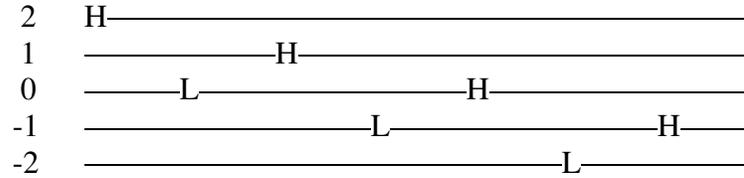
Downstep is a central feature of the Mambay tone system, and with few exceptions, applies throughout the language. Downstep in Mambay refers to the phonetic lowering of the tone register (4.3.2.1).

In Mambay, both automatic downstep (also called downdrift) (4.3.2.2) and non-automatic downstep (also simply called downstep) (4.3.2.3) are found, and are treated as two aspects of the same phenomenon: automatic downstep takes place when a L tone is non-floating, and non-automatic downstep takes place when a L tone is floating. The terminology used here follows that of Stewart (1983) and Snider (1999). Environments in which downstep appears not to apply are treated in 4.3.2.4.

In the phonetic transcriptions, the symbol [<sup>+</sup>] is used to mark non-automatic downstep; in contrast, automatic downstep is assumed whenever the necessary conditions are met (4.3.2.2). Supplementary pitch transcriptions (where [ <sup>—</sup> ] represents a high pitch and [ <sub>—</sub> ] a low pitch) are, however, provided where they are helpful in clarifying the phonetic effects of automatic downstep.

#### 4.3.2.1 Phonetic effect and placement of downstep

For descriptive purposes, the phonetic interval between H and a following L may be described as the spanning of two equal levels. If the number 2 represents an utterance-initial H tone, and the number 0 represents an adjacent L tone, the phonetic effect of downstep may be schematized as follows:



As the diagram shows, H tones are lowered to one level below that of the previous H whenever they follow a L tone. This lowering effect is iterative; it takes place with each HLH sequence. In Mambay, it is not clear whether the tonal register is lowered between L and H, or between H and L. Regarding other languages, this topic has been considered elsewhere (Snider 1999:21ff.).

In recordings of texts elicited from Oussoumanou Bouba, the principal collaborator, the effect of downstep is clear. The interval between H and a following L tends to be about 40 Hertz (Hz; 150–110 Hz), and the interval between L and a following H tends to be about half that (20 Hz; 110–130 Hz). The interval between two H tones separated by a L tone appears to be the same (20 Hz) whether or not the L is realized on the surface; in other words, the effect of automatic downstep appears to be the same as that of non-automatic downstep.

In the following sections, these claims are supported by pitch traces of utterances exhibiting both types of downstep (4.3.2.2 and 4.3.2.3). However, it should be noted that recordings are excerpted from longer texts and are therefore not controlled for the effects of tone register shift (4.4.1) and utterance length.

#### 4.3.2.2 Automatic downstep

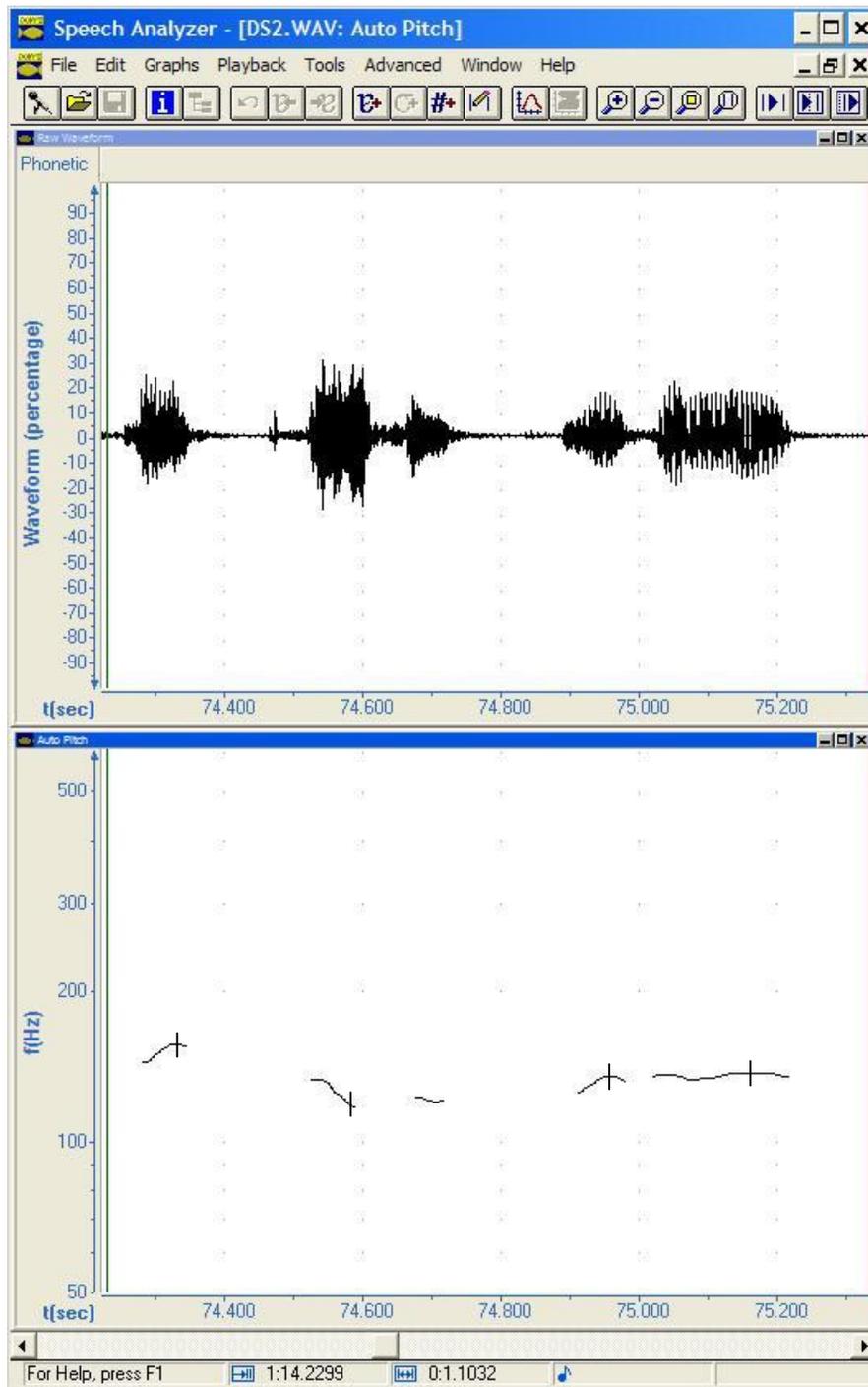
Automatic downstep refers to the lowering of a H tone after a HL sequence in which the L is realized on the surface.

<p><b>sî nàmá</b> → valley animal</p>	<p>[ — _ — ] [sí nàmá] valley of animal</p>
<p><b>búgì bègé</b> → hat slave</p>	<p>[ — — _ — ] [búgí bègé] hat of slave</p>
<p><b>?îg kyàg dígní</b> → thing:LF hurt:VN liver:1SG.POSS.INAL</p>	<p>[ — — — — ] [?íg kyàg dígní] thing that hurts my liver</p>

High tone spread (4.3.3), which has applied to the first word in each of these examples, has no effect on the phonetic realization of downstep here or elsewhere.

A pitch trace of the third example, **?îg kyàg dígní** ‘thing that hurts my liver,’ is provided on the following page. This pitch trace confirms the operation of automatic downstep.

Pitch trace<sup>5</sup> showing automatic downstep (see 4.3.2.2)



[ ? í g k y à g è à dí g í n í ]  
 $F_0$  (Hz): 156.7 117.9 135.5 137.9

<sup>5</sup> In this pitch trace as well as the one on the following page, the pitch (i.e.,  $F_0$  = fundamental frequency) of each tone-bearing unit is given in Hertz (Hz). A short vertical stroke is used to mark the point at which the pitch has been measured; this point has been selected according to the principles set out in Snider (1998:97–8). The occurrence of echo vowels after *g* in this example is accounted for in 2.1.6.1.

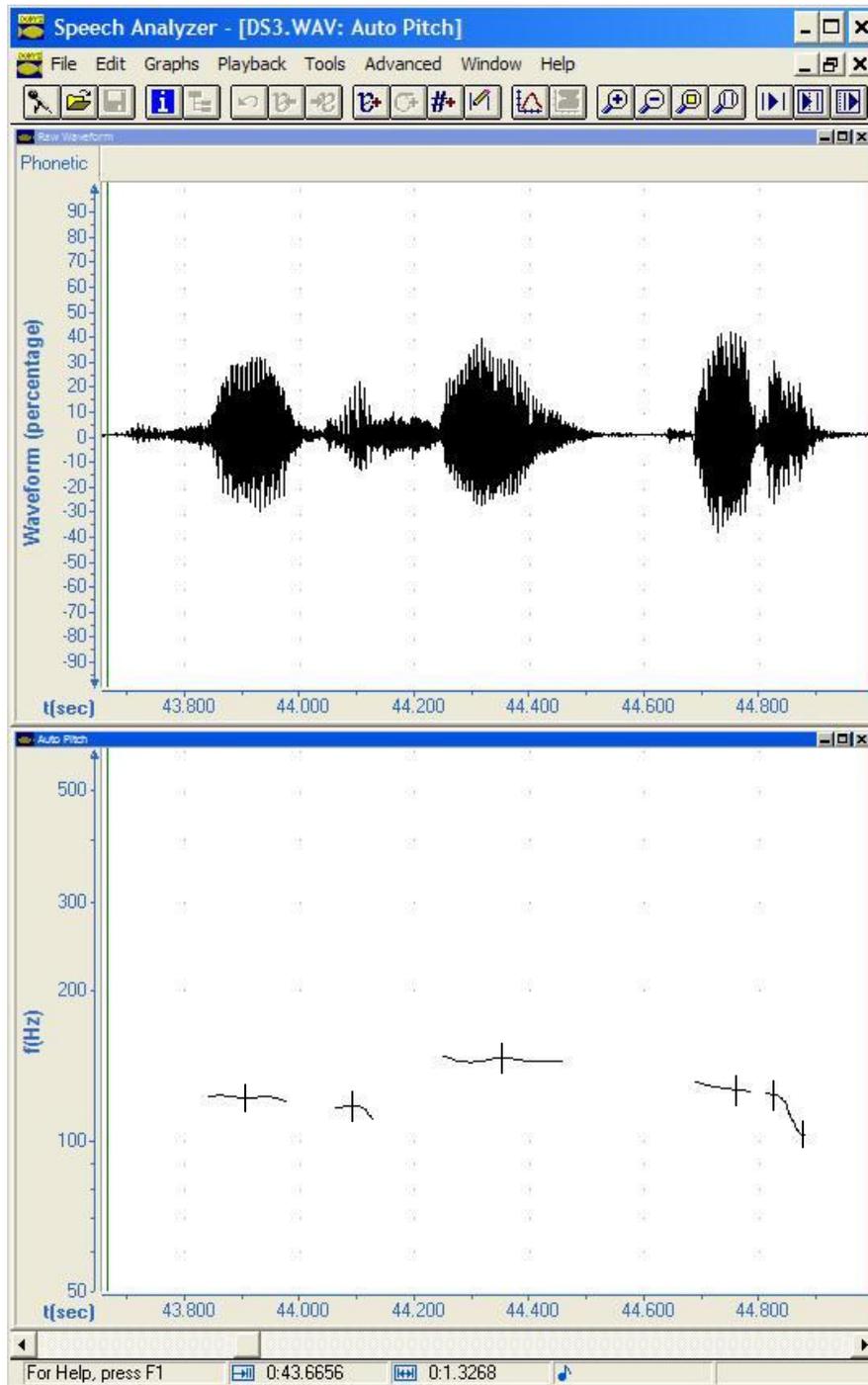
### 4.3.2.3 Non-automatic downstep

Non-automatic downstep refers to the lowering of a H tone after a HL sequence in which the L tone is floating (i.e., not realized on the surface). The floating L tone comes about as a result of HTS (4.3.3) both within words and across word boundaries.

<b>bêrgá</b>	sweetness	$  \begin{array}{c}  \text{HL} \quad \text{H} \\  \begin{array}{c} \diagdown \\ \text{H} \\ \diagup \end{array} \quad \begin{array}{c}   \\ \text{H} \\   \end{array} \\  \mu \mu \quad \mu  \end{array}  $ <b>[b é r'gá]</b>
<b>kíkòvì</b>	coward	$  \begin{array}{c}  \text{H} \quad \text{L} \quad \text{H} \\  \begin{array}{c} \diagdown \\ \text{H} \\ \diagup \end{array} \quad \begin{array}{c} \text{H} \\ \diagdown \end{array} \quad \begin{array}{c}   \\ \text{H} \\   \end{array} \\  \mu \quad \mu \quad \mu  \end{array}  $ <b>[k í k ó'vì]</b>
<b>sî kpúŋ</b>	valley hill	$  \begin{array}{c}  \text{HL} \quad \text{H} \\  \begin{array}{c} \diagdown \\ \text{H} \\ \diagup \end{array} \quad \begin{array}{c} \diagdown \\ \text{H} \\ \diagup \end{array} \\  \mu \mu \quad \mu \mu  \end{array}  $ <b>[sî' +kpúŋ]</b> valley of hill
<b>búgì kpúŋ</b>	hat hill	$  \begin{array}{c}  \text{H} \quad \text{L} \quad \text{H} \\  \begin{array}{c} \diagdown \\ \text{H} \\ \diagup \end{array} \quad \begin{array}{c} \text{H} \\ \diagdown \end{array} \quad \begin{array}{c} \diagdown \\ \text{H} \\ \diagup \end{array} \\  \mu \mu \quad \mu \quad \mu \mu  \end{array}  $ <b>[búgì' +kpúŋ]</b> hat of hill
<b>zòògì sáà kwéré</b>	bird:LF inside fence	$  \begin{array}{c}  \text{L} \quad \text{HL} \quad \text{HL} \\  \begin{array}{c} \diagdown \\ \text{H} \\ \diagup \end{array} \quad \begin{array}{c} \diagdown \\ \text{H} \\ \diagup \end{array} \quad \begin{array}{c} \diagdown \\ \text{H} \\ \diagup \end{array} \\  \mu \mu \quad \mu \quad \mu \mu \quad \mu \mu  \end{array}  $ <b>[zòògì sáá'kwéré]</b> bird inside the fence

A pitch trace of the final example, **zòògì sáà kwéré** 'bird inside the fence,' is provided on the following page. This pitch trace confirms the operation of non-automatic downstep.

Pitch trace<sup>6</sup> showing non-automatic downstep (see 4.3.2.3)



[ z ò ò g ì s á á 'kw é r ê ]  
 F<sub>0</sub> (Hz):            122.0    118.0    146.8            127.5 124.5–103.0

<sup>6</sup> See note 5 in the previous section.

#### 4.3.2.4 Non-application of downstep

There are two restricted contexts in which downstep does not (or appears not to) apply: in nouns (either simple or compound) with a HLHL melody, and in sections of text for which tone register shift (4.4.1) has counterbalanced the effect of downstep.

The non-application of downstep in nouns (both morphologically simple and complex) with a HLHL melody is shown in the following examples:

<b>wátùtáà</b>	[ $\bar{\quad} \_ \searrow$ ] [wátùtáà]	salt, sugar
<b>ná-kándédè</b>	[ $\bar{\quad} \searrow \bar{\quad} \searrow$ ] [nákándédè]	clitoris
<b>máà-dùùgàrè</b>	[ $\bar{\quad} \_ \bar{\quad} \searrow$ ] [máàdùùgàrè]	stork sp.

This appears to be a result of local raising of H tones before L tones, a phenomenon which has been reported in other languages (for example, see Snider 1990:456, 1998). However, the environment in which local raising takes place in Mambay is more specific than what is described in these accounts.

Apparent suspension of downstep is also one of several ways in which tone register shift may affect words or phrases in a discourse. The function and phonetic consequences of this phenomenon are discussed in 4.4.1, and an example text in which tone register shift has counterbalanced the effect of downstep is also provided.

### 4.3.3 High tone spread (HTS)

HL sequences in the language consistently provoke High tone spread (HTS), a pervasive postlexical process in which H tone spreads rightward onto an adjacent L-toned mora. The application of this process differs based on whether or not the HL sequence is phrase-final (4.3.3.1, 4.3.3.2). The case of HTS non-application with two-mora HLH nouns is given special attention (4.3.3.3).

#### 4.3.3.1 Typical application of HTS

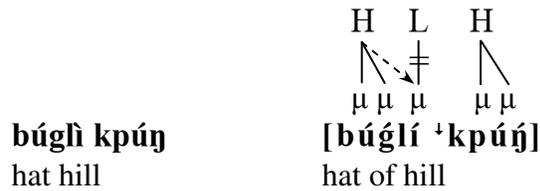
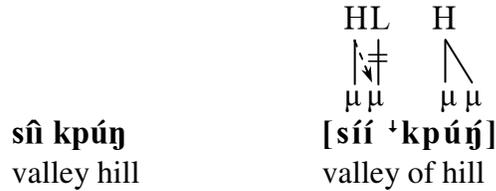
For most HL sequences—both word-internally and across word boundaries—the application of HTS involves a rightward spreading of a H tone onto an adjacent L-toned mora, and a delinking of the L tone from that mora. This is the most common application of HTS and is valid for non phrase-final HL sequences in particular (a variation is described in 4.3.3.1.2).

##### 4.3.3.1.1 Word-internally

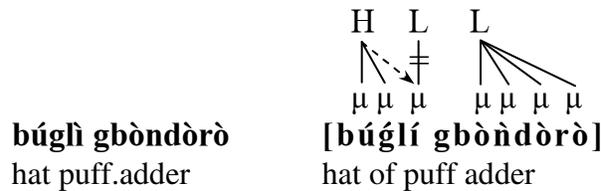
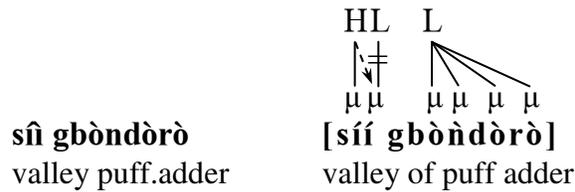
Word-internally, four of the seven tone melodies (4.1.2) contain HL sequences: HL, HLH, LHL and HLHL. Except for the first HL sequence in HLHL words and two-mora words with a HLH melody (4.3.3.3), the HL sequences in all of these melodies undergo HTS.

*HL*

Within HL words in non phrase-final position, HTS invariably applies. When a following word begins in a H tone, the presence of the floating L tone is signalled by downstep on that word.

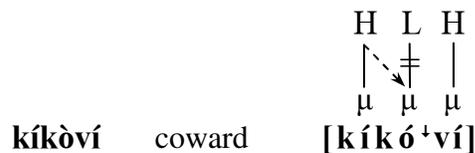


When a HL word is followed by a word beginning with a L tone, the H tone of the first word spreads onto its final mora, and the L tone of the first word detaches and is not realized on that mora.



*HLH*

Within HLH words, HTS also applies to a full extent. Since the HL sequence within a HLH melody is necessarily non phrase-final, HTS applies to HLH words in both phrase-final and non phrase-final position. This is evident in the following example:



Even when it does not surface, the persistent presence of the floating L tone in the first example is signalled by a downstep in the pitch the following subsequent H tones.

In addition to HTS, non phrase-final examples also undergo LTS (4.3.3.3).

	H L H L
	\ /   \ /
	μ μ μ μ

**kíkòví sùù**  
coward yesterday

in: **ḍáá kíkòví sùù** he/she/it found a coward yesterday

*LHL*

The HL sequence in word-internal LHL melodies also undergoes HTS (in addition, LTS must take place; cf. 4.3.3.3).

	L H L H L
	\ /   \ /
	μ μ μ μ μ

**dǒḡnì sùù**  
wealth yesterday

in: **ḍáá dǒḡnì sùù** he/she/it found wealth yesterday

Because the LHL melody is levelled to L in possessive constructions (4.3.1.1), the structural conditions which trigger HTS are removed in that particular context.

*HLHL*

In the single HLHL morpheme in the data, the final HL sequence melody undergoes HTS in the same way as occurs in HL words. However, the first sequence does not.

	H L HL
	\ /
	μ μ μ μ

**wátùtáà** salt, sugar **[wátùtáà]**

Note also that downstep does not apply in this context (as described in 4.3.2.4).

**4.3.3.1.2 Across word boundaries**

HTS applies whenever a HL sequence is found across word boundaries. As is the case for word-internal HL sequences, it typically involves a rightward spreading of a H tone onto an adjacent L-toned mora, and a delinking of the L tone from that mora. This is shown in the following examples:

<b>tí- + gbòndòrò</b>	<b>[tíg<b>ò</b>ndòrò]</b>
AUG puff.adder	large puff adder

<b>kpúj gbòndòrò</b>	<b>[kpúj gb<b>ò</b>ndòrò]</b>
hill puff.adder	hill of puff adder

<b>kpúj bègé</b>	<b>[kpúj bé'<b>g</b>é]</b>
hill slave	hill of slave

However, when the L tone of the second word is associated with an initial first syllable and at least one additional mora, the L is not delinked when H tone spreads onto the mora with which the L is associated. Instead, the H and L cohabit the initial light syllable of the second word; the underlying tonal contour is simplified and realized with a mid pitch.

<b>tí- + gāràm</b>	<b>[tíg<b>ā</b>ràm]</b>
AUG hippo-hide.whip	large hippo-hide whip

<b>kpúj gāràm</b>	<b>[kpúj g<b>ā</b>ràm]</b>
hill hippo-hide.whip	hill of hippo-hide whip

#### 4.3.3.2 Application of HTS phrase-finally

When an underlying HL sequence is found phrase-finally (i.e., on the last two morae), HTS applies. However, its effect is limited by an obligatory realization of utterance-final L tones. Consequently, when the H tone spreads onto the last mora, the L associated with this mora is not deleted, and the final mora is realized with a falling (high-low) contour pitch. This is the case whether the HL sequence is found within a word or across a word boundary.

		$\begin{array}{c} \text{HL} \\ \downarrow \\ \mu \mu \end{array}$
<b>sî</b>	valley	<b>[sî]</b>
		$\begin{array}{c} \text{H L} \\ \swarrow \downarrow \\ \mu \mu \mu \end{array}$
<b>búgì</b>	hat	<b>[búgì]</b>
		$\begin{array}{c} \text{H L} \\ \swarrow \downarrow \\ \mu \mu \mu \end{array}$
<b>kpúj rè</b>	hill TOPIC	<b>[kpúj rê]</b> hill...

### 4.3.3.3 The case of HTS non-application with two-mora HLH nouns

As stated above, there are two examples of a HLH melody on two-mora nouns (4.1.2.2): **nánà** ‘maternal uncle’ and **ʔázi** ‘member of ʔàzgàrà’ (see Glossary). The second H tone of these nouns floats on their right edge. Phrase-finally, it has no realization or other effect; such nouns sound like HL nouns in this context (4.1.2.6).

HL (phrase-final):	<b>nínù</b>	<b>[nínù]</b>	eye, face, life
HLH (phrase-final):	<b>nánà</b>	<b>[nánà]</b>	maternal uncle

However, when two-mora HLH nouns are found as linked forms (5.2.2) in the head position of possessive constructions (5.3), they behave differently than HL nouns: HTS is prevented from applying to the first H of two-mora HLH nouns because of the presence of the floating H on the right edge, which itself prevents the L tone from being delinked (for a description of segmental alternations that accompany the linked form, see 5.2.2.2).

	$\begin{array}{c} \text{HLH L H} \\ \downarrow \downarrow \downarrow \downarrow \\ \mu \mu \mu \mu \end{array}$
<b>nán</b> + <b>dùgú</b>	<b>[nán dùgú]</b>
maternal.uncle:LF 3PL.POSS	their maternal uncle

cf. HL nouns, where HTS applies in the same context:

	$\begin{array}{c} \text{HL L H} \\ \downarrow \downarrow \downarrow \\ \mu \mu \mu \mu \end{array}$
<b>nín</b> + <b>dùgú</b>	<b>[nín dùgú]</b>
eye:LF 3PL.POSS	their eye

It is interesting that the presence of the floating H tone in **n̄n̄́ òdùgù́** is allowed to persist on the surface (in the form of perturbation in the realization of other tones), since other LH contours in linked nouns are consistently simplified to L (4.3.1.1):

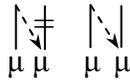
**kíkòvì + gbòndòrò → kíkòvì gbòndòrò (\*kíkòvì gbòndòrò)**  
 coward puff.adder coward:LF puff.adder

This brings into question the very existence of a floating H tone in **n̄n̄́** and **ʔází**, since a process which affects some H tones could affect them all in the same way (i.e., non-realization). Still, it is a reasonable conjecture that a floating H might behave differently than one which is associated (cf. Yip 1989:151). Since no other workable account has been ascertained, the idea of a floating H tone on the right edge of **n̄n̄́** and **ʔází** has been maintained throughout the discussion.

### 4.3.4 Low tone spread (LTS)

Low tone spread (LTS), a second pervasive postlexical process, involves the rightward spread of L tone onto an adjacent H-toned mora. In this way, it shows a strong resemblance to HTS (4.3.3). However, there is an imbalance between the two processes: LTS differs in that its application is limited to non phrase-final words. (Since H tone deletion applies to LH sequences in linked nouns in possessive constructions (4.3.1) and thus eliminates the environment in which LTS would otherwise apply, this construction is not used in the examples).

Examples of LTS are as follows:

	LH HL	
		
<b>fùù sùù</b>	<b>[fùù sùù]</b>	
trench yesterday		
in: <b>ḍáá fùù sùù</b>	he/she/it found a trench yesterday	

	LH L H	
		
<b>fùù fààlé</b>	<b>[fùù fá à lé]</b>	
trench back:3SG.C/I.POSS.INAL		
in: <b>ḍáá fùù fààlé</b>	he/she/it found a trench behind it	

L H HL  
  
 μ μ μ μ μ  
**dàrmì sùù**  
 [dà̀r̃mì sù̀ù]

clay yesterday

in: **ḍáá dàrmì sùù** he/she/it found clay yesterday

L H L H  
  
 μ μ μ μ μ μ  
**dàrmì fààlé**  
 [dà̀r̃mì fá à lé]

clay back:3SG.C/I.POSS.INAL

in: **ḍáá dàrmì fààlé** he/she/it found clay behind it

H L H HL  
  
 μ μ μ μ μ  
**kíkòvì sùù**  
 [kík óvì sù̀ù]

coward yesterday

in: **ḍáá kíkòvì sùù** he/she/it found a coward yesterday

H L H L H  
  
 μ μ μ μ μ μ  
**kíkòvì fààlé**  
 [kík óvì fá à lé]

coward back:3C/I.SG.POSS.INAL

in: **ḍáá kíkòvì fààlé** he/she/it found a coward behind it

L H L HL  
  
 μ μ μ μ μ  
**dǒḡnì sùù**  
 [dò̀ḡnì́ sù̀ù]

wealth yesterday

in: **ḍáá dǒḡnì sùù** he/she/it found wealth yesterday

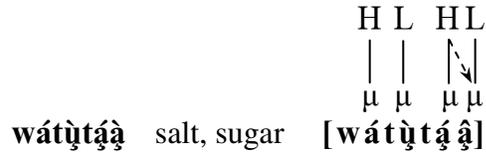
	L H L L H
	$\begin{array}{c} \downarrow \downarrow \downarrow \downarrow \downarrow \\ \mu \mu \mu \mu \mu \end{array}$
<b>dǒŋ̀n̩ fààlé</b>	<b>[dòŋ̀n̩í fà à lé]</b>
wealth back:3C/I.SG.POSS.INAL	

in: **dáá dǒŋ̀n̩ fààlé** he/she/it found wealth behind it

LTS does not apply to word-internal LH sequences in two cases: when the word that hosts the melody is phrase-final, and within HLHL morphemes. This is because in these contexts, there is no available mora onto which the L of the LH sequence can spread: the H tone, having no place onto which it can fully spread, is unable to delink and thereby free up its own mora for the L; and a LH sequence on a single mora is not permitted here (nor is it attested anywhere else in the language). The following examples show that LTS does not apply in phrase-final words (cf. the preceding set of non phrase-final examples):

<b>fùú</b>	trench	$\begin{array}{c} L H \\     \\ \mu \mu \\ \text{[fùú]} \end{array}$
<b>bègé</b>	slave	$\begin{array}{c} L H \\     \\ \mu \mu \\ \text{[bègé]} \end{array}$
<b>dàrmí</b>	clay	$\begin{array}{c} L H \\ \diagdown   \\ \mu \mu \mu \\ \text{[dàrmí]} \end{array}$
<b>kíkòvì</b>	coward	$\begin{array}{c} H L H \\   \downarrow \downarrow   \\ \mu \mu \mu \\ \text{[kíkó'vì]} \end{array}$
<b>dǒŋ̀n̩</b>	wealth	$\begin{array}{c} L H L \\   \downarrow \downarrow   \\ \mu \mu \mu \\ \text{[dòŋ̀n̩]} \end{array}$

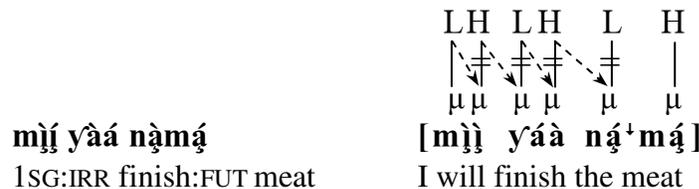
The absence of LTS is also evident for the LH sequence within the single HLHL morpheme in the data:



Note also that downstep does not apply in this context (as demonstrated in 4.3.2.4).

### 4.3.5 Adjacent operation of postlexical processes

Both HTS (4.3.3) and LTS (4.3.3.3) spread one mora, and to the right. Consequently, they never interfere with one another. However, they often operate in adjacent positions. Because of this, and because of the application of downstep (4.3.2), the underlying tonal structure of an utterance may be quite different than the surface realization initially seems to indicate. In addition to the examples in the previous section, the following example from the data illustrates this situation:



## 4.4 Intonational phenomena

Although most pitch-related configurations in Mambay can be explained by reference to the tone system, there are two frequently-occurring phenomena which appear to be intonational rather than tonal: tone register shift (TRS) (4.4.1) and the expectation marker (4.4.2). Both use intonation to signal pragmatic functions and thus interact closely with the tone system: while TRS controls the pitch register upon which tone is realized, expectation marking applies in reference to this register as well as to the tones related to it (for a detailed definition of intonation and a discussion of the interaction between tone and intonation, see Ladd 1996:7–8).

Declination, an intonational phenomenon whereby the tone register goes down gradually over the course of an utterance (Yip 2002:12, Snider 1990:453–4), has not been observed in Mambay. Instead, the effect of physiological constraints usually resulting in declination is overshadowed by downstep, which allows tonal register to drop according to phonologically determined intervals (cf. Yip 2002:12).

### 4.4.1 Tone register shift (TRS)

Tone register shift (TRS) is pervasive in discourse, and involves the raising and lowering of the register at which tones are realized. The pragmatic prominence of a given portion of text determines the degree to which its tone register is raised.

In keeping with features typical of a tonal system, TRS involves the vertical shifting of a pitch register at specific junctures rather than the gradual rise or fall of pitch over the course of an utterance.

However, one key feature of TRS suggests that its behaviour is more closely aligned with an intonational system than a tonal system: it arises as a result of stimuli in the pragmatic realm rather than structures in the phonological context. Two factors are related to this. First of all, TRS acts across syntactically unified portions of an utterance rather than individual morae. Secondly, the tone register may shift either up or down, and the degree to which a register shifts is not limited to incremental values, but is relative to the degree of pragmatic pressure in a given discourse.

In this study, the symbols [ $\nearrow$ ] and [ $\searrow$ ] are used to indicate the direction of register shift (up or down); the number of times each one is used provides a relative indication of the vertical magnitude of the shift.

TRS applies in the following examples from the data:

	<b>ʔà</b>	<b>kòg</b>	$\nearrow$	<b>mí</b>	he/she/it sees <i>me</i>						
	3:IMPFV	see:VN	TRS	1SG.OBJ							
cf.	<b>ʔà</b>	<b>kòg</b>		<b>mí</b>	he/she/it sees <i>me</i>						
	3:IMPFV	see:VN		1SG.OBJ							
	<b>ʔà</b>	<b>ká</b>	$\nearrow$	<b>pàrà</b>	it is <i>good</i>						
	3:IMPFV	ATTRIB	TRS	goodness							
cf.	<b>ʔà</b>	<b>ká</b>		<b>pàrà</b>	it is <i>good</i>						
	3:IMPFV	ATTRIB		goodness							
	<b>gyâh mûn</b>	$\nearrow \nearrow$	<b>lùgù</b>	" ,	$\searrow$	<b>tǒg</b>	$\nearrow \nearrow$	<b>héérà</b>	<b>tǒg</b>	<b>héérà</b>	
	sun	then	TRS	go.out:VN	EXPECT	TRS	be	TRS	climb:VN	be	climb:VN
	$\nearrow$	<b>tǒg</b>	<b>sóórà</b>	$\nearrow$	<b>tǒg</b>	<b>sóórà</b>	$\nearrow \nearrow$	<b>tǒg</b>	<b>sóórà</b>		
	TRS	be	get.hot:VN	TRS	be	get.hot:VN	TRS	be	get.hot:VN		

*then the sun comes out, it is rising, it is rising, it is getting hot, it is getting hot, it is getting hot!*

In the final example, TRS marked with a single rising arrow ( $\nearrow$ ) is realized as a neutralization of downstep (4.3.2) on the following text. Where two rising arrows are shown, the register is raised phonetically (a recording of this text is available from the online posting of Anonby 2006:231).

The present description provides only a general overview of TRS, and a number of aspects of the phenomenon deserve further investigation. These include: TRS and pitch range variation; relationship between syntactic constituents and the application of TRS;

differences in the extent to which TRS is used in various oral genres; and differences in the extent to which TRS is employed by various speakers of the language.

## 4.4.2 The expectation marker “

The expectation marker (here symbolized as “) is a non-segmental morpheme which raises the pitch of a phrase-final mora. Although its phonological identity may initially seem unclear, evidence suggests that like TRS (4.4.1), it is intonational rather than tonal (4.4.2.2). It has three important roles in the cohesion of text, all of which broadly relate to expectancy in a discourse: topicalization, the signalling of an incomplete utterance, and rhetorical question marking (4.4.2.3).

### 4.4.2.1 Phonetic realizations

The expectation marker has the consistent effect of raising the register of a phrase-final mora. When it links to a L-toned mora, this mora is realized with a high pitch equivalent to that of an (actual or hypothetical) preceding H-toned mora; and when it links to a H-toned mora, the mora is realized with a super-high pitch several intervals (4.1.1) above the baseline realization of the H-toned mora.

<b>kúù</b> bushland	“ EXPECT	→	<b>[kúú]</b> bushland, ...	(cf. 4.4.2.3)
<b>nàmzá</b> animal:PL	“ EXPECT	→	<b>[nàm̩ ↗ zá]</b> animal, ...	(cf. 4.4.2.3)

### 4.4.2.2 Phonological identity

Phonologically, the expectation marker displays behaviour characteristic of both tone and intonation. Its confinement to a single mora as well as its phonetically consistent effect on pitch (4.4.2.1) are occurrences one might expect of a tonal element.

However, there is evidence that the expectation marker is essentially intonational. As the examples in the preceding section show, the expectation marker may attach to and be realized in words for which each TBU is already associated with a tone.

Because it does not require its own mora to be realized, it is necessary to address the possibility that the expectation marker might be a replacive tone. However, the mora to which it links continues to reflect the relative pitch of the underlying tone (the pitch of raised L is still a consistent interval lower than raised H; see the examples immediately above and 4.3.2.1). In this respect, the expectation marker functions intonationally rather than tonally.

### 4.4.2.3 Pragmatic functions

The expectation marker has three important roles in the cohesion of text, all of which broadly relate to expectancy in a discourse: topicalization (cf. 10.1.2.4), floor-holding (cf. 10.1.2.4), and rhetorical question marking (cf. 10.1.2.1). An example of each role is as follows:

topicalization:

**nà mzá**    “            **gàh**    **ʔéré**            **má**    **nà pùgpùgá**  
animal:PL EXPECT midst 3PL.POSS with humankind

*the animals, their dwelling was with humankind*

floor-holding (cf. Payne 1997:358):

**nà hzí**            **kááré**                            **vòró**    **kùù**            “,  
take.out:PFV head:3PL.POSS.INAL to.there bushland EXPECT

**mùn**    **tìzì**            **nà mzí**            **kùù**  
then become:PFV animal:PL:LF bushland

*they departed for the bush [...], and became wild animals*

marking of rhetorical questions:

**mù**    **húm**    **nà kógrà**    “  
2SG come look(n.) EXPECT

*you came to look, didn't you?*

Interestingly, the first two of these three roles overlap with those of the topicalization particle **rè** (10.1.2.4), and the two morphemes may be used together, as shown by the following example:

**mì**    **rè**            “,            **mì**    **yáá**            **kâ'**            as for *me*, I stayed here  
1SG TOPIC EXPECT 1SG stay:PFV here

## 5 NOUNS

This chapter is a description of nouns in Mambay. The first major section (5.1) outlines the morphological structure of nouns. In particular, noun roots are presented in reference to attested root shapes and allowable tone melodies. Prefixation is then analyzed as a morphologically salient process involving a mixture of compounding and derivation. Suffixation, in contrast, is referred to as a primarily derivational process which, although it has significantly impacted noun structure, is synchronically unproductive and morphologically indistinct. Reduplication, a minor phenomenon in regard to nouns, is mentioned briefly.

A second major section (5.2) deals with a basic morphological distinction between free (unmarked) and linked noun forms. Linked forms, which are subject to various morphological templates depending on the structure of their free form, are used for head nouns in most noun phrase constructions. Following this, a section on possessive constructions (5.3) complements the discussion, since both free and linked forms are used in this context. The description of possessive constructions, which are the most important type of noun phrase construction in the language, revolves around three axes. First of all, a continuum between spontaneous and fixed possession is established. The issue of optional vs. obligatory possession is then considered. The greatest part of the discussion, however, deals with the distributional and structural characteristics of alienable vs. inalienable possession. A section on compound nouns (5.4) follows naturally on that of possessive constructions, since most compound nouns are structured in the same way. Formal and behavioural particularities of compound nouns are also accounted for.

Plural formation, which comprises an additional topic (5.5), is achieved by means of a loosely defined morphological template. In this section, the scope of pluralization is delimited, and a range of possible structural alternations is recognized. Collective constructions, which constitute an alternative plural-like strategy for some nouns, are also considered (5.6).

In subsequent sections, four derivational topics are considered: participant noun constructions (5.7), diminutives and augmentatives (5.8), verbal nouns (5.9) and the promotion of modifiers to independent noun status (5.10). A mixture of derivational strategies, including but not limited to affixation, is common to all four phenomena. For verbal nouns in particular, complications in determining the direction of derivation are

acknowledged. Ordinal numerals, which constitute a closed category of nouns derived from numerals, are dealt with in the presentation on numerals (9.1.3).

In later sections, ideophonic nouns (5.11) and proper names (5.12) are given special attention, and the locative function of nouns is delineated in 5.13. In the final section, an overview of noun phrase constructions is provided (5.14).

## **5.1 Morphological structure**

The relatively large syllable shape inventory of Mambay (2.4.1) allows for an array of noun root shapes (5.1.1.1) accompanied by a variety of tone melodies (5.1.1.2). These roots vary from between one and four syllables.

Affixation plays a basic role in Mambay noun structure. Nouns may take prefixes (5.1.2) as well as suffixes (5.1.3). Noun prefixes in Mambay do not appear to be related to the systems of noun classification prevalent elsewhere in Niger-Congo (5.1.2, Anonby 2008:3; contra Greenberg 1963:9, 11). Mambay noun prefixes, which are associated with derivation (for example, noun-to-noun and verb-to-noun), do not operate in conjunction with any system of noun class concord or singular/plural alternation. Although most or all of the prefixes are reflexes of simplified linked nouns (see 5.3.3.3.1), the compound-like nature of many of the prefixes is no longer semantically transparent. In addition, the process of prefixation itself is no longer productive for many of the prefixes, which are obligatorily found with specific nouns in the lexicon.

Apart from pronouns in inalienable possessive constructions (5.1.3.1), productive noun suffixation is lacking in Mambay. Although some suffixes carry a definable semantic value, most are phonologically fused to the roots they accompany. Evidence for historical suffixation is reviewed in 5.1.3.2.

In addition to affixation, the noun system exhibits reduplication of noun roots. The forms and possible functions of this process are discussed in 5.1.4.

Compound nouns and verbal nouns, which are well-represented in the lexicon, are described in later sections (5.4 and 5.9 respectively).

### **5.1.1 Noun root structure**

Noun roots show considerable diversity in their structure. There is a wide variety of attested root shapes (5.1.1.1), and noun roots are found with all of the seven contrastive tone melodies found in the language (5.1.1.2).

#### **5.1.1.1 Attested root shapes**

The large inventory of noun root shapes in Mambay is in keeping with the large syllable inventory (2.4.1) and the allowing of noun roots with more than one syllable. In total, 30 distinct noun root shapes are attested in words of Mambay origin, and an additional 14 shapes are found in borrowed words.

While the minimal noun root consists of a single heavy syllable, roots with more than one syllable are numerous. In fact, disyllabic noun roots are by far the most common type in the lexicon. On the contrary, trisyllabic roots are uncommon, and the distinction between a noun root and an opaque compound noun is often difficult to make in such cases (see 5.4.3). Noun roots with four syllables are limited to borrowed words.

Below is an inventory of all the attested CV shapes of non-borrowed, simple noun roots in the data (i.e., those that are not verbal nouns or compounds), of which there are a total of 707. The number of occurrences of each root shape is given, and each shape is illustrated with an example. Examples with no or little phonological ambiguity (cf. 2.1.4, 2.2.4, 2.3.3) are given when possible. This inventory is followed by a list of root shapes found only in borrowed words, along with an example of each shape.

As explained in 5.1.2.2, obligatory noun prefixes (e.g. **nǎ-**, **ti-**, etc.) are not included as part of the noun root shape. The length of pharyngealized vowels (**Vh**) in the examples below follows the convention established in 2.3.3.2.7.

<b>root shape</b>	<b># of occurrences</b>	<b>example</b>	
monosyllabic roots: 5 shapes			
CVV	(66)	<b>báà</b>	cane rat
CVC	(31)	<b>zûm</b>	seam, hem, divide
CCVV	(66)	<b>kwàá</b>	neck, voice
CCVC	(2)	<b>swâhy</b>	elder, old man
CVVC	(1)	<b>rùùgè</b>	cylindrical shape
disyllabic roots: 13 shapes			
CV.CV	(120)	<b>sírò</b>	grave
CV.CVV	(1)	<b>bǎhǎà</b>	ibis sp.
CV.CVC	(16)	<b>kùrùm</b>	ground hornbill
CCV.CV	(1)	<b>kwéré</b>	fence
CCV.CVC	(1)	<b>nǎ-dwárǎŋ</b>	sore, pimple
CVV.CV	(209)	<b>kéélà</b>	arrow shaft
CVV.CVC	(6)	<b>zùùrùm</b>	fish sp.
CVC.CV	(119)	<b>pìrlá</b>	torch, flashlight
CVC.CVC	(9)	<b>mǎŋsîŋ</b>	amoebic dysentery
CCVV.CV	(19)	<b>fwǎǎnǎ</b>	snail, shell
CCVC.CV	(5)	<b>gyáglè</b>	flute
CVVC.CV	(1)	<b>nǎ-táállá</b>	ant sp.
CVVC.CVV	(1)	<b>tí-tòontî</b>	lark (bird sp.)
trisyllabic roots: 12 shapes			
CV.CV.CV	(7)	<b>kíkòví</b>	coward
CV.CV.CVV	(1)	<b>wátùtǎà</b>	salt, sugar

CV.CVV.CV	(3)	<b>pìpùùrí</b>	horn (instrument)
CV.CVV.CVC	(1)	<b>nà-bíbáhrâm</b>	bedbug
CV.CVC.CVV	(1)	<b>nà-kúrumbáà</b>	fish sp.
CV.CVC.CV	(4)	<b>lágàngá</b>	water turtle sp.
CCV.CV.CV	(1)	<b>kwèzágà</b>	red millet
CVV.CV.CV	(5)	<b>wààgùnà</b>	large basket
CVV.CV.CVC	(1)	<b>bààbùrùm</b>	main room
CCVV.CV.CV	(1)	<b>vwàhgílè</b>	intrusion
CVC.CV.CV	(5)	<b>nà-dígzilè</b>	algae
CVC.CV.CVC	(1)	<b>tí-kóṅkórôṅ</b>	red ant sp.
CVC.CVC.CV	(2)	<b>sìnzàhwlà</b>	porcupine

root shapes found only in borrowed words: 14 shapes

CVVCC	<b>táábì</b>	table (French borr.)
CV.CCVC <sup>7</sup>	<b>mìsyôṅ</b>	mission (French borr.)
CVV.CVV	<b>wàhsòò</b>	gift (Fulf. borr.)
CVC.CVV	<b>làmpòò</b>	tax (French borr.)
CV.CV.CVV	<b>?ávókáà</b>	avocado (French borr.)
CV.CV.CVC	<b>?ánánâz</b>	pineapple (French borr.)
CV.CVC.CCV	<b>sólóṅzyì</b>	green monkey (Fulf. borr.)
CV.CCVV.CV	<b>mùswáári</b>	sorghum (Fulf. borr. via Mundang)
CVV.CVV.CV	<b>géélóóbà</b>	camel (Fulf. borr.)
CVV.CVC.CV	<b>fúúnàngè</b>	north (Fulf. borr.)
CVC.CVC.CCV	<b>tándáwzyè</b>	taro (coarse variety) (Fulf. borr.)
CVC.CCVV.CV	<b>mùzkwáàrè</b>	sorghum (Fulf. borr.)
CV.CV.CVV.CV	<b>málapáárè</b>	hat sp. (Fulf. borr.)
CV.CVC.CV.CV	<b>?àlàṅgétà</b>	flute (Fulf. borr.)

As is evident from the numbers given in the table above, the most common noun shapes are a single heavy syllable, two light syllables, and a heavy syllable followed by a light one. These shapes may be considered canonical, and are compatible with the linked noun (5.3.3.3.1) and plural templates (5.5); other, less-attested shapes tend to exhibit packages of non-canonical features and resist morphological templates (see, for example 5.2.2.3 and 5.5.1.1).

### 5.1.1.2 Allowable tone melodies

All seven tone melodies (H, L, HL, LH, HLH, LHL, HLHL; see 4.1.2) are found with noun roots. Contrast between these melodies is demonstrated in 4.1.2.5. Selected examples of each of the tone melodies associated with noun roots of various shapes are

<sup>7</sup> This interpretation has been chosen for this item because semivowels are never found in the second position of a morpheme-internal consonant sequence in the Mambay data (2.1.2.6). Whenever Cy occurs word-internally, it is the onset of a morpheme-initial syllable within a morphologically complex word (5.1.2.2).

reviewed here. The number of simple noun roots with which each tone melody occurs is also given.

H (22 occurrences):

<b>kpúŋ</b>	hill
<b>ná-dídá'</b>	summit
<b>kókól</b>	small drum
<b>núúrú</b>	breast
<b>máŋdírí</b>	tree sp.

L (38 occurrences):

<b>yèb</b>	peace, wholeness
<b>màlà</b>	art, craft
<b>gàràṃ</b>	hippo-hide whip
<b>dèglèṃ</b>	insect sp.
<b>wààgùṃ</b>	large basket

HL (321 occurrences):

<b>sî</b>	valley, river
<b>bádà</b>	tamarind
<b>tíílò</b>	eagle sp.
<b>búglì</b>	hat
<b>síígíró</b>	stork sp.

LH (241 occurrences):

<b>fùú</b>	trench
<b>gùrá</b>	fish trap
<b>vbààlá</b>	testicle
<b>tùlgúm</b>	fish sp.
<b>pìpùùrí</b>	horn (instrument)

HLH (61 occurrences):

<b>háàvá</b>	snake sp.
<b>tîrím</b>	fish sp.
<b>bêrgá</b>	sweetness
<b>kíkòví</b>	coward
<b>híjvílá</b>	slimy mud

LHL (23 occurrences):

<b>bàhàà</b>	ibis sp.
<b>bàvbâw</b>	fish sp.
<b>lèégè</b>	nightjar
<b>dǒŋŋì</b>	wealth
<b>vwàhgílé</b>	intrusion

HLHL (1 occurrence):

<b>wátùtáà</b>	salt, sugar
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As is evident from the numbers of occurrences in the list above, the tone melodies HL and LH are far more commonly found on noun roots than other melodies. In contrast, other melodies are uncommon, and the roots with which they are found tend to be non-canonical (1.3.1).

### 5.1.2 Prefixation

The Mambay language, like its close relatives Mundang and Tupuri (Elders 2000:125–47, Ruelland 1992:144–6), is characterized by recurrent noun prefixes. In Mambay, there is a series of twelve derivational prefixes:

<b>dà-</b>	<b>kì-</b>	<b>si-</b>
<b>fà-</b>	<b>mà-</b>	<b>ta-</b>
<b>fí-</b>	<b>nà-</b>	<b>ti-</b>
<b>ka-</b>	<b>pa-</b>	<b>?ì-</b>

While some of the prefixes are used synchronically as a productive means of derivation, others are an obligatory component of specific nouns (over 200 of 707 simple roots, as well as many compound and verbal nouns; see also 5.1.2.1 and 5.9.2.1). It is likely that all of the prefixes originated as typical possessed (head) nouns but have been reduced to a CV shape through frequent usage. Proposed etymologies, which are defended in the discussions on each prefix (5.1.2.4), are as follows:

<b>dà-</b>	from	<b>dàá</b>	papa
<b>fà-</b>	from	<b>fààlá</b>	back, skin, place
<b>fí-</b>	from	<b>fíílò</b>	house
<b>ka-</b>	from	<b>káálà</b>	head, reason
<b>kì-</b>	from	<b>kyă'</b>	place, time, atmosphere
<b>mạ-</b>	from	<b>mạ́ạ̀nị</b>	mother (al.)
<b>nạ-</b>	from	<b>nạ́mạ</b>	animal, meat
<b>pá-</b>	from	<b>páà</b>	man, father
<b>si-</b>	from (?)	<b>sî</b>	valley, river; or
	from (?)	<b>sị̀rạ</b>	year
<b>ti-</b>	from	<b>tîrạ / túù</b>	mother (al.), matron / mother (inal.)
<b>?ì-</b>	from (?)	<b>?ígà</b>	thing

The prefix **ta-** has not been identified with a possible source noun in Mambay.

Some of the prefixes are semantically transparent, but the synchronic semantic contribution of others is in many cases variable. The prefixes **fí-**, **kì-**, **tí-** (when used as a female participant prefix or in an augmentative capacity; see 5.7.2 and 5.8.2) and **?ì-** are completely productive and, unsurprisingly, their semantic contribution is consistent; in contrast, the other prefixes, all of which are confined to use as part of specific lexical items, supply an unpredictable and at times negligible semantic value. These prefixes do not operate in conjunction with any system of noun class concord or singular/plural alternation (Anonby 2008).

In the subsections that follow, the structure and distribution of noun prefixes are described (5.1.2.1), and reasons for positing the morphological distinctness of these prefixes are provided (5.1.2.2). After a demonstration of their derivational nature (5.1.2.3), each of the prefixes is presented along with examples which illustrate its distribution and clarify its semantic contribution (5.1.2.4).

### 5.1.2.1 Structure and distribution

Each prefix is comprised of a single light (CV) syllable. This contrasts with noun roots, which are minimally comprised of a heavy syllable (5.1.1.1).

Prefixes bear a simple H or L tone. The tone found on a given prefix is not synchronically correlated with the tone melody of the accompanying noun root; both H and L prefixes are attached to nouns representing H-initial and L-initial tone melodies.

<b>ká-síblè</b>	termite sp.
<b>ká-kààlá</b>	cocoon
<b>kà-ḃá'rè</b>	fish sp.
<b>kà-kàhlé</b>	throw-knife

In addition to showing the tonal independence of prefixes, such examples illustrate the dual tonal identity of some of the prefixes. In particular, **tí-/tì-**, **ná-/nà-** and **ká-/kà-** are sometimes found in the lexicon with H tone, and sometimes with L tone; however, the tone of a prefix which is an obligatory component of a given prefixed lexical item is invariable with that item. With the exception of the three synchronically productive derivational prefixes (5.1.2.4.3, 5.1.2.4.5, 5.1.2.4.11), there is no consistent semantic or tonal explanation for the appearance of some prefixes with either H tone or L tone.

Nasality does not spread across the prefix-noun boundary.

<b>nà-rúvò</b>	phlegm, moist object
<b>ná-yágrá</b>	ululation
<b>tí-náǎnì</b>	dragonfly
<b>tí-kà-ràhgú</b>	large heron sp.

It is possible for a sequence of two prefixes to be part of a single lexical item. The combinations **ná-sí-**, **pá-tá-**, **tí-ka-** and **tí-nà-** are attested, as shown by the following examples:

<b>ná-sí-swǎh</b>	leech
<b>pá-tá-kpáhbrù</b>	cuckoo
<b>tí-ká-ḃǔ'</b>	aquatic plant sp.
<b>tí-kà-ràhgú</b>	large heron sp.
<b>tì-kà-zú'</b>	fish sp.
<b>tí-nà-bùùzà</b>	Orion's belt
<b>tí-nà-dáázá</b>	spider
<b>tì-nà-mùùrǎ</b>	jinn, totem, vision

Prefixes may attach to simple noun roots (as shown in the examples above) or morphologically complex stems. Examples of prefixes used with compound nouns (5.4) and reduplicated nouns (5.1.4) are as follows:

compound nouns:

<b>tí-nàm-kùù-dù'gá</b>	giraffe
PFX-animal:LF-neck:LF-length	
<b>tì-kùm-tí-sùú</b>	sorcery sp.
PFX-protect:VN:LF-PFX-fabric	

reduplicated nouns:

<b>tí-dúú-dùù</b>	owl sp.
<b>tì-gbùl-gbùl</b>	large air bubble in water

### 5.1.2.2 Morphological distinctness of prefixes

For productive as well as lexically determined prefixes, there are a number of indicators of the morphological distinctness of prefixes from the nouns with which they are associated.

To begin with, prefixes are found recurrently in the lexicon. The prefix **nǎ-**, for example, is an obligatory component of 171 non-compound noun roots in the data (5.1.2.4.7).

Prefixes are all comprised of a single light CV syllable; noun roots, on the other hand, are minimally comprised of a heavy syllable (5.1.1). In this regard, prefixation is morphosyntactically distinct from noun + noun compounding in Mambay, which links two morphologically satisfactory nouns (5.4.2).

Further, the inventory of CV shapes attested among non-prefixed noun roots is equivalent to the inventory of CV shapes found on the root portion of obligatorily prefixed nouns. If prefixes were to be included as part of noun roots, it would compromise the regularity of the inventory of CV shapes: most of the existing root shapes would have to be duplicated in the inventory with an initial CV syllable; and the only four-syllable nouns of Mambay origin would be those with a prefix.

Segmental distribution also strengthens the idea that prefixes are not part of the noun root: C-semivowel consonant clusters (2.1.2.5) and specific consonants (**d**, **kp**, **gb** and **ʔ**; cf. 2.1.2), which are elsewhere found only in morpheme-initial position, are found after prefixes.

<b>nǎ-syàá</b>	fire, gun
<b>tí-gwáá-vààrí</b>	ancestral spirit sp.
<b>pá-dálà</b>	oribi (antelope sp.)
<b>tí-kpéhwè</b>	goose sp.
<b>nǎ-gbáhrà</b>	peace
<b>nǎ-ʔáà</b>	bean leaves

Moreover, prefixes do not form part of the lexical tone word; the tone of the prefix is associated independently from the highly constrained tone melody sequence on the accompanying root. If the prefix were part of the tonal word, it would associate in the same way as equivalent CV structures where there is no prefix (4.1.2.2).

<b>tì-kúrgú</b>	dwelling, main room (hypothetical single tonal word: * <b>tìkùrgú</b> )
<b>nǎ-dígzilè</b>	algae (hypothetical single tonal word: * <b>nǎdígzilè</b> )

The fact that nasality does not spread across the prefix-noun boundary (3.4.3.7) is an additional phonological argument for the morphological distinctness of prefixes and the nouns with which they are associated.

<b>nà-rúvò</b>	phlegm, moist object
<b>tí-náánì</b>	dragonfly

Since, elsewhere in the language, nasality regularly associates throughout morphemes unless blocked by obstruents or mid vowels (3.4.2), it is evident that prefixes—even those which are lexically determined—have not been phonologically incorporated into noun roots.

Finally, perhaps the strongest argument for morphological distinctness is the alternation of prefixes in noun-to-noun and verb-to-noun derivation. This is explored in the following section.

### 5.1.2.3 Derivation with prefixes

Prefixation is a mechanism by which nouns are derived from nouns (5.1.2.3.1), verbs (5.1.2.3.2) and other parts of speech (5.1.2.3.3). In noun-to-noun derivation, some prefixes are synchronically productive (see 5.1.2.1). In other cases, however, prefixes are obligatory components of specific nouns; in such instances, prefixation must be treated as a historical inheritance rather than a synchronic process.

#### 5.1.2.3.1 Noun-to-noun derivation

Prefixes are used to derive nouns from other nouns. In the case of the prefixes **fí-**, **kì-** and **tí-** (when used as an augmentative; see 5.8.2), this derivational mechanism is synchronically productive (see examples of each prefix in 5.1.2.4).

<b>fí-gòorá</b>	kitchen (i.e. room of preparation)	cf. <b>gòorá</b>	preparation
<b>fí-súngà</b>	bedroom (i.e. room of lying down)	cf. <b>súngà</b>	lying down

In other cases, a prefix's distribution is lexically determined; however, the historical role of derivation is often discernible. The following list presents obligatorily prefixed nouns where a semantically related source noun is independently attested in the language.

<b>dà-zwâ'</b>	grandfather	cf. <b>zwâ'</b>	ancestry
<b>fà-dágà</b>	crumbs after a meal	cf. <b>dágà</b>	mouth, edge
<b>fà-syâh</b>	handprint, writings	cf. <b>syâh</b>	hand
<b>nà-?áà</b>	bean leaves	cf. <b>?áà</b>	bean
<b>nà-fâh</b>	doorway	cf. <b>fâh</b>	path
<b>nà-kwàá</b>	necklace	cf. <b>kwàá</b>	neck, voice
<b>nà-pùgá</b>	person	cf. <b>pùgá</b>	blackness, darkness
<b>sí-kètí</b>	God	cf. <b>kètí</b>	sky, above
<b>tí-sígò</b>	fetish against thievery	cf. <b>sígò</b>	crocodile
<b>tí-níínà</b>	molar	cf. <b>níínà</b>	lower millstone, mill

**tí-vúù** antelope sp.; ibis sp. cf. **vúù** sheep, goat

As the above examples show, there are many cases where a semantic relationship between a derived noun and its source is apparent. In a few instances, there is little or no semantic difference between the two:

<b>nà-núúrú</b>	breast	cf. <b>núúrú</b>	breast, human milk
<b>nà-nìnnú</b>	bum	cf. <b>nìnnú</b>	bottom, meaning
<b>tí-zà'rá</b>	dance sp.	cf. <b>zà'rá</b>	dance
<b>tì-nà-mùùrú = nà-mùùrú</b>			jinn, totem, vision
<b>tí-síblè ~ ká-síblè ~ tí-ká-síblè = síblè</b>			termite sp.

In numerous cases, however, the semantic relationship between a derived noun and its apparent source is unclear.

<b>nà-vbyâ'</b>	treachery	cf. <b>vbyâ'</b>	marsh
<b>ká-kààlá</b>	cocoon	cf. <b>kààlá</b>	axe
<b>tì-nà-mùùrú</b>	jinn, totem, vision	cf. <b>mùùrú</b>	silt
<b>tí-nà-dágà</b>	Pleiades	cf. <b>dágà</b>	mouth, edge

In a number of cases, a sort of historical noun-to-noun derivation has applied in which borrowed nouns are reinterpreted as having noun prefixes. There appear to be two reasons for this. First, the interpretation of existing word-initial syllables helps borrowed nouns to conform to common root shapes (cf. 5.1.1.1).

<b>má-swàrì</b>	sorghum (Chad dialect)	(cf. Fulf. <i>muskuwaari</i> )
<b>tí-búúnúyè</b>	date (fruit)	(cf. Fulf. <i>dibinooje</i> (pl.))
<b>tí-kúúzè</b>	papaya	(cf. Fulf. <i>dukuuje</i> (pl.))
<b>tì-páà</b>	tobacco	(cf. Fr. <i>tabac</i> )
<b>tí-ríírì</b>	onion	(cf. Fulf. <i>tinyeere</i> )

Second, prefixation may underline the non-canonical status of some borrowed words (cf. 1.3.1).

<b>nà-búndúgáá</b>	rifle	(cf. Arabic <i>bunduqīyah/bundugīyah</i> )
<b>nà-lígtíríg</b>	electric fish	(cf. English <i>electric</i> via Hausa; Fr. <i>électrique</i> )
<b>tí-kéérééwà</b>	giraffe	(cf. Fulf. <i>kireewa</i> )

### 5.1.2.3.2 Verb-to-noun derivation

Prefixes also appear on irregular verbal nouns, where they reflect a historical verb-to-noun derivation.

<b>nà-sèl</b>	dispute (n.)	cf. <b>sèl</b>	dispute (v.)
<b>nà-tú'</b>	proverb	cf. <b>tú'</b>	show, teach

**tì-ryâh**                  ululation                                  cf. **ryáh**                  cry (v.)

Other characteristics of verb-to-noun derivation are discussed in 5.9, where numerous examples are also provided.

### 5.1.2.3.3 Derivation of nouns from other parts of speech

The prefix **?ì-** (5.1.2.4.12) is productively used to derive modifiers from a number of word classes by promoting them to the status of independent noun (5.10).

<b>bàhlàm</b>	thick, fat	<b>?ì-bàhlàm</b>	that which is thick, fat
<b>gúrúró</b>	deep	<b>?ì-gúrúró</b>	that which is deep
<b>kètí</b>	above	<b>?ì-kètí</b>	that which is above
<b>náá</b>	this, these	<b>?ì-náá</b>	this (n.), these (n.)
<b>zódôm</b>	ten	<b>?ì-zódôm</b>	the ten [of them]

### 5.1.2.4 Inventory of prefixes

In the present section, each of the noun prefixes is presented in alphabetical order along with comments on productivity, frequency in the lexicon, historical origins, and semantic value, as well as examples.

#### 5.1.2.4.1 dà-

The prefix **dà-** is lexically determined, and is attested with two nouns in the data:

<b>dà-ván</b>	minnow sp.	
<b>dà-zwâ'</b>	grandfather	(cf. <b>zwâ'</b> 'ancestry')

Considering the meaning of **zwâ'** in **dà-zwâ'**, it is possible to posit the origin of **dà-** in **dàá** 'papa' (compare also Mundang *dàbì* / *dà-* 'man, person'; see Elders 2000:125, 138–40).

That the word **dà-ván** 'minnow sp.' is a prefixed CVC root rather than a CVCVC noun is confirmed by the fact that high tone of the root does not flatten to L in the context of the possessive construction, as is the case with LH nouns (cf. 5.2.2.1):

<b>dà-ván</b>	<b>dà-ván ?íí</b>	minnow sp. / my minnow sp.
cf. <b>tùlgúm</b>	<b>tùlgúm ?íí</b>	fish sp. / my fish sp.

#### 5.1.2.4.2 fâ-

The prefix **fâ-** is lexically determined, and is attested with four nouns in the data:

<b>fâ-gbàhŋ</b>	outside (n.)	
<b>fâ-'màhná</b>	footprint	(cf. <b>'màhná</b> 'foot')
<b>fâ-pààrá</b>	ground readied for cultivation	(cf. <b>pààrá</b> 'field, farm')
<b>fâ-syâh</b>	handprint	(cf. <b>syâh</b> 'hand')

It is likely that **fà-** originates in the noun **fààlá** (linked form: **fàà**; cf. 5.2.2.2.6.1) ‘back, skin, place,’ and this semantic value is appropriate given the nouns in the data. It should also be noted, however, that Mundang has a prefix *fâ-* derived from *fânì* ‘thing’ (Elders 2000:125, 136–7).

For three of the four terms above, whose root is also independently attested, there is a structural as well as semantic difference between nouns with **fà-** as an obligatory prefix and those with **fàà** as a possessed noun.

**fà-'màhná** footprint  
(cf. **fàà 'màhná** ‘top of the foot, area behind the foot, place of the foot’)

**fà-pààrá** ground readied for cultivation  
(cf. **fàà pààrá** ‘back of the field, area behind the field, place of the field’)

**fà-syâh** handprint  
(cf. **fàà syâh** ‘back of the hand, area behind the hand, place of the foot’)

In dialects north of the Mayo Kebbi, the prefix **fà-** is synchronically productive rather than lexically determined, and consistently carries the meaning of **fààlá / fàà** ‘back, skin, place.’ Because of this, there is no distinction in these varieties between the noun pairs directly above.

#### 5.1.2.4.3 **fí-**

The prefix **fí-** is synchronically productive and exhibits the same range of meaning as its historical source **fíílò**: ‘house, room, chamber, concession, dwelling, context.’ Since there is no commonly used alternative linked form for **fíílò** (see 5.2.2.2.6), the prefix-noun constructions in which it is found function semantically like compounds and/or possessive constructions. Prefix-noun constructions in which it is attested in the lexicon include the following words:

<b>fí-gòòrá</b>	kitchen	(cf. <b>gòòrá</b> ‘preparation’)
<b>fí-kòòlá</b>	womb	(cf. <b>kòòlá</b> ‘birth’)
<b>fí-nùù-mj̀rà</b>	outhouse	(cf. <b>nùù</b> ‘defecate,’ <b>mj̀rà</b> ‘excrement’)
<b>fí-sùùbà</b>	bladder	(cf. <b>sùùbà</b> ‘urine’)
<b>fí-sùngà</b>	bedroom	(cf. <b>sùngà</b> ‘lying down’)
<b>fí-tí-nà-dáázá</b>	spider’s web	(cf. <b>tí-nà-dáázá</b> ‘spider’)
<b>fí-zòògá</b>	bird’s nest	(cf. <b>zòògá</b> ‘bird’)

#### 5.1.2.4.4 **ka-**

The prefix **ka-** is lexically determined, and it has two tonal forms (**ká-/kà-**) which are also lexically determined; the reason for the appearance of two forms is unknown. It is attested with twelve nouns in the data:

<b>kà-bá'rè</b>	fish sp.	
<b>kà-fèè</b>	coffee	(cf. Fr. <i>café</i> )
<b>kà-kàhlé</b>	throwing knife	
<b>kà-ràhbá</b>	blueness	
<b>tí-kà-kàà</b>	goose sp.	
<b>tí-kà-ràhgù</b>	large heron sp.	
<b>tì-kà-zù'</b>	fish sp.	
<b>ká-síblè ~</b>		
<b>tí-ká-síblè</b>	termite sp.	
<b>ká-táрко</b>	bridge	(cf. Fulf. <i>katarko</i> )
<b>ká-kààlá</b>	cocoon	(cf. <b>kààlá</b> 'axe')
<b>tí-ká-vbù'gá</b>	plant sp.	

There does not seem to be any consistent semantic difference between nouns of each tonal form. It is possible that **ka-** originates in the common Mambay word **káálà** 'head.' Mundang also has a tonally ambivalent prefix *ka-* and Tupuri has *kV-*; for both of these, the historical origin is undetermined (Elders 2000:125, 146; Ruelland 1992:145).

#### 5.1.2.4.5 **kì-**

The prefix **kì-** is synchronically productive and exhibits the same range of meaning as **kyǎ'** 'place, time, state, atmosphere, condition,' from which it is historically derived. As is the case for **fí-**, the prefix-noun constructions in which it found function semantically like compounds and/or possessive constructions. Prefix-noun constructions in which it is attested in the lexicon include the following words:

<b>kì-gòhṛòṅ</b>	bend (n.)	(cf. <b>gòhṛòṅ</b> 'bent')
<b>kì-pǔ'</b>	light, clarity	(cf. <b>pǔ'</b> 'whiteness, innocence')
<b>kì-rí'rò</b>	entryway	(cf. <b>rí'rò</b> 'entering')
<b>kì-róhlgòm</b>	joint (body)	(cf. <b>róhlgòm</b> 'joint (body)')
<b>kì-sòògá</b>	dry season, galaxy	(cf. <b>sòògá</b> 'hotness, smithy')
<b>kì-vìrìm</b>	thin darkness	(cf. <b>vìrìm</b> 'thinly dark')
<b>kì-zàà-byàá</b>	ford	(cf. <b>zàà</b> 'cross,' <b>byàá</b> 'water')

**kì-** is also used productively in verbal noun constructions involving place or intent (cf. 7.6.3).

**vè-lé kì-kòg zǎh**                      he/she/it went to see the ox  
 go:PFV-3SG.REFL place:PFX-see:VN ox

#### 5.1.2.4.6 **mạ-**

The prefix **mạ-** is lexically determined and is attested with four nouns in the data:

<b>má-nâ'</b>	man's mother-in-law	
<b>má-ràrírà</b>	oily substance	
<b>má-swàrì</b>	sorghum (Chad dialect)	(cf. Fulf. <i>muskuwaari</i> )
<b>má-zwâ'</b>	grandmother	(cf. <b>zwâ'</b> 'ancestry')

The occurrence of **má-** in **má-zwâ'** 'grandmother' is parallel to its appearance in **dà-zwâ'** 'grandfather' (cf. 5.1.2.4.1). It may be historically derived from **màḿḿḿ** 'mother (al.)'. That the H-toned form is indeed a prefix is underlined by the tone melody of **má-swàrì** 'sorghum,' which does not exhibit a standard tonal association of HL starting on the right edge of the word (cf. 4.1.2.2). Its appearance with H tone in Mambay could be the result of borrowing or pressure from Mundang, which has a *má-* noun prefix originating in *māḿḿ* 'mother' (Elders 2000:125, 132–6).

#### 5.1.2.4.7 nâ-

The prefix **nâ-** is lexically determined, and it has two tonal forms (**nâ-/nâ-**) which are also lexically determined; the reason for the appearance of two forms is unknown. Of the obligatorily attached prefixes, **nâ-** is the most common: there are 25 occurrences of **nâ-** and 146 occurrences of **nâ-** as obligatory components of non-compound noun roots. Examples of words exhibiting both tonal forms are as follows:

<b>nâ-gbògòngà</b>	waterlily bulb
<b>nâ-lèhgá</b>	bat
<b>nâ-sâh</b>	request
<b>nâ-sènrá</b>	toothache
<b>nâ-vàhlá</b>	minnow
<b>nâ-gáhgù</b>	crow
<b>nâ-gbóglà</b>	toad, frog
<b>nâ-kpìrvìlè</b>	dust devil
<b>nâ-rìmnú</b>	tongue, bud
<b>nâ-tárgì</b>	seasonal river

The largest group of nouns with which **nâ-** is found are species names and other natural phenomena, and there are also quite a few verbal nouns (see 5.9.2.1). The high proportion of species names accords well with the positing of the historical origin of **nâ-** in **nâḿá** (linked form: **nâḿ**; cf. 5.2.2.2.3) 'animal, meat.' In Mundang a parallel prefix *nâ-* is found, but no source noun has been identified for it (Elders 2000:125, 146).

#### 5.1.2.4.8 pá-

The prefix **pá-** is lexically determined and is attested with four nouns in the data:

<b>pá-dálà</b>	oribi (antelope sp.)	
<b>pá-dâg-vâh</b>	fish sp.	(cf. <b>dágà</b> 'mouth,' <b>vâh</b> 'arrow')
<b>pá-tá-kpáhbrù</b>	cuckoo	

**pá-wâdf-njì-gyàh** whydah (bird sp.) (cf. **wâdf-njìnú** ‘buttocks,’ **gyàh** ‘long-tailed’)

It appears to be historically derived from **páà** ‘man, father,’ and resembles the Mundang prefix *pá-* which originates in *páni* ‘father’ (Elders 2000:125, 127–31).

#### 5.1.2.4.9 si-

The prefix **si-** is lexically determined and is attested with six nouns in the data:

<b>dâg-sì-sí’</b>	spots on skin	(cf. <b>dágà</b> ‘mouth, edge’)
<b>ná-sí-swǎh</b>	leech	
<b>sí-gâ’</b>	ring	(cf. <b>gâ</b> ‘fulfillment of needs’)
<b>sí-kètí</b>	God	(cf. <b>kètí</b> ‘sky, life’)
<b>sí-njùú</b>	the day(s) before yesterday	(cf. <b>njùú</b> ‘that (dem.)’)
<b>sí-sjî</b>	waxbill (bird sp.)	

While five of the six occurrences of **si-** are H-toned, one is L-toned. The reason for the appearance of two tonal forms is unknown. The origin of **si-** is, according to a popular etymology cited by the principal informant, the noun **sî** ‘valley, river.’ A similar Mundang suffix *-sá* has been attributed to the Mundang word *sî* ‘year’ (Elders 2000:125, 141), for which the cognate in Mambay is **sjîrà** ‘year.’

#### 5.1.2.4.10 ta-

The prefix **ta-** is lexically determined and is attested with four nouns in the data:

<b>pá-tá-kpáhbrù</b>	cuckoo	
<b>tà-tàhrgú</b>	rock pile	
<b>tà-dúgrì</b>	weakness (Chad dialect)	(= <b>tî-dúgrì</b> ‘weakness’)
<b>tà-vbêr</b>	(village name)	

While three of the four occurrences of **ta-** are H-toned, one is L-toned. The reason for the appearance of two tonal forms is unknown. No convincing historical source noun has been identified for **ta-**, but in Mundang the similar prefix *tà-* (for which, similarly, no source noun has been identified) is found (Elders 2000:125, 146).

#### 5.1.2.4.11 ti-

The prefix **ti-** is represented by a synchronically productive augmentative/female form **tí-** as well as the ambivalent form **tí-/tî-**, whose tonal value and distribution is lexically determined.

The productive form **tí-** carries augmentative and/or female connotations, which suggests that **tî-** (or at least the form **tí-**) may be historically derived from **túù** ‘mother’ and/or **tîrà** ‘matron’ (also compare Mundang *tə-* and Tupuri *tV-*; see Elders 2000:125, 141–4

and Ruelland 1992:146). Examples of this prefix, which is discussed in further detail in 5.7.2 and 5.8.2, are as follows:

<b>tí-byàá</b>	large water-body	(cf. <b>byàá</b> ‘water’)
<b>tí-kpèègá</b>	large tree	(cf. <b>kpèègá</b> ‘tree’)
<b>tí-dìgì</b>	female neighbour	(cf. <b>dìgì</b> ‘neighbourship’)
<b>tí-bùù sédǵà</b>	female potter	(cf. <b>bùú</b> ‘build,’ <b>sedǵà</b> clay cooking pot’)

A productive prefix **tì-** is used as a collective marker for human nouns (see 5.6.1). Examples in which this prefix appears are:

<b>tì-màmbày</b>	the Mambay people	(cf. <b>màmbày</b> ‘(ethnic name)’)
<b>tì-nǵ-syàá</b>	white people	(cf. <b>nǵ-syàá</b> ‘fire, gun’)

There is not, however, any semantic evidence for a relation between the collective prefix **tì-** and the obligatory noun prefix of the same shape.

As is the case with **ka-** and **nǵ-**, when **ti-** is an obligatory component of specific lexical items, it has two tonal forms (**tí-/tì-**) which are lexically determined; the reason for the appearance of two forms is unknown. There does not seem to be any consistent semantic difference between nouns of each tonal form. The largest group of nouns with which **ti-** is found are species names, and there are also a number of reduplicated nouns (5.11.2). While an augmentative and/or female semantic value is not incompatible with the nouns of which it is a part, neither is it transparent.

**ti-** is well-represented in the lexicon: there are 65 occurrences of **tí-** and 13 occurrences of **tì-** as an obligatory component of non-compound noun roots. Examples of words exhibiting both tonal forms of the prefix **ti-** are as follows:

<b>tí-syá’rì</b>	millet stalk missed during harvesting
<b>tí-fúúgúm</b>	edible wild plant sp.
<b>tí-kǵí-kǵì</b>	whooping cough
<b>tí-sì’bá</b>	honour
<b>tí-zǒr</b>	rafter
<b>tì-dúgrì</b>	weakness
<b>tì-góhm</b>	tree and fruit sp.
<b>tì-kóólè</b>	pipe
<b>tì-tèvbíre</b>	flute sp.
<b>tì-ryán-ryàn</b>	edible gourd sp.

#### 5.1.2.4.12 ʔì-

The prefix ʔì- is productively used to promote modifiers from a number of word classes to the status of independent noun (5.10).

example modifier		modifier promoted to independent noun status
<b>bàhlàm</b> thick, fat		<b>ʔì-bàhlàm</b> that which is thick, fat
<b>gúrúru</b> deep		<b>ʔì-gúrúru</b> that which is deep
<b>kètí</b> above		<b>ʔì-kètí</b> that which is above
<b>nájá</b> this, these		<b>ʔì-nájá</b> this (n.), these (n.)
<b>zódôm</b> ten		<b>ʔì-zódôm</b> the ten [of them]

Because of its segmental and grammatical value (especially as regards nominalization), it is tempting to posit ʔígà ‘thing’ as the historical source of ʔì-; the implications of its tonal value for this interpretation are inconclusive.

### 5.1.3 Suffixation

Noun suffixation in Mambay functions synchronically to a limited degree (5.1.3.1), but there is evidence that it has functioned pervasively in the history of the language (5.1.3.2).

#### 5.1.3.1 Synchronically productive suffixation

Synchronically productive noun suffixation in Mambay is limited to inalienable possessive constructions (5.3.4).

linked form		inalienable assoc. pn.	→	inalienable assoc. construction
<b>káà</b> head:LF	+	<b>-m</b> 2SG.POSS.INAL		<b>káám</b> head:2SG.POSS.INAL
				your (sg.) head (inal.)

While some nouns in some plural constructions and some noun phrase types (5.5.2 and 5.14) appear to employ suffixation, they have been described in reference to morphological templates rather than suffixes. Plural alternations include:

<b>bîŋ</b>	forest	pl. <b>bíŋzò</b>
<b>yèrí</b>	clothing	pl. <b>yèrzí</b>
<b>ḡóólì</b>	lion	pl. <b>ḡóolzì</b>
<b>bùmgó</b>	ribcage	pl. <b>bùmzó</b>

Linked forms (5.2.2) of nouns in some noun phrase constructions include:

free form	linked form	
<b>kpèègá</b>	<b>kpèègì ʔíí</b>	tree / my tree
<b>pígìlò</b>	<b>pígìlì ʔíí</b>	bile / my bile

### 5.1.3.2 Evidence of historical suffixation

There are several indicators that, in addition to having a synchronically limited contribution, suffixation is a pervasive historical reality. In an article on the subject, Anonby (2008) outlines three synchronic arguments for the existence of vestigial suffixes in Mambay. First, there is a segmental imbalance in the noun lexicon. On CV-final nouns, which make up most of the simple noun lexicon, over three-quarters of endings contain one of the consonants **r l g n** and almost exactly two-thirds of endings contain the vowel **a**; most remaining vowel endings assimilate to the value of preceding root vowel (pp. 4–6). Examples of nouns which exhibit these recurrent sequences include:

<b>túra</b>	millet	<b>kpèègá</b>	tree
<b>zìrì</b>	fish sp.	<b>wágà</b>	skin
<b>káálà</b>	head, reason	<b>tùnná</b>	bush sp.
<b>pìrlá</b>	torch, flashlight	<b>gèmná</b>	entrance hut

Second, there are many irregular verb-to-noun alternations marked by the historical addition of a suffix (pp. 6–8; see also 5.9.2.1).

<b>gà'rá</b>	nail (n.)	<b>sì'lá</b>	fishing
cf. <b>gà'</b>	nail (v.), stay fixed	cf. <b>sí'</b>	fish (v.), bloat
<b>páhnà</b>	mud, clay	<b>vbô'gá</b>	stirred-up waters
cf. <b>pàh</b>	wet (v.)	cf. <b>vbó'</b>	mix, get caught up in a dispute

Third, there is a definable semantic value associated with a few of the historical noun suffixes, in particular a body part suffix **-nú**, non-count suffixes with labial consonants, and a generic or collective suffix **-(g)VrV** (pp. 8–11). An exhaustive list of non-compound nouns containing the suffix **-nú**, which is found almost exclusively with body parts, is as follows:

<b>dígnù</b>	liver	<b>nà-gbíínù</b>	(village name)
<b>fínù</b>	forehead	<b>nà-rígnù</b>	underarm
<b>gìhgìnú</b>	wing, fin	<b>ná-rìmnù</b>	tongue
<b>gì'nù</b>	small of back	<b>nà-vínù</b>	co-wife
<b>gùùgìnú</b>	gill	<b>ná-nìnnù</b>	bum
<b>hùùnù</b>	thigh	<b>nìnnù</b>	bottom
<b>ʔínù</b>	body, self	<b>nínù</b>	eye, face, life
<b>kìhnù</b>	waist, hip	<b>síínù</b>	horn, antenna

<b>tè'nú</b>	side (of body)	<b>zínù</b>	tooth, tusk
<b>tịnú</b>	front, genitals		

Non-count nouns, which account for a clear majority of nouns with labial consonants in a final CV syllable, include the following:

<b>-bV:</b>	<b>bùùbá</b>	white hair	<b>-bV:</b>	<b>lúbò</b>	sesame
	<b>gííbò</b>	alcoholic drink		<b>pábà</b>	milk
	<b>hì'bá</b>	hunger		<b>tábà</b>	flour
	<b>màhbá</b>	adultery		<b>túbò</b>	blood
<b>-mV:</b>	<b>dìmá</b>	beauty	<b>-vV:</b>	<b>kpádvà</b>	leprosy
	<b>nàmá</b>	animal, meat		<b>kúdvò</b>	smoke
	<b>sámá</b>	pregnancy		<b>núvà</b>	fat, oil
	<b>tàrmá</b>	fog, haze		<b>màrvà</b>	regret

Nouns containing the generic or collective suffix **-(g)VrV** often alternate with other verbs and nouns in the lexicon. A complete list of these nouns, which are either generic stative nouns or collective terms (cf. 5.6.2), is as follows:

<b>?àzgàrà</b>	reciprocal social unit (see Glossary)	cf. <b>?ázi</b> ' member of <b>?àzgàrà</b>
<b>fàzàrà</b>	reciprocal social unit (see Glossary)	cf. <b>fàzì</b> member of <b>fàzàrà</b>
<b>fàhzàrà</b>	reciprocal social unit (see Glossary)	cf. <b>fàhzi</b> member of <b>fàhzàrà</b>
<b>màngàrà</b>	age-group	cf. <b>màn</b> age-mate
<b>nàngàrà</b>	maternal uncles	cf. <b>nànà</b> ' maternal uncle
<b>bààgàrà</b>	hardness	cf. <b>bàà</b> be hard, <b>bààgá</b> hardness
<b>bòògàrà</b>	bonus	cf. <b>bóó</b> hit
<b>fìmgòrò</b>	heaviness	cf. <b>fìm</b> be heavy, <b>fìmgó</b> weight
<b>fùhgàrà</b>	spreading of a smell	cf. <b>fùh</b> smell (v.); <b>fùhgá</b> smell (n.), stink
<b>ná-vyàngàrà</b>	jealousy, ambition, polygamy	
<b>rà'gàrà</b>	rot (n.)	cf. <b>rà'</b> rot (v.), <b>rà'gá</b> rot (n.), stink
<b>rè'gàrà</b>	fruit, fruit production	cf. <b>rè'rà</b> bear, produce fruit, clump
<b>sòngòrò</b>	aging	cf. <b>sòngí</b> age (v.), <b>sòngó</b> old age
<b>sòògàrà</b>	heat	cf. <b>sòò</b> get hot, boil; <b>sòògá</b> hotness, smithy
<b>syàhgàrà</b>	coolness, dampness	cf. <b>syàh</b> get cold, <b>syàhgá</b> chill

A comparison of numerous noun roots with reflexes in other Kebi-Benue languages confirms the historical contribution of suffixation in Mambay (pp. 11–20). Most of the suffixes in Mambay and closely related languages cannot be traced to a historical system of noun classification; rather, they are the product of an unevenly applied reconfiguration of noun structure in the languages of the language family (pp. 20–1).

Because the historical noun-suffix boundary is in many cases difficult to determine, and because historically-suffixed nouns function synchronically as a morphologically simple phonological word with respect to voicing (cf. 2.1.3.2), nasality (3.4) and tone (4.1.2.2), such nouns are treated as roots in the present study.

### 5.1.4 Reduplication

Reduplication is not a synchronically productive means of deriving nouns. Rather, it appears to serve an ideophonic function. Some instances of reduplication are appropriately described as a type of compounding (5.4.2.6). Examples of reduplicated nouns are:

<b>dèlèŋ-déléŋ</b>	bell	<b>tí-kíí-kíí</b>	whooping cough
<b>lèhrù-lèhrù</b>	large-eared person	<b>tì-kpád-kpád</b>	malaria
<b>wàh-wàh</b>	hubbub	<b>tì-gbùl-gbùl</b>	large air bubble in water

Reduplication is discussed in greater detail in the section on ideophonic nouns (5.11.2).

## 5.2 Free and linked forms

In Mambay, nouns are found as one of two basic forms: free and linked. In the following sections, the distribution of free and linked nouns is contrasted (5.2.1), and intricacies in the structures exhibited by linked forms are catalogued (5.2.2).

### 5.2.1 Distribution

When a noun is found without any of its own syntactically dependent elements in a noun phrase, its free (unmarked) form is used. The free form exhibits the noun's full phonological identity. This is evident with the example nouns **húgò** 'bone' and **zòògá** 'bird':

<b>húgò</b>		bone	
<b>dâg</b>	<b>húgò</b>	skeleton (lit. mouth of bone)	
mouth:LF	bone		
<b>nìì</b>	<b>dâg</b>	<b>húgò</b>	bottom of skeleton
bottom:LF	mouth:LF	bone	
<b>zòògá</b>		bird	
<b>dâg</b>	<b>zòògá</b>	beak (lit. mouth of bird)	
mouth:LF	bird		
<b>nìì</b>	<b>dâg</b>	<b>zòògá</b>	bottom of beak
bottom:LF	mouth:LF	bird	

When a noun is found with a syntactically dependent element other than a numeral, its linked form (LF) is used. A noun's linked form is the result of morphological templates which, in many cases, diminish or otherwise alter the phonological identity of the free form (5.2.2). Linked forms of the nouns **hùgò** 'bone' and **zòògá** 'bird' are used in the following example constructions:

<b>hùg</b>	<b>kágà</b>	bone of chicken	
bone:LF	chicken		
<b>dâg</b>	<b>hùg</b>	<b>kágà</b>	skeleton (lit. mouth of bone) of chicken
mouth:LF	bone:LF	chicken	
<b>hùg</b>	<b>ʔíí</b>	my bone	
bone:LF	1SG.POSS		
<b>hùg</b>	<b>ḃìtìḃ</b>	dirty bone	
bone:LF	dirty		
<b>zòògì</b>	<b>kpèègá</b>	tree bird (lit. bird of tree)	
bird:LF	tree		
<b>dâg</b>	<b>zòògì</b>	<b>kpèègá</b>	tree bird's beak (lit. mouth of bird of tree)
mouth:LF	bird:LF	tree	
<b>zòògì</b>	<b>ʔíí</b>	my bird	
bone:LF	1SG.POSS		
<b>zòògì</b>	<b>ḃéḃéḃ</b>	intelligent bird	
bird:LF	intelligent		

Nouns in typical count constructions (5.14.3) exhibit a free rather than a linked form. This provides evidence that the use of linked forms is sensitive to grammatical relation as well as a noun's position within a phrase.

<b>wáà</b>	<b>ḃàtì</b>	two noses / two chiefs
nose/chief	two	
cf. <b>hùù</b>	<b>ḃàtì</b>	the two noses / the two chiefs (restricted usage; see 5.14.3, 9.1.1)
nose/chief:LF	two	

Nouns in apposition, including nouns followed by a dependent element promoted to the status of independent noun by the prefix **ʔi-** (5.10), also exhibit a free rather than a linked form. This underlines the fact that each of the components in such constructions constitutes a separate noun phrase.

nouns in apposition:

<b>wáà</b>	<b>káďǎ</b>	the chief Kada / Kada, the chief
nose/chief	Kada	
cf. <b>húyì</b>	<b>káďǎ</b>	Kada's nose / Kada's chief
nose/chief:LF	Kada	

noun + dependent element prefixed with **?ì-**:

<b>và'zá</b>	<b>?ì-báďǎ</b>	the <i>tamarind</i> leaf
leaf	HEAD-tamarind	
cf. <b>và'zì</b>	<b>báďǎ</b>	tamarind leaf
leaf:LF	tamarind	

Comparable free vs. linked oppositions are found in a number of other Kebi-Benue languages (Elders 2006). In Mundang, for example, linked forms are attested for nouns and some nominals (noun-like words including verbal nouns, adjectives, numerals and possessive pronouns; see Elders 2000:102). However, the distribution of linked forms in Mundang is more tightly based on occurrence in non phrase-final position.

Several of the basic numerals in Mambay exhibit linked forms in non phrase-final position (9.1.2.1.1). This pattern is, like that of Mundang, defined by syntactic position rather than grammatical relations.

## 5.2.2 Linked form structure

Nouns' linked forms are based on their unmarked free forms. This is true as concerns tone melody, where correspondences between free and linked forms are regular (5.2.2.1). Segmental alternations are more complex. For most nouns with canonical shapes (5.2.2.2), significant segmental alternations accompany the appearance of linked forms; these are most fittingly described not in terms of affixation, but rather morphological templates. Non-canonical nouns, in contrast, do not typically exhibit segmental alternation (5.2.2.3). Linked forms of morphologically complex nouns are discussed in 5.2.2.4.

The following subsections show that in cases where there is alternation, the linked form contains a reduced subset of the free form's phonological information. For example, linked forms of nouns whose free forms have L, LH and LHL tone melodies are all realized with a L melody (5.2.2.1).

		free form	linked form
L:	regret	<b>màrvà</b>	<b>màrvì</b>
LH:	bird	<b>zòògá</b>	<b>zòògì</b>
LHL:	mouse sp.	<b>zùúrà</b>	<b>zùùrì</b>

In addition, the linked form of certain CV shapes is associated with the loss of a free form's final vowel (5.2.2.2.3).

	free form	linked form
bone	<b>hùgò</b>	<b>hûg</b>
clothing	<b>yèrí</b>	<b>yèr</b>
tamarind	<b>bádà</b>	<b>bâd</b>

Further examples reveal that the linked form does not retain contrast for some segmental sequences in the free form (5.2.2.2.2):

	free form	linked form
large hole-digger	<b>tí-tyàá</b>	<b>tí-tèè</b>
bush sp.	<b>tí-tèé</b>	<b>tí-tèè</b>
roan antelope	<b>bwáà</b>	<b>bóò</b>
boasting	<b>póò</b>	<b>póò</b>

The morphological templates which produce linked forms may also add phonological information, but it is predictable. For example, in linked forms of nouns with certain CV shapes, the noun's final vowel is replaced with a uniform vowel **i** (5.2.2.2.4, 5.2.2.2.5).

	free form	linked form
drum	<b>vbíílò</b>	<b>vbííh</b>
lion	<b>bóóh</b>	<b>bóóh</b>
white hair	<b>bùùbá</b>	<b>bùùbí</b>

Linked forms of nouns which are found in the context of inalienable possessive constructions are highly irregular. These forms are addressed in the discussion on inalienable possession (5.3.4.2, 6.1.4.2).

Linked forms are always produced with a subsequent noun phrase element (5.2.1). Because of this, most of the examples below are given in this context. While there are many possible items with which linked forms may be found, the first singular possessive pronoun **ʔíí** 'my (al.)' has been used throughout for the sake of simplicity and uniformity.

### 5.2.2.1 Tone melody

Tonally, the melody of the linked form is often the same as that of the free form, although it may associate differently depending on the availability of tone-bearing units (4.1.2.2). This is the case for linked forms corresponding to nouns whose free forms are associated with H, L and HL tone melodies. (As noted in the previous paragraph, the pronoun **ʔíí** 'my (al.)' has been used throughout to provide a natural context for example linked forms).

	free form	linked form	
H:	<b>só'lé</b> <b>kókól</b>	<b>só'lí ?íí</b> <b>kókól ?íí</b>	greatness / my greatness small drum / my small drum
L:	<b>màrvà</b> <b>dìgì</b>	<b>màrvì ?íí</b> <b>dìgì ?íí</b>	regret / my regret neighbourship / my neighbourship
HL:	<b>hùgò</b> <b>zyáà</b>	<b>hùg ?íí</b> <b>zèè ?íí</b>	bone / my bone net / my net

However, LH tone contours are not permitted on linked forms of nouns with LH, LHL and HLH melodies. Because of this, linked forms of nouns with LH and LHL melodies pattern as L; and the final H on linked forms of nouns with an HLH melody is not realized (4.3.1.3). (The special case of HLH on two-mora nouns is treated in 4.3.3.3).

	free form	linked form	
LH:	<b>zòògá</b> <b>gùrá</b>	<b>zòògì ?íí</b> <b>gùr ?íí</b>	bird / my bird fish trap / my fish trap
LHL:	<b>zùúrà</b> <b>dòṅnì</b>	<b>zùùrì ?íí</b> <b>dòṅnì ?íí</b>	mouse sp. / my mouse sp. wealth / my wealth
HLH:	<b>ḡóòzá</b> <b>kíkòvì</b>	<b>ḡóòzì ?íí</b> <b>kíkòvì ?íí</b>	clod / my clod coward / my coward

The linked form of the single HLHL noun in the data retains the full tone melody of its free form.

	free form	linked form	
HLHL:	<b>wátùtájà</b>	<b>wátùtájà ?íí</b>	salt, sugar / my salt, sugar

Four other instances of idiosyncratic correspondences between the tone melody of free and linked forms are listed in 5.2.2.2.6 and 5.2.2.4.1. Further detail on tonal phenomena in noun phrases is found in 4.3.1.

### 5.2.2.2 Canonical nouns

Linked forms of nouns with some of the canonical noun shapes (5.1.1.1) undergo segmental alternations as a result of morphological templates applied to their corresponding free forms. While CVV and C(C)VC nouns are exempt from segmental alternation, other canonical nouns are usually modified as follows:

free form of canonical noun	corresponding linked form
CCVV	CVV
C(C)V.CV	C(C)VC
C(C)VV.CV	C(C)VV.Ci
C(C)VC.CV	C(C)VC.Ci

Examples of typical linked forms of each of the canonical CV shapes are given in the following sections (5.2.2.2.1–5.2.2.2.5), and irregular linked forms are also catalogued (5.2.2.2.6).

The presence of prefixes (5.1.2) on otherwise canonical nouns does not affect their eligibility for morphophonological alternation.

free form	linked form	
<b>nà-kwàá</b>	<b>nà-kùù ?íí</b>	necklace / my necklace
cf. <b>kwàá</b>	<b>kùù ?íí</b>	neck, voice / my neck, voice

#### 5.2.2.2.1 CVV and C(C)VC

Linked forms of nouns with CVV and C(C)VC shapes are usually the same as corresponding free forms:

free form	linked form	
<b>bàá</b>	<b>bàá ?íí</b>	cane rat / my cane rat
<b>fùú</b>	<b>fùú ?íí</b>	trench / my trench
<b>kǎh</b>	<b>kǎh ?íí</b>	placenta / my placenta
<b>sî</b>	<b>sî ?íí</b>	valley / my valley
<b>tí-tèé</b>	<b>tí-tèè ?íí</b>	bush sp. / my bush sp.
<b>bîŋ</b>	<b>bîŋ ?íí</b>	forest / my forest
<b>gôm</b>	<b>gôm ?íí</b>	vine sp. / my vine sp.
<b>ká-ràm</b>	<b>ká-ràm ?íí</b>	reedbuck / my reedbuck
<b>kyô'w</b>	<b>kyô'w ?íí</b>	warthog, pig / my warthog, pig
<b>tì-tùm</b>	<b>tì-tùm ?íí</b>	ancestor / my ancestor

In the linked forms of nouns comprised of **yVV** or **wVV** syllables containing low vowels, the initial semivowel alternates with **h**. Also, when the low vowel is non-nasalized, it coalesces with the high semivowel, resulting in a mid vowel:

<b>wáá</b>	<b>hóò ?íí</b>	fig, fig tree / my fig, fig tree
<b>wàá</b>	<b>hòò ?íí</b>	hump / my hump
<b>wâh</b>	<b>hôh ?íí</b>	cup / my cup

However, when the low vowel of the free form is nasalized, it is realized in the linked form as a high rather than a mid nasalized vowel. These forms reflect the language-wide restriction on nasalized mid vowels (3.1.1).

<b>ỵâh</b>	<b>ḥḥ ?íí</b>	stalk / my stalk
<b>ẉâḥ</b>	<b>ḥúú ?íí</b>	nose, chief / my nose (al.), chief

Although there is no corresponding consonantal alternation, a similar vowel alternation is attested in the linked form of **ỵâh** ‘name; yellow weaver (bird sp.)’ (there are no other nouns with an equivalent preglottalized semivowel–nasalized vowel CVV structure).

<b>ỵâh</b>	<b>ỵḥ ?íí</b>	name/weaver (bird sp.) / my name/weaver
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#### 5.2.2.2.2 CCVV

The linked form of some CCVV nouns is signalled by the application of a CVV template. When the template applies to noun roots comprised of CyVV or CwVV syllables containing low vowels, the onset’s semivowel coalesces with its vowel. This results—similarly to what happens to yVV or wVV nouns (5.2.2.2.1)—in linked forms with front and back mid vowels respectively:

<b>byàá</b>	<b>bèè ?íí</b>	water / my water
<b>kwàà</b>	<b>kòò ?íí</b>	grass / my grass
<b>nà-swàá</b>	<b>nà-sòò ?íí</b>	peanut / my peanut
<b>syàà</b>	<b>sèè ?íí</b>	tree sp. / my tree sp.
<b>syâh</b>	<b>sêḥ ?íí</b>	hand / my hand (alienable)

(Exceptionally, the linked form of **kwàá** ‘neck, voice’ is **kùù**.)

When the low vowel is nasalized, its realization in the linked form is high rather than mid. These forms reflect the language-wide restriction on nasalized mid vowels (3.1.1).

<b>kẉâḥ</b>	<b>ḳúú ?íí</b>	fly / my fly
<b>kỵâḥ</b>	<b>ḳìḥ ?íí</b>	fish / my fish
<b>ṇà-sỵâḥ’</b>	<b>ṇà-ṣì’ ?íí</b>	cricket sp. / my cricket sp.
<b>ṇẉâḥ’</b>	<b>ṇû’ ?íí</b>	hole, den / my hole, den
<b>rẉâḥ</b>	<b>ṛúú ?íí</b>	fool / my fool

There are four CCVV nouns in the data containing a non-low vowel. The linked forms of these nouns are not modified.

<b>dyóò</b>	<b>dyóò ?íí</b>	grass sp.
<b>kyóò</b>	<b>kyóò ?íí</b>	underdeveloped child / my underdeveloped child
<b>myû’</b>	<b>myû’ ?íí</b>	cat / my cat
<b>syòò</b>	<b>syòò ?íí</b>	song / my song

### 5.2.2.2.3 C(C)V.CV

The linked form of C(C)V.CV nouns is signalled by a loss of the final vowel. In other words, a C(C)VC template is applied.

<b>bádà</b>	<b>bâd ʔíí</b>	tamarind / my tamarind
<b>hùgò</b>	<b>hûg ʔíí</b>	bone / my bone
<b>kwéré</b>	<b>kwêr ʔíí</b>	fence / my fence
<b>pìzá</b>	<b>pìz ʔíí</b>	horse / my horse
<b>yèrí</b>	<b>yèr ʔíí</b>	clothing / my clothing

One CVC noun also exhibits a morphophonological alternation which is more commonly found with CVV nouns (see 5.2.2.2.1).

<b>wágà</b>	<b>hôg ʔíí</b>	skin / my skin (al.) (also attested: <b>wâg ʔíí</b> )
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### 5.2.2.2.4 C(C)VV.CV

The linked form of C(C)VV.CV nouns is signalled by the replacement of the final vowel with **i**.

<b>bùùbá</b>	<b>bùùbì ʔíí</b>	white hair / my white hair
<b>ḡóólì</b>	<b>ḡóólì ʔíí</b>	lion / my lion
<b>kwáàvbá</b>	<b>kwáàvbì ʔíí</b>	bush sp. / my bush sp.
<b>kpèègá</b>	<b>kpèègì ʔíí</b>	tree / my tree
<b>vbíìlò</b>	<b>vbíìlì ʔíí</b>	drum / my drum

If the final vowel of the free form of the noun is nasalized, this nasality is retained on the **i** of the template.

<b>hùùrì</b>	<b>hùùrì ʔíí</b>	hyena / my hyena
<b>sààrì</b>	<b>sààrì ʔíí</b>	tortoise / my tortoise
<b>tí-níínà</b>	<b>tí-níínì ʔíí</b>	molar / my molar

### 5.2.2.2.5 C(C)VC.CV

As is the case for C(C)VV.CV nouns (5.2.2.2.4), the linked form of C(C)VC.CV nouns is signalled by the replacement of the final vowel with **i**.

<b>fírlá</b>	<b>fírlì ʔíí</b>	torch / my torch
<b>lwâgvbá</b>	<b>lwâgvbì ʔíí</b>	tenderness, youngness / my tenderness, youngness
<b>ná-kógrà</b>	<b>ná-kógrì ʔíí</b>	worm / my worm
<b>píglò</b>	<b>píglì ʔíí</b>	bile / my bile
<b>tì-dúgrì</b>	<b>tì-dúgrì ʔíí</b>	weakness / my weakness

If the final vowel of the free form of the noun is nasalized, this nasality is retained on the *i* of the template.

<b>gèmná</b>	<b>gèmnì ?íí</b>	entrance hut / my entrance hut
<b>nà-pênrá</b>	<b>nà-pênrì ?íí</b>	wild fruit sp. / my wild fruit sp.
<b>sáhnì</b>	<b>sáhnì ?íí</b>	mortar / my mortar

#### 5.2.2.2.6 Irregular linked forms

Some canonical nouns exhibit irregular linked forms. A small number, including body parts as well as a few other common nouns, have more than one form (5.2.2.2.6.1). Linked forms with other irregularities are given in 5.2.2.2.6.2.

##### 5.2.2.2.6.1 Nouns with more than one linked form

There are a number of body parts and other commonly used nouns with optional monosyllabic linked forms. There is significant but incomplete overlap between words with these short linked forms and words which may be used in inalienable possessive constructions (compare the list in 5.3.4.1).

Invariably, monosyllabic linked forms are more commonly used than the morphologically regular longer forms (i.e., those which are subject to the morphological template given in 5.2.2.2). When questioned concerning differences in the usage of respective long and short forms, Mambay speakers cite factors such as formal vs. informal register, whole vs. part designation, neutral vs. emphatic linking, and distant/intangible vs. proximal/tangible presence. However, none of these variables have been consistently borne out by elicited examples, and instances of the longer forms are altogether absent in the spontaneous text that has been gathered. It is possible that the longer forms are archaic but legal alternatives for the short forms. An exhaustive list of nouns with optional monosyllabic linked forms is given here, and has been broken down based on morphological patterns.

First, there are a number of CVV.CV words with a regular (long) CVV.Ci linked form and a short CVV form.

free form	linked form (regular/long)	linked form (short)	
<b>ɓà'rá</b>	<b>ɓà'rì ?íí</b>	<b>ɓà' ?íí</b>	seed / my seed
<b>fààlá</b>	<b>fààlì ?íí</b>	<b>fàà ?íí</b>	back, skin, place / my back, skin, place (al.)
<b>káálà</b>	<b>káálì ?íí</b>	<b>káà ?íí</b>	head / my head (al.)
<b>gì'rá</b>	<b>gì'rì ?íí</b>	<b>gì' ?íí</b>	gourd / my gourd
<b>mùhná</b>	<b>mùhnì ?íí</b>	<b>mùh ?íí</b>	vulva, centre / my vulva, centre (al.)
<b>ná-nìnnú</b>	<b>ná-nìnnì ?íí</b>	<b>ná-nì ?íí</b>	bum / my bum (al.)
<b>ná-rìmnú</b>	<b>ná-rìmnì ?íí</b>	<b>ná-rìm ?íí</b>	tongue, bud / my tongue, bud (al.)

<b>nì̀nù</b>	<b>nì̀nì ʔíí</b>	<b>nì ʔíí</b>	bottom, meaning / my bottom, meaning (al.)
<b>ná'rà</b>	<b>ná'rì ʔíí</b>	<b>nâ' ʔíí</b>	sauce / my sauce
<b>rò'rá</b>	<b>rò'rì ʔíí</b>	<b>rò' ʔíí</b>	word, issue / my word, issue
<b>sààrà</b>	<b>sààrì ʔíí</b>	<b>sàà ʔíí</b>	root, sinew / my root, sinew
<b>sì̀rà</b>	<b>sì̀rì ʔíí</b>	<b>sì ʔíí</b>	year / my year
<b>vbààlá</b>	<b>vbààlì ʔíí</b>	<b>vbàà ʔíí</b>	testicle / my testicle (al.)
<b>wàhlá</b>	<b>wàhlì ʔíí</b>	<b>wàh ʔíí</b>	nape (of neck) / my nape (al.)
<b>zà'rá</b>	<b>zà'rì ʔíí</b>	<b>zà' ʔíí</b>	dance / my dance

It is interesting to note that the consonant in the last syllable of each of these nouns (which is deleted in the short linked form) is one of the common alveolar segments **r l** or **n**. There is no consistent phonological distinction that sets these nouns apart from most other nouns (without a short linked form) that have **r l** or **n** in the last syllable (e.g., 5.2.2.2.4, 5.2.2.2.5). However, the lack of short linked forms which correspond to free forms with **g** in the last syllable is conspicuous, since in the lexicon as a whole **g** is also very common in this position (5.1.3.2).

There is a single CVV.CV word with a regular (long) CVV.Ci linked form and a short CV prefix form which is tonally simplified (see 5.1.2.4.3).

<b>fí̀lò</b>	<b>fí̀lì ʔíí</b>	<b>fí-ʔíí</b>	house / my house
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The same pattern has been observed for the word **fà̀alá** ‘back’ among some speakers of dialects north of the river (cf. **fà̀alá** / **fà̀** earlier in this section):

<b>fà̀alá</b>	<b>fà̀alì ʔíí</b>	<b>fà-ʔíí</b>	back, skin, place / my back, skin, place (al.)
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One CCVV and one CV.CV noun also exhibit this pattern.

<b>kyǎ'</b>	<b>kè' ʔíí</b>	<b>kì-ʔíí</b>	place, time, state / my place, time, state (cf. 5.1.2.4.5)
<b>'má'rà</b>	<b>'má'r ʔíí</b>	<b>'má-ʔíí</b>	friend / my friend (see also 5.2.2.2.6.2 re. the tonally irregular long form)

Two CVV.CV nouns exhibit other atypical short forms alongside the long linked form.

<b>páhnà</b>	<b>páhnì ʔíí</b>	<b>páhn ʔíí</b>	mud, clay / my mud, clay
<b>sí̀nà</b>	<b>sí̀nì ʔíí</b>	<b>sí̀n ʔíí</b>	play / my play

Finally, three CVV nouns (all of which, incidentally, contain pharyngealized vowels) exhibit optional long forms which are not warranted by the synchronic structure of their free form.

<b>gǎh</b>	<b>gǎhnì ?ǐǐ</b>	<b>gǎh ?ǐǐ</b>	beard / my beard (al.)
<b>'mǎh</b>	<b>'mǎhnì ?ǐǐ</b>	<b>'mǎh ?ǐǐ</b>	foot / my foot (al.)
<b>vbyâh</b>	<b>vbéhli ?ǐǐ</b>	<b>vbêh ?ǐǐ</b>	cheek / my cheek (al.)

### 5.2.2.2.6.2 Other irregularities

Five CVV.CV nouns (cf. 5.2.2.2.5) which exhibit irregular linked forms that lose the final vowel but retain the last syllable's consonant are as follows:

free form	linked form	
<b>gì'nú</b>	<b>gì'n ?ǐǐ</b>	small of back / small of my back
<b>kàhrá</b>	<b>kàhr ?ǐǐ</b>	wax, glue, birdlime / my wax, glue, birdlime
<b>hùùnù</b>	<b>hùùn ?ǐǐ</b>	thigh / my thigh
<b>sáhmà</b>	<b>sáhm ?ǐǐ</b>	feather / my feather
<b>sǐínù</b>	<b>sǐín ?ǐǐ</b>	horn, antenna / my horn, antenna (note that the linked form is neutralized with the “intermediate” form of <b>sǐínà</b> ‘play’ in the previous section)

There are also two CVC.CV (cf. 5.2.2.2.5) nouns with irregular CV.CVC linked forms (these two nouns have irregular plurals which are formed in a similar way; see 5.5.2.1.5):

<b>dígínù</b>	<b>dígín ?ǐǐ</b>	liver / my liver
<b>(nǐ) nà-rígnù</b>	<b>(nǐ) nà-rígín ?ǐǐ</b>	armpit / my armpit

Finally, in addition to all of these nouns with segmentally irregular linked forms, three CV.CV noun roots (cf. 5.2.2.2.3) exhibit an irregular tonal alternation. Rather than retaining the complexity of their basic tone melody in their linked form, as is the case for other HL nouns (5.2.2.1), their HL tone melody is simplified to H.

<b>mǐrà</b>	<b>mǐr ?ǐǐ</b>	excrement / my excrement
<b>'mǎrà</b>	<b>'mǎr ?ǐǐ</b>	friend / my friend (also: <b>'mǎ ?ǐǐ</b> ; see 5.2.2.2.6.1)
<b>vínà</b>	<b>vín ?ǐǐ</b>	woman / my woman

### 5.2.2.3 Non-canonical nouns

Linked forms of non-canonical nouns are segmentally identical to their free counterparts. This is true of nouns with non-canonical CV shapes (cf. 5.1.1.1):

<b>rùùg</b>	<b>rùùg ?ǐǐ</b>	cylindrical shape / my cylindrical shape
<b>kókól</b>	<b>kókól ?ǐǐ</b>	small drum / my small drum
<b>tí-dîrím</b>	<b>tí-dîrím ?ǐǐ</b>	bare gums, molar / my bare gums, molar
<b>séréré</b>	<b>séréré ?ǐǐ</b>	thinness / my thinness
<b>wátùtáà</b>	<b>wátùtáà ?ǐǐ</b>	salt, sugar / my salt, sugar

<b>wààgùnà</b>	<b>wààgùnà ?íí</b>	large basket / my large basket (also attested: <b>wààgùn ?íí</b> ; cf. 5.2.2.4.3)
<b>bààbùrùm</b>	<b>bààbùrùm ?íí</b>	main room / my main room
<b>tí-tòòntî</b>	<b>tí-tòòntî ?íí</b>	lark (bird sp.) / my lark

There are also a number of examples of nouns of canonical CV shape which have segmentally invariable linked forms. These nouns are non-canonical in other ways:

non-canonical nasality pattern (cf. 3.4.2):

<b>màlà</b>	<b>màlà ?íí</b>	art, craft / my art, craft
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uncommon noun endings **e** and **u** (cf. 5.1.3.2):

<b>lèègè</b>	<b>lèègè ?íí</b>	nightjar (bird sp.) / my nightjar
<b>núúrú</b>	<b>núúrú ?íí</b>	breast / my breast
<b>tí-kà-ràhgù</b>	<b>tí-kà-ràhgù ?íí</b>	large heron sp. / my large heron sp.

uncommon root-internal obstruent distribution (cf. 2.1.2.2):

<b>kètí</b>	<b>kètí ?íí</b>	sky, life / my sky, life (also attested: <b>kèt ?íí</b> )
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borrowed noun (cf. 1.3.1):

<b>ḍéré</b>	<b>ḍéré ?íí</b>	yam sp. / my yam sp.
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a combination of the above factors:

<b>?àddá</b>	<b>?àddà ?íí</b>	older female relative / my older female relative (cf. Fulf. <i>adda</i> )
<b>bàkà</b>	<b>bàkà ?íí</b>	older male relative / my older male relative (cf. Fulf. <i>baka</i> )
<b>lúúmù</b>	<b>lúúmù ?íí</b>	market, week / my market, week (cf. Fulf. <i>luumo</i> ‘market’)
<b>ná-túttè</b>	<b>ná-túttè ?íí</b>	soap / my soap (also attested: <b>ná-túttì ?íí</b> )

Conversely, two nouns have been attested which, although they have a non-canonical CV shape, exhibit alternating linked forms:

<b>ná-bìbù'nà</b>	<b>ná-bìbù'n ?íí</b>	small bee sp. / my small bee sp.
<b>ná-táállá</b>	<b>ná-táállì ?íí</b>	ant sp. / my ant sp.

#### 5.2.2.4 Morphologically complex nouns

Linked forms of three categories of morphologically complex nouns are examined here: plurals (5.2.2.4.1), nouns with **-(g)VrV** suffixes (5.2.2.4.2), and compound nouns (5.2.2.4.3).

### 5.2.2.4.1 Plurals

Plurals, which typically conform to a CVC.zV template (5.5.2.1), exhibit linked forms the same as those of other CVC.CV nouns: namely, the final vowel alternates with **i**. Examples of linked forms of typical plurals are as follows:

free form of plural noun	linked form	
<b>lálzà</b>	<b>lálzì ?íí</b>	gourds / my gourds
<b>tyárzà</b>	<b>tyárzì ?íí</b>	fish sp. (pl.) / my fish sp. (pl.)
<b>fùlzó</b>	<b>fùlzì ?íí</b>	trenches / my trenches
<b>kwéرزè</b>	<b>kwéرزì ?íí</b>	fences / my fences
<b>yèrzí</b>	<b>yèrzì ?íí</b>	pieces of clothing / my pieces of clothing

Linked forms of irregular plurals (5.5.2.2) also conform to templates for morphologically simple nouns of the same CV shape.

<b>ḃélà</b>	<b>ḃél ?íí</b>	children / my children
<b>vyá'rà</b>	<b>vyá'rzì ?íí</b>	mice / my mice
<b>zàrà ~ zàrzá</b>	<b>zàr ?íí ~ zàrzì ?íí</b>	oxen / my oxen

Exceptionally, and like its singular counterpart **vínà** ‘woman’ (5.2.2.2.6.2), the linked form of **gérêm** ‘women’ is marked by a simplification of the corresponding noun’s tone melody from HL to H.

<b>gérêm</b>	<b>gérém ?íí</b>	women / my women
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### 5.2.2.4.2 Nouns with -(g)VrV suffixes

Linked forms of nouns with -(g)VrV suffixes (5.1.3.2) are formed by the alternation of the first suffix vowel with **i** and the dropping of the final suffix vowel.

free form of suffixed noun	linked form	
<b>?àz-gàrà</b>	<b>?àzgìr ?íí</b>	in-laws / my in-laws
<b>fìm-górò</b>	<b>fìmgìr ?íí</b>	weight / my weight
<b>nà-réṅ-gérè</b>	<b>nà-réṅ-gìr ?íí</b>	hanging roots / my hanging roots
<b>sòṅ-górò</b>	<b>sòṅgìr ?íí</b>	aging / my aging
<b>syàh-gàrà</b>	<b>syàhgìr ?íí</b>	coolness, dampness / my coolness, dampness

### 5.2.2.4.3 Compound nouns

Linked form templates are applied to the final root of a compound noun (5.4), which is transformed in the same manner as if it were not part of a compound:

<b>dâg</b>	<b>gèmnì</b>	<b>?íí</b>	my entryway
mouth:LF	entrance.hut:LF	1SG.POSS	
cf. <b>dâg</b>	<b>gèmná</b>		entryway
mouth:LF	entrance.hut		
<b>fàà</b>	<b>pààrì</b>	<b>?íí</b>	my abandoned field
back:LF	field:LF	1SG.POSS	
cf. <b>fàà</b>	<b>pààrá</b>		abandoned field
back:LF	field		

This extends to compound nouns which are partially or completely opaque (cf. 5.4.3):

<b>ná-rím-bèè</b>	<b>?íí</b>	my cormorant, darter (bird sp.)
PFX-dip?-water:LF	1SG.POSS	(also attested: <b>ná-rím-byàà ?íí</b> )
cf. <b>ná-rím-byàá</b>		cormorant, darter (bird sp.)
PFX-dip?-water		
<b>tàm-bú'li</b>	<b>?íí</b>	my courtyard
(opaque compound; see 5.4.3):LF	1SG.POSS	
cf. <b>tàm-bú'la</b>		courtyard
(opaque compound; see 5.4.3)		

Similar to their singular counterparts just above, the linked forms of compound plurals (5.5.2.4) are based on the CV shape of the pluralized final root:

free form of	linked	
compound plural	form	
<b>dâg gènzá</b>	<b>dâg gènzì ?íí</b>	entryways / my entryways
<b>tàm-bú'lzá</b>	<b>tàm-bú'lzì ?íí</b>	courtyards / my courtyards

### 5.3 Possessive constructions

Possessive constructions are a central means of noun expansion in Mambay. They are a type of noun phrase (5.14): in terms of internal syntax, possessive constructions are minimally composed of a possessed head noun followed by a dependent possessor noun. The semantic relation signalled by the dependent noun in reference to the head noun is often possessive, but many other types of relations are attested. An overview of semantic and structural characteristics of possessive constructions is provided in 5.3.1 and 5.3.2. Peculiarities of tone in possessive constructions are covered in 5.2.2.1 and in relevant subsections below.

Possessive constructions are further described in reference to three axes: spontaneous vs. fixed, obligatory vs. optional, and alienable vs. inalienable possession (5.3.3). Alienable and inalienable possessive constructions, which are both defined by complex morphology, are considered further in 5.3.3.3.1 and 5.3.4.

Compound nouns, which typically exhibit a structure identical to that of alienable possessive constructions, are treated separately in 5.4.

### 5.3.1 Semantic relations

In Mambay as well as other languages, the semantic relations signalled by possessive (i.e., “genitival” or “associative”) constructions are much more varied than possession. In possessive constructions, possession is prototypical but semantic relations are varied and flexible; those commonly signalled by the dependent noun in reference to the head noun include the following (these examples are alienable possessive constructions; see 5.3.3.3):

possession:	<b>hûg vwáà</b> bone:LF dog	bone of dog
social relation:	<b>túù bígà</b> mother:LF child	mother of child
part-whole:	<b>sûg vwáà</b> ear:LF dog	ear of dog
description:	<b>pâb bôngá</b> milk:LF acidity	sour milk
composition:	<b>nâ' nâ-?áà</b> sauce:LF PFX-bean.leaf	sauce of bean leaf
location:	<b>nî nwa'</b> bottom:LF hole	bottom of hole
purpose:	<b>bèè dǒg-nà</b> water:LF drink:VN-OBJ	drinking water
count:	<b>sî bati</b> year:LF two	the two years (cf. 5.14.3)

### 5.3.2 Structural characteristics

Possessive constructions are minimally composed of a possessed head noun followed by a dependent possessor noun. As is typically the case for head nouns followed by a dependent element, the head noun exhibits the linked noun form; the dependent noun exhibits the unmarked free form (5.2.1, 5.14). This is evident in the following N + N

possessive constructions composed of the nouns ‘hole’ (free form: **nwâ’**; linked form: **nû’**) and ‘mud wasp’ (free form: **hámzà**; linked form: **hámzi**) (alternations between free forms and linked forms of nouns are addressed in 5.2.2 above):

**nû’ hámzà**                      hole of mud wasp  
hole:LF mud.wasp

**hámzi nwâ’**                      mud wasp of hole  
mud.wasp:LF hole

When the dependent possessor noun is the possessed head of another element, it exhibits the linked form of the noun. This is evident in the following N + [N + N] constructions:

**nû’ [hámzi só’lé]**                hole of large mud wasp  
hole:LF mud.wasp:LF greatness

**hámzi [nû’ só’lé]**                mud wasp of large hole  
mud.wasp:LF hole:LF greatness

There is no formal bracketing of internal phrase structure. Consequently, the above examples could be construed as [N + N] + N constructions:

**[nû’ hámzi] só’lé**                large hole of mud wasp  
hole:LF mud.wasp:LF greatness

**[hámzi nû’] só’lé**                large mud wasp of hole  
mud.wasp:LF hole:LF greatness

Both internal structures are commonly attested. In cases of formal ambivalence, only the referential context may clarify which meaning has been invoked.

Like other nouns, possessive pronouns are commonly found in the dependent position of possessive constructions. An additional formal distinction, that of alienable vs. inalienable possession, is attested with possessive constructions composed of certain nouns followed by possessive pronouns (it is not, however, available to constructions with two typical/non-pronoun nouns; cf. 5.3.3.3):

**páà ?íí**                              my colleague  
man:LF 1SG.POSS

**páy**                                    my father, my intimate friend  
man:1SG.POSS.INAL

Alienable vs. inalienable possession is described in detail in 5.3.3.3 below.

### 5.3.3 Axes of description

Possessive constructions may be described in reference to three axes. The first axis, spontaneous vs. fixed possession, deals with the variable status of possessive constructions in the lexicon (5.3.3.1). The second axis, obligatory vs. optional possession, is concerned with whether or not a noun can occur syntactically without a possessor (5.3.3.2). The third axis, alienable vs. inalienable possession, treats a formal distinction available to constructions involving (certain) nouns followed by possessive pronouns (5.3.3.2).

#### 5.3.3.1 Spontaneous vs. fixed possession

Possessive constructions may be either spontaneous or fixed. In spontaneous constructions, any noun may be possessed by any other semantically appropriate noun.

<b>nû' hámsà</b> hole of mud wasp hole:LF mud.wasp	<b>fâh nàmá</b> path of animal path:LF animal
<b>hámsà nwâ'</b> mud wasp of hole mud.wasp:LF hole	<b>nàm fâh</b> animal of path animal:LF path

In contrast, fixed possessive constructions have membership in the lexicon and are essentially a kind of compound noun (Dimmendaal 2000:167ff., 179; Payne 1997:94) (see 5.4 for a more complete treatment of compound nouns).

<b>pâb bôngá</b> sour milk milk:LF acidity	<b>sààrì túbò</b> blood vessel sinew:LF blood
<b>nàm kúù</b> wild animal animal:LF bushland	<b>bèè ?ínù</b> colour water:LF body

In many cases it is difficult to assign a possessive construction to either end of the spontaneous vs. fixed continuum; the difference is gradient rather than quantal, and must be based on frequency of usage rather than form.

#### 5.3.3.2 Optional vs. obligatory possession

The second axis which defines possessive constructions is a distinction between optional and obligatory possession. This has been described elsewhere as a distinction between free and relational nouns (Welmers 1973:212) and non-inherent vs. inherent relation (Payne 1997:105–6). In contrast to alienability (5.3.3.3), this axis is syntactically rather than morphologically defined. Nouns which are obligatorily possessed are those which are only found as head nouns in a possessive construction; such nouns are always accompanied by a dependent possessor noun. In contrast, optionally possessed nouns, which represent the great majority of nouns in the lexicon, may occur either with or without a dependent possessor.

A full listing of obligatorily possessed nouns in the data is given here. Most of these nouns are confined to alienable possession (5.3.3.3.1):

<b>búríbùrì</b> ...	piece of ...
<b>búùrúm</b> ...	block of ...
<b>dúùrú</b> ...	adam's apple of ... (in: <b>dúùrú kwàá</b> ; cf. <b>kwàá</b> 'neck')
<b>gbèh</b> ...	adam's apple of ... (in: <b>gbèh kwàá</b> )
<b>kâd</b> ...	reputation of ...
<b>kúùrín</b> ...	pile of ...
<b>kpôhlgóm</b> ...	adam's apple of ... (in: <b>kpôhlgóm kwàá</b> )
<b>màñ</b> ...	age-mate of ...
<b>má-nâ'</b> ...	parent-in-law of ...
<b>páà</b> ...	man, father, person of ...
<b>syâg</b> ...	own, self of ... (as in: 'on its own, by itself')
<b>tí-gìgíd'</b> ...	base of ...
<b>tì-tôŋ</b> ...	remains of ...
<b>zàbzàb</b> ...	piece of ...
<b>zàhwràw</b> ...	spiky pile of ...
<b>zwáráj</b> ...	entirety of ...

Ordinal numerals (9.1.3) are also included:

<b>ḃààrí</b> ...	second of ...
<b>bìsâhrí</b> ...	third of ...
(etc.)	

Also, six obligatorily possessed nouns may express either alienable or inalienable possession (5.3.3.3).

<b>?ázi'</b> ...	member of <b>?àzgàrà</b> (see Glossary) of ...
<b>fàzì</b> ...	member of <b>fàzàrà</b> (see Glossary) of ...
<b>fâhzi'</b> ...	member of <b>fâhzàrà</b> (see Glossary) of ...
<b>páà</b> ...	man, father of ...
<b>sùùní</b> ...	younger in-law of ...
<b>túù</b> ...	mother of ...

### 5.3.3.3 Alienable vs. inalienable possession

A third and final axis concerns a morphologically formalized distinction of alienable vs. inalienable possession. As stated in the previous section, this axis is morphologically defined; this contrasts with optional vs. obligatory possession, which is syntactically defined (5.3.3.2). And rather than signalling intrinsic properties of specific nouns (as is the case with optional vs. obligatory possession), this axis deals with the relationship between nouns: alienable vs. inalienable possession falls under what has been called indirect vs. direct determination (Boyeldieu 1987:20). It is not uncommon for both optional/obligatory and alienable/inalienable distinctions to interact in a single language (Payne 1997:106), as is the case in Mambay.

Although many other languages extend an alienable/inalienable distinction to possessive constructions in general, in Mambay it is only formalized between possessed nouns and possessive pronouns. Examples of alienable possessive constructions involving a possessed noun and a possessive pronoun are as follows:

<b>páà ?íí</b> man:LF 1SG.POSS	my colleague
<b>ḃáṛ ?íí</b> friend:LF 1SG.POSS	my friend (i.e., a friend who is not close)
<b>kùù ?íí</b> neck:LF 1SG.POSS	my neck (i.e., the neck of an animal which is mine)

Corresponding inalienable possessive constructions, which exhibit morphological fusion of the possessed noun and possessive pronoun, are as follows:

<b>páy</b> man:1SG.POSS.INAL	my father, my intimate friend
<b>ḃáṛí</b> friend:1SG.POSS.INAL	my intimate friend
<b>kwìí</b> neck:1SG.POSS.INAL	my neck (i.e., the neck which is part of my own body)

Alienable and inalienable noun-pronoun constructions are explored in the following subsections (5.3.3.3.1 and 5.3.4).

### 5.3.3.3.1 Alienable possessive constructions

Alienable possessive constructions are the default means of relating possessed nouns with possessor nouns, including pronouns. Their structure, which has been described above (5.3.2), involves the linked form of the head noun followed by the free (unmarked) form of the dependent noun. This is evident in the following constructions involving the nouns ‘milk’ (free form: **páḃà**; linked form: **páḃ**) and ‘neck’ (free form: **kwàá**; linked form: **kùù**):

<b>páḃ nàḃá</b> milk:LF animal	milk of animal
<b>nàḃ páḃà</b> animal:LF milk	animal of milk (i.e., animal used to provide milk)

The pronouns used in alienable possessive constructions differ from those found in inalienable possessive constructions (5.3.4.2). Alienable possessive pronouns, which are



<b>dágà</b>	mouth	<b>nà-kànsí'nù</b>	shadow, soul, spirit
<b>dígnù</b>	liver	<b>nà-kànsí'nù</b>	kneecap, fontanelle
<b>dwǎ'</b>	belly	<b>nà-njùnù</b>	bum
<b>fààlá</b>	back, skin	<b>nà-púrà</b>	navel
<b>fjìnù</b>	forehead	<b>(nù) nà-rígnù</b>	underarm
<b>gǎh</b>	beard	<b>nà-rimnú</b>	tongue
<b>gìhgìnú</b>	wing, fin	<b>njùnù</b>	bottom
<b>gì'nù</b>	small of back	<b>njìnù</b>	eye, face, life
<b>gùùgìnú</b>	gill	<b>sábà</b>	tail
<b>hùùnù</b>	thigh	<b>sjìnù</b>	horn, antenna
<b>?jìnù</b>	body, self	<b>súgò</b>	ear
<b>káálà</b>	head	<b>syâh</b>	hand, finger
<b>(káà) nà-wâdnjùnù</b>	buttocks	<b>tè'nù</b>	side
<b>káà nà-sj'nù</b>	knee	<b>tjùnù</b>	front, genitals
<b>kjìhnù</b>	waist, hip	<b>vbààlá</b>	testicle
<b>kwáá</b>	neck, voice	<b>vbyâh</b>	cheek
<b>kpánnà</b>	penis	<b>wǎà</b>	nose
<b>mùhnà</b>	vulva	<b>wáhlá</b>	nape (of neck)
<b>'màhnà</b>	foot	<b>zjìnù</b>	tooth, tusk

About half of these nouns contain a historical derivational body part suffix **-nù** (5.1.3.2; Anonby 2008). Although many of the body part nouns in the list can also be used locatively in inalienable possessive constructions (see 5.13), the glosses in this section reflect their prototypical use as body parts.

Nouns which specify kinship or social relations and which may be used with inalienable possessive pronouns are as follows:

<b>?ázì´</b>	member of <b>?àzgàrà</b> (see Glossary)
<b>fǎàzì</b>	member of <b>fǎàzàrà</b> (see Glossary)
<b>fâhzí</b>	member of <b>fâhzàrà</b> (see Glossary)
<b>kyáá-rjìnà</b>	paternal aunt
<b>mǎrnà</b>	eldest sibling
<b>'mǎrǎ</b>	friend
<b>nǎnà´</b>	maternal uncle
<b>páà</b>	man, father
<b>páá-nǎ-rjìnà</b>	paternal uncle
<b>páà vǎà</b>	husband
<b>nǎǎbà</b>	colleague
<b>nǎ-vjìnù</b>	co-wife
<b>sùùnǎ</b>	younger in-law
<b>túù</b>	mother

There are many compound nouns which contain one of these nouns as a possessor. Such compounds may also be found with inalienable possessive pronouns:

<b>bîg 'máɾà</b> child:LF friend	<b>bîg 'máɾí</b> child:LF friend:1SG.POSS.INAL	friend's child / my friend's child
<b>gbèh kwàá</b> adam's.apple:LF neck	<b>gbèh kwìí</b> adam's.apple:LF neck:1SG.POSS.INAL	adam's apple / my adam's apple
<b>páà fààlá</b> man:LF back	<b>páà fààní</b> man:LF back:1SG.POSS.INAL	witness / my witness
<b>sà'li nà-púrà</b> rope:LF PFX-navel	<b>sà'li nà-púrí</b> rope:LF PFX-navel:1SG.POSS.INAL	umbilical cord / my umbilical cord

Exceptionally for two prefixed words, possessed nouns (which are, in addition, suppletive) rather than the possessor nouns take the inalienable pronominal suffix:

<b>dà-zwâ'</b> father:PFX-ancestry	<b>páy zwâ'</b> man:1SG.POSS.INAL:LF ancestry	grandfather / my grandfather
<b>mà-zwâ'</b> mother:PFX-ancestry	<b>tíí zwâ'</b> mother:1SG.POSS.INAL:LF ancestry	grandmother / my grandmother

#### 5.3.4.2 Structure

Inalienable possession is formalized by the fusion of the linked form of a noun (5.2) and an inalienable possessive pronoun.

<b>fàà</b>	+	<b>-ró</b>	→	<b>fààró</b>	your (pl.) back, skin
back:LF		2PL.POSS.INAL		back:2PL.POSS.INAL	(inal.)

It is not possible to pluralize a noun in the context of an inalienable possessive construction (5.5.1.2). Therefore, depending on the referential context, the gloss of the previous example could just as well be 'your (pl.) backs, skins.'

The segmental structure of inalienable linked nouns is described in 5.3.4.2.1, and inalienable possessive pronouns are presented in 5.3.4.2.2. Idiosyncratic inalienable possessive construction paradigms are listed in 5.3.4.2.3. The tone and nasality of inalienable possessive constructions are discussed separately in 5.3.4.2.4 and 5.3.4.2.5 respectively.

Complete paradigms are given for inalienable possessive constructions in Appendix 1.

### 5.3.4.2.1 Inalienable linked noun forms

For the most part, the segmental value of the inalienable linked noun forms corresponds to the segmental value of linked forms in alienable possessive constructions (5.2.2):

noun	free (unmarked) form	inalienable linked form	alienable linked form
beard	<b>gǎh</b>	<b>gǎh-</b>	<b>gǎh</b>
body	<b>ʔínù</b>	<b>ʔín-</b>	<b>ʔín</b>
friend	<b>'márà</b>	<b>márá-</b>	<b>márá</b>

When a regular (long) linked form (5.2.2) as well as a short linked form (5.2.2.2.6.1) are available to a given noun, the segmental value of the inalienable linked noun form in a possessive construction corresponds to that of the short form.

noun	free (unmarked) form	inalienable linked form	short alienable linked form	regular alienable linked form
bottom	<b>nìnù</b>	<b>nì-</b>	<b>nì</b>	<b>nìnì</b>
nape (of neck)	<b>wàhlá</b>	<b>wàh-</b>	<b>wàh</b>	<b>wàhlì</b>
testicle	<b>vbààlá</b>	<b>vbàà-</b>	<b>vbàà</b>	<b>vbààlì</b>

Besides nouns with idiosyncratic paradigms (5.3.4.2.3), which in many cases have more than one linked form, there are only two nouns in the data with inalienable linked forms that differ segmentally from those of their alienable counterparts (see 5.2.2.2.6.2):

noun	free (unmarked) form	inalienable linked form	alienable linked form
liver	<b>dígnù</b>	<b>dígn-</b>	<b>dígîn</b>
underarm	<b>(nì) nà-rígnù</b>	<b>(nì) nà rígn-</b>	<b>(nì) nà-rígîn</b>

### 5.3.4.2.2 Inalienable possessive pronouns

The inalienable possessive pronouns paradigm is distinct from that of alienable possessive pronouns (5.3.3.3.1, 6.1.4.1). Basic inalienable possessive pronoun forms are given in the table below, and their behaviour is shown for the example word **káálà** 'head,' whose short linked form is **káà** (cf. 5.2.2.2.6.1):

person	inalienable possessive pronoun	example usage	gloss
1SG	-í	<b>káání</b>	my head (inal.)
2SG	-m	<b>káám</b>	your (sg.) head (inal.)
1&2SG	-ná	<b>kááná</b>	our (your (sg.) and my) head (inal.)
3SG	-`rú ~ -`wú	<b>káàrú ~ káàwú</b>	his/her/its head (inal.)
3SG.COREF/IMPERS	-lé	<b>káále</b>	his/her/its (coref.) / its head (inal.)
1PL	-rí	<b>káárí</b>	our (excl.) head (inal.)
2PL	-ró	<b>kááró</b>	your (pl.) head (inal.)
1&2PL	-zínzá ~ -zíná	<b>káázínzá ~ káázíná</b>	our (incl.) head (inal.)
3PL	(dùgú)	(káà dùgú)	their head
3PL.COREF/IMPERS	-ré	<b>kááré</b>	their (coref./impers.) head (inal.)

A detailed section on inalienable possessive pronouns is found in the chapter on pronouns (6.1.4.2). Morphophonological alternations, which frequently accompany inalienable possessive pronouns, are addressed there.

### 5.3.4.2.3 Idiosyncratic paradigms

The following nouns exhibit segmentally idiosyncratic inalienable possession paradigms:

<b>dwă'</b>	belly	<b>ná-rìmnú</b>	tongue
<b>kwàá</b>	neck, voice	<b>páà</b>	father
<b>kyáá-rìnná</b>	paternal aunt	<b>páá-ná-rìnná</b>	paternal uncle
<b>máárnà</b>	eldest sibling	<b>páà vâà</b>	husband
<b>'márá</b>	friend	<b>syâh</b>	hand
<b>náábà</b>	colleague	<b>túù</b>	mother
<b>nánà'</b>	maternal uncle	<b>wáà</b>	nose
<b>nà-púrâ</b>	navel		

Four of the paradigms are incomplete in the language; speakers of the language use alienable possessive pronouns to fill in gaps (see Appendix 1). Gaps reflect usage: singular forms are more complete than plural pronominal forms, and address forms ('my friend,' etc.) are more complete than non-address forms.

The paradigm of **túù** 'mother' has, in addition to other irregularities, a suppletive root.

<b>tíí</b>	my mother
<b>kyááná</b>	our (your (sg.) and my) mother

Complete paradigms are given for all of these idiosyncratic constructions in Appendix 1.

#### 5.3.4.2.4 Tonal structure

Like the segments of inalienable noun-pronoun possessive constructions, which are fused into a single phonological word, a simplified tone melody is found on inalienable noun-pronoun possessive constructions. The tone melody of the resulting forms is dependent both on the tone of the linked noun roots and the tone of the possessive pronouns.

##### 5.3.4.2.4.1 Linked forms corresponding to HL nouns

When a linked form corresponding to a HL-toned noun is fused with a H-toned inalienable possessive pronoun, the resulting melody of the composite phonological word is usually H. This is shown by constructions involving **káálà** ‘head’ (linked forms are accounted for in 5.2.2):

linked form		inalienable assoc. pn.	→	inalienable assoc. construction	
<b>káà</b> head:LF	+	<b>-m̀</b> 2SG.POSS.INAL	→	<b>káám̀</b> head:2SG.POSS.INAL	your (sg.) head (inal.)
<b>káà</b> head:LF	+	<b>-ró</b> 2PL.POSS.INAL	→	<b>kááró</b> head:2PL.POSS.INAL	your (pl.) head

When a linked form corresponding to a HL-toned noun is fused with a LH-toned inalienable possessive pronoun, the resulting melody of the composite phonological word is HLH. Consider constructions involving **káálà** ‘head’ (linked forms are accounted for in 5.2.2):

<b>káà</b> head:LF	+	<b>-rú</b> 3SG.POSS.INAL	→	<b>káàrú</b> head:3SG.POSS.INAL	his/her/its head (inal.)
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Exceptionally, as concerns **-zínzá** in particular (but not its alternate form **-zíná**; see 6.1.4.2), three tonal forms have been attested in inalienable possessive constructions with linked forms corresponding to HL-toned nouns. This is shown with the noun **páà** ‘man, father’:

<b>páà</b> man:LF	+	<b>-zínzá</b> 1&2PL.POSS.INAL	→	<b>páázínzá</b> ~ <b>páà zínzá</b> ~ <b>páà z̀inzá</b> man:1&2PL.POSS.INAL	our (incl.) father (inal.)
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The first form (ex. **páázínzá**), which is tonally parallel to other inalienable possessive constructions, is the most common. The second and third forms (ex. **páà zínzá** ~ **páà z̀inzá**), which are less common, resemble constructions involving the third person plural pronoun **dùgú** in that the tonal form of its possessed head noun—as in alienable constructions—is not fused with the suffix. Still, as is sometimes the case with **dùgú**, a semantically inalienable construction is expressed (6.1.4.2). Although the issue has been

probed, no semantic difference has been identified among the three tonal forms found with constructions involving the noun **páà** or other kinship terms.

However, when the same tonal forms are found with body parts which can be used to indicate location (5.13), the third form (only) indicates locative (see 5.3.1) rather than part-whole semantic relation. This is shown in reference to **káálà** ‘head’:

<b>káà</b>	+	<b>-zínzá</b>	→	<b>káázínzá</b> ~	our (incl.) head (inal.)
head:LF		1&2PL.POSS.INAL		<b>káà zínzá</b>	
				head:1&2PL.POSS.INAL	

cf. **káà zìnzá**            on us (incl.)  
 head:1&2PL.POSS.INAL

#### 5.3.4.2.4.2 L-toned linked forms

When a L-toned linked form is fused with a H-toned inalienable possessive pronoun, the resulting melody of the composite phonological word is LH. This is shown in constructions involving **fàálá** ‘back, skin’:

<b>fàà</b>	+	<b>-m</b>	→	<b>fààm</b>	your (sg.) back, skin
back:LF		2SG.POSS.INAL		back:2SG.POSS.INAL	(inal.)

<b>fàà</b>	+	<b>-ró</b>	→	<b>fààró</b>	your (pl.) back, skin
back:LF		2PL.POSS.INAL		back:2PL.POSS.INAL	(inal.)

When a L-toned linked form is fused with a LH-toned inalienable possessive pronoun, the resulting melody of the composite phonological word is LH:

<b>fàà</b>	+	<b>-rú</b>	→	<b>fààrú</b>	his/her/its back, skin
back:LF		3SG.POSS.INAL		back:3SG.POSS.INAL	(inal.)

In contrast to tonal patterns found when **-zínzá** is attached to linked forms corresponding to a HL-toned noun, (5.3.4.2.4.1), there is a single and regular tonal pattern for L-toned linked forms.

<b>fàà</b>	+	<b>-zínzá</b>	→	<b>fààzínzá</b>	our (incl.) back, skin
back:LF		1&2PL.POSS.INAL		back:1&2PL.POSS.INAL	(inal.)

#### 5.3.4.2.4.3 Linked forms corresponding to HLH nouns

When a linked noun form corresponding to a HLH noun is fused with a H- or LH-toned inalienable possessive pronoun, the resulting melody of the composite phonological word is HLH. This is shown in the following three-mora (cf. 2.4.2) constructions with the nouns **fâhzí** (linked form: **fâhzi**) and **?ázi** (linked form: **?ázi**):

<b>fâhzi</b>	+	<b>-í</b>	→	<b>fâhzí</b>	my member of
member.of.		1SG.POSS.INAL		member.of. <b>fâhzárà</b> :	<b>fâhzárà</b> (inal.)
<b>fâhzárà</b> :LF				1SG.POSS.INAL	(see Glossary)

<b>fâhzi</b>	+	<b>-m</b>	→	<b>fâhzám</b>	your (sg.) member of
member.of.		2SG.POSS.INAL		member.of. <b>fâhzárà</b> :	<b>fâhzárà</b> (inal.)
<b>fâhzárà</b> :LF				2SG.POSS.INAL	

<b>?ázi´</b>	+	<b>-`rú</b>	→	<b>?ázirú</b>	his/her/its member of
member.of.		3SG.POSS.INAL		member.of. <b>?àzgárà</b> :	<b>?àzgárà</b> (inal.)
<b>?àzgárà</b> :LF				3SG.POSS.INAL	(see Glossary)

When the resulting construction contains more than 3 available morae, the tonal association for the possessed noun portion adheres to that found on the normal linked form of the HLH noun, where a LH contour may not be realized (this restriction is described in 5.2.2.1 and 4.3.1.3); the second H is not realized on the possessed noun portion.

<b>fâhzi</b>	+	<b>-ná</b>	→	<b>fâhzi`ná</b>	our (your (sg.) and my)
member.of.		1&2SG.POSS.INAL		member.of. <b>fâhzárà</b> :	member of
<b>fâhzárà</b> :LF				1&2SG.POSS.INAL	<b>fâhzárà</b> (inal.)

This pattern of association contrasts with morphologically simple nouns (including those which are HLH-toned), where tones consistently associate with morae from the right end of the word.

<b>bâhgá</b>	dregs
<b>nà-ráávirá</b>	foam

Right-edge tones which exceed the number of available morae are not realized (see also 4.1.2.2). This is shown in a construction with **?ázi´** (linked form: **?ázi´**)

<b>?ázi´</b>	+	<b>-í</b>	→	<b>?ázi</b>	my member of
member.of.		1SG.POSS.INAL		member.of. <b>?àzgárà</b> :	<b>?àzgárà</b> (inal.)
<b>?àzgárà</b> :LF				1SG.POSS.INAL	

### 5.3.4.2.5 Nasality

There is no spread of nasality between linked nouns and inalienable possessive pronouns.

<b>fàà</b>	+	<b>-ná</b>	→	<b>fààná</b>	our (your (sg.) and my)
back:LF		1&2SG.POSS.INAL		back:1&2SG.POSS.INAL	back, skin (inal.)

<b>nà-nù</b>	+	<b>-ró</b>	→	<b>nà-nùró</b>	your (pl.) bum (inal.)
bum:LF		2PL.POSS.INAL		bum:2PL.POSS.INAL	

For nouns with linked forms ending in **-zi**, the nasality of the first person pronoun **-í** does not appear in the resulting inalienable possessive construction:

<b>ʔázi´</b>	+	<b>-í</b>	→	<b>ʔázi</b>	my member of
member.of.		1SG.POSS.INAL		member.of.ʔàzgàrà:	<b>ʔàzgàrà</b> (inal.)
<b>ʔàzgàrà:LF</b>				1SG.POSS.INAL	

## 5.4 Compound nouns

Compound nouns are extremely common in Mambay; of the non-borrowed lexicalized nouns in the data, almost half (811 of 1625) are compounds. In the following discussion, differences between compound nouns and noun phrases are reviewed (5.4.1). The morphological and semantic constitution of compound nouns is then examined in 5.4.2 and 5.4.3.

Pluralization of compound nouns is described in 5.5.2.4, and the behaviour of compound nouns in inalienable possessive constructions is discussed in 5.3.4.1.

### 5.4.1 Compound nouns vs. noun phrases

The vast majority of compound nouns exhibit an internal structure identical to noun phrases, and in particular that of possessive constructions, which contain a possessed head noun followed by a dependent possessor noun (5.3.3.3.1).

<b>nàm kùù</b>	wild animal
animal:LF bushland	

In other words, the primary way in which compound nouns may be distinguished from spontaneous possessive constructions is the compound nouns' membership in the lexicon (cf. Payne 1997:94; as stated in 5.3.3.1, lexical membership of possessive constructions in Mambay is based on frequency and is therefore a gradient rather than quantum distinction).

Another important way of distinguishing compound nouns from spontaneous possessive constructions is the occurrence of compounds in which the meaning of the compound is different than the sum of the meaning of its parts. This is developed in the section on semantic constitution below (5.4.3).

However, noun + noun compounds differ subtly from possessive constructions in a number of other respects. First, although plurality is marked on the semantically plural morphological constituent of a spontaneous possessive construction, it has the additional possibility of cliticizing on some noun + noun compounds (5.4).

compound noun	plural	
<b>láà túbò</b>	<b>láà túbzò ~ lálzì túbò</b>	heart / hearts
gourd:LF blood	gourd:LF blood:PL ~ gourd:PL:LF blood	

cf. <b>lǎà pábà</b>	<b>lálzì pábà</b>	milk gourd / milk gourds
gourd:LF milk	gourd:PL:LF milk	

Additionally, and importantly, noun phrases other than possessive constructions may constitute compounds (5.4.2).

<b>vbîz bóm</b>	fishing line
fishhook:LF one	

There are, however, several types of words that are attested as dependent elements in noun phrases but not in compound nouns: possessive pronouns (5.14.1 and 6.1.4), specifiers (5.14.4 and 9.2), and relative clauses (5.14.6 and 10.2.2.3).

Further, there is a small number of compounds which differ from noun phrases in that they do not contain a constituent head noun. Instead, they are comprised of a clause (5.4.2.4).

<b>mì-háà-làárè</b>	duck sp.
1SG-return:VN-Léré	

Finally, there are words in some categories of compound nouns which literate speakers of the language consistently prefer to write as single orthographic words: nouns with semantically opaque components (5.4.3), those composed of a clause (5.4.2.4), those containing proper names (5.4.2.5), and those which exhibit reduplication (5.4.2.6). This differs from spontaneous noun phrases which, with the exception of inalienable pronominal possessive constructions, are always written with separate orthographic words.

## 5.4.2 Morphological constitution

Most compound nouns are composed of the linked form of one noun (5.3.3.3.1) followed by the free (unmarked) form of another noun.

<b>nàm kùù</b>	wild animal
animal:LF bushland	

<b>sààrì túbò</b>	blood vessel
sinew:LF blood	

As stated above, such compounds are formally equivalent to spontaneous possessive constructions (5.3.3.1). Attested variations on the prototypical noun + noun compound construction are as follows:

- three- and four-noun compounds (5.4.2.1);
- noun + numeral compounds (5.4.2.2);
- compounds containing prepositional phrases (5.4.2.3);
- clausal compounds (5.4.2.4);

- compounds containing proper names (5.4.2.5); and
- nouns exhibiting reduplication (5.4.2.6).

Examples of compound nouns representing each of these structures are given in the following paragraphs, and formally equivalent constructions are noted when they occur.

#### 5.4.2.1 Three- and four-noun compounds

Some compounds are composed of three or even four nouns. In each case, these nouns are internally organized such that one of the nouns in the construction is itself a compound noun and/or a possessive construction. Examples of three-noun compounds are as follows:

**káà** [và'zì dágà]  
head:LF leaf:LF mouth

lip (cf. và'zì dágà 'lip area')

**vbíìlì** [káà wáà]  
drum:LF head:LF chief

drum sp. (cf. káà wáà 'chief (respect form)')

Four-noun compounds include the following:

**nàm** [[dâg tè'n] bàngè]  
animal:LF mouth:LF side(body):LF rust.colour

gazelle sp. (cf. dâg tè'nú 'bottom of the rib')

**tíngì** [fàà ['màh zǎh]]  
monitor.lizard:LF back:LF foot:LF ox

monitor lizard sp.

As these examples suggest, embedded compound nouns are more commonly found in the possessor position rather than the possessed position of three- and four-noun compounds.

As is the case for spontaneous possessive constructions, which are formally equivalent, the internal formal structure of the compound is ambiguous (cf. 5.3.2). For example, if such a referential context were possible, **nàm dâg tè'n bàngè** could also be understood to mean 'animal of mouth/edge of side of rust-colour.'

#### 5.4.2.2 Noun + numeral compounds

Other compound nouns contain a numeral (9.1) as a dependent element.

**hèègì dâg bàt**  
knife:LF mouth:LF two

circumcision knife, scissors

**tòh dâg bàt**  
snake:LF mouth:LF two

snake sp.

**vbîz bóm**  
fishhook:LF one

fishing line

These compounds are formally equivalent to count constructions in which the head noun is definite (5.14.3, 9.1.1.1). For example, depending on the referential context, **vbîz bóm** may also be understood to mean ‘the one fishhook.’

### 5.4.2.3 Compounds containing prepositional phrases

A few compound nouns in the data contain or are comprised of prepositional phrases (9.3):

<b>páà bèè káálà</b> man:LF without head	stupid person
<b>sáà dwǎ’</b> inside belly	womb

The prepositional phrases in these compounds are formally equivalent to normal prepositional phrases (9.3.1). For example, depending on the referential context, **sáà dwǎ’** may also be understood to mean ‘inside the belly.’

### 5.4.2.4 Clausal compounds

A number of compounds consist of combined clause elements. Minimally, there is a subject and a predicate (most often represented by a pronoun and a conjugated verb respectively). As shown by the example below, other components may include objects, negation clitics, locative complements and clitics, and adverbial ideophones.

compound noun with etymological parsing	gloss	explanation
<b>mì-háà-làárè</b> 1SG-return:VN-Léré	duck sp.	lit. “I am returning from Léré.” This duck species (White-faced Whistling Duck) has a call which reportedly sounds like such a phrase.
<b>nǎ-?áà-báhrà</b> PFX-bean.leaves-better	fish sp.	lit. “bean leaves [are] better.” This fish type (small stage of “Kanga” / <i>Heterotis niloticus</i> ) is often so bitter when improperly prepared that it is better to eat bean leaves, which constitute the simplest sauce.
<b>nǎ-rím-byàá</b> 1&2:OPT-dip:OPT-water	cormorant, darter (bird sp.)	lit. “let’s [1&2 (sg.)] dip [in] the water.” These birds catch fish by diving.

<b>nà-rígrí-mj́rà</b> 1&2-roll:VN-excrement	scarab beetle	lit. “we [1&2 (sg.)] are rolling excrement.” These insects, also known as dung beetles, roll excrement into small balls.
<b>ná-dím-kpírà</b> 1&2:OPT-dip:OPT-IDEO	heron sp.	lit. “let’s [1&2 (sg.)] cover with a <b>kpírà</b> -like posture.” This heron sp. (Black Heron) catches its prey under an umbrella which it forms of its wings.
<b>ná-gbáh-ù-záh</b> 1&2:OPT-catch:OPT-to.here-ox	Orion’s belt	lit. “let’s [1&2 (sg.)] catch the ox [by bringing it] toward [ourselves].” This formation of three stars in a line looks like a person chasing an ox, which is in turn chasing another person.
<b>Ø zàà-fáh-yá</b> 3:PFV cross:VN-path-NEG	tiny shrew sp.	lit. “it did not cross the path.” This shrew is so small that it has difficulty crossing even a path.

In the data, such compounds describe the appearance or behaviour of a species or natural phenomenon. In most cases, literate Mambay speakers insist that these terms should be written as single words.

In Mambay, there are no compounds comprised of only a verb phrase (e.g. “run-a-gate” or “*cache-sexe*”); such compounds are expressed by clauses (as shown in this section) or participant noun constructions (5.7).

#### 5.4.2.5 Compounds containing proper names

A further group of compounds, namely those which contain proper names, are of interest for several reasons. First of all, these nouns contain only canonical names (5.12.1.1). Secondly, the internal structure of these nouns is complex; in some cases, like those shown in the previous section (5.4.2.4), these nouns are composed of clause elements. Thirdly, and as is also the case with most nouns composed of clause elements (5.4.2.4), speakers of the language insist that nouns containing proper names should be orthographically fused.

compound noun with etymological parsing	gloss
<b>nà-syàg-gàm bàhy</b> 1&2-shine:VN-Gam like.electricity	electric fish

<b>tóò-nîn-gáhlàn</b> Taw:LF-eye:LF-faceted	fish sp.
<b>tóò-pyàá</b> Taw:LF-?	lizard sp.
<b>tí-gàm-kùù-kpà'lá</b> AUG-Gam:LF-neck:LF-snail	stork sp.
<b>tí-kwée-má-gâw</b> AUG-Kwee:LF-with-hunter	secretary bird

#### 5.4.2.6 Nouns exhibiting reduplication

Nouns exhibiting reduplication differ from other compounds in that they are composed of two morphologically similar or identical roots whose semantic value is opaque (see 5.11.2 for further discussion).

<b>ḍèlèḡ-ḍéleḡ</b>	bell	<b>tí-kjí-kjí</b>	whooping cough
<b>fùgù-fúgú</b>	lungs	<b>vùrùm-bùrùm</b>	satchel
<b>tì-kòht-kòht</b>	hornbill sp.	<b>wàh-wàh</b>	hubbub

#### 5.4.3 Semantic constitution

Often, the meaning of a compound noun may be predicted from the meaning of its parts .

<b>nú' byàá</b> hole:LF water	well	<b>tíl súgò</b> sickness:LF ear	earache
<b>sùùzì ?ínù</b> hair:LF body	body hair	<b>tòh byàá</b> snake:LF water	water snake

However, there are many compounds in which the meaning of the whole construction diverges from the literal sum of its parts. Still, a semantic connection is usually discernable.

<b>?àhrì kèí</b> canoe:LF sky	airplane	<b>húḍ fyàá</b> death:LF moon	lunar eclipse
<b>bèè ?ínù</b> water:LF body	colour	<b>kpân vwáà</b> penis:LF dog	praying mantis

In some cases, the meaning of one part of a compound is synchronically opaque.

**dàm-kà-ràhbá** kingfisher sp.  
?:LF-PFX-blueness

**nàm-bááyá** baboon  
animal:LF-?

**hùr-tì-góhm** locust sp.  
?-PFX-tree.sp.

**ná-ráh-báh** snake sp.  
PFX-?:LF-rain

**tì-kùm-súbà** fire-sorcery  
PFX-protect:VN:LF-?

In other cases, it is appropriate to posit compounds even when both component noun roots are synchronically opaque. Complexity in CV shape (cf. 5.1.1.1), abnormal tone melody association (cf. 4.1.2.2) and recurrent segmental elements (including prefixes; see 5.1.2.1) point toward the morphological complexity and internal structure characteristic of compound nouns.

**hùr-tí-kpîm** locust sp.  
?-PFX-?

**ná-hùr-kpyáglé** fish sp.  
PFX-?:LF-?

## 5.5 Plural formation

In Mambay, morphologically explicit pluralization is compatible with a large proportion—well over half—of nouns. Limitations on the application of pluralization are discussed in 5.5.1. Pluralization strategies, which are based on a morphological template, are outlined in 5.5.2. Collective constructions, which provide an alternative means of signalling semantic plurality on nouns, are discussed in 5.6.

Productive plural constructions associated with verbs and ideophonic modifiers are discussed in the relevant sections (7.3.1.1 and 8.5.1).

### 5.5.1 Limitations on the application of pluralization

There are three major limitations on the application of pluralization: phonological (5.5.1.1), semantic (5.5.1.2), and pragmatic (5.5.1.3).

#### 5.5.1.1 Phonological limitations

There are strong phonological limitations on which nouns may be pluralized. Noun pluralization applies almost exclusively to canonical noun roots (5.1.1.1), which are

represented by the following shapes: a single heavy syllable, two light syllables, and a heavy syllable followed by a light one.

During field research, no plural forms of non-canonical root shapes were observed in spontaneous speech. In elicited speech, some Mambay speakers produced plurals for a small number of non-canonical noun root shapes (see 5.5.2.1.6 for examples). This given, there was often lack of agreement among subjects concerning the shape and productivity of these plural forms; thus, no conclusion is promoted in the present study regarding the legitimacy or pervasiveness of such constructions.

In addition to CV shape-related limitations, there is a tendency for nouns whose rightmost consonant is an obstruent (besides **g**) or **vb** to resist pluralization. Thus, there are many nouns which appear to be pluralizable from a CV-shape and semantic point of view (5.5.1.2), but which cannot be pluralized. A few of these nouns are as follows:

<b>féévbà</b>	pair of twins
<b>kwáàvbá</b>	bush sp.
<b>máǰà</b>	first child after remarriage
<b>nǎ-kpéévà</b>	kite (bird) sp.
<b>wízi</b>	wagtail (bird)
<b>zǐǐbó</b>	werewolf

### 5.5.1.2 Semantic limitations

A number of semantic categories of nouns are rarely or never found with plurals.

Those which are rarely pluralized are non-count nouns: irregular verbal nouns and other abstract nouns, including those which describe physical attributes, or human states and conditions; substances without a fixed shape, including gases, liquids, grains, powders and pastes; and things which are found collectively. In addition, borrowed words are seldom pluralized, even if they meet the phonological and semantic criteria for pluralizable nouns. Examples of non-pluralizable nouns from each of these categories are as follows:

fossilized verbal nouns (5.9.2):

<b>gǎdlè</b>	deaf person (cf. <b>gàd</b> ‘be deaf’)
<b>kùiló</b>	walk (n.) (cf. <b>kíí</b> ‘set in motion’)
<b>nǎ-ryǎǎ</b>	wink (n.) (cf. <b>rǐí</b> ‘clean out, wink’)
<b>nǎ-wǎhwrá</b>	barking (cf. <b>wǎhw</b> ‘bark’)
<b>sǎ’gá</b>	number (cf. <b>sá’</b> ‘buy’)
<b>vóglà</b>	watch (n.), beginning of dry season (cf. <b>vóg</b> ‘watch, guide’)

attributes of the physical world:

<b>dù'gá</b>	size, length
<b>kpâtgá</b>	distance
<b>pâh</b>	wetness, newness
<b>pùgá</b>	blackness, darkness
<b>séégá</b>	red-brownness
<b>wîgá</b>	thickness, fatness

human states and conditions:

<b>dwáhlà</b>	thirst
<b>nâ-vyàngàrà</b>	jealousy
<b>nâ-kùllá</b>	youthfulness (woman's)
<b>tí-gwâhrí</b>	sickness from breaking a taboo
<b>tí-táàrì</b>	weakness, unsteadiness, staggering
<b>púùgá</b>	ugliness, badness

other abstract nouns:

<b>dìgì</b>	neighbourship
<b>gá'</b>	fulfillment of needs
<b>kàrà</b>	drought
<b>hì'bá</b>	abundance
<b>tí-sǎ'</b>	chance
<b>tí-sí'bá</b>	honour

substances without a fixed shape, including gases, liquids, powders and pastes:

<b>dàrmí</b>	clay
<b>gífbò</b>	alcoholic drink
<b>kú'lvò</b>	smoke, dust
<b>mùùrú</b>	silt
<b>súúbà</b>	urine
<b>tùúrì</b>	<i>boule</i>

things which are found collectively:

<b>bùùbá</b>	white hair
<b>bùùrú</b>	millet sp.
<b>nâ-dígzilè</b>	algae
<b>nâ-réngéré</b>	hanging roots
<b>pèmná</b>	ant sp.
<b>síblè</b>	termite sp.

borrowed words:

<b>gâw</b>	hunter (cf. Fulf. <i>gawjo</i> )
<b>húrò</b>	village (cf. Fulf. <i>wuro</i> )
<b>lèèmú</b> (pl.)	citron (cf. English <i>lemon</i> via Hausa <i>lèèmóó</i> (sg.) / <i>léémúúnàà</i> and Fulf. <i>leemun</i> )
<b>pêl</b>	shovel, scoop (cf. Fr. <i>pelle</i> ‘shovel’)
<b>sírlà</b>	trousers (cf. Fulf. <i>sirla</i> )
<b>zííbà</b>	pocket (cf. Arabic <i>jīb</i> via Fulf. <i>jiiba</i> )

Nouns which are inherently non-pluralizable are names of people and places, regular verbal nouns, and nouns in the context of inalienable possessive constructions. Examples of non-pluralizable nouns from each of these categories are as follows:

names of people and places (5.12):

<b>búrò</b>	(clan name)
<b>gǎm</b>	(female name)
<b>káàrá</b>	(place name)
<b>kàdǵà</b>	(clan name)
<b>tâw</b>	(male name)
<b>vbǎglà</b>	(place name)

regular verbal nouns (5.9.1.1):

<b>bàŋ</b>	tying, knot (cf. <b>báŋ</b> ‘tie’)
<b>ǵâr</b>	getting better, healing (cf. <b>ǵâr</b> ‘get better’)
<b>kòhm</b>	gathering together, meeting (cf. <b>kòhm</b> ‘gather together’)
<b>kùh</b>	becoming scarce, scarcity (cf. <b>kùh</b> ‘be scarce’)
<b>rò’</b>	talking, saying, conversation (cf. <b>ró’</b> ‘talk, say’)
<b>zyágrì</b>	making a mistake, mistake (cf. <b>zyágrì</b> ‘make a mistake’)

nouns in the context of inalienable possessive constructions (5.3.4):

<b>káání</b> head: 1SG.POSS.INAL	my head(s)	<b>káázínzá</b> father: 1&2PL.POSS.INAL	our (incl.) head(s)
<b>páy</b> man: 1SG.POSS.INAL	my father(s)	<b>páázínzá</b> man: 1&2PL.POSS.INAL	our (incl.) father(s)

### 5.5.1.3 Pragmatic limitations

Even for nouns that are phonologically and semantically pluralizable, the application of pluralization in discourse is moderate. Some general observations which put this situation into perspective are as follows:

- Even when phenomena in the referential realm are semantically plural, morphologically explicit plural constructions appear to be the exception rather than the rule.

**kàdá mǎ zǎh.**

Kada with ox

*Kada has oxen. (Or: Kada has an ox.)*

- When a morphologically explicit plural is used, the semantic plurality of the referent is emphatic:

**kàdá mǎ zǎhlzá.**

Kada with OX:PL

*Kada has oxen.*

- Morphologically explicit plurals are rarely with numerals (9.1), since the plurality of the referent is already understood from an inherently plural number.

**kàdá mǎ zǎh ɓàtì.**

Kada with ox two

*Kada has two oxen.*

- Additionally, and in contrast to other pluralizable nouns, human or personified nouns are most often pluralized when there is a plural referent, even if the plurality of the referent is not emphatic (cf. Corbett 2000:55ff.):

**kàdá mǎ gérêm.**

Kada with woman:PL

*Kada has wives (i.e., Kada is married and has more than one wife).*

**gérêm mǎ nà-túttè.**

woman:PL with PFX-soap

*The women have soap.*

**tí-gérêm wǎɗ ðàɗ-zí túrà kúù.**

AUG-woman:PL chief sow:PFV-PL millet fields

*The wives of the chief sowed millet in the fields.*

**nà-pùgzá lùg-zí.**

PFX-person:PL go.out:PFV-PL

*The people went out.*

**nàmzá " gǎh ?éré mǎ nà-pùgpùgá.**

animal:PL TOP dwelling 3PL.POSS with PFX-humankind

*The animals had their dwelling with humankind.*

In addition to the animacy hierarchy, pragmatic factors such as definiteness and grammatical (subject vs. object, head vs. non-head position) and discourse roles (including topicalization and definiteness) may condition the use of morphologically explicit pluralization on nouns; these issues deserve further investigation.

### 5.5.2 Pluralization strategies

Noun plurals are typically formed with a template containing the consonant **z** (5.5.2.1). In addition, there are a number of noun plurals which are formed irregularly (5.5.2.2).

The tone of typical and—with one exception—irregular plurals is the same as that of the singular nouns from which they are derived.

The application of the plural template can result in the morphophonological alternation of vocalic as well as consonantal nasality (5.5.2.3).

The presence of derivational prefixes on nouns (5.1.2) does not affect the application of pluralization to accompanying noun roots:

<b>kwàá</b>	neck, voice	pl. <b>kwàlzá</b>
<b>ná-kwàá</b>	necklace, bead	pl. <b>ná-kwàlzá</b>

The preceding examples also show that in plural constructions, in contrast to some linked noun forms (5.2.2.2.1, 5.2.2.2.2), semivowels do not participate in morphophonological alternation.

Pluralization strategies on possessive constructions and compounds are discussed in 5.5.2.4.

#### 5.5.2.1 Typical plurals

Typical plurals appear to be formed by the addition of various affixes containing the consonant **z**. However, when pluralized nouns are reviewed as a group, it becomes clear that they consistently conform to a C(C)VC.zV template. This plural template is achieved for any given root shape in at least two of the following five ways:

1. addition of the consonant **z** to the onset of a final syllable;
2. deletion of existing onset consonants in the final syllable, or shifting them to the coda of the second-last syllable;
3. addition of **l** or **r** to the coda of the second-last syllable;
4. shortening of long vowels in the second-last syllable; and
5. addition, retention, or alteration of a final vowel.

The application of these strategies depend on the shape of the host root, but there is a surprising amount of variation among resulting plural forms even when base nouns are not greatly different. For example, the identity of the final vowel (#5 above) depends on the structure of the noun which is subject to pluralization (this is shown in further detail in 5.5.2.1.1–5.5.2.1.6 below).

An additional instance of this strategic variation is that in most cases (but cf. 5.5.2.1.5), there is no synchronically discernable phonological motivation for the insertion of **l** versus **r** in a pluralized noun (#3 above). This is evident from the following examples:

<b>báà</b>	cane rat	pl. <b>bárzà</b> (also: <b>bárà</b> , but not <b>bálzà</b> )
<b>ḃáà</b>	tree sp.	pl. <b>ḃálzà</b> (but not <b>ḃárzà</b> )
<b>bǎh</b>	rain	pl. <b>bàhlzá</b> or <b>bàhrzá</b>
<b>tǎh</b>	tree sp.	pl. <b>tàhrzá</b> (but not <b>tàhlzá</b> )
<b>dwǎʼ</b>	belly, centre	pl. <b>dwàʼlzá</b> (but not <b>dwàʼrzá</b> )
<b>vwǎʼ</b>	large-spotted genet	pl. <b>vwàʼrzá</b> (but not <b>vwàʼlzá</b> )
<b>kwáà</b>	grass	pl. <b>kwálzà</b> or <b>kwárzà</b>
<b>kwàá</b>	neck, voice	pl. <b>kwàlzá</b> (but not <b>kwàrzá</b> )
<b>láà</b>	fig, fig tree	pl. <b>lálzà</b> (but not <b>lárzà</b> )
<b>làá</b>	hump	pl. <b>làlzá</b> (but not <b>làrzá</b> )
<b>wáà</b>	fig, fig tree	pl. <b>wálzà</b> or <b>wárzà</b>
<b>wàá</b>	hump	pl. <b>wàlzá</b> (but not <b>wàrzá</b> )

The choice of **l** versus **r** for plural nouns often varies between dialect areas, but not in a readily apparent direction for the lexicon as a whole. Within a single dialect area, Mambay speakers are usually consistent in their use of a given plural. However, for nouns which are infrequently used, speakers may accept or even provide inconsistent forms in the context of elicitation. The sociolinguistic complexities of this situation are acknowledged in the present research, but deserve further exploration.

One consequence of the application of a consistent morphological template to nouns of different CV shapes is the neutralization of contrast among plural forms. Consider the following singular/plural alternations:

<b>wáà</b>	fig, fig tree	pl. <b>wálzà</b> ~ <b>wárzà</b>
<b>wàá</b>	hump	pl. <b>wàlzá</b>
<b>wálà</b>	orphan	pl. <b>wálzà</b>
<b>wààlá</b>	basket rim, wheel	pl. <b>wàlzá</b>

Hypothetically, plurals of nouns from all of the canonical shapes (5.1.1.1) could be neutralized to a single shape:

<b>wáà</b>	fig, fig tree	pl. <b>wálzà</b>
<b>wál*</b>	[hypothetical root]	pl. <b>wálzà</b>
<b>wálà</b>	orphan	pl. <b>wálzà</b>

<b>wáálà*</b>	[hypothetical root]	pl. <b>wáalzà</b>
<b>wálgà*</b>	[hypothetical root]	pl. <b>wáalzà</b>

However, there are no examples of such a profound neutralization in the data.

The output of each of the five template-accommodating processes listed at the beginning of this section is further explored in reference to the specific noun root shapes to which they apply:

- C(C)VV (5.5.2.1.1);
- C(C)VC (5.5.2.1.2);
- C(C)V.CV (5.5.2.1.3);
- C(C)VV.CV (5.5.2.1.4);
- C(C)VC.CV (5.5.2.1.5); and
- other CV shapes (5.5.2.1.6).

### 5.5.2.1.1 C(C)VV roots

CVV and CCVV noun roots conform to the noun plural template C(C)VC.zV by the addition of **z** to the root, the addition of **l** or **r** to the coda of the first syllable (see the first part of 5.5.2.1), the shortening of the long vowel in the first syllable, and the addition of a final vowel. With roots containing the vowel **aa** the added final vowel is the same quality as that of the root:

<b>láà</b>	gourd	pl. <b>lálzà</b>
<b>kwáá</b>	neck, voice	pl. <b>kwàlzà</b>
<b>nà-pàá</b>	antelope sp.	pl. <b>nà-pàlzà</b>
<b>báà</b>	cane rat	pl. <b>báarzà</b> (also: <b>bàrà</b> ; see 5.5.2.2)
<b>dàá</b>	papa	pl. <b>dàrzà</b>
<b>tyáà</b>	fish sp.	pl. <b>tyáarzà</b>

However, with CVV and CCVV noun roots containing the vowels **ii**, **oo**, (there is only one example of each in the data) and **uu**, the added final vowel is **o**:

<b>sǐǐ</b>	fish sp.	pl. <b>sìnzó</b> (see 5.5.2.3.1 regarding nasality)
<b>syòó</b>	song	pl. <b>syòlzó</b>
<b>fùú</b>	trench	pl. <b>fùlzó</b>
<b>nà-súù</b>	insect sp.	pl. <b>nà-sùlzó</b>
<b>túù</b>	fish sp.	pl. <b>tùlzó</b>
<b>tí-vúù</b>	antelope sp.	pl. <b>tí-vùrzò</b>

There are no CVV and CCVV noun roots in the data which contain **ee** and which may be pluralized.

### 5.5.2.1.2 C(C)VC roots

Only a few of the C(C)VC noun roots in the data may be pluralized. Each of these roots conforms to the noun plural template C(C)VC.zV by the addition of **z** and a final vowel to the root.

For CVC roots containing the vowel **a**, the added final vowel is **a** or **o**:

<b>kâŋ</b>	bowstring, drum snare	pl. <b>káŋzà</b>
<b>kǎw</b>	frog sp.	pl. <b>kàwzá ~ kàwzó</b>

For CVC roots containing other vowels, the added final vowel tends to be **o**:

<b>bîŋ</b>	forest	pl. <b>bíŋzò</b>
<b>fêhm</b>	fish sp.	pl. <b>féhmzò</b>
<b>kǔm</b>	baobab	pl. <b>kùmzó</b>
<b>kyô'w</b>	warthog, pig	pl. <b>kyó'wzò</b>
<b>kpúŋ</b>	hill	pl. <b>kpúŋzó</b>
<b>'wêy</b>	fish sp.	pl. <b>'wéyzò ~ 'wéyzà</b>

### 5.5.2.1.3 C(C)V.CV roots

CV.CV and CCV.CV noun roots conform to the noun plural template C(C)VC.zV by the addition of **z** to the onset of the root's final syllable, shifting of the existing onset consonant in the final syllable to the coda of the second-last syllable and, for roots ending in the vowels **i e a o**, the retention of the final vowel.

<b>yèrí</b>	clothing	pl. <b>yèrzí</b>
<b>vbìlá</b>	piece of <i>boule</i>	pl. <b>vbìlá</b>
<b>súgò</b>	ear	pl. <b>súgzò</b>
<b>kwéré</b>	fence	pl. <b>kwézzè</b>

For roots ending in the vowel **u**, the final vowel becomes **o**:

<b>kpúgù</b>	tree sp.	pl. <b>kpúgzò</b>
<b>sùmú</b>	potter's kiln	pl. <b>sùmzó</b>
<b>zínù</b>	tooth, tusk	pl. <b>zínzó</b>

Exceptionally, for C(C)V.CV roots in which the onset of the final syllable is **z**, four strategies have been observed. This is illustrated using data gathered for **vbízò** 'fishhook,' a root with which all four strategies have been attested:

1. invariable plural: **vbízò**
2. addition of l to coda of first syllable: **vbílzò**
3. addition of r to coda of first syllable: **vbírzò**
4. gemination of z: **vbízzò**

Although the fourth strategy accords with that which is normally used for other C(C)V.CV roots, in roots where **z** is the final syllable's onset it has only been observed with a single speaker. While a number of people have given plural forms with **l** or **r** in this situation, the invariable plural is even more commonly employed (see 5.5.1.1).

#### 5.5.2.1.4 C(C)VV.CV roots

CVV.CV and CCVV.CV noun roots typically conform to the noun plural template C(C)VC.zV by the addition of **z** to the onset of the root's final syllable, addition of **l** or **r** to the coda of the second-last syllable, shortening of long vowels in the second-last syllable and, for roots ending in the vowels **i e a o**, the retention of the final vowel.

<b>bóólì</b>	lion	pl. <b>bólzì</b>
<b>fíílò</b>	house	pl. <b>fílzò</b>
<b>tîrâ</b>	mother, matron	pl. <b>tîrzâ</b>
<b>tî-kóólè</b>	pipe	pl. <b>tî-kóolzè</b>

Plural forms of C(C)VV.CV noun roots ending in **u** are the same, except that the final vowel of the plural form is **o** rather than the identical vowel **u**.

<b>bǐǐrǔ</b>	cobra	pl. <b>bǐrzò</b> (cf. 5.5.2.3.1 re. nasality)
<b>dúúrú</b>	hyrax	pl. <b>dúrzó</b>
<b>hùùnú</b>	thigh	pl. <b>hùnzó</b> (cf. 5.5.2.3.1 re. nasality)

When the consonant in the last syllable of a C(C)VV.CV noun is an obstruent, the obstruent is replaced by the **z** of the plural template.

<b>bóòzá</b>	lump of mud	pl. <b>bólzá</b>
<b>kpèègá</b>	tree	pl. <b>kpèlzá</b>
<b>'wáàgá</b>	crack	pl. <b>'wálzá</b>

Almost all CVV.CV and CCVV.CV nouns roots ending in **rV** and **IV** consistently insert **r** and **l** respectively during pluralization (as evident from the examples earlier in this section). This could also be viewed as the shifting of these consonants from the coda of the last syllable to the onset of the first syllable. There are, however, a few exceptions in the data, including:

<b>fúúrà</b>	hernia	pl. <b>fúlzà ~ fúrzà</b>
<b>gì'rá</b>	gourd	pl. <b>gì'lzá</b>
<b>tí-dí'rá</b>	millet sp.	pl. <b>tí-dí'lzá ~ tí-dí'rzá</b>

#### 5.5.2.1.5 C(C)VC.CV roots

CVV.CV and CCVV.CV noun roots conform to the noun plural template C(C)VC.zV by the addition of **z** to the onset of the root's final syllable, deletion of the existing onset

consonant in the final syllable and, for roots ending in the vowels **a** and **o**, the retention of the final vowel.

<b>dàmná</b>	thatch, grass sp.	pl. <b>dàmzá</b> (cf. 5.5.2.3.1 re. nasality)
<b>nà-fóblà</b>	water hyacinth	pl. <b>nà-fóbzà</b>
<b>nà-gwálgà</b>	mountain pass	pl. <b>nà-gwálzà</b>
<b>bùmgó</b>	ribcage	pl. <b>bùmzó</b>
<b>hîmgó</b>	owl sp.	pl. <b>hîmzó</b>
<b>nà-kpôngó</b>	chameleon	pl. <b>nà-kpôngzó</b>

There are two C(C)VV.CV noun roots ending with the vowel **u** that are pluralized in a similar fashion, except that the final vowel becomes **o**:

<b>nà-rîmnú</b>	tongue, bud	pl. <b>nà-rîmzó</b> (cf. 5.5.2.3.1 re. nasality)
<b>rúglò</b>	fish sp.	pl. <b>rúgzò</b> (also: <b>rúgúgzò</b> ; see below)

None of the C(C)VV.CV noun roots in the data which end in **i** or **e** may be pluralized.

Exceptionally, three plurals retain the existing consonant in the final root syllable after **z** has been added. This results in the copying of the previous syllable's vowel before the persistent consonant, and the consequent creation of an addition syllable:

<b>dígnù</b>	liver	pl. <b>dígínzò</b>
<b>nì nà-rígnù</b>	armpit	pl. <b>nì nà-rígínzò</b>
<b>rúglò</b>	fish sp.	pl. <b>rúgúgzò</b> (also: <b>rúgzò</b> ; see above)

#### 5.5.2.1.6 Other root shapes

Apart from those noun roots exhibiting one of the canonical shapes presented in the sections immediately above, there are very few roots which can be pluralized. Even those who are able to provide plural data for other shapes are cautious about the validity and frequency of most of these forms. A representative list of non-canonical nouns for which plurals have been elicited is as follows:

<b>bàhà</b>	ibis sp.	pl. <b>bàhànzà</b>
<b>bàvbâw</b>	fish sp.	pl. <b>bàvbâwzò</b>
<b>gùùgìnù</b>	gill	pl. <b>gùùgìnzó</b>
<b>gìhgìnù</b>	wing, fin	pl. <b>gìhgìnzó</b>
<b>gìwâh</b>	cup	pl. <b>gìwâhlzà</b>
<b>lágângá</b>	water turtle sp.	pl. <b>lágânzà</b>
<b>nà-sógôngá</b>	earthworm	pl. <b>nà-sógôngzá</b>
<b>pùpùrì</b>	horn (instrument)	pl. <b>pùpùrìzì</b>

A possible reason for the pluralizability (however marginal) of these words is that they could be perceived as morphologically complex (prefixed or compound) words, which may take plural morphology if at least one of the roots is pluralizable (5.5.2.4).

### 5.5.2.2 Irregular plurals

Ten of the nouns in the data, most of which are commonly used vocabulary items, employ alternative pluralization strategies. For eight of the ten words, the irregular plural exists alongside a typical plural form; however, the irregular forms are more commonly used.

For six monosyllabic nouns, the plural is formed by the addition of a **-ra** (after a low vowel) or **-ro** (after **u**) suffix. (For comparative discussion of this suffix, see Anonby 2008:15–7; Ruelland 1992:142–3, 249–52; and Elders 2000:118, 122–3). Three of the six nouns contain contrastively long vowels, and in each of these cases the root vowel is shortened during pluralization. Another way of expressing the process of pluralization for these nouns is the subjection of the singular C(C)VV roots to a plural template C(C)VrV. These alternations are as follows:

<b>báà</b>	cane rat	pl. <b>bàrà</b> (also: <b>bàrzà</b> )
<b>kyáà</b>	container	pl. <b>kyá̀r̀à</b> (also: <b>kyánzà</b> ; see 5.5.2.1.3)
<b>vúù</b>	sheep, goat	pl. <b>vú̀r̀ò</b> (also: <b>vú̀rzò</b> )

The remaining three of the six nouns which employ this strategy contain vowels which are modified: in two cases by pharyngealization, and in the other case by glottalization. However, pharyngealized and glottalized vowels do not support contrast in length (2.2.1). Consequently, for two of the words, the C(C)VrV plural template does not affect the length of the modified root vowels. These singular/plural alternations are as follows:

<b>hâh</b>	shepherd's stick, herd of 100 cows	pl. <b>hâhrà</b> (also: <b>hâhlzà</b> )
<b>vyâ'</b>	mouse	pl. <b>vyâ'̀rà</b> (also: <b>vyâ'̀rzà</b> )

The evaporation of pharyngealization on a final monosyllabic noun is without parallel in the language. It is associated with the shortening of the vowel in both of its two irregular plural forms.

<b>zǎh</b>	ox	pl. <b>zàrà, zàrzà</b> (also: <b>zâhlzá</b> )
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Other irregular plurals are unpredictable. For two nouns, idiosyncratic plural forms show only a nominal similarity to the singular roots:

<b>bígà</b>	child	pl. <b>bélà</b>
<b>náábà</b>	colleague, intimate friend	pl. <b>nágrò</b>

For two additional nouns, however, there is no discernible resemblance between singular and plural forms:

<b>vínà</b>	woman	pl. <b>gérêm</b> ~ <b>gérmù</b> (also: <b>vínzà</b> )
<b>vbìná</b>	male (n.), husband	pl. <b>húrmù</b> (also: <b>vbìnzá</b> )

### 5.5.2.3 Morphophonological alternation of nasality

There are two cases in which nasality is subject to a morphophonological alternation when the noun plural template is applied. First, nasality evaporates from the final vowel of a root to which the noun plural template is applied (5.5.2.3.1). Second, **l** alternates with **n** in a nasal environment (5.5.2.3.2).

#### 5.5.2.3.1 Evaporation of nasality from the final vowel of a pluralized root

When the C(C)VC.zV plural template (5.5.2.1) is applied to a noun root in which the final vowel is nasalized, nasality on that vowel evaporates.

<b>bùrì</b>	wild manioc sp.	pl. <b>bùrzí</b>
<b>gèmná</b>	entrance hut	pl. <b>gènzá</b>
<b>hámà</b>	duiker sp.	pl. <b>hámzà</b>
<b>nà-kàrà</b>	faithful companion, disciple	pl. <b>nà-kàrzá</b>
<b>sáṅṅì</b>	mortar	pl. <b>sáṅzì</b>
<b>sìrǎ</b>	year	pl. <b>sìrzá</b>

This alternation takes place because the intervening obstruent **z** of the plural template deprives the word-final final nasalized vowel of the minimal environment required to host nasality (3.4.2, 3.4.3.8).

#### 5.5.2.3.2 Alternation of **l** and **n** in a nasal environment

Whenever **l** is inserted into a nasal environment as part of a plural template (as described in 5.5.2.1), it is realized as **n**.

<b>kwǎà</b>	fly	pl. <b>kwǎnzà</b> ~ <b>kwǎrzà</b>
cf. <b>kwáà</b>	grass	pl. <b>kwálzà</b> ~ <b>kwárzà</b>
<b>ná'rà</b>	sauce	pl. <b>ná'nzà</b>
cf. <b>vbá'là</b>	chunk, muscle	pl. <b>vbá'lzà</b>
<b>nà-syâh</b>	sucking air between teeth and lip	pl. <b>nà-syâhnzà</b>
cf. <b>syâh</b>	boundary	pl. <b>syâhlzá</b>
<b>sàǎ</b>	woman's loin-garment, menstruation	pl. <b>sànzá</b>
cf. <b>sáà</b>	stone	pl. <b>sálzà</b> ~ <b>sárzà</b>

When the inserted **n** is found as part of a plural construction, the singular root with which it is associated always exhibits a nasal environment; because of this, it is apparent that the underlying form of the inserted consonant is **l** rather than **n** (3.3.2.3).

#### 5.5.2.4 Possessive constructions and compounds

In alienable possessive constructions (5.3.3.3.1), plurality is marked on the semantically plural morphological constituent. Either noun or even both nouns in the possessive construction may be pluralized, depending on the semantic intent. This is evident in the possible plural forms of **fàà syâh** ‘back of the hand’:

<b>fàà syâh</b> back:LF hand	→	<b>fàlzi syâh</b> back:PL:LF hand	backs of the hand
	→	<b>fàà syâhlzà</b> back:LF hand:PL	back of the hands
	→	<b>fàlzi syâh</b> back:PL:LF hand	backs of the hands

On lexicalized noun + noun compounds (5.4), which typically appear to be identical to alienable possessive constructions (5.3.3.1), plural morphology may cliticize on the dependent possessor noun even if the possessed head noun carries the semantic plurality. This is the case with the compound noun ‘heart’:

<b>lâà túbò</b> gourd:LF blood	→	<b>lâà túbzò</b> gourd:LF blood:PL	hearts
	~	<b>lâlzi túbò</b> gourd:PL:LF blood	hearts

There is no plural marking on inalienable possessive constructions; semantic plurality on such constructions is unspecified (5.5.1.2).

## 5.6 Collective constructions

Collective constructions are used with human nouns, and differ from plural constructions (5.5) in their morphology and in that they prototypically refer to groups as a whole rather than to multiple members within a group. Collective constructions in Mambay are signalled in two ways: prefixation with **tì-** (5.6.1), and use of inherently collective nouns (5.6.2).

### 5.6.1 The human collective prefix **tì-**

The human collective prefix **tì-** is used with names of social groups, such as ethnic groups, clans, inhabitants of a locality, and religious groups. Ethnic groups include:

<b>tì-byúù</b>	the Guidar people (cf. <b>byúù</b> ‘(locality name)’)
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<b>tì-hàwsà</b>	the Hausa people
<b>tì-káà-byàá</b>	white people (cf. <b>káálà</b> / <b>káà</b> ‘head, reason, on’; <b>byàá</b> ‘water’)
<b>tì-làkà</b>	southern Chadians (especially Laka, Ngambay, Sara)
<b>tì-làgá ~ tì-làgzá</b>	the Mundang people (cf. <b>làgá</b> ‘lie (n.)’ / pl. <b>làgzá</b> )
<b>tì-màmbày</b>	the Mambay people
<b>tì-ná-syàá</b>	white people (cf. <b>ná-syàá</b> ‘fire, gun’)
<b>tì-zàmí</b>	the Fulbe people

Mambay clans (5.12.2) include:

<b>tì-gáà</b>	the <b>gáà</b> clan
<b>tì-kàḍgà</b>	the <b>kàḍgà</b> clan
<b>tì-sàù-búúrà</b>	the <b>sàù-búúrà</b> clan
<b>tì-tàrà</b>	the <b>tàrà</b> clan

Inhabitants of localities (see 5.12.1.4 for discussion of locality names) include:

<b>tì-bèè-páhnà</b>	inhabitants of Beepahna
<b>tì-káà-kààlá</b>	inhabitants of Kaakaala
<b>tì-káà-sî</b>	inhabitants of the Mambay area (cf. <b>káálà</b> / <b>káà</b> ‘head, reason, on’; <b>sî</b> ‘valley, river’)
<b>tì-zé’gà</b>	inhabitants of the mountain (cf. <b>zé’gà</b> ‘mountain’)

Adherents to Islam and Christianity, the two major religious groups, are labelled in various ways. Muslims are referred to as follows:

<b>tì-ʔìzlâm</b>	(cf. Arabic <i>islām</i> and Fr. <i>islam</i> )
<b>tì-m̀j̀z̀l̀m̀ḡ</b>	(cf. Fr. <i>musulman</i> )
<b>tì-z̀m̀-ʔ̀j̀ǹỳ</b>	(cf. <b>z̀m̀</b> ‘hit (v.n.)’; <b>ʔ̀j̀ǹỳ</b> ‘forehead, front’)

Christians are referred to as follows:

<b>tì-ʔ̀í-ʔ̀s̀í-k̀è̀t̀í</b>	(cf. <b>ʔ̀í-</b> ‘house,’ <b>ʔ̀s̀í-k̀è̀t̀í</b> ‘God’)
<b>tì-k̀ìr̀íz ~ tì-k̀r̀íz̀t̀ù</b>	(cf. Fr. <i>christ</i> )
<b>tì-m̀j̀sỳḡ</b>	(cf. Fr. <i>mission</i> via Fulf. <i>misyoŋ</i> )
<b>tì-ǹj̀ápá</b>	(cf. Sango / Fulf. <i>njapa</i> ‘mission’) (Eguchi 1971:186)

The prefix ʔ̀ì- (5.10) lends emphasis to the identity of the group.

<b>tì-ʔ̀ì-m̀àmb̀ỳ ~ t̀ì m̀àmb̀ỳ</b>	those who are Mambay people
COLL-HEAD-Mambay ~ COLL:HEAD Mambay	
cf. <b>t̀ì-m̀àmb̀ỳ</b>	the Mambay people
COLL-Mambay	

As the above example shows, the emphatic form of collective nouns has two possible realizations; both of these are formed with **tì-** and the prefix **?ì-** (5.10). While the first form (**tì-?ì-màmbày**) is more phonologically regular, it is the second form (**tì màmbày**) which is almost always used, even in formal contexts. The absence of the glottal stop in **tì** is significant in this morphological context, since it persists in segmentally comparable constructions such as **tì-?ìzlám** ‘Muslims’ (see above in this section).

**tì** appears frequently as the collective form of male/generic and female participant nouns (5.7).

singular form		collective form
<b>páà fâh</b>	messenger	<b>tì fâh</b>
man:LF path		messengers / those who COLL:HEAD path are messengers
<b>páà vbù nàmá</b>	butcher	<b>tì vbù nàmá</b>
man:LF cut:VN animal/meat		butchers / those who are COLL:HEAD cut:VN butchers animal/meat
<b>(tí-)vín bùù sédǵà</b>	potter (female profession)	<b>tì bùù sédǵà</b>
(AUG-)woman: LF-build:VN- clay.cooking.pot		potters / those who are COLL:HEAD build:VN- clay.cooking.pot

### 5.6.2 Inherently collective human nouns

There is a handful of inherently collective nouns which refer to social groups. These nouns, which contain a historical derivational suffix **-(g)VrV** (see 5.1.3.2), are as follows:

<b>?àzgàrà</b>	reciprocal social unit (see Glossary)	cf. <b>?àzì</b> ‘member of <b>?àzgàrà</b>
<b>fàzàrà</b>	reciprocal social unit (see Glossary)	cf. <b>fàzì</b> member of <b>fàzàrà</b>
<b>fàhzàrà</b>	reciprocal social unit (see Glossary)	cf. <b>fàhzì</b> member of <b>fàhzàrà</b>
<b>màngàrà</b>	age-group	cf. <b>màn</b> age-mate
<b>nàngàrà</b>	maternal uncles	cf. <b>nànà</b> ‘maternal uncle

## 5.7 Participant noun constructions

Participant noun constructions are used to identify people and objects by what they do or, more broadly, things by which they are identified. These constructions are described separately in this study because of their productivity in spontaneous constructions, their important contribution to the lexicon (well over one hundred items in the data), and because they are formed by two distinct means: possessive constructions and prefixation.

Participant noun constructions are of three types in Mambay: male/generic (5.7.1), female (5.7.2) and non-human (5.7.3).

As is the case in many African languages (Dimmendaal 2000:170), participant nouns in Mambay are typically found as possessed head nouns in the context of possessive constructions. This is true of all three types (male/generic, female and non-human). An additional and equivalent female participant noun construction in Mambay involves the addition of a prefix to a noun. Possessor nouns which follow the possessed noun or prefix are commonly, but not exclusively, verbal nouns (cf. 5.9.1). Participant nouns may have either an agentive or a patientive role in relation to verbal nouns.

Participant nouns employ varied pluralization and collective strategies (5.7.4).

### 5.7.1 Male/generic participant nouns

Male/generic participant noun constructions are formed by inserting the noun **páà** ‘man, father, owner’ in the possessed-noun position of a possessive construction. The prototypical usage of **páà** as an alienable noun is that of ownership:

<b>páà ʔígà</b>	owner
man:LF thing	

Although **páà** is typically used for male referents, and Mambay speakers consistently give the gloss ‘man, father,’ it may also be used generically:

<b>páà bîn</b>	another person (male or female)
man:LF another	

<b>páà só’lí ʔì-vínà</b>	female boss (cf. <b>páà só’lé</b> ‘master, lord’)
man:LF greatness:LF HEAD-woman	

A wide representation of syntactic possibilities is found with male/generic participant nouns, which comprise about two-thirds of the participant nouns in the data. Participant noun constructions composed of **páà** and a typical (i.e., non-verbal) noun are illustrated by the following examples:

<b>páà ògì</b>	neighbour	cf. <b>ògì</b> neighbourhood
<b>páà fâh</b>	messenger	cf. <b>fâh</b> path
<b>páà ʔígà</b>	owner	cf. <b>ʔígà</b> thing
<b>páà káálà</b>	guide	cf. <b>káálà</b> head, reason
<b>páà rẹ̀hbá</b>	poor man	cf. <b>rẹ̀hbá</b> poverty
<b>páà sòngó</b>	old man	cf. <b>sòngó</b> old age

Constructions involving other components are as follows:

<b>páà</b> + verbal noun:	<b>páà sùm-ná</b>	acquaintance
	man:LF know:VN-OBJ	

**páà** + compound noun: **páà tí-vín húdò** widower (cf. **tí-vín húdò** ‘dead woman’)  
man:LF AUG-woman:LF die:VN

**páà** + prepositional phr.: **páà bèè káálà** stupid person  
man:LF without head

**páà** + adjective: **páà gbéndén** dwarf  
man:LF short

**páà** + nominalized adv.: **páà tùm** guide  
man:LF forward

Of the various participant noun constructions, those containing verbal nouns are the most common. In all cases, the participant noun is the subject of the verb (whatever the semantic role of the subject in relation to the verb):

**páà húdò** dead person  
man:LF die:VN

**páà pààrá** farmer  
man:LF cultivate:VN

**páà ryáhrà** caller, wailer  
man:LF cry:VN

**páà tígrò** falling person  
man:LF fall:VN

For regular verbal nouns derived from transitive verbs, an object (either explicit or the dummy object suffix **-nà**; cf. 5.9.1.1) always accompanies the verbal noun.

**páà sàh ?ígà** musician  
man:LF play:VN thing

**páà kòg kyǎ'** diviner, fortune-teller, prophet  
man:LF see:VN situation

**páà vbù nàmá** butcher  
man:LF cut:VN animal/meat

**páà gêy-nà** boaster  
man:LF boast:VN-OBJ

**páà hìh-nà** coward  
man:LF fear:VN-OBJ

**páà sôg-ná**

man:LF send/order:VN-OBJ

messenger

### 5.7.2 Female participant nouns

Female participant noun constructions may be formed in one of two ways: by inserting the noun **vínà** ‘woman’ or its respect form (cf. 5.8.2) **tí-vínà** in the possessed-noun position of a possessive construction; or by attaching an augmentative/female prefix **tí-** (cf. 5.8.2) to a noun.

<b>(tí-)vín sôm-ná</b>	=	<b>tí-sôm-ná</b>	female
acquaintance			
(AUG-)woman:LF know:VN-OBJ	=	woman:AFX-know:VN-OBJ	

The two forms appear to be interchangeable, although it is possible that **(tí-)vínà** may be associated with more formal speech or used to focus on the female identity of the participant.

Participant noun constructions composed of **(tí-)vínà** / **tí-** and a typical (i.e., non-verbal) noun are illustrated by the following examples:

<b>(tí-)vín ògì / tí-ògì</b>	female neighbour	cf. <b>ògì</b> neighbourhood
<b>(tí-)vín só'lé / tí-só'lé</b>	first wife	cf. <b>só'lé</b> greatness

Constructions involving other components are as follows:

**(tí-)vínà** ~ **tí-** + verbal noun:

<b>(tí-)vín sôm-ná</b>	=	<b>tí-sôm-ná</b>	female acquaintance
(AUG-)woman:LF know:VN-OBJ	=	woman:AFX-know:VN-OBJ	
<b>(tí-)vín bùù sédǵà</b>	=	<b>tí-bùù sédǵà</b>	potter (female profession)
(AUG-)woman:LF build:VN clay.cooking.pot	=	woman:AFX-build:VN clay.cooking.pot	

**(tí-)vínà** ~ **tí-** + compound noun:

<b>(tí-)vín káà pít</b>	=	<b>tí-káà pít</b>	prostitute
(AUG-)woman:LF head:LF adultery	=	woman:AFX-head:LF adultery	
<b>(tí-)vín m̀h sigró</b>	=	<b>tí-m̀h sigró</b>	first wife
(AUG-)woman:LF centre:LF land	=	woman:AFX-centre:LF land	

(tí-)vínà ~ tí- + adjective:

(tí-)vín sâ'	= tí-sâ'	elderly woman
(AUG-)woman:LF elderly	= woman:PFX-elderly	

### 5.7.3 Non-human participant nouns

Non-human participant noun constructions are formed by inserting the noun **?ígà** 'thing' in the possessed-noun position of a possessive construction.

Almost all non-human participant noun constructions in the data involve a verbal noun derived from a transitive verb. The participant **?ígà** can be the subject or object of a verbal noun. Subject status is evident in the following constructions:

<b>?íg bù' dígùnù</b>	nausea
thing:LF gather.up:VN liver	

<b>?íg kàm zírmin</b>	loom
thing:LF weave:VN cloth	

<b>?íg kpǔg-nà</b>	saw (n.)
thing:LF saw(v.):VN-OBJ	

<b>?íg pǎh-nà</b>	plan
thing:LF plan:VN-OBJ	

The object status of **?ígà** is evident in the following constructions (since **?ígà** is co-referential with the dummy object suffix **-nà**):

<b>?íg dǒg-nà</b>	drink (n.)
thing:LF drink(v.):VN-OBJ	

<b>?íg fú' rì-nà</b>	swelling
thing:LF swell:VN-OBJ	

<b>?íg sàá-nà</b>	tribute
thing:LF pay.tribute:VN-OBJ	

<b>?íg sùm-nà</b>	knowledge
thing:LF know:VN-OBJ	

The only attested non-human participant noun constructions involving components other than verbal nouns are as follows:

<b>?ígà</b> + compound noun:	<b>?íg kàà súgò</b>	earring (cf. <b>kàà súgò</b> 'top of ear')
	thing:LF head:LF ear	

**?ígà** + prepositional phr.: **?íg sàà wàà** nose ring  
 thing:LF inside nose

**?ígà** + nominalized adv.: **?íg sùgú** that which is below / the bottom thing  
 thing:LF below

### 5.7.4 Pluralization and collective strategies

Participant nouns employ various pluralization and collective strategies, depending on whether they are male/generic, female or non-human.

The male/generic participant **páà** may not be pluralized. Instead, Mambay speakers use collective constructions with the generic human collective participant **tù** (= **tù** + **?i**; see 5.6.1) ‘those [who are] of’:

<b>páà fâh</b> man:LF path	messenger	<b>tù fâh</b> COLL:HEAD path	messengers
<b>páà vbù nàmá</b> man:LF cut:VN animal/meat	butcher	<b>tù vbù nàmá</b> COLL:HEAD cut:VN animal/meat	butchers

The female participant (**tí**-**vínà** ~ **tí**- has two possibilities available. If the female identity of the participants is significant, the plural noun (**tí**-)**gérêm** (an irregular plural of (**tí**-) **vínà**; see 5.5.2.2) is employed ((**tí**-)**vínà** is used in the examples here, but its short form **tí**- is equivalent; see 5.7.2).

<b>(tí)-vín dígì</b> (AUG-)woman:LF neighbourship	female neighbour	<b>(tí)-gérêm dígì</b> (AUG-)women:LF neighbourship	female neighbours
<b>(tí)-vín bùù sédǵà</b> (AUG-)woman:LF build:VN clay.cooking.pot	potter (female profession)	<b>(tí)-gérêm bùù sédǵà</b> (AUG-)women:LF build:VN clay.cooking.pot	potter women

However, if the female identity of the participants is incidental, the human collective participant **tù** is employed:

<b>(tí)-vín dígì</b> (AUG-)woman:LF neighbourship	female neighbour	<b>tù dígì</b> COLL:HEAD neighbourship	neighbours (who happen to be female)
<b>(tí)-vín bùù sédǵà</b> (AUG-)woman:LF build:VN clay.cooking.pot	potter (female profession)	<b>tù bùù sédǵà</b> COLL:HEAD build:VN clay.cooking.pot	potters

The non-human participant **ʔígà** ‘thing’ is usually used with verbal nouns (cf. 5.9.1), which are often not countable (5.5.1.2). In such cases, the noun resists pluralization, and no collective construction is available (cf. the human collective participant in the examples earlier in this section).

<b>ʔíg sàá-nà</b>	tribute	—	tribute (pl.)
thing:LF pay.tribute:VN-OBJ			
<b>ʔíg sùm-ná</b>	knowledge	—	knowledge (pl.)
thing:LF know:VN-OBJ			

In cases where participant nouns constructed with **ʔígà** ‘thing’ are countable, **ʔígà** is pluralized (cf. 5.5.2.4).

<b>ʔíg kàm zǐrmìn</b>	loom	<b>ʔígzì kàm zǐrmìn</b>	looms
thing:LF weave:VN cloth		thing:PL:LF weave:VN cloth	
<b>ʔíg kpǔg-nà</b>	saw	<b>ʔígzì kpǔg-nà</b>	saws
thing:LF saw(v.):VN-OBJ		thing:PL:LF saw(v.):VN-OBJ	

## 5.8 Diminutives and augmentatives

Diminutive and augmentative strategies are both available in Mambay. While diminutive derivations (5.8.1) employ compounding (5.4), augmentative derivations (5.8.2) employ prefixation (5.1.2).

### 5.8.1 Diminutives

Diminutives are a productive means of expressing small (or diminutive) size and/or specificity. They are formed by coupling **ʔígà** ‘child’ with another noun in the context of a possessive construction (5.3.3.3.1). Diminutives expressing small size include the following phrases:

base noun		diminutive	
<b>b̂ɲ</b>	forest	<b>ʔíg b̂ɲ</b>	thicket
<b>fíílò</b>	house	<b>ʔíg fíílò</b>	small house
<b>kpèègá</b>	tree	<b>ʔíg kpèègá</b>	bush
<b>vúù</b>	goat	<b>ʔíg vúù</b>	goat kid

Diminutives expressing specificity include the following phrases:

<b>ká’</b>	here (n.)	<b>ʔíg ká’</b>	right here (n.)
<b>kǔ</b>	there (n.)	<b>ʔíg kǔ</b>	right there (n.)

Diminutives which have been lexicalized as compound nouns include the following:

<b>héerì nà-syàá</b>	coal	<b>bìg héerì nà-syàá</b>	spark
<b>kyǎh</b>	fish	<b>bìg kyǎh</b>	nile perch
<b>màhba</b>	concubinage, adultery	<b>bìg màhba</b>	betrothal
<b>tì-nà-mùùrǎ</b>	jinn, totem, vision	<b>bìg tì-nà-mùùrǎ</b>	butterfly

Plural diminutives are formed with **bèlà** ‘children,’ the plural form of **bìgà** (see 5.5.2.2).

<b>bìg héerì nà-syàá</b>	spark	<b>bèl héerì nà-syàá</b>	sparks
<b>bìg kpèègá</b>	bush	<b>bèl kpèègá</b>	bushes
<b>bìg tì-nà-mùùrǎ</b>	butterfly	<b>bèl tì-nà-mùùrǎ</b>	butterflies
<b>bìg vúù</b>	goat kid	<b>bèl vúù</b>	goat kids

Plural diminutives may also be used with nouns referring to small things, even when their base forms are not otherwise pluralizable (cf. 5.5.1). This type of construction emphasizes small or diminutive size as well as the plural nature of the things.

<b>bǎh</b>	rain	<b>bèl bǎh</b>	drizzle
<b>féévbà</b>	pair of twins	<b>bèl féévbà</b>	twins
<b>?ìg gógrà</b>	flying insect	<b>bèl ?ìg gógrà</b>	flying insects
<b>kúmù</b>	herder (boy)	<b>bèl kúmù</b>	herders
<b>nà-gbúŋ-gbâ’</b>	tadpole	<b>bèl nà-gbúŋ-gbâ’</b>	tadpoles
<b>sí-sî</b>	waxbill (bird sp.)	<b>bèl sí-sî</b>	waxbills
<b>zàà fâh yá</b>	shrew sp.	<b>bèl zàà fâh yá</b>	shrews (sp.)

### 5.8.2 Augmentatives

Augmentatives are a productive means of expressing large (or exaggerated) size and/or respect. They are formed by attaching the prefix **tí-**, which likely originates in the words **túù** ‘mother’ and/or **tîrà** ‘matron’ (cf. 5.1.2.4.11). (This prefix has two other functions, one of which marks female participant nouns (5.7.2) and one of which is obligatorily found as a part of specific nouns (5.1.2.4.11)). Augmentatives expressing large size include the following examples:

base noun		augmentative	
<b>byàá</b>	water	<b>tí-byàá</b>	large water-body
<b>kyǎh</b>	fish	<b>tí-kyǎh</b>	large fish
<b>kpèègá</b>	tree	<b>tí-kpèègá</b>	large tree
<b>sùgá</b>	spear	<b>tí-sùgá</b>	large spear

Augmentatives expressing respect are found with nouns denoting females, including canonical female personal names (cf. 5.12.1.1). This accords well with the ‘female’ sense of the prefix which is found in female participant nouns (5.7.2). Augmentatives expressing respect include the following examples:

base noun		augmentative (respect form)
<b>?ázi´</b>	member of <b>?àzgàrà</b> (see Glossary)	<b>tí-?ázi´</b>
<b>dèví</b>	(female proper name)	<b>tí-dèví</b>
<b>nàgá</b>	(female proper name)	<b>tí-nàgá</b>
<b>nà-vínù</b>	co-wife	<b>tí-nà-vínù</b>
<b>vínà</b>	woman	<b>tí-vínà</b>
<b>má-nâ´</b>	man's mother-in-law	<b>tí-má-nâ´</b>

An augmentative semantic value is also evident in many nouns which are obligatorily found with the suffix **tí-** (5.1.2.4.11). In such cases, however, the semantic association between the base noun and the augmented form is often much more general than one of proportion or respect; in some cases, it approaches the female- or “mother”-type participant noun function of the prefix (5.7.2, 5.1.2.4.11).

base noun		lexicalized augmentative
<b>figò</b>	flea	<b>tí-figò</b> duck
<b>gyáàlá</b>	nanny	<b>tí-gyáàlá</b> maternal aunt
<b>húfò</b>	death	<b>tí-húfò</b> Death (personified)
<b>kúù</b>	fields, bushland	<b>tí-kúù</b> fields, bushland
<b>níjìnà</b>	lower millstone, mill	<b>tí-níjìnà</b> molar
<b>sígò</b>	crocodile	<b>tí-sígò</b> fetish against thievery
<b>sìgró</b>	land	<b>tí-sìgró</b> world
<b>sòdògá</b>	hotness, smithy	<b>tí-sòdògá</b> anvil
<b>twǎh</b>	snake	<b>tí-twǎh</b> python
<b>vúù</b>	goat	<b>tí-vúù</b> antelope sp.

## 5.9 Verbal nouns

Verbal nouns fall into two major categories: true verbal nouns, which participate in productive noun/verb derivational processes (5.9.1) and those which are fossilized: such nouns show evidence of historical noun/verb derivation but do not participate in such derivation synchronically (5.9.2). In both cases, derivation is responsible for endowing them with the action-centred semantic contribution typical of Mambay verbs (Chapter 7).

### 5.9.1 True verbal nouns

True verbal nouns (henceforth referred to simply as verbal nouns) exhibit characteristics of nouns as well as verbs (Chapter 7). They are semantically predictable in that they minimally refer to a verbal action or state which is brought about by the subject (whether agent or another role) (cf. fossilized verbal nouns; see 5.9.2).

verbal noun		verb stem
<b>búù</b>	sprouting	<b>búú</b> sprout
<b>dáàrà</b>	alighting	<b>dàà</b> alight
<b>dād</b>	sowing, planting	<b>dād</b> sow, plant

<b>púgvbì</b>	scattering	<b>pùgvbí</b>	scatter
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As regards their status as nouns, they exhibit the distributional possibilities of other nouns with similar semantic values (ex. 5.3.3.3.1, 5.5). For example, they may be possessed (5.3.2).

verbal noun		possessed form	
<b>húḍò</b>	dying, death	<b>húḍ ʔíí</b>	my dying/death die:VN 1SG.POSS
		<b>húḍ nàmá</b>	animal's dying/death die:VN animal

Structurally, verbal nouns pattern with nouns in that they are minimally comprised of a heavy syllable or two light syllables; this contrasts with verbs, since in the data there are fifteen examples of verb roots comprised of a light syllable. In fact, a compensatory **g** is inserted for verbal nouns derived from verb roots comprised of a light syllable (2.4.3, 7.1.1):

verbal noun		verb stem	
<b>dòg</b>	drinking	<b>dó</b>	drink
<b>pàg</b>	doing	<b>pá</b>	do

However, verbal nouns also exhibit some characteristics of verbs. By definition, all verbal nouns correspond to finite verb roots, with which they are found in derivational relationship. While complexities of derivation are discussed in the sections devoted to each type of verbal noun (5.9.1.1 and 5.9.1.2), some general observations underline the verb-like behaviour of verbal nouns. Importantly, verbal nouns are used in the Mambay verbal system, where with subject pronouns they express the verbal function of the Imperfective (7.4.1.1.2). A comparable situation is found in the well-known case of Hausa (Dimmendaal 2000:171, Newman 2000:288–92) and in Kébi-Benue languages such as Mundang (Elders 2000:327–30).

verbal noun		Imperfective verb form	
<b>ḍáárà</b>	alighting	<b>mì ḍáárà</b>	I alight / I am alighting 1SG alight:VN
<b>húḍò</b>	dying, death	<b>mì húḍò</b>	I die / I am dying 1SG die:VN

The verbal nature of such constructions is further underlined by the possibility of their accompaniment by adverbs (8.1).

**rì húdò búvbùvbù**  
1PL die:VN IDEO

we (excl.) are dying *buvbuvbu* (i.e., left and right)

Syntactically, there is a further resemblance to verbs, namely: verbal nouns which correspond to transitive verbs must be accompanied by an object or a dummy object suffix (7.3.2.1.2).

verbal noun		verbal noun with object	
<b>*kòg Ø</b>	*seeing	<b>kòg ?ígà</b>	seeing something
see:VN		see:VN thing	
		<b>kǒg-nà</b>	seeing (something)
		see:VN-OBJ	

In one context, verbal nouns exhibit obviously verbal morphology: when an explicit plural subject is invoked in the Imperfective, the verbal plural affix **-zí** (7.3.1.1) is attached following the first syllable of the verbal noun (7.4.1.1.2).

verbal noun		Imperfective verb form	
<b>ḍáárà</b>	alighting	<b>nà ḍáá-zí-rà</b>	we (incl.) alight / we (incl.) 1&2 alight:VN-PL-VN are alighting

Verbal nouns are subdivided into the structurally regular transitive verbal nouns (5.9.1.1) and the structurally irregular intransitive verbal nouns (5.9.1.2).

### 5.9.1.1 Regular verbal nouns

Regular verbal nouns are productively derived from transitive verbs stems; this is an instance of what Payne (1997:224–5) calls action nominalization. Regular verbal nouns are typically comprised of the same segmental content as corresponding stems (given here as basic Perfective verb forms; see 7.4.1.1.1).

verbal noun		verb stem	
<b>ḍâḍ</b>	sowing, planting	<b>ḍâḍ</b>	sow, plant
<b>gyàh</b>	sewing, hemming	<b>gyáh</b>	sew, hem
<b>gbóógì</b>	enlarging, widening	<b>gbòògí</b>	enlarge, widen
<b>púgvbì</b>	scattering	<b>pùgvbí</b>	scatter
<b>yàh</b>	calling, inviting	<b>yáh</b>	call, invite
<b>?ùù</b>	whistling	<b>?ùù</b>	whistle

(Like their source stems, regular verbal nouns require an object or dummy object suffix to follow; see the previous section and 7.4.3.1.2. This object is not shown in present discussion except when it is being directly addressed.)

This regular segmental correspondence includes most (but not all) **g**-final verbal nouns:

<b>b̀àg</b>	meeting, supporting	<b>b̀ág</b>	meet, support
<b>gb̀ùg</b>	throwing	<b>gb̀úg</b>	throw
<b>v̀òg</b>	watching, guiding	<b>v̀óg</b>	watch, guide
<b>ʔ̀ìg</b>	killing	<b>ʔ̀íg</b>	kill
(etc.)			

There are, however, eight (otherwise) regular **g**-final verbal nouns in the data which differ from the segmental content of the corresponding verb stems. Seven of the eight exceptions are derived from verbs comprised of a C(C)V syllable, which does not meet the minimal two-mora weight requirement for nouns (5.1.1.1). It appears, therefore, that **g** has for the most part been inserted as a compensatory measure. These verbal nouns are as follows:

verbal noun		verb stem	
<b>ǹùg</b>	sleeping (tr.)	<b>ǹú</b>	sleep (tr.)
<b>d̀òg</b>	drinking	<b>d̀ó</b>	drink
<b>h̀ìg</b>	giving	<b>h̀íí</b>	give
<b>k̀òg</b>	seeing	<b>k̀ó</b>	see
<b>kỳàg</b>	hurting	<b>kỳé</b>	hurt (tr.)
<b>p̀àg</b>	doing	<b>p̀á</b>	do
<b>sỳàg</b>	shining	<b>sỳé</b>	shine
<b>ʔ̀ìg</b>	knowing	<b>ʔ̀í</b>	know

The tone melody of regular verbal nouns is distinct from that of corresponding verb stems. Regular verbal nouns exhibit two possible melodies: L and HL. Regular verbal nouns with L tone may be derived from verbs with either H-toned (Class 1) or L-toned (Class 4; see 7.3.2.2.1) stems.

verbal noun		verb stem	
<b>d̀ùḡ</b>	bending down	<b>d̀úḡ</b>	bend down
<b>f̀òò</b>	spying, reviewing	<b>f̀óó</b>	spy, review
<b>m̀àḡ</b>	giving an opinion	<b>m̀àḡ</b>	give an opinion
<b>p̀ìʔ</b>	transplanting	<b>p̀ìʔ</b>	transplant

In contrast, heavy (two-mora) HL regular verbal nouns are always derived from verbs with L-toned stems (Class 5), and HL regular verbal nouns with three or more morae are derived from verbs with LH stems (Class 6).

verbal noun		verb stem	
<b>b̀ùl</b>	dividing	<b>b̀ùl</b>	divide
<b>s̀în</b>	picking up tiny things	<b>s̀ìn</b>	pick up tiny things

<b>gíín</b>	persuading	<b>gíín</b>	persuade
<b>rímri</b>	immersing	<b>rímri</b>	immerse

Verbal nouns derived from transitive verbs are always accompanied by an object. This object may be expressed:

<b>bûl tà-tàrgù</b>	dividing a rock pile	<b>dòg byàá</b>	drinking water
divide:VN PFX-rock.pile		drink:VN water	

<b>ďáď bà'rá</b>	sowing seed	<b>yàh vwáà</b>	calling a dog
sow:VN seed		call:VN dog	

If the object is not expressed, the suffix **-nà** acts as a dummy object. If the verbal noun to which it is attached is L-toned, the resulting word has a LHL melody.

verbal noun	verbal noun w/ dummy object	
<b>dòg</b>	<b>dǒg-nà</b>	drinking (something)
<b>fòò</b>	<b>fóó-nà</b>	spying (something)
<b>gòò</b>	<b>góó-nà</b>	preparing (something)
<b>pì'</b>	<b>pǐ'-nà</b>	transplanting (something)

If the verbal noun is HL-toned, the resulting word has a HLH melody.

<b>bûl</b>	<b>bûl-nà</b>	dividing (something)
<b>ďáď</b>	<b>ďáď-nà</b>	sowing (something)
<b>gwáà</b>	<b>gwáà-nà</b>	robbing (something)
<b>hágrì</b>	<b>hágrì-nà</b>	shattering (something)

As the examples above show, the dummy object suffix's nasality does not travel leftward into the verbal noun.

The apparently polar tonal behaviour of **-nà** is addressed in the following subsection (5.9.1.1.1). This is followed by a discussion of the function of regular verbal nouns as Imperfective verb forms (5.9.1.1.2).

#### 5.9.1.1.1 Tonal behaviour of **-nà**

A simple explanation for the polar tonal behaviour of **-nà** has not been reached. However, it is probable that it underlyingly bears a contour (HL or LH) melody.

It is possible that **-nà** is underlying HL. If this is the case, its melody is fused with that of L-toned verbal nouns as follows:

verbal noun	dummy object		verbal noun word
<b>fòò</b>	+	<b>-nà</b>	→ <b>fóó-nà</b> spying (something)

**gbùg** + **-nâ** → **gbǔg-nâ**      throwing (something)

With HL verbal nouns, the process would take place as follows:

**bûl** + **-nâ** → **bûl-nâ**      dividing (something)  
**dâd** + **-nâ** → **dâd-nâ**      sowing (something)

This implies the deletion of the final L tone of **-nâ**, which never surfaces with a HL verbal noun. Since, in these examples, there are only three tone-bearing units on the resulting verbal noun word, it is not unreasonable to posit the lexical deletion of an excess fourth tone (cf. 4.3.1.4). Comparable situations are attested elsewhere in the language (e.g., a HLH melody on two-mora nouns; see 4.1.2.2). However, in stems with sufficient tone-bearing units, there is no evidence that this hypothetical final L tone is ever associated.

expected realization	actual realization	
*yáàń-nâ	yááń-nâ	cause (something) to finish
*ʔóògí-nâ	ʔóógí-nâ	set (something) crawling

Alternatively, if **-nâ** were considered underlying LH, more assumptions must be accepted. First of all (similar to what is described in the HL explanation above), the melody of HL verbal nouns would have to have fused with that of the LH suffix **-nǎ**, resulting in a single HLH word.

**bûl** + **-nǎ** → **bûl-nâ**      dividing (something)  
**dâd** + **-nǎ** → **dâd-nâ**      sowing (something)

The LH identity of **-nâ** would be more difficult to account for with the other (“L-toned”) verbal nouns. It is possible that the underlying tone of what are described above as L-toned verbal nouns is actually LH, even though the H portion of the melody only surfaces when **-nâ** replaces the explicit object. The loss of the LH verb’s H tone when accompanied by an explicit object would be seen as parallel to the attested loss of any LH possessed noun’s H tone in the context of the possessive construction (see 5.2.2.1). If this were the case, the verbal noun data throughout would be re-presented as follows:

verbal noun	verbal noun w/ explicit object	
<b>fòó</b>	<b>fòò ...</b>	spying (something)
<b>gbǔg</b>	<b>gbùg ...</b>	throwing (something)

The result of affixation with **-nǎ** would be as follows:

**fòó** + **-nǎ** → **fòó-nâ**      spying (something)  
**gbǔg** + **-nǎ** → **gbǔg-nâ**      throwing (something)

Still, the final H of **-nǎ** never surfaces. But since there are only three morae on the resulting verbal noun word, and since (in contrast to HLH verbal noun words; see above) there are no examples in the data of LHL verbal noun words with more tone-bearing units than this, it is not unreasonable to posit the lexical deletion of an excess fourth tone (4.3.1.1). Comparable situations are attested elsewhere in the language (e.g., a three-tone melody on two-mora nouns; see 4.1.2.2).

An underlying H melody for **-nǎ** is harder to defend, but should also be considered. As in the previous hypothesis, affixation with HL nouns would be straightforward.

<b>fûl</b>	+	<b>-nǎ</b>	→	<b>fûl-nǎ</b>	dividing (something)
<b>ďâď</b>	+	<b>-nǎ</b>	→	<b>ďâď-nǎ</b>	sowing (something)

Still, and also as in the previous hypothesis, what are described above as L-toned verbal nouns would have to be considered LH in order to pursue an account in which **-na** was H-toned:

verbal noun		verbal noun w/ explicit object		
<b>fòó</b>		<b>fòò ...</b>		spying (something)
<b>gbǔg</b>		<b>gbùg ...</b>		throwing (something)

With LH verbal nouns, it is possible that Meeussen's rule (see Meeussen 1965:110 and Goldsmith 1984) causes a H-toned **-nǎ** suffix to be realized as L after H:

<b>fòó</b>	+	<b>-nǎ</b>	→	<b>fòó-nà</b>	spying (something)
<b>gbǔg</b>	+	<b>-nǎ</b>	→	<b>gbǔg-nà</b>	throwing (something)

The major weakness of this explanation is that such a process has not been observed elsewhere in the language (merging of H tones is the norm in other phonological words; for an example, look at inalienable noun-pronoun constructions in 5.3.4.2.4.1).

Because of the complexity of these arguments, the tonal identity of **-nǎ** is accounted for throughout as part of lexical HLH and LHL melodies on words composed of a verbal noun + **-nǎ**.

### 5.9.1.1.2 Imperfective function of regular verbal nouns

Apart from their basic nominal status, regular verbal nouns function as Imperfective verb forms (7.4.1.1.2).

verbal noun		Imperfective form	
<b>dòg</b>	drinking	<b>mì dòg ?ígà</b>	I drink something / I am drinking something
		<b>mì dǒg-nà</b>	I drink (something) / I am drinking (something)
		1SG drink:VN-Obj	

As stated above (5.9.1), the verbal behaviour of verbal nouns in this context is further underlined by the possibility of their accompaniment by adverbs (8.1).

<b>mì dòg ?ígà hári</b>	I drink something quickly / I am drinking something quickly
1SG drink:VN thing quickly	
<b>mì dǒg-nà hári</b>	I drink (something) quickly / I am drinking (something) quickly
1SG drink:VN-Obj quickly	

In one context, regular verbal nouns exhibit obviously verbal morphology: when an explicit plural subject is invoked in the Imperfective, the verbal plural affix **-zí** (7.3.1.1) is attached following the final syllable of the regular verbal noun.

<b>nà dòg-zí ?ígà hári</b>	we (incl.) drink something quickly / we (incl.) are drinking something quickly
1&2 drink:VN-PL thing quickly	
<b>nà dòg-zí-nà hári</b>	we (incl.) drink (something) quickly / we (incl.) are drinking (something) quickly
1&2 drink:VN-PL-Obj quickly	

### 5.9.1.2 Irregular verbal nouns

Irregular verbal nouns correspond to intransitive verbs stems. In addition to their intransitivity (cf. 7.3.2.1), they differ from regular verbal nouns (5.9.1.1) in their derivational behaviour.

Importantly, there is no synchronic process by which irregular verbal nouns are derived from verb stems. Historically, irregular verbal nouns appear to have undergone a historical wave of unevenly applied derivational suffixation along with the rest of the nouns in the language (5.1.3.2; this has been further described in Anonby 2008). This process has resulted in irregular, lexicalized verbal nouns as follows:

verb stem	vestigial suffix	irregular verbal noun
<b>dàà</b> ‘alight’	+ *-rV	→ <b>dáára</b> ‘alighting’
<b>tè</b> ‘walk’	+ *-lV	→ <b>té’là</b> ‘walking’
<b>sùù</b> ‘lie down’	+ *-gV	→ <b>súngà</b> ‘lying down’

To a large degree, then, irregular verbal nouns represent the most common noun shapes (cf. 5.1.1.1). The five attested CV shapes of irregular verbal nouns in the data are as follows:

CV shape	irregular verbal noun		corresponding verb stem
CVV	<b>gùù</b>	flowing, flow (n.)	<b>gúú</b> flow (v.)
CV.CV	<b>gélà</b>	getting lost	<b>gé</b> get lost
CVV.CV	<b>ḏáárà</b>	alighting	<b>ḏàà</b> alight
CVC.CV	<b>fímrò</b>	weighing	<b>fím</b> weigh (intr.)
CCVV.CV	<b>gyáárà</b>	foaming up	<b>gyàà</b> foam up

Tonally, irregular verbal nouns are mostly HL, but occasionally LH.

tone melody	irregular verbal noun		corresponding verb stem
HL	<b>gùù</b>	flowing, flow (n.)	<b>gúú</b> flow
	<b>gélà</b>	getting lost	<b>gé</b> get lost
	<b>ḏáárà</b>	alighting	<b>ḏàà</b> alight
	<b>fímrò</b>	weighing	<b>fím</b> weigh (intr.)
LH	<b>ḏààrá</b>	fighting, fight	<b>ḏàà</b> fight (intr.)
	<b>kùùbá</b>	dreaming, dream	<b>kùù</b> dream
	<b>lààbá</b>	eating, food	<b>làà</b> eat (intr.)
	<b>sòglá</b>	working, work	<b>sóg</b> work (intr.)

As is the case with regular verbal nouns, irregular verbal nouns function as Imperfective verb forms (7.4.1.1.2).

verbal noun		Imperfective verb form
<b>ḏáárà</b>	alighting	<b>mì ḏáárà</b> I alight / I am alighting 1SG alight:VN
<b>húḏò</b>	dying, death	<b>mì húḏò</b> I die / I am dying 1SG alight:VN

As stated above (5.9.1), the verbal nature of verbal nouns in this context is further underlined by the possibility of their accompaniment by adverbs (8.1).

<b>rì húḏò búvbùvbù</b>	we (excl.) are dying <i>buvbuvbu</i> (i.e., left and right)
1PL die:VN IDEO	

As is the case with regular verbal nouns, morphological evidence for noun-to-verb derivation is found when an explicit plural subject is invoked in the Imperfective: the verbal plural affix **-zí** (7.3.1.1) is attached following the first syllable of the irregular verbal noun.

verbal noun

**ḍáárà** alighting

Imperfective form

**nà ḍáá-zí-rà** we (incl.) alight / we (incl.)  
1&2 alight:VN-PL-VN are alighting

### 5.9.2 Fossilized verbal nouns

In addition to true verbal nouns (5.9.1), there are many fossilized verbal nouns which show segmental and semantic correspondences to specific verb stems. However, in other respects they are like nouns in general. Over one hundred fossilized verbal nouns have been identified in the data; this is out of a total of 1525 non-borrowed, lexicalized nouns. Fossilized verbal nouns correspond to transitive as well as intransitive verbs.

fossilized  
verbal noun

**fimgó** weight  
**lóózirà** tiredness  
**rámà** blindness, blind person  
**sòògá** hotness, smithy

intransitive  
verb stem

**fim** weigh (intr.)  
**lóó** get tired  
**ràà** go blind  
**sòò** get hot, boil

transitive  
verb stem

**kúmù** herder  
**'mààzìlá** respect  
**ròólè** trick (n.), comedy  
**sù'gó** ploughed land

**kúm** protect, guide, care for  
**'máá** respect  
**ròò** trick, amuse  
**sú'** pull

Fossilized verbal nouns are like irregular true verbal nouns (5.9.1.2) in that there is no synchronic process by which they are derived from verb stems.

However, they differ from true verbal nouns (regular and irregular) in three important ways. First, fossilized verbal nouns cannot participate in verbal constructions, notably those involving Imperfective verb forms (cf. 7.4.1.1.2); second, although they exhibit more structural complexity than true verbal nouns, transitivity does not influence their structure; and third, they are semantically unpredictable.

In the subsections that follow, the morphological structure and semantic values of fossilized verbal nouns are described (5.9.2.1 and 5.9.2.2). Following this, the direction of historical noun/verb derivation is considered (5.9.2.3).

#### 5.9.2.1 Morphological structure

The structures of fossilized verbal nouns are a significant subset of those found with nouns in general (5.1). The inventory of CV shapes of fossilized verbal nouns in the data is as follows:

CV shape	verbal noun		corresponding verb
CVV	<b>wáh</b>	cup	<b>wàh</b> water (v.)
CVC	<b>nà-màm</b>	opinion	<b>màà</b> give an opinion
CCVV	<b>tì-ryâh</b>	ululation	<b>ryáh</b> cry
CV.CV	<b>kùmù</b>	herder	<b>kúm</b> protect, guide, care for
CVV.CV	<b>sòogá</b>	hotness, smithy	<b>đàà</b> get hot, boil
CVC.CV	<b>fimgó</b>	weight	<b>fim</b> weigh (intr.)
CCVV.CV	<b>gwààlá</b>	thief, robbery	<b>gwàà</b> rob
CCVC.CV	<b>nà-rwâđgá</b>	joint	<b>rwâđ</b> dislocate
CVV.CV.CV	<b>lóozirà</b>	tiredness	<b>lóó</b> get tired
CVC.CV.CV	<b>nà-vìgziló</b>	longing stare	<b>víg</b> plug, look longingly

Like irregular true verbal nouns (5.9.1.2), most or all fossilized verbal nouns have undergone a historical wave of unevenly applied derivational suffixation (Anonby 2008, 5.1.3.2; but see 5.9.2.3). However, the structure of fossilized verbal nouns is more varied. For example, while irregular true verbal nouns contain a maximum of two syllables (5.9.1.2), there are many fossilized verbal nouns with three-syllable stems.

Also, in addition to historically fused suffixes (5.1.3.2), there are also two semantically salient suffixes found principally with fossilized verbal nouns: **-(g)VrV** and **-zi**. **-(g)VrV** is a fused generic suffix found with nouns historically derived from intransitive verbs, and is described in 5.1.3.2. Examples of this suffix are:

<b>fimgórò</b>	heaviness	cf. <b>fim</b> weigh (intr.), <b>fimgó</b> weight
<b>fùhgàrà</b>	spreading of a smell	cf. <b>fùh</b> smell (v.); <b>fùhgá</b> smell (n.), stink
<b>sòngórò</b>	aging	cf. <b>sòngí</b> age (v.), <b>sòngó</b> old age
<b>sòogàrà</b>	heat	cf. <b>sòò</b> get hot, boil, <b>sòogá</b> hotness, smithy

The suffix **-zi**, which is formally reminiscent of the noun plural template (5.5.2.1), verbal plural person affix **-zí** (7.3.1.1) and the verbal extension **-zi** (7.2.4.4), appears to have a pluractional meaning when it is found in the context of fossilized verbal nouns. With a single exception (**lóozirà** ‘tiredness, difficulty’; see list below), it is found only in fossilized verbal nouns derived from transitive verbs.

pluractional verbal noun		corresponding verb
<b>lóozirà</b>	tiredness, difficulty	<b>lóó</b> get tired
<b>nà-kyàhzilà</b>	love	<b>kyáh</b> ask, love, praise
<b>nà-pòozilà</b>	payment	<b>pòò</b> pay
<b>nà-sà’zilà</b>	congratulations	<b>sá’</b> congratulate
<b>nà-sìzilà</b>	envy	<b>sì</b> covet
<b>nà-sìhzilà</b>	dislike	<b>sìh</b> hate, burn (tr.)
<b>nà-sìjzilà</b>	intense hatred	<b>sìj</b> hate intensely

<b>nà-sògzilà</b>	command	<b>sòg</b>	send, order, serve, pass on
<b>nà-vìgziló</b>	longing stare	<b>víg</b>	plug, look longingly
<b>nà-zòòzilà</b>	greetings	<b>zóó</b>	greet
<b>'mààzilà</b>	respect	<b>'máá</b>	respect

The above list reveals that in addition to fused suffixes, many fossilized verbal nouns contain obligatory prefixes (see 5.1.2 for a discussion of noun prefixes). These prefixes are not attested with irregular true verbal nouns (5.9.1.2). The prefix **nà-** is quite common with fossilized verbal nouns, and all fossilized verbal nouns with this prefix are derived from transitive verbs. The single example of a verbal noun with the prefix **tì-** is, in contrast, derived from an intransitive verb.

verbal noun		corresponding verb	
<b>nà-?áwrá</b>	yawn (n.)	<b>?àw</b>	yawn
<b>nà-byàà</b>	chewing	<b>féé</b>	bite
<b>nà-kyáh</b>	request, praise, begging	<b>kyáh</b>	ask, love, praise
<b>nà-léngirà</b>	movement	<b>lèngí</b>	move, swing, shake
<b>nà-lèyrá</b>	grinding, command	<b>lèy</b>	groan, crash, order
<b>nà-màm</b>	opinion	<b>màà</b>	give an opinion
<b>nà-'mùùrà</b>	drawing, writing	<b>'mùr</b>	draw, write
<b>nà-ryáà</b>	wink	<b>ríí</b>	clean out, wink
<b>nà-sáágirà</b>	flattery	<b>sààgí</b>	deceive, flatter
<b>nà-sâh</b>	request	<b>sàh</b>	ask, rip, play
<b>tì-ryâh</b>	ululation	<b>ryâh</b>	cry

Tonally, fossilized verbal nouns are also more varied than irregular true verbal nouns (5.9.1.2). HL, LH, HLH and LHL tone melodies, the first three of which are the most common melodies for nouns in general (5.1.1.2), are all found with fossilized verbal nouns.

tone melody	verbal noun		corresponding verb	
HL	<b>gíirò</b>	insult	<b>gù</b>	answer, accept, admit
	<b>kúmù</b>	herder	<b>kúm</b>	protect, guide, care for
	<b>wâh</b>	cup	<b>wâh</b>	water, grow (tr.), tame
LH	<b>gbăh</b>	tongs	<b>gbáh</b>	catch, thicken, befit
	<b>fámgá</b>	announcement	<b>fám</b>	announce, propagate
	<b>nà-zòòzilà</b>	greetings	<b>zóó</b>	greet
HLH	<b>sá'gá</b>	number	<b>sá'</b>	buy
	<b>gyáàlá</b>	nanny	<b>gyàà</b>	take out, gather up

	<b>nà-léngìrá</b>	movement	<b>lèngí</b>	move, sway
LHL	<b>ròólè</b>	trick (n.), comedy	<b>ròò</b>	trick, amuse
	<b>gǎdlè</b>	deaf person	<b>gàḏ</b>	be deaf
	<b>fimgórò</b>	heaviness	<b>fim</b>	weigh (intr.)

### 5.9.2.2 Semantic relationship with corresponding verbs

In contrast to true verbal nouns (5.9.1), fossilized verbal nouns are semantically unpredictable. True verbal nouns minimally refer to a verbal action or state which is brought about by the subject (whether agent or patient), and this is the case for some fossilized verbal nouns.

fossilized verbal noun		verb stem	
<b>ḏáḏrá</b>	sowing, planting	<b>ḏàḏ</b>	sow, plant
<b>fùrù</b>	piling dirt	<b>fùr</b>	pile dirt
<b>nà-byáà</b>	chewing	<b>béé</b>	chew
<b>nà-zèḏ</b>	mocking, mockery	<b>zèḏ</b>	mock, decorate
<b>sì'lá</b>	fishing	<b>sí'</b>	fish (v.)

However, many other fossilized verbal nouns centrally exhibit semantic roles such as the agent, patient, instrument, or location of the verb from which they have been historically derived. This is evident for the following examples of fossilized verbal nouns:

fossilized verbal noun		verb stem	
<b>bòògàrà</b>	bonus	<b>bóó</b>	hit
<b>gógrà</b>	bee, flock of birds	<b>gòg</b>	jump, fly, blow away
<b>gwáàlá</b>	thief; robbery	<b>gwàà</b>	rob
<b>gyáàlá</b>	medicine, fetish	<b>gyáá</b>	take out, gather up
<b>kángà</b>	male circumcision	<b>kàn</b>	pass, exceed, abuse
<b>kùḏgó</b>	apprentice	<b>kùḏ</b>	study, learn
<b>kúmù</b>	herder	<b>kúm</b>	protect, guide, care for
<b>màh</b>	granary	<b>màh</b>	gather together
<b>nà-tú'</b>	proverb	<b>tú'</b>	show, teach
<b>nà-zù'ló</b>	object which is thrown	<b>zú'</b>	throw, patch, add
<b>pàhnà</b>	mud, clay	<b>pàh</b>	wet (v.)
<b>pò'lá</b>	money	<b>póó</b>	pay
<b>sù'ùbà</b>	urine	<b>sù'ù</b>	urinate
<b>vbàhrà</b>	clod of earth	<b>vbàh</b>	share, divide
<b>'wáàgá</b>	cracks	<b>'wáá</b>	split

### 5.9.2.3 Direction of historical derivation

It is often difficult to establish the direction of historical derivation between fossilized verbal nouns and corresponding verb stems. In contrast to what happens with regular verbal nouns, whose derivation from verb stems is marked by the possibility of suffixation with the dummy object suffix **-nà** (5.9.1.1), there is no productive synchronic affixation on fossilized verbal nouns. Rather, as demonstrated by the previous sections (5.9.2.1, 5.9.2.2), the morphological structure and semantic value of fossilized verbal nouns is varied, and does not correspond systematically with related verb roots.

Obviously, there are two historical derivational possibilities for each pair: verb-to-noun, and noun-to-verb. On the one hand, it is technically possible that noun-to-verb derivation has taken place, and that verbs have been historically derived from corresponding nouns by means of CVC(CV) morphological templates.

(?)	<b>gyáàlá</b>	medicine, fetish	→	<b>gyáá</b>	take out, gather up
(?)	<b>kúmù</b>	herder	→	<b>kúm</b>	protect, guide, care for
(?)	<b>nà-léngìrá</b>	movement	→	<b>lèngí</b>	move, swing, shake
(?)	<b>sòògá</b>	hotness, smithy	→	<b>sòò</b>	get hot, boil

Most such verbs are monosyllabic and/or have H or L tone in their basic Perfective form. Synchronically, however, verbs which are demonstrably derived from nouns or any other part of speech are disyllabic and always have LH tone in their basic Perfective form (7.4.1.1.1.1).

<b>gbòògá</b>	wideness	→	<b>gbòògí</b>	enlarge, widen
<b>kpàtgá</b>	distance (n.)	→	<b>kpàtgí</b>	distance (tr.)
<b>pǔ'</b>	whiteness	→	<b>pù'gí</b>	become white
<b>ràhbá</b>	poverty	→	<b>ràhbí</b>	impoverish, become poor

This suggests that few or none of the corresponding noun/verb pairs categorized as fossilized verbal nouns reflect a historical noun-to-verb derivation (or, at least, one that functioned in the same way as the synchronic noun-to-verb derivation).

On the other hand, there are a couple of modest indicators of historical verb-to-noun derivation. One indicator is, with one exception, the limitation of fossilized verbal noun prefixes to **nà-** (5.9.2.1 above). This is very different from nouns in general, with which any of ten different prefixes may constitute an obligatory component (5.1.2.1). If many or most corresponding verbs were derived from nouns, a range of prefixes would likely be represented.

A second indicator of historical verb-to-noun derivation is the repeated occurrence of more than one noun corresponding to a single verb.

fossilized verbal noun		corresponding verb	
<b>nà-kyáh</b>	request, praise, begging	<b>kyáh</b>	ask, love, praise
<b>nà-kyàhzilà</b>	love		
<b>sâ'gá</b>	number	<b>sá'</b>	buy
<b>sá'rà</b>	price		
<b>sòogá</b>	hotness, smithy	<b>sòò</b>	get hot, boil
<b>sòogàrà</b>	heat		
<b>vbâh</b>	forked pole for shelters	<b>vbáh</b>	share, divide
<b>ná-vbâh</b>	distribution		
<b>vbáhrà</b>	clod of earth	<b>vbàhrí</b>	split (cf. <b>vbáh</b> 'share, divide' + <b>-ri</b> iterative/ intensive extension)
<b>ná-vbáhrà</b>	intersection		

Given the lack of evidence for most examples, the term “fossilized verbal noun” refers throughout this study to nouns for which there is a semantically related and segmentally similar verb form, even when the direction of derivation is difficult to demonstrate.

## 5.10 Modifier promotion and nominalization

The prefix **ʔi-** promotes modifiers from a number of word classes to the status of independent noun (cf. 5.14).

In the context of discourse, prefixation with **ʔi-** is the basic strategy used to emphasize modifiers. It promotes these dependent phrase elements to the place of a basic clause constituent: with **ʔi-**, a modifier is recast as an independent noun, and may be placed in apposition with a noun which (except in the case of directional adverbs; see below) it would have otherwise modified. This derivational process is shown here with possessor nouns, which modify head nouns (cf. 5.3):

noun phrase with head noun and modifier		promoted modifier in apposition with antecedent noun	
<b>kpáhlì kpèègá</b>	wood stool stool:LF tree/wood	<b>kpáhlà ʔi-kpèègá</b>	the <i>wood</i> stool (lit. the stool HEAD-tree/wood stool, the wood one)
<b>và'zì bádâ</b>	tamarind leaf leaf:LF tamarind	<b>và'zá ʔi-bádâ</b>	the <i>tamarind</i> leaf (lit. the leaf HEAD-tamarind leaf, the tamarind one)

Note that phrase-initial nouns followed by **ʔi-** and a modifying noun exhibit a free (unmarked) rather than linked noun morphology (5.3.3.3.1); this is evidence that the nouns are in apposition rather than in a head-dependent relationship.

When the modifier is something other than a noun or noun phrase, its promotion to the status of independent noun requires that this modifier be understood as nominalized.

<b>kpèègì b́aráṅ</b>	straight tree tree/wood:LF straight	<b>kpèègá ?ì-b́aráṅ</b>	the <i>straight</i> tree (lit. the tree/wood HEAD-straight tree, the straight one)
<b>b́ìg b́ín</b>	another child child:LF other	<b>b́ìgà ?ì-b́ín</b>	the <i>other</i> child (lit. the child HEAD-other child, the other one)

In the case of directional adverbs, the modifier has not been part of a noun phrase; it is simply nominalized and may be placed in apposition with an antecedent noun.

<b>fàáàrì</b>	backwards	<b>fâh ?ì-fàáàrì</b>	path HEAD-backwards the path <i>behind</i>
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Importantly, the first noun in apposition may be left implicit when **?ì-** attaches to and promotes any modifier.

promoted modifier in apposition with antecedent noun	promoted modifier with implicit antecedent concept
<b>kpáhlà ?ì-kpèègá</b> the <i>wood</i> stool stool:LF tree/wood	<b>?ì-kpèègá</b> that which is wood HEAD-wood
<b>kpèègá ?ì-b́aráṅ</b> the <i>straight</i> tree tree/wood HEAD-straight	<b>?ì-b́aráṅ</b> that which is straight HEAD-straight
<b>fâh ?ì-fàáàrì</b> the path <i>behind</i> path HEAD-backwards	<b>?ì-fàáàrì</b> that which is behind HEAD-backwards

Sometimes, the antecedent concept is not mentioned at all in a discourse.

<b>mù yáh-rì</b>	<b>?ì-dò'dò'</b>	you have taken that which is attractive
2SG take:PERF-PERF	HEAD-attractive	
<b>mù pá ?ì-má fâh</b>	do the right [thing] (lit. do the [thing] with path!)	
2SG:OPT do:OPT HEAD-with path		

Still, whether or not an antecedent concept is explicitly mentioned, the modifier to which **?ì-** is applied presupposes that such a concept is known to the listener; this lends it the effect of definiteness. As evident in the examples throughout the present section, this definiteness has been expressed in most glosses with 'the ... (one)' and, when the antecedent concept is implicit, 'that which is...' (i.e., the thing, the ... one).

The possibility that **ʔi-** is historically related to the noun **ʔígà** ‘thing’ is entertained earlier in this chapter, where **ʔi-** is described along with other noun prefixes (5.1.2.4.12).

The modifier promoted by **ʔi-** may be any one of the following:

- nouns (5.10.1);
- adjectives (5.10.2);
- directional adverbs (5.10.5);
- numerals (5.10.3);
- specifiers (5.10.4);
- prepositional phrases (5.10.6); and
- relative clauses (5.10.7).

### 5.10.1 Nouns

The prototypical application of the prefix **ʔi-** is to a possessor noun in a possessive construction.

noun phrase with head noun and modifier	promoted modifier in apposition with antecedent noun	promoted modifier with antecedent concept left implicit
<b>ʔíg vb̀̀nà</b> child:LF male(n.) male child	<b>ʔígà ʔi-vb̀̀nà</b> child HEAD-male(n.) the <i>male</i> child	<b>ʔi-vb̀̀nà</b> HEAD-male(n.) that which is male
<b>kpáhlì kpèègá</b> stool:LF tree/wood wood stool	<b>kpáhlà ʔi-kpèègá</b> stool HEAD-tree/wood the <i>wood</i> stool	<b>ʔi-kpèègá</b> HEAD-tree/wood that which is wood
<b>và'zì bádà</b> leaf:LF tamarind tamarind leaf	<b>và'zá ʔi-bádà</b> leaf HEAD-tamarind the <i>tamarind</i> leaf	<b>ʔi-bádà</b> HEAD-tamarind that which is tamarind
<b>yèr kwéé</b> clothing:LF Kwe male child	<b>yèrí ʔi-kwéé</b> clothing HEAD-Kwe the clothing of <i>Kwe</i>	<b>ʔi-kwéé</b> HEAD-male(n.) that which is Kwe's

This strategy is also used to promote possessive pronouns (5.3.3.3, 6.1.4) to the status of independent nouns:

<b>và'zì ʔíí</b> leaf:LF of.me my leaf	<b>và'zá ʔi-ʔíí</b> leaf HEAD-of.me <i>my</i> leaf	<b>ʔi-ʔíí</b> HEAD-of.me mine
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<b>yèr ʔóró</b> clothing:LF of.you (pl.) your (pl.) clothing	<b>yèrí ʔì-ʔóró</b> clothing HEAD-of.you (pl.) <i>your</i> (pl.) clothing	<b>ʔì-ʔóró</b> HEAD-of.you (pl.) yours (pl.)
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### 5.10.2 Adjectives

Adjectives (8.4) promoted to the status of independent noun with ʔì- are shown in the following examples:

<b>fâh b́aráŋ</b> path:LF straight straight path	<b>fâh ʔì-b́aráŋ</b> path HEAD-straight the <i>straight</i> path	<b>ʔì-b́aráŋ</b> HEAD-straight that which is straight
<b>béè gúrúró</b> water:LF deep deep water	<b>byàá ʔì-gúrúró</b> water HEAD-deep the <i>deep</i> water	<b>ʔì-gúrúró</b> HEAD-deep that which is deep

### 5.10.3 Numerals

Numerals (9.1) promoted to the status of independent noun with ʔì- are shown in the following examples:

<b>fâh b̀àtì</b> path two two paths	<b>fâh ʔì-b̀àtì</b> path HEAD-two the <i>two</i> paths	<b>ʔì-b̀àtì</b> HEAD-two the two / both [of them]
<b>'m̀àr zóđôm</b> friend ten ten friends	<b>'m̀àrà ʔì-zóđôm</b> friend HEAD-ten the <i>ten</i> friends	<b>ʔì-zóđôm</b> HEAD-ten the ten [of them]

### 5.10.4 Specifiers

Specifiers (9.2) promoted to the status of independent noun with ʔì- are shown in the following examples:

<b>b́ìg b́ìn</b> child:LF other another child	<b>b́ìgà ʔì-b́ìn</b> path HEAD-other the <i>other</i> child	<b>ʔì-b́ìn</b> HEAD-two the other
<b>'m̀àr ǹáá</b> friend:LF this this friend	<b>'m̀àrà ʔì-ǹáá</b> friend HEAD-this <i>this</i> friend	<b>ʔì-ǹáá</b> HEAD-this this one

### 5.10.5 Directional adverbs

Directional adverbs (8.1.1), which (unlike other modifiers in this section) are not found in noun phrases, may also be promoted to the status of independent noun with ʔì-; this is shown in the following examples:

<b>fààrí</b> backwards	<b>fâh ?ì-fààrí</b> path HEAD-backwards the path <i>behind</i>	<b>?ì-fààrí</b> HEAD-backwards that which is behind
<b>kètí</b> upwards	<b>tálè ?ì-kètí</b> roof HEAD-upwards the roof <i>above</i>	<b>?ì-kètí</b> HEAD-upwards that which is above

### 5.10.6 Prepositional phrases

Prepositional phrases (9.3) promoted to the status of independent noun with **?ì-** are shown in the following examples:

<b>lààbí bèè kpâhngá</b> eat:VN:LV without saltiness bland food	<b>lààbá ?ì-bèè kpâhngá</b> path HEAD-without saltiness the <i>bland</i> food	<b>?ì-bèè kpâhngá</b> HEAD-without saltiness that which is bland
<b>sòglí mǎ syâh</b> eat:VN:LV with hand work done by hand	<b>sòglá ?ì-mǎ syâh</b> work HEAD-with hand work done <i>by hand</i>	<b>?ì-mǎ syâh</b> HEAD-with hand that which is by hand

### 5.10.7 Relative clauses

Relative clauses (10.2.2.3), like the modifiers described above, may also be promoted to the status of independent noun with **?ì-**. However, in contrast to the other modifiers, the antecedent concept to which they refer must be expressed.

Example noun phrases comprised of a head noun and a dependent relative clause are as follows:

**?ìg nǎǎ pá-lé**  
thing:LF REL happen:PFV-3SG.REFL  
a thing that happened

**bìg nǎǎ nǎ-lé káá-m**  
child:LF REL sleep:PERF-3SG.REFL head:2SG.POSS.INAL  
a child that has gone to sleep before you do

When these relative clauses are promoted to the status of independent nouns, they are expressed as follows:

**?ìgà ?ì-nǎǎ pá-lé**  
thing HEAD-REL happen:PFV-3SG.REFL  
the thing *that happened*

**bígà ʔì-nàá nù-lé káá-m**

child HEAD-REL sleep:PERF-3SG.REFL head:2SG.POSS.INAL  
the child *that has gone to sleep before you do*

**5.11 Ideophonic nouns**

Unlike the categories of adjective and adverb, in which ideophones are dominant, ideophones are marginally represented among nouns.

There are no syntactic indicators which separate ideophonic nouns from other nouns, nor are there any precise morphological criteria whereby they can be distinguished. However, there is a strong correlation between non-canonical noun structure (5.1.1.1) and ideophonic function (as described in 8.2). For example, species names and unusual items whose phonological forms reflect perceptual realities are well-represented (and perhaps even normative) among non-canonical nouns (examples are given in 5.11.1). In particular, this is the case for noun stems which exhibit reduplication (5.11.2). In addition to nouns which are inherently ideophonic, ideophonic nouns derived from adjectives also exist (5.11.3).

**5.11.1 Examples of ideophonic nouns**

The sound symbolism characteristic of ideophones is easier to identify for some nouns than for others. The clearest cases of ideophonic nouns are those which reflect a sound which speakers of the language associate with a given item. In Mambay, two examples of ideophonically transparent groups of nouns are musical instruments and birds, both of whose names are often based on the sounds they make. Ideophonic names for musical instruments include:

<b>dèlèŋ-délén</b>	bell	<b>kókól</b>	small drum
<b>gàgàhŋ</b>	drumstick	<b>pìpùùrí</b>	horn (instrument)
<b>kâŋ</b>	drum snare	<b>tí-tóróŋ</b>	small bronze bell

Ideophonic names for birds include:

<b>bàhàà</b>	ibis sp.	<b>kyóò-kòrí</b>	hornbill sp.
<b>díht</b>	warbler	<b>tí-kà-ràhgú</b>	large heron
<b>ná-gáhgù</b>	crow	<b>tí-tòòntû</b>	lark

**5.11.2 Ideophonic nouns exhibiting reduplication**

Nouns which exhibit segmental reduplication in their stem shapes are typically ideophonic. As with other nouns, some reduplicated nouns have prefixes (usually **tí-**; see 5.1.2.4.11); however, the presence or absence of a prefix is not correlated to whether or not reduplication has applied, and prefixes are excluded from the process.

Both partial and full segmental reduplication are attested; full reduplication is less common, but easier to delimit and describe (as talked about in 8.4.2.1.2). For some fully reduplicated nouns, as may be observed from the examples below, there seems to be a semantic link to pairing and plurality. Interestingly, an independent source morpheme is

not identifiable for any of these words. An exhaustive list of nouns in the data exhibiting full segmental reduplication is given here.

Fully reduplicated nouns without prefixes are:

<b>bègè-bégé</b>	spleen, pancreas	<b>làb-làb</b>	bud
<b>ḃúrí-ḃùrì</b>	piece	<b>lèhrù-lèhrù</b>	large-eared person
<b>dìgìm-dígím</b>	corn silk	<b>sìrìm-sìrìm</b>	dark colour
<b>dèlèḡ-déléḡ</b>	bell	<b>wàh-wàh</b>	hubbub
<b>fùgù-fúgú</b>	lungs		

Fully reduplicated nouns with prefixes are:

<b>tí-dúú-dūù</b>	owl sp.	<b>tì-kòht-kòht</b>	hornbill sp.
<b>tì-fyáhḡ-fyàhḡ</b>	minnow sp.	<b>tì-kpúr-kpùr</b>	weeding (first cycle)
<b>tì-gbùl-gbùl</b>	large air bubble in water	<b>tì-kpàḑ-kpàḑ</b>	malaria
<b>tí-gbúm-gbùm</b>	edible creeper sp.	<b>tí-lwá'-lwà'</b>	grass and burr sp.
<b>tí-kíj-kìj</b>	whooping cough		

A single kinship term, **nàḡà'** 'maternal uncle,' also shows segmental reduplication. However, rather than reflecting any ideophonic quality, the repetition in this word is better seen as the result of a universal repetitive tendency found in kinship terms (and, surprisingly, a tendency which is otherwise unexploited in Mambay).

### 5.11.2.1 CV structure

CV shapes of the fully reduplicated nouns in the list above are as follows:

CVV+CVV  
 CVC+CVC  
 CV.CV+CV.CV  
 CV.CVC+CV.CVC  
 CVV.CV+CVV.CV

It should be noted that those forms with prefixes are limited to the reduplication of a single heavy (two-mora; see 2.4.3) syllable, whereas most of the forms without prefixes show the reduplication of two syllables. This may be significant, but it is also possible that this pattern is due to the small sample size provided by the data.

### 5.11.2.2 Tone melodies

H-toned stems are absent among fully reduplicated nouns, but L-toned nouns are reduplicated in a straightforward manner, e.g. **sìrìm-sìrìm** 'dark colour.'

It is interesting that for other nouns, however, tone is not simply reduplicated along with the segmental information. A number of reduplicated stems show a HL melody on the reduplicated stem with the H on the first section and the L on the second, e.g. **ḃúrí-ḃùrì** 'piece'; conversely, several stems show a LH melody on the reduplicated stem with the L

on the first section and the H on the second, e.g. **dìgìm-dígím** ‘corn silk.’ This tone association, which differs from that found on morphologically simple nouns (4.2.1.1), confirms that reduplicated nouns are not comprised of one long root.

Finally, the LHL melody on the word **tì-kòht-kòht** ‘hornbill sp.’ does not appear to be the product of reduplication, but rather a simple tone melody associated with the word as a whole.

### 5.11.3 Ideophonic nouns derived from adjectives

Four ideophonic nouns appear to have been derived from adjectives:

ideophone		derived noun	
<b>bùg-bùg</b>	covered with a dusting of something	<b>bû-búglá</b>	a dusty littering of something
<b>kèè</b>	brilliant, intense (red)	<b>kû-kéerú</b> <b>tí-kéé-kèèrú</b>	brilliance, intense red (n.) firefly
<b>ryáŋ-ryáŋ</b>	long, straight and thin	<b>tì-ryáŋ-ryàŋ</b>	gourd sp. with long, thin neck

While the derivational template is different for each example, the following structures are evident in the derived forms:

- 1) an adjective base which has undergone an ideophonic plural derivation (8.5.1) (**bû-búglá, kû-kéerú**);
- 2) presence of a noun prefix (5.1.2) (**tí-kéé-kèèrú, tì-ryáŋ-ryàŋ**);
- 3) presence of a fused noun suffix (5.1.3.2) (**bû-búglá, kû-kéerú, tí-kéé-kèèrú**).

## 5.12 Proper names

Three types of proper names which are well-represented in the data are personal names (5.12.1), clan names (5.12.2) and place names (5.12.3).

### 5.12.1 Personal names

There are three major categories of personal names in Mambay, each of which serves a distinct function: canonical (5.12.1.1), situational (5.12.1.2), and religious (5.12.1.3). Although most Mambay infants are given many names by relatives at a naming ceremony (**yâh**), only one name from each category is typically retained by unofficial consensus and associated with a person for the remainder of his or her life. Of these three names, one or two names from any of the three categories are applied to a person publicly. Place names are additionally used to disambiguate between people whose publicly recognized names are identical (5.12.1.4).

Each name has a contrastive underlying tone melody. However, forceful or exasperated vocatives are pronounced with a replacive H melody.

**tâw** (male canonical name)  
**táw** hey, Taw!

**pàná** (female canonical name)  
**páná** hey, Pana!

### 5.12.1.1 Canonical names

There are exactly ten Mambay canonical personal names (**nà-wâgrá**) in common usage. Four of the names are for males, and six are for females. Birth order, parent's **nà-wâgrá**, and a child's temperament are factors which play into the choice of the name. This name also emphasizes a person's membership in the ethnic group. The four canonical personal names for males are:

<b>kwéé</b>	<b>kàmì</b>
<b>kàdá</b>	<b>tâw</b>

The six female canonical personal names are:

<b>ɓàrá</b>	<b>ʔízá</b>
<b>ɗèví</b>	<b>pàná</b>
<b>gǎm</b>	<b>nàgá</b>

All of the canonical names contain two morae: either two light syllables or one heavy syllable. While male canonical names exhibit four tone melodies (H, L, HL, LH), all of the female canonical names are LH.

For married women, the augmentative/female prefix **tí-** (5.8.2) is normally used with the name as a means of conveying respect:

<b>tí-ɓàrá</b>	<b>tí'zá</b>
<b>tí-ɗèví</b>	<b>tí-pàná</b>
<b>tí-gǎm</b>	<b>tí-nàgá</b>

In the case of **tí'zá** in the list above, the source VʔV sequence alternates idiosyncratically with a glottalized vowel.

<b>tí-</b>	+	<b>ʔízá</b>	→	<b>tí'zá</b>	(Iza, respect form)
AUG		(Iza (female canonical name))		AUG:Iza	
cf. <b>tí-</b>	+	<b>ʔígà</b>	→	<b>tí-ʔígà</b>	large thing
AUG		thing		AUG-thing	

Like other nouns, canonical names have a linked form determined by a morphological template (cf. 5.2.2.2).

<b>ḍèv ʔíí</b>	my <b>ḍèví</b>
<b>kàḍ ʔíí</b>	my <b>kàḍá</b>
<b>kàm ʔíí</b>	my <b>kàmì</b>
<b>tí'zí ʔíí</b>	my <b>tí'zá</b>

However, when names are used in apposition (cf. 5.2.1), the free form rather than the linked form of the name is found.

<b>kàmì tâw</b>	cf. <b>kàm ʔíí</b>
(name) (name)	(name) 1SG.POSS

### 5.12.1.2 Situational names

Situational names are given as a way of marking the circumstances surrounding a child's birth: for example, they may be used to respond to a lie or an insult, to complain, or to show thankfulness. Most such names are unique to individuals, and they are formed in the same way for males and females. One situational name comprised of a noun has been attested (**nà-kàrá** 'cane, guide'), but most names are comprised of a complete clause. These include:

<b>ʔà-záárà-nà</b>	cf. <b>ʔà záárà nà</b>	(lit. 'did it [the disease] infect?')
	3:IMPFV cross/infect:VN QM	
<b>mì-vû-ní</b>	cf. <b>mì vû-ní</b>	(lit. 'I have been afraid')
	1SG be.afraid:PERF-1SG.REFL	
<b>ná-súú-zí</b>	cf. <b>ná súú-zí</b>	(lit. 'let's [incl.] remember')
	1&2:OPT think/remember:OPT-PL	
<b>wàr-zèèlá</b>	cf. <b>Ø wàr zèèlá</b>	(lit. '[only] lies remain')
	3:PFV remain:PFV lie:VN	
<b>zǎh-háà-lé</b>	cf. <b>zǎh háà-lé</b>	(lit. 'the ox has returned')
	ox come.back:PERF-1SG.REFL	

### 5.12.1.3 Religious names

Almost all Mambay now claim adherence to either Islam or Christianity (1.1.3.4), and this is reflected in the normative use of religious names. The Mambay associate Fulfulde with Islam, and French with Christianity; consequently, it is from these two languages that religious names are selected and applied along the religious lines within the ethnic group. Interestingly, religious names tend to conform to the CV and tonal norms of the Mambay canonical names (cf. 5.12.1.1): those names that are more than two syllables often have short (two-mora) forms, and short names are pronounced with LH tone.

Examples of names associated with each of the major religions are given here, and a short form is provided when it has been attested:

“Islamic” name	short form	
<b>bùbá</b>	—	(male name)
<b>fàdìmádù</b>	<b>fàdǐ</b>	(female name)
<b>mùsá</b>	—	(male name)
<b>nàfìsátù/nàfí</b>	<b>nàfí</b>	(female name)
<b>?ùsùmànù</b>	<b>mànù</b>	(male name)

“Christian” name	short form	
<b>?àgábùs</b>	<b>?àgá</b>	(male name)
<b>?èlìzàbèt</b>	<b>?èlíz</b>	(female name)
<b>làzár</b>	—	(male name)
<b>mùwíz</b>	—	(male name)
<b>nàtànyêl</b>	<b>nàtá</b>	(male name)

#### 5.12.1.4 Personal names referring to place names

When two people in the same referential sphere have publicly recognized names (see beginning of 5.12.1) that are identical, place names (cf. 5.12.3) are frequently used to disambiguate between the two people.

<b>kàmì ?ìsá fígí</b>	Kami Isa from Figuil
<b>kàmì ?ìsá káà-kààlá</b>	Kami Isa from Kaakaala
<b>kwéé làzár bèè-sùm</b>	Kwe Lazar from Beesum
<b>kwéé làzár káà-gúúmà</b>	Kwe Lazar from Kaaguuma
<b>tí-pàn bèè-páhnà</b>	Tipana from Beepahna
<b>tí-pàn káà-kyô'w</b>	Tipana from Kaakyo'w

#### 5.12.2 Clan names

The names of major Mambay clans are as follows:

<b>búró</b>	<b>lâh-zwâ'</b> (cf. <b>zwâ'</b> ‘ancestry’)
<b>gáà</b>	<b>lâmbèy</b> (cf. <b>lâmbùù</b> ‘(village name)’)
<b>gyàhrá</b> (cf. <b>gyàhrá</b> ‘termite sp.’)	<b>nà-hî' / táàrè</b>
<b>kàdǵà</b>	<b>nà-hîmgó</b> (cf. <b>hîmgó</b> ‘owl’)
<b>kà-zû'</b>	<b>sàà-búúrà</b> (cf. <b>sàà</b> inside, <b>búúrà</b>
<b>kòngòṅ</b>	‘wall, construction’)
<b>kpí'rà / mǵngà</b>	<b>sàgró</b>
<b>kpùmú / tárà</b> (cf. <b>kpùmú</b> ‘monkey’)	



Importantly, and similar to what is found in Mundang and some related languages (Elders 2000:253–4, Welmers 1973:216–7; cf. Ruelland 1992:230–1), there is no formal difference between the two following a transitive verb. This may lead to ambiguity which is only resolved in the referential realm, as the following example shows:

<b>Ø làà-rì túrà</b>	he/she/it has eaten millet / he/she/it has eaten
3:PFV eat:PERF-PERF millet	at the millet (i.e., among the millet plants)

When an object and locational complement are found in the same clause, the object comes first.

<b>Ø làà túrà ?áà</b>	he/she/it has eaten millet among the bean plants
3:PFV eat:PFV millet beans	

<b>Ø làà ?áà túrà</b>	he/she/it has eaten beans among the millet plants
3:PFV eat:PFV beans millet	

Although a wide range of nouns could be used in a locative function, three categories in particular are commonly used: locations in the referential realm, inherently locative nouns, and body parts used in a locative capacity.

Examples of locations in the referential realm (see also 5.12.3) are as follows:

<b>bèè kàhbí</b>	(river name)
<b>fíìlò</b>	[a particular] house / home
<b>káà-kààlá</b>	(village name)
<b>vbǎglà</b>	(fields near Kaakaala)
<b>zé'gà</b>	[a particular] mountain; Mambay Mountain

<b>Ø yàà fíìlò</b>	he/she/it stayed at the house
3:PFV stay:PFV house	

<b>Ø yàà káà-kààlá</b>	he/she/it stayed in Kaakaala
3:PFV stay:PFV Kaakaala	

<b>Ø yàà zé'gà</b>	he/she/it stayed on the mountain /
3:PFV stay:PFV mountain	he/she/it stayed on Mambay Mountain /

All of the inherently locative nouns in the data are as follows:

<b>fà-gbàhḡ</b>	outside
<b>fin</b>	toward
<b>gâh</b>	midst
<b>kǎ'</b>	here

<b>kô'</b>	there
<b>kǔ'</b>	there
<b>làbí</b>	left side
<b>sígzò</b>	middle

Ø yàà sígzì fíflò                      he/she/it stayed in the middle of the house  
 3:PFV stay:PFV middle:LF house

Ø yàà gâh ?éré                      he/she/it stayed among them (lit. in their midst)  
 3:PFV stay:PFV midst:LF 3PL.POSS

Ø yàà kà' nájá                      he/she/it stayed right here  
 3:PFV stay:PFV here this

That these words are nouns rather than prepositions is proven by their compatibility with dependent noun phrase elements such as possessor nouns, possessive pronouns and specifiers. This is shown in the example sentences above.

Body parts commonly used in a locative capacity are as follows:

noun	body part gloss	locative gloss
<b>dágà</b>	mouth, edge	by, at, at the tip of
<b>dwǎ'</b>	belly	centre
<b>fààlá</b>	back, skin, place	at, at the back of, behind
<b>fínù</b>	forehead, front	in front of, facing
<b>?ínù</b>	body, self	at the place of, in the presence of
<b>káálà</b>	head, reason	on, in reference to, in order to, because
<b>mùhná</b>	vulva	at the centre of
<b>'màhná</b>	leg, foot	at the foot of
<b>nìnú</b>	eye, face, life	under, at the bottom of, for, because
<b>nínú</b>	eye, face, life	in the presence of
<b>syâh</b>	hand, finger	for
<b>tè'nú</b>	side	beside
<b>tìnú</b>	front, genitals	at the front of
<b>vbyâh</b>	cheek	on the flank of

These body parts are a subset of the nouns which take inalienable pronominal possession (5.3.4.1). When they are used in a locative capacity, they are necessarily possessed (cf. 5.3.3.3.1). The possessor may be a noun or an inalienable possessive pronoun (cf. 5.3.4.2.2).

Ø yàà káà zé'gà                      he/she/it stayed on top of the mountain  
 3:PFV stay:PFV head:LF mountain





Because pronouns play a major role in verbal inflection (cf. 7.4), the description of pronouns in Mambay provides a suitable transition between the description of nouns (Chapter 5) and that of verbs (Chapter 7). Most of the present chapter is devoted to the cataloguing and description of personal pronouns (6.1), and a final section (6.2) presents interrogative pronouns.

### **6.1 Personal pronouns**

In Mambay, thirteen pronoun slots are grammaticalized based on person, number and related values (6.1.1). Pronouns are used to mark subjects (6.1.2), objects (6.1.3) and possessors (6.1.4). Each category of personal pronoun is found with a corresponding set of emphatic pronouns (6.1.5).

The table on the following page provides an overview of Mambay personal pronouns:

Mambay personal pronouns

person	subject							object		possessive	
	independent	Perfective tenses	Imperfective	Indicative Irrealis	negative Perfective	negative non-Perfective	Optative	basic	reflexive	alienable	inalienable
1SG	mì	mì	mì	mìí	mìí	mìí	mì	mì	ʔíní	ʔíí	-í
2SG	mù	mù	mù	mùú	mùú	mùú	mù	-m	ʔíním	ʔám	-m
1&2SG	nà	nà	nà	nàá	nàá	nàá	nà	nà	ʔíná	ʔáná	-ná
3SG	dú	∅	ʔà / ∅	ʔáá	ʔáá~ hìí	ʔáá~ hìí	má	-`rú~ -`wú	—	ʔùúrú~	-`rú~
3SG.IMPERS	ʔà									ʔùúwú	-`wú
3SG.COREF	lè	lè	lè	lèé	lèé	lèé		lé	ʔilé	ʔéé	-lé
1PL	rì	rì	rì	rìí	rìí	rìí	rì	rì	ʔírí	ʔírí	-rì
2PL	rò~ʔò	rò~ʔò	rò~ʔò	ròó	ròó	ròó	rò~ʔó	ró	ʔíró	ʔóró	-ró
1&2PL	nànzà	nà	nà	nàá	nàá	nàá	nà	zínzá~ -zíná	ʔínzínzá~ ʔínzá	ʔánzá	-zínzá~ -zíná
3PL	dùgzí	∅	ʔà / ∅	ʔáá	ʔáá~ hìí	ʔáá~ hìí	má	dùgú	—	dùgú	dùgú
3PL.IMPERS	ʔà									ʔéré	-ré
3PL.COREF	rè	rè	rè	rèé	rèé	rèé		ré	ʔíré		

### 6.1.1 Pronoun slots

Thirteen pronoun slots are grammaticalized based on person, number and related values.

1SG	first person singular
2SG	second person singular
1&2SG	first-and-second person “singular”
3SG	third person singular
3SG.IMPERS	third person impersonal singular
3SG.COREF	third person co-referential singular
3GEN	third person generic
1PL	first person plural (exclusive)
2PL	second person plural
1&2PL	first-and-second person plural
3PL	third person plural
3PL.IMPERS	third person impersonal plural
3PL.COREF	third person co-referential plural

This chart shows that in addition to distinctions among first, second and third person and between singular and plural, the following pronominal categories are grammaticalized in Mambay: first-and-second (6.1.1.1); impersonal (6.1.1.2); generic (6.1.1.3); and co-reference (6.1.1.4).

Instances of formal redundancy between some of the slots are summarized in 6.1.1.5. In particular, the third person generic (omitted in the main chart on the previous page; see 6.1.1.3) and third person impersonal slots are marginal, since in most cases they share the form of other third person pronouns. Taking this into account, the basic pronoun system of Mambay may be schematized as follows:

The basic pronoun system of Mambay

1SG	1PL
2SG	2PL
1&2SG	1&2PL
3SG	3PL
3SG.COREF	3PL.COREF

### 6.1.1.1 First-and-second (1&2)

First-and-second (1&2) person pronouns are “inclusive,” that is, they involve (at least) a speaker and an addressee. Mambay stands apart from most closely related languages and other languages in the region not in that it has inclusive pronouns, but in that this slot is distinguished for “singular” and plural (Duru / Yag Dii in north-central Cameroon also exhibits this system; see Bohnhoff 1986:104). 1&2 singular pronouns refer to the minimal communication dyad, namely, a speaker and an addressee.

**nà**                      **sàà**    **màh**                      we (you (sg.) and I) are in the granary  
1&2SG.INDEP    inside    granary

**kpáhli**    **?áná**                                      our (your (sg.) and my) stool  
stool:LF    1&2SG.POSS

From a numeric point of view, these pronouns are dual rather than singular. However, in the pronominal system, they pattern as singular by virtue of a grammaticalized opposition to the 1&2 plural pronouns (cf. Thomas 1955:207–8, Corbett 2000:166–9, Cysouw 2003:85–90, 260–4 and 2005:5). 1&2 plural pronouns refer to a communication dyad with a speaker, an addressee, and at least one other participant. The “other(s)” may be aligned with either the speaker or the addressee.

**nànzà**                      **sàà**    **màh**                      we (you and we / you (pl.) and I) are in the granary  
1&2PL.INDEP    inside    granary

**kpáhli**    **?ánzá**                                      our (your and our / your (pl.) and my) stool  
stool:LF    1&2PL.POSS

In the above examples, it is evident that the form of the 1&2 singular is similar to that of the plural (this is also the case in Duru; see Bohnhoff 1986:104, 129 footnote 3). In fact, for verbal subject pronouns, 1&2 singular and plural forms are identical; the singular vs. plural distinction is instead formalized on verbs through the use of the verbal plurality affix **-zí** (7.3.1.1) and singular vs. plural reflexive suffixes (7.3.1.2) on verb stems.

**nà**    **hèè**                                      we (you (sg.) and I) climbed  
1&2    climb:PFV

**nà**    **hèè-zí**                                      we (you and we / you (pl.) and I) climbed  
1&2    climb:PFV-PL

**nàá**                      **hèè-ná**                                      we (you (sg.) and I) will climb  
1&2:IRR    climb:FUT-1&2SG.REFL

**nàá**                      **hèè-zìnzá**                                      we (you and we / you (pl.) and I) will climb  
1&2:IRR    climb:FUT-1&2PL.REFL

In all cases where there is a formal singular vs. plural distinction, the plural counterpart contains a morpheme with the consonant **z**. This underlines the 1&2 plural’s formal alignment with other explicit plural marking in the language, which is also typically found with **z** (5.5, 5.9.2.1, 7.3.1.1).

An alternative presentation of the same system using the more familiar distinctions of inclusive vs. exclusive and singular vs. dual vs. plural has also been considered. In such a presentation, the 1&2 singular slot shown above would be labelled “first person inclusive dual” and the 1&2 plural slot would be labelled “first person inclusive plural”; also—and importantly—the first person plural slot described in this study would be recast as “first person exclusive plural.” Such a description is provided for a parallel system in Margi (a Chadic language of Nigeria) by Hoffman (1963:72ff.). The two presentations may be compared as follows:

Presentation with 1&2SG/PL slots

1SG	1PL
2SG	2PL
1&2SG	1&2PL
3SG	3PL
3SG.COREF	3PL.COREF

Presentation using familiar distinctions

1SG	1DU.INCL	1PL.INCL
	1PL.EXCL	
2SG	2PL	
3SG	3PL	
3SG.COREF	3PL.COREF	

The latter presentation, which relies on more familiar distinctions, falls short in that it sets up a dual vs. plural opposition, even though a “dual” category is not grammaticalized elsewhere in the Mambay pronoun system (or anywhere in the language, for that matter; see Thomas 1955:205, Plank 1996 and Cysouw 2003:87–8). In contrast, the presentation with 1&2SG/PL slots recognizes a communication dyad as a basic person category; as such, it brings out symmetry in the applicability of plurality to 1&2 person pronouns and inherently singular pronouns (Greenberg 1988:3–4). The semantic confusion that arises from the labelling of a “you-and-I” (i.e., 1&2SG) pronoun as singular can be addressed by considering this pronoun, along with the inherently singular pronouns, as “minimal”; remaining pronouns could be considered “augmented,” since they all involve the addition of “other” persons to “minimal” slots (Bohnhoff 1986:104, Beavon 1986:175, Corbett 2000:199–9, Cysouw 2003:85–90, 2005:5).

### 6.1.1.2 Impersonal

For third person singular as well as third person plural pronouns, there is a partial default vs. impersonal contrast. Whereas default third person pronouns make explicit reference to a discourse participant, impersonal pronouns are used when a participant is not in view (i.e., is backgrounded or irrelevant) but the grammatical context still requires a pronoun. The default vs. impersonal distinction is formalized only for independent pronouns (6.1.2.1) used as subjects of verbless attributive clauses (cf. 8.4.1) and for possessive pronouns (6.1.4).

An illustration of this distinction in verbless clauses is as follows:

default third person pronouns:

**dú**      **ká**      **pàrà**      he/she/it is good  
3SG.INDEP   ATTRIB   goodness

**dùgzí**    **ká**      **pàrà**      they are good  
3PL.INDEP   ATTRIB   goodness

impersonal third person pronouns:

**?à**      **ká**      **pàrà**      it (impers.) is good (Fr. *c'est bon*) /  
3IMPERS   ATTRIB   goodness      they (impers.) are good (Fr. *ce sont bons*)

**?à**      **míz-míz**      it is drizzly  
3SG.IMPERS   drizzly

For third person possessive pronouns, impersonal pronouns pattern with co-reference pronouns rather than the default third person pronoun set (see 6.1.1.5.2).

default third person pronouns:

**bèè**      **?úùrú**      his/her/its water  
water:LF   3SG.POSS

**bèè**      **dùgú**      their water  
water:LF   3PL.POSS

**fààrú**      his/her/its back/skin (inal.)  
back/skin:3SG.POSS.INAL

impersonal and co-referential third person pronouns:

**bèè**      **?éé**      his/her/its (coref.) water / its (impers.) water  
water:LF   3SG.COREF/IMPERS.POSS

**bèè**      **?éré**                      their (coref./impers.) water  
 water:LF    3PL.COREF/IMPERS.POSS

**fààlé**                                      his/her/its back/skin (inal.) (coref./impers.) /  
 back/skin:3SG.POSS.INAL              afterward (cf. 5.13)

### 6.1.1.3 Generic

A marginal generic third person category in Mambay is expressed using the third person generic pronoun **dǔg** ‘one, they, people.’ This pronoun differs from all other twelve pronominal person slots in that it is not found with its own distinctive pronoun forms (i.e., subject, object and possessive); instead, it patterns syntactically like a subject noun or an emphatic subject pronoun (6.1.5.1), since it is found as the subject in clauses which are already accompanied by a third person (singular or plural) pronoun. In the following examples, the generic third person pronoun **dǔg** is compared with the formally similar emphatic forms of the third person singular and plural:

**dǔg**      **?àá**      **hèè**                                      one will climb  
 3GEN      3:IRR      climb:FUT

**dúù**      **?àá**      **hèè**                                      *he/she/it* will climb  
 3SG.EMPH    3:IRR      climb:FUT

**dùgzí**      **?àá**      **hèè-zí**                                      *they* will climb  
 3PL.EMPH    3:IRR      climb:FUT-PL

Other examples showing the generic third person pronoun (always patterning syntactically as an emphatic subject pronoun) are as follows:

**dǔg**      **sàà**      **rò’rá**  
 3GEN      inside      word  
*one is caught up with an issue (lit. one is inside a word)*

**dǔg**       $\emptyset$       **héerà**  
 3GEN      3:REAL      climb:VN  
*one climbs*

**dǔg**      **má**      **hèè**  
 3GEN      3:OPT      climb:OPT  
*one must climb*

**dǔg**      **hî**                                      **nàh**      **kpáávirá**      **tédé**      **yá**  
 3GEN      3:NONPFV.NEG      take.out:VN      plant.bulb.sp.      all      NEG  
*one doesn’t take out all the plant bulbs*

Because the generic third person pronoun bears a non-specific referential value ('one, they, people'), it is never found with Perfective verb forms, which signal events that have taken place in conjunction with specific subjects (6.1.2.2).

\***dǔg** Ø **hèè** \*one climbed  
 3GEN 3:REAL climb:PFV

Because (as mentioned at the beginning of this section) the third person generic pronoun does not have its own distinctive pronoun forms, it is not discussed in the sections which deal with pronoun forms.

#### 6.1.1.4 Co-reference

In addition to the person-related pronominal categories already catalogued in this section, Mambay makes use of a system of co-reference with third person pronouns. This system, which helps users of the language to keep track third person referents, has been described in Anonby (2005:27–44). In the present section, generalities of co-reference in Mambay are laid out.

Co-reference pronouns are used to show that a real-world referent is the same as one which has been previously designated. In contrast to anaphoric demonstratives (9.2.2), which are used to refer back over longer distances of text, co-reference functions within a clause.

Although they comprise a single formal set in Mambay, co-reference pronouns are used in two capacities: reflexive and logophoric (cf. Wiesemann 1986:438, Kutsch Lojenga 2007:143–5). Reflexive co-reference pronouns are used within a simple clause to refer back to the subject of the clause. They are represented by reflexive object pronouns (6.1.3.2) and possessive pronouns (6.1.4).

third person reflexive object pronoun:

**?à** **kòg** **?ílé** he/she/it sees himself/herself/itself  
 3:IMPFV see:VN body:3SG.COREF/IMPERS.POSS

cf. third person non-reflexive object pronoun:

**?à** **kòg-rú** he/she/it<sub>i</sub> sees him/her/it<sub>j</sub>  
 3:IMPFV see:VN.3SG.OBJ

third person co-referential possessive pronoun:

Ø **hàhngí** **yǐh** **?éé** he/she/it<sub>i</sub> forgot his/her/its<sub>i</sub> name  
 3:PFV forget:PFV name:LF 3SG.C/I.POSS

cf. third person non co-referential possessive pronoun:

Ø    **hàhǵí**    **yǵh**    **ʔúùrú**    he/she/it<sub>i</sub> forgot his/her/its<sub>j</sub> name  
 3:PFV    forget:PFV    name:LF    3SG.POSS

For their part, logophoric co-reference pronouns in Mambay show that a participant in an Indicative complement clause refers to the same participant as the subject of the main clause (cf. Watters 2000:225). Specifically, it is main-clause verbs of “speech, thoughts, feelings, or general state of consciousness” followed by the complementizer **bè** (10.2.2.1) which trigger the use of logophoric pronouns in the complement clause (Clements 1975:141, cf. Hagège 1974:290). When default (non co-reference) pronouns are used in this context, it signals a switch in pronominal reference. A pair of examples contrasting the use of logophoric co-reference pronouns with default pronouns is as follows:

logophoric co-reference pronoun:

Ø    **ró'**    **bè**    **lè**    **vè**    **dâg**    **byàá**  
 3:PFV    say:PFV    QUOT    3SG.COREF    go:PFV    mouth:LF    water

*he/she/it<sub>i</sub> said that he/she/it<sub>i</sub> went to the water's edge*

cf. default (here: switch-reference) pronoun:

Ø    **ró'**    **bè**    Ø    **vè**    **dâg**    **byàá**  
 3:PFV    say:PFV    QUOT    3:PFV    go:PFV    mouth:LF    water

*he/she/it<sub>i</sub> said that he/she/it<sub>j</sub> went to the water's edge*

Unlike third person subject pronouns found in Indicative complement clauses, which exhibit a logophoric/default contrast, those found in Optative complement clauses are invariable.

Ø    **ró'**    **bè**    **má**    **vè-lé**    **dâg**    **byàá**  
 3:PFV    say:PFV    QUOT    3SG:OPT    go:OPT-3SG.REFL    mouth:LF    water

*he/she/it<sub>i</sub> said that he/she/it<sub>ij</sub> must go to the water's edge*

Because the domain of logophoric co-reference is within a single main clause (including embedded complement clauses), referentially identical subjects in juxtaposed main clauses are marked with a default pronoun.

Ø    **ró'**    **ʔígà,**    Ø    **vè**    **dâg**    **byàá**  
 3:PFV    say:PFV    thing    3:PFV    go:PFV    mouth:LF    water

*he/she/it<sub>i</sub> said something [and] he/she/it<sub>i</sub> went to the water's edge*

### 6.1.1.5 Formal redundancy between categories

Of the thirteen pronominal person slots, five do not share forms with other slots: 1SG, 2SG, 3GEN, 1PL and 2PL. First-and-second person (6.1.1.5.1) and most third person

(6.1.1.5.2) pronouns, in contrast, exhibit partial formal redundancy with other pronouns in the same group.

### 6.1.1.5.1 First-and-second (1&2) person pronouns

The distinction between first-and-second person singular vs. plural (6.1.1.1) is absent on (non-emphatic) verbal subject pronouns (6.1.2). Instead, it is formalized on verbs through the use of the plurality affix **-zí** (7.3.1.1) and singular vs. plural reflexive suffixes (7.3.1.2) with verb stems.

<b>nà</b>	<b>hèè</b>	we (you (sg.) and I) climbed
1&2	climb:PFV	
<b>nà</b>	<b>hèè-zí</b>	we (you and we / you (pl.) and I) climbed
1&2	climb:PFV-PL	
<b>nàá</b>	<b>hèè-ná</b>	we (you (sg.) and I) will climb
1&2:IRR	climb:FUT-1&2SG.REFL	
<b>nàá</b>	<b>hèè-zìnzá</b>	we (you and we / you (pl.) and I) will climb
1&2:IRR	climb:FUT-1&2PL.REFL	

This singular vs. plural distinction is, however, marked on all other first-and-second person pronoun forms (6.1.1.1).

### 6.1.1.5.2 Third person pronouns

There are two sets of third person pronouns which exhibit partial formal redundancy: third person singular with third person plural, and third person (sg./pl.) with third person impersonal (sg./pl.).

Similarly to what happens with first-and-second person pronouns (6.1.1.5.1), a distinction of plurality is not marked on (non-logophoric) third person verbal subject pronouns; rather, it is formalized through the use of the inflectional plurality affix **-zí** (7.3.1.1) and/or the third person singular and plural reflexive suffixes (7.3.1.2) on verbs.

<b>?àá</b>	<b>hèè</b>	he/she/it will climb
3:IRR	climb:FUT	
cf. <b>?àá</b>	<b>hèè-zí</b>	they will climb
3:IRR	climb:FUT-PL	
= <b>?àá</b>	<b>hèè-ré</b>	they will climb
3:IRR	climb:FUT-3PL.REFL	

= **ʔàá** **hèè-zì-ré** they will climb  
 3: IRR climb:FUT-PL-3PL.REFL

(For a discussion of the function of these affixes in plural Future forms, see 7.3.1.2 and 7.4.1.2.1).

The distinction between default and impersonal third person pronouns is formalized only for independent pronouns and possessive pronouns (6.1.2.1, 6.1.1.2).

**dú** **ká** **pàrà** he/she/it is good  
 3SG.INDEP ATTRIB goodness

**ʔà** **ká** **pàrà** it (impers.) is good  
 3IMPERS ATTRIB goodness

**bèè** **ʔúùrú ~ ʔúùwú** his/her/its water  
 water:LF 3SG.POSS

**bèè** **ʔéé** his/her/its (coref./impers.) water  
 water:LF 3SG.COREF/IMPERS.POSS

### 6.1.2 Subject pronouns

There are seven sets of subject pronouns:

- independent (6.1.2.1);
- Perfective (6.1.2.2);
- Imperfective (6.1.2.3);
- affirmative Indicative Irrealis (Future) (6.1.2.4);
- negative Perfective (6.1.2.6);
- negative non-Perfective (6.1.2.6); and
- Optative (6.1.2.7).

As this list shows, formal diversity among subject pronouns is largely a reflection of mood, realis value and aspect marking (cf. Wiesemann 1986:x, Burquest 1986:73–80). Distinctions are conveyed by means of contrastive vowel length, tone, and the patterning of third person pronouns.

The structure of first and second person subject pronouns is regular. Pronoun forms which pattern together for the first and second person are 1) Indicative Realis, 2) Indicative Irrealis and 3) Optative.

1. Indicative Realis pronouns represent independent pronouns, Perfective tenses and the Imperfective, and exhibit a common CV̂ structure.

2. Indicative Irrealis pronouns, which represent the affirmative Indicative Irrealis (i.e., Future) as well as negative Perfective and negative non-Perfective clauses, share a CVV structure; while the tone melody for the affirmative Indicative Irrealis and negative Perfective pronouns is HL, that of the negative non-Perfective pronouns is LH.
3. Optative pronouns exhibit an invariable C $\acute{V}$  structure, whether affirmative or negative.

These patterns are summarized in the following table:

First and second person subject pronouns

subject pronoun type		structure
Indicative Realis	independent	C $\grave{V}$
	Perfective tenses	C $\grave{V}$
	Imperfective	C $\grave{V}$
Indicative Irrealis	affirmative Indicative Irrealis	C $\grave{V}\acute{V}$
	negative Perfective	C $\grave{V}\acute{V}$
	negative non-Perfective	C $\acute{V}\grave{V}$
Optative		C $\acute{V}$

The patterning of third person pronouns is more complex, and distinguishes each of the seven sets. This topic is discussed in the subsections below for each of the sets, but patterns are summarized and presented as a reference in the following table:

### Third person subject pronouns

subject pronoun type		structure and patterning
Indicative Realis	independent	<b>dú / dùgzí</b> (default), <b>?à</b> (impersonal); appears when there is no nominal subject
	Perfective tenses	zero pronoun ( $\emptyset$ )
	Imperfective	<b>?à</b> ; appears when there is no nominal subject
Indicative Irrealis	affirmative Indicative Irrealis	<b>?àá</b> ; obligatory pronoun
	negative Perfective	<b>?àá</b> ; obligatory pronoun; optional <b>hǽ</b> form
	negative non-Perfective	<b>?àá</b> ; obligatory pronoun; optional <b>hǽ</b> form
Optative		<b>má</b> ; obligatory pronoun

In fast speech, the second person plural pronouns (independent form: **rò**) with a CV shape are alternately realized with a glottal onset.

<b>rò</b>	<b>làà</b>	<b>?ígà</b>	you (pl.) ate something
1SG	eat:PFV	thing	
= <b>?ò</b>	<b>làà</b>	<b>?ígà</b>	you (pl.) ate something
1SG	eat:PFV	thing	

This reduction is not attested with the structurally similar first person plural (independent form: **rì**) and logophoric third person plural (independent form: **rè**) pronouns.

Paradigms and illustrative examples of each pronoun set are given in the sections below (6.1.2.1–6.1.2.7), and references to the verbal forms with which these pronouns are used are also provided. Emphatic subject pronouns corresponding to each subject pronoun category are discussed in 6.1.5.

#### 6.1.2.1 Independent

Independent pronouns, which typically exhibit a CV̂ structure, are as follows:

Independent pronouns

1SG	<b>mì</b>
2SG	<b>mù</b>
1&2SG	<b>nà</b>
3SG	<b>dú</b>
3SG.IMPERS	<b>?à</b>
3SG.COREF	<b>lè</b>
1PL	<b>rì</b>
2PL	<b>rò ~ ?ò</b>
1&2PL	<b>nànzà</b>
3PL	<b>dùgzí</b>
3PL.IMPERS	<b>?à</b>
3PL.COREF	<b>rè</b>

Independent pronouns are most commonly found as subjects of verbless clauses (10.1.3).

**mù ká párà**                      you are good  
 2SG ATTRIB goodness

**mì sàà mậ**                      I am in the granary  
 1SG inside granary

Third person independent pronouns exhibit a distinction between default subjects, which use the pronouns **dú** (sg.) / **dùgzí** (pl.), and impersonal subjects, which use the pronoun **?à**.

**dú ká párà**                      he/she/it is good  
 3SG.INDEP ATTRIB goodness

**dùgzí ká párà**                      they are good  
 3PL.INDEP ATTRIB goodness

**?à ká párà**                      it (impers.) is good / they (impers.) are good  
 3IMPERS ATTRIB goodness

The third person independent pronouns appear only when there is no nominal subject.

**dú sàà mậ**                      he/she/it is in the granary  
 3SG.INDEP inside granary

**?à ká párà**                      it (impers.) is good / they (impers.) are good  
 3IMPERS ATTRIB goodness

cf. verbless clauses with a nominal subject:

**bíḡà sáḡ mḡh** a child is in the granary  
 child inside granary

**bòòlá ká párà** a wooden club is good  
 wooden.club ATTRIB goodness

In addition to their central use as subjects of verbless clauses, independent pronouns are found as complements of the prepositions **mḡ** ‘with, and’ and **bèè** ‘without’ (9.3).

**mḡ mḡ** with you (sg.) / and you (sg.)  
 with 2SG

**bèè mḡ** without you (sg.)  
 without 2SG

The preposition **yḡ** ‘to, for,’ in contrast, is accompanied by object pronouns (6.1.3).

### 6.1.2.2 Perfective tenses

Pronouns used with Perfective tenses (7.4.1.1.1) typically exhibit a CḲ structure.

Pronouns used with Perfective tenses

1SG	<b>mḡ</b>
2SG	<b>mḡ</b>
1&2SG	<b>nḡ</b>
3SG	∅
3SG.COREF	<b>lè</b>
1PL	<b>rì</b>
2PL	<b>rò ~ ?ò</b>
1&2PL	<b>nḡ</b>
3PL	∅
3PL.COREF	<b>rè</b>

The following examples illustrate the use of these pronouns:

**mḡ hèè** I climbed  
 1SG climb:PFV

**rò làà ?íḡà** you (pl.) ate something  
 2PL eat:PFV thing



**ʔà héérà**  
3:IMPFV climb:VN

he/she/it climbs / he/she/it is climbing

cf. Imperfective clauses with a nominal subject:

**gǎm Ø héérà**  
Gam 3:REAL climb:VN

Gam climbs / Gam is climbing

#### 6.1.2.4 Indicative Irrealis (Future)

Affirmative Indicative Irrealis pronouns, which are found with Future verb forms (7.4.1.2), exhibit a CṾṾ structure.

Indicative Irrealis (Future) pronouns

1SG	<b>m̩j̩</b>
2SG	<b>m̩j̩</b>
1&2SG	<b>n̩á</b>
3SG	<b>ʔàá</b>
3SG.COREF	<b>lèé</b>
1PL	<b>r̩i</b>
2PL	<b>r̩ó</b>
1&2PL	<b>n̩á</b>
3PL	<b>ʔàá</b>
3PL.COREF	<b>r̩èé</b>

The following examples illustrate the use of these pronouns:

**m̩j̩ h̩èè**  
1SG:IRR climb:FUT

I will climb; I *will* climb!

**ʔàá h̩èè-zí**  
3:IRR climb:FUT-PL

they will climb; they *will* climb!

**b̩éla ʔàá h̩èè-zí**  
children 3:IRR climb:FUT-PL

the children will climb; the children  
*will* climb!

### 6.1.2.5 Negative Perfective

Pronouns found with negative Perfective verb forms (7.5.1) also exhibit a CVV structure.

Negative Perfective pronouns

1SG	<b>mǐǐ</b>
2SG	<b>mùú</b>
1&2SG	<b>nàá</b>
3SG	<b>?àá ~ hǐǐ</b>
3SG.COREF	<b>lèé</b>
1PL	<b>rǐǐ</b>
2PL	<b>ròó</b>
1&2PL	<b>nàá</b>
3PL	<b>?àá ~ hǐǐ</b>
3PL.COREF	<b>rèé</b>

The following examples illustrate the use of these pronouns:

**mǐǐ**      **hèè**      **yá**      I did not climb  
 1SG:PFV.NEG climb:PFV NEG

**ròó**      **hèè-zí**      **yá**      you (pl.) did not climb  
 2PL:PFV.NEG climb:PFV-PL NEG

For the third person negative Perfective pronoun, either **?àá** or **hǐǐ** may be used; although the issue has been investigated, no differences in usage patterns or meaning have been established.

**?àá**      **hèè**      **yá**      he/she/it did not climb  
 3:PFV.NEG climb:PFV NEG

= **hǐǐ**      **hèè**      **yá**      he/she/it did not climb  
 3:PFV.NEG climb:PFV NEG

### 6.1.2.6 Negative non-Perfective

Pronouns found with negative non-Perfective constructions (7.5.1) exhibit a CV̂V̂ structure.

Negative non-Perfective pronouns

1SG	<b>m̂ḥ</b>
2SG	<b>m̂ḥḥ</b>
1&2SG	<b>n̂ḥḥ</b>
3SG	<b>?áà ~ ĥḥ</b>
3SG.COREF	<b>lèè</b>
1PL	<b>r̂ḥ</b>
2PL	<b>ròò</b>
1&2PL	<b>n̂ḥḥ</b>
3PL	<b>?áà ~ ĥḥ</b>
3PL.COREF	<b>rèè</b>

The following examples illustrate the use of these pronouns:

**m̂ḥ**                    **héérà**    **yá**                    I do not climb / I am not climbing  
 1SG:NONPFV.NEG climb:VN NEG

**m̂ḥḥ**                    **ŝḥḥ**            **m̂ḥ**    **yá**                    you are not in the granary  
 2SG:NONPFV.NEG inside granary NEG

For the third person negative non-Perfective pronoun, either **?áà** or **ĥḥ** may be used; although the issue has been investigated, no differences in usage patterns or meaning have been established.

**ĥḥ**                    **héérà**    **yá**                    he/she/it is not climbing  
 3:NONPFV.NEG climb:VN NEG

= **?áà**                    **héérà**    **yá**                    he/she/it is not climbing  
 3:NONPFV.NEG climb:VN NEG

### 6.1.2.7 Optative

Pronouns found with Optative verb forms (7.4.2) exhibit a CV structure.

Optative pronouns

1SG	<b>mí</b>
2SG	<b>mú</b>
1&2SG	<b>ná</b>
3SG	<b>má</b>
3SG.COREF	<b>má</b>
1PL	<b>rí</b>
2PL	<b>ró ~ ?ó</b>
1&2PL	<b>ná</b>
3PL	<b>má</b>
3PL.COREF	<b>má</b>

The following examples illustrate the use of these pronouns:

**mú**      **hèè**      [you (sg.)] climb!  
 2SG:OPT    climb:OPT

**má**      **hèè-zí**      they must climb!  
 3:OPT      climb:OPT

Third person Optative pronouns do not exhibit a basic vs. logophoric distinction (6.1.1.4); their form **má** is invariable.

Ø      **ró'**      **bè**      **má**      **vè-lé**      **dâg**      **byàá**  
 3:PFV    say:PFV    QUOT    3SG:OPT    go:OPT-3SG.REFL    mouth:LF    water  
*he/she/it<sub>i</sub> said that he/she/it<sub>i;j</sub> must go to the water's edge*

### 6.1.3 Object pronouns

There are two categories of object pronouns in Mambay: basic (6.1.3.1) and reflexive (6.1.3.2).

#### 6.1.3.1 Basic object pronouns

Basic object pronouns are as follows:

Basic object pronouns

1SG	<b>mí</b>
2SG	<b>-m</b>
1&2SG	<b>ná</b>
3SG	<b>-rú</b>
3SG.COREF	<b>lé</b>
1PL	<b>rí</b>
2PL	<b>ró</b>
1&2PL	<b>zìnzá ~ -zíná</b>
3PL	<b>dùgú</b>
3PL.COREF	<b>ré</b>

Object pronouns are typically found immediately following transitive verb stems (cf. 7.3.2.1.2). Examples include:

<b>mì</b>	<b>kòg</b>	<b>dùgú</b>	I see them / I am seeing them
1SG	see:VN	3PL.OBJ	
<b>mù</b>	<b>zóó</b>	<b>rí</b>	you (sg.) greeted us (excl.)
2SG	greet:PFV	1PL.OBJ	

While most of the object pronouns are segmentally and tonally independent from the verb word, three object pronouns suffixes: 2SG, 3SG, and the **-zíná** form of 1&2PL.

∅	<b>zóó-m</b>	he/she/it greeted you (sg.)
3:PFV	greet:PFV-2SG.OBJ	
∅	<b>zóò-rú</b>	he/she/it <sub>i</sub> greeted him/her/it <sub>j</sub>
3:PFV	greet:PFV-3SG.OBJ	
∅	<b>zóó-zíná</b>	he/she/it greeted us (incl.)
3:PFV	greet:PFV-1&2PL.OBJ	

Phonological evidence for treating these object pronouns as suffixes is presented in the section on verb word suffixes (7.3.1.5).

As shown in the table above, the third person singular object pronoun **-rú** is also attested as **-wú**; the variant **-wú** is associated with informal speech.

∅	<b>zóò-rú</b>	he/she/it <sub>i</sub> greeted him/her/it <sub>j</sub>
3:PFV	greet:PFV-3SG.OBJ	



### 6.1.3.2 Reflexive object pronouns

Members of a set of reflexive object pronouns are used whenever the object of a simple clause is co-referential with its subject. Similar to what is found in many other African languages (Watters 2000:213), reflexive object pronouns in Mambay are composed of the noun **ʔínù** ‘body, self’ and an inalienable possessive pronoun (6.1.4.2). Reflexive object pronouns are as follows:

Reflexive object pronouns

1SG	<b>ʔíní</b>
2SG	<b>ʔíním</b>
1&2SG	<b>ʔíná</b>
3SG	—
3SG.COREF	<b>ʔilé</b>
1PL	<b>ʔírí</b>
2PL	<b>ʔíró</b>
1&2PL	<b>ʔínzínzá ~ ʔínzá</b>
3PL	—
3PL.COREF	<b>ʔíré</b>

The following examples illustrate the use of these pronouns:

**mì kó ʔíní** I saw myself  
 1SG see:PFV body:1SG.POSS.INAL

**rò lá’ ʔíró** you (pl.) heard yourselves  
 2PL hear:PFV body:2PL.POSS.INAL

Whenever a paradigm of basic object pronouns (6.1.3.1) is being elicited with a transitive verb, reflexive object pronouns are always substituted if the subject and object are co-referential.

**mù zóó mǐ** you (sg.) greeted me  
 2SG greet:PFV 1SG.OBJ

**mù zóó ʔíním** you (sg.) greeted yourself  
 2SG greet:PFV body:1SG.POSS

Like reflexive verb suffixes (7.3.1.5), reflexive object pronouns reduce the number of semantic participants in a transitive verb construction. However, they achieve this using different strategies: while reflexive suffixes result in the detransitivization of a transitive verb (7.3.2.1.2), reflexive object pronouns satisfy transitivity requirements by supplying the transitive verb with an object. The detransitivization strategy is only moderately

productive and is often accompanied by semantic shift (7.3.2.1.2), but the use of reflexive objects is fully productive.

reflexive verb suffix:

**mì gù-ní** I consented  
1SG consent:PFV-1SG.REFL

**rò gù-ró** you (pl.) consented  
2PL consent:PFV-2PL.REFL

reflexive object pronoun:

**mì gù ?íní** I answered myself  
2SG answer:PFV body:1SG.POSS.INAL

When reflexive object pronouns are plural, they may reflect either a reflexive or a reciprocal function; such a distinction is not grammaticalized.

**rò gù ?író** you (pl.) answered yourselves (i.e. each  
2PL answer:PFV body:2PL.POSS.INAL of you answered yourself *or* each of  
you answered the others of you *or*  
[both of these possibilities])

Because reflexive object pronouns are inherently co-referential (cf. 6.1.1.4), basic (non co-referential) third person pronouns are absent from the reflexive object pronoun paradigm.

#### 6.1.4 Possessive pronouns

Mambay has two sets of possessive pronouns: alienable (6.1.4.1) and inalienable (6.1.4.2). While alienable possessive pronouns are the default set and may be used with any noun, inalienable possessive pronouns may only be used with a small subgroup of nouns representing certain body parts as well as terms of kinship and social relation (5.3.4.1). The two sets are as follows:

Alienable possessive pronouns

1SG	ʔíí
2SG	ʔám
1&2SG	ʔáná
3SG	ʔúùrú ~ ʔúùwú
3SG.IMPERS	ʔéé
3SG.COREF	ʔéé
1PL	ʔírí
2PL	ʔóró
1&2PL	ʔánzá
3PL	dùgú
3PL.IMPERS	ʔéré
3PL.COREF	ʔéré

Inalienable possessive pronouns

1SG	-í
2SG	-m
1&2SG	-ná
3SG	-`rú ~ -`wú
3SG.IMPERS	-lé
3SG.COREF	-lé
1PL	-rí
2PL	-ró
1&2PL	-zínzá ~ -zíná
3PL	(dùgú)
3PL.IMPERS	-ré
3PL.COREF	-ré

As the table shows, alienable possessive pronouns are minimally comprised of either one heavy syllable or two light syllables and thus meet the minimal weight requirement characteristic of nouns (5.1.1.1). This is not the case for inalienable possessive pronouns, which in most cases are comprised of a single light syllable.

Possessive pronouns of both sets differ from other sets in that their third person impersonal pronouns are formally equivalent to their third person co-reference pronouns (6.1.1.2).

**6.1.4.1 Alienable possessive pronouns**

Alienable possessive pronouns are phonologically independent words rather than suffixes. They may be found with the linked form (5.2.2) of any noun. Pronouns in this set, shown in the context of an alienable possessive construction (5.3.3.3.1) with **pábà** ‘milk’ (linked form: **pâb**), are as follows:

person	example	gloss
1SG	<b>pâb ʔíí</b>	my milk
2SG	<b>pâb ʔám</b>	your (sg.) milk
1&2SG	<b>pâb ʔáná</b>	our (your (sg.) and my) milk
3SG	<b>pâb ʔúùrú ~ pâb ʔúùwú</b>	his/her/its milk
3SG.COREF/IMPERS	<b>pâb ʔéé</b>	his/her/its (coref./impers.) milk
1PL	<b>pâb ʔírí</b>	our (excl.) milk
2PL	<b>pâb ʔóró</b>	your (pl.) milk
1&2PL	<b>pâb ʔánzá</b>	our (incl.) milk
3PL	<b>pâb dùgú</b>	their milk
3PL.COREF/IMPERS	<b>pâb ʔéré</b>	their (coref./impers.) milk

For the third person singular pronoun, the form **úùrú** is more common in careful speech, and the form **úùwú** is more common in rapid speech.

As the table shows, alienable possessive pronouns are (like nouns) minimally comprised of either one heavy syllable or two light syllables (cf. 5.1.1.1).

All but one of the alienable possessive pronouns begin with a **ʔ**-vowel sequence. Also, even in the pronouns with two syllables, a single vowel quality is attested for each pronoun.

Tonally, most of these pronouns are H. However, the third person singular pronoun **ʔúùrú** is HLH, and the third person plural pronoun **dùgú** is LH. The following examples show that the tone melody of possessive pronouns is independent from those of the head nouns which they qualify:

<b>vbúù ʔíí</b>	my grass sp. (cf. <b>vbúù</b> grass sp.)
<b>vbúù ʔúùrú</b>	his/her/its grass sp.
<b>vbúù dùgú</b>	their grass sp.
<b>núúrú ʔíí</b>	my breast (cf. <b>núúrú</b> breast)
<b>núúrú ʔúùrú</b>	his/her/its breast
<b>núúrú dùgú</b>	their breast
<b>bìlìm ʔíí</b>	my drum sp. (cf. <b>bìlìm</b> drum sp.)
<b>bìlìm ʔúùrú</b>	his/her/its drum sp.
<b>bìlìm dùgú</b>	their drum sp.

These examples also show that the nasal value of head nouns is independent from that of the qualifying possessive pronouns.

#### 6.1.4.2 Inalienable possessive pronouns

Inalienable possessive pronouns formalize an inherent association between nouns and pronominal referents (5.3.4). They are found with a closed set of words containing some body parts as well as some terms of kinship and social relation (5.3.4.1).

Inalienable possessive pronouns show a clear resemblance to their alienable counterparts (6.1.4.1). However, with the exception of the third person plural inalienable possessive pronoun, whose form is the same as its alienable counterpart (see below in this section), inalienable possessive pronouns are suffixes.

Pronouns in this set, shown in the context of inalienable possessive constructions (5.3.4) with the body part **káálà** ‘head’ (linked form: **káà**), as well as the kinship term **súùní** ‘younger in-law,’ are as follows:

Possessive construction with **káálà** ‘head’ and inalienable possessive pronouns

person	inalienable possessive pronoun	example usage	gloss
1SG	- <b>í</b>	<b>káání</b>	my head (inal.)
2SG	- <b>m</b>	<b>káám</b>	your (sg.) head (inal.)
1&2SG	- <b>ná</b>	<b>kááná</b>	our (your (sg.) and my) head (inal.)
3SG	-` <b>ru</b> ~ -` <b>wu</b>	<b>káàru</b> ~ <b>káàwu</b>	his/her/its head (inal.)
3SG.COREF/IMPERS	- <b>lé</b>	<b>káálé</b>	his/her/its (coref./impers.) head (inal.)
1PL	- <b>rí</b>	<b>káárí</b>	our (excl.) head (inal.)
2PL	- <b>ró</b>	<b>kááro</b>	your (pl.) head (inal.)
1&2PL	- <b>zínzá</b> ~ - <b>zíná</b>	<b>káázínzá</b> ~ <b>káázíná</b>	our (incl.) head (inal.)
3PL	( <b>dùgú</b> )	( <b>káà dùgú</b> )	their head
3PL.COREF/IMPERS	- <b>ré</b>	<b>káaré</b>	their (coref./impers.) head (inal.)

Possessive construction with **sùùní** ‘younger in-law’ and inalienable possessive pronouns

person	inalienable possessive pronoun	example usage	gloss
1SG	- <b>í</b>	<b>sùùní</b>	my younger in-law (inal.)
2SG	- <b>m</b>	<b>sùùm</b>	your (sg.) younger in-law (inal.)
1&2SG	- <b>ná</b>	<b>sùùná</b>	our (your (sg.) and my) younger in-law (inal.)
3SG	-` <b>ru</b> ~ -` <b>wu</b>	<b>sùùndú</b>	his/her/its younger in-law (inal.)
3SG.C/I	- <b>lé</b>	<b>sùùlé</b>	his/her/its (coref./impers.) younger in-law (inal.)
1PL	- <b>rí</b>	<b>sùùrí</b>	our (excl.) younger in-law (inal.)
2PL	- <b>ró</b>	<b>sùùró</b>	your (pl.) younger in-law (inal.)
1&2PL	- <b>zínzá</b> ~ - <b>zíná</b>	<b>sùùnzínzá</b> ~ <b>sùùnzá</b>	our (incl.) younger in-law (inal.)
3PL	( <b>dùgú</b> )	( <b>sùùn dùgú</b> )	their younger in-law
3PL.C/I	- <b>ré</b>	<b>sùùré</b>	their (coref./impers.) younger in-law (inal.)

Whenever the segmental structure of the third person singular pronoun is -`**ru** (and not -`**du**; see 6.1.4.2.2), it is optionally realized as -`**wu** in casual speech.

careful speech		optional form in casual speech	
<b>fààrú</b>	<b>fààwú</b>		his/her/its back, skin (inal.)
<b>sêhrú</b>	<b>sêhwú</b>		his/her/its hand (inal.)
<b>sûgrú</b>	<b>sûgwú</b>		his/her/its ear (inal.)

The first person plural pronoun also presents a segmental variation, **-zínzá** vs. **-zíná**, but factors motivating this alternation are more complex. The two forms seem to reflect, respectively, the following tendencies of usage: archaic vs. contemporary, formal vs. casual, and dialects south vs. north of the Mayo Kebbi.

archaic (etc.)- type speech	contemporary (etc.)- type speech	
<b>fààzínzá</b>	<b>fààzíná</b>	our (incl.) back, skin (inal.)
<b>séhzínzá</b>	<b>séhzíná</b>	our (incl.) hand (inal.)
<b>súgzínzá</b>	<b>súgzíná</b>	our (incl.) ear (inal.)

There is no contrast in the form of the inalienable vs. alienable (6.1.4.1) third person plural possessive pronoun **dùgú** (cf. 6.1.1.3). In both cases, **dùgú** resembles alienable rather than inalienable possessive constructions in that its tonal value is not fused to the head noun which it follows (cf. 4.1.2.3).

	alienable possession	inalienable possession	
	<b>pàà dùgú</b> man:LF 3PL.POSS	<b>pàà dùgú</b> man:LF 3PL.POSS	their acquaintance / their father
cf.	<b>pàà ?íí</b> man:LF 1SG.POSS	<b>páy</b> man:1SG.POSS.INAL	my acquaintance / my father

The tone of inalienable pronouns has been dealt with in the context of inalienable noun-pronoun possessive constructions (5.3.4). Nasality, which does not spread between inalienable pronouns and nouns, is described in 5.3.4.2.5.

In most cases, the segmental structure of an inalienable noun-pronoun possessive construction is a simple amalgamation of the linked form (5.2.2) of the head noun and the inalienable possessive pronoun.

<b>fàà</b> back:LF	+	<b>-ró</b> 2PL.POSS.INAL	→	<b>fààró</b> back:2PL.POSS.INAL	your (pl.) back, skin (inal.)
<b>sûg</b> ear:LF	+	<b>-í</b> 1SG.POSS.INAL	→	<b>súgí</b> ear:1SG.POSS.INAL	my ear (inal.)

Still, many segmental alternations take place at the boundary between inalienable possessive pronouns and the head nouns to which they are attached. These alternations are summarized in the following subsections according to the segmental context offered by the linked forms of head nouns they accompany.

Complete paradigms of regular inalienable possession are provided for all shapes in Appendix 1, and all of the numerous idiosyncratic paradigms are also given.

#### 6.1.4.2.1 With linked forms ending in a long vowel

Inalienable possessive constructions involving nouns with linked forms ending in a long vowel insert **n** before the first person singular suffix **-í** as a means of avoiding illegal VVV structures, which are not found elsewhere in the language.

<b>káà</b> head:LF	+	<b>-í</b> 1 SG.POSS.INAL	→	<b>káání</b> head:1 SG.POSS.INAL	my head (inal.)
<b>fàà</b> back:LF	+	<b>-í</b> 1 SG.POSS.INAL	→	<b>fàání</b> back:1 SG.POSS.INAL	my back, skin (inal.)

#### 6.1.4.2.2 With linked forms ending in a consonant

In constructions involving nouns with linked forms ending in a consonant, the second person singular suffix **-m̄** is realized as **-V̄m̄** (where V is an echo of the vowel in the previous syllables, but which carries the High tone of the underlying suffix **-m̄**). This is a means of avoiding an illegal CC coda, since no other such structures are found in the language (2.4.1).

<b>kpân</b> penis:LF	+	<b>-m̄</b> 2 SG.POSS.INAL	→	<b>kpánám</b> penis:2 SG.POSS.INAL	your (sg.) penis (inal.)
<b>sâb</b> tail:LF	+	<b>-m̄</b> 2 SG.POSS.INAL	→	<b>sábám</b> tail:2 SG.POSS.INAL	your (sg.) tail (inal.)
<b>sûg</b> ear:LF	+	<b>-m̄</b> 2 SG.POSS.INAL	→	<b>súgúm</b> ear:2 SG.POSS.INAL	your (sg.) ear (inal.)
<b>ûn</b> front:LF	+	<b>-m̄</b> 2 SG.POSS.INAL	→	<b>ûním</b> front:2 SG.POSS.INAL	your (sg.) front, genitals (inal.)

In this context, forms ending preglottalized nasals pattern in an unusual manner: the **V'n** sequence is reinterpreted as a **V?V** sequence, where the glottal stop is discrete (cf. 2.3.3.3.2), and the alveolar nasal articulation disappears.

<b>tè'n</b> side:LF	+	<b>-m̄</b> 2 SG.POSS.INAL	→	<b>tè?ém</b> side:2 SG.POSS.INAL	your (sg.) side (of body) (inal.)
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### *Final obstruents*

Constructions involving nouns with linked forms ending in an obstruent differ from other constructions in that the third person singular co-reference/impersonal suffix **-lé** is realized as **-é**:

<b>sâb</b> tail:LF	+	<b>-lé</b> 3SG.C/I.POSS.INAL	→	<b>sábé</b> tail:3SG.C/I.POSS.INAL	his/her/its (coref.) / its tail (inal.)
<b>sûg</b> ear:LF	+	<b>-lé</b> 3SG.C/I.POSS.INAL	→	<b>súgé</b> ear:3SG.C/I.POSS.INAL	his/her/its (coref.) / its ear (inal.)

### *Final sonorant consonants*

Constructions involving nouns with linked forms ending in a sonorant differ from other constructions in several ways. First, most CV suffixes that begin with a sonorant displace the final sonorant of the linked form of the head noun:

<b>fîn</b> forehead:LF	+	<b>-nâ</b> 1&2SG.POSS.INAL	→	<b>fínâ</b> forehead:1&2SG.POSS.INAL	our (your (sg.) and my) forehead (inal.)
<b>kpân</b> penis:LF	+	<b>-lé</b> 3SG.C/I.POSS.INAL	→	<b>kpálé</b> penis:3SG.C/I.POSS.INAL	his/her/its (coref.) / its eye, face, life (inal.)
<b>tîn</b> front:LF	+	<b>-ré</b> 3PL.C/I.POSS.INAL	→	<b>tîré</b> front:3PL.C/I.POSS.INAL	their (coref./impers.) front, genitals (inal.)

However, for the third person suffix **-`rú**, the suffix-initial **r** constricts to **d** when it follows a sonorant, and does not replace the sonorant:

<b>hùùñ</b> thigh:LF	+	<b>-`rú</b> 3SG.POSS.INAL	→	<b>hùùñdú</b> thigh:3SG.POSS.INAL	his/her/its thigh (inal.)
<b>nâ-pûr</b> navel:LF	+	<b>-`rú</b> 3SG.POSS.INAL	→	<b>nâ-pûrdú</b> navel:3SG.POSS.INAL	his/her/its navel (inal.)
<b>tîn</b> front:LF	+	<b>-`rú</b> 3PL.C/I.POSS.INAL	→	<b>tîndú</b> front:3SG.POSS.INAL	his/her/its front (inal.)

(Considering that **dú** is the independent form of the third person pronoun (6.1.2.1), this **d/r** alternation more likely reflects a historical **d→r** softening in word-internal positions other than after **r** (see 2.1.2.2). However, since **-`rú** is synchronically represented in a wider range of environments, it has been selected as the underlying form of the third person singular pronoun.)

Additionally, the **-zíná** variant of the first-and-second person plural suffix is optionally reduced to **-zá** when it attaches to **n**-final linked forms:

<b>n̄n</b> eye:LF	+	<b>-zíná</b> 1&2PL.POSS.INAL	→	<b>n̄nzá ~ n̄nzíná</b> eye:1&2PL.POSS.INAL	our (incl.) eye, face, life (inal.)
<b>hùùh̄</b> thigh:LF	+	<b>-zíná</b> 1&2PL.POSS.INAL	→	<b>hùùh̄zá ~ hùùh̄zíná</b> thigh:1&2PL.POSS.INAL	our (incl.) thigh (inal.)

For CVV**n**-final linked forms in particular, the final **n** of the linked form is displaced by the suffix **-m̄**.

<b>hùùh̄</b> thigh:LF	+	<b>-m̄</b> 2SG.POSS.INAL	→	<b>hùùh̄m̄</b> thigh:2SG.POSS.INAL	your (sg.) thigh (inal.)
<b>sùùh̄</b> younger.inlaw:LF	+	<b>-m̄</b> 2SG.POSS.INAL	→	<b>sùùh̄m̄</b> thigh:2SG.POSS.INAL	your (sg.) younger.in- law (inal.)

#### 6.1.4.2.3 With linked forms ending in zi

Three nouns, all of which express social relations, and all of which could be historically composed, form inalienable possessive constructions differently than other nouns. These nouns are as follows:

<b>?ázi´</b>	member of <b>?àzgàrà</b> (see Glossary)
<b>fàzì</b>	member of <b>fàzàrà</b> ( ” )
<b>fàhzi</b>	member of <b>fàhzàrà</b> ( ” )

They pattern differently than other nouns in three ways. First, the nasality on the first person form (usually marked by the suffixation of the nasalized pronoun **-í**) does not appear in the resulting possessive construction.

<b>?ázi´</b> member.of. <b>?àzgàrà:LF</b>	+	<b>-í</b> 1SG.POSS.INAL	→	<b>?ázi</b> member.of. <b>?àzgàrà:</b> 1SG.POSS.INAL	my member of <b>?àzgàrà</b> (inal.)
<b>fàzì</b> member.of. <b>fàzàrà:LF</b>	+	<b>-í</b> 1SG.POSS.INAL	→	<b>fàzì</b> member.of. <b>fàzàrà:</b> 1SG.POSS.INAL	my member of <b>fàzàrà</b> (inal.)

Second, the linked form's final vowel loses its identity completely when it encounters a second person singular or (optionally) third person singular (coref./impers.) pronoun.

<b>ʔázi´</b>	+	<b>-m̀</b>	→	<b>ʔázàm</b>	your (sg.) member of
member.of.		2SG.POSS.INAL		member.of.ʔàzgàrà:	<b>ʔàzgàrà</b> (inal.)
<b>ʔàzgàrà:LF</b>				2SG.POSS.INAL	
<b>ʔázi´</b>	+	<b>-lé</b>	→	<b>ʔázè ~ ʔázilé</b>	his/her/its (coref.) / its
member.of.		3SG.C/I.		member.of.ʔàzgàrà:	member of <b>ʔàzgàrà</b>
<b>ʔàzgàrà:LF</b>		POSS.INAL		3SG.C/I.POSS.INAL	(inal.)

Third, for constructions with the first-and-second person plural **-zínzá**, a potential **zizi** sequence is simplified to **zi**.

<b>ʔázi´</b>	+	<b>-zínzá</b>	→	<b>ʔázìnzá</b>	our (incl.) member of
member.of.		1&2PL.		member.of.ʔàzgàrà:	<b>ʔàzgàrà</b> (inal.)
<b>ʔàzgàrà:LF</b>		POSS.INAL		1&2PL.POSS.INAL	
<b>fâhzi</b>	+	<b>-zínzá</b>	→	<b>fâhìnzá</b>	our (incl.) member of
member.of.		1&2PL.		member.of. fâhzàrà:	<b>fâhzàrà</b> (inal.)
<b>fâhzàrà:LF</b>		POSS.INAL		1&2PL.POSS.INAL	

### 6.1.5 Emphatic pronouns

Emphatic pronouns are the product of a largely regular formal strategy of emphasis (i.e., focus and prominence) unique to pronouns. This strategy is available to all of the basic personal pronoun sets (6.1.2–6.1.4); the attested types of emphatic pronouns are therefore as follows:

- emphatic subject pronouns (6.1.5.1);
- emphatic object pronouns (6.1.5.2); and
- emphatic possessive pronouns (6.1.5.3).

Typically, emphatic pronouns are composed of a basic pronoun coupled with an independent pronoun. For emphatic subject pronouns, the independent pronoun precedes the basic pronoun; for other emphatic pronoun sets, the independent pronoun follows it. This is shown in the following chart:

A comparison of basic pronoun sets with typical emphatic pronouns

basic pronoun set	example	gloss	typical emphatic pronoun structure	example	gloss
subject	<b>m̀ɲ́</b>	I (IRREALIS)	independent pn. + subject pn.	<b>m̀ɲ́ m̀ɲ́</b>	I (IRREALIS)
object	<b>m̀ɲ́</b>	me	object pn. + independent pn.	<b>m̀ɲ́ m̀</b>	me
reflexive object	<b>ʔɲ́ɲ́</b>	myself	reflexive pn. + independent pn.	<b>ʔɲ́ɲ́ m̀</b>	myself
inalienable possessive	<b>-ɲ́</b>	my (inal.)	inal. poss. pn. + independent pn.	<b>-ɲ́ m̀</b>	my (inal.)
alienable possessive	<b>ʔɲ́</b>	my (al.)	inal. poss. pn. + independent pn.	<b>ʔɲ́ m̀</b>	my (al.)

However, emphatic third person and first-and-second person plural pronouns often deviate from this regular pattern because of the complex distributional patterns of their basic counterparts (6.1.2).

On the following page, a table provides an overview of all emphatic personal pronouns in Mambay. The patterns common to each set as well as the exceptional behaviour exhibited by emphatic third person and first-and-second person plural pronouns are described in the subsections which follow.

Emphatic pronouns

person	emphatic subject			emphatic object		emphatic possessive	
	independent	Perfective tenses and Imperfective	other verb forms: (Indic. Irrealis, neg. Perfective, neg. non-Pfv., Optative)	basic	reflexive	inalienable	alienable
1SG	m̀ì m̀ì	m̀ì m̀ì	m̀ì + pn. *	m̀í m̀ì	?íní m̀ì	-í m̀ì	?íí m̀ì
2SG	m̀ù m̀ù	m̀ù m̀ù	m̀ù + pn.	m̀ú m̀ù	?íní m̀ù m̀ù	-m̀ù m̀ù	?ám m̀ù
1&2SG	ǹà ǹà	ǹà ǹà	ǹà + pn.	ǹá ǹà	?íná ǹà	-ǹà ǹà	?áná ǹà
3SG	d̀úù / d̀ú d̀úù	d̀úù / d̀ú d̀úù	d̀úù + pn.	d̀ú d̀ú	—	-`rú d̀ú ~ -`wú d̀ú	?úùrú d̀ú ~ ?úùwú d̀ú
3SG.IMPERS						-lé lè	?éé lè
3SG.COREF	lè lè	lè lè	lè + pn.	lé lè	?ílé lè	-lé lè	?éé lè
1PL	r̀ì r̀ì	r̀ì r̀ì	r̀ì + pn.	r̀í r̀ì	?írí r̀ì	-r̀ì r̀ì	?írí r̀ì
2PL	r̀ò r̀ò	r̀ò r̀ò	r̀ò + pn.	r̀ó r̀ò	?író r̀ò	-r̀ò r̀ò	?óró r̀ò
1&2PL	ǹànzàà	ǹànzà(à) ǹà	ǹànzà(à) + pn.	ǹànzà	?ínzínzá ǹànzà ~ ?ínzá ǹànzà	-zínzá ǹànzà ~ -zíná ǹànzà	?ánzá ǹànzà
3PL	d̀ùgzî	d̀ùgzí(î)	d̀ùgzí(î) + pn.	d̀ùgzí	—	d̀ùgzí	d̀ùgzí
3PL.IMPERS						-ré rè	?éré rè
3PL.COREF	r̀è r̀è	r̀è r̀è	r̀è + pn.	r̀é r̀è	?íré r̀è	-ré rè	?éré r̀è

\* In this table, “pn.” refers to the usual subject pronoun for the verbal forms listed in the column; see table in 6.1 above.

### 6.1.5.1 Emphatic subject pronouns

For most of the personal pronouns, any type of emphatic subject pronoun may be produced by placing an independent pronoun (6.1.2.1) before a subject pronoun of the same person.

<b>mì</b>	<b>mì</b>	<b>sàà</b>	<b>mậ</b>	<i>I am in the granary</i>
3SG	3SG	inside	granary	
cf.	<b>mì</b>	<b>sàà</b>	<b>mậ</b>	<i>I am in the granary</i>
	3SG	inside	granary	
	<b>mỳ</b>	<b>mỳ</b>	<b>hề</b>	<i>you climbed</i>
	2SG	2SG	climb:PFV	
cf.	<b>mỳ</b>	<b>hề</b>		<i>you climbed</i>
	2SG	climb:PFV		
	<b>rè</b>	<b>rềé</b>	<b>hề-zí</b>	<i>they (log.) will climb</i>
	3PL.COREF	3PL.COREF:IRR	climb:FUT-PL	
cf.	<b>rềé</b>	<b>hề-zí</b>		<i>they (log.) will climb</i>
	3PL.COREF:IRR	climb:FUT-PL		

However, for the third person singular (6.1.5.1.1), first-and-second person plural (6.1.5.1.2) and third person plural (6.1.5.1.3), the emphatic pronoun template is more complex than this. In all of these cases, the attested strategies include lengthening of independent pronouns and the presence of a word-final L tone (compare emphatic negative objects in 10.1.2.3). This is possible for these three pronouns only because they are segmentally distinct from verbal subject pronouns, where length and tone are already used to mark TAM distinctions (6.1.2.4–6.1.2.6).

#### 6.1.5.1.1 Third person singular

For emphatic forms of third person singular subject pronouns, the pronoun **dúù** is used. It resembles the default third person singular independent pronoun **dú** (6.1.2.1), but its vowel is long and it carries a HL rather than a H tone melody.

For most verb forms, **dúù** patterns like other emphatic subject pronouns (6.1.5.1): it is placed before a regular subject pronoun.

<b>dúù</b>	<b>?àá</b>	<b>hề</b>	<i>he/she/it will climb</i>
3SG.EMPH	3:IRR	climb:FUT	

cf. **ʔàá** **hèè** he/she/it will climb  
 3:IRR climb:FUT

**dúù** **má** **hèè** he/she/it must climb  
 3SG.EMPH 3SG:OPT climb:OPT

cf. **má** **hèè** he/she/it must climb  
 3:OPT climb:OPT

When it is used with Perfective forms, the emphatic pronoun **dúù** appears alone, since the third person Perfective pronoun is a zero pronoun (6.1.2.2).

**dúù**  $\emptyset$  **hèè** he/she/it climbed  
 3SG.EMPH 3:REAL climb:PFV

cf.  $\emptyset$  **hèè** he/she/it climbed  
 3:PFV climb:PFV

When **dúù** is used with Imperfective forms, it replaces the third person Imperfective pronoun **ʔà** (as is the case with other nominal subjects; see 6.1.2.3).

**dúù**  $\emptyset$  **héérà** he/she/it climbs / he/she/it is climbing  
 3SG.EMPH 3:REAL climb:VN

cf. **ʔà** **héérà** he/she/it climbs / he/she/it is climbing  
 3:IMPFV climb:VN

cf. other nominal subjects:

**tâw**  $\emptyset$  **héérà** Taw climbs / Taw is climbing  
 Taw 3:REAL climb:VN

For the third person singular of independent as well as Perfective and Imperfective subject pronouns, an additional level of emphasis may be achieved by placing an independent pronoun **dú** (6.1.2.1) before the emphatic pronoun (**dúù**).

**dú** **dúù** **sàà** **mâh** HE/SHE/IT is in the granary  
 3SG.INDEP 3SG.EMPH inside granary

**dú** **dúù**  $\emptyset$  **hèè** HE/SHE/IT climbed  
 3SG.INDEP 3SG.EMPH 3:REAL climb:PFV

**dú** **dúù**  $\emptyset$  **héérà** HE/SHE/IT climbs /  
 3SG.INDEP 3SG.EMPH 3:REAL climb:VN HE/SHE/IT is climbing

### 6.1.5.1.2 First-and-second person plural

Emphatic forms of first-and-second person plural subject pronouns are produced in two ways. First, in the case of verbal subject pronouns, an independent pronoun **nànzà** (6.1.2.1) is placed before the verbal subject pronoun.

<b>nànzà</b> 1&2PL.INDEP	<b>nà</b> 1&2	<b>hèè-zí</b> climb:PFV-PL	<i>we</i> (incl.) climbed
cf. <b>nà</b> 1&2	<b>hèè-zí</b> climb:PFV-PL		<i>we</i> (incl.) climbed
<b>nànzà</b> 1&2PL.INDEP	<b>ná</b> 1&2:OPT	<b>hèè-zí</b> climb:OPT-PL	let <i>us</i> climb! / <i>we</i> must climb!
cf. <b>ná</b> 1&2:OPT	<b>hèè-zí</b> climb:OPT-PL		let <i>us</i> climb! / <i>we</i> must climb!

Second, for independent as well as verbal subject pronouns, the last syllable of the pronoun **nànzà** may be lengthened, becoming **nànzàà**. In the case of independent pronouns, this is the only available means of pronominal emphasis.

<b>nànzàà</b> 1&2PL.EMPH	<b>sàḷ</b> inside	<b>màh</b> granary	<i>we</i> (incl.) are in the granary
cf. <b>nànzà</b> 1&2PL.INDEP	<b>sàḷ</b> inside	<b>màh</b> granary	<i>we</i> (incl.) are in the granary

In the case of verbal subject pronouns, it is used to achieve an additional level of emphasis (cf. forms at the beginning of this section).

<b>nànzàà</b> 1&2PL.EMPH	<b>nà</b> 1&2	<b>hèè-zí</b> climb:PFV-PL	<i>WE</i> (incl.) climbed
<b>nànzàà</b> 1&2PL.EMPH	<b>ná</b> 1&2:OPT	<b>hèè-zí</b> climb:OPT-PL	let <i>US</i> climb! / <i>WE</i> must climb!

### 6.1.5.1.3 Third person plural

Like emphatic forms of first-and-second person plural subject pronouns (6.1.5.1.2), emphatic forms of the third person plural are produced in two ways, one for verbal subject pronouns and one for subject pronouns in general.

In the case of emphatic verbal subject pronouns, an independent pronoun **dùgzí** (6.1.2.1) is placed before the verbal subject pronoun.

- dùgzí**    **ʔàá**    **hèè-zí**            *they will climb*  
 3PL.INDEP 3:IRR    climb:FUT-PL
- cf. **ʔàá**    **hèè-zí**                            *they will climb*  
 3:IRR    climb:FUT-PL
- dùgzí**    **má**    **hèè-zí**            *they must climb!*  
 3PL.INDEP 3:OPT    climb:OPT-PL
- cf. **má**    **hèè-zí**                            *they must climb!*  
 3:OPT    climb:OPT-PL

When it is used with Perfective forms, the emphatic third person plural pronoun **dùgzí** appears alone, since the third person Perfective pronoun is a zero pronoun (6.1.2.2). This is parallel to what happens with third person singular (6.1.5.1.1).

- dùgzí**     $\emptyset$     **hèè-zí**            *they climbed*  
 3PL.INDEP 3:REAL    climb:PFV-PL
- cf.  $\emptyset$     **hèè-zí**                            *they climbed*  
 3:PFV    climb:PFV-PL

When the emphatic third person plural pronoun **dùgzí** is used with Imperfective forms, it replaces the third person Imperfective pronoun **ʔà** (as is the case with other nominal subjects; see 6.1.2.3). This is also parallel to what happens with third person singular (6.1.5.1.1).

- dùgzí**     $\emptyset$     **héé-zí-rà**            *they climb / they are climbing*  
 3PL.INDEP 3:REAL    climb:VN-PL-VN
- cf. **ʔà**    **héé-zí-rà**                            *they climb / they are climbing*  
 3:IMPFV    climb:VN-PL-VN

cf. other nominal subjects:

- tâw má**    **gǎm**     $\emptyset$     **héé-zí-rà**            *Taw and Gam climb /*  
 Taw with    Gam    3:REAL    climb:VN-PL-VN            *Taw and Gam are climbing*

In the case of independent as well as verbal subject pronouns, the last syllable of the pronoun **dùgzí** may be lengthened and accompanied with L tone, becoming **dùgzî**. In the case of independent pronouns, this is the only available means of pronominal emphasis.

- dùgzî**    **sàà**    **mâh**                    *they are in the granary*  
 3PL.EMPH    inside    granary

cf. **dùgzí sàà mậ** they are in the granary  
 3PL.INDEP inside granary

In the case of verbal subject pronouns, it is used to achieve an additional level of emphasis (cf. forms at the beginning of this section).

**dùgzî ?àá hèè-zí** *THEY* will climb!  
 3PL.EMPH 3:IRR climb:FUT-PL

**dùgzî má hèè-zí** *THEY* must climb!  
 3PL.EMPH 3:OPT climb:OPT-PL

### 6.1.5.2 Emphatic object pronouns

Emphatic object pronouns are typically produced by the addition of an independent pronoun (6.1.5.1) following an object pronoun (6.1.3), whether it is basic (non-reflexive) or reflexive. However, as described in this section below, first-and-second person plural and third person basic object pronouns deviate from this pattern. This is evident from the following table:

Emphatic object pronouns

person	basic (non-reflexive)	reflexive
1SG	<b>mí mị</b>	<b>?íní mị</b>
2SG	<b>mú mù</b>	<b>?ínímù mù</b>
1&2SG	<b>nạ nạ</b>	<b>?ínạ nạ</b>
3SG	<b>dú dú</b>	—
3SG.COREF	<b>lé lè</b>	<b>?ílé lè</b>
1PL	<b>rí rì</b>	<b>?írí rì</b>
2PL	<b>ró rò</b>	<b>?író rò</b>
1&2PL	<b>nạnzà</b>	<b>?ínzínzá nạnzà ~ ?ínzá nạnzà</b>
3PL	<b>dùgzí</b>	—
3PL.COREF	<b>ré rè</b>	<b>?íré rè</b>

The following examples illustrate the use of emphatic basic (non-reflexive) object pronouns:

Ø **béé mí mị** he/she/it bit *me*  
 3:PFV bite:PFV 1SG.OBJ 1SG

cf. Ø **béé mí** he/she/it bit *me*  
 3:PFV bite:PFV 1SG.OBJ

	Ø	<b>kó</b>	<b>ró</b>	<b>rò</b>	he/she/it saw <i>you</i> (pl.)
	3:PFV	see:PFV	2PL.OBJ	2PL	
cf.	Ø	<b>kó</b>	<b>ró</b>		he/she/it saw <i>you</i> (pl.)
	3:PFV	see:PFV	2PL.OBJ		

The following examples illustrate the use of emphatic reflexive object pronouns:

	Ø	<b>ḃéé</b>	<b>ʔílé</b>	<b>lè</b>	he/she/it saw <i>himself/herself/itself</i>
	3:PFV	see:PFV	body:3SG.C/I.POSS.INAL	3SG.COREF	
cf.	Ø	<b>ḃéé</b>	<b>ʔílé</b>		he/she/it saw <i>himself/herself/itself</i>
	3:PFV	see:PFV	body:3SG.C/I.POSS.INAL		
	<b>nà</b>	<b>kó-zí</b>	<b>ʔínzínzá</b>	<b>nànzà</b>	we (incl.) saw <i>ourselves</i>
	1&2	see:PFV-PL	body:1&2PL.POSS.INAL	1&2PL.INDEP	
cf.	<b>nà</b>	<b>kó-zí</b>	<b>ʔínzínzá</b>		we (incl.) saw ourselves
	1&2	see:PFV-PL	body:1&2PL.POSS.INAL		

For first-and-second person plural and the third person plural basic object pronouns, the default (non-emphatic) independent pronoun (6.1.2.1) is used alone.

	Ø	<b>ḃéé</b>	<b>nànzà</b>	he/she/it bit <i>us</i> (incl.)
	3:PFV	bite:PFV	1&2PL.INDEP	
cf.	Ø	<b>ḃéé</b>	<b>zìnzá</b>	he/she/it bit <i>us</i> (incl.)
	3:PFV	bite:PFV	1&2PL.OBJ	
	Ø	<b>ḃéé</b>	<b>dùgí</b>	he/she/it bit <i>them</i>
	3:PFV	bite:PFV	3PL.INDEP	
cf.	Ø	<b>ḃéé</b>	<b>dùgú</b>	he/she/it bit <i>them</i>
	3:PFV	bite:PFV	3PL.OBJ	

In the case of the first person singular basic object pronoun, the default (non-emphatic) independent pronoun (6.1.2.1) is repeated.

	Ø	<b>ḃéé</b>	<b>dú</b>	<b>dú</b>	he/she/it <sub>i</sub> bit <i>him/her/it</i> <sub>j</sub>
	3:PFV	bite:PFV	3SG.INDEP	3SG.INDEP	
cf.	Ø	<b>ḃèè-rú</b>			he/she/it <sub>i</sub> bit <i>him/her/it</i> <sub>j</sub>
	3:PFV	bite:PFV-3SG.OBJ			



**kpáhlì dùgzí** *their stool*  
 stool:LF 3PL

cf. **kpáhlì dùgú** *their stool*  
 stool:LF 3PL.POSS

A second degree of emphasis may be achieved by using an emphatic independent pronoun (6.1.2.1, 6.1.5.1) in the possessive construction.

**kpáhlì ?íí m̀ m̀** *MY stool*  
 stool:LF 1SG.POSS 1SG 1SG

## 6.2 Interrogative pronouns

A set of seven interrogative pronouns is found in Mambay:

**bì-?án** how much / how many?  
**káà wíí** why?  
**kín** where?  
**víí** who?  
**wíí** what?  
**?án** how?  
**?ì-kín** which?

While four of the pronouns are morphologically simple, three are complex:

**bì-?án** how much / how many?  
 NUM-how?  
**káà wíí** why?  
 head/reason:LF-what?  
**?ì-kín** which?  
 HEAD-where?

Most commonly, interrogative pronouns co-occur with the question particle **nà** (10.1.2.1). If the interrogative pronoun is the subject of the clause, it comes in the usual subject position (before the verbal complex; see 10.1.1) and the question particle comes at the end of the clause.

**víí** Ø **húmgò** **nà** who comes? / who is coming?  
 who? 3:REAL come:VN QM

**wíí** Ø **pá-lè** **nà** what has happened?  
 what? 3:REAL happen:PERF-3SG.REFL QM

If the interrogative pronoun and question particle are found alone in a clause, or if the interrogative pronoun is found in clause-final position (e.g. as an object, adverbial complement, or predicate nominal), the pronoun and question particle form a single phonological word.

<b>kínà</b> where?:QM		where?
<b>mù vù-m</b> 2SG go:FUT-2SG.REFL	<b>kínà</b> where?:QM	where are you going? / where are you about to go?
<b>wíj-nà</b> what?:-QM		what?
<b>mù pàg wíjìnà</b> 2SG do:VN what?:QM		what are you doing? / what do you do?
<b>?ánà</b> how?:QM		how?
<b>mù tǒg ?ánà</b> 2SG be how?:QM		how are you?
<b>?ì-kínà</b> NOM-where?:QM		which one?
<b>dú ?ì-kínà</b> 3SG.INDEP NOM-where?:QM		which one is he/she/it?

When used with the conjunction **kóó** ‘-ever, even if’ and the question particle **nà** (10.1.2.1), interrogative pronouns become non-interrogative but still exhibit an ‘-ever’ type of indefiniteness (cf. Welmers 1973:435).

<b>kóó bì-?ánà</b>	however much / however many
<b>kóó káà wíjìnà</b>	for whatever reason
<b>kóó kínà</b>	wherever
<b>kóó víjìnà</b>	whoever
<b>kóó wíjìnà</b>	whatever
<b>kóó ?ánà</b>	however
<b>kóó ?ì-kínà</b>	whichever

**kóó vínà vâg má ?ígà sêh lâ' gííbò,**  
-ever who? go: VN with thing hand:LF like alcoholic.drink

**má kòhm**  
3:OPT gather.together:OPT

*whoever goes / is going with something in hand like an alcoholic drink  
must gather together [with others]*

The Mambay verb system exhibits richness in the types of available verb structures as well as the functional distinctions represented by combinations of these structures. These possibilities are outlined in the following paragraphs.

The first major section of this chapter (7.1) introduces verb stems. While some are canonical and morphologically simple, others are non-canonical and, in some cases, morphologically complex. Non-canonical verbs result from the application of verbal extensions, derivation of verbs from other parts of speech, the ideophonic nature of some verbs, and borrowing of verbs from other languages.

The set of verbal extensions is the most significant way in which verb stems are composed, and is investigated in detail in 7.2. This set is reminiscent of systems found elsewhere in Niger-Congo. While some extensions found in Mambay are synchronically productive, others are not; also, the semantic transparency of verbal extensions varies.

The subsequent section (7.3) examines verb word morphology. Segmental affixes are dealt with in detail, and the behaviour of tone in verb words is examined. In addition, verbs are classified with respect to transitivity and tone melody. Irregular verbs are also considered.

Verbal inflection is explored in 7.4. Specifically, this section treats basic inflectional categories, which are marked length on subject pronouns and tone on subject pronouns and verb words. It is shown that a division between Indicative and Optative mood is fundamental to the verb system, and Indicative verb forms are also distinguished for realis value and aspect. Negative verb forms, which pattern differently than their affirmative counterparts, are treated separately in 7.5.

The expansion of verbal inflection by means of TAM indicators, possessive constructions and complex inflectional constructions (specifically, serial and auxiliary verbs) forms the substance of the discussion in 7.6. A final section (7.7) discusses composite verbal expressions and their contribution to the verb lexicon.

Unless it has been otherwise specified, example verbs are given in their basic Perfective forms (cf. 7.4.1.1.1.1).

## 7.1 Verb stem structure

Verb stems may be divided into two groups: canonical (7.1.1) and non-canonical (7.1.2). While a general discussion of canonicity is found in 1.3.1, the two groups of verb stems are formally distinguished in the following discussion.

### 7.1.1 Canonical verb stems

There are 307 canonical verb stems in the data, all of which are morphologically simple and consist of a monosyllabic root. In the vast majority of cases, it is a heavy syllable.

Attested CV shapes of canonical verb stems, along with the number of occurrences in the data and illustrative examples, are as follows:

root shape	# of occurrences	example
CV	(13)	<b>gé</b> get lost
CCV	(2)	<b>syè</b> shine
CVV	(225)	<b>yáá</b> move away
CVC	(48)	<b>kám</b> weave
CCVV	(17)	<b>gyáá</b> take out, gather up
CCVC	(2)	<b>byáj</b> growl

Although onsets of canonical verb stems are found with a wide variety of consonants, codas are characterized by a restricted consonantal inventory: only **g**, **m** and **ŋ** are attested.

<b>vóg</b>	watch, guide
<b>fám</b>	announce, propagate
<b>díŋ</b>	bow (tr.) in greeting

Transitive as well as intransitive verbs are represented by canonical verb stems. Tone melodies attested with canonical verb stems are discussed in 7.3.2.2.

### 7.1.2 Non-canonical verb stems

Non-canonical verb stems, which exhibit formal differences from those which are canonical, are of several types. While some non-canonical verb stems are derived from verb roots in the language by means of verbal extensions (7.2), others are derived from various parts of speech (7.1.2.1). In many cases, verbal derivation is historically significant rather than synchronically productive. Along with derived stems, ideophonic verbs (7.1.2.2) and verbs borrowed from other languages (7.1.2.3) pattern as non-canonical verb stems.

Non-canonical stems are uniformly transitive. In contrast to canonical stems (7.1.1), they allow a wide range of consonants in the coda of the stem-initial syllable. Non-canonical stems are also distinguished in that they are limited to tonal Classes 5 and 6, which they represent exclusively. Like morphologically simple stems, non-canonical stems in tonal

Class 5 are monosyllabic; however, non-canonical stems in tonal Class 6 range from one (superheavy; see 2.4.3) to four syllables. Vowels in the non-initial syllables of the stem are either echo vowels (in CV.CVC stems) or the default vowel **i** (in all other cases).

In total, there are 294 non-canonical verb stems of Mambay origin in the data. Attested CV shapes of these stems, along with the number of occurrences and illustrative examples, are as follows:

stem shape	# of occurrences	example	
CVV	(5)	<b>yàà</b>	finish (tr.)
CVC	(131)	<b>sèl</b>	dispute
CCVV	(5)	<b>gwàà</b>	rob
CCVC	(14)	<b>kwàg</b>	drag
CVVC	(19)	<b>ḃòòń</b>	increase (tr.)
CV.CVC	(11)	<b>tígín</b>	drop
CVV.CV	(30)	<b>lòòrí</b>	whip
CVC.CV	(66)	<b>làmgí</b>	stir
CCVV.CV	(1)	<b>rwàhbí</b>	mix, tangle
CCVC.CV	(3)	<b>zyàgrí</b>	mistake
CVV.CV.CV	(1)	<b>?òògìńj</b>	cause to set crawling
CVC.CV.CV	(4)	<b>gòrgìrí</b>	loosen repeatedly
CCVV.CV.CV	(2)	<b>rwàhbìrí</b>	mix or tangle repeatedly
CVV.CV.CV.CV	(1)	<b>?òògìńjrí</b>	cause to set crawling repeatedly / cause repeatedly to set crawling
CVC.CV.CV.CV	(1)	<b>kpàtìgìńjrí</b>	cause to become distant repeatedly / cause repeatedly to become distant

### 7.1.2.1 Verb stems derived from other parts of speech

In addition to arising from derivation by means of verbal extensions (7.2), it appears that a few verb stems are derived from nouns and adjectives; while there is no verb root corresponding to certain verb stems, these other parts of speech from which they are presumably derived are attested. For monosyllabic roots, the derivational template adds **gi** to the end of it, and assigns the word to tonal Class 6 (cf. 7.3.2.2).

<b>pǔ'</b>	whiteness	→	<b>pù'gí</b>	become white
<b>sâ'</b>	elderly	→	<b>sà'gí</b>	become old, wear out

When the source word is more than one syllable, the template functions in two ways. If the source word exhibits reduplication, the first CVX unit is taken and treated like a monosyllabic source (cf. directly above).

<b>gòrògòrò</b>	loose	→	<b>gòrgí</b>	loosen
<b>nùmnmùm</b>	soft	→	<b>nùmgí</b>	soften

If (as is attested for other cases) the source word begins with a non-reduplicated CVX.CV shape, the template retains the CVXC part of the sequence and adds only **i** to the end of it.

<b>kpìgzìm</b>	thick	→	<b>kpìgzí</b>	thicken
<b>ràhbá</b>	poverty	→	<b>ràhbí</b>	impoverish, become poor

Examples of verbs which appear to be derived from nouns are as follows:

<b>gbòogá</b>	wideness	→	<b>gbòogí</b>	enlarge, widen
<b>kpâtgá</b>	distance (n.)	→	<b>kpâtgí</b>	distance (tr.)
<b>pǔ'</b>	whiteness	→	<b>pù'gí</b>	become white
<b>ràhbá</b>	poverty	→	<b>ràhbí</b>	impoverish, become poor
<b>rág.bà</b>	triviality, trifle	→	<b>rág.bí</b>	set wandering, make trivial

Examples of verbs which appear to be derived from adjectives (most of which are ideophonic; see 7.1.2.2) are as follows:

<b>gòrògòrò</b>	loose	→	<b>gòrgí</b>	loosen
<b>nùm̀nùm̀</b>	soft	→	<b>nùm̀gí</b>	soften
<b>kpìgzìm</b>	thick	→	<b>kpìgzí</b>	thicken
<b>sâ'</b>	elderly	→	<b>sâ'gí</b>	become old, wear out
<b>sìhsìh</b>	fresh	→	<b>sìhgí</b>	refresh

### 7.1.2.2 Ideophonic verb stems

A small group of ideophonic verb stems is found in Mambay. The ideophonic nature of these verbs is, like that of ideophones in other word classes, pervasive but difficult to demonstrate for all examples; and as for Mambay ideophones in general, it is put forward in light of the recurrent convergence of non-canonical structures and sound symbolism (1.3.1, 8.2).

Ideophonic verb stems exhibit basic structures limited to non-canonical verbs: a CVX.CV stem shape, and Class 5 or 6 tone melody (7.1.2, 7.3.2.2.1). And like other non-canonical verbs, they are uniformly transitive (7.1.2, 7.3.2.1.2).

Ideophonic verb stems exhibit, in addition, consonant distribution patterns that are not found with other types of verb stems. In the following examples, four geminate obstruents are attested. In addition, the consonants **t**, **b** and **vb**, which are never found in the second syllable of any other type of verb stem, are attested among ideophonic verbs in the data. Finally, the nasalized vowel **ɔ̃**, which is found in only two morphologically simple items in the data (3.1.2), appears in this list of ideophonic verbs:

<b>bìttí</b>	pull away
<b>gbòv̀v̀í</b>	wash clothes
<b>m̀jzzí</b>	sprinkle

<b>nògtí</b>	knead
<b>pùgvbí</b>	scatter
<b>ràg.bí</b>	wander
<b>rwàhbí</b>	mix, tangle
<b>tùttí</b>	pluck
<b>vòbǵí</b>	daub
<b>vbìttí</b>	unroll shutters

A few ideophonic verbs appear to be derived from ideophonic adjectives (7.1.2.1, 8.4).

<b>gòrògòrò</b>	loose	→	<b>gòrgí</b>	loosen
<b>nùmnùm</b>	soft	→	<b>nùmgí</b>	soften
<b>kíríkìrì</b>	spherical	→	<b>kìrgí</b>	ball up
<b>kpìgzìm</b>	thick	→	<b>kpìgzí</b>	thicken

### 7.1.2.3 Borrowed verb stems

A handful of verb stems borrowed from Fulfulde are used in Mambay. Usage is much more frequent among Mambay speakers in ethnically mixed communities (cf. 1.2.3.1). The tone melody associated with these verbs is the same as that of other derived verbs, namely Class 6 (7.3.2.2). While four of the five examples below conform to CV patterns found with other non-canonical verb stems of Mambay origin (cf. beginning of 7.1.2), the CV pattern of **màrí** ‘possess’ is unique (Fulfulde source vocabulary for these examples is from Noye 1974).

<b>bèddí</b>	increase	(cf. Fulf. <i>besd-</i> )
<b>hàbdí</b>	fight	(cf. Fulf. <i>hab-</i> )
<b>jàngí</b>	learn	(cf. Fulf. <i>jaŋ<sup>n</sup>g-</i> )
<b>màrí</b>	possess	(cf. Fulf. <i>mar-</i> )
<b>vìndí</b>	write	(cf. Fulf. <i>win<sup>n</sup>d-</i> )

## 7.2 Verbal extensions

Verbal extensions are the primary way by which verb stems in Mambay become derived (cf. 7.1.2). Several verbal extensions may be easily recognized by virtue of their productivity and because their semantic and morphological contribution is readily identifiable; however, others are less productive and are better considered vestiges of a historical system of verbal extension within Niger-Congo. These historical origins will not be addressed here, but the methodology and findings of Elders (2000:172–94) concerning Mundang are relevant to a discussion of this topic in Mambay.

In addition to their role in the Mambay verb system, verbal extensions appear to be related to vestigial suffixes found on nouns (5.1.3.2). This topic has been addressed in Anonby 2007b:REF.

In the sections that follow, an inventory of verbal extensions is provided (7.2.1). After a discussion of the distribution of verbal extensions (7.2.2), both synchronically productive

and unproductive extensions (7.2.3 and 7.2.4) are described. Attested combinations of verbal extensions are catalogued (7.2.5), and a problem concerning the semantic and phonological relationship among several of the suffixes is examined (7.2.6).

### 7.2.1 Inventory of verbal extensions

Sixteen verbal extensions have been identified in Mambay. These extensions vary greatly in their productivity and, to some extent, in their structure.

Three of the verbal extensions are highly productive (7.2.3); they may be applied to almost any verb root, and they contribute a definable semantic component to the resulting stem.

- n (#1) causative
- ri iterative/intensive
- gi iterative/intensive

Each of these extensions results in tonal Class 6 verb stems with an expanded segmental structure.

The remaining thirteen verbal extensions (7.2.4) are attested to varying degrees as part of derived verb stems, but are not synchronically productive. In most cases, their specific contribution to the meaning of a verb stem is difficult to identify. These extensions, which have been arranged from high to low frequency, are as follows:

- r intensive
- g extensive
- l separative
- zi pluractional
- n (#2)
- d
- b
- w
- m
- m
- ŋ
- ʔ (glottalization)
- (tonal extension)

With the exception of **-zi**, which behaves like the three productive extensions above, the application of these extensions results in tonal Class 5 verb stems (7.3.2.2). There is (also excepting **-zi**) no expansion of the segmental structure for stems containing these extensions; rather, the extension consonants appear to have replaced a timing unit of the historical source root's long vowel.

Nasality does not spread from a verbal extension onto a root, or vice versa; nor does it spread from one extension to another when two are found in combination.

<b>hà-n</b>	render	cf. <b>háá</b>	come back, go back
<b>làà-ń</b>	feed	cf. <b>làà</b>	eat
<b>nàm-rí</b>	grind repeatedly	cf. <b>nám</b>	grind
<b>rìm-rí</b>	immerse	cf. <b>rím</b>	dip
<b>dè-'m-rí</b>	harmonize	cf. <b>dè-'m</b>	comment
<b>sù-m-rí</b>	know definitively	cf. <b>sù-m</b>	know

### 7.2.2 Distribution

Almost all verbs may take extensions; the only exceptions which have been identified are the irregular verbs **vè** 'go,' **húm** 'come' and **tògó** 'be' (7.3.3).

The existence of verbal extensions in the first place is suggested by recurrent sets of verbs with similarities in both meaning and segmental structure. In most cases, a source verb root may be identified for verbs stems containing extensions.

<b>gù</b>	answer, accept, admit	<b>gìd'</b>	accept definitively
		<b>gìd'gí</b>	accept definitively and repeatedly
		<b>gùń</b>	persuade (i.e. cause to accept)
		<b>gìl</b>	give one's opinions
		<b>gìlgí</b>	give one's opinions repeatedly or in a disorderly fashion
		<b>gìr</b>	insult
		<b>gìrgí</b>	insult vehemently or repeatedly
<b>háá</b>	come back, go back	<b>hààrí</b>	coil
		<b>hàlgí</b>	come/go back repeatedly
		<b>hàn</b>	render
		<b>hàr</b>	hurry
<b>súú</b>	think, crush	<b>sùd'</b>	trickle
		<b>sùg</b>	sink
		<b>sùlgí</b>	think repeatedly, crush repeatedly
		<b>sùm</b>	know
		<b>sùm-rí</b>	know definitively
		<b>sùr</b>	put in order
		<b>sùùń</b>	cause to think, cause to crush
		<b>sùùrí</b>	mix

**zóó** rise, greet

**zòl** leave

**zòlgí** greet profusely

**zò'm** fix

**zòòń** cause to emerge

In other cases, it appears that although there is no identifiable source verb, the extensions associated with the stems may be substituted. For example, while there is no synchronically attested verb **káá**, three stems appear to be related to this hypothetical root:

**kàn** pass, exceed, abuse

**kànní** overtake, overdo, cause to pass

**kàr** put, set

Occasionally, neither a source verb nor a pattern of substitution is evident. In such cases, the contribution of a verbal extension is suggested based on the verb stem's conformity to the tonal patterns (Classes 5 and 6) associated with more typical extended verbs, which are obviously derived. Also, when possible, a stem's intimation of the semantic contribution of a particular verbal extension is considered (7.2.3, 7.2.4).

**gù?ún** accompany (cf. **-n** (2))

**lìgín** tickle (cf. **-n** (1) causative)

**rìgrí** roll (tr.) (cf. **-ri** iterative/intensive)

**zèhmgí** pound (cf. **-gi** iterative/intensive)

More than one verbal extension may be found with a single stem, as shown in the following example:

**-l** (separative) + **-gi** (iterative/intensive):

<b>dwàh</b>	shoot, sting
<b>dwàhl</b>	shoot several times
<b>dwàhlgí</b>	shoot repeatedly

A list of attested combinations is provided in 7.2.5.

## 7.2.3 Synchronically productive verbal extensions

### 7.2.3.1 Causative -n

The extension **-n** is the most productive verbal extension in Mambay, and contributes a causative meaning to the stems in which it is found. (An alternative causative construction formed by means of the auxiliary verb **pá** 'make, do' is presented in 7.6.3). When it is applied to a verb stem ending in a long vowel other than a glottalized vowel, it is added to the existing heavy root syllable, thereby making it superheavy (2.4.3):

**hèèn** lift

cf. **hèè** climb, go up

**lààn** feed

cf. **làà** eat

<b>sàhń</b> cause to rest	cf. <b>sàh</b> rest
<b>vìń</b> frighten, threaten	cf. <b>ví</b> fear
<b>yààń</b> cause to move away	cf. <b>yáá</b> move away

When **-n** is applied to a stem that ends with a glottalized vowel (V'), this vowel is reinterpreted as a V?V sequence: the glottal stop is discrete, and the second vowel, which is syllabic, echoes the first.

<b>sà?án</b> sell	cf. <b>sá'</b> buy
<b>tù?ún</b> teach	cf. <b>tú'</b> show, teach

Whenever **-n** is applied to a stem ending in a short vowel, the consonant **g** and a syllabic echo vowel are inserted between the stem and the extension.

<b>dògón</b> cause to drink	cf. <b>dó</b> drink
<b>gègén</b> lose (tr.)	cf. <b>gé</b> get lost

Whenever **-n** is applied to a stem that already ends with **g**, the syllabic echo vowel is inserted between the verb root and the extension.

<b>hègén</b> dry (tr.)	cf. <b>hég</b> dry up
<b>lùgún</b> cause to leave	cf. <b>lúg</b> go out

Whenever it is applied to a stem that ends with any other consonant, it is realized as **-nĩ**.

<b>ḃàrnĩ</b> heal (tr.)	cf. <b>ḃàr</b> get better
<b>?ìnnĩ</b> load	cf. <b>?ìn</b> lift, carry

Occasionally the function of **-n** diverges from its prototypical use as a causative morpheme. In each case, however, some sort of semantic association between the root and the stem which has been extended with **-n** is still evident.

<b>dùùń</b> reveal	cf. <b>dùù</b> shout, squeak, humiliate
<b>kàhń</b> tip over	cf. <b>káh</b> like, ask, tip over
<b>nàhń</b> drag	cf. <b>náh</b> take out
<b>tù?ún</b> teach	cf. <b>tú'</b> show, teach

A second verbal extension **-n**, which behaves differently and whose semantic value is indistinct, is discussed in 7.2.4.5.

### 7.2.3.2 Iterative/intensive **-ri**

**-ri** is another highly productive verbal extension. It typically contributes an iterative or intensive semantic value to the stems in which it is found; still, additional specific meanings brought about by the lexicalization of these stems are common. Its relation to

the intensive extension **-r** and to the iterative/intensive extension **-gi** is described in detail in (7.2.6).

The distribution of **-ri** is phonologically restricted; it is never attached to verb stems which end in an alveolar consonant or **-ŋ**. Verbs containing **-ri** include the following:

<b>bà'rí</b>	fill up with air	cf. <b>bá'</b>	fill up (tr.)
<b>gbàhrí</b>	help	cf. <b>gbáh</b>	catch, thicken, benefit
<b>hààrí</b>	coil	cf. <b>háá</b>	come back, go back
<b>hàgrí</b>	shatter	cf. <b>hág</b>	break
<b>ràbrí</b>	hug repeatedly	cf. <b>ràb</b>	hug
<b>rìmrí</b>	immerse	cf. <b>rím</b>	dip

### 7.2.3.3 Iterative/intensive **-gi**

**-gi** is a third highly productive verbal extension. Like **-ri**, it typically contributes an iterative or intensive semantic value to the stems in which it is found, and additional specific meanings brought about by the lexicalization of these stems are common. Its relation to the extensive extension **-g** and to the iterative/intensive extension **-ri** is described in detail in 7.2.6.

The distribution of **-gi** is phonologically restricted in that it never attaches to verb stems ending with **g**. Verbs containing **-gi** include the following:

<b>hàdǵí</b>	break into pieces	cf. <b>hàd</b>	cough, break something soft
<b>làŋǵí</b>	stagger	cf. <b>láj</b>	move
<b>làrgí</b>	rinse repeatedly	cf. <b>làr</b>	rinse
<b>ʔòòǵí</b>	crawl	cf. <b>ʔóó</b>	braid (rope), compress
<b>sààǵí</b>	deceive, flatter	cf. <b>sáá</b>	tell, trick, finish
<b>làmgí</b>	stir	cf. <b>làm</b>	prepare hot peanut drink

## 7.2.4 Other verbal extensions

In addition to synchronically productive verbal extensions (7.2.3), there appear to be a number of other extensions which have applied historically. A few of these extensions are moderately well-attested and, in some cases, the identification of a common meaning can be attempted (7.2.4.1–7.2.4.4). Others are poorly attested; their historical involvement in verbal derivation has been discriminated in reference to their tonal and (in most cases) segmental structure (7.2.4.5; see also 7.3.2.2) (cf. Dimmendaal 2000:182).

### 7.2.4.1 **-r**

The extension **-r** prototypically intensifies the meaning of the stems in which it is found. For a discussion of the relationship between **-r** and **-ri**, see 7.2.6. Examples of stems containing **-r** include:

<b>dèr</b>	chop	cf. <b>déé</b>	cut
<b>gìr</b>	insult	cf. <b>gù</b>	answer, accept, admit
<b>hàr</b>	hurry	cf. <b>hàà</b>	come back, go back
<b>hàṛ</b>	tear	cf. <b>hàá</b>	squeeze
<b>nàr</b>	drive	cf. <b>náá</b>	touch
<b>zàr</b>	tread	cf. <b>zàà</b>	cross

#### 7.2.4.2 -g

Verb stems which contain the extension **-g** prototypically signal actions in which things spread out; this is reminiscent of the “extensive” extension whose meaning is described Schadeberg (1994) and whose contribution to verb stems in Mundang is presented in Elders (2000:176–9). For a discussion of the relationship between **-g** and **-gi**, see 7.2.6. Examples of stems containing **-g** include:

<b>nìg</b>	have diarrhea	cf. <b>níí</b>	defecate
<b>tàg</b>	sweep clean, plunder	cf. <b>táá</b>	stir
<b>vbìg</b>	elude, avoid	cf. <b>vbíí</b>	cut
<b>ràg</b>	straddle, sling	cf. <b>ráá</b>	spread out
<b>'wàg</b>	suck	cf. <b>'wáá</b>	split
<b>zàg</b>	refuse, divorce	cf. <b>zàà</b>	cross

#### 7.2.4.3 -l

The extension **-l** is moderately productive. Formally, it resembles the “separative” extension **-l** in Mundang which Elders (2000:174), based on the definition provided in Schadeberg (1982b:61), sees as describing movement away from an original position or state. Synchronically, however, this semantic value is not fully transparent in Mambay, nor is it completely consistent. Verb stems containing **-l** include the following:

<b>ḃùl</b>	divide	cf. <b>ḃúú</b>	create, sprout
<b>dwàhl</b>	shoot several times	cf. <b>dwáh</b>	shoot, sting
<b>kìl</b>	wander	cf. <b>kíí</b>	set in motion
<b>vbìl</b>	boil furiously, hack	cf. <b>vbì</b>	cut, cut up
<b>zàl</b>	explain	cf. <b>zàà</b>	cross, pull
<b>zòl</b>	leave	cf. <b>zóó</b>	rise, greet

#### 7.2.4.4 -zi

The extension **-zi** is modestly productive. It is formally similar to other plural morphemes, which contain **z** or **zi** (cf. 5.5, 5.9.2.1, 7.3.1.1); semantically, the data allow that it could have originated as a pluractional extension. Normally, pluractional extensions signal a plurality of verbal action; this may be performed by several agents or experienced by several patients or instruments, or it may be an action performed in several places (Newman 1990:53ff., Elders 2000:183). Verb stems containing **-zi** include the following:

<b>lùgzí</b>	resemble	cf. <b>lúg</b>	go out, sprout
<b>n̄hzí</b>	approach with intention	cf. <b>n̄h</b>	(happen) to approach
<b>zì'zí</b>	nibble in several places	cf. <b>zìr</b>	gnaw
<b>ʔìhzí</b>	wipe off excrement	cf. <b>ʔìh</b>	grunt

The fact that the verbal extension **-zi** is distinct from the verbal plural morpheme **-zí** (7.3.1.1) is demonstrated by their distribution in the following set of words:

<b>lúg</b>	he/she/it went out	<b>lúgzí</b>	he/she/it went out
<b>lùgzí</b>	he/she/it resembled	<b>lùgzìzí</b>	they resembled

#### 7.2.4.5 Unproductive verbal extensions

The unproductive verbal extensions listed here are more difficult to establish than those found above. There are numerous cases of formally and semantically similar correlate verbs from which they may have been derived historically, but not as many as for productive extensions. Still, the inventory of unproductive extensions given here serves (at least) as a catalogue of forms which are like the more obvious verbal extensions of the same shape in their non-canonical tone melody (Class 5) and, usually, segmental composition (especially that of the coda). Unproductive extensions which are marked segmentally include: **-n** (#2), **-ɗ**, **-b**, **-m**, **-ŋ** and **-w**. There also appears to be one unproductive extension marked with glottalization, and one marked only by a tonal alternation.

The extension **-n** (#2) shares its segmental shape with the causative extension **-n** (7.2.3.1). However, it does not contribute a uniformly causative semantic value, nor does it increase the segmental content of the verb (7.2.1). Verb stems containing **-n** (#2) include the following:

<b>hàn</b>	render	cf. <b>háá</b>	come back, go back
<b>tàn</b>	weave, braid	cf. <b>táá</b>	stir
<b>sìn</b>	pick up tiny things	cf. <b>sì</b>	covet
<b>yàn</b>	spread out (tr.)	cf. <b>yàà</b>	sit, stay, be

The following verbs contain **-ɗ**:

<b>kùɗ</b>	study, learn	cf. <b>kùù</b>	gather (firewood)
<b>'wàɗ</b>	have a headache	cf. <b>'wáá</b>	split
<b>yàɗ</b>	feel, rub, massage	cf. <b>yáá</b>	move away
<b>zàɗ</b>	tremble	cf. <b>zàà</b>	cross

The following verbs contain **-b**:

<b>ʔàb</b>	grill, fry	cf. <b>ʔàà</b>	open, lose taste
<b>lìb</b>	straighten	cf. <b>lì</b>	measure, weigh, try

<b>ràb</b>	hug	(no similar root)
<b>sìb</b>	hatch	cf. <b>sì</b> covet

The following verbs contain -'m:

<b>dè'm</b>	comment	cf. <b>dém</b>	merit consideration
<b>zò'm</b>	fix	cf. <b>zò</b>	rise

The following verbs contain -m:

<b>sùm</b>	know	cf. <b>sùù</b>	think, crush
<b>vbòm</b>	divide, spread, ruin	(no similar root)	

The following verb contains -ŋ:

<b>tìŋ</b>	start	cf. <b>tì</b>	become, clip, serve (food)
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The following verb contains -'w:

<b>nà'w</b>	spank	cf. <b>náá</b>	touch
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The following verb may contain a glottalization extension - ':

<b>kù'</b>	put, store, set up	cf. <b>kùù</b>	gather (firewood)
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Verbal derivation may be marked only by tone (change to Class 5) in the case of a few verbs (cf. 7.3.2.2; see also Elders 2000:183 for a similar situation):

<b>gwà'</b>	disappear	cf. <b>gwá'</b>	laugh
<b>gwàà</b>	rob	(no similar root)	
<b>gyàà</b>	care for a child	cf. <b>gyáá</b>	take out, gather up
<b>syàà</b>	diminish	(no similar root)	
<b>yàà</b>	finish	cf. <b>yáá</b>	move away

Only the five verbs listed above appear to contain a tonal verbal extension. A point worth noting is that the onset in the first four verb stems is complex (cf. 2.3.3.1), and that the fifth stem starts with a complex (preglottalized) palatal consonant (cf. 2.1.5). However, no further conclusion has been reached concerning a relation between these structures and the tonal verbal extension.

## 7.2.5 Combinations of verbal extensions

Up to three verbal extensions may be applied to a single verb root in Mambay. An example of each attested sequence of verbal extensions is given in this section. Sequences of two extensions are as follows:

<b>-b + -ri</b> (iterative/intensive):	<b>ràbrí</b> cf. <b>ràb</b>	hug repeatedly hug
<b>-d + -gi</b> (iterative/intensive):	<b>kùdǵí</b> cf. <b>kúú</b> cf. <b>kùd</b>	learn continually gather (firewood) study, learn
<b>-g + -ri</b> (iterative/intensive):	<b>nǵgrí</b> cf. <b>nǵ</b>	defecate diarrhea repeatedly defecate diarrhea
<b>-l + -gi</b> (iterative/intensive):	<b>dwàhlǵí</b> cf. <b>dwáh</b> cf. <b>dwàhl</b>	shoot repeatedly shoot, sting shoot several times
<b>-'m + -gi</b> (iterative/intensive):	<b>dè'mǵí</b> cf. <b>dè'm</b>	harmonize comment
<b>-'m + -ri</b> (iterative/intensive):	<b>dè'mrí</b> cf. <b>dè'm</b>	comment repeatedly comment
<b>-n (#2) + -gi</b> (iterative/intensive):	<b>nǵngí</b> cf. <b>nǵí</b>	defecate repeatedly defecate
<b>-n (#2) + -n (#1)</b> (causative):	<b>ʔinnǵí</b> cf. <b>ʔíí</b> cf. <b>ʔìn</b>	load marry lift, carry
<b>-r (intensive) + -gi</b> (iterative/intensive):	<b>dèrgí</b> cf. <b>déé</b> cf. <b>dèr</b>	cut up in pieces repeatedly chop cut off
<b>-r (intensive) + -n (#1)</b> (causative):	<b>bàrnǵí</b> cf. <b>bàr</b>	heal get better
<b>-'w + -gi</b> (iterative/intensive) or <b>-ri</b> (iterative/intensive)	<b>nà'wǵí = nà'wrí</b> cf. <b>náǵ</b> cf. <b>nà'w</b>	spank repeatedly touch spank

Three verb stems which appear to contain three verbal extensions have been attested. In one case (**-ri**), an extension is repeated for hyperbolic effect.

<b>-g + -ri</b> (iterative/intensive) + <b>-ri</b> (iterative/intensive):	<b>hàgrírí</b> cf. <b>háá</b> cf. <b>hàg</b>	shatter (hyperbolic) come back, go back break
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	cf. <b>hàgrí</b>	shatter
<b>-l + -gi</b> (iterative/intensive) + <b>-ri</b> (iterative/intensive):	<b>dwàhlgìrí</b>	shoot definitively and repeatedly
	cf. <b>dwáh</b>	shoot, sting
	cf. <b>dwàhl</b>	shoot several times
	cf. <b>dwàhlgí</b>	shoot repeatedly
<b>-gi</b> (iterative/intensive) + <b>-ri</b> (iterative/ intensive) + <b>-n</b> (#1) (causative):	<b>ʔdògìrìnjí</b>	cause to set crawling repeatedly / repeatedly cause to set crawling
	cf. <b>ʔóó</b>	braid (rope), compress
	cf. <b>ʔdògí</b>	set crawling
	cf. <b>ʔdògìrí</b>	set crawling repeatedly
	cf. <b>ʔdògìnjí</b>	cause to set crawling

### 7.2.6 Relations among the extensions **-ri**, **-gi**, **-r**, and **-g**

From a semantic as well as phonological point of view, the four verbal extensions **-ri**, **-gi**, **-r**, and **-g** (7.2.1) appear to be intimately connected. Consequently, any decision to distinguish or conflate these extensions needs to be defended.

An initial comparison of verbs with **-ri**, **-gi**, **-r** and **-g** reveals an apparent contrast among the four extensions. In the following set of words, the four verbal extensions are attached to roots which appear to be phonologically equivalent. While **-ri** and **-gi** constitute a new syllable in an extended verb stem (7.2.1), **-r** and **-g** replace the second timing unit of a long vowel in the verb root to which they are attached (7.2.1) as follows:

<b>hààrí</b> coil	cf. <b>háá</b> come back, go back
<b>sààgí</b> deceive, flatter	cf. <b>sáá</b> tell, trick, finish
<b>hàr</b> hurry	cf. <b>háá</b> come back, go back
<b>tàg</b> sweep, clean, plunder	cf. <b>táá</b> stir

However, the relationships among the four extensions are more complex than this apparent contrast suggests. In the following sections, the semantic and distributional relationships between pairs of similar forms are discussed. There, it is suggested that **-ri** and **-gi** are partially complementary, and that while **-ri** and **-r** are also partially complementary, **-gi** and **-g** should be regarded as contrastive. Finally, **-r** and **-g** demonstrate clear evidence of contrast.

#### *Partial complementarity of **-ri** and **-gi***

Although contrast is presented immediately above for the verbal extensions **-ri** and **-gi**, an examination of their lexical distribution, semantic value and phonological distribution reveals a surprising degree of complementarity.

Unlike the corresponding extensions **-r** and **-g** (cf. below), **-ri** and **-gi** are virtually lexically complementary in the data; a given verb root may be associated either with **-ri**

or with **-gi**, but usually not with both. The only exceptions are the following pairs of stems:

<b>dè'mgí</b>	harmonize
<b>dè'mrí</b>	comment repeatedly
cf. <b>dè'm</b>	comment
<b>nà'wgí</b>	spank repeatedly =
<b>nà'wrí</b>	spank repeatedly
cf. <b>nà'w</b>	spank

While one substitution makes a difference in meaning, the other does not.

The comparable semantic value of the extensions **-ri** and **-gi** supports a similar pattern of complementarity. Both forms signal actions which are repeated or intensified (7.2.3). Since the two extensions are typically found with complementary sets of verb roots (see previous paragraph), a direct and representative comparison of their meaning is not possible. These extensions are variously found on verbs with iterative or intensive values: on the one hand, verbs with **-ri** are about evenly divided between those which contain iterative and intensive meanings; on the other hand, verbs in which **-gi** carries an iterative meaning are arguably more common than those which are intensive, but not significantly so.

Finally, there is partial complementarity in the phonological distribution of the two extensions (7.2.3). It is true that either may be associated with a verb stem ending in a vowel or a labial consonant. However, in other environments, complementarity is clear: while on the one hand only **-ri** is found with verb roots ending in **g**, on the other hand only **-gi** is found with roots ending in an alveolar consonant or **ŋ**.

*Relationships within the extension pairs **-ri** / **-r** and **-gi** / **-g***

Although apparent contrast between **-ri** and **-r** and between **-gi** and **-g** is shown above (7.2.6), the relationship between members of these extension pairs is more complex than this.

There is an obvious structural similarity between **-ri** and **-r** and between **-gi** and **-g**. The possibility of complementarity is especially plausible in light of **i**-insertion phenomena found at morpheme boundaries elsewhere in the language: for example, the causative extension **-n** is realized as **-ni** in certain morphological contexts (7.2.3.1; for other similar examples, see 5.2.2, 7.1.2.1, 7.1.2.2 and 7.4.2.1). A further indicator of complementarity is that whenever these extensions are one of two associated with the same root, **-r** or **-g** is always placed first, while **-ri** or **-gi** is invariably placed second (7.2.5).

This evident complementarity is disrupted by the semantic values associated with each form (7.2.3–7.2.4). On the one hand, **-gi** and **-g** are semantically distinct: whereas **-gi** bears an iterative or intensive value, **-g** bears an extensive value and is clearly neither

iterative nor intensive. On the other hand, a semantic distinction is more difficult to draw between **-ri** and **-r**. Like **-gi**, **-ri** carries an iterative or intensive value. However, **-r** shares only the intensive value of **-ri** and is never iterative.

Based on these semantic considerations, and despite the partial phonological and morphological complementarity that is evident, it is necessary to posit contrast between **-ri** and **-r** and between **-gi** and **-g**.

#### *Contrast between -r and -g*

The preceding discussion shows that a partial complementarity exists between the extensions **-ri** and **-gi** as well as between members of the extension pairs **-ri** / **-r** and **-gi** / **-g**. It is therefore reasonable to consider whether the extensions **-r** and **-g** may also be partially complementary. However, this is not the case; the distribution of **-r** and **-g** is contrastive in some word pairs. Examples which show this are as follows:

<b>sùg</b>	sink
<b>sùr</b>	put in order
cf. <b>súú</b>	think, crush
<b>zàg</b>	refuse, divorce
<b>zàr</b>	tread
cf. <b>zàà</b>	cross

### **7.3 Verb word morphology**

Verb words, along with subject pronouns (6.1.2, 7.4) and expansions of verb forms (7.6), are fundamental in furnishing morphological structures which communicate the functions of verbal inflection in Mambay (7.4). In the present section, affixational possibilities are catalogued (7.3.1) and the tonal behaviour of the verb word is discussed (7.3.2.2.3). Elements of verb classification (7.3.2) and are then followed by a description of the morphology of irregular verbs (7.3.3).

#### **7.3.1 Affixation**

Several types of affixes are found with verb words in Mambay. The most basic affixes, which are tonal inflection morphemes, are treated in the section on verb classification (7.3.2), since they fall into a number of lexically determined classes.

All of the other morphemes which are part of verb words are suffixes. Basic inflectional distinctions are expressed by the verbal plural morpheme **-zí** (7.3.1.1), reflexive suffixes (7.3.1.2) and the Perfect suffix **-rì** (7.3.1.3). Other verb suffixes are the dummy object suffix **-nǎ** (7.3.1.4), several object suffixes (7.3.1.5) and the directional suffix **-ìn / -n̄** 'to here' (7.3.1.6). Combinatory possibilities of verbal suffixes are listed in 7.3.1.7.

### 7.3.1.1 The verbal plural affix -zí

The verbal affix **-zí** is used to specify plurality for three of the five plural persons (6.1.1): first-and-second (1&2) person, third person, and third person co-referential. For the 1&2 person and the third person, its importance is obvious, since plurality is not specified for the subject pronoun; singular and plural verbal subject pronouns are identical (6.1.1.5). For plurals of these three persons, the affix **-zí** is obligatory when there is no reflexive suffix on the verb, as the following singular/plural pairs show:

<b>nàá</b> 1&2:IRR	<b>hèè</b> climb:FUT	we (you (sg.) and I) will climb
<b>nàá</b> 1&2:IRR	<b>hèè-zí</b> climb:FUT-PL	we (three or more people, inclusive) will climb
<b>?àá</b> 3:IRR	<b>hèè</b> climb:FUT	he/she/it will climb
<b>?àá</b> 3:IRR	<b>hèè-zí</b> climb:FUT-PL	they will climb
<b>lèé</b> 3SG.COREF:IRR	<b>hèè</b> climb:FUT	he/she/it (coref.) will climb
<b>rèé</b> 3PL.COREF:IRR	<b>hèè-zí</b> climb:FUT-PL	they (coref.) will climb

When third person plural or third person plural co-referential reflexive suffixes (7.3.1.2) are found on the verb word, the presence of **-zí** is optional and serves only to make the plurality of the subject explicit. This is shown in the following plural examples:

<b>?àá</b> 3:IRR	<b>hèè-ré</b> climb:FUT-3PL.REFL	they will climb
= <b>?àá</b> 3:IRR	<b>hèè-zì-ré</b> climb:FUT-PL-3PL.REFL	they will climb
<b>rèé</b> 3PL.COREF:IRR	<b>hèè-ré</b> climb:FUT-3PL.REFL	they (coref.) will climb
= <b>rèé</b> 3PL.COREF:IRR	<b>hèè-zì-ré</b> climb:FUT-PL-3PL.REFL	they (coref.) will climb

However, there is no optional use of **-zí** to mark plurality on verbs with a 1&2 person plural reflexive suffix; plurality is already explicit in the suffix (which in turn appears to have historically subsumed the form and role of **-zí**).

**nàá**                      **hèè-zínzá**      we (three or more people, inclusive) will climb  
1&2:IRR                      climb:FUT-1&2PL.REFL

cf. the singular counterpart:

**nàá**                      **hèè-ná**              we (you (sg.) and I) will climb  
1&2:IRR                      climb:FUT-1&2SG.REFL

### 7.3.1.2 Reflexive suffixes

A set of reflexive suffixes is used to mark subject agreement on most intransitive (7.3.2.1) and detransitivized (7.3.2.1.2) verb forms. The suffix set, which resembles many of the other pronominal sets (6.1), is as follows:

1SG	<b>-ní</b>
2SG	<b>-ń ~ -nŃm</b>
1&2SG	<b>-ná</b>
3SG	<b>-lé</b>
3SG.COREF	<b>-lé</b>
1PL	<b>-rí</b>
2PL	<b>-ró</b>
1&2PL	<b>-zínzá ~ -zíná</b>
3PL	<b>-ré</b>
3PL.COREF	<b>-ré</b>

Third person and third person co-referential reflexive suffixes are identical. They resemble co-referential object pronouns (6.1.3), and may have originated from these historically.

Long and short forms of the 1&2 person plural reflexive suffix, **-zínzá** and **-zíná**, are also found in other pronominal paradigms (see 6.1.3, 6.1.4).

A number of morphophonological alternations accompany the application of reflexive suffixes to verb stems. This is evident with the second person singular reflexive suffix **-ń ~ -nŃm** (7.3.1.2.1) as well as **r**-initial and nasal-initial reflexive suffixes (7.3.1.2.2 and 7.3.1.2.3). In addition, the irregular verb **vè** ‘go’ exhibits extensive suffix-to-stem vowel assimilation (7.3.3.1).

#### 7.3.1.2.1 The second person singular reflexive suffix **-ń ~ -nŃm**

When attached to a stem ending with a long vowel other than a glottalized vowel, the second person singular reflexive suffix is realized as **-ń**.

**mù** **gì-ím**                      you consented  
2SG accept:PFV-2SG.REFL

**mù** **syàh-ím**                    you got cold  
2SG get.cold:PFV-2SG.REFL

When attached to a stem ending with a glottalized vowel (Vʔ), this vowel is reinterpreted as a VʔV sequence: the glottal stop is discrete, and the second vowel, which is syllabic, echoes the first.

**mù** **fìʔ-ím**                        you revived  
2SG blow:PFV-2SG.REFL

**mù** **tèʔ-ém**                        you walked  
2SG walk:PFV-2SG.REFL

When the second person singular reflexive suffix is attached to a stem ending in a consonant or a short vowel, it is typically realized as **-nV́m** (where V is a vowel which echoes the final vowel of the stem).

**mù** **bàr-nám**                        you got better  
2SG get.better:PFV-2SG.REFL

**mù** **nú-núm**                        you had slept  
2SG sleep:PLUPERF-2SG.REFL

This includes mid vowels, which are restricted from bearing nasality in most contexts (cf. 3.1.1). This suggests that the mid quality of the vowel and/or its nasality may be an effect of its phonetic context rather than an underlying trait.

**mù** **ʔèr-ném**                        you got up  
2SG get.up:PFV-2SG.REFL

**mù** **ròv-nóm**                        you scalded yourself  
2SG scald:PFV-2SG.REFL

When the second person singular reflexive suffix is attached to a stem ending in a stop, it is optionally realized as **-V́m** (where V is a vowel which echoes the final vowel of the stem).

**mù** **bàg-nám ~ bàg-ám**            you got stuck  
2SG get.stuck:PFV-2SG.REFL

**mù** **lib-ním ~ lib-ím**            you straightened up  
2SG straighten:PFV-2SG.REFL

Finally, whenever the suffix is attached to an **ŋ**-final verb stem, it is realized as **-gV̄m**. This realization prevents from **ŋ** appearing in onset position (cf. 2.1.2.1).

**m̀** **ḃóŋ-góm**                      you were revolted  
2SG revolt:PFV-2SG.REFL

**m̀** **dúŋ-gúm**                      you bent down  
2SG bend.down:PFV-2SG.REFL

### 7.3.1.2.2 r-initial reflexive suffixes

When an **r**-initial reflexive suffix is suffixed to a verb stem ending in **r**, the resulting **r + r** sequence is shortened to a single **r**.

**r̀**    **ʔèr**            +    **-r̀**    →    **r̀ ʔèr̀**            we (excl.) had gotten up  
1PL    get.up:PLUPERF    -1PL.REFL

**r̀**    **ʔèr**            +    **-ró**    →    **r̀ ʔèró**            you (pl.) had gotten up  
2PL    get.up:PLUPERF    -2PL.REFL

∅    **ʔèr**            +    **-ré**    →    **ʔèré**            they had gotten up  
3:PFV    get.up:PLUPERF    -3PL.REFL

### 7.3.1.2.3 Nasal-initial reflexive suffixes

When nasal-initial reflexive suffixes follow a stem-final oral sonorant **ḃ ḍ** or **l**, the nasality of the pronoun assimilates to the left and the stem-final oral sonorant is realized as the respective nasal counterpart **'m 'n** or **n** (cf. 3.4.3.2).

**m̀**    **sàḃ**            +    **-ǹ**    →    **m̀ sà'mǹ**        I vomited  
1SG    vomit:PFV            -1SG.REFL

**m̀**    **zàḍ**            +    **-nV̄m** →    **m̀ zà'nnám**      you trembled  
2SG    tremble:PFV        -2SG.REFL

**ǹ**    **zòl**            +    **-ǹ**    →    **ǹ zònǹ**            we (you (sg.) and I) left  
1&2    leave:PFV            -1&2SG.REFL

### 7.3.1.3 The Perfect suffix -r̀

The suffix **-r̀** is only found on transitive verbs (7.3.2.1.2), where it marks the Perfect tense (7.4.1.1.1.2). Often, Perfect forms with **-r̀** are found without an explicit object; this suggests that **-r̀** satisfies (or at least relieves) transitivity requirements.

**m̀**    **làà-r̀**                                      I have eaten (something)  
1SG eat:PERF-PERF

**m̀** **póó-r̀** I have payed (something)  
 1SG pay:PERF-PERF

The suffix **-r̀** cannot be treated as a dummy object, however, since it allows an accompanying explicit object or object pronoun (in contrast to **-n̩**; see 7.3.1.4).

**m̀** **làà-r̀** **?ígà** I have eaten something  
 1SG eat:PERF-PERF thing

**m̀** **kó-r̀** **m̀** you have seen me  
 2SG see:PERF-PERF 1SG.OBJ

Several morphophonological alternations accompany the suffixation of **-r̀** to verb stems. When **-r̀** is suffixed to a verb stem ending in **r**, the stem vowel is lengthened and the **r** of the stem disappears.

**m̀** **dě** + **-r̀** → **m̀** **dèér̀** I have cut (something) off  
 1SG cut.off:PERF -PERF

**m̀** **wǎ** + **-r̀** → **m̀** **wàár̀** I have left (something)  
 1SG leave:PERF -PERF

When **-r̀** is suffixed to a verb stem ending in either **n** or **l**, the **r** of the suffix assimilates to the stem-final consonant.

**m̀** **kǎ** + **-r̀** → **m̀** **kǎnǹ** I have passed (something)  
 1SG pass:PERF -PERF

**m̀** **lǒ** + **-r̀** → **m̀** **lǒll̀** I have crunched (something)  
 1SG crunch:PERF -PERF

When **-r̀** is suffixed to verb stems ending in a nasal consonant or a nasalized vowel, nasality spreads from the stem to the suffix.

**m̀** **dún̩** + **-r̀** → **m̀** **dún̩r̀** I have bent (something) down  
 1SG bend.down:PERF -PERF

**m̀** **dě'm** + **-r̀** → **m̀** **dě'mr̀** I have commented (on something)  
 1SG comment:PERF -PERF

**m̀** **kúú** + **-r̀** → **m̀** **kúúr̀** I have grabbed (something)  
 1SG grab:PERF -PERF

**m̀** **sáá** + **-r̀** → **m̀** **sáár̀** I have swallowed (something)  
 1SG swallow:PERF -PERF

### 7.3.1.4 The dummy object suffix -nà

The suffix **-nà** is a dummy object marker which is found with verbal nouns derived from transitive verbs, whether they are used as nouns (5.9) or used verbally (as in the Imperfective; see 7.4.1.1.2).

**làá-nà**                      eating (something)  
eat:VN-OBJ

**mì làá-nà**                      I eat (something) / I am eating (something)  
1SG eat:VN-OBJ

The structure and role of **-nà** is described in greater detail in reference to verbal nouns in 5.9.1.1.

### 7.3.1.5 Pronominal object suffixes

Three object pronouns are verb word suffixes: second person singular (7.3.1.5.1), third person singular (7.3.1.5.2), and the **-zíná** variant of the 1&2 person plural (7.3.1.5.3). In all three cases, there is morphophonological evidence of these suffixes' interdependence with the verb word; such evidence is lacking for other object pronouns (6.1.3.1).

#### 7.3.1.5.1 The second person singular object suffix -m̄

The second person singular object is a verb word suffix **-m̄**.

**mì zòò-m̄**                      I greet you / I am greeting you  
1SG greet:VN-2SG.OBJ

**?à kyàh-m̄**                      he/she/it loves you / he/she/it is loving you  
3SG love:VN-2SG.OBJ

When **-m̄** is attached to a stem ending with a glottalized vowel (V'), this vowel is reinterpreted as a V?V sequence: the glottal stop is discrete, and the second vowel, which is syllabic, echoes the first, although it carries the High tone of the underlying suffix **-m̄**.

**?à là?-ám**                      he/she/it hears you / he/she/it is hearing you  
3SG hear:VN-2SG.OBJ

When **-m̄** is attached to a consonant-final verb stem, an echo vowel is also inserted.

**?à líb-ím**                      he/she/it straightens you / he/she/it is straightening you  
3SG straighten:VN-2SG.OBJ

**?à bàg-ám**                      he/she/it meets you / he/she/it is meeting you  
3SG meet:VN-2SG.OBJ

**ʔà sòg-óm** he/she/it touches you / he/she/it is touching you  
 3SG send:VN-2SG.OBJ

Nasality does not travel leftward from the suffix to the host stem:

**m̀j kòò-r̀m̀** I give birth to you / I am giving birth you  
 1SG give.birth:VN-2SG.OBJ

However, echo vowels that follow a stem ending in a nasal consonant are nasalized.

**ʔà b̀am-ám** he/she/it tramples you / he/she/it is trampling you  
 3SG trample:VN-2SG.OBJ

In this context, mid echo vowels are also nasalized. Like the second person singular reflexive suffix (7.3.1.2.1), the identity of the suffix vowel and/or its nasality may be an effect of phonetic context rather than an underlying trait.

**ʔà s̀em-ém** he/she/it avoids you / he/she/it is avoiding you  
 3SG avoid:VN-2SG.OBJ

**ʔà rôhm-óm** he/she/it waits for you / he/she/it is waiting for you  
 3SG wait:VN-2SG.OBJ

### 7.3.1.5.2 The third person singular object suffix -`rú

Tonally, the third person singular object suffix -`rú (which in informal speech may be reduced to -`wú; see the discussion at the beginning of 6.1.3.1) forms part of the same word as the verb stem.

∅ **béé** + -`rú ~ -`wú → **béèrú ~ béèwú** he/she/it<sub>i</sub> bit him/her/it<sub>j</sub>  
 3:PFV bite:PFV -3SG.OBJ

∅ **g̀ì** + -`rú ~ -`wú → **g̀ìrú ~ g̀ìwú** he/she/it<sub>i</sub> answered  
 3:PFV answer:PFV -3SG.OBJ him/her/it<sub>j</sub>

It is realized as -`dú when it follows a verb stem that ends in an alveolar consonant.

∅ **d̀er** + -`rú ~ -`wú → **d̀erdú** he/she/it<sub>i</sub> cut him/her/it<sub>j</sub> off  
 3:PFV cut.off:PFV -3SG.OBJ

∅ **k̀an** + -`rú ~ -`wú → **k̀andú** he/she/it<sub>i</sub> passed him/her/it<sub>j</sub>  
 3:PFV pass:PFV -3SG.OBJ

### 7.3.1.5.3 The first-and-second (1&2) person plural object suffix variant -zíná

The -zíná variant of the 1&2 plural object z̀inzá ~ -zíná (see 6.1.3.1) is also a suffix, since tonally it forms part of the same word as the verb stem.

∅      **zóó** +    **-zíná**      → **zóózíná**      he/she/it greeted us (incl.)  
 3:PFV    greet:PFV   -1&2PL.OBJ

∅      **kàn** +    **-zíná**      → **kànzíná**      he/she/it passed us (incl.)  
 3:PFV    pass:PFV    -1&2PL.OBJ

### 7.3.1.6 The directional suffix **-ìn** ~ **-̀ǹ**

The directional suffix **-ìn** / **-̀ǹ**, which is a shortened form of the directional adverb **hîn** ‘to here’ (8.1.1.1), attaches to the stem of intransitive verbs. Like its uncontracted counterpart, it signals an action approaching the speaker. In cases where the suffix is attached to a verb stem ending in a consonant, its underlying form **-ìn** is realized in full.

**m̀ỳ háá** +                      **-m̀**    + **-ìn** → **m̀ỳ háám̀ìn**    you had come back to here  
 2SG    come.back:PLUPERF -2SG.REFL -to.here

When it is attached to a verb stem ending in a vowel, it is realized as **-̀ǹ**.

**?àà háá-̀ǹ**                      he/she/it will come back here  
 3SG:IRR    come.back:FUT-to.here

**?àà té'-̀ǹ**                      he/she/it will walk here  
 3SG:IRR    walk:FUT-to.here

Along with a regular suffixed form, there is a complete irregular conjugation of the verb **húm** ‘come’ with **-ìn** ~ **-̀ǹ** (7.3.3.2).

### 7.3.1.7 Combinatory possibilities

A limited number of combinatory possibilities are available to verbal suffixes. For example, the Perfect suffix **-r̀**, with which explicit objects are permitted, may be followed by the second person singular object suffix.

**m̀ỳ zóó-r̀-̀m̀**                      →    **m̀ỳ zóór̀ím**    I have greeted you /  
 1SG    greet:PERF-PERF-2SG.OBJ                      I greet you

Also, reflexive suffixes may be followed by the directional suffix **-ìn** ~ **-̀ǹ**.

**m̀ỳ háá-̀m̀-ìn**                      →    **m̀ỳ háám̀ìn**    you have come back to here  
 2SG    come.back:PFV-2SG.REFL -to.here

Finally, the verbal plural affix **-zí** is always closest to the stem, and may be found in conjunction with all other verbal suffixes, including attested combinations of these suffixes.



and “transitive” are helpful in describing the two classes, there are areas of ambiguity regarding the patterning of transitivity. Because of this, the verb classes are defined by further formal requirements specific to each. Defining characteristics of intransitive vs. transitive verbs are summarized in the following table:

Characteristics of intransitive vs. transitive verbs

intransitive verbs	transitive verbs
cannot take an object	must take an object in most contexts
Perfect form does not take the suffix <b>-rì</b>	Perfect verb form must take the suffix <b>-rì</b>
found with a corresponding irregular verbal noun	found with a corresponding regular verbal noun
corresponding verbal noun may not take dummy object suffix <b>-nɔ̃</b>	corresponding verbal noun must take dummy object suffix <b>-nɔ̃</b> when no there is no explicit object
underived	derived in some cases
transitivity achieved by application of the causitive verbal extension <b>-n</b>	detransitivized by reflexive verb suffixes

Each of these characteristics is addressed in the subsections below.

### 7.3.2.1.1 Intransitive verbs

Intransitive verbs differ syntactically from transitive verbs in that they cannot take objects.

**mì ?à'**                      I ran  
1SG run:PFV

**mì hèè**                      I climbed  
1SG climb:PFV

**mì húm**                      I came  
1SG come:PFV

Irregular verbal nouns (5.9.1.2) correspond to intransitive verbs.

irregular verbal noun		corresponding intransitive verb stem	
<b>gúù</b>	flowing, flow (n.)	<b>gúú</b>	flow (v.)
<b>gélà</b>	getting lost	<b>gé</b>	get lost
<b>ḍáárà</b>	alighting	<b>ḍàà</b>	alight
<b>fím̀rò</b>	weighing	<b>fim</b>	weigh (intr.)
<b>gyáárà</b>	foaming up	<b>gyàà</b>	foam up

Intransitive verbs are never found with the transitive Perfect suffix **-rì** (7.3.1.3) or the dummy object suffix **-nà** (7.3.1.4) and they are never derived from other verbs or nouns (cf. 7.1.2.1). Intransitive verbs are frequently found with reflexive suffixes (7.3.1.2); for some tenses, inflection with reflexive suffixes is obligatory (7.4.1.1.1).

<b>mì ʔá'-ní</b>	I have run	<b>mì ʔá'-ní</b>	I had run
1SG run:PERF-1SG.REFL		1SG run:PLUPERF-1SG.REFL	

Intransitive verbs may be followed by complements expressing location and manner. Importantly, when such complements are nouns, there is no marking on the complement to show that it is an oblique rather than an object (objects are also unmarked; see the extended discussion in 5.13). Example locative complements are as follows:

<b>mì gè fâh</b>	I got lost on the path
1SG get.lost:PFV path	
<b>mì rì' gèmnà</b>	I entered at the entrance hut
1SG enter:PFV entrance.hut	
<b>mì yáá fíìlò</b>	I sat in/at the house
1SG sit:PFV house	
<b>Ø ḍàà kpèègá</b>	he/she/it alighted on the tree
3:PFV alight:PFV tree	

Example manner complements are as follows:

<b>mì bàà sáà</b>	I hardened like stone
1SG harden(intr.):PFV stone	
<b>mì hèg kóm̀nà</b>	I withered with hunger
1SG dry.up:PFV hunger	
<b>mì hùm vérgà</b>	I came like a stranger
1SG come:PFV traveller	

Ø **sòò gyâh** it was [as] hot [as] the sun  
 3:PFV get.hot:PFV sun

In the end, the oblique status of the complement is confirmed only by the patterning of the verb elsewhere, since in other contexts it shows the formal characteristics of the intransitive verbs mentioned in this section.

Intransitive verbs are effectively transitivized by the application of the causative verbal extension **-n** (7.2.3.1).

intransitive verb stem		corresponding causative (= transitivized) verb stem with <b>-n</b>
<b>bàà</b>	grow (intr.), harden (intr.)	<b>bààń</b> grow (tr.), harden (tr.)
<b>lóó</b>	get tired	<b>lòòń</b> tire, irritate
<b>sòò</b>	get hot, boil (intr.)	<b>sòòń</b> heat, boil (tr.)

### 7.3.2.1.2 Transitive verbs

Transitive verbs are almost always found with a nominal (or pronominal) object, a dummy object suffix, or a reflexive suffix. Transitive verbs found with objects are shown in the following examples:

**bò'msí hàhngí káálé** Bo'msi lost his head  
 Bo'msi forget:PFV head:3SG.C/I.POSS.INAL

**mì dó byàá** I drank water  
 1SG drink:PFV water

**twǎh bèè kǎà nà** Does a snake bite the stick?  
 snake bite:VN stick QM

**zèèlá lòòń mǐ** a lie bothered me  
 lie tire:PFV 1SG.OBJ

The Perfect suffix **-rì** (7.3.1.3) is only found with transitive verbs.

**mì kó-rì** I have seen (something)  
 1SG see:PERF-PERF

Ø **gù-rì** he/she/it has answered (something)  
 3:PFV answer:PERF-PERF

In contrast to intransitive verbs, which are only found with corresponding irregular verbal nouns (5.9.1.2), regular verbal nouns (5.9.1.1) always correspond to transitive verbs.

verbal noun		corresponding transitive verb stem	
<b>d̄ad̄</b>	sowing, planting	<b>d̄ad̄</b>	sow, plant
<b>gyàh</b>	sewing, hemming	<b>gyáh</b>	sew, hem
<b>gbóógì</b>	enlarging, widening	<b>gbòògí</b>	enlarge, widen
<b>púgvbì</b>	scattering	<b>pùgvbí</b>	scatter
<b>ȳah</b>	calling, inviting	<b>ȳah</b>	call, invite

These regular verbal nouns take a dummy object suffix **-n̄a** if no explicit object is specified (5.9.1.1; the tonal behaviour of **-n̄a** is also addressed in this section).

verbal noun	verbal noun w/ dummy object	
<b>d̄ad̄</b>	<b>d̄ad̄-n̄a</b>	sowing, planting (something)
<b>gyàh</b>	<b>gyáh-n̄a</b>	sewing, hemming (something)
<b>gbóógì</b>	<b>gbóógì-n̄a</b>	enlarging, widening (something)
<b>púgvbì</b>	<b>pùgvbí-n̄a</b>	scattering (something)
<b>ȳah</b>	<b>ȳah-n̄a</b>	calling, inviting (something)

A minority of transitive verb stems undergo derivation with reflexive suffixes (7.3.1.2). This contrasts with intransitive stems, with which reflexive suffixes function inflectionally (7.3.2.1.1). With transitive stems, the reflexive suffixes appease obligatory object requirements, resulting in valence reduction; in other words, transitive verbs are detransitivized. Such verbs are inflected like intransitive verbs belonging to the same tonal class.

transitive verb construction		detransitivized verb construction
<b>m̄ì dúṅ-rì</b> 1SG bend:PERF-PERF <i>I have bent (something) down</i>		<b>m̄ì dúṅ-n̄ì</b> 1SG bend:PERF-1SG.REFL <i>I have bent down</i>
<b>m̄ì ñb-rì</b> 1SG straighten:PERF-PERF <i>I have straightened (something)</i>		<b>m̄ì ñb-n̄ì</b> 1SG straighten:PERF-1SG.REFL <i>I have straightened up</i>

Detransitivized verbs differ from transitive verbs in that they are not found with basic Perfective (7.4.1.1.1.1) or Imperfective (7.4.1.1.2) forms. In cases where the detransitivized basic Perfective or Imperfective meaning is intended, the transitive counterpart is used with a predictable or dummy object.

transitive verb construction  <b>mì dúŋ</b> 1SG bend:PFV <i>I bent (something) down</i>  <b>mì líb-ná</b> 1SG straighten:VN-OBJ:VN <i>I straightened (something)</i>	transitive verb construction used in place of a detransitivized verb construction  <b>mì dúŋ ?ínù</b> 1SG bend:PFV body <i>I bent down</i>  = <b>mì líb-ná</b> 1SG straighten:VN-OBJ:VN <i>I have straightened up</i>
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Detransitivized verbs are also distinct from intransitive verbs: reflexive verbal suffixes are optional for Future (7.4.1.2.1) and Optative (7.4.2) forms of intransitive verbs, but they are obligatory for detransitivized verbs.

intransitive verb  <b>?àá hèè(-lé)</b> 3:IRR climb:FUT-(3SG.REFL) <i>I will climb</i>  <b>mú hèè(-m)</b> 2SG:OPT climb:OPT-(2SG.REFL) [you (sg.)] <i>climb!</i>	detransitivized verb construction  <b>?àá yâà-lé</b> 3:IRR finish:FUT-3SG.REFL <i>I will finish</i>  <b>mú yâà-m</b> 2SG:OPT finish:FUT-2SG.REFL [you (sg.)] <i>finish!</i>
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Semantic shift frequently accompanies detransitivization. And often, because the meanings of detransitivized stems are specific or part of fixed expressions, the tenses with which they may be used are limited. Stems with which this type of semantic shift has been attested are as follows:

transitive verb stem	meaning (transitive)	meaning (detransitivized)
<b>ḃág</b>	meet, support	get stuck
<b>ḃéé</b>	bite	stick together, become thin
<b>dù</b>	join	be related through marriage
<b>fí'</b>	blow	revive (intr.)
<b>gà'</b>	nail	stay fixed in one place
<b>gù</b>	answer	consent
<b>gòò</b>	prepare	be afraid
<b>kpàtǵí</b>	distance (tr.)	become distant
<b>pá</b>	make, do	happen, do with oneself
<b>páá</b>	dirty (tr.)	get dirty
<b>sí'</b>	fish	bloat (intr.)
<b>yâà</b>	finish (tr.)	finish (intr.)
<b>?òòǵí</b>	set crawling	drag one's feet

Detransitivized verbs pattern lexically as transitive verbs in that the regular verbal nouns to which they correspond (like that of their transitive counterparts) must take the dummy object suffix **-nà** when no other object is expressed.

verbal noun	verbal noun w/ dummy object	
<b>ḃèè</b>	<b>ḃèé-nà</b>	biting (something), sticking together, becoming thin
<b>dìì</b>	<b>dìí-nà</b>	joining (something), being related through marriage
<b>fí'</b>	<b>fí'-nà</b>	blowing (something), reviving (intr.)
<b>gà'</b>	<b>gǎ'nà</b>	nauling (something), staying fixed in one place

One context in which syntactic transitivity requirements are relaxed is with Optative verb forms in cases where an object has been previously mentioned.

<b>mù</b>	<b>làà</b>	<b>nàmá</b>	[you (sg.)] eat meat!
2SG:OPT	eat:OPT	meat	
... <b>mù</b>	<b>làà</b>		[you (sg.)] eat (meat)!
2SG:OPT	eat:OPT		

Transitive verbs, in contrast to intransitive verbs, may be derived from other nouns or verbs (7.1.2.1).

### 7.3.2.2 Tone

Tone on the verb stem is determined by the tense and the tonal class to which a stem belongs. Tone classes are accounted for in 7.3.2.2.1. Minimal tone pairs, which are uncommon among verbs, are listed in 7.3.2.2.2, and the behaviour of tone in verb words is described in 7.3.2.2.3.

#### 7.3.2.2.1 Inventory of tone classes

There are six basic inflectional categories which are signalled by tonal distinctions on the stem: basic Perfective, Perfect, Pluperfect, Future, Optative and Imperfective, which is expressed with a verbal noun (5.9). The tonal possibilities for these categories fall into six sets, or classes (see table below).

The melodies found with the Perfect tense are unusual in two regards: first, Perfect verb words with intransitive stems from Class 1 (all shapes) and Class 2 (CVX only) contain a floating H tone on the left; and second, the melody for Perfect verb words with intransitive stems from Class 1 (CV only), transitive stems from Class 4, and all Class 5 and Class 6 stems, overrides the tone of any accompanying verb suffixes (7.3.2.2.3, 7.4.1.1.1.2).

Each of the tonal classes is fully illustrated in Appendix 2 along with transitive and intransitive verbs and all CV shapes of the stems with which it is attested. These classes are also summarized in the following table:

Tone on the verb stem

tonal verb class	example verb	PERFECTIVE	PERFECT	PLUPERFECT	FUTURE	OPTATIVE	IMPERFECTIVE (verbal noun)
1 (intr., CVX)	<b>yáá</b>	H	°H[L]	H	H	H	(lex.)
1 (intr., CV)	<b>gé</b>	H	HL*	H	H	H	(lex.)
1 (tr.)	<b>béé</b>	H	H	H	H	H	L
2 (intr.)	<b>sùù</b>	L	°H[L]	H	H	H	(lex.)
3 (intr.)	<b>vè</b>	L	L	L	H	L	(lex.)
4 (intr.)	<b>hèè</b>	L	L	L	L	L	(lex.)
4 (tr.)	<b>gù</b>	L	L*	L*	L	L	L
5 (intr., tr.)	<b>yàà</b>	L	LHL*	LHL*	LH	LH	HL
6 (intr., tr.)	<b>?òògí</b>	LH	LHL*	LHL*	LH	LH	HL

°H[L] = floating H tone on the left boundary of a L stem

\* = replacive melody, i.e., dominates the entire verb word (see 7.3.2.2.3)

### 7.3.2.2.2 Minimal tone pairs

Even though there are six tonal classes, there are few minimal tone pairs among verbs, i.e., segmentally identical verbs in different tonal classes (this does not include the productively detransitivized forms described in 7.3.2.1.2). For some of the pairs (e.g., **gyáá/gyàà** and **háá/hàà**), a historical transitivity-related derivation (cf. 7.2.4.5) appears to be responsible for membership in separate classes; however, the direction of this derivation is inconsistent, and it is otherwise unproductive. Such verbs are as follows:

- Class 1: **gwá'** laugh
- Class 5: **gwà'** disappear
  
- Class 1: **gyáá** take out, gather up
- Class 5: **gyàà** care for a child
  
- Class 1: **háá** come back, go back
- Class 4: **hàà** surround (tr.)
  
- Class 1: **hí'** breathe (intr.); spurt (tr.)
- Class 4: **hì'** stake out (tr.)

Class 1: **sáá** shut up (intr.)  
 Class 4: **sàà** tell, trick, cease (tr.)

Class 1: **súm** punt  
 Class 5: **sùm** know

Class 1: **yáá** move away  
 Class 5: **yàà** finish (tr.)

Class 1: **zóó** greet (tr.)  
 Class 4: **zòò** rise, emerge (intr.)

The fact that all of the minimal tone pairs in the above examples involve Class 1 and Class 4 or 5 is conspicuous. However, these are the most commonly attested tonal classes; and since the formation of Class 5 verb stems is almost always accompanied by segmental derivation (7.1.2), it hardly adds to the inventory of minimal tone pairs among verb stems.

### 7.3.2.2.3 Tonal behaviour

The verb word bears a single tone melody, which is almost always a fusion of the tonal TAM inflection of the verb stem (7.3.2.2.1) and the tone of the suffixes (7.3.1); it initially maps from left to right, but it later shifts to the right (cf. 4.1.2.2).

Ø	<b>hèè</b>	→	<b>hèè</b>	he/she/it climbed
3:PFV	climb:PFV			
Ø	<b>hèè-zí</b>	→	<b>hèèzí</b>	they climbed
3:PFV	climb:PFV-PL			
Ø	<b>hèè-zí-ñ</b>	→	<b>hèèzîñ</b>	they climbed to here
3:PFV	climb:PFV-PL-to.here			
Ø	<b>hèè-ré</b>	→	<b>hèèré</b>	they have climbed
3:PFV	climb:PERF-3PL.REFL			
Ø	<b>hèè-zí-ré</b>	→	<b>hèèzîré</b>	they have climbed
3:PFV	climb:PERF-PL-3PL.REFL			
Ø	<b>hèè-zí-ré-ñ</b>	→	<b>hèèzîrêñ</b>	they have climbed to here
3:PFV	climb:PERF-PL-3PL.REFL-to.here			

However, the association of tone on Perfect forms (7.4.1.1.2) is problematic for verbs in three tonal classes. For intransitive verbs in Class 1 and Class 2 comprised of a heavy syllable, the tone of the Perfect verb word does not associate evenly. This situation,

which shows up clearly in verb words with more than three morae, can be explained by the presence of a floating H tone on the left edge of the Perfect verb word.

<b>m̀</b>	´[yâà-ní]	→	<b>m̀ yáàní</b>	I have moved away
1SG	move.away:PERF-1SG.REFL			
<b>ǹ</b>	´[yâà-zínzá]	→	<b>ǹ yáàzìnzá</b>	we (incl.) have gotten lost
1&2	move.away:PERF-1&2PL.REFL			
∅	´[yâà-zí-ré]	→	<b>yáàzìré</b>	they have gotten lost
3:PFV	move.away:PERF-3PL.REFL			

For Perfect forms of intransitive Class 1 verbs with a CV stem, a HL melody dominates the entire Perfect verb word. This can be explained as the result of a floating L tone marking the right edge of the Perfect verb word.

<b>m̀</b>	gé-ní]	→	<b>m̀ géní]</b>	I have gotten lost
1SG	get.lost:PERF-1SG.REFL-CL1CV:PERF			
<b>ǹ</b>	gé-zínzá]	→	<b>ǹ gézínzà]</b>	we (incl.) have gotten lost
1&2	get.lost:PERF-1&2PL.REFL-CL1CV:PERF			
∅	gé-zí-ré]	→	<b>gézìré]</b>	they have gotten lost
3:PFV	get.lost:PERF-3PL.REFL-CL1CV:PERF			

For Perfect forms of transitive Class 4 verbs (all of which consist of a heavy syllable), a L melody dominates the entire verb word and does not allow the underlying H tone of the verbal plural morpheme -zí (7.3.1.1) to surface.

∅	laa-r̀	→	lààr̀	he/she/it has eaten
3:PFV	eat:PERF-PERF			
∅	laa-zí-r̀	→	lààzìr̀	they have eaten
3:PFV	eat:PERF-PL-PERF			

For Perfect verb words from Class 5 and Class 6, the LHL melody characteristic of a transitive source verb dominates the derived detransitivized form (cf. 7.3.2.1.2) of that verb. This is shown by the following three pairs of examples showing transitive source verbs contrasted with their detransitivized counterparts:

<b>m̀</b>	yaa-r̀	→	<b>m̀ yâá r̀</b>	I have finished (tr.)
1SG	finish:PERF-PERF			
<b>m̀</b>	yaa-ní]	→	<b>m̀ yâá ǹ]</b>	I have finished (intr.)
1SG	finish:PERF-1SG.REFL			

<b>nà</b> 1&2	<b>yaa-zí-rì</b> finish:PERF-PL-PERF	→	<b>nà yààzírì</b>	we (incl.) have finished (tr.)
<b>nà</b> 1&2	<b>yaa-zínzá</b> finish:PERF-1&2PL.REFL	→	<b>nà yààzínzà</b>	we (incl.) have finished (intr.)
∅ 3:PFV	<b>yaa-zí-rì</b> finish:PERF-PL-PERF	→	<b>yààzírì</b>	they have finished (tr.)
∅ 3:PFV	<b>yaa-zí-ré</b> finish:PERF-3PL.REFL	→	<b>yààzírè</b>	they have finished (intr.)

In addition to these Perfect forms, the tone on Imperfective forms (verbal nouns; see 7.4.1.1.2) with the dummy object suffix **-nà** is not accounted for by simple fusion of verb stem and suffix melodies.

verbal noun	verbal noun w/ dummy object	
<b>dòg</b>	<b>dǒg-nà</b>	drinking (something)
<b>fòò</b>	<b>fòó-nà</b>	spying (something)
<b>ḅûl</b>	<b>ḅûl-ná</b>	dividing (something)
<b>dâd</b>	<b>dâd-ná</b>	sowing (something)

Although this alternation may be attributed to two possible lexical tone melodies associated with verb + dummy object suffix words, alternate explanations are pursued in the section on verbal nouns (5.9).

### 7.3.3 Irregular verbs

There are three verbs with irregular conjugations in Mambay: **vè** ‘go’ (7.3.3.1), **húm** ‘come’ (7.3.3.2) and **tògó** ‘be’ (7.3.3.3).

#### 7.3.3.1 **vè** ‘go’

The verb **vè** ‘go’ is morphologically irregular (7.3.3.1.1) and exhibits a Realis Future category not found with other verbs (7.3.3.1.2).

##### 7.3.3.1.1 Morphological irregularities

In its basic Perfective form, **vè** is conjugated like other verbs: the stem is segmentally invariable (see Appendix 2). However, elsewhere **vè** has an irregular conjugation in which, among other things, the stem vowel typically assimilates to the quality of the vowel in the accompanying reflexive suffixes. This is illustrated by the following Future forms:

	IRR	FUT form w/ refl. suffixes	
person	pn.		
1SG	<b>mùí</b>	<b>ví-ní</b>	I will go
1&2SG	<b>nàá</b>	<b>vá-ná</b>	we (you (sg.) and I) will go
3SG	<b>?àá</b>	<b>vé-lé</b>	he/she/it will go
3SG.COREF	<b>lèé</b>	<b>vé-lé</b>	he/she/it (coref.) will go
1PL	<b>ríí</b>	<b>ví-rí</b>	we (excl.) will go
2PL	<b>ròó</b>	<b>vó-ró</b>	you (pl.) will go
3PL	<b>?àá</b>	<b>vé-ré</b>	they will go (short form; see 7.3.1.1)
3PL.COREF	<b>rèé</b>	<b>vé-ré</b>	they (coref.) will go (short form)

The matching of the verb's vowel quality with that of the reflexive suffix persists even when there is a synchronically intervening plural morpheme **-zí** (cf. 7.3.1.1):

3PL	<b>?àá</b>	<b>vé-zí-ré</b>	they will go (long form; see 7.3.1.1)
3PL.COREF	<b>rèé</b>	<b>vé-zí-ré</b>	they (coref.) will go (long form)

When it accompanies the verb **vè**, the 2SG reflexive suffix is **-núm** rather than (as is the case with all other verbs; see 7.3.1.2.1) **-(n)ým**.

2SG	<b>mùú</b>	<b>vúnúm</b>	you (sg.) will go (long form)
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Presumably, the underlying **u** vowel in the 2SG reflexive form of **vè** has its origin in the second person subject pronoun **mù**; however, it is no longer found contrastively with any other verbs. This historical vowel quality **u** persists on the verb stem in an alternative short 2SG conjugation, even though there is no vowel in the reflexive suffix.

2SG	<b>mùú</b>	<b>vúm</b>	you (sg.) will go (short form)
-----	------------	------------	--------------------------------

The 1&2 plural forms of **vè** are idiosyncratic. Rather than exhibiting a **zí + ná** (→ **zínzá/zíná**) suffix sequence (cf. 7.3.1.1, 7.3.1.2, 7.3.1.7), they exhibit a fused **-nzyá** or **-nzá** suffix.

1&2PL	<b>nàá</b>	<b>vánzyá</b> ~	we (incl.) will go
	<b>nàá</b>	<b>vánzá</b>	

A full paradigm of all forms of **vè** 'go' is given in Appendix 2.

### 7.3.3.1.2 Realis Future

The verb **vè** 'go' is unique in that it exhibits an additional Realis Future conjugation. Like Realis verb forms, it is found with a CV pronoun; this pronoun patterns in the same way as the Imperfective pronoun (7.4.1.1). However, the tone on the verb stem is that of the Future (which is normally Irrealis; cf. 7.4.1.2.1). Semantically, the Realis Future of **vè** is more certain and more immediate than the Irrealis Future.

ex. <b>m̀</b> 1SG	<b>ví-ní</b> go:FUT-1SG.REFL	I am going to go / I am going presently / I will go now
<b>?à</b> 3SG:IMPFV	<b>vé-lé</b> go:FUT-3SG.REFL	he/she/it is going to go / he/she/it is going presently / he/she/it will go now

cf. Imperfective forms:

<b>m̀</b> 1SG	<b>vágà</b> go:VN	I go / I am going
<b>?à</b> 3SG:IMPFV	<b>vágà</b> go:VN	he/she/it goes / he/she/it is going

cf. Irrealis Future forms:

<b>m̀̀</b> 1SG:IRR	<b>ví-ní</b> go:FUT-1SG.REFL	I will go
<b>?àá</b> 3SG:IRR	<b>vé-lé</b> go:FUT-3SG.REFL	he/she/it will go

A full paradigm of Realis Future forms of **vè** ‘go’ is given in Appendix 2. Two expansions of verbal inflection with similar meanings use the verb **vè** ‘go’; in one case, it is in the context of a serial verb construction (7.6.3.1), and in the other case it is as an auxiliary (7.6.3.2.1).

### 7.3.3.2 **húm** ‘come’

The verb **húm** ‘come’ is irregular in that it allows a contracted root form when it is accompanied by the directional adverb suffix **-ìn** ~ **-̀** (from **hîn**) ‘to here’ (7.3.1.6, 8.1.1.1) in certain conjugations.

Segmentally, the root form of ‘come’ is normally **húm**. However, when **-ìn** ~ **-̀** ‘to here’ accompanies the verb and there is no reflexive suffix (7.3.1.2), the **hú** of the first syllable may be dropped. In addition, the quality of the stem vowel **ú**, which in the normal conjugation is echoed before **-ìn** ~ **-̀** (ex. **húm̀̀n**), is retained in the contracted forms. This is evident in future forms of **húm** with **-ìn** ~ **-̀**:

person	IRR pn.	normal conjugation with <b>-̀</b>	contracted conjugation with <b>-̀</b>	
1SG	<b>m̀̀</b>	<b>húm̀̀n</b>	~ <b>m̀̀n</b>	I will come here

2SG	<b>mùú</b>	<b>húmûn</b>	~ <b>mûn</b>	you (sg.) will come here
1&2SG	<b>nàá</b>	<b>húmûn</b>	~ <b>mûn</b>	we (du.) will come here
3SG	<b>?àá</b>	<b>húmûn</b>	~ <b>mûn</b>	he/she/it will come here
3SG.COREF	<b>lèé</b>	<b>húmûn</b>	~ <b>mûn</b>	he/she/it (coref.) will come here
1PL	<b>rìí</b>	<b>húmûn</b>	~ <b>mûn</b>	we (excl.) will come here
2PL	<b>ròó</b>	<b>húmûn</b>	~ <b>mûn</b>	you (pl.) will come here

With contracted forms that contain the plural affix **-zí** (7.3.1.1), it appears that **-ìn ~ -n̄** attaches twice: to the verb root as well as to **-zí**.

	IRR	normal conjugation with <b>-n̄</b>	contracted conjugation with <b>-n̄</b>	
person	pn.			
1&2PL	<b>nàá</b>	<b>húmzîn</b>	~ <b>múnzîn</b>	we (incl.) will come here
3PL	<b>?àá</b>	<b>húmzîn</b>	~ <b>múnzîn</b>	they will come here
3PL.COREF	<b>rèé</b>	<b>húmzîn</b>	~ <b>múnzîn</b>	they (coref.) will come here

However, the tone melody of the contracted conjugation is simplified; rather than retaining the L tonal value of **-ìn ~ -n̄** each time it appears (**\*múnzîn**), the tone melody follows that of the normal conjugation (**múnzîn**).

The normal paradigm for **húm** is accounted for by the tonal Class 1 paradigm in Appendix 2. Contracted forms of **húm** with **-ìn ~ -n̄** in other conjugations are tonally regular and segmentally identical to the future forms given above.

### 7.3.3.3 tògó ‘be’

The morpheme **tògó** ‘be’ is an existential copula. It is like a verbal noun in that exhibits an Imperfective meaning (cf. 7.4.1.1.2).

<b>m̄</b>	<b>tògó</b>	I am / I am there
1SG	be	

However, it differs from verbal nouns in that it is not possessible (cf. 5.9).

With existential phrases that have a complement, it provides an alternative to basic verbless clauses (10.1.3).

<b>m̄</b>	<b>tǒg</b>	<b>sàà</b>	<b>fíílò</b>	I am in the house
1SG	be	in	house	
=	<b>m̄</b>	<b>sàà</b>	<b>fíílò</b>	I am in the house
	1SG	in	house	

The existential function that it fulfills in the Imperfective is taken over by the verb **yàà** ‘sit, stay, be’ for past and future expanded verb forms (7.6.3).

<b>mì</b>	<b>yáá</b>	<b>sáà</b>	<b>fíílò</b>	I will be in the house
1SG:IRR	sit:FUT	in	house	

Like verbs, it is found with the verbal plurality suffix **-zí**. However, it differs from verbs in that it takes an independent subject pronoun (6.1.2.1) rather than a verbal one (6.1.2.2ff.).

<b>nànzà</b>	<b>tòg-zí</b>	we (incl.) are / we (incl.) are there
1&2PL:INDEP	be-PL	

It also resembles verbs in that it may be accompanied by directional adverbs (8.1.1), which in all other cases are found with verbs.

<b>dú</b>	<b>tògó-̀n</b>	he/she/it is on the way here
3SG:INDEP	be-to.here	

<b>dú</b>	<b>tǒg vòró</b>	he/she/it is on the way there
3SG:INDEP	be to.there	

A full conjugation of **tògó** is as follows:

1SG	<b>mì</b>	<b>tògó</b>	1PL	<b>rì</b>	<b>tògó</b>
2SG	<b>mù</b>	<b>tògó</b>	2PL	<b>rò</b>	<b>tògó</b>
1&2SG	<b>nà</b>	<b>tògó</b>	1&2PL	<b>nànzà</b>	<b>tògí</b>
3SG	<b>dú</b>	<b>tògó</b>	3PL	<b>dùgí</b>	<b>tògí</b>
3SG:IMPERS	<b>?à</b>	<b>tògó</b>	3PL:IMPERS	<b>?à</b>	<b>tògí</b>
3SG:COREF	<b>lè</b>	<b>tògó</b>	3PL:COREF	<b>rè</b>	<b>tògí</b>

A commonly used irregular form of **dú tògó** ‘he/she/it is / he/she/it is there’ is **tí tògó**.

The forms above show that the morpheme-final **o** of **tògó** usually disappears phrase-internally.

<b>nànzà</b>	<b>tòg-zí</b>	we (incl.) are / we (incl.) are there
1&2PL:INDEP	be-PL	

<b>mì</b>	<b>tǒg</b>	<b>sáà</b>	<b>fíílò</b>	I am in the house
1SG	be	in	house	

However, it is maintained before the directional suffix **-̀in** ~ **-̀n** ‘to here’ (7.3.1.6).

dú            tògó-̀n  
 3SG:INDEP   be-to.here

he/she/it is on the way here

## 7.4 Basic verbal inflection

The basic inflectional categories in Mambay are marked by length and tone on subject pronouns (6.1.2) and tone on verb words (see 7.3.2.2 as well this section below). Mambay verb forms may be divided into Indicative (7.4.1) and Optative (7.4.2) moods. The clear majority of verb forms are Indicative, and are further subdivided according to realis value, aspect, and tense.<sup>8</sup> Optative forms, in contrast, do not reflect these distinctions. This basic verb system may be schematized as follows:

Functions of basic verbal inflection in Mambay

mood	realis value	aspect	tense
Indicative	Realis	Perfective	Perfective (basic)
			Perfect
			Pluperfect
	Imperfective		
	Irrealis		Future
Optative			

Indicative verb forms are used to express events (7.4.1). Optative verb forms, in contrast, are used to express a speaker’s wishes, to express purpose in dependent clauses, and to express the effect of causation (7.4.2). Formally, the classification of Indicative vs. Optative mood corresponds to the use of the negation particles **yá** and **gá** (7.5.2) respectively. In addition, Indicative verb forms are inflected for realis value, aspect, and tense.

Indicative verb forms are specified for Realis and Irrealis values. In contrast to Optative forms, which are inherently irrealis and not marked for realis distinction, Indicative Realis (7.4.1.1) and Irrealis (7.4.1.2) forms are distinguished. Formally, this distinction is marked on the subject pronoun: Realis pronouns are short (CV), and Irrealis pronouns are long (CVV) (6.1.2). While Realis forms signal events which have happened or are happening, Irrealis forms signal events that have not already happened and which are not

<sup>8</sup> In the present study, as has been common in the study of Niger-Congo generally, the term “tense” is understood in a traditional sense: “any one of the different forms or modifications (or word-groups) in the conjugation of a verb which indicate the different times (*past, present, or future*) at which the action or state denoted by it is viewed as happening or existing, and also (by extension) the different nature of such action or state, as continuing (*imperfect*) or completed (*perfect*)” (Oxford English Dictionary online 2007; cf. Doke 1935:209, Dimmendaal 2000:162 and Crystal 2003:459–60). This differs from the use of the term in Comrie (1976) and, subsequently, much of the literature (e.g. Lyons 1995:312 ff.), where event sequence (“tense”) and the internal structure of events (“aspect”) are treated as distinct categories of verb modification. In Mambay, there is no formal justification for such a distinction.

happening. The Future tense (typically; see 7.4.1.2.1) as well as negated forms of Indicative verbs (7.5) are expressed using Irrealis pronouns (this grouping is defended in 7.4.1.2). All other Indicative verb forms fall under the domain of Realis.

Among Realis verb forms, a distinction is made between Perfective (7.4.1.1.1) and Imperfective (7.4.1.1.2) aspects. Perfective forms communicate events which have been completed in reference to a given point in time, and Imperfective forms refer to events which happen but which have not been completed in reference to a given point in time. Perfective forms are represented by three distinct tenses (basic Perfective, Perfect and Pluperfect), but there is only one basic Imperfective tense. The two aspects differ formally in several respects. First of all, the segmental shape of the Perfective is the verb stem, but that of the Imperfective is the verbal noun (5.9). Secondly, while the third person is invariably marked in the Perfective with a zero pronoun, it is marked in the Imperfective with a segmental pronoun **ʔà** whenever there is no nominal subject (7.4.1.1.2). Thirdly, the negated form of the Perfective is found with a LH pronoun, but negated Imperfective forms are found with a HL pronoun (7.5.3).

The Optative and the five Indicative tenses (basic Perfective, Perfect, Pluperfect, Imperfective and Future) are distinguished from one another by contrastive tone melodies and by the inventory of verbal suffixes which may be found with each (7.3.1). The tone melodies associated with the possible forms of a given verb fall into six tonal sets or classes (7.3.2.2). If the tone melody is known for the basic Perfective, Perfect and Future, melodies for the remaining forms can be predicted. Concerning the inventory of verbal suffixes, reflexive suffixes (7.3.1.2) are obligatorily found with Perfect and Pluperfect forms of intransitive verbs, and optionally found with Future and Optative forms of intransitive verbs. Further, the Perfect forms of transitive verbs always take the suffix **-rì**, and Imperfective forms of transitive verbs must take the dummy object suffix **-nà** if there is no explicit object.

An additional minor verb form, a Realis Future, is found uniquely with the verb **vè** ‘go’ (7.3.3.1.2). It is composed of an Imperfective pronoun and a Future verb stem.

Each of the basic inflectional categories is presented in the sections below (7.4.1–7.4.2). Negative verb forms are considered separately (7.5). Criteria used for distinguishing verb forms, all of which have been presented in this section, are summarized in the following table:

Overview of structural criteria for recognizing verb forms

verb forms					structural criteria							
mood	realis value	aspect	tense	transitivity	subject pronoun	negative subject pronoun	3 pers. subject pronoun	verb shape	verb tone	reflexive suffixes	transitive verb suffix	negative particle
Indicative	Realis	Perfective	Perfective (basic)		CṼ	CṼṼ	∅	stem	PFV	—	—	yá
			Perfect	intr.	CṼ	—	∅	stem	PERF	+	—	yá
		tr.		—	—	—	—	—	—	-rì		
	Pluperfect		CṼ	CṼṼ	∅	stem	PLUPERF	+	—	yá		
	Imperfective	intr.	CṼ	CṼṼ	?à~∅	v.n.	VN	—	—	yá		
		tr.	—	—	—	—	—	—	—	-nà		
Irrealis		Future	intr.	CṼṼ	CṼṼ	?àá	stem	FUT	±	—	yá	
			tr.	—	—	—	—	—	—	—		
Optative				intr.	CṼ	CṼ	má	stem	OPT	±	—	gá
				tr.	—	—	—	—	—	—	—	—

## 7.4.1 Indicative

Indicative verb forms, which are used to express events (but see 7.4.1.2.1), are specified for Realis (7.4.1.1) and Irrealis (7.4.1.2) values. While Realis forms signal events which have happened or are happening, Irrealis forms signal events that have not already happened and which are not happening.

### 7.4.1.1 Realis

Realis verb forms are divided into two aspects: Perfective (three tenses; 7.4.1.1.1) and Imperfective (one tense; 7.4.1.1.2). Perfective forms signal events which, in reference to a given point in time, have already happened. Imperfective forms are used for events which, in reference to a given point in time, happen but are not completed.

One formal characteristic common to Realis verb forms is a subject pronoun paradigm with a CV structure (6.1.2). Other formal features vary among the four constituent tenses.

A minor Realis Future verb form, which is found uniquely with the verb *vè* ‘go,’ is discussed in 7.3.3.1.

#### 7.4.1.1.1 Perfective

There are three perfective tenses: basic Perfective (7.4.1.1.1.1), Perfect (7.4.1.1.1.2), and Pluperfect (7.4.1.1.1.3). Perfective verb forms have in common that they are based on the verb stem, that third person forms are invariably marked with a zero pronoun, and that negated forms are found with LH pronouns (7.5.3).

##### 7.4.1.1.1.1 Basic Perfective

The basic Perfective tense is used for completed events. In contrast to the Perfect and Pluperfect (7.4.1.1.1.2, 7.4.1.1.1.3), it is unspecified regarding the consequences of an event for a later point in time. The basic Perfective tense is the default means of marking sequential events in narrative discourse (Anonby 2005:29–32). It is typically structured as follows:

	<u>subject pronoun</u>	+	<u>verb</u>	
	Realis pronoun (CV)		stem (Perfective tone)	
ex.	<b>mì</b>		<b>hèè</b>	I climbed
	1SG		climb:PFV	
	<b>rò</b>		<b>làà</b>	you (pl.) ate something
	2PL		eat:PFV thing	

(Transitive verbs such as **làà** ‘eat,’ shown in the above example, have object requirements (7.3.2.1.2) and are thus shown with objects in this section and following sections).

As is the case with the Perfect (7.4.1.1.1.2) and Pluperfect (7.4.1.1.1.3), third person singular and plural forms (excluding co-referential forms) of the basic Perfective are marked with a zero pronoun.

Ø	<b>hèè</b>	he/she/it climbed
3:PFV	climb:PFV	
Ø	<b>hèè-zí</b>	they climbed
3:PFV	climb:PFV-PL	

Morphologically, the basic Perfective tense is never found with reflexive suffixes. Examples of basic Perfective forms from each of the six tonal classes are as follows:

tonal class,	tone		
transitivity	melody	example	
1 (intr.)	H	<b>yáá</b>	he/she/it moved away
(tr.)	H	<b>béé</b>	he/she/it bit
2 (intr.)	L	<b>sùù</b>	he/she/it lay down
3 (intr.)	L	<b>vè</b>	he/she/it went
4 (intr.)	L	<b>hèè</b>	he/she/it climbed
(tr.)	L	<b>gù</b>	he/she/it answered
5 (intr.)	(uses tr. counterpart <b>yàà</b> )		he/she/it finished (intr.)
(tr.)	L	<b>yàà</b>	he/she/it finished (tr.)
6 (intr.)	(uses tr. counterpart <b>?dògí</b> )		he/she/it dragged his/her/its feet
(tr.)	LH	<b>?dògí</b>	he/she/it set crawling

Full paradigms are given for each class in Appendix 2. Negative forms of the basic Perfective are discussed in 7.5.

#### 7.4.1.1.1.2 Perfect

The Perfect tense is used for previously completed events with consequences for a point in time contemporaneous with the sequence of events in a discourse (typically the present). It is structured differently for intransitive and transitive verbs. For intransitive verbs and detransitivized transitive verbs (7.3.2.1), reflexive suffixes are used:

subject pronoun + verb

Realis pronoun (CV) stem (Perfect tone (see 7.3.2.2.3)) + reflexive suffix

ex. **mì** **hèè-ní** I have climbed  
1SG climb:PERF-1SG.REFL

**rò** **hèè-ró** you (pl.) have climbed  
2PL climb:PERF-REFL-2PL.REFL

For typical transitive verbs, a Perfect suffix **-rì** (7.3.1.3) is used:

subject pronoun + verb

Realis pronoun (CV̇) stem (Perfect tone) + **-rì**

ex. <b>mì</b>	<b>làà-rì</b>	<b>ʔígà</b>	I have eaten something
1SG	eat:PERF-PERF	thing	
<b>rò</b>	<b>làà-rì</b>	<b>ʔígà</b>	you (pl.) have eaten something
2PL	eat:PERF-PERF	thing	

As is the case with the basic Perfective (7.4.1.1.1) and Pluperfect (7.4.1.1.3), third person singular and plural forms (excluding co-referential forms) of the Perfect are marked with a zero pronoun.

∅	<b>hèè-lé</b>		he/she/it has climbed
3:PFV	climb:PERF-3SG.REFL		
∅	<b>hèè-zì-ré</b>		they have climbed
3:PFV	climb:PERF-PL-3PL.REFL		
∅	<b>làà-rì</b>	<b>ʔígà</b>	he/she/it has eaten something
3:PFV	eat:PERF-PERF	thing	
∅	<b>làà-zì-rì</b>	<b>ʔígà</b>	they have eaten something
3:PFV	eat:PERF-PL-PERF	thing	

Examples of Perfect forms from each of the six tonal classes (separated here for transitivity as well as CV shape when it makes a difference for the mapping of tone) are as follows:

tonal class, transitivity	v. word tone melody	example	
1 (intr., CVX)	°H[L-H]	<b>yáà-lé</b>	he/she/it has moved away
(intr., CV)	HL*	<b>gé-lè</b>	he/she/it has gotten lost
2 (intr.)	°H[L-H]	<b>sùù-lé</b>	he/she/it has lain down
3 (intr.)	L-H	<b>vè-lé</b>	he/she/it has gone
4 (intr.)	L-H	<b>hèè-lé</b>	he/she/it has climbed
5 (intr.)	LHL*	<b>yâá-lè</b>	he/she/it has finished (intr.)
6 (intr.)	LHL*	<b>ʔòògí-lè</b>	he/she/it has dragged his/her/its feet
1 (tr.)	H-L	<b>ḃéé-rì</b>	he/she/it has bitten
4 (tr.)	L*	<b>gù-rì</b>	he/she/it has answered

5 (tr.)	LHL*	yáá-rì	he/she/it has finished (tr.)
6 (tr.)	LHL*	?òògí-rì	he/she/it has set crawling

(°H[L-H] = floating H tone on the left boundary of a verb word composed of a L verb stem and a H suffix; \* = replacive melody, i.e., dominates the entire verb word; see 7.3.2.2.3.)

Full paradigms are given for each class in Appendix 2. As is evident, the tonal nature of Perfect forms in some tonal classes is complex: while Class 1 (CVX intransitive only) and Class 2 exhibit a floating H tone on the left boundary of the verb word, some other Classes (4, transitive only; 5; and 6) exhibit a replacive melody that applies to the Perfect verb word as a whole. The tonal behaviour of these forms is reviewed in 7.3.2.2.3.

There is no negative form of the Perfect; negated Perfect constructions use negative perfective forms (7.5.1).

#### 7.4.1.1.1.3 Pluperfect

The Pluperfect tense is used for previously completed events with consequences for a point in time subsequent to the event but prior to the point of reference in a discourse. The Pluperfect is found with intransitive verbs as well as transitive verbs that take reflexive suffixes (7.3.1.2). It is typically structured as follows:

subject pronoun + verb  
 Indicative pronoun (CV̀) stem (Pluperfect tone) + reflexive suffix

- ex. **mì** **yáá-ní** I had moved away  
 1SG move.away:PLUPERF-1SG.REFL
- rò** **yáá-ró** you (pl.) had moved away  
 2PL move.away:PLUPERF-2PL.REFL

cf. corresponding Perfect forms:

- mì** **yáà-ní** I have moved away  
 1SG move.away:PERF-1SG.REFL
- rò** **yáà-ró** you (pl.) have moved away  
 2PL move.away:PERF-2PL.REFL

As is the case with the basic Perfective (7.4.1.1.1.1) and Perfect (7.4.1.1.1.2), third person singular and plural forms (excluding co-referential forms) of the Perfect are marked with a zero pronoun.

- Ø **yáá-lé** he/she/it had moved away  
 3:PFV move.away:PLUPERF-3SG.REFL

Ø      **yáá-ré**                      they had moved away  
 3:PFV   move.away:PLUPERF-3PL.REFL

A distinction between Perfect and Pluperfect exists only for intransitive verbs from tonal Classes 1 and 2.

Examples of Pluperfect forms from each of the six tonal classes (separated here for transitivity) are as follows (forms in classes marked with † are identical to those used for the Perfect):

tonal class, transitivity	v. word tone melody	example	
1 (intr.)	H-H	<b>yáá-lé</b>	he/she/it had moved away
2 (intr.)	H-H	<b>súú-lé</b>	he/she/it had lain down
†3 (intr.)	L-H	<b>vè-lé</b>	he/she/it had gone
†4 (intr.)	L-H	<b>hèè-lé</b>	he/she/it had climbed
†5 (intr.)	LHL*	<b>yàá-lè</b>	he/she/it had finished (intr.)
†6 (intr.)	LHL*	<b>?dògí-lè</b>	he/she/it had dragged his/her/its feet
†1 (tr.)	H-L	<b>ḃéé-rì</b>	he/she/it had bitten
†4 (tr.)	L*	<b>gù-rì</b>	he/she/it had answered
†5 (tr.)	LHL*	<b>yàá-rì</b>	he/she/it had finished (tr.)
†6 (tr.)	LHL*	<b>?dògí-rì</b>	he/she/it had set crawling

(\* = replacive melody, i.e., dominates the entire verb word; this is only found with Pluperfect forms identical to those of the Perfect. See 7.3.2.2.3 and 7.4.1.1.1.2 for discussion.)

Full paradigms are given for each class in Appendix 2. Negated forms of the Pluperfect are discussed in 7.5.

#### 7.4.1.1.2 Imperfective

The Imperfective is used for events which, in reference to a given point in time, happen but are not completed. In addition to carrying a generic imperfective meaning, it often communicates a habitual meaning. Usually the events are anchored in the present, but as the example at the end of this section shows, they may be expressed as events in the past.

Represented by a single tense, the Imperfective is typically expressed simply by using a Realis subject pronoun (6.1.2) with a verbal noun (5.9). As is explained in the section on verbal nouns, a comparable situation is found in the well-known case of Hausa (Dimmendaal 2000:171, Newman 2000:288–92) and in Kébi-Benue languages such as Mundang (Elders 2000:327–30).

subject pronoun + verb

Realis pronoun (CV̇) verbal noun (lexical tone)

ex. **mì** **héérà** I climb / I am climbing  
1SG climb:VN

**rò** **héérà** you (pl.) climb / you (pl.) are climbing  
2PL climb:VN

When the verbal noun corresponds to a transitive verb, an object or dummy object suffix must accompany the noun (7.3.2.1).

**mì** **làá-nà** I eat (something) / I am eating (something)  
1SG eat:VN-OBJ

**mì** **làà** **?ígà** I eat something / I am eating something  
1SG eat:VN thing

The verbal plural affix **-zí** (7.3.1.1) is used with verbal nouns in Imperfective conjugations. With intransitive verbs, it attaches following the first syllable of the verbal noun. For monosyllabic verbal nouns, this is straightforward.

**mì** **yáà** I move away / I am moving away  
1SG move.away:VN

**nà** **yáà-zí** we (incl.) move away / we (incl.) are moving away  
1&2 move.away:VN-PL

With disyllabic verbal nouns, morphophonological alternations are complex. If the verbal noun has two light syllables and the vowel of the first syllable is an exact echo of the second syllable's vowel (i.e.,  $V_1=V_2$ ), the second vowel is deleted when **-zí** is added.

**mì** **vágà** I go / I am going  
1SG go:VN

**nà** **vâg-zí** we (incl.) go / we (incl.) are going  
1&2 go:VN-PL

Otherwise, the second syllable is maintained, and **-zí** precedes it.

**mì** **héérà** I climb / I am climbing  
1SG climb:VN

**nà** **héé-zí-rà** we (incl.) climb / we (incl.) are climbing (cf. **héérà** 'climbing')  
1&2 climb:VN-PL-VN

The affixation of **-zí** to some disyllabic nouns is accompanied by irregular morphological alternations—even suppletion. For example, the final syllable of a two-syllable irregular verbal noun changes to **-rV** if the original suffix is **-gV**. (This alternation corresponds the domain of vestigial noun suffixes, which are otherwise opaque. Note also that historically, the value of the final vowel has often assimilated partially to the stem; see 5.1.3.2 and Anonby 2007b:REF).

ex. <b>mì</b>	<b>húmgò</b>	I come / I am coming
1SG	come:VN	
<b>nà</b>	<b>húm-zí-rò</b>	we (incl.) come / we (incl.) are coming
1&2	come:VN-PL-VN	

cf. IV-final verbal nouns, in which **I** does not alternate:

<b>mì</b>	<b>té'là</b>	I walk / I am walking
1SG	walk:VN	
<b>nà</b>	<b>té'-zí-là</b>	we (incl.) walk / we (incl.) are walking
1&2	walk:VN-PL-VN	

In the case of a verbal noun ending in **-dV**, a similar process happens, but the **d** of the first syllable is deleted and the short vowel in the first syllable undergoes compensatory lengthening.

<b>mì</b>	<b>húđò</b>	I die / I am dying
1SG	die:VN-PL-VN	
<b>nà</b>	<b>húúzíró</b>	we (incl.) die / we (incl.) are dying
1&2	die:VN-PL-VN	

If an irregular verbal noun ends with **-bV** or **-vV**, the final syllable's consonant is retained and the vowel **i** is epenthesized before the plural affix **-zí**. Additionally, a renewing suffix **-rV** is added to the final syllable.

<b>mì</b>	<b>ʔéébà</b>	I swim / I am swimming
1SG	swim:VN-VN	
<b>nà</b>	<b>ʔééb-í-zí-rà</b>	we (incl.) swim / we (incl.) are swimming
1&2	swim:VN-V-PL-VN	
<b>mì</b>	<b>núvà</b>	I sleep / I am sleeping
1SG	sleep:VN-PL-VN	

**nà nùv-í-zí-rà** we (incl.) sleep / we (incl.) are sleeping  
1&2 sleep:VN-V-PL-VN

**mì ʔá'rvà** I run / I am running  
1SG run:VN-PL-VN

**nà ʔá'rv-í-zí-rà** we (incl.) run / we (incl.) are running  
1&2 run:VN-V-PL-VN

When the verbal noun is transitive, **-zí** precedes the object or dummy object suffix.

**nà làà-zí-nà** we eat (something) / we are eating (something)  
1&2 eat:VN-PL-OBJ

**nà làà-zí ʔígà** we eat something / we are eating something  
1&2 eat:VN-PL thing

When there is no nominal subject, the third person pronoun **ʔà** is used.

**ʔà héérà** he/she/it climbs / he/she/it is climbing  
3:IMPFV climb:VN

**ʔà héé-zí-rà** they climb / they are climbing  
3:IMPFV climb:VN-PL-VN

However, when there is a nominal subject, this pronoun is reduced to zero.

**gǎm Ø héérà** Gam climbs / Gam is climbing  
Gam 3:REAL climb:VN

**kwéé mǎ kàdá Ø héé-zí-rà** Kwé and Kada climb / Kwé and Kada are climbing  
Kwé with Kada 3:REAL climb:VN-PL-VN

The tone of Imperfective forms of intransitive verbs is lexically determined and unpredictable, because it is the same as that of the irregular verbal noun used in an Imperfective function (5.9.1.2). Most commonly, it is HL (for Imperfective forms corresponding to intransitive stems in any tone class; see 5.9.1.2). For transitive verbs, the tone melody of the verbal noun is uniform within a given tonal class (5.9.1.1). Examples of Imperfective forms from each of the six tonal classes (separated here for transitivity) are as follows:

tonal class, transitivity	v. word tone melody	example	
1 (intr.)	(lex.)	<b>?à yáà</b>	he/she/it is moving away
2 (intr.)	(lex.)	<b>?à súngà</b>	he/she/it is lying down
3 (intr.)	(lex.)	<b>?à vágà</b>	he/she/it is going
4 (intr.)	(lex.)	<b>?à héérà</b>	he/she/it is climbing
5 (intr.)	(uses tr. counterpart <b>?à yáà</b> )		he/she/it is finishing (intr.)
6 (intr.)	(uses tr. counterpart <b>?à ?óógì</b> )		he/she/it is dragging his/her/its feet
1 (tr.)	L	<b>?à bèè</b>	he/she/it is biting
4 (tr.)	L	<b>?à gù</b>	he/she/it is answering
5 (tr.)	HL	<b>?à yáà</b>	he/she/it is finishing (tr.)
6 (tr.)	HL	<b>?à ?óógì</b>	he/she/it is setting crawling

(lex. = lexically determined, i.e., exhibits the verbal noun's lexical tone; see above)

Full paradigms are given for each class in Appendix 2. Negative forms of the Imperfective, which are marked with a HL pronoun, are discussed in 7.5.

An example from the data which shows that an Imperfective may be anchored to past events in a story line is as follows:

**tâw kúú sêh káálé, gbáh fâh fíí,**  
 Taw grab:PFV hand:LF head/on:3SG.C/I.POSS.INAL catch:PFV path home

**?à lêg-ná bóm bóm.**  
 3:IMPFV suck:VN-OBJ:VN one one

*Taw took hold of them (lit. put his hand onto it), headed (lit. grabbed the path) home, [and] sucked (lit. sucks / is sucking) them one by one.*

#### 7.4.1.2 Irrealis

Irrealis forms signal events that have not already happened and which are not happening. They have in common a CVV subject pronoun shape. Irrealis verb forms are represented by the Future tense and negated Indicative verb forms. Although this higher-level grouping could seem like an *ad hoc* device to account for a coincidental formal match, Payne (1997:244–5) and Palmer (2001:168–75) state that both future and negative forms frequently pattern as irrealis in languages that mark this distinction; Roberts (1990) gives examples of this (see especially p. 378).

While the Future tense is presented in this section, negated Indicative verb forms are addressed in 7.5.

### 7.4.1.2.1 Future

The Future tense is used for events which will take place subsequent to a reference point in time and, secondarily, as a means of expressing one's wishes insistently (such modal functions of the Future tense are common in the world's languages; see Comrie 1976:2 and Palmer 2001:5). The Future tense is typically structured as follows:

	<u>subject pronoun</u> +	<u>verb</u>		
	Irrealis pronoun (CṼV)	stem (Future tone) (+ optional reflexive suffix)		
ex.	<b>mǐ́</b>	<b>hèè</b>	I will climb / I <i>will</i> climb! / let me climb!	
	1SG:IRR	climb:FUT		
	<b>ròó</b>	<b>hèè</b>	you (pl.) will climb / you (pl.) <i>will</i> climb! /	
	2PL:IRR	climb:FUT	[you (pl.)] climb!	
	<b>mǐ́</b>	<b>làà</b>	<b>ʔígà</b>	I will eat something / I <i>will</i> eat something! /
	1SG:IRR	eat:FUT	thing	let me eat something!
	<b>ròó</b>	<b>làà</b>	<b>ʔígà</b>	you (pl.) will eat something / you (pl.) <i>will</i> eat something!
	2PL:IRR	eat:FUT	thing	[you (pl.)] eat something!

Optionally, Future forms of intransitive verbs may be found with reflexive suffixes.

ex.	<b>mǐ́</b>	<b>hèè-ní</b>	I will climb / I <i>will</i> climb! / let me climb!
	1SG:IRR	climb:FUT-1SG.REFL	
	<b>ròó</b>	<b>hèè-ró</b>	you (pl.) will climb / you (pl.) <i>will</i> climb! /
	2PL:IRR	climb:FUT-2PL.REFL	[you (pl.)] climb!

Although the issue has been investigated, no difference in meaning has been established between Future forms of intransitive verbs without vs. with suffixes. Both may be found without (as directly above) or with complements (cf. 7.3.2.1.1):

ex.	<b>mǐ́</b>	<b>hèè-ní</b>	<b>zé'gà</b>	I will climb the mountain / I <i>will</i> climb the
	1SG:IRR	climb:FUT-1SG.REFL	mountain	mountain! / let me climb the mountain!
	<b>ròó</b>	<b>hèè-ró</b>	<b>zé'gà</b>	you (pl.) will climb the mountain; you (pl.)
	2PL:IRR	climb:FUT-2PL.REFL	mountain	<i>will</i> climb the mountain! / [you (pl.)]
				climb the mountain!

The verb **vè** 'go' (7.3.3.1) and detransitivized verb stems (7.3.2.1.2) are exceptional in that their Future forms are always found with reflexive suffixes (see also Appendix 2). Additionally, it allows a Realis form of the Future (7.3.3.1).

Examples of Future forms from each of the six tonal classes (separated here for transitivity) are as follows:

tonal class, transitivity	v. word tone melody	example	
1 (intr.)	H-H	<b>ʔàá y'áá(-lé)</b>	he/she/it will move away
2 (intr.)	H-H	<b>ʔàá súú(-lé)</b>	he/she/it will lie down
3 (intr.)	L-H	<b>ʔàá vè-lé</b>	he/she/it will go (see previous paragraph)
4 (intr.)	L-H	<b>ʔàá hèè(-lé)</b>	he/she/it will climb
5 (intr.)	L-H	<b>ʔàá y'áà-lé</b>	he/she/it will finish (intr.)
6 (intr.)	L-H	<b>ʔàá ʔòògì-lé</b>	he/she/it will drag his/her/its feet
1 (tr.)	H	<b>ʔàá b'ée</b>	he/she/it will bite
4 (tr.)	L	<b>ʔàá g'ì</b>	he/she/it will answer
5 (tr.)	LH	<b>ʔàá y'áá</b>	he/she/it will finish (tr.)
6 (tr.)	LH	<b>ʔàá ʔòòg'í</b>	he/she/it will set crawling

Full paradigms are given for each class in Appendix 2.

Negative forms of the Future, which are found with a pronoun of the same structure as that of the negated Imperfective, are discussed in 7.5.

## 7.4.2 Optative

The Optative mood is attested in three contexts. In main clauses, a general Optative function prevails; prototypically, it communicates an imperative intention (7.4.2.1). It is also found in subjunctive constructions following the subordinating conjunction **kà** (7.4.2.2), and in subjunctive constructions formed with the causative auxiliary **pá** ‘make, do’ (7.4.2.3). Negative forms of the Optative are discussed in 7.5.

### 7.4.2.1 In main clauses

Optative verb forms are most commonly found in main clauses. In this context, a general Optative function applies, expressing a wish on the part of the speaker.

Typologically, Mambay stands out in that it has no verb form marked specifically for an imperative function. Instead, Optative verb forms in main clauses prototypically communicate an imperative intention—the idea that a member or members of an audience must do something (cf. Bybee 1985:171, Payne 1997:303, Crystal 2003:227, Palmer 2001:80). Most frequently, this audience is the second person (singular or plural), and the illocutionary force is that of a command (“you...!, you must...”).

However, in Mambay the audience of a command may also be the first or the third person (sample descriptions for which an imperative function has been described for all pronominal persons are Robertson 1934:320–30, Lakoff 1968:172–6; Roberts 1990:369 and Mounce 1994:143–8; cf. also Palmer 2001:81, who discusses the theoretical

implications of such a system). For forms in which the first person is a speaker, orders are given to oneself (the first person singular) or a group of which one is a part (first person plural and 1&2 person forms); for the singular, this has the force of resolve (“let me...,” “I must...”), and for the plural, exhortation (“let us...,” “we must...”), respectively. For the third person (singular or plural), the Optative expresses the idea that an audience which is not being directly addressed must do something; this carries an obligative (“he/she/it must...”) force. For all three persons, the formal expression of imperative constructions is equivalent; there is no formally discrete second person conjugation (cf. Dimmendaal 2000:175, Watters 2000:203, who note that in most languages the subject pronoun is omitted for second person imperatives).

More broadly, Mambay speakers use the Optative to communicate intentions other than those which are strictly imperative. For example, third person Optative verb forms may express a jussive (“may he/she/it”) force. Other more specific functions (for example, suggestion or imploring) are expressed by using TAM indicators in conjunction with the Optative forms (7.6.1).

Optative verb forms are found with all of the pronominal persons (cf. 6.1.1), and in all cases a subject pronoun is obligatory. The Optative is structured as follows:

	<u>subject pronoun</u> +	<u>verb</u>		
	Optative pronoun (CV)	stem (Optative tone) (+ optional reflexive suffix)		
ex.	<b>mí</b>	<b>hèè</b>	let me climb! / I must climb	
	1SG:OPT	climb:OPT		
	<b>má</b>	<b>hèè</b>	let them climb! / they must climb	
	3SG:OPT	climb:OPT		
	<b>ró</b>	<b>hèè</b>	[you (pl.)] climb! / you (pl.) must climb	
	2PL:OPT	climb:OPT		
	<b>mí</b>	<b>làà</b>	<b>?ígà</b>	let me eat something! / I must eat something!
	1SG:OPT	eat:OPT	thing	
	<b>ró</b>	<b>làà</b>	<b>?ígà</b>	[you (pl.)] eat! / you (pl.) must eat something!
	2PL:OPT	eat:OPT	thing	
	<b>má</b>	<b>làà-zí</b>	<b>?ígà</b>	let them eat something! / they must eat something!
	3PL:OPT	eat:OPT-PL	thing	

Optionally, Optative forms of intransitive verbs may be accompanied by reflexive suffixes.

ex. **mí**      **hèè-ní**                      let me climb!  
 1SG:OPT climb:OPT-1SG.REFL

**ró**      **hèè-ró**                      [you (pl.)] climb!  
 2PL:OPT climb:OPT-2PL.REFL

As is the case with Future verb forms (7.4.1.2.1), no difference in meaning has been established between Optative forms of intransitive verbs without vs. with suffixes. Both may be found without (as directly above) or with complements:

ex. **mí**      **hèè-ní**                      **zé'gà**              let me climb the mountain!  
 1SG:OPT climb:OPT-1SG.REFL mountain

**ró**      **hèè-ró**                      **zé'gà**              [you (pl.)] climb the mountain!  
 2PL:OPT climb:OPT-2PL.REFL mountain

The verb **vè** 'go' (7.3.3.1) and detransitivized verb stems (7.3.2.1.2) are exceptional in that their Optative forms are always found with reflexive suffixes (see also Appendix 2).

Examples of Future forms from each of the six tonal classes (separated here for transitivity) are as follows:

tonal class, transitivity	v. word tone melody	example	
1 (intr.)	H(-H)	<b>má yáá(-lé)</b>	let him/her/it / he/she/it must move away
2 (intr.)	H(-H)	<b>má súú(-lé)</b>	let him/her/it / he/she/it must lie down
3 (intr.)	L-H	<b>má vè-lé</b>	let him/her/it / he/she/it must go
4 (intr.)	L(-H)	<b>má hèè(-lé)</b>	let him/her/it / he/she/it must climb
5 (tr.)	L-H	<b>má yàà-lé</b>	let him/her/it / he/she/it must finish (intr.)
6 (tr.)	L-H	<b>má ?òògì-lé</b>	let him/her/it / he/she/it must drag his/her/its feet
1 (tr.)	H	<b>má béé</b>	let him/her/it / he/she/it must bite
4 (tr.)	L	<b>má gù</b>	let him/her/it / he/she/it must answer
5 (tr.)	LH	<b>má yàá</b>	let him/her/it / he/she/it must finish (tr.)
6 (tr.)	LH	<b>má ?òògí</b>	let him/her/it / he/she/it must set crawling

Full paradigms are given for each class in Appendix 2.

In contrast to Indicative verb forms, transitivity requirements appear to be relaxed with Optatives in cases where an object has been previously mentioned.

**mú**      **làà**      **nàmú**                      [you (sg.)] eat meat!;  
 2SG:OPT eat:OPT meat

... **mú**      **làà**                      [you (sg.)] eat (meat)!  
 2SG:OPT    eat:OPT

When there is no explicit object with an Optative and the verb is phrase-final, an additional vowel is appended after some consonants (there is no accompanying change in the tone melody).

**mú**      **tàg-á**                      [you (sg.)] sweep (something)!  
 2SG:OPT    sweep:OPT-V

cf. phrase-internal distribution:

**mú**      **tǎg**      **kyǎ'**                      [you (sg.)] sweep the place!  
 2SG:OPT    sweep:OPT    place

This could be a historical remnant of an object suffix (cf., for example, **-rì**; see 7.3.1.3). However, since it is only found after some consonants and disappears in phrase-internal position, it is hard to define whether its contribution is phonological, morphosyntactic, or both. After transitive verb stems ending in a stop, an identical echo vowel is appended:

**mú**      **dèg-é**                      [you (sg.)] burn (something)!  
 2SG:OPT    burn:OPT-V

**mú**      **ràb-á**                      [you (sg.)] hug (something)!  
 2SG:OPT    hug:OPT-V

**mú**      **lìb-í**                      [you (sg.)] straighten (something)!  
 2SG:OPT    straighten:OPT-V

After transitive verb stems ending in other oral consonants and **n**, the vowel **i** is appended.

**mú**      **ròv-í**                      [you (sg.)] scald (something)!  
 2SG:OPT    scald:OPT-V

**mú**      **wàr-í**                      [you (sg.)] leave (something)!  
 2SG:OPT    leave:OPT-V

**mú**      **kàn-í**                      [you (sg.)] pass (something)!  
 2SG:OPT    pass:OPT-V

**mú**      **lòl-í**                      [you (sg.)] crunch (something)!  
 2SG:OPT    crunch:OPT-V

<b>mú</b> 2SG:OPT	<b>sàb-í</b> vomit:OPT-V	[you (sg.)] vomit (something)!
<b>mú</b> 2SG:OPT	<b>zò'm-í</b> fix:OPT-V	[you (sg.)] fix (something)!
<b>mú</b> 2SG:OPT	<b>wàhw-í</b> bark:OPT-V	[you (sg.)] bark (something)!

As the examples above (in particular **kàn-í** and **zò'm-í**) show, nasality spreads from a final consonant to the appended vowel.

After transitive verb stems ending in a vowel or the nasal consonants **m** and **ŋ**, no vowel is appended.

<b>mú</b> 2SG:OPT	<b>yáá</b> finish:OPT	[you (sg.)] finish (something)!
<b>mú</b> 2SG:OPT	<b>kúm</b> protect:OPT	[you (sg.)] protect (something)!
<b>mú</b> 2SG:OPT	<b>kyáŋ</b> wait:OPT	[you (sg.)] wait (for something)!

#### 7.4.2.2 Subjunctive constructions with **kà**

Optative verb forms are also found in subjunctive constructions with the adverbializer **kà** ‘when, and then’ (10.2.2.2). Semantically, a purpose clause (‘so that, in order to’) results from the combination of **kà** and the Optative verb form. The structure of the Optative in this context is the same as that found in main clauses (7.4.2.1).

Examples of Optative verb forms used with **kà** are as follows:

Ø      **kǔ'-zì-rú**              **wàà kà**              **má yáá**      **hùù**      **?éré**  
3:PFV   put:PFV-PL-3SG.OBJ   chief and.then   3:OPT   be:OPT   chief:LF   3PL.C/I.POSS  
*they made him chief so that he would be their chief*

**mùú**      **tǐ**              **nàbàbbá kà**              **mú**      **làà**      **kwáà**      **nà**  
2SG:IRR   become:FUT   locust.sp   and.then   2SG:OPT   eat: OPT   grass   QM  
*will you become a locust so that you can eat grass?*

#### 7.4.2.3 Subjunctive constructions with **pá** ‘make, do’

Finally, Optative verb forms are found in subjunctive constructions which pattern as the object of **pá** ‘make, do’ (7.6.3). In this case, a periphrastic causitive construction results:

<b>mì</b>	<b>pàg-rú</b>	<b>má</b>	<b>tè'</b>	I make him/her/it walk /
1SG	make:VN-3SG.OBJ	3:OPT	walk:OPT	I am making him/her/it walk

<b>mì</b>	<b>pá-rù</b>	<b>má</b>	<b>làà</b>	<b>?ígà</b>	I made him/her/it eat something
1SG	make:PFV-3SG.OBJ	3:OPT	eat:OPT	thing	

## 7.5 Verbal negation

Five of the six basic inflectional categories (7.4) have corresponding negative forms (7.5.1). The segmental and tonal form of a verb word remains constant when it is negated. Verbal negation is instead marked by negative particles (7.5.2), and with Indicative verb forms, by negative subject pronouns (7.5.3). A summary of negative verbal forms is provided in 7.5.4.

### 7.5.1 Inventory of negative forms

The following basic inflectional categories have corresponding negative forms:

- basic Perfective
- Pluperfect
- Imperfective
- Future
- Optative

An example of each of the negative forms is found in 7.5.3 below.

There are no negative forms corresponding to the Perfect tense. In the context of discourse, when a Perfect verb is negated, a negative Perfective form is used (this is similar to the neutralization of negative “past” and “anterior” forms by many speakers of Swahili; see Dimmendaal 2000:172–3).

<b>mì</b>	<b>làà-rì</b>	<b>?ígà</b>		I have eaten something
1SG	eat:PERF-PERF	thing		
<b>mìí</b>	<b>làà</b>	<b>?ígà</b>	<b>yá</b>	I did not eat something /
1SG:PFV.NEG	eat:PFV	thing	NEG	I have not eaten something

### 7.5.2 Negation particles

There are two negation particles used with verbs: **yá** and **gá**.

The particle **yá** is used with Indicative (7.4.1) verb forms. It is also found in other negative constructions. Its use with verbs is illustrated by the following examples:

<b>mìí</b>	<b>làà</b>	<b>?ígà</b>	<b>yá</b>	I did not eat something
1SG:PFV.NEG	eat:PFV	thing	NEG	

**m̩̀**                      **làà**                      **ʔígà**                      **yá**    I am not eating something  
 1SG:NONPFV.NEG    eat:VN                      thing                      NEG

In terms of nasality, **yá** is a clitic, since it takes the nasal value of the last syllable of the preceding morpheme (3.4.3.6).

**m̩̀**                      **sùù**                      **yá**                      I did not lie down  
 1SG:PFV.NEG    lie.down:PFV                      NEG

**m̩̀**                      **làà**                      **nàmá**                      **yá**    I am not eating meat  
 1SG:NONPFV.NEG    eat:VN                      meat                      NEG

The particle **gá** is used exclusively to negate Optative (7.4.2) verb forms. This is shown in the following examples.

**m̩̀**                      **hèè**                      **gá**                      don't [you (sg.)] climb! /  
 2SG:OPT    climb:OPT                      NEG:OPT                      you (sg.) mustn't climb!

**m̩̀**                      **hèè-zí**                      **gá**                      don't let them climb! /  
 3:OPT    climb:OPT-PL                      NEG:OPT                      they mustn't climb!

### 7.5.3 Negative subject pronouns

In addition to being marked by negative particles (7.5.2), verbal negation is marked on Indicative subject pronouns (6.1.2). Negative Indicative pronouns exhibit the CVV shape which distinguishes Irrealis verb forms, but their tonal value varies: negative Perfective verb forms are LH, and negative non-Perfective (negated Imperfective and Future) forms are HL.

Examples of negative Perfective forms are as follows:

**m̩̀**                      **hèè**                      **yá**                      I did not climb  
 1SG:PFV.NEG    climb:PFV                      NEG

**m̩̀**                      **yáá-ní**                      **yá**                      I had not moved away  
 1SG:PFV.NEG    move.away:PLUPERF-1SG.REFL                      NEG

cf. affirmative counterparts of the examples:

**m̩̀**                      **hèè**                      I climbed  
 1SG                      climb:PFV

**m̩̀**                      **yáá-ní**                      I had moved away  
 1SG                      move.away:PLUPERF-1SG.REFL

A third person negative Perfective pronoun **hǐǐ** may be used, apparently without a change in meaning, in place of the equivalent third person negative Perfective pronoun **ʔàá** (6.1.2.5).

<b>hǐǐ</b>	<b>hèè</b>	<b>yá</b>	he/she/it did not climb
3:PFV.NEG	climb:PFV	NEG	
= <b>ʔàá</b>	<b>hèè</b>	<b>yá</b>	he/she/it did not climb
3:PFV.NEG	climb:PFV	NEG	
<b>hǐǐ</b>	<b>hèè-zí</b>	<b>yá</b>	they did not climb
3:PFV.NEG	climb:PFV-PL	NEG	
= <b>ʔàá</b>	<b>hèè-zí</b>	<b>yá</b>	they did not climb
3:PFV.NEG	climb:PFV-PL	NEG	

Examples of negative non-Perfective (Imperfective and Future) forms are as follows:

<b>mǐ</b>	<b>héérà</b>	<b>yá</b>	I do not climb / I am not climbing
1SG:NONPFV.NEG	climb:VN	NEG	
<b>mǐ</b>	<b>hèè</b>	<b>yá</b>	I will not climb / I <i>will</i> not climb!
1SG:NONPFV.NEG	climb:FUT	NEG	

cf. affirmative counterparts of the examples:

<b>mì</b>	<b>héérà</b>	I climb / I am climbing
1SG	climb:VN	
<b>mǐǐ</b>	<b>hèè</b>	I will climb / I <i>will</i> climb!
1SG:IRR	climb:FUT	

A third person negative non-Perfective pronoun **hǐ** may be used, apparently without a change in meaning, in place of the equivalent third person negative non-Perfective pronoun **ʔáà** (6.1.2.6).

<b>hǐ</b>	<b>héérà</b>	<b>yá</b>	he/she/it is not climbing
3:NONPFV.NEG	climb:VN	NEG	
= <b>ʔáà</b>	<b>héérà</b>	<b>yá</b>	he/she/it is not climbing
3:NONPFV.NEG	climb:VN	NEG	
<b>hǐ</b>	<b>héé-zí-rà</b>	<b>yá</b>	they are not climbing
3NONPFV.NEG	climb:VN-PL-VN	NEG	

= **ʔáà**                    **hée-zí-rà**                    **yá**                                    they are not climbing  
 3:NONPFV.NEG    climb:VN-PL-VN    NEG

Negation is not marked on pronouns in Subjunctive verb forms.

**mú**                    **hèè**                    **gá**                                    don't [you (sg.)] climb! /  
 2SG:OPT    climb:OPT    NEG:OPT                                    you (sg.) mustn't climb!

cf. its affirmative counterpart:

**mú**                    **hèè**                                    [you (sg.)] climb! /  
 2SG:OPT    climb:OPT                                    you (sg.) must climb!

### 7.5.4 Summary of negative verbal forms

Negative verb forms are marked with negation particles (7.5.2) and negative subject pronouns (7.5.3). These forms are summarized in the following table:

Negative verbal forms in Mambay

negative verb form	subject pronoun	verb shape and tone melody	negative particle
Perfective (basic)	PFV.NEG pronoun (C <sup>̀</sup> V <sup>́</sup> V <sup>́</sup> )	stem + PFV	<b>yá</b>
Pluperfect	PFV.NEG pronoun (C <sup>̀</sup> V <sup>́</sup> V <sup>́</sup> )	stem + PLUPERF	<b>yá</b>
Imperfective (basic)	NONPFV.NEG pronoun (C <sup>́</sup> V <sup>̀</sup> V <sup>̀</sup> )	verbal noun	<b>yá</b>
Future	NONPFV.NEG pronoun (C <sup>́</sup> V <sup>̀</sup> V <sup>̀</sup> )	stem + FUT	<b>yá</b>
Optative	OPT pronoun (C <sup>́</sup> V <sup>́</sup> )	stem + OPT	<b>gá</b>

## 7.6 Expansions of verbal inflection

Expanded verb forms allow for functional enrichment of the categories in the basic inflectional system. While some are formed by means of TAM indicators (7.6.1), others are formed using possessive constructions (7.6.2) and complex inflectional constructions, including serial and auxiliary verb constructions (7.6.3).

### 7.6.1 TAM indicators

In addition to TAM (Tense/Aspect/Mode) marking in the basic verbal system (7.4), TAM is marked by means of TAM particles (7.6.1.1) and adverbs (7.6.1.2). Particles form a closed set and, since they bear a single mora, do not meet the minimal weight requirements for adverbs (8.1, 8.3). TAM adverbs, on the other hand, are part of the open class of adverbs (8.1).

TAM indicators are prototypically found with verbs. The syntactic distribution of each group is distinctive (and as concerns adverbs, complex), and is discussed in the individual subsections. The examples in the following subsections show that while TAM indicators expressing aspect are found with a wide range of verb forms, those which express distinctions of mood are often limited to Optative forms.

TAM indicators found with Indicative verbal forms are also attested with verbless clauses (10.1.3). Representative examples of this are as follows:

- example particle with a verbless clause:

**yó** ‘indeed, (affirmative particle)’ (10.1.2.2)

<b>Kwéé</b>	<b>yó</b>	it is Kwé
(personal name)	(affirmative particle)	

cf. an example of its verbal use:

<b>mì</b>	<b>té’là</b>	<b>yó</b>	I am indeed climbing
1SG	walk:VN	indeed	

- example adverb with a verbless clause

**?àhná** ‘maybe’

<b>?àhná</b>	<b>mì</b>	<b>má</b>	<b>sámà</b>	maybe I am pregnant /
maybe	1SG	with	pregnancy	I may be pregnant

cf. an example of its verbal use:

<b>?àhná</b>	<b>mì</b>	<b>té’là</b>	maybe I am walking /
maybe	1SG	walk:VN	I may be walking

Some TAM indicators may be found in combination with other ones; this enriches the matrix of TAM possibilities greatly. Such combinations are illustrated by the following examples:

**?àhná** ‘maybe’ + **nà** ‘(question particle)’

<b>?àhná</b>	<b>mì</b>	<b>té’là</b>	<b>nà</b>	perhaps I am walking...?
maybe	1SG	walk:VN	QM	

**ďâh** ‘go ahead...’ + **yâh** ‘for now, go ahead’

**mų**    **ďâh**    **té’**    **yâh**    go ahead and walk for now!  
2SG:OPT go.ahead    walk:OPT for.now

**gíí** ‘so...(plaintive), but then’ + **rè** ‘come on, (topicalizer)’

**gíí**    **mų**    **té’**    **rè**    so come on and walk!  
so    2SG:OPT    walk:OPT    come.on

**tà’** ‘so...(plaintive), but then’ + **yá** (Indicative negative particle)

**mĭĭ**    **té’**    **tà’**    **yá**    I will not walk again /  
2SG:IRR    walk:FUT    again    NEG    I will never walk

### 7.6.1.1 TAM particles

TAM particles are divided into two groups, one of which functions with Indicative clauses (cf. 7.4.1), and the other of which functions with Optative (7.4.2) verb forms. All of these particles are consistently found in post-verbal position; the patterning of these particles in clauses is described in 10.1.2.

#### 7.6.1.1.1 Indicative particles

TAM particles found with clauses containing Indicative verb forms have been described in greater detail in 10.1.2. These are as follows:

**nà** ‘(question particle)’

**mų**    **té’là**    **nà**    are you walking?  
2SG    walk:VN QM

**rè** ‘(topicalization/floor-holding particle)’ (also found with Optative clauses; see 7.6.1.1.2)

**mĭ**    **té’là**    **rè**    I am walking, you know...  
1SG    walk:VN TOPIC

**yá** ‘(Indicative negative particle)’ (cf. 7.5.2)

**mĭĭ**    **té’là**    **yá**    I am not walking  
1SG:NONPFV.NEG    walk:VN NEG

**yó** ‘indeed, (presentational particle)’

**mĭ**    **té’là**    **yó**    I am indeed walking  
1SG    walk:VN indeed

The question particle **nà** may be combined with either **yá** ‘(Indicative negative particle)’ or **yó** ‘indeed, (presentational particle)’:

<b>mùù</b>	<b>té’là</b>	<b>yá</b>	<b>nà</b>	aren’t you walking?
2SG:NONPFV.NEG	walk:VN	NEG	QM	

<b>mù</b>	<b>té’là</b>	<b>yó</b>	<b>nà</b>	are you indeed walking?
2SG	walk:VN	indeed	QM	

### 7.6.1.1.2 Optative particles

TAM particles found exclusively with clauses containing Optative verb forms are as follows:

**bè** ‘first’

<b>mù</b>	<b>lá’</b>	<b>bè</b>	listen first! / just listen!
2SG:OPT	listen:OPT	first	

**gá** ‘(Optative negative particle)’ (7.5.2)

<b>mù</b>	<b>té’</b>	<b>gá</b>	don’t walk! / you mustn’t walk!
1SG:OPT	walk:OPT	NEG:OPT	

**kò** ‘come on, first’ (**kò** is also used as a clause-initial conjunction ‘if, when’; see 10.2.2.2)

<b>mù</b>	<b>lá’</b>	<b>kò</b>	come on, listen first! / come on, listen up!
2SG:OPT	listen:OPT	come.on	

**lè** ‘please’ (Fulf. borr.)

<b>mù</b>	<b>té’</b>	<b>lè</b>	please eat!
2SG:OPT	walk:OPT	please	

One TAM particle found with clauses containing Indicative verb forms (7.6.1.1.1) may also be used with clauses containing Optative verb forms.

**rè** ‘come on’ (10.1.2.4)

<b>mù</b>	<b>té’</b>	<b>rè</b>	come on, eat!
2SG:OPT	walk:OPT	come.on	

Optative TAM particles are never found in combination with one another.

### 7.6.1.2 TAM adverbs

TAM adverbs constitute an open set, and there is no clear boundary between TAM adverbs and other adverbs (8.1). In addition to a majority of morphologically simple adverbs, composed and reduplicated adverbs are attested (e.g. **bóm gbúù** ‘once more’ and **dáhbì dáhbì** ‘repeatedly’).

The syntactic distribution of TAM adverbs is heterogeneous: they are found before subject pronouns, after verb words, in both of these positions and, in one case (**dfáh** ‘go ahead...’), between the subject pronoun and verb word. However, consistent TAM functions are associated with each position.

#### *Before subject pronoun*

TAM adverbs found before the subject pronoun express modal information; attested items are as follows:

**?àhná** ‘maybe’

<b>?àhná</b>	<b>mì</b>	<b>té’là</b>	maybe I am walking /
maybe	1SG	walk:VN	I may be walking

**bàhrá** ‘better’

<b>bàhrá</b>	<b>mì</b>	<b>té’là</b>	it is better that I walk
better	1SG	walk:VN	

**gíí** ‘so...(plaintive), but then’ (cf. **gù** ‘answer, accept, admit’)

<b>gíí</b>	<b>mú</b>	<b>té’</b>	so (plaintive) walk! /
so	2SG:OPT	walk:OPT	so (plaintive) you must walk!

**kyáh** ‘need, it is necessary’

<b>kyáh</b>	<b>mú</b>	<b>té’...</b>	you need to walk!... /
need	2SG:OPT	walk:OPT	it is necessary that you walk...

**lá’** ‘it seems; may’ (cf. **là’** ‘hear, feel, understand’)

<b>lá’</b>	<b>mì</b>	<b>té’là</b>	it seems that I am walking /
it.seems	1SG	walk:VN	I seem to be walking

<b>lá’</b>	<b>mú</b>	<b>té’</b>	may you walk!
may	1SG:OPT	walk:OPT	

**làrà / làà** ‘if only, almost, about to’

<b>làrà</b>	<b>mì</b>	<b>tè’</b>	if only I had walked / I almost walked / I was about to walk
if.only	1SG	walk:PFV	
= <b>làà</b>	<b>mì</b>	<b>tè’</b>	if only I had walked / I almost walked / I was about to walk
if.only	1SG	walk:PFV	

**sé’** ‘must; except, only, until’

<b>sé’</b>	<b>mú</b>	<b>té’</b>	you must walk!
must	2SG:OPT	walk:OPT	

*Between subject pronoun and verb word*

A single TAM adverb has been attested between the subject pronoun and the verb word:

**đâh** ‘go ahead...’

<b>mú</b>	<b>đâh</b>	<b>té’</b>	go ahead and walk!
2SG:OPT	go.ahead	walk:OPT	

*After verb word*

TAM adverbs may be found after verb words.

<b>mǐ</b>	<b>té’</b>	<b>bé’n</b>	first, I will walk
1SG:IRR	walk:FUT	first	

If the verb takes an object, the object precedes the TAM adverb (10.1.1).

<b>mǐ</b>	<b>làà</b>	<b>?ígà</b>	<b>bé’n</b>	first, I will eat something
1SG:IRR	eat:FUT	thing	first	

TAM adverbs found after verb words are of two types: aspectual adverbs found with a range of semantically compatible verb forms and, in two cases, mood adverbs found with Optative verb forms.<sup>9</sup> Attested items are as follows:

**bà’** ‘right after’

<b>mǐ</b>	<b>té’</b>	<b>bà’</b>	I will walk right after
1SG:IRR	walk:FUT	right.after	

<sup>9</sup> If you’ve been reading closely enough to find this note, I would like to take you out for a drink.

**bé'n** 'first'

**mǐ́ té' bé'n** first, I will walk  
1SG:IRR walk:FUT first

**bóm gbúù** 'once more' (cf. **bóm** 'one'; see **gbúù** 'again' below)

**mǐ́ té' bómb gbúù** I will walk once more  
1SG:IRR walk:FUT once.more

**ǎà'** '(past marker)'

**mì tè' ǎà'** I walked (PAST)  
1SG walk:PFV PAST

**dáhbì dáhbì** 'repeatedly'

**mì tè' dáhbì dáhbì** I walked repeatedly  
1SG walk:PFV repeatedly

**fàà ?éré fàà ?éré** 'repeatedly' (cf. **fàà** 'back, skin, behind (linked form),' **?éré** 'their (coref./impers.)')

**mì tè' fàà ?éré fàà ?éré** I walked repeatedly  
1SG walk:PFV repeatedly

**gbáŋ** 'please / I beg'

**mú té' gbáŋ** walk, please! / walk, I beg you!  
2SG:OPT walk:OPT please

**gbúù / dòó-gbúù** 'again'

**mì té'là gbúù** I am walking again  
1SG walk:VN again

= **mì té'là dòó-gbúù** I am walking again  
1SG walk:VN again

**hùngù yá** 'no longer' (cf. **yà** '(Indicative negative particle)')

**mǐ́ té' hùngù yá** I will not walk any longer  
1SG:NONPFV.NEG walk:FUT no.longer

**hùngù yô'** 'never again'

**m̩̀**                      **té'**                      **hùngù yô'**                      I will never walk again  
1SG: NONPFV.NEG    walk:FUT    never.again

**kpàṅ yá'** 'never' (cf. **kpàṅ** 'different' **yá'** '(Indicative negative particle)')

**m̩̀**                      **té'là**                      **kpàṅ yá'**                      I never walk  
1SG: NONPFV.NEG    walk:VN    never

**lǎṅ** 'while waiting, also'

**m̩̀**                      **té'**                      **lǎṅ**                                      while you're waiting, walk! /  
2SG:OPT    walk:OPT    while.waiting                      you also walk!

**lì'** 'definitively, directly, forever'

**m̩̀**                      **té'**                      **lì'**                                      I will walk directly /  
1SG:FUT    walk:FUT    definitively                      I will walk forever

**sò' yá'** 'not yet' (cf. **yà** '(Indicative negative particle)')

**m̩̀**                      **té'là**                      **sò' yá'**                      I am not walking yet  
1SG:NONPFV.NEG    walk:VN    not.yet

**tà'** 'also'

**m̩̀**                      **té'**                      **tá'**                                      I will also walk  
1SG:IRR    walk:FUT    also

**tém yá'** 'never' (cf. **tém** 'differently,' **yá'** '(Indicative negative particle)')

**m̩̀**                      **té'là**                      **tém yá'**                      I never walk  
1SG: NONPFV.NEG    walk:VN    never

**tígì** 'please, forgive me but'

**m̩̀**                      **té'**                      **tígì**                                      walk, please! / forgive me, but walk!  
2SG:OPT    walk:OPT    please

**tí' tí'** 'always'

**m̩̀**                      **té'là**                      **tí' tí'**                                      I always walk / I am always walking  
1SG    walk:VN    always

**títím títím** ‘repeatedly’

**mì tè’ títím títím** I walked repeatedly  
1SG walk:PFV repeatedly

**vòró** ‘keep on; to there’ (cf. 8.1.1.1)

**mù té’ vòró** keep on walking! / walk there!  
2SG:OPT walk:OPT keep.on

*Two attested positions*

A handful of TAM adverbs may be found in either pre-pronoun or post verb-word position. There are semantic differences corresponding to the position of these adverbs; the differences reflect the typical function of TAM adverbs in each of the positions (pre-pronoun or post verb-word). Attested items are as follows:

**bî’** ‘a little, almost’

**mì té’là bî’** I am walking a little  
1SG walk:VN a.little

**bî’ mí té’** I am almost walking  
almost 1SG:OPT walk:OPT

**wîr-gíí** ‘already, still; so...(plaintive)’ (cf. above: **gíí** ‘so...(plaintive), but then’)

**mì té’là wîr-gíí** I am already walking /  
1SG walk:VN still I am still walking

**wîr-gíí mú té’** so (plaintive) walk! /  
so 2SG:OPT walk:OPT so (plaintive) you must walk!

**yâh** ‘for now, go ahead’ (cf. **yâh** ‘call, invite’)

**mù té’ yâh** walk for now! / go ahead and walk!  
2SG:OPT walk:OPT for.now

**yâh mì té’là** for now, I am walking  
for.now 1SG walk:VN

## 7.6.2 Possessive constructions

An expansion of the Imperfective (7.4.1.1.2), the Imperfective Progressive 1, is formed by placing a verbal noun in the possessor position of a possessive construction (cf. 5.3).

### *Imperfective Progressive 1*

Structure: Realis pronoun + possessive construction with **káà** (linked form of **káálà** ‘head/on’; see 5.2.2) plus possessor verbal noun

<b>mì</b>	<b>káà</b>	<b>té’là</b>	I am in the process of walking
1SG	head/on:LF	walk:VN	

Note that, formally speaking, this is a verbless clause (cf. 10.1.3).

## **7.6.3 Complex inflectional constructions**

There are two kinds of complex inflectional constructions: serial verb constructions (7.6.3.1) and verbal constructions formed by means of auxiliaries (7.6.3.2).

### **7.6.3.1 Serial verb constructions**

Two types of serial verb constructions are commonly attested in Mambay: these have been labelled Realis Future 2 and Imperfective Progressive 2.

#### *Realis Future 2*

In Realis Future 2 constructions, two finite verbs are found together, and there is no independent person marking on the second finite verb (as per the typical serial verb constructions described in Payne 1997:308).

Structure: various forms of **vè** ‘go’ + Perfective verb word

<b>mì</b>	<b>vè</b>	<b>tè’</b>	I was going to walk
1SG	go:PFV	walk:PFV	
<b>nà</b>	<b>vè-zí</b>	<b>tè’</b>	we (incl.) were going to walk
1&2	go:PFV-PL	walk:PFV	

#### *Imperfective Progressive 2*

Structure: optional Realis pronoun + **tògó** ‘be’ (7.3.3.3) + Imperfective

ex. ( <b>mì</b> )	<b>tòg</b>	<b>mì</b>	<b>té’là</b>	I am walking / I am in the
1SG	be	1SG	walk:VN	process of walking

The optional nature of the subject pronoun with **tògó** ‘be’ shows that two discrete types of constructions are used to express the Imperfective Progressive 2. When **tògó** is found with its own subject pronoun, the Imperfective Progressive 2 is a serial verb construction.

Evidence for its identity as a serial verb construction rather than an instance of juxtaposed clauses comes from two directions: first, the subject of both **tògó** ‘be’ (when it is used) and the subject of the following Imperfective verb form must be identical; and second,

**tògó** appears in the Imperfective Progressive 2 as **tǒg**, which is its phrase-internal realization (cf. its phrase-final realization; see 7.3.3.3; also cf. Payne 1997:308–9).

The optional nature of the subject pronoun with **tògó** ‘be’ suggests that **tògó** is in the process of being grammaticalized as a TAM adverb (7.6.1.2) with progressive meaning.

### 7.6.3.2 Constructions with auxiliaries

A variety of complex inflectional constructions employ auxiliaries, that is, verbs which are head of the verb phrase but which do not embody the main activity expressed by the clause (Payne 1997:84). In addition, the examples below show that auxiliaries express a meaning that is not fully compositional, that is, one which differs from the meaning found when the same verb *does* embody a clause’s main activity.

When an auxiliary is used in Mambay, the main activity or state is expressed as an object or adverbial complement of the auxiliary. Formally, there are two major types of constructions with auxiliaries: those followed by verbal nouns (7.6.3.2.1), and those followed by subordinate clauses (7.6.3.2.2).

#### 7.6.3.2.1 Auxiliaries followed by verbal nouns

Most auxiliaries are followed by verbal nouns, which express the central event or state of a clause. This given, there are three positions in which the verbal noun accompanying an auxiliary may be found:

1. on its own;

<b>m̀</b>	<b>ḍáá</b>	<b>té’là</b>	I was able to walk
1SG	find:PFV	walk:VN	

2. prefixed with **k̀i-** ‘place, time, situation’ (5.1.2.4.5);

<b>m̀</b>	<b>ʔèr</b>	<b>k̀i-té’là</b>	I was just walking
1SG	get.up:PFV	place:PFX-walk:VN	

3. as a complement of a preposition (cf. 9.3)

<b>m̀</b>	<b>t̀j̀</b>	<b>m̀</b>	<b>té’là</b>	I walk (habitually) /
1SG	become:PFV	with	walk:VN	I walked (habitually)

As is evident from the first and second examples here, the distribution of a verbal noun vs. a verbal noun prefixed with **k̀i-** does not appear to be semantically significant. However, in most cases a given auxiliary is syntactically limited to one of the two strategies; the reasons for the choice of one form over another are not clear. Both are found with intransitive as well as intransitive verbs, so based on transitivity requirements established elsewhere in the language (7.3.2.1), verbal nouns (with or without **k̀i-**) must be viewed variously as adverbial complements (with intransitive auxiliaries) or objects (with transitive auxiliaries).

The inflectional categories expressed by constructions have been organized according to form and labelled according to their function as follows:

- Habitual
- Potential
- Realis Future 3
- Recent Past
- Past-Imperfective 1
- Future-Imperfective 1
- Past-Imperfective 2
- Future-Imperfective 2

The structure and function of these forms is described below, and a chart summarizing the structure of all the forms is found at the end of this section.

*Habitual*

Structure: various forms of **t̩̩** ‘become’ + prepositional phrase composed of **má** ‘with’ and a verbal noun

ex. <b>m̩̩</b>	<b>t̩̩</b>	<b>má</b>	<b>té’là</b>	I walk (habitually) /
1SG	become:PFV	with	walk:VN	I walked (habitually)
<b>m̩̩̩̩</b>	<b>t̩̩</b>	<b>má</b>	<b>té’là</b>	I will walk (habitually)
1SG:IRR	become:FUT	with	walk:VN	

*Potential*

Structure: various forms of **ḍáá** ‘find, succeed, have’ + verbal noun

ex. <b>m̩̩</b>	<b>ḍáá</b>	<b>té’là</b>	I was able to walk
1SG	find:PFV	walk:VN	
<b>m̩̩̩̩</b>	<b>ḍáá</b>	<b>té’là</b>	I will be able to walk
1SG:IRR	find:FUT	walk:VN	

*Realis Future 3*

Structure: various forms of **vè** ‘go’ + verbal noun (without or with **kì-**)

ex. <b>m̩̩</b>	<b>vè</b>	<b>té’là</b>	I was going to walk
1SG	go:PFV	walk:VN	
= <b>m̩̩</b>	<b>vè</b>	<b>kì-té’là</b>	I was going to walk
1SG	go:PFV	place:PFX-walk:VN	

	<b>mǐ</b>	<b>ví-nǐ</b>	<b>té'là</b>	I will be going to walk
	1SG:IRR	go:FUT-1SG.REFL	walk:VN	
=	<b>mǐ</b>	<b>ví-nǐ</b>	<b>kì-té'là</b>	I will be going to walk
	1SG:IRR	go:FUT-1SG.REFL	place:PFX-walk:VN	

### *Recent Past*

Structure: various forms of **ʔèr** ‘get up’ or **hàà** ‘come back, go back’ + verbal noun with **kì-**

ex.	<b>mǐ</b>	<b>ʔèr</b>	<b>kì-té'là</b>	I was just walking
	1SG	get.up:PFV	place:PFX-walk:VN	
	<b>mǐ</b>	<b>ʔèr</b>	<b>kì-té'là</b>	I will have just been walking
	1SG:IRR	get.up:FUT	place:PFX-walk:VN	
	<b>mǐ</b>	<b>háá</b>	<b>kì-té'là</b>	I was just walking
	1SG	come.back:PFV	place:PFX-walk:VN	
	<b>mǐ</b>	<b>háá</b>	<b>kì-té'là</b>	I will have just been walking
	1SG:IRR	come.back:FUT	place:PFX-walk:VN	

### *Past-Imperfective 1*

Structure: Perfective of **yàà** ‘sit, stay, be’ + verbal noun with **kì-** (cf. 5.1.4.2.5)

ex.	<b>mǐ</b>	<b>yàà</b>	<b>kì-té'là</b>	I was walking / I have been walking / I just walked
	1SG	be:PFV	place:PFX-walk:VN	

### *Future-Imperfective 1*

Structure: Future of **yàà** ‘sit, stay, be’ + verbal noun with **kì-**

ex.	<b>mǐ</b>	<b>yáá</b>	<b>kì-té'là</b>	I will be walking
	1SG:IRR	be:FUT	place:PFX-walk:VN	

### *Past-Imperfective 2*

This construction and the parallel Future-Imperfective 2 (immediately below) are interesting in that the agent of the clause’s semantically central verb is demoted from subject position to that of the object of the auxiliary **ǎáá** ‘find, succeed, have.’

Structure: Perfective of **ǎáá** + object pronoun + verbal noun with **kì-** ‘find, succeed, have’

ex.	∅	<b>ǎáá</b>	<b>mǐ</b>	<b>kì-té'là</b>	I was walking (lit. it found me walking)
	3:PFV	find:PFV	1SG.OBJ	place:PFX-walk:VN	

*Future-Imperfective 2*

Structure: Future of **ḏáá** ‘find, + object pronoun + verbal noun with **kì-** succeed, have’

ex. **ʔàá**    **ḏáá**    **mí**    **kì-té'là**    I will be walking  
 3:IRR    be:FUT    1SG.OBJ    place:PFX-walk:VN    (lit. it will find me walking)

The following table organizes the structural characteristics of expanded verb forms constructed by means of auxiliary verbs with verbal nouns:

Structure of verb forms with auxiliary verbs followed by verbal nouns

complex verb form	auxiliary verb	clause agent as object of aux. v.	preposition	form of semantically principal verb
Habitual	<b>t̩̩</b> ‘become’	—	<b>má</b>	VN
Potential	<b>ḏáá</b> ‘find’	—	—	VN
Imminent 2	<b>vè</b> ‘go’	—	—	VN / <b>kì</b> -VN
Recent Past	<b>ʔèr</b> ‘get up’ / <b>hàà</b> ‘come back, go back’	—	—	<b>kì</b> -VN
Past-Imperfective 1	<b>yàà</b> ‘sit, stay, be’ (PFV)	—	—	<b>kì</b> -VN
Future-Imperfective 1	<b>yàà</b> ‘sit, stay, be’ (FUT)	—	—	<b>kì</b> -VN
Past-Imperfective 2	<b>ḏáá</b> ‘find’ (PFV)	✓	—	<b>kì</b> -VN
Future-Imperfective 2	<b>ḏáá</b> ‘find’ (FUT)	✓	—	<b>kì</b> -VN

**7.6.3.2.2 Auxiliaries followed by subordinate clauses**

In addition to being followed by verbal nouns (7.6.3.2.1), auxiliaries may be followed by subordinate clauses. Past and Future 2 constructions are made possible by periphrastic

constructions in which the auxiliary verb **ḍáá** ‘find, succeed, have’ is followed by a subordinate clause (cf. 10.2.2.2).

*Past*

Structure: Perfective of **ḍáá** ‘find, succeed, have’ + subordinate clause

ex. Ø     **ḍáá**     **kà**     **mì**     **tè’**     I walked (lit. it found that  
 3:PFV   find:PFV   and.then   1SG   walk:PFV   I walked)

Ø     **ḍáá**     **kà**     **mì**     **té’là**     I was walking (lit. it found  
 3:PFV   find:PFV   and.then   1SG   PFX-walk:VN   that I walk)

*Future 2*

Structure: Future of **ḍáá** ‘find, succeed, have’ + subordinate clause

ex. **?àá**     **ḍáá**     **kà**     **mì**     **tè’**     I will have walked (lit. it will  
 3:IRR   find:FUT   and.then   1SG   walk:PFV   find that I walked)

**?àá**     **ḍáá**     **kà**     **mì**     **té’là**     I will be walking (lit. it will  
 3:IRR   find:FUT   and.then   1SG   place:PFX-walk:VN   find that I am walking)

**7.7 Composite verbal expressions**

Composite verbal expressions constitute an important part of the verb lexicon; well over a third of the verbs in the data (347 out of 948) are composite expressions. In contrast to verb expansions, which have to do with enrichment of the inflectional system (7.6), composite verbal expressions may be found as lexical items (Dimmendaal 2000:179). As with compound nouns (cf. 5.4), composite verbal expressions are primarily distinguished from spontaneously constructed verb phrases by recurrent usage rather than structure. As fixed collocations, they tend to express a single verbal concept; and this semantic value is often idiomatic.

The following structures have been attested for composite verbal expressions:

- verb stem + noun (7.7.1)
- verb stem + prepositional phrase (7.7.2)
- verb stem + directional adverb (7.7.3)
- verb stem + adjective (7.7.4)
- verb stem + ideophonic adverb (7.7.5)

For composite verbal expressions containing transitive verbs and whose additional element is not a noun, an object or dummy object (7.3.2.1.2) (neither of which are necessarily lexicalized as part of the composite verbal expression) must also be present.

**gbàh ?ígà gbìrìz**     surprise something  
 catch   thing   IDEO

### 7.7.1 Verb stem + noun

Composite verbal expressions most commonly exhibit a verb stem + noun structure, and the noun is usually an object.

<b>ḍáá</b>	<b>syòó</b>	sing	<b>hèè</b>	<b>kángà</b>	be initiated (males)
find	song		climb	male.circumcision	
<b>làà</b>	<b>ríjvà</b>	inherit	<b>vúm</b>	<b>fyáhà</b>	work the bellows
eat	inheritance		blow	bellows	

Some verb stems in the lexicon are limited to specific objects.

<b>mwì'</b>	<b>gwá'rà</b>	smile	<b>vìì</b>	<b>hìhnà</b>	be afraid
smile	laugh(n.)		fear(v.)	fear(n.)	
<b>súm</b>	<b>?àhrá</b>	punt	<b>yél</b>	<b>káálà</b>	trouble, amuse
punt	canoe		disturb	head	

The basic verb **pá** 'make, do' appears recurrently as part of composite verbal expressions. In such cases, objects are underived nouns which refer to activities.

<b>pá</b>	<b>kì-swá'</b>	thank	<b>pá</b>	<b>vérgà</b>	travel
make	PFX:place-thanks(n.)		make	travel(n.)	
<b>pá</b>	<b>kúúrà</b>	hunt	<b>pá</b>	<b>síjnà</b>	play
make	hunting		make	play(n.)	

A number of objects also appear recurrently as part of composite verbal expressions. These nouns, which are common objects of (primarily human) animate behaviour and physicality, are as follows: **dágà** 'mouth, edge' **káálà** 'head, reason' **nìnnú** 'bottom, meaning,' **rò'rá** 'word, issue,' **?ínù** 'body, self.' Example usage of each of these objects is as follows:

<b>sú'</b>	<b>dágà</b>	be corrupt	<b>nàh</b>	<b>káálà</b>	leave
pull	mouth		take.out	head	
<b>gbáh</b>	<b>dágà</b>	plan	<b>déé</b>	<b>káálà</b>	prevent
catch	mouth		chop	head	
<b>kùḍ'</b>	<b>dágà</b>	stutter, babble	<b>wàh</b>	<b>káálà</b>	get someone into
study	mouth		dip	head	difficulty
<b>lòòń</b>	<b>dágà</b>	annoy, bother	<b>yèl</b>	<b>káálà</b>	trouble, amuse
tire	mouth		disturb	head	

<b>ɓà'</b> cut	<b>ǹ̩ǹ̩nú</b> bottom	slander	<b>dèrgí</b> cut.off	<b>rò'rá</b> word	mumble
<b>ɓàl</b> split	<b>ǹ̩ǹ̩nú</b> bottom	explain	<b>gì</b> answer	<b>rò'rá</b> word	answer
<b>lùgún</b> cause.to.leave	<b>ǹ̩ǹ̩nú</b> bottom	reveal, betray	<b>rí'</b> enter	<b>rò'rá</b> word	imply
<b>nà'w</b> spank	<b>ǹ̩ǹ̩nú</b> bottom	spank	<b>sáá</b> tell	<b>rò'rá</b> word	tell
<b>gbáh</b> catch	<b>ʔínù</b> body	abstain	<b>ryáh</b> mourn	<b>ʔínù</b> body	complain
<b>làà</b> eat	<b>ʔínù</b> body	gossip	<b>sàrgí</b> lean(tr.)	<b>ʔínù</b> body	lean

Nouns which are part of composite verbal expressions may also act as locative, manner or purpose complements.

locative:

<b>súú</b> lie.down	<b>káà</b> head/on:LF	<b>tâ'wgí</b> rope:LF	<b>bóm</b> one	agree
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manner:

<b>wàr</b> leave	<b>ʔígà</b> thing	<b>syâg</b> oneself:LF	<b>ʔéé</b> 3SG.C/I.POSS	abandon
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purpose:

<b>yáh</b> take	<b>káà</b> head/on:LF	<b>sòg</b> work:VN	<b>sòglá</b> work(n.)	hire
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### 7.7.2 Verb stem + prepositional phrase

Composite verbal expressions are sometimes constituted of a verb stem and a prepositional phrase beginning with **má** 'with, and.' These constructions are structured in the same way as verbs with typical prepositional phrase complements (9.3).

<b>ʔáh</b> paddle	<b>ʔígà</b> thing	<b>má</b> with	<b>fûrgá</b> paddle(n.)	paddle
<b>dêh</b> bow.low	<b>má</b> with	<b>káà-nà-sí'nù</b> knee		kneel

**dúú**    **?ígà**    **má**    **'màhná**    kick  
hit    thing    with    foot

**híí**    **?ígà**    **má**    **dágà**    promise  
give    thing    with    mouth

### 7.7.3 Verb stem + directional adverb

Composite verbal expressions may also be constituted of a verb stem and a directional adverb.

**háá**    **kètí**    be high  
come.back upward

**háá**    **sùgú**    be low  
come.back downward

**kàn**    **?ígà**    **tùm**    overtake something  
pass    thing    forward

**kyàh**    **?ígà**    **hîn**    borrow something  
want    thing    to.here

### 7.7.4 Verb stem + adjective

Additionally, composite verbal expressions may be constituted of a verb stem followed by an adjective.

**hàn**    **?ígà**    **'wàgàgà**    roughen something  
render thing    rough

**pá**    **?ígà**    **zèyzèy**    cause something to be proud  
make    thing    proud

### 7.7.5 Verb stem + ideophonic adverb

Finally, composite verbal expressions may be constituted of a verb stem followed by an ideophonic adverb.

**háá**    **vbìgtìg**    return without having accomplished anything  
come.back    IDEO

**sòò**    **vbòlvbòl**    boil furiously  
become.hot    IDEO

**tè'**    **tégùtégu**    hobble about with one's head and neck jutting out in front  
walk    IDEO

**ʔùrní**      **ḃárán**      right, set straight  
stand      IDEO

In some cases, ideophonic adverbs are bound to a specific verb stem in the lexicon.

**dím**    **ʔígà**    **kpírá**      cover something by leaning over with arms or wings  
cover    thing    IDEO

**gbàh**    **ʔígà**    **gbìrìz**      surprise something  
catch    thing    IDEO

**tìg**      **váhb**      faint  
fall      IDEO

**tìg**      **'wáb**      fall freely and crash (something breakable like a gourd)  
fall      IDEO

## ADVERBS, ADJECTIVES AND IDEOPHONES

This chapter deals with adverbs and adjectives. Since ideophones comprise a majority of adverbs as well as adjectives, they are also treated here as a parallel topic with major implications for both of these word classes. The first major section (8.1) discusses adverbs, with a focus on two categories: directional adverbs and TAM (tense/aspect/mode) adverbs. The subsequent section addresses topics pertaining to ideophones in general (8.2). The description then focusses on ideophonic adverbs (8.3) as well as adjectives (8.4), the great majority of which are ideophonic. The final section treats derivational phenomena associated with ideophones from various word classes (8.5).

### 8.1 Adverbs

Three types of adverbs are found in Mambay: directional adverbs, TAM (tense/aspect/mode) adverbs, and ideophonic adverbs. The first two types, which constitute semantically unified sets, are discussed in the present section (8.1.1, 8.1.2). Remaining adverbs, which are consistently ideophonic in nature (8.3) and function as qualifiers as well as quantifiers (8.2), are presented after the topic of ideophones in general is introduced in 8.2.

Functions which are expressed by adverbs in some languages (such as locational and temporal functions) are commonly expressed in Mambay by nouns (5.13) and prepositional phrases (9.3) used adverbially. The following data show unambiguous noun morphology and/or syntax (alienable and inalienable possession or accompaniment by a specifier; see 5.3.3.3 and 9.2):

<b>sìrǎ́</b>	year, last year
<b>mǎgá</b>	today
<b>sì</b> <b>mǎgá</b>	this year
year:LF    today	
<b>fààlá</b>	back, skin
<b>fààlé</b>	behind/after him/her/it (coref.) / behind/after it
back/after:3SG.COREF/IMPERS.POSS.INAL	

**sí-nùú** two days ago  
**sí-nùù** **nùú** three days ago  
 PFX-two.days.ago:LF that

However, their locational and/or temporal function is evident not only from the glosses, but also from their adverbial usage in examples such as the following:

**sùrǎ zòl-lé**  
 year leave:PFV-3SG.REFL  
*he/she/it left (i.e., went away) last year*

**fàalé, dáá sòglá figíl**  
 back/after:3SG.C/I.POSS.INAL find:PFV work Figuil  
*after this, he/she/it found work in Figuil*

**sí-nùú mì lá' fámǵí ?éé**  
 PFX-two.days.ago:LF 1SG hear:PFV announcement 3SG.C/I.POSS.INAL  
*a couple of days ago I heard news of him/her/it*

**?àá háá sù mǵá**  
 3SG:IRR come.back:FUT year:LF today  
*he/she/it will come back this year*

The following examples show prepositional phrases used adverbially:

**háá-lê-n má hâr-nǎ**  
 come.back:PFV-3SG.REFL-to.here with hurry:VN-OBJ  
*he/she/it came back here hurriedly*

**tìg-lé bèè sùm-ní ?úúrú**  
 fall:PFV-3SG:REFL without know:VN-OBJ:LF 3SG.POSS  
*it fell unknowingly (lit. it fell without his/her knowledge)*

**mǵ-?ì-nǎǎ tǒǵ bǎdǵí-zí lààbá má líbà**  
 with-HEAD-this be peck.around:VN-PL eat:VN with evening  
*meanwhile, they were pecking food in the evening*

**má-kì-dô'**                      **yàà-zí**    **fíìlò**  
 with-place:PFX-that.ANAPH sit:PFV-PL house  
*at that time, they lived in the house*

### 8.1.1 Directional adverbs

There is a closed set of six directional adverbs in Mambay. These are distinct from locative nouns (5.13) as well as prepositions (9.3) in that they obligatorily co-occur with verbs. Other differences among these forms are catalogued in 9.3.3.

#### 8.1.1.1 Inventory

Directional adverbs, which are found in three semantically opposed pairs, are as follows:

<b>hîn</b> ~ <b>-ìn</b> ~ <b>-n̄</b>	to here
<b>vòró</b> ~ <b>vè</b>	to there
<b>kètí</b>	upward
<b>sùgú</b>	downward
<b>fàáàrì</b>	backward
<b>tùm</b>	forward

The directional adverb **hîn** ‘to here,’ may attach directly to the verb word as **-ìn** (with consonant-final stems) or **-n̄** (with vowel-final stems) when there is no intervening object (7.3.1.6).

<b>mù</b> <b>háá-r̄-în</b>	you had come back to here
2SG come.back:PLUPERF-2SG.REFL-to.here	
= <b>mù</b> <b>háá-r̄</b> <b>hîn</b>	you had come back to here
2SG come.back:PLUPERF-2SG.REFL to.here	
<b>?àà</b> <b>háá-n̄</b>	he/she/it will come back here
3SG:IRR come.back:FUT-to.here	
= <b>?àà</b> <b>háá</b> <b>hîn</b>	he/she/it will come back here
3SG:IRR come.back:FUT to.here	

There is no difference in meaning between **vòró** and **vè** ‘to there.’ **vòró** appears to have its origins in the perfect verb word **vòró** ‘you (pl.) have gone,’ and **vè** appears to be derived from the simple perfective form **vè** ‘went’ (see Appendix 2 for all conjugated forms of **vè** ‘go’). While both forms are used throughout the language area, the shorter form **vè** appears to be more common in rapid speech and in dialects north of the river.

The adverb **kètí** ‘upward’ is structurally identical to the noun **kètí** ‘sky, life,’ and the adverb **fàárì** ‘backward’ is structurally identical to the ordinal noun **fàárì** ‘last’ (9.1.3). Cognates in other word classes are lacking for the other directional adverbs..

### 8.1.1.2 Distribution

Directional adverbs are primarily found with intransitive verbs which mark a change in position, such as **vè** ‘go,’ **húm** ‘come,’ **háà** ‘come back, go back,’ **tè** ‘walk,’ **hèè** ‘climb, go up’ and **'mí** ‘go down.’

Host verbs must be semantically compatible with accompanying directional adverbs; combinations such **vè** ‘go’ + **hîn** ‘to here’ and **hèè** ‘climb, go up’ + **sùgú** ‘downward’ are not permitted.

A directional adverb directly follows the verb it modifies. In the case of the short forms of the directional adverb **hîn** ~ **-în** ~ **-n̄** ‘to here’ (see 8.1.1.1 immediately above) it is suffixed to the verb; also, when there is an object, it follows that object (see the end of this subsection). Attested usages of each of the directional adverbs with intransitive verbs are as follows:

<b>mú</b> 2SG.OPT	<b>tè'-n̄</b> walk:OPT-to.here		[you (sg.)] come here!
<b>mú</b> 2SG.OPT	<b>tè'</b> walk:OPT	<b>vòró</b> to.there	[you (sg.)] go there!
<b>mú</b> 2SG.OPT	<b>hèè</b> climb:OPT	<b>kètí</b> upward	[you (sg.)] climb up!
<b>mú</b> 2SG.OPT	<b>'mí'</b> go.down:OPT	<b>sùgú</b> downward	[you (sg.)] go down!
<b>mú</b> 2SG.OPT	<b>vù-m̄</b> go:OPT-2SG.REFL	<b>tùm</b> forward	[you (sg.)] go forward!
<b>mú</b> 2SG.OPT	<b>háá</b> come.back/go.back:OPT	<b>fàárì</b> backward	[you (sg.)] go back the same [you (sg.)] go backward!

Directional adverbs are also commonly used with the defective verbal copula **tògó** ‘be’ (7.3.3.3).

<b>dú</b> 3SG:INDEP	<b>tògó-n̄</b> be-to.here	he/she/it is on the way here
<b>dú</b> 3SG:INDEP	<b>tòg vòró</b> be to.there	he/she/it is on the way there



**mú**      **háá-n**                      **fàári** [you (sg.)] come back here!  
 2SG.OPT    come.back/go.back:OPT-to.here    backward

**mú**      **tè'**      **vòró**      **tùm**                      [you (sg.)] go on ahead!  
 2SG.OPT    walk:OPT    to.there    forward

### 8.1.2 TAM adverbs

A number of TAM (tense/aspect/mode) adverbs are found in Mambay. These constitute a small (less than forty items in the data) but apparently open morphological subclass. Most are monosyllabic, but a few disyllabic and morphologically complex items are also attested. Usually, those which express modal information are found before the subject-verb complex (7.6.1.2, 10.1.1).

**làrà**      **mì**      **tè'**                      if only I had walked / I almost walked /  
 if.only    1SG    walk:PFV                      I was about to walk

**sé'**      **mú**      **té'**                      you must walk!  
 must    2SG:OPT    walk:OPT

In contrast, TAM adverbs which express temporal or aspectual information are usually found after verbs (7.6.1.2, 10.1.1).

**mǐ**      **té'**      **bé'n**                      first, I will walk  
 1SG:IRR    walk:FUT    first

**mì**      **tè'**      **ǎá'**                      I walked (PAST)  
 1SG    walk:PFV    PAST

TAM adverbs are discussed in greater detail in 7.6.1.2.

## 8.2 Ideophones

In Mambay, it is appropriate to distinguish ideophones as a morphological reality. However, this grouping is “not on a par” with other word classes in the language, which are for the most part self-contained and which exhibit an essentially uniform syntactic distribution (cf. Newman 2000:249, contra Cole 1955:370). Instead, it is an open “super-class” (cf. Welmers 1973:462, Ameka 2001:26, Elders 2001:97) whose members are spread among four word classes: adverbs, adjectives, nouns, and verbs. While ideophones dominate the classes of adverbs and adjectives, they are only moderately attested among nouns and verbs.

The present study grapples with the morphological classification of ideophones in Mambay and provides a description of their structure. This focus, coupled with the richness of the topic in general, has precluded a satisfactory treatment of related topics such as the semantics of ideophones, the relationship of structural features to perceived

realities, and the role of ideophones in discourse. However, a couple of general comments are in order.

Ideophones, sometimes referred to as phonaesthemes (Dimmendaal 2000:183), distinguish themselves from other morphemes and words primarily in the way that they refer and mean. They transcend the arbitrary sound-symbol relationship characteristic of most lexical items and enrich discourse by dramatizing salient real-world phenomena as they are perceived by users of the language (Voeltz and Kilian-Hatz 2001:3): they are “descriptive of sound, colour, smell, manner, appearance, state, action or intensity...vivid vocal images or representations of visual, auditory and other sensory or mental experiences” (Cole 1955:370).

In Mambay, the distinctive structure of ideophones, which often deviates from canonical structural characteristics of the classes in which they are found (cf. Welmers 1973:462, Elders 2001:98–100), is generated by these perceptions. As the later sections of the chapter demonstrate, structural repetition is perhaps the most salient feature to result, and is an important component of morphological structure as well as derivational processes. Also, ideophones make significant use of intonation, more so than other words (4.4.1; cf. Newman 2000:242).

At the level of discourse, ideophones are a basic means of establishing the importance of an entity or an action. Anonby (2005:15) points out that in Mambay, the simple presence of an ideophone highlights an element within a discourse; conversely, only important elements are accompanied by ideophones (this is evident in all of the longer texts found at the end of this study). This tendency is especially evident in the climax of stories, where each verb is characteristically accompanied by an ideophone (p. 16). In addition to its presence, the way in which an ideophone is presented is an important means of marking emphasis. In particular, this presentation allows the speaker to regulate the degree of emphasis. For example, the pitch intervals signalling tonal register raising and lowering (4.4.1) are more drastic with ideophones than with other words. Further, repetition (e.g. 8.4.2.1.2, 8.5) and lengthening of segments (e.g. 7.1.2.2, 8.5.3), which are used as a means of echoing real-world phenomena (cf. Doke 1935:118–9, Watters 2000:196), starkly underscore the discourse elements to which the ideophones affected by these processes relate.

In the present section, methodological issues relating to the description of ideophones are addressed in further detail. The remainder of the chapter is then devoted to the structural description of ideophonic adverbs (8.3), adjectives (which appear to be inherently ideophonic; see 8.4) and a description of derivational issues pertinent to ideophones (8.5). Ideophonic nouns and verbs are treated elsewhere (5.11 and 7.1.2.2), but the principles presented in this section are applicable for these morphological subclasses.

#### *Methodological issues*

Rather than attempting an exhaustive analysis of ideophones in Mambay, the present chapter provides a basic descriptive framework for an intricate but indistinctly structured

area of the language. The study of ideophones in Mambay is problematic, and several methodological comments are in order.

First of all, ideophones are difficult to elicit (cf. Welmers 1973:461). Initially, the researcher encounters the perception among speakers of a language that since ideophones are poorly represented in the written languages with which they are familiar, they are irrelevant as linguistic data. Once this idea has been countered, a deeper issue remains: the relationship of ideophones to larger texts. A basic function of ideophones is to enrich texts, and ideophones are inseparable from these texts (Voeltz and Kilian-Hatz 2001:3). Whereas an inevitably small inventory of ideophones based on an French or English wordlist might suggest that they are peripheral to the language, an examination of natural speech, including texts such as those found at the end of this study, shows that they are integral to both the structure and the flavour of discourse (as mentioned in 8.2 above).

Secondly, unlike other morphological classes, usage of ideophones varies considerably from one person to another, and outside the context of discourse, speakers of the language are often unable to determine the meaning of ideophones used by people from other clans or villages (cf. Childs 2001:67–70). In the ideophonic lexicon, both the words used as well as the meanings of these words are variable among speakers. And even where people concur on the form and meaning of a given ideophone, they may differ regarding its admissibility in the various host word classes (adverb, adjective, noun and verb; see especially 8.5.6). Numerous speakers of Mambay have been involved in this study of ideophones; however, in order to cope with the complexity of the information, this chapter relies on data gathered from the researcher's primary language assistant.

Thirdly, it is difficult to draw a line between those words in a given class which are ideophonic and those which are not (Welmers 1973:460). Transparent sound symbolism and, secondarily, non-canonical structures provide a basis for deciding what is ideophonic. In the present analysis, such words are used as structural templates for the comparison of words whose ideophonic qualities are more difficult to establish.

The following example serves as a case in point. As stated above, ideophones dominate the word classes of adverb and adjective (cf. 8.2, introductory discussion). However, except in the case of directional adverbs (and to some degree, TAM adverbs), it is difficult to identify any adverbs or adjectives which are *not* ideophonic. Quantifiers (adverbial or adjectival) such as the following might be expected to distinguish themselves formally from ideophonic qualifiers:

<b>bî'</b>	a bit, slowly, almost
<b>byâ'ŋ</b>	halfway (measured horizontally)
<b>gáb</b>	halfway (measured vertically)
<b>lô'w</b>	very, much
<b>tédé</b>	completely, all, whole, together

However, in the language these quantifiers exhibit the non-canonical characteristics of ideophones outlined in the discussion above (e.g., non-canonical structure, repetition and repeatability, and highly variable intonation).

It is clear that ideophones present some fundamental challenges to morphological classification. In the following sections, ideophones whose identity is unambiguous (based on syntactic limitations) provide a structural framework for the consideration of a given class. However, morphological ambivalence is an important feature of ideophones in Mambay, and flexibility in class membership is revisited in (8.5.6) below.

### 8.3 Ideophonic adverbs

The first word class in which ideophones are well-represented is that of adverbs. In contrast to adjectives, which are almost completely represented by ideophones, ideophonic adverbs are one of several major categories of adverbs (8.1). Ideophonic adverbs distinguish themselves from other types of adverbs and other types of ideophones both in distribution (8.3.1) and morphological structure (8.3.2) (see also 8.4.1 for differences).

#### 8.3.1 Distribution of ideophonic adverbs

Ideophonic adverbs are found in post-verbal position (cf. TAM adverbs; see 7.6.1.2). Clause constituents such as objects, directional adverbs and locational complements may be interposed between a verb and the ideophonic adverb which modifies it (10.1.1).

The syntactic distribution of ideophonic adverbs is illustrated by the following text (found in its entirety at the end of this study), where these adverbs are found in their typical post-verbal position at the end of three of the five clauses which have been chained together in a story's climax.

**Bò'msí hàhngí káálé gbàrgàtàg**  
 Bo'msi forget:PFV head:3SG.C/I.POSS.INAL IDEO

*Bo'msi lost his head completely,*

**yáh nà-gbáhngú ríí fíít fíít**  
 take:PFV PFX-cultivated.hibiscus.sp clean.out:PFV IDEO IDEO

*took the rich hibiscus-leaf sauce, cleaned it all out with his fingers,*

**yáh nâ' gôm síg sùgú kpíh.**  
 take:PFV sauce:LF vine.sp place:PFV down IDEO

*then took the bitter vine-leaf sauce and put it down with a clunk.*

Syntactic differences between ideophonic adverbs and adjectives, which are structurally similar, are discussed in 8.4.1.

Probably all ideophonic adverbs are subject to semantic restrictions on the inventory of verbs with which they may be used. In fact, some may be only used with a single verb from the lexicon (7.7.5). This is the case for the following examples:

<b>gbǎh-nà</b> catch:VN-OBJ	<b>gbìrìz</b> IDEO	startling something
<b>tígrò</b> fall:VN	<b>váhb</b> IDEO	falling unconscious
<b>vbítì-ná</b> unroll(shutters):VN-OBJ	<b>vbìt</b> IDEO	unrolling shutters with a snap

### 8.3.2 Ideophonic adverb structure

In the following sections, the structure of ideophonic adverbs is described in terms of allowable CV shapes (8.3.2.1) and tone melodies (8.3.2.2); morphologically simple stems and morphologically complex stems are each discussed in turn.

#### 8.3.2.1 Allowable CV shapes

As with adjectives, many CV shapes are attested among ideophonic adverbs. These shapes may be divided into those which are morphologically simple (8.3.2.1.1) and those which are complex (8.3.2.1.2).

##### 8.3.2.1.1 Morphologically simple stems

A wide range of shapes are found among morphologically simple ideophonic adverbs. Like nouns, ideophonic adverbs are minimally comprised of a single heavy syllable (cf. 2.4.3). In the list below, attested shapes are given along with examples.

stem shape	example	
CVV	sèè	quietly, slowly
CVC	kpúz	late, far away
CCVC	byâ'ŋ	halfway (horizontally)
CVVC	fjít	(sound of wiping with fingers)
CV.CV	hári	quickly
CV.CVC	gbìrìz	frighteningly
CVV.CV	dájáru	craning one's neck and looking around
CVV.CVC	kàhràz	with heavy eyes
CVC.CV	kpángú	early
CVC.CVC	gbàntàŋ	spread out
CVC.CV.CVC	gbàrgàtàŋ	completely

##### 8.3.2.1.2 Morphologically complex stems

A few ideophonic adverbs are complex in that they do not occur without being reduplicated. Although they exhibit a typical adjectival structure, a handful of such cases

have been found among adverbs which cannot be used adjectivally. All five attested examples are given here along with their CV patterns:

stem shape	example	
CVV+CVV	sà'-sà'	in many clumps
CVC+CVC	pád-pád	rapidly
	sà'w-sà'w	a bit, slowly
	zàhw-zàhw	hastily
CV.CV+CV.CV	tégú-tègù	with head and chin sticking out

The final word here, **tégú-tègù**, is also treated as morphologically complex because only the first half of the word is copied when it undergoes a plural derivation (8.5.1).

Other morphologically complex ideophonic adverbs formed by productive derivations are discussed in detail in (8.5).

### 8.3.2.2 Allowable tone melodies

Ideophonic adverbs have been attested with five different tone melodies: H, L, HL, LH and HLH. In the lists below, each tone melody is given along with the CV shapes with which it is found in the data. First, morphologically simple stems are described (8.3.2.2.1); this is followed by a comment on tone associated with morphologically complex stems (8.3.2.2.2).

#### 8.3.2.2.1 Morphologically simple stems

H-toned morphologically simple stems include the following:

CVV	kpìh	with a clunk
CVC	'wáb	irreversibly
CV.CV	kpírá	covering with arms or wings
CVV.CV	dájú	craning one's neck and looking around
CVC.CV	kpángú	early

L-toned morphologically simple stems include the following:

CVV	sèè	quietly, slowly
CVC	vbit	with a snap
CV.CVC	gbìrìz	frighteningly
CVV.CVC	kàhràz	with heavy eyes
CVC.CVC	kàgzàg	with a flop
CVC.CV.CVC	gbàrgàtàg	completely

HL is found on the following morphologically simple stems:

CVV	<b>yáà</b>	quickly
CCVC	<b>byâ'ŋ</b>	halfway (horizontally)
CV.CV	<b>hári</b>	quickly

LH is found on a single morphologically simple stem:

CVV	<b>hǒh</b>	fast-leaking
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HLH is also found on a single apparently morphologically simple stem: **yáàgú** ‘quickly.’ Since this word has a shape similar to and means the same as **yáà** ‘quickly,’ it is conceivable that it has been composite at some point in the language’s history, or reflects some historical derivation similar to those represented by vestigial noun suffixes (5.1.3.2). However, the word’s composition is now opaque.

The phonetic realization of these tone melodies conforms to the general patterns described for stems of the same shape (see 4.1.2.5).

### 8.3.2.2 Morphologically complex stems

Three of the five tonal melodies found on simple ideophonic adverb stems are also attested with morphologically complex stems:

H tone:	CVC+CVC	<b>pád-pád</b>	rapidly
L tone:	CVV+CVV	<b>sà'-sà'</b>	in many clumps
	CVC+CVC	<b>zàhw-zàhw</b>	hastily
HL tone:	CV.CV+CV.CV	<b>tégú-tègù</b>	with head and chin sticking out

Tonal association and phonetic realizations of tone on these stems are the same as those of the better-attested morphologically complex adjective stems of the same shape (8.4.2.3.2).

## 8.4 Adjectives

Adjectives play an important role as noun modifiers in noun phrases and attributive predicates (5.14.2, 10.1.3.3). Adjectives are syntactically distinct from nouns (8.4.1, 10.1.3.2, 10.1.3.3) and ideophonic adverbs (8.3), and although there is overlap in attested morphological structures, the frequency of these structures is very different among the classes.

Of the four word classes in which ideophones are found in Mambay, that of adjectives is the most inherently ideophonic (cf. 8.2). In fact, it is difficult to establish the existence of adjectives which are not ideophonic. In many Niger-Congo languages, the category of adjective is restricted to a small, closed set of basic vocabulary items (Creissels 2000:249). In Mambay, however, the category labelled as adjective contains an open set of items, and non-ideophonic core vocabulary is the exception rather than the norm. The

following items could be considered “real” adjectives, since they express core concepts and since it is hard to establish an ideophonic contribution to their phonological structure:

<b>fyàh</b>	free, cheap
<b>gáà</b>	simple, only
<b>syáà</b>	female

Importantly, however, there is no discernable syntactic or morphological distinction between such adjectives and those whose ideophonic nature is transparent. It is true that all the adjectives in the above list are monosyllabic; however, this selection is as likely as not a result of the fact that the ideophonic nature of monosyllabic adjectives in Mambay is harder to identify because there is little or no place for repetition, a phenomenon which is otherwise common among ideophones.

Considering the overwhelmingly ideophonic nature of the class of adjectives as a whole, and considering the structural similarity among core and peripheral members of the adjective lexicon, all adjectives are addressed together in this section.

#### 8.4.1 Distribution of adjectives

Adjectives are used in two positions: first, in the dependent position of a noun phrase (5.14.2); and secondly, as an attributive predicate (10.1.3.3). In this section, both possibilities are compared with nouns found in an equivalent position. They are also compared with adverbs which, although they are structurally similar to adjectives, have a distinct syntactic distribution.

Adjectives are syntactically distinct from nouns, which are also used to express noun attributes. It is true that in noun phrases, it is not possible to distinguish nouns and adjectives syntactically (5.14.1, 5.14.2):

noun + adjective:	<b>bàh</b> rain:LF	<b>mǐz-mǐz</b> drizzly	drizzly rain
noun + noun:	<b>bàh</b> rain:LF	<b>pàh</b> wetness	wet rain

However, the difference between adjectives and nouns may be deduced from attributive predicate constructions: an adjective is juxtaposed with the noun it modifies (10.1.3.3), but an attributive noun is always connected to the noun it modifies with the copula **ká** (10.1.3.2):

adjective:	<b>?à</b> 3IMPERS	<b>mǐz-mǐz</b> drizzly	it is drizzly
noun:	<b>?à</b> 3IMPERS	<b>ká</b> ATTRIB	<b>pàh</b> it is wet wetness

The situation is comparable for adjectives and ideophonic adverbs (8.3). Although there are many structural similarities between these two classes, there are differences in syntactic distribution. As shown above and repeated in the following examples, adjectives are found in the dependent position of a noun phrase or in an attributive predicate.

dependent position: **bàh**      **mǐz-mǐz**      drizzly rain  
rain:LF      drizzly

attributive predicate: **ʔà**      **mǐz-mǐz**      it is drizzly  
3IMPERS      drizzly

Adverbs, on the other hand, modify a verb or an entire clause. They come after the verb and can only be followed by a particle (10.1.1).

**yâá-rì**      **hàrì**      **nà ?**  
finish:PERF-PERF      quickly      QM  
*has he/she/it finished quickly?*

Following a nominal object, adjectives as well as adverbs may be found. If the post-object item in question is an adjective which describes the object, the object displays linked noun morphology (5.2.2).

**tìgín**      **nâ'**      **lùrbùg**  
drop:PFV      sauce:LF      sticky  
*he/she/it dropped the sticky sauce*

However, if the item is an adverb, the object lacks this morphology since the adverb modifies the verb or clause rather than the object.

**tìgín**      **nâ'rà**      **kpǎh**  
drop:PFV      sauce      IDEO  
*he/she/it dropped the sauce with a clunk*

This morphology usually serves to identify the word class of the post-object word, even when the word in question is an ideophone showing flexibility between adjectival and adverbial class membership (8.5.6).

**sèm**      **nà-pùgzí**      **tédé**  
avoid:PFV      PFX-person:PL:LF      all  
*he/she/it avoided all of the people*

**sèm      nà-pùgzá      tédé**  
 avoid:PFV PFX-person:PL      completely  
*he/she/it avoided the people completely*

However, in cases where the object noun is of a structure whose linked form is identical to its free (unmarked) form (5.2.2), the distinctiveness of the flexible ideophone as adjective vs. adverb is neutralized.

**sèm      sáà      tédé**  
 avoid:PFV stone:LF      all  
*he/she/it avoided all of the stones / the whole stone*

**sèm      sáà      tédé**  
 avoid:PFV stone      completely  
*he/she/it avoided the stone(s) completely*

## 8.4.2 Adjective structure

In the following subsections, the structure of adjectives is outlined. First, the distinction between adjective stem and morphologically complex adjective stem is examined in reference to the structural repetition which is common among adjectives (8.4.2.1). Adjectival structure is then presented in terms of allowable CV shapes (8.4.2.2) and tonal melodies (8.4.2.3).

### 8.4.2.1 Structural repetition

Structural repetition is a pervasive feature of adjectives in Mambay, where it has been observed only in adjectives with more than one syllable. It is evident in repetition of segments (8.4.2.1.1) as well as partial and full reduplication (8.4.2.1.2). A review of these phenomena shows that while co-occurrence patterns and partial reduplication must be considered inherent to the adjectival root, full reduplication is the result of a morphological template associated with the root (8.4.2.1.2), even when no derivation may be identified. Consequently, in the discussion on adjective structure, monomorphemic adjective stems will be considered separately from morphologically complex adjective stems.

#### 8.4.2.1.1 Repetition of segments

Repeated segments are found in almost every adjective with more than one syllable. In the data, for example, vowels within an adjective are overwhelmingly identical.

<b>bóró</b>	deep, far away
<b>kpírǐ</b>	low
<b>làrbàg</b>	flat-nosed
<b>yérkétég</b>	round

Formally, the limitation of adjectives to a single vowel place quality is slightly less strict (since vowels in the adjective may still be unevenly subject to modifications such as length and pharyngealization). However, it is found with extreme regularity.

<b>fàhlàm</b>	flat
<b>gáhlàṅ</b>	faceted
<b>gbòòrò</b>	bald, bare
<b>póhṅógóṅ</b>	narrow

There are only a handful of exceptions to this tendency, as shown by the following items:

<b>gàmzù</b>	long-legged
<b>gbùhrì</b>	snotty
<b>kwì'gà</b>	bent-up
<b>kpé'fú</b>	shallow

In addition to a consistent vowel place quality, coda consonants within an adjective are usually identical. The overlapping of these two tendencies means that entire syllable rhymes are, more often than not, repeated. This could alternatively be viewed as variation of the onset with a constant rhyme.

<b>dòldòl</b>	very hot
<b>gírgír</b>	rigid
<b>làṅtàng</b>	flexible and bouncy
<b>vbìgtìg</b>	unsuccessful

#### 8.4.2.1.2 Reduplication of syllables

Additionally, the composition of three-syllable adjectives in particular reveals repetition of entire syllables; this brings to mind reduplication of a greater scope than simple repetition. In most examples of three-syllable adjectives, the final two syllables are identical.

<b>rùgùgù</b>	slow
<b>vbàhtátá</b>	strong and healthy
<b>wágágá</b>	healthy, cool

(but cf. **kpìmsìrì** ‘thick, fat’)

And for typical two-syllable adjectives—including those for which a derivation (8.5) is not identifiable—it appears that full reduplication has applied, resulting in adjective stems composed of a single repeated syllable.

<b>kpó'-kpó'</b>	dry
<b>lòr-lòr</b>	shiny with baldness
<b>pyúú-pyúú</b>	pointed, sharp

Several derivational processes (8.5) are available to provide evidence as to whether or not such words are morphologically complex stems derived from a monosyllabic root. One derivation in particular, that of ideophonic emphasis (8.5.2), is used here to explore this question. The intensified forms of the two-syllable CVC.CVC and CVV.CVV adjectives are as follows:

<b>kpí-kpó'</b>	very dry
<b>lì-lòr</b>	very shiny with baldness
<b>pí-pyúú</b>	very pointed, very sharp

In these forms, only one of the two syllables is used as a source for the derivation. However, when three-syllable adjectives undergo the same derivation, all segmental information is preserved:

	base form	emphatic form ('very ...')
slow	<b>rùgùgù</b>	<b>rû-rúgúgú</b>
strong, healthy	<b>vbàhtátá</b>	<b>vbû-vbáhtátá</b>
healthy, cool	<b>wágágá</b>	<b>wû-wágágá</b>

Further specifications are needed to accurately delineate these patterns. First, the two-syllable adjective **bàbà** 'shy,' which is of an uncommon CV.CV shape, is exceptional in that its emphatic form **bû-bábá** does not pattern with the typical two-syllable adjectives above, but with other adjectives, whose segmental information is copied in its entirety. Second, the single attested four-syllable adjective **kírì-kìrì** 'spherical' does not have a derived emphatic form; this makes the determination of its morphological composition problematic. However, since adjectives and ideophonic adverbs undergo some of the same derivational processes, it is possible to argue that the derivation of an ideophonic adverb of the same shape (see 8.5.4.2 in particular) provides evidence for a morphological complexity similar to that of typical two-syllable adjectives.

<b>tégú-tègù</b>	with head and chin sticking out
<b>tégú tègù tégú</b>	back and forth, with head and chin sticking out

In sum, the data presented here suggest that typical two-syllable adjective stems with identical reduplicated syllables (CVC.CVC and CVV.CVV) are morphologically complex. In contrast, other stems in which the last two syllables are identical appear to be morphologically simple stems whose repetition is a function of their ideophonic identity rather than a morphological process.

#### 8.4.2.2 Allowable CV shapes

Based on the principles outlined in section (8.4.2.1.2) above, allowable shapes for adjectives are divided into those that consist of morphologically simple stems (8.4.2.2.1), and those that occur as morphologically complex stems (8.4.2.2.2).

#### 8.4.2.2.1 Morphologically simple stems

The following shapes have been attested among adjectives found as morphologically simple stems:

stem shape	example	
CVV	<b>gáà</b>	simple, only
CVC	<b>yôm</b>	enough
CCVV	<b>syáà</b>	female
CCVC	<b>vyǎhɛ</b>	distant, isolated
CVVC	<b>fááw</b>	light (weight)
CV.CV	<b>vébé</b>	short
CV.CVC	<b>gùlùg</b>	hollow
CCV.CVC	<b>swáráɲ</b>	straight
CVV.CV	<b>gbòòrò</b>	bald, bare
CVC.CV	<b>kpùgrù</b>	medium-sized and thick (tuber)
CVV.CVC	<b>kpòhròm</b>	blunt
CVC.CVC	<b>lùrbùg</b>	shiny with baldness
CV.CV.CV	<b>dòròrò</b>	pitiable, appalling
CCV.CV.CV	<b>gyòròrò</b>	teary
CVC.CV.CV	<b>lèmtéré</b>	flat
CVC.CV.CVC	<b>yérkétéɲ</b>	round
CVC.CVC.CVC	<b>póhɛgòhɛgòhɛ</b>	narrow

#### 8.4.2.2.2 Morphologically complex stems

Adjectives consisting of morphologically complex stems are frequent, but only the following shapes have been attested: C(C)VV+C(C)VV, C(C)VC+C(C)VC and CV.CV+CV.CV.

stem shape	example	
C(C)VV+C(C)VV	<b>kpó'-kpó'</b> <b>pyúú-pyúú</b>	dry pointed, sharp
C(C)VC+C(C)VC	<b>bíl-bíl</b> <b>ryáɲ-ryáɲ</b>	filthy long, straight and thin
CV.CV+CV.CV	<b>gòrò-gòrò</b> <b>kírì-kírì</b>	loose spherical

Morphologically complex adjectives which share the same shapes, but which are derived from monosyllabic ideophonic adverbs, are discussed in (8.5.4.2.2, 8.5.5).

### 8.4.2.3 Allowable tone melodies

Adjectives are found with four different tone melodies: H, L, HL and LH. In the lists below, adjectives associated with each tone melody are given along with each attested stem shape. First, morphologically simple stems are described (8.4.2.3.1); this is followed by a discussion of tone associated with morphologically complex adjective stems (8.4.2.3.2).

#### 8.4.2.3.1 Morphologically simple stems

H-toned morphologically simple stems include the following:

CVV	<b>gbí'</b>	unconscious
CVC	<b>pít</b>	adulterous, promiscuous
CV.CV	<b>ḃóró</b>	deep, very far away
CV.CVC	<b>ḃéléṅ</b>	intelligent
CCV.CVC	<b>swáráṅ</b>	straight
CVC.CV	<b>vbérgé</b>	runt-like
CVV.CVC	<b>béhlég</b>	small
CVC.CVC	<b>ḃúndún</b>	dwarf, withered
CV.CV.CV	<b>gúrúru</b>	deep
CVC.CV.CVC	<b>yérkétéṅ</b>	round
CVC.CVC.CVC	<b>póhṅgóṅgóṅ</b>	narrow

L-toned morphologically simple stems include the following:

CVV	<b>bàà</b>	hard
CVC	<b>kpàṅ</b>	different
CCVV	<b>rwà'</b>	abundant, cheap
CV.CVC	<b>gùlùg</b>	hollow
CVV.CV	<b>gbòòrò</b>	bald, bare
CVC.CV	<b>kpùgrù</b>	medium-sized and thick (tuber)
CVV.CVC	<b>?ìhrìz</b>	right beside
CVC.CVC	<b>lùrbùg</b>	sticky
CV.CV.CV	<b>dòròrò</b>	pitiable, appalling
CVC.CV.CV	<b>lèmtèrè</b>	flat
CVC.CV.CVC	<b>kùṅkùrùṅ</b>	hunched

HL is found on the following morphologically simple stems:

CVV	<b>gáà</b>	simple, only
CVC	<b>gbîm</b>	short
CVVC	<b>fááw</b>	light (weight)
CVV.CVC	<b>gáhlàṅ</b>	facet-eyed

LH is found on the following morphologically simple stems:

CVV	<b>bǒ'</b>	ugly
CVC	<b>kpǎŋ</b>	salty
CCVC	<b>vyǎhŋ</b>	distant, isolated
CV.CV	<b>'màyá</b>	fast
CVV.CV.CV	<b>vbàhtátá</b>	strong and healthy

Tonal associations on these morphologically simple adjective stems are for the most part the same as those found with words from other classes having the same stem shape (see 4.1.2.5). However, on the single three-syllable LH stem in the data (**vbàhtátá** 'strong and healthy'), the tone does not map as L.L.H (as would other words of the same shape; see 4.1.2.2) but rather as L.H.H. This could be viewed as a violation of standard (i.e. noun-like) tonal mapping patterns, nonetheless available to ideophones; alternatively (and in contradiction to the evidence presented in 8.4.2.1.2 above) this tonal mapping could be regarded as the product of a tonal reduplication that accompanies a partial segmental reduplication found in this word.

#### 8.4.2.3.2 Morphologically complex stems

All four tonal melodies found on simple adjective stems (H, L, HL and LH) are also attested with morphologically complex stems:

H tone:	CVV+CVV	<b>kpó'-kpó'</b>	dry
	CVC+CVC	<b>gír-gír</b>	rigid
	CCVV+CCVV	<b>pyúú-pyúú</b>	pointed, sharp
	CCVC+CCVC	<b>ryáŋ-ryáŋ</b>	long, straight and thin
L tone:	CVV+CVV	<b>gàà-gàà</b>	equal
	CVC+CVC	<b>dàg-dàg</b>	flat
	CV.CV+CV.CV	<b>gòrò-gòrò</b>	loose
HL tone:	CVV+CVV	<b>póó-pòò</b>	wailing
	CV.CV+CV.CV	<b>kírì-kìrì</b>	spherical
LH tone:	CVC+CVC	<b>kǎy-kǎy</b>	restless

H and L melodies associate straightforwardly. For complex adjectives with HL tone, there is a single contour; each of the two reduplicated parts bears its own tonal unit (H on the first and L on the second). In contrast, for complex adjectives with LH tone, each of the two reduplicated parts bears a LH melody.

## 8.5 Ideophonic derivation

Although productive ideophonic derivation is uncommon (cf. Welmers 1973:461–2), a number of derivational possibilities are available to ideophones in Mambay. Class-preserving derivations include a plural derivation (8.5.1) as well as two emphatic



source morpheme		derived ideophone
$C_1VX\dots$	$\rightarrow$	$C_1\hat{u}+C_1VX\dots$

The process is illustrated below with both adjectives and adverbs, and simple stems are treated separately from complex stems.

### 8.5.1.1 Ideophonic adverbs

Ideophonic adverbs, including simple stems and complex stems, are derived with this template.

Simple stems:	source ideophone	plural ideophone
---------------	------------------	------------------

quietly, slowly	<b>sèè</b>	<b>sî-sée</b>
quietly, slowly	<b>sà'm</b>	<b>sî-sá'm</b>
with heavy eyes	<b>kà'wri</b>	<b>kî-ká'wri</b>
rife with	<b>tùglùg</b>	<b>tî-túglúg</b>

Complex stems:

in many clumps	<b>sà'-sà'</b>	<b>sî-sá'</b>
rapidly	<b>pád-pád</b>	<b>pî-pád</b>
with head and chin sticking out	<b>tégú-tègù</b>	<b>tî-tégú</b>

### 8.5.1.2 Adjectives

Adjectives are derived in exactly the same way.

Simple stems:	source ideophone	plural ideophone
---------------	------------------	------------------

intense (red)	<b>kèè</b>	<b>kî-kée</b>
open	<b>vòŋ</b>	<b>vî-vóŋ</b>
light, agile	<b>fáyáŋ</b>	<b>fî-fáyáŋ</b>
runt-like	<b>vbérgé</b>	<b>vbî-vbérgé</b>
small	<b>béhlég</b>	<b>bî-béhlég</b>
thick	<b>kpìgzim</b>	<b>kpî-kpìgzim</b>
slow	<b>rùgùgù</b>	<b>rî-rúgùgù</b>

Complex stems:

equal	<b>gàà-gàà</b>	<b>gî-gáá</b>
filthy	<b>bìl-bìl</b>	<b>bî-bíl</b>

### 8.5.2 Emphatic template

As with plural derivation, emphatic derivation may be applied to ideophonic adverbs, adjectives, and words of the same class likewise result. Mambay speakers are unclear concerning the exact purpose of this process, but have suggested that it gives additional emphasis to an ideophone (cf. 8.2).

The morphological template for emphatic derivation copies the initial consonant and the first tonal value of the source morpheme, appends the vowel **i** as a host for this tone, and prefixes this information to the source morpheme:

Source morpheme	Derived ideophone
$C_1V_{(\alpha \text{ tone})}X\dots$	$C_1i_{(\alpha \text{ tone})}+C_1V_{(\alpha \text{ tone})}X\dots$

This process is illustrated below with both ideophonic adverbs (8.5.2.1) and adjectives (8.5.2.2), and simple stems are treated separately from complex stems.

#### 8.5.2.1 Ideophonic adverbs

Ideophonic adverbs, including simple stems and complex stems, are derived with this template.

Simple stems:	source ideophone	emphatic ideophone
quietly, slowly	<b>sèè</b>	<b>sì-sèè</b>
all	<b>fét</b>	<b>fí-fét</b>
quickly	<b>hàri</b>	<b>hí-hàri</b>
all	<b>pádág</b>	<b>pí-pádág</b>
rife with	<b>tùglùg</b>	<b>tì-tùglùg</b>

Complex stems:

in many clumps	<b>sà'-sà'</b>	<b>sì-sà'</b>
rapidly	<b>pád-pád</b>	<b>pí-pád</b>

#### 8.5.2.2 Adjectives

Adjectives are derived in exactly the same way.

Simple stems:	source ideophone	emphatic ideophone
open	<b>vòŋ</b>	<b>vì-vòŋ</b>
light (weight)	<b>fááw</b>	<b>fí-fááw</b>
light, agile	<b>fáyán</b>	<b>fí-fáyán</b>
like a runt	<b>vbérgé</b>	<b>vbí-vbérgé</b>
small	<b>béhlég</b>	<b>bí-béhlég</b>



source morpheme      derived ideophone

$C_1V_1X_1\dots \rightarrow C_1V_1X_1\dots + C_1V_1X_1\dots (+C_1V_1X_1\dots)$

An example derivation is:

**sèè** ‘quietly, slowly’ → **sèè sèè** ‘very quietly, slowly and repeatedly’  
or: **sèè sèè sèè** ‘very quietly, slowly and repeatedly, on and on’  
or: (etc.)

Although the morphological template for invariable repetition is structurally comparable to the template that derives two-syllable adjectives from monosyllabic ideophonic adverbs (8.5.5), including the way in which tones are mapped, it differs in that its input may be adjectival or adverbial (not uniquely adverbial), and its output is always adverbial (rather than adjectival).

The derivational process of invariable repetition is illustrated here with ideophonic adverbs (8.5.4.1.1), adjectives (8.5.4.1.2) and numerals (8.5.4.1.2).

#### 8.5.4.1.1 Ideophonic adverbs

Examples of invariable repetition applied to ideophonic adverbs are as follows:

<b>bî'</b>	a bit
<b>bî' bî'</b>	a little bit
<b>sà'</b>	a bit
<b>sà' sà'</b>	a little bit
<b>gbàhŋ</b>	always, forever, a lot
<b>gbàhŋ gbàhŋ</b>	always, for ever and ever, a whole lot
<b>fíít</b>	wiping with fingers
<b>fíít fíít</b>	wiping repeatedly with fingers
<b>hàrí</b>	quickly
<b>hàrí hàrí</b>	very quickly
<b>yáàgú</b>	quickly
<b>yáàgú yáàgú</b>	early, very quickly
<b>pádág</b>	completely
<b>pádág pádág</b>	absolutely completely
<b>kà'wrì</b>	with heavy eyes
<b>kà'wrì kà'wrì</b>	with very heavy eyes

<b>gbàṅtàn</b>	spreading out
<b>gbàṅtàn gbàṅtàn</b>	spreading out everywhere

#### 8.5.4.1.2 Adjectives

Examples of invariable repetition applied to adjectives are as follows:

<b>ḃàḃà</b>	timid
<b>ḃàḃà ḃàḃà</b>	very timidly
<b>tù'ṅà</b>	jelly-like, fully of liquid
<b>tù'ṅà tù'ṅà</b>	moving around like jelly
<b>béhlég</b>	small
<b>béhlég béhlég</b>	very little
<b>ḃìl-ḃìl</b>	filthy
<b>ḃìl-ḃìl ḃìl-ḃìl</b>	very filthily
<b>làṅtàn</b>	flexible and bouncy
<b>làṅtàn làṅtàn</b>	very flexibly and bouncily
<b>rùgùgù</b>	slow
<b>rùgùgù rùgùgù</b>	very slowly
<b>vbàhtátá</b>	strong and healthy
<b>vbàhtátá vbàhtátá</b>	very strongly and solidly

#### 8.5.4.1.3 Numerals

The data contain a few examples of numerals which are derived by invariable repetition into an ideophonic adverb with distributive meaning (cf. 9.1.1.2):

<b>bóm</b>	one
<b>bóm bóm</b>	one by one, here and there
<b>zódôm</b>	ten (numeral or adverb)
<b>zódôm zódôm</b>	ten by ten

#### 8.5.4.1.4 Multiple application of invariable repetition

For the following ideophones, invariable repetition may be applied more than once:

<b>sèè</b>	quietly, slowly
<b>sèè sèè sèè</b>	very quietly, slowly and repeatedly, on and on

**tùglùg** in large quantity  
**tùglùg tùglùg tùglùg** in enormous quantity

#### 8.5.4.2 Repetition with tonal alternation

An additional template exhibits repetition with tonal alternation. This template first doubles the segmental information of the root morpheme. Regardless of the tone of the source morpheme, the first morpheme of the derived ideophone is H, and the second is L. This resulting stem may itself be copied—seemingly without limit—when textual emphasis warrants it. Automatic downstep, which applies almost everywhere else in the language (4.3.2), is suspended within this environment (cf. 4.3.2.4). The template then adds a single root morpheme to the end bearing a H tone (which is, like almost all other H tones in the language following a L tone, automatically downstepped). The entire derivational process may be symbolized as follows:

source morpheme	derived ideophone
$C_1V_1X_1\dots$	$\rightarrow (C_1\acute{V}_1X_1 + C_1\grave{V}_1X_1)_1^n + C_1\acute{V}_1X_1$

Example derivation:

<b>kǎy</b> ‘restlessly’	$\rightarrow$ <b>kǎy kǎy</b> [‘] <b>kǎy</b>	‘restlessly and repeatedly’
	or: <b>kǎy kǎy</b> [no ‘] <b>kǎy kǎy</b> [‘] <b>kǎy</b>	‘restlessly and repeatedly, on and on’
	or: (etc.)	

This process is illustrated below with both ideophonic adverbs (8.5.4.2.1) and adjectives (8.5.4.2.2).

##### 8.5.4.2.1 Ideophonic adverbs

Examples of repetition with tonal alternation applied to ideophonic adverbs are as follows:

<b>zàhw-zàhw</b>	hastily
<b>záhw zàhw záhw</b>	hastily and repeatedly
<b>pád-pád</b>	rapidly
<b>pád pàd pád</b>	rapidly and repeatedly
<b>tégú-tègù</b>	with head and chin sticking out
<b>tégú tègù tégú</b>	back and forth, with head and chin sticking out

The ideophonic adverb **vbúm vbùm vbúm**, which describes the inherently repetitive sound made by a waterfall, is realized with repetition with tonal alternation even though it has no independent base stem.

### 8.5.4.2.2 Adjectives

Examples of repetition with tonal alternation applied to adjectives are as follows:

<b>gàà-gàà</b>	equal
<b>gáá gàà gáá</b>	equally and repeatedly
<b>gír-gír</b>	rigid
<b>gír gír gír</b>	rigidly and repeatedly
<b>kpà'-kpà'</b>	in constant motion
<b>kpá' kpà' kpá'</b>	in constant motion and repeatedly
<b>ryáŋ-ryáŋ</b>	long, straight and thin
<b>ryáŋ ryàŋ ryáŋ</b>	in a craning-out manner and repeatedly
<b>vbérgé</b>	runt-like
<b>vbérgé vbèrgè vbérgé</b>	lolling about like a runt or rag doll
<b>vbà'ŋgà</b>	like a reptile
<b>vbá'ŋgá vbà'ŋgà vbá'ŋgá</b>	moving like a reptile

### 8.5.5 Adjectival template

A moderately productive class-changing derivation changes monosyllabic ideophonic adverbs into adjectives.

The morphological template for adjective derivation reduplicates a monosyllabic ideophonic adverb. The inventory and realization of tonal melodies on derived adjectives is a subset of those associated with adjectives of the same shape (8.4.2.3.2). Examples of adjectival derivation are as follows:

<b>gír</b>	rigidly
<b>gír-gír</b>	rigid
(note irregular adverb/adjective tonal correspondence)	
<b>kăy</b>	restlessly
<b>kăy-kăy</b>	restless
<b>kpàŋ</b>	differently
<b>kpàŋ-kpàŋ</b>	different
<b>tém</b>	differently
<b>tém-tém</b>	different

A set of examples which illustrates this contrastive usage is as follows:

<b>ʔà</b> 3SG:IMPFV	<b>té'là</b> walk: VN	<b>tém</b> differently	he/she/it walks differently / he/she/it is walking differently
<b>ʔà</b> 3IMPER	<b>tém-tém</b> different		it is different
<b>ʔígzi</b> thing:PL:LF	<b>tém-tém</b> different		different things

### 8.5.6 Flexible class membership

The description of ideophones in previous sections has focussed on examples whose syntactic behaviour and morphological classification is unambiguous; however, as many ideophones are used in more than one syntactic context, a description of class membership possibilities is essential.

Specifically, a minority of ideophones may be used variously as adjectives, ideophonic adverbs and—to a lesser degree—ideophonic nouns, and are structurally identical regardless of usage. This could be viewed as pervasive zero-derivation; however, because of overlap in possible base structures, the direction of such a derivational phenomenon is in many cases indeterminate. More appropriate is a recognition of flexible class membership possibilities available to ideophones.

The following are representative examples of ideophones found in more than one word class:

ideophone	adverbial usage	adjectival usage	nominal usage
<b>dòhlòm</b>	—	round and thick	round, thick object
<b>'nám</b>	well	good	—
<b>fyág</b>	abundantly	abundant	—
<b>kéhy-kéhy</b>	restlessly	restless	restlessness
<b>kpó'-kpó'</b>	—	dry	dryness
<b>lô'w</b>	a lot, very	much, many	—
<b>ràh</b>	—	sad	sadness
<b>tédé</b>	completely	all	—
<b>'wíh-'wíh</b>	achily and restlessly	achy and restless	—

(In addition the structural and derivational tendencies outlined in previous sections, ideophonic adverbs have been distinguished from adjectives based on their dependence on the presence of a verb (rather than a neighbouring noun) and their relegation to post-verbal position. Adjectives have been distinguished from nouns based on the syntactic criteria outlined in 8.4.1.)

Patterns of flexible class membership deserve further investigation. A cursory observation on flexibly used ideophones in the data (which is, incidentally, borne out in the examples immediately above) reveals that while some ideophones used as adjectives share distribution with adverbs or nouns, nouns and adverbs never share distribution unless an adjective is also implicated. This supports the idea that in Mambay, adjectives are situated on a morphological continuum between ideophonic adverbs and ideophonic nouns.

In some cases, derived ideophones also show flexible word class membership. The most complete example of derivational potential is that of word **kàhm** ‘rapidly, with agility.’ In each of three separate derivations, this morpheme exhibits distributional potential as adjective, ideophonic adverb, and noun. All of the following forms and usages are possible:

derivational strategy	derived ideophone	adjectival usage	adverbial usage	nominal usage
plural (8.5.1)	<b>kû-káhm</b>	rapid, agile (pl.)	rapidly, with agility (pl.)	rapidity, agility (inherent plurality of action)
emphatic (8.5.2)	<b>kì-kàhm</b>	very rapid, very agile	very rapidly, with great agility	much rapidity, much agility
adjectival (8.5.5)	<b>kàhm-kàhm</b>	rapid, agile	rapidly, with agility	rapidity, agility

## MINOR WORD CLASSES

In the present chapter, three minor word classes are introduced: numerals (9.1), specifiers (9.2), and prepositions (9.3).

Structurally, these three word classes resemble the major word classes of nouns (Chapter 5) and verbs (Chapter 7) as well as adverbs and adjectives (Chapter 8) in that their members are typically comprised of at least one heavy syllable or two light syllables (cf. 2.4.3); this sets them apart from particles, which are uniformly comprised of a single light syllable (2.4.3, 10.1.2). However, they diverge in that whereas nouns, verbs, adverbs and adjectives are lexically open classes, numerals, specifiers and prepositions are represented by closed lexical sets.

### 9.1 Numerals

In Mambay, as in other languages, numerals are words used for counting. Numerals often modify nouns, whether as a dependent element in a noun phrase or as a predicate of a verbless clause (9.1.1.1). Occasionally, they appear to function adverbially (9.1.1.2); in addition, they can fulfill mathematical operations even when there is no syntactic head in view (9.1.1.3). Basic numerals (9.1.2.1), which are used for values from one to ten, are as follows:

one	<b>bóm</b>
two	<b>bàtì</b>
three	<b>bì-sáh</b>
four	<b>bì-nàh</b>
five	<b>bì-zápé'</b>
six	<b>bì-gírò</b>
seven	<b>tàrnágà</b>
eight (short form)	<b>fwàrnágà</b> (Chadian dialect: <b>fwàrnâh</b> )
(long form)	<b>wàr séhná fà-gbàhɲ bātì</b>
nine (short form)	<b>sêh-bóm</b> (dialects north of the Mayo Kebbi: <b>sê'-bóm</b> )
(long form)	<b>wàr séhná fà-gbàhɲ bóm</b>
ten (short form)	<b>zódôm</b>
(long form)	<b>séhná kírib</b>

Differences in the usage and structure of long vs. short forms are discussed in 9.1.1.3 and 9.1.2.1.2.



**sìì**      **bì-sáh**                      the three years  
 year:LF    NUM-three

**sìì**      **bì-sáh**      **?ì-náá**      **pá**      **kô'**      **dùg-rú**  
 year:LF    NUM-three    HEAD-here    do:PFV    there    ruin:PFV-3SG.OBJ

*the three years that happened there ruined him/her/it*

cf. parallel typical count constructions

**sììŕá**      **bì-sáh**                      three years  
 year      NUM-three

**pá**      **kô'**      **sììŕá**      **bì-sáh**  
 do:PFV    there    year    NUM-three

*three years happened there*

Usually, as in the above examples, plurality is not marked explicitly on a noun which is modified by a numeral. However, it may be marked. This occurs more commonly with human nouns (5.5.1.3).

**nà-pùgzá**      **bàtì**                      two people  
 PFX-person:PL    two

For non-human nouns in particular, the pluralization of a counted noun puts its plural nature into focus (5.5.1.3).

**bòlzá**              **bàtì**                      two wooden clubs  
 wooden.club:PL    two

In addition to their use as noun modifiers in a noun phrase, numerals may appear as the predicate of a verbless clause (9.1.1.1). Thus, when the noun + numeral constructions given above stand alone, they constitute a clause:

**kágà**      **bàtì**                      there are two chickens (lit. 'the chickens are  
 chicken    two                      two')

**nààŕá**      **tàrnáàgà**                      there are seven clouds (lit. 'the clouds are  
 cloud      seven                      seven')

### 9.1.1.2 Adverbial function

Although numerals are most commonly used to modify nouns (9.1.1.1), there are a few cases in the data where they appear to be used adverbially:

**hùm-ré**                      **bì-sáh**  
come:PERF-3SG.REFL NUM-three

*the three of them have come (Fr. ils sont venus à trois)*

**sígò**      **hǐj**                      **đùù**    **byàá**    **nìn**                      **bàhàà**    **bàt**    **yá**  
crocodile 3:NONPERF.NEG hit:VN water in.presence:LF ibis.sp. two NEG

*a crocodile doesn't strike the water twice in the presence of an ibis*

Regarding the second example, note that the usual way of saying “twice” (or any other multiplicative) is expressed as follows (cf. 7.6.1.2):

**fàà**      **?éré**                      **bàtì**                      twice  
back:LF 3PL.C/I.POSS two

### 9.1.1.3 Absolute (mathematical) function

In addition to their other functions, numbers may also be used in an absolute way. In contexts which use mathematical operations—for example, school, counting games and the calculation of money—numbers relate to one another rather than to a syntactic head.

In cases where both short and long forms are found (cf. 9.1), short forms rather than long forms are used for mathematical operations.

eight (short form)	<b>fwàrnáàgà</b> (Chadian dialect: <b>fwàrnàh</b> )
(long form)	<b>wàr séhná fà-gbàhɛ̀ bātì</b>
nine (short form)	<b>séh-bóm</b> (dialects north of the Mayo Kebbi: <b>sé'-bóm</b> )
(long form)	<b>wàr séhná fà-gbàhɛ̀ bóm</b>
ten (short form)	<b>zódôm</b>
(long form)	<b>séhná kírib</b>

Note that there appears to be a shift away from the use of the long forms by younger speakers of the language, even for modifying nouns. For the numerals ‘eight’ and ‘nine,’ this shift is partial. However, for the numeral ‘ten,’ the shift is complete: the long form is known only to older speakers of the language.

## 9.1.2 Numeral categories

The Mambay numeral system is decimal, i.e., numeric place holding is based on the number 10. While most basic numerals are underived (9.1.2.1.1), words used for higher numerals are derived from other parts of speech or borrowed from other languages (9.1.2.1.2–9.1.2.4).

### 9.1.2.1 Basic numerals: 1 to 10

Most of the basic numerals are underived (9.1.2.1.1). The remaining items have been historically derived from other constructions (9.1.2.1.2).

### 9.1.2.1.1 Underived basic numerals

The numerals from one to seven and the short forms of the numerals ‘eight’ and ‘ten’ are underived.

one	<b>bóm</b>
two	<b>bàtì</b>
three	<b>bì-sáh</b>
four	<b>bì-nàh</b>
five	<b>bì-zápé’</b>
six	<b>bì-gírò</b>
seven	<b>tàrnáǵà</b>
eight (short form)	<b>fwàrnáǵà</b> (Chadian dialect: <b>fwàrnàh</b> )
ten (short form)	<b>zódôm</b>

These items differ from other numerals in that they are not identifiably derived (cf. 9.1.2.1.2 and 9.1.2.2) or borrowed (9.1.2.4). They are structurally comparable to nouns, exhibiting a subset of the CV shapes (5.1.1.1) and tone melodies (5.1.1.2) found with them.

Although they are not derived from other word classes, some of these numerals exhibit morphological complexity as a result of obligatory co-occurrence with the prefix **bì-**.

three	<b>bì-sáh</b>
four	<b>bì-nàh</b>
five	<b>bì-zápé’</b>
six	<b>bì-gírò</b>

A comparison with cognates in other Kébi-Benue languages and neighbouring Chadic languages (Boyd 1989b:172) shows that this prefix is unique to Mambay. The possibility that **bì-** has originated as a numeral classifier is supported by its use elsewhere in the language as part of the interrogative count pronoun **bì-ʔán** ‘how much? / how many?’ (6.2).

**bì-ʔán**  
NUM-how?

Three of the underived numerals (**bàtì** ‘two,’ **tàrnáǵà** ‘seven’ and **fwàrnáǵà** ‘eight’) exhibit contracted forms reminiscent of nouns subjected to a linked noun template (5.2.2). However, in contrast to the linked noun template, contraction of these numerals has no grammatical significance. Rather, it is a predictable phenomenon which applies in non phrase-final position. In each case, the final vowel is dropped and the tone melody remains stable. Example alternations are as follows:

<b>káǵà</b>	<b>bàt</b>	<b>náǵ</b>	these two chickens
chicken	two	this	

cf. <b>kágà</b>	<b>bàtì</b>		two chickens	
chicken	two			
<b>bì-gírò,</b>	<b>tàrnâg,</b>	<b>fwàrnágà</b>	six, seven, eight (counting; cf. 9.1.1.3)	
six	seven	eight		
cf. <b>bì-gírò,</b>	<b>tàrnágà</b>		six, seven (counting)	
six	seven			
<b>káálà</b>	<b>fwàrnâg</b>	<b>sóm</b>	<b>bóm</b>	eighty-one
head/ten	eight	plus	one	
cf. <b>káálà</b>	<b>fwàrnágà</b>			eighty
head/ten	eight			

#### 9.1.2.1.2 Derived basic numerals

Of the numerals from one to ten, the short form of ‘nine’ and the long forms of ‘eight,’ ‘nine’ and ‘ten’ have been derived. Of these, three of the numbers are derived from clauses, and one from a noun phrase (in another dialect, it is derived from a prepositional phrase).

The meanings of component morphemes are semantically transparent, referring to hand motions used in counting. Dialect differences in the short forms of ‘nine’ stem from use of contrasting senses of the word **syâh** (linked form: **sêh**; see 5.2.2.2.2): ‘hand’ / ‘finger.’ These derived numerals are as follows:

eight (long form), derived from a clause:

**wàr**      **séhná**                                      **fà-gbàhɲ**      **bàtì**  
 leave:PFV   hand/finger:1&2SG.POSS.INAL   PFX-outside   two

lit. *he/she/it left our fingers outside [the hand] twice / there remain our fingers outside [the hand] twice*

nine (short form, dialects south of the Mayo Kebbi), derived from a noun phrase:

**sêh-bóm**  
 hand/finger:LF-one

lit. *the one finger [outside the hand]*

nine (short form, dialects north of the Mayo Kebbi), derived from a prepositional phrase:



### 9.1.2.3 Multiples of ten

Multiples of ten from twenty to ninety are formed regularly by the addition of a multiple from two to nine to the noun **káálà** ‘head,’ which as a numeral carries the extended meaning ‘ten.’

<b>káálà</b> head/ten	<b>ɓàtì</b> two		twenty
<b>káálà</b> head/ten	<b>bì-sáh</b> NUM-three		thirty
<b>káálà</b> head/ten	<b>bì-nàh</b> NUM-four		forty
<b>káálà</b> head/ten	<b>wàr</b> leave:PFV	<b>séhná</b> hand/finger:1&2SG.POSS.INAL	<b>fà-gbàhɲ bóm</b> PFX-outside one

*ninety*

When a basic numeral is added to a multiple of ten from twenty to ninety, it is joined to the numeral with the preposition **má** ‘with, and.’

<b>káálà</b> head/ten	<b>bì-zápé’</b> NUM-five	<b>má</b> with	<b>bìgírò</b> six	fifty-six
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That **káálà** ‘head, ten’ is acting as a numeral rather than a noun in count constructions is demonstrated by the non-application of linked noun morphology (cf. 5.2.2.2) which would be present with the head noun if **káálà** were functioning as a noun (see discussion at beginning of 9.1).

<b>kágà</b> chicken	<b>káálà</b> head/ten	<b>ɓàtì</b> two		twenty chickens
cf. <b>kág</b> chicken:LF	<b>káálà</b> head/ten	<b>ɓàtì</b> two		two-headed chicken / hundred-franc chicken (see 9.1.4)

**káálà** ‘head, ten’ may be used with the preposition **má** ‘with, and’ (9.3) after a numeral to communicate the idea of ‘a few more tens.’

<b>gàmbù</b> bag/thousand	<b>má</b> with	<b>káálà</b> head/ten		a thousand, and a few more tens
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Along with **káálà ɓàtì**, two other terms for the numeral twenty have been attested among older Mambay speakers. Unlike **káálà**, they are not used as a base for numerals higher than twenty. The terms are:



If George Orwell's novel *1984* were translated into Mambay, it would be advantageous to write the title using digits rather than orthographic words.

Exactness in counting with a higher numeral is achieved when a lower numeral modifies it.

<b>gàmbù</b>	<b>bóm</b>	one thousand
thousand	one	
<b>gàmbù</b>	<b>má</b> <b>bóm</b>	one thousand and one
thousand	with one	
cf. <b>gàmbù</b>		a thousand
thousand		

#### 9.1.2.5 Proportions

In Mambay, fractions are used to express approximate numeric proportions, and comparison of whole numerals expresses exact proportions.

The following fractions expressing approximate proportions of nouns have been attested:

<b>dágà</b>	<b>bóm</b>	a bit, a part
mouth/edge	one	
<b>fin</b>	<b>bóm</b>	a side, a half
toward	one	
<b>vbá'là</b>	<b>bóm</b>	a part, a section
chunk	one	

These fractions accompany whole numerals, to which they are joined using the preposition **má** 'with, and.'

<b>tàrnágà</b>	<b>má</b> <b>fin</b>	<b>bóm</b>	seven and a half
seven	with toward	one	

The borrowed fraction **réétà** (cf. Fulfulde *reeta*) is sometimes used to express the idea of 'half' more exactly. Eguchi (1971:165) also gives the term **réétì réétà** (lit' 'half of half') for the concept of 'one quarter'; however, this term has not been accepted by Mambay speakers in the context of the present research.

Two adverbs are also used to express fractional proportion:

<b>gáb</b>	halfway (measured vertically)
<b>byá'ŋ</b>	halfway (measured horizontally)

ex. **mì tè' byâ'ŋ** I walked halfway  
 1SG walk-PFV halfway.horizontally

Exact proportions are expressed using whole numerals; comparison is made using the terms **sàà** ‘inside’ or **sígzò** ‘middle’ (linked form: **sígzi**; cf. 5.2.2)

**káálà** **bì-gíró** **sàà** **tèémééré** sixty in one hundred / sixty per cent  
 head/ten NUM-six inside hundred

**bì-sáh** **sígzi** **bì-zápé'** three of five  
 NUM-three middle:LF five

ex. **nà-kààrà** **bì-sáh** **sàà** **zódôm** **sóm bàtì** three of the twelve disciples  
 PFX-disciple NUM-three inside ten plus two

### 9.1.3 Ordinal nouns

Ordinal nouns are, prototypically, nominalized numerals (9.1.2) which express the place of a noun within a series. In Mambay, most ordinal nouns are formed by adding the ordinal suffix **-rì** to a numeral. Ordinal nouns range from ‘first’ to ‘tenth’ and also include the word ‘last.’ They are given here, alongside the numerals to which they correspond (when relevant):

digit	numeral	ordinal noun	gloss of ordinal noun
1	<b>(bóm)</b>	<b>dâg tômná</b>	first
2	<b>bàtì</b>	<b>baári</b>	second
3	<b>bì-sáh</b>	<b>bì-sáhrì</b>	third
4	<b>bì-nàh</b>	<b>bì-nàhrì</b>	fourth
5	<b>bì-zápé'</b>	<b>bì-zápé'rì</b>	fifth
6	<b>bì-gíró</b>	<b>bì-gíurì</b>	sixth
7	<b>tàrnágà</b>	<b>tàrnággì</b>	seventh
8	<b>fwàrnágà / fwàrnâh</b>	<b>fwàrnággì / fwàrnáhrì</b>	eighth (short form)
	<b>wàr séhná fâ-gbàhŋ bàtì</b>	<b>wàr séhná fâ-gbàhŋ baári</b>	eighth (long form)
9	<b>sêh-bóm / sê'-bóm</b>	<b>sêh-bómrì / sê'-bómrì</b>	ninth (short form)
	<b>wàr séhná fâ-gbàhŋ bóm</b>	<b>wàr séhná fâ-gbàhŋ bómrì</b>	ninth (long form)
10	<b>zódôm</b>	<b>zódómrì</b>	tenth
—	—	<b>fàarì</b>	last

Some Mambay speakers do not use the form **zódómrì** ‘tenth.’ Where two forms are given on the same line in the list above (e.g., **fwàrnágà / fwàrnâh**), this reflects a dialect difference (1.2.3.3).

Except for **dâg tômná** ‘first’ (9.1.3.1), ordinal nouns are found in head (initial) position in the noun phrases in which they are found (cf. 5.2, 5.14).

<b>ḃáárì</b>	<b>kágà</b>	the second chicken
two:ORD:LF	chicken	
<b>bì-sáhrì</b>	<b>kágà</b>	the third chicken
NUM-three:ORD:LF	chicken	
cf. <b>kâg</b>	<b>dâg tômná</b>	the first chicken
chicken:LF	first	

Even though they are nouns, ordinal nouns are never pluralized (cf. 5.5.1.2).

When an ordinal noun is derived using the ordinal suffix **-rì**, the tone melody of the numeral and the suffix are fused:

<b>bì-sáh</b>	+	<b>-rì</b>	→	<b>bì-sáhrì</b>	third
NUM-three		ORD			
<b>bì-gírò</b>	+	<b>-rì</b>	→	<b>bì-gúurì</b>	sixth
NUM-six		ORD			

The tonally idiosyncratic ordinal noun ‘second’ constitutes an exception to this pattern.

<b>ḃàtì</b>	+	<b>-rì</b>	→	<b>ḃáárì</b>	second
two		ORD			

Irregularities associated with the ordinal nouns ‘first’ and ‘last’ are discussed in 9.1.3.1, and segmental alternations are examined in 9.1.3.2. Ordinal values for numerals beyond ten are presented in 9.1.3.3.

### 9.1.3.1 ‘First’ and ‘last’

The ordinal nouns for ‘first’ and ‘last’ differ from other members of the series.

The ordinal noun **dâg tômná** ‘first’ is a compound noun made up of the nouns **dágà** ‘mouth, edge’ and the word **tômná**, which is used only in this context. It differs from other ordinal nouns in that it is not derived from its corresponding numeral (in this case, **bóm** ‘one’). Additionally, it differs in that it is typically found in a dependent rather than head position (cf. 5.2).

<b>kâg</b>	<b>dâg tômná</b>	the first chicken
chicken:LF	first	
cf. <b>ḃáárì</b>	<b>kágà</b>	the second chicken
two:ORD:LF	chicken	

The ordinal noun **fàárì** ‘last’ differs from the other ordinal nouns in that there is no specific numeral to which it corresponds. In contrast, it is probably derived from the noun **fààlá** ‘back, skin, place’ (linked form: **fàà**; see 5.2.2). However, its membership in the ordinal noun series is underlined by the fact that it contains the ordinal suffix **-rì**.

### 9.1.3.2 Segmental alternations

In four cases, the derivation of numerals with the ordinal prefix suffix **-rì** results in morphophonological alternation. For two of the numerals (**bàtì** ‘two’ and **bì-gírò** ‘six’), this derivation is multi-faceted and may be represented as follows:

		<b>bàtì</b> ‘two’	<b>bì-gírò</b>
‘six’			
1) the vowel of the final syllable of the numeral is dropped;		<b>bàt + rì</b>	<b>bì-gír + rì</b>
2) the alveolar- <b>r</b> sequence is disallowed;		<b>bà + rì</b>	<b>bì-gí + rì</b>
3) the final vowel of the numeral root is lengthened to compensate for this loss.		<b>báá + rì</b>	<b>bì-gíí + rì</b>

The resulting tone melody on **báárì** ‘second’ is idiosyncratic; see 9.1.3.

In the other two cases (**tàrnágà** ‘seven’ and **fwàrnágà** ‘eight’), the final vowel of the numeral is dropped and the **r** in the suffix **-rì** assimilates to the numeral’s final **g**.

<b>tàrnágà</b>	+	<b>-rì</b>	→	<b>tàrnággì</b>	seventh
seven		ORD			
<b>fwàrnágà</b>	+	<b>-rì</b>	→	<b>fwàrnággì</b>	eighth
eight		ORD			

### 9.1.3.3 Ordinal values for numerals beyond ten

It is not possible to express numerals beyond ten using an explicitly ordinal strategy. Items may be ordered, however, by a simple count. Resulting ‘ordinal’ constructions are identical to typical count constructions (9.1.1.1).

<b>kágà</b>	<b>zódôm</b>	<b>sóm</b>	<b>bóm</b>	the eleventh chicken / eleven chickens
chicken	ten	plus	one	
<b>kágà</b>	<b>káálà</b>	<b>bàtì</b>		the twentieth chicken / twenty chickens
chicken	head/ten	two		

### 9.1.4 Other nouns with numeric values

In addition to nouns used as numerals (9.1.2) and nouns derived from numerals (9.1.3), there are a few nouns which, even when used as nouns, refer to a certain quantity of an item.

word	basic meaning	numeric value
<b>dàlà</b> (Fulf. borr.)	a sum of money	five francs
<b>dù'ló</b>	enclosure	a hundred domestic animals in an enclosure
<b>gàmbù</b> (Fulf. borr.)	bag	a thousand francs (see 9.1.2.4)
<b>hâh</b>	stick	a hundred cows
<b>súúlò</b>	herd	a hundred (any animal)

If these nouns are modified by a numeral, their numeric value is interpreted as exact.

<b>hâh</b>	<b>bóm</b>	one hundred cows
stick	one	
cf. <b>hâh</b>		a hundred cows
stick		
<b>gàmbù</b>	<b>tàrnágà</b>	seven thousand
bag/thousand	seven	
cf. <b>gàmbù</b>		a thousand
bag/thousand		

## 9.2 Specifiers

In Mambay, there is a small class of specifiers. Three demonstratives and an indefinite article make up this class. Members of this class are used to situate participants within a discourse, and have in common a restricted distribution: they are only found at the very end of a noun phrase (5.14) headed by a linked (5.2.2) noun.

<b>kâg</b>	<b>nájá</b>	this chicken		
chicken:LF	this			
<b>kâg</b>	<b>ɓiltɪŋ</b>	<b>bàt</b>	<b>nájá</b>	these two dirty chickens
chicken:LF	dirty	two	this	

More precisely, specifiers are represented by two proximity demonstratives (9.2.1), one long-distance anaphoric demonstrative (9.2.2), and an indefinite article (9.2.3). The long-distance anaphoric demonstrative may be used with either of the proximity demonstratives (9.2.2), but other combinations are not permitted.

### 9.2.1 Proximity demonstratives

Two demonstratives are, in addition to their specifying function, used to signal the degree of an item's proximity to a reference point (prototypically, the reference point is the location of the speaker). Examples of the use of the proximal demonstrative **náá** 'this' and the distal demonstrative **núú** 'that' are as follows:

proximal demonstrative:	<b>kâg</b> chicken:LF	<b>náá</b> this	this chicken [here]
	<b>kágzì</b> chicken:PL:LF	<b>náá</b> this	these chickens [here]
distal demonstrative:	<b>kâg</b> chicken:LF	<b>núú</b> that	that chicken [there]
	<b>kágzì</b> chicken:PL:LF	<b>núú</b> that	those chickens [there]

With the third person singular independent pronoun **đú** (6.1.2.1), the morphemes indicating these demonstrative values exhibit irregular forms.

<b>dáṅgáá</b> 3SG.INDEP:this	he/she (this person [here])
<b>dúṅgúú</b> 3SG.INDEP:that	he/she (that person [there])

cf. the third person plural independent pronoun:

<b>dùṅzì</b> 3PL.INDEP	<b>náá</b> this	they (these people [here])
<b>dùṅzì</b> 3PL.INDEP	<b>núú</b> that	they (those people [there])

### 9.2.2 The anaphoric demonstrative **đô'**

A third type of demonstrative, represented by **đô'** 'that/those (anaphoric),' is used to make long-distance (i.e., in separate sentences) anaphoric references to a previously-mentioned participant in a discourse (Anonby 2005:37).

<b>kâg</b> chicken:LF	<b>đô'</b> that.ANAPH	that chicken (that was mentioned previously)
<b>kágzì</b> chicken:PL:LF	<b>đô'</b> that.ANAPH	those chickens (that were mentioned previously)

Like other specifiers, the anaphoric demonstrative **dô'** cannot be used without an explicit head noun; the participant to which it refers must be repeated along with it. The following text demonstrates its usage in two instances:

**ḍáá páà vérgì bîn, tògó, lóò-lé,**  
found:PFV man:LF travel:LF certain be get.tired:PERF-3SG.REFL

**yáà-lé sùgú.**  
sit:PERF-3SG.REFL down

*There was found a certain traveller, he is there, he has gotten tired, he has sat down.*

**ḅáḅ ʔílé mǎ tí-sùú wágà.**  
wrap:PFV body:3SG.C/I.POSS.INAL with PFX-fabric:LF neck

*He wrapped himself in a robe.*

**mùn tí-vínà bè lèé bǒr yèr dô'**  
then AUG-woman QUOT 3SG.LOG:IRR undo:FUT clothing:LF that.ANAPH

**ʔín páà dô' rè.**  
body/at:LF man:LF that.ANAPH TOPIC

*A woman then [came] saying she would take those clothes from that man...*

The proximity demonstratives **nǎǎ** 'this/these' and **núú** 'that/those' may be used in conjunction with **dô'**.

**kâg dô' nǎǎ** that (anaph.) chicken here  
chicken:LF that.ANAPH this

**kágzì dô' núú** those (anaph.) chickens there  
chicken:PL:LF that.ANAPH that

### 9.2.3 The indefinite article **bîn**

In addition to its specifying function, the demonstrative **bîn** '(an)other, (a) certain' contributes an indefinite meaning to the noun it modifies.

**kâg bîn** another chicken / a certain chicken  
chicken:LF other/certain

**kágzì bîn** other chickens / certain chickens  
chicken:PL:LF other/certain

In discourse, **bîn** is used to introduce minor participants.

**ḍáá páà vérgì bîn.**  
found:PFV man:LF travel:LF certain

*There was found a certain traveller.*

When **bîn** is used with indefinite but semantically plural referents, it is preceded by the inherently plural noun **gyàáŕì** ‘ones.’

**gyàáŕì bîn vè-zì-ré vòró kúù.**  
ones certain go:PERF-PL-3PL.REFL to.there bushland

*Certain ones had gone out to the bushland.*

### 9.3 Prepositions

Although members of several word classes in Mambay are used for locational functions, prepositions are the only class devoted to these functions. True prepositions, which are found as heads of prepositional phrases, constitute a closed word class of only seven items. Of these, two appear to be borrowed. Mambay prepositions are, in alphabetical order:

<b>bèè</b>	without
<b>háá ~ háá</b>	until, up to, all the way to (cf. Fulfulde <i>haa</i> , Mundang <i>hàqá</i> )
<b>láʼ</b>	like, as
<b>má</b>	with, and, by, during
<b>sáà</b>	inside, in
<b>séʼ ~ séyʼ</b>	except, only, not until (cf. Fulfulde <i>sey</i> )
<b>yâg</b>	to, for

All seven prepositions are monosyllabic. While the commonly used preposition **má** ‘with, and, by, during’ is comprised of a light syllable, the other prepositions are comprised of a heavy syllable (cf. 2.4.3).

The structure and syntactic distribution of prepositional phrases are presented in 9.3.1 and 9.3.2. The use of other word classes for locational functions is discussed in 9.3.3; there, the distribution of these classes is contrasted with that of prepositions.

#### 9.3.1 Prepositional phrase structure

Prepositions head prepositional phrases, where they are located at the phrases’ left edge (in this regard, prepositional phrases resemble noun phrases, which are also left-headed; see 5.14). A preposition is always followed by a noun or a noun-phrase complement.

**bèè túrà** without millet  
without millet

<b>háá ~ hááj</b> until	<b>kpèègá</b> tree	all the way to the tree
<b>lá'</b> like	<b>kwéé</b> Kwe	like Kwe
<b>máj</b> with	<b>ḡḡ</b> <b>ʔúúrú</b> child:LF 3SG.POSS	with his/her child
<b>sájá</b> inside	<b>fíílò</b> house	inside the house
<b>sé'</b> except	<b>rógò</b> tomorrow	not until tomorrow
<b>yâg</b> to/for	<b>sí-kètí</b> AFX-God	to God / for God

When the complement of most of the prepositions is a pronoun, it is an independent pronoun (6.1.2.1).

<b>bèè</b> without	<b>dú</b> 3SG.INDEP	without him/her
<b>háá ~ hááj</b> until	<b>dú</b> 3SG.INDEP	up to him/her
<b>lá'</b> like	<b>dú</b> 3SG.INDEP	like him/her
<b>máj</b> with	<b>dú</b> 3SG.INDEP	with him/her
<b>sájá</b> inside	<b>dú</b> 3SG.INDEP	inside him/her
<b>sé' ~ séy'</b> except	<b>dú</b> 3SG.INDEP	except him/her

Uniquely, in the case of the preposition **yâg** 'to, for,' which hosts a verb's second object, an object pronoun (6.1.3.1) is used.

<b>yâg</b> to/for	<b>mí</b> 1SG.OBJ	to me / for me
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**yâg-rú** to him/her / for him/her  
to/for-3SG.OBJ

This distribution sets prepositions apart from nouns, which are accompanied by possessive pronouns (5.3, 6.1.4).

**káání** my head / on me  
head/on:1SG.POSS.INAL

**káàrú** his/her head / on him/her  
head/on:3SG.POSS.INAL

### 9.3.2 Prepositional phrase distribution

Prepositional phrases are typically found as verbal modifiers in post-verbal position. As the following clauses show, they contribute information on manner and/or location:

**tìglé** **bèè** **sûm-ní** **?úùrú**  
fall:PERF without know:VN-OBJ:VN:LF 3SG.POSS  
*it has fallen without his/her knowledge*

**?à** **té'là** **háá** **káàkààlá**  
3:IMPFV walk:VN until Kaakaala  
*he/she/it walks / is walking all the way to Kaakaala*

**gbáh** **kágà** **lá'** **mààrà**  
take:PFV chicken like gift  
*he/she/it took a chicken as a gift*

**mǐ** **háá-n** **má** **súmù**  
1:IRR come.back:FUT-to.here with night  
*I will come back at night*

**mǐ** **kóg-óm** **sé'** **rógò**  
1:IRR see:FUT-2SG.OBJ except/not.until tomorrow  
*I will not see you until tomorrow*

**rò'zí** **sàà** **kôhm-ní** **?éré** **bè ...**  
say:PFV-PL inside gather.together:VN-OBJ:VN:LF 3PL.C/I.POSS QM  
*they said in their meeting that...*

**mù hí byàá yâg-rú**  
 2SG:OPT give:OPT water to-3SG.OBJ  
*give water to him/her/it*

If they occur in a verbal clause with directional adverbs and/or objects, they are found after these constituents (10.1.1).

**má yáh-zí gííbò vòró má b̀̀l rù'gó**  
 3:OPT take:OPT-PL alcoholic.drink to.there with child:PL:LF clay.water.jar  
*they must take alcoholic drinks down there with small clay water jars*

Prepositional phrases may also be found clause-initially; information in this position locates a clause within the temporal or logical framework of a discourse (10.1.1).

**má rùgà vérgà m̀̀n-z̀̀n bì-sáh**  
 with morning traveller come:PFV-PL-to.here NUM-three  
*in the morning, three travellers came here*

Prepositional phrases may further be used as predicates of verbless clauses (10.1.3.5).

<b>m̀̀ má dú</b> 1SG with 3SG.INDEP	I am with him/her/it
<b>m̀̀ bèè túrà</b> 1SG without millet	I have no millet (lit. I am without millet)
<b>dú s̀̀à r̀̀'rá</b> 3SG.INDEP inside word/issue	he/she is caught up in an issue

Finally, prepositional phrases may be found as modifiers of the head noun in noun phrases (5.14.5):

<b>tí-vín</b> PFX:AUG-woman:LF	<b>má káálà</b> with head	intelligent woman
<b>páà</b> man:LF	<b>bèè s̀̀ùzò</b> without hair	hairless person / person with a shaven head
<b>kèt</b> sky/life:LF	<b>s̀̀à byàá</b> inside water	the underwater world

### 9.3.3 Use of other word classes for locational functions

Adverbial functions, including those which are locational, are not restricted to prepositions. In fact, nouns and directional adverbs are more commonly used to express

location (together with direction) than are prepositions. In addition, a number of high frequency verbs express such information.

In Mambay, there are several types of locational nouns (this is described in greater detail in 5.13). Most locational nouns pattern like prepositions in that they require a dependent element to follow when they are used locatively (otherwise, they may stand alone). For locational nouns, however, the dependent element is a possessor noun or possessive pronoun rather than a complement (9.3.1).

<b>n̄ɪn</b> eye/in.presence:LF	<b>gyâh</b> sun	in the sun (cf. <b>n̄ɪn̄ȳ</b> ‘eye, face, life’)
<b>n̄ɪlé</b> eye/in.presence:3COREF/IMPERS.POSS.INAL		in his/her/its (coref.) presence / in its presence

The locational sense is an extension of the central meaning of a noun (usually a body part), and there is no structural contrast between the two senses (5.13). There are, in contrast, no non-locational nouns corresponding to true prepositions. As Hagège (1975:155–6) points out in the context of the Kébi-Benue languages, these differences are sufficient to treat locational nouns and prepositions as belonging to separate grammatical classes.

Remaining locational nouns (5.13) are not derived from corresponding non-locative nouns but fail to conform to the distributional criteria for prepositions in at least one of two ways. First, like the locational nouns above, some have discrete linked forms (5.2.2) and/or may be found with possessor nouns (5.3.2) and possessive pronouns (6.1.4) rather than complements (as shown in 9.3.1 above).

<b>s̄ɪgz̄ì</b> middle:LF	<b>káàf̄íílò</b> village	middle of the village (cf. <b>s̄ɪgz̄ò</b> ‘middle’)
<b>f̄ɪn</b> toward:LF	<b>?ánz̄á</b> 1&2PL.POSS	the place where we (incl.) come from
<b>ḡâh</b> midst:LF	<b>?óró</b> 2PL.POSS	your (pl.) midst

Second, a few locational nouns without a corresponding non-locative sense may be found without any following dependent element. Examples of such nouns are:

<b>f̄à-gbàh̄ɲ</b>	outside
<b>kǎ’</b>	here (i.e., this place)
<b>kũ’</b>	there (i.e., that place)
<b>làbí</b>	left side

Locational nouns also show minor structural differences from prepositions. For one thing, a noun's minimal shape is a heavy syllable (5.1.1.1) rather than a light syllable (cf. 9.3), and may exceed one syllable (5.1.1.1). Also, attested tone melodies of prepositions are more often than not H or L, unlike the usual HL or LH melody of canonical nouns (5.1.1.2).

Like prepositions, directional adverbs (8.1.1) are also used to express locative concepts. However, they differ from prepositions in that they may not themselves take a complement (cf. 9.3.1), and in that they are always found with a verb.

<b>mù</b>	<b>tè'</b>	<b>vòró</b>	[you (sg.)] go there!
2SG.OPT	walk:OPT	to.there	

<b>mù</b>	<b>hèè</b>	<b>kètí</b>	[you (sg.)] climb up!
2SG.OPT	climb:OPT	upward	

Finally, a number of high frequency verbs express locational information.

<b>hèè</b>	climb (i.e., go up)
<b>lúg</b>	go out
<b>'mì'</b>	go down
<b>rì'</b>	enter (i.e., go in)
<b>?èr</b>	get up, go from

In particular, the verb **?èr** 'get up, go from' expresses a concept which in many other languages is expressed by a preposition meaning 'from.'

<b>?èr</b>	<b>káàkààlá</b>	<b>vè</b>	<b>dág</b>	<b>byàá</b>
get.up:PFV	Kaakaala	go:PFV	mouth/edge:LF	water

*he/she/it went from Kaakaala to the river's edge*

## CLAUSES AND CLAUSE COMBINATIONS

The present chapter deals with clauses (10.1) and clause combinations (10.2) in Mambay. While these topics are treated in greater detail within the context of an analysis of Mambay discourse (Anonby 2005), an overview of major patterns is given here.

### 10.1 Clauses

The following aspects of clause structure are covered in this section: constituent order (10.1.1), clause and clause constituent particles (10.1.2), verbless clauses (10.1.3) and single-word utterances (10.1.4).

#### 10.1.1 Constituent order

In Anonby (2005:8–13), constituent order in Mambay is detailed, and the effects of changes in order are also examined. In the present study, a basic summary is provided.

In Mambay, the basic (unmarked) order of major constituents in verbal clauses is rigidly SVO (subject–verb–object).

<b>tí-gérêm</b>	<b>ɗáɗ-zí</b>	<b>túra</b>	the women sowed millet
AUG-woman:PL	sow:PFV-PL	millet	
S	V	O	

<b>mǐ</b>	<b>yáh</b>	<b>pìzá</b>	I will take the horse
1SG:IRR	take:FUT	horse	
S	V	O	

Constituent order in verbless clauses is uniformly S–Pred (subject–predicate; see 10.1.3).

<b>mù</b>	<b>kwéé</b>	you are Kwe
2SG	Kwe	
S	Pred	

<b>bígà</b>	<b>sàù</b>	<b>màh</b>	the child is in the granary
child	inside	granary	
S	[Pred	]	

In a verbal clause with two objects, one object is typically a patient and the other a recipient. Two strategies are available in such situations, and in both cases, the more salient object in the discourse follows the other object. If the more salient object is a patient, it simply follows the recipient:

Ø    **híí**        **mí**        **sòblá**        he/she/it gave me *an axe*  
 3:PFV give:PFV 1SG.OBJ axe

If the more salient object is a recipient, it is introduced after the patient with the preposition **yâg** ‘to, for.’

Ø    **híí**        **sòblá yâg mí**        he/she/it gave *me* an axe  
 3:PFV give:PFV axe to 1SG.OBJ

In both cases, object pronouns (6.1.3.1) are used for a pronominal recipient.

Subsequent to the SVO complex, the following order is exhibited: directional adverb – locative (spatial or temporal) adverbial complement – aspectual or descriptive adverbial complement – particle. Examples which illustrate this ordering are as follows:

**má yáh-zí gííbò vòró**  
 3:OPT take:OPT-PL alcoholic.drink to.there

**nìlè má bël rù'gó**  
 bottom/under:3SG.COREF/IMPERS.POSS.INAL with child:PL:LF clay.water.jar  
*they must take alcoholic drinks down there with small clay water jars*

**mì té'là tí' tí' nà**  
 1SG walk:VN always QM

*do I always walk? / am I always walking?*

Discourse-orienting elements such as topic nouns, modal adverbs (7.6.1.2) and connective locational (spatial and temporal) constructions are placed before the SVO complex.

**kwéé rè, Ø yáá kâ'**  
 Kwe TOPIC 3:PFV stay:PFV here

*as for Kwe, he stayed here*

**bàhrá mì té'là**  
 better 1SG walk:VN

*it is better that I walk*

**rógò má rúgà mǐ gòg-ní**  
 tomorrow with morning 1SG.IRR fly:FUT-1SG.REFL  
*tomorrow morning I will fly*

### 10.1.2 Clause and clause constituent particles

A small number of particles are used in reference to clauses and clause constituents. (Particles which are used to define relations between clauses are discussed separately in 10.2.2).

Unlike adverbs, which are minimally comprised of a heavy syllable, clause- and clause constituent-modifying particles uniformly exhibit a light (CV) syllable.

These particles fall into three groups: Indicative particles, Optative particles, and an attributive copula **ká**. While Indicative particles are treated in the present section, Optative particles are described in the chapter on verbs (7.6.1.1.2), and the attributive copula is described in the context of verbless clauses (10.1.3.2).

Four Indicative particles are found in Mambay:

**nà** (question particle; see also 4.4.2.3)  
**yó** (affirmative particle)  
**yá** (negative particle)  
**rè** (topicalization particle)

Indicative particles are used in reference to clauses as well as clause constituents. Since the core of a clause is prototypically a verb, applying a particle to a verbal clause is formally and functionally equivalent to applying it to the verb (see 7.6.1.1 for examples). In the following section, each of the Indicative particles is shown (whenever attested) in a verbless clause, with an Indicative verb, and with at least one other clause constituent.

#### 10.1.2.1 The question particle **nà**

When the question particle **nà** is juxtaposed with a noun, an interrogative clause results.

**kwéé nà** is it Kwe?  
 Kwe QM

The particle **nà** may also be applied to complete verbless clauses (10.1.3.1).

**mù kwéé nà** are you Kwe?  
 2SG Kwe QM

cf. **mù kwéé** you are Kwe  
 2SG Kwe

Further, **nà** is frequently used with verbal clauses (7.6.1.1.1).

<b>mù</b>	<b>vúm</b>	<b>nà</b>	are you about to go?
2SG	go:FUT:2SG	QM	
cf. <b>mù</b>	<b>vúm</b>		you are about to go
2SG	go:FUT:2SG		

The use of **nà** with interrogative pronouns is discussed in 6.2. The following serves as an example:

<b>wíí</b>	<b>pá-lè</b>	<b>nà</b>	what has happened?
what?	happen:PERF-3SG.REFL	QM	

### 10.1.2.2 The affirmative particle **yó**

The affirmative particle **yó** ‘indeed’ has the effect of affirming a clause or putting focus on an Indicative clause constituent. When it is simply juxtaposed with a noun, a presentational clause or an answer results.

<b>kwéé</b>	<b>yó</b>	here is Kwe / it is Kwe
Kwe	indeed	

With the exception of interrogative pronouns (6.2), sentences consisting of a single word are not permitted; thus, in cases where a noun is used to answer a question—as shown by the preceding example—it is always accompanied by **yó**.

The particle **yó** may also be applied to complete verbless clauses (10.1.3).

<b>mù</b>	<b>kwéé</b>	<b>yó</b>	you are indeed Kwe
2SG	Kwe	indeed	
cf. <b>mù</b>	<b>kwéé</b>		you are Kwe
2SG	Kwe		

An example of **yó** applied to a verbal clause is as follows (cf. 7.6.1.1.1):

<b>mì</b>	<b>té’là</b>	<b>yó</b>	I am indeed walking
1SG	walk:VN	indeed	

Finally, **yó** may be used to put focus on a subject.

<b>mì</b>	<b>yó</b>	<b>páà</b>	<b>só’lé</b>	<i>I am the boss / I am the Lord</i>
1SG	indeed	man:LF	greatness	
<b>wíí</b>	<b>yó</b>	<b>pá-lè</b>	<b>nà</b>	<i>what has happened?</i>
what?	indeed	happen:PERF-3SG.REFL	QM	

### 10.1.2.3 The negative particle *yá*

Negation is always signalled by the clause-final negative particle *yá* along with some additional indicator. For negation of an equivalence clause, *yá* is found in conjunction with a third person negative non-Perfective pronoun *hŋ* (6.1.2.6) in initial subject position.

<b>hŋ</b>	<b>wáà</b>	<b>yá</b>	he/she/it is not the chief
3:NONPFV.NEG	chief	NEG	
cf. <b>dú</b>	<b>wáà</b>		he/she/it is the chief
3SG.INDEP	chief		

For absence/non-existence clauses, a third person negative Perfective negative pronoun *hŋí* (6.1.2.5) is used directly before *yá*.

<b>wáà</b>	<b>hŋí</b>	<b>yá</b>	the chief is not there / there is no chief
chief	3:PFV.NEG	NEG	
cf. <b>wáà</b>	<b>tògó</b>		the chief is there / there is a chief
chief	be		

The negative particle *yá* is most commonly found with verbs (7.6.1.1.1) and, like the other Indicative particles, is found clause-finally; the marking of negation in this position is an areal feature (Watters 2000:207). Here, *yá* is accompanied by a modification of the structure of subject pronouns, which mark realis value (see 6.1.2).

<b>mŋ</b>	<b>té'là</b>	<b>yá</b>	I am not walking / I do not walk
1SG:NONPFV.NEG	walk:VN	NEG	
cf. <b>mì</b>	<b>té'là</b>		I am walking / I walk
1SG	walk:VN		

Objects may also be negated: modifications in tonal and segmental structure similar to those applied to subject pronouns signal that negation concerns an object rather than the verb or clause. This negation has the effect of focus on the object, and indicates that the object is different item than the one which the listener expects. In the following cases, the object's final syllable is lengthened and a low tone is associated with it.

<b>mŋí</b>	<b>kó</b>	<b>bígàà</b>	<b>yá</b>	I didn't see the <i>child</i>
1SG:PFV.NEG	see:PFV	child:EMPH	NEG	
cf. <b>mŋí</b>	<b>kó</b>	<b>bígà</b>	<b>yá</b>	I didn't see the child
1SG:PFV.NEG	see:PFV	child	NEG	

<b>mìj</b>	<b>kó</b>	<b>pìzáà</b>	<b>yá</b>	I didn't see the <i>horse</i>
1SG:PFV.NEG	see:PFV	horse:EMPH	NEG	
cf. <b>mìj</b>	<b>kó</b>	<b>pìzá</b>	<b>yá</b>	I didn't see the horse
1SG:PFV.NEG	see:PFV	horse	NEG	

The structural effect of object negation has yet to be investigated with nouns of other CV shapes and tone melodies.

#### 10.1.2.4 The topicalization particle **rè**

The prototypical use of the particle **rè** is to strongly topicalize constituents, that is, to centralize relevant known information in the context of a discourse (cf. 7.6.1.1.1).

<b>mì</b>	<b>rè,</b>	<b>mì</b>	<b>yáá</b>	<b>kâ'</b>	as for me, I stayed here
1SG	TOPIC	1SG	stay:PFV	here	
<b>kyăh</b>	<b>rè,</b>	<b>ʔà</b>	<b>ká</b>	<b>gêhngá</b>	as for fish, it is delicious
fish	TOPIC	3IMPERS	ATTRIB	sweetness	

<b>kà</b>	<b>mù</b>	<b>héh-rì</b>	<b>kũl-nà</b>	<b>rè,</b>
if/when	2SG	stop:PERF-PERF	plow:VN-OBJ	TOPIC

<b>mú</b>	<b>kěhl</b>	<b>páà</b>	<b>bîn</b>
2SG:OPT	look.for:OPT	man:LF	other

*when you have finished plowing, look for another person*

Another important use of **rè** is as a floor-holding device (cf. Payne 1997:358): it shows that a speaker intends to continue an utterance (cf. the expectancy marker in 4.2.2).

**rè !**  
TOPIC

*let me finish!*

<b>pàrà</b>	<b>rò'</b>	<b>ʔéé</b>	<b>kyàg</b>	<b>ʔîn</b>	<b>kágà</b>	<b>rè</b>
goodness!	issue	3SG.POSS.C/I	hurt:VN	body/at:LF	chicken	TOPIC

*goodness! how this issue troubles the chicken ...*

The particle **rè** is also found with Optative verb forms, where it is used to express mild supplication (7.6.1.1.2).

#### 10.1.3 Verbless clauses

Verbless clauses (chains) are common in Mambay. Except in the case of interrogative pronouns, they must contain another element in addition to a noun or noun phrase (6.2,

10.1.2.2). Verbless clauses are constructed by combining a subject noun phrase (minimally consisting of a noun or pronoun) with one of the following elements:

- particle (10.1.3.1);
- noun (phrase) (0);
- adjective (10.1.3.3);
- numeral (10.1.3.4); or
- prepositional phrase (10.1.3.5).

The structure and, in some cases, function of each type of construction are considered in the following subsections.

### 10.1.3.1 Noun + particle

The simplest verbless clauses are those comprised of a (pro)noun and an Indicative particle (10.1.2).

**mù nà** is it you?  
2SG QM

**libà yó** it is a guineafowl  
guineafowl indeed

**rò' párà yó** it is well said (lit. 'it is a good word')  
word:LF goodness indeed

### 10.1.3.2 Noun + noun (phrase)

Equivalence-type (A is B / A is a kind of B / A is identified by B) clauses are constructed by juxtaposing a (pro)noun with another noun or noun phrase.

**mì kwéé** I am Kwe  
1SG Kwe

**libà zòògí kùù** the guineafowl is [a kind of] wild bird  
guineafowl bird:LF bushland

**fíìlò páhnà** the house is [made of] mud  
house mud

Locative clauses may be constructed in the same way, except that the second noun necessarily refers to a place. This leads to structural ambiguity which may be resolved by appealing to discourse-internal references as well as the text-external referential realm.

**mì fíìlò** I am at the house (/I am the house)  
1SG house

**Káǎǎ káàkààlá**  
Kada Kaakaala

Kada is in Kaakaala (/Kada is Kaakaala)

When the predicate of a verbless clause is a noun which describes the quality of the subject, the subject and the predicate noun are linked by the attributive copula **ká**. Although this particle may have originated historically from a preposition (cf. Elders 2000:243), in Mambay it is not used synchronically in any other context.

**?à ká bààǎ** it is hard  
3IMPERS ATTRIB hardness

**ná'rà ká kpâhǎǎ** the sauce is salty/tasty  
sauce ATTRIB saltiness

In verbless clauses with human subjects, an attributive predicate noun may be pluralized (cf. 5.5).

**dùǎǎ ká zóǎǎ** they are great/large/important  
3PL.INDEP ATTRIB greatness:PL

### 10.1.3.3 Noun + adjective

Clauses in which an adjectival predicate modifies the subject are constructed by juxtaposing a subject (pro)noun and an adjective.

**?à báráǎ** it is straight  
3IMPERS straight

**ná'rà lùrbùǎ** the sauce is sticky  
sauce sticky

### 10.1.3.4 Noun + numeral

Count clauses may be constructed using a (pro)noun and a numeral.

**dùǎǎ bì-gíró** there are six of them  
3PL.INDEP NUM-six

**béla bì-sáh** there are three children  
child:PL NUM-three

### 10.1.3.5 Noun + prepositional phrase

In addition to being found with a noun + noun structure (10.1.3.2), locational clauses may be constructed by juxtaposing a subject with a prepositional phrase headed by the prepositions **sáǎ** 'inside, in,' **má** 'with/and' or **bèè** 'without' (9.3).

**mì sàà fíìlò** I am in the house  
 1SG inside house

**hùùrì sàà mậ** the hyena is in the granary  
 hyena inside granary

When the prepositional phrase is headed with **mậ** ‘with/and,’ the idea of ‘have’ is understood; when it is headed with **bèè** ‘without,’ the idea of ‘have not’ is communicated.

**tí-vịnậ mậ túrà** the woman has millet  
 AUG-woman with millet

**tí-vịnậ bèè túrà** the woman does not have millet  
 AUG-woman without millet

#### 10.1.4 Independent utterances other than clauses

In some cases, a word or phrase may in itself constitute a complete utterance even though it does not meet the minimal formal requirements for a clause (i.e., subject plus predicate). While its significance is bound to the discourse of which it is a part, it is syntactically independent. Items which typically pattern in this way in Mambay include interjections, swear words, commands, vocatives and formulae as well as affirmative and negative markers. The following serve as examples:

**hậ/ậậậ** ha! aha! you see? (gloating)  
**hẩ** oh my! (astonishment)  
**kây** of course not!; of course! (being taken aback) (cf. Fulf. *kay*)  
**ậhyyáà** woe is me! (horror, grief)

**'mậậ** really! (sincerity, astonishment; lit. ‘truth’)  
**pàrà** goodness! (astonishment; cf. **pàrà** ‘goodness’)  
**sủ'ậ** damn! (frustration, regret)

**ậậ** come! get over here! (cf. **ậậ** ‘touch’)  
**swá'** go! rah rah rah! (cf. **swá'** ‘encourage’)

**káđá** Kada! (cf. 5.12.1)  
**pậậ** Pana!

**kậvậw** “the end”  
**kì-swá'** thankyou! hello! (cf. **kì-** ‘place,’ and **swá'** immediately above)

**ậậ** yes  
**ậậ, ậậậ, ậậậ** no

<b>ʔààyéé, ʔàyyéé</b>	yes, indeed! (cf. Chadian Arabic <i>ayyē</i> ‘yes’)
<b>ʔìhî</b>	yes, that’s right
<b>̀̀mhm̀̀</b>	yes
<b>̀̀òwó, ̀̀wwó, ̀̀òó</b>	yes (cf. Fulf. <i>ooho</i> )
(nasal click)	yes (acquiescence) (see 2.1.7.3)

## 10.2 Clause combinations

In Mambay, clauses are related within a sentence by means of coordination (10.2.1) and subordination (10.2.2). In the present discussion, a description of clause combinations is carried out with an emphasis on the morphemes as well as the syntactic structures that make relations between clauses possible.

### 10.2.1 Coordination

Clauses of equal grammatical status may be coordinated by juxtaposition or with a conjunction. Juxtaposition is the more common way that this is achieved.

**nà-pùgzá lùg-zí, kó-zì-rú** the people went out, and they saw him  
 PFX-person:PL go.out:PFV-PL see:PFV-PL-3SG.OBJ

**băh hùm, nà-táállá gyáá** the rain came, and the ants swarmed  
 rain come:PFV PFX-ant.sp. foam.up:PFV

**m̀̀y ǹ̀a, m̀̀y ǹ̀a** is it you, or is it me?  
 2SG QM 1SG QM

Within a sentence, conjunctions may also be used to coordinate clauses. **m̀̀n** is used to coordinate sequential clauses.

**fààlé, vè bú’ m̀̀r h̀̀ỳ̀r̀̀í**  
 back/after:3SG.COREF/IMPERS.POSS go:PFV gather.up:PFV excrement:LF hyena

**m̀̀n t̀̀à̀̀g̀̀í s̀̀à̀̀ s̀̀à̀̀ m̀̀h v̀̀ù v̀̀ù**  
 then whip:PFV inside:LF granary IDEO IDEO

*after, he/she/it went and gathered up the hyena excrement and then splashed the inside of the granary with it vuu vuu*

Two forms of a conjunction **m̀̀à̀̀ ~ m̀̀á** ‘or’ are used to present alternative possibilities within a sentence. In the first example, which uses **m̀̀à̀̀**, the coordinated clauses stand on their own:

**làà-rì kyăh ǹ̀a m̀̀à̀̀ zăg-lè**  
 eat:PERF-PERF fish QM or refuse:PERF-3SG.REFL

*has he/she/it eaten the fish or has he/she/it refused?*

In a second example, the form **má** ‘or’ (which represents a special function of the preposition **má** ‘with, and’) coordinates two clauses which are themselves subordinated (10.2.2) to a following clause:

**sí-kètí**    **gù-lé**                            **má**            **gù**            **yá,**  
 PFX-God    consent:PERF-3SG.REFL    with/and/or    consent:PFV    NEG

**mìí**            **gòg-ní**                            **rógò**  
 1SG.IRR    fly:FUT-1SG.REFL    tomorrow

*[whether] God has consented or not, I will fly tomorrow*

Precise factors influencing the contrastive usage of **má** vs. **màà** have not been determined, but are likely motivated by considerations of emphasis (cf. 6.1.5, 10.1.2.3), realis value (cf. 6.1.2, 7.4), and/or subordination (10.2.2) (either inherent to each of the forms or reflecting those of the discourse context).

## 10.2.2 Subordination

Clauses may be combined so that one clause is the main clause and another clause is subordinate. Subordinate clauses are of three types: complement (10.2.2.1), adverbial (10.2.2.2), and relative (10.2.2.3).

### 10.2.2.1 Complement clauses

In Mambay, object complement clauses are found following the verb (as is any other object; see 10.1.1), and are introduced by the complementizers **bè** and **bàh**. While these complementizers are typically used as quotation markers with speech verbs, they may also be found with verbs of cognition and performance (see below).

The first quotation marker, **bè**, is the more common of the two; it typically signals a quotation (indirect as well as direct speech).

Indirect speech:

**ró'**    **bè**    **lè**                            **vé-lé**                            **dâg**            **byàá**  
 say:PFV    QUOT    3SG.COREF    go:FUT-3SG.REFL    mouth/edge    water

*he/she/it said that he/she/it<sub>i</sub> was about to go to the water's edge*

Direct speech:

**ró'**    **bè**    **mì**    **ví-ní**                            **dâg**            **byàá**  
 say:PFV    QUOT    1SG    go:FUT-3SG.REFL    mouth/edge    water

*he/she/it said, "I am about to go to the water's edge"*

Often, the speech verb is dropped, but **bè** implies its existence.



Note the use of the second person object pronoun (cf. 6.1.1) for the quotation addressee in the final example (see also Anonby 2005:42).

### 10.2.2.2 Adverbial clauses

Adverbial clauses are used to express a range of adverbial information pertaining to a main clause. Attested functions include time, purpose, concession and condition. The following adverbializers are used introduce these adverbial clauses:

<b>kà</b>	when, if; and then, before, so that, in order to
<b>kò</b>	when, if
<b>kòò</b>	even if, whether
<b>má-kì-nàá</b>	while, when, even though (cf. <b>má</b> ‘with, and,’ <b>kì-</b> ‘place, situation,’ <b>nàá</b> (relativizer))

As the subsequent discussion shows, all of the adverbializers are found clause-initially.

The adverbializer **kà** functions differently depending on where the subordinate clause in which it occurs is placed. When the subordinate clause comes before the main clause, **kà** means ‘when’ (simultaneous time) or ‘if’ (condition). In this position, it is only attested in the data with Indicative verb forms.

**kà vérgà hùm-lé, dǔg gbàh kágà**  
 when/if traveller come:PERF-3SG.REFL 3GEN catch:VN chicken  
*when a traveller has come, they catch a chicken*

**kà sí-kètí gù-lé, rógò má rúgà**  
 when/if PFX-God consent:PERF-3SG.REFL tomorrow with/and morning

**mǐ gòg-ní**  
 1SG.IRR fly:FUT-1SG.REFL

*if God has consented, tomorrow morning I will fly*

However, when the subordinate clause follows the main clause, **kà** means ‘and then, before’ (sequential time; with an Indicative verb form) or ‘so that’ (purpose; with an Optative verb form).

**kà** in a subordinate clause with an Indicative verb form:

**mǐ làà bé'n kà mǐ mún**  
 1SG.IRR eat:FUT first and.then 1SG.IRR come:FUT:to.here

*I will eat first before I come / I will eat first and then I will come*

**kà** in a subordinate clause with an Optative verb form:

**mǐ**      **làà**      **bé'n**      **kà**      **mǐ**      **mùn**  
1SG.IRR eat:FUT first and.then 1SG.OPT come:OPT:to.here

*I will eat first so that I might come*

The adverbializer **kò** differs from **kà** in that it is only found in subordinate clauses that precede the main clause. There, it performs the same function as **kà**, meaning ‘when’ or ‘if.’

**kò**      **vérgà**      **hùm-lé,**      **dǔg**      **gbàh**      **kágà**  
when/if traveller come:PERF-3SG.REFL 3GEN catch:VN chicken

*when a traveller has come, they catch a chicken*

**kò**      **sí-kètí**      **gù-lé,**      **rógò**      **má**      **rúgà**  
when/if PFX-God consent:PERF-3SG.REFL tomorrow with/and morning

**mǐ**      **gòg-ní**  
1SG.IRR fly:FUT-1SG.REFL

*if God has consented, tomorrow morning I will fly*

The adverbializer **kò** is also distinctive in that, unlike **kà**, it has an emphatic counterpart **kóò** ‘even if’ (concession and condition). If **kóò** is used with more than one coordinated construction, it carries the sense ‘whether.’

**kóò**      **bígà**      **hùm-lé,**      **dǔg**      **gbàh**      **kágà**  
even.if child come:PERF-3SG.REFL 3GEN catch:VN chicken

*even if a child has come, they catch a chicken*

**kóò**      **rò**      **tì**      **káàlàw,**      **kóò**      **rò**      **tì**      **káàkààlá,**  
even.if 2PL COLL:HEAD Kaalaw even.if 2PL COLL:HEAD Kaakaala

**ró**      **lá'**      **kwǐ**      **'nám**  
2PL:OPT listen:OPT neck/voice:1SG.POSS.INAL well

*whether you are people from Kaalaw, or whether you are people from Kaakaala,  
listen well to my voice*

One final adverbializer, which is found before a sentence-initial subordinate clause, is **má-kì-nàá** (lit. ‘with-[the]place-that’). It typically means ‘while, when’ (simultaneous time).

**má-kì-nàá mù làá-nà, mǐ kyáŋ-gám**  
 while 2SG eat:VN-OBJ 1SG:IRR wait:FUT-2SG.OBJ

*while you are eating, I will wait for you*

**ɓà' ɓà' má-kì-nàá sí-kètí ɓó' kètí má tí-sìgró,**  
 PAST PAST while PFX-God create:PFV heaven with AUG-earth

**nàmzá gǎh ?éré má nà-pùgpùgá**  
 animal:PL midst:LF 3PL.C/I.POSS with PFX-humankind

*long ago, when God created heaven and earth, the animals dwelt with humankind*

If the main clause is inherently counter-expectational with respect to the subordinate clause, **má-kì-nàá** admits the sense ‘even though’ (concession).

**má-kì-nàá mǐ lá' 'nám yá,**  
 while 1SG:PERF.NEG listen/understand:PFV well NEG

**mì hùm-ní**  
 1SG come:PERF-1SG.REFL

*even though I did not understand, I have come*

Major adverbial functions which could be expressed in other languages with adverbial clauses are in some cases relegated to adverbial noun and prepositional phrases in Mambay. This is true of manner, reason and some time constructions:

manner:

**mì hùm-ní má á'rvà**  
 1SG come:PERF-1SG.REFL with run:VN

*I have come running (lit. I have come with running)*

reason:

**mì hùm-ní káà súŋgì ?ám**  
 1SG come:PERF-1SG.REFL head/reason:LF lie.down:VN:LF 2SG.POSS

*I have come because you were lying down (lit. I have come [for the] reason of your lying down)*

time (the two clauses are also expressed in separate sentences):

**mì lá'-rì. fàalé, mì mûn**  
1SG hear:PERF-PERF back:3SG.C/I.POSS.INAL 1SG come:PFV:to.here

*I heard. After this (lit. Its back), I came.*

### 10.2.2.3 Relative clauses

Relative clauses, which function as noun modifiers, are uniformly postnominal: they follow the linked form (5.2.2) of the noun they modify and the invariable relativizer **nàá** (cf. 5.14.6).

**páà nàá Ø nû-lé káám dâg tômná**  
man:LF REL 3:PFV sleep:PFV-3SG.REFL head/on:2SG.POSS.INAL first

*the person that has gone to sleep first ahead of you*

**?îg nàá ?àá pá-lé**  
thing:LF REL 3SG:IRR happen:FUT-3SG.REFL

*what (lit. the thing that) will happen*

Relative clauses in Mambay are versatile: there appear to be few restrictions on the distribution of TAM in relative clauses, and the antecedent nouns they accompany may function as their subjects, objects or locative/temporal complements.

First of all, subject relative clauses—those for which the antecedent noun is the subject of the relative clause—are common (relative clauses are shown in square brackets).

**páà [nàá Ø nû-lé káám dâg tômná]**  
man:LF REL 3:PFV sleep:PFV-3SG.REFL head/on:2SG.POSS.INAL first

**?à kpûg káám tùm**  
3:IMPFV wake.up:VN head/on:2SG.POSS.INAL forward

*the person that has gone to sleep first ahead of you wakes up before you*

**mì kó ?îg [nàá Ø pá-lé]**  
1SG see:PFV thing:LF REL 3:PFV happen:PFV-3SG.REFL

*I saw what (lit. the thing that) happened*

Object relative clauses, that is, those for which the antecedent noun is the object of the relative clause, are also well-attested. Inanimate objects are typically represented by a gap within the relative clause.

**mì sá' ?ig [nàá mì kyáh]**  
1SG buy:PFV thing:LF REL 1SG want:PFV

*I bought what (lit. the thing that) I wanted*

**gbíí-zí ?ig [nàá Ø yáh-zí vòró kô']**  
abandon:PFV-PL thing:LF REL 3:PFV take:PFV to.there there

*they abandoned what (lit. the thing that) they took there*

Traces of animate objects, however, often surface as object pronouns in the relative clause.

**vè mà páà [nàá rò sùm-rú]**  
go:PFV with person:LF REL 2PL know:VN-3SG.OBJ

*he/she/it went with a person that you know*

Finally, an antecedent noun may also function as locative (spatial or temporal) adverbial complement (cf. 10.1.1) of a relative clause.

**kèhl kè' [nàá hùùrí nì mírà]**  
look.for:PFV place:LF REL hyena defecate:PFV excrement

*he/she/it looked for the place that the hyena defecated*

**gêh [nàá Ø záh-zí-rì bíg wáà],**  
day:LF REL 3:PFV tread:PERF-PL-PERF child:LF chief

**?àá mûn má lóózìrá káà dùgú**  
3:IRR come:FUT:to.here with difficulty head/on:LF 3PL.POSS.INAL

*the day that they have trampled the chief's child, he will come with hardship*

## TEXTS

This section contains a selection of five Mambay texts representing various genres. The texts, which are transcriptions of recordings of the main collaborator Oussoumanou Bouba, are as follows:

1. Song: **hùrtìgóhm** ‘The locust’
2. Song: **wàhwàh** ‘Hubbub’
3. Legend: **táwsóò yáh gwààrè** ‘Tawsoo took the sickle’
4. Fable: **kágà mụ libà** ‘The chicken and the guineafowl’
5. Hortatory text: **nà-tù** ‘Proverbs’

The texts are presented with an interlinear translation. In the first line, the Mambay text is found; morpheme boundaries are marked with hyphens. The second line gives a literal translation of each morpheme or, when relevant, its grammatical function. In the third line, an idiomatic translation is provided in italics.

1. Song: **hùrtìgóhm** ‘The locust’

**hùrtìgóhm mù húm** “  
locust.sp.1 2SG come:PFV EXPECT  
*Locust, did you come...*

**zà’rá kǎ’ nà.**  
dance:VN here QM  
*to dance here?*

**mù húm nà-kógrà** “  
2SG come:PFV PFX-look(n.) EXPECT  
*You came to watch, didn’t you?*

**mù ?ùr káà sàà yáŋ** “,  
2SG stand:PFV head/on:LF stone IDEO EXPECT  
*You stood on the stone unperturbed,*

**mù ‘náj kǔm dáájú.**  
2SG stretch:PFV neck:2SG.POSS.INAL IDEO  
*you stretched your neck, craning it and looking all around.*

**mùú tì nà-bàbbá**  
2SG.IRR become:FUT PFX-locust.sp.2  
*Will you become a grasshopper*

**kà mú là kwáà nà.**  
and.then 2SG.OPT eat:OPT grass QM  
*so that you can eat grass too?*

2. Song: **wàhwàh** ‘Hubbub’

**wàhwàh! zèlà lòón mǐ.**  
hubbub lie:VN bother:PFV 1SG.OBJ  
*Hubbub! A lie bothered me.*

**zèlì wǐ lóón páà dō’ nà, páà dō’ nà.**  
lie:VN:LF what? bother:VN man:LF ANAPH QM man:LF ANAPH QM  
*What rumour is bothering that man, that man?*

**tí-gérêm wàđ đăđ-zí túrà kúù.**  
AUG-woman.PL:LF chief sow:PFV-PL millet bushland  
*The wives of the chief sowed millet in the fields.*

**băh [ʔàá]<sup>10</sup> đáá yá, băh [ʔàá]<sup>1</sup> đáá yá.**  
rain 3:PFV.NEG succeed:PFV NEG rain 3:PFV.NEG succeed:PFV NEG  
*The rain did not come, the rain did not come.*

**gúú-zí nǐrè vòró fàà sá’bà**  
pull.back:PFV-PL bottom:3PL.C/I.POSS.INAL to.there back/place:LF traditional.salt  
*They [the women] bent over at the place where the salt is*

**kì-gòò nà-rígrílè, nà-rígrílè.**  
place:PFX-prepare:VN PFX-gourd.seed PFX-gourd.seed  
*to roast gourd seeds, gourd seeds.*

**kyéé ró’ lé bè lé gbáh ‘màrà**  
mother-3SG.C/I.POSS.INAL talk:PFV 3SG.C/I.OBJ QUOT 3SG.C/I.OPT catch:OPT friend

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<sup>10</sup> This pronoun is absent in the song, but Oussomanou maintains that it is obligatory in normal speech; cf. 7.5.

**má bǒ'm-bò'msí,**  
with Bo'm-Bo'msi

*[She<sub>i</sub> said ] her<sub>i</sub> mother<sub>j</sub> / the mother<sub>j</sub> told her<sub>i</sub> that she<sub>i,j</sub> must become friends with Bo'm-Bo'msi,*

**bò'msí hàhngí káálé gbàrgàtàng**  
Bo'msi forget:PFV head:3SG.C/I.POSS.INAL IDEO  
*but Bo'msi lost his head completely,*

**yáh nà-gbáhgú ríí fíí[t]<sup>11</sup> fíí[t]**  
take:PFV PFX-cultivated.hibiscus.sp. clean.out:PFV IDEO IDEO  
*took the rich hibiscus-leaf sauce and cleaned it all out with his fingers,*

**yáh nà' gôm síg sùgú kpíh.**  
take:PFV sauce:LF vine.sp. place:PFV downward IDEO  
*took the bitter vine-leaf sauce and put it down with a clunk.*

**lòòrí yá, lòòrí yá.**  
lick:PFV NEG lick:PFV NEG  
*He didn't lick it, he didn't lick it.*

**kwéé ", mú tì páà hùr tùúrì.**  
Kwe EXPECT 2SG.OPT become:OPT man:LF eat.powder:VN *boule*  
*Kwe, be the one who eats the dry boule.*

**kwéé ", múyù nìn bèè délà yá,**  
Kwe EXPECT 2SG.NONPFV.NEG eye:LF without mature:VN NEG  
*Kwe, you are like eyes without maturity,*

**kwéé ", mú yáh tùúrì mú lòòrí.**  
Kwe EXPECT 2SG.OPT take.OPT *boule* 2SG.OPT lick:OPT  
*Kwe, take the boule and lick it.*

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<sup>11</sup> The final **t** of this ideophone is absent in the song, but Oussomanou maintains that it is used in normal speech.

3. Legend: **táwsòò yáh gwààrè** ‘Tawsoo took the sickle’

**lǎh má yáá káà tí-sìgró gbàntàṅ.**

story 3:OPT sit/be:OPT head/on:LF AUG-land IDEO

*May this story live on throughout the wide world.*

**đáṅ pádpád.**

spread.out:OPT/PFV IDEO

*[Audience:] [May it] spread out rapidly / It spread out rapidly.*

**táwsòò yáh gwààrè.**

Tawsoo take:PFV sickle

*Tawsoo took the sickle.*

**táwsòò yáh gwààrè ”, bè lè vé-lé wàà tùgló.**

Tawsoo take:PFV sickle EXPECT QUOT 3SG.C/I go:FUT-3SG.REFL diminish:VN hedge

*Tawsoo took the sickle, intending to go and trim the hedge.*

**tùgló vbíi sêhrú.**

hedge cut:PFV hand:3SG.POSS.INAL

*The hedge cut his hand.*

**kàr dágé káà ryăh.**

set:PFV mouth:3SG.C/I.POSS.INAL head/reason/on:LF cry(n.)

*He opened his mouth with a cry.*

**nâ-gbóglà hùr ”, háá hé’ kèti.**

PFX-toad jump:PFV EXPECT until bang:PFV sky

*The toad jumped, so high that he banged into the sky.*

**băh húm ”, nâ-táállá gyàà.**

rain come:PFV EXPECT PFX-ant.sp. foam.up:PFV

*The rain came, and the ants swarmed.*

**nà-vbérgà bè lè sàr-nà.**  
PFX-agama.lizard QUOT 3SG.C/I devour:VN-OBJ  
*The agama lizard intended to devour them.*

**nà-táállá bè gû mù sàr ré ?án lá' náá' ".**  
PFX-ant.sp. QUOT but.then 2SG devour:VN 3PL.C/I.OBJ how? like this EXPECT  
*The ants said, But how could he devour them like this?*

**nà-vbérgà bè léè sàr ró yá ",**  
PFX-agama.lizard QUOT 3SG.C/I:NONPFV.NEG devour:VN 2PL.OBJ NEG EXPECT

**rò gyàà gyáàrì bágá nà.**  
2PL foam.up:PFV foam.up:VN:LF a.little QM  
*The lizard said, [How could it be that] he not devour them? Did they only swarm a little swarming?*

**bè réè gyàà yá, báh hóm hómgi**  
QUOT 3PL.C/I:NONPFV.NEG foam.up:FUT NEG rain come:PFV come:VN:LF

**bágá nà' ".**  
a.little QM EXPECT  
*They said, [How could it be that] they will not swarm? Did the rain only come a little coming?*

**báh bè léè hóm yá, ná-gbóglà hè' kèti**  
rain QUOT 3SG.C/I:NONPFV.NEG come:FUT NEG PFX-toad bang:VN sky

**hè'-nì bágá nà.**  
bang:VN-OBJ:LF a.little QM  
*The rain said, [How could it be that] it will not come? Was the toad only banging the sky a little banging?*

**ná-gbóglà bè léè hé' yá, táwsòò sàh rèh**  
PFX-toad QUOT 3SG.C/I:NONPFV.NEG bang:FUT NEG Tawsoo rip:VN cry(n.):LF

**bágá nà' ".**  
a.little QM EXPECT  
*The toad said, [How could it be that] he will not bang [into the sky]? Was Tawsoo only letting loose a little cry?*

táwsòò bè léè sàh yá, tùgló vbíí lé  
Tawsoo QUOT 3SG.C/I:NONPFV.NEG rip:FUT NEG hedge cut:PFV 3SG.C/I.OBJ

vbìì-nì bágá nà.  
cut:VN-OBJ:LF a.little QM

*Tawso said, [How could it be that] he will not let loose [a cry]? Did the hedge only cut him a little cutting?*

tùgló bè léè vbíí-m yá, mù wàà lé  
hedge QUOT 3SG.C/I:NONPFV.NEG cut:FUT-2SG.OBJ NEG 2SG diminish:VN 3SG.C/I.OBJ

wàà-nì bágá nà ".  
diminish:VN-OBJ:LF a.little QM EXPECT

*The hedge said, [How could it be that] it will not cut him? Was Tawsoo only trimming him a little trimming?*

táwsòò bè léè wáá-m yá, lé wǎr  
Tawsoo QUOT 3SG.C/I:NONPFV.NEG diminish:FUT-2SG.OBJ NEG 3SG.C/I.OPT leave:OPT

dâg tí-?ázè vòŋ nà ".  
mouth/door:LF AUG-member.of.ʔàzgàrà:3SG.C/I.POSS.INAL open QM EXPECT

*Tawso said, [How could it be that] he will not trim it? Must he leave his mother-in-law's door open?*

bè tí-?ázàm pàg wíí yâg-ám nà.  
QUOT AUG-member.of.ʔàzgàrà:2SG.POSS.INAL make:VN what? to-2SG.POSS.INAL QM  
*[The hedge] said, what does his mother-in-law do for him?*

bè tí-?ázè kòò vínà yâg lé.  
QUOT AUG-member.of.ʔàzgàrà:3SG.C/I.POSS.INAL bear:PFV woman to 3SG.C/I.OBJ  
*He said, His mother-in-law gave birth to a wife [woman] for him.*

vínà pàg wíí yâg-ám nà.  
woman make:VN what? to-2SG.POSS.INAL QM  
*...And what does the wife do for him?*

**vínà kòò vínà yâg lé.**

woman bear:PFV woman to 3SG.C/I.OBJ

...The wife [woman] gave birth to a girl [woman] for him.

**bígà pàg wíí yâg-ám nà?**

child make:VN what? to-2SG.POSS.INAL QM

...And what does the child do for him?

**bígà nì mírà, nà-kùró lêg-nà.**

child defecate:VN excrement PFX-vulture suck:VN-OBJ

...The child keeps the vultures happy (lit. the child craps, and the vultures suck it up).

**bîg vínà yáh rù'gó ", bè lè vé-lé**

child:LF woman take:PFV clay.water.jar EXPECT QUOT 3SG.C/I go:FUT-3SG.REFL

**dág byáá, kpùr 'màhlé tí-kpéhpèhw.**

mouth/edge:LF water bump:PFV foot:3SG.C/I.POSS.INAL AUG-IDEO

The girl took the clay water jar, intending to go to the water's edge, and bumped her foot throwing her right off balance.

**rù'gó hùg-lé, hàn dágé bè**

clay.water.jar break:PFV-3SG.REFL put.back:PFV mouth:3SG.C/I.POSS.INAL QUOT

The clay water jar shattered, and she let out a groan, saying:

**sù'nì, mì yàà kà' wàà zàhmbà, mì háá**

damn! 1SG stay/be:PFV area.outside.gate:LF chief IDEO 1SG come.back:PFV

**má sàlá kpàhwwà.**

with cowrie.shell IDEO

"Damn! I was outside the chief's gate all beautifully ornamented, and I came back with the tinkling of cowrie shells."

**bîg támbúúrà ", ?óó bîg lóólà ",**

child:LF pigeon EXPECT braid:PFV child:LF rope EXPECT

**ʔóó bîg lóólà kàrwàhz ʔ.**

braid:PFV child:LF rope IDEO RES

*The little pigeon, it braided a little rope, it braided a little rope abruptly and desperately...*

**kàvbậw ʔ, lăh mú túú káání gá,**

the.end EXPECT story 2SG:OPT partake:OPT head:1SG.POSS.INAL NEG.OPT

**mú túú káà tâw gbòòrò ʔ.**

2SG:OPT partake:OPT head:LF Taw(:LF) bald EXPECT

*The end!...Tale, don't take [any hair] from my head; take it from Taw's bald head / take it from Bald Taw's head...*



**ʔì-náá** ʔ, **ná** **lá'-zí** **ʔìg** **náá**  
HEAD-this EXPECT 1&2:OPT hear:OPT-PL thing:LF REL

**pá-lé** ʔ, **kà** **kágà** **má** **pèè-lé** **fíí.**  
happen:PFV-3SG.REFL EXPECT and.then chicken 3:OPT be.limited:OPT-3SG.REFL home  
*This thing, let's listen to the thing that happened, whereby the chicken was confined to habitations.*

**rò'** **náá** **ʔèr** **ʔín** **líbà** **má** **kágà,**  
word:LF this get.up:PFV body/at:LF guineafowl with chicken

**dùgzí** **bàrgúú** **zòògì** **sáà** **kwéré:**  
3PL.INDEP both bird:LF inside fence  
*This issue arose for the guineafowl and the chicken, both of them birds in captivity:*

**kà** **ʔù'-lé** **vâg** **vérgà** ʔ, **nà-pùgpùgá** **gbàh**  
when arrive:PFV-3SG.REFL go:VN:LF travel(1er) EXPECT PFX-humankind catch:VN

**kágà** **lá'** **ʔìg** **nìì** **séh** **kàà** **pàg** **mààrà.**  
chicken like thing:LF bottom:LF hand(adv.) head/reason:LF make:VN:LF gift  
*When it has come about to go on a trip, people take a chicken as something in hand to give as a gift.*

**kà** **vérgà** **hûm-lé** ʔ, **dǔg** **gbàh** **kágà,**  
when travel(1er) come:PERF-3SG.REFL EXPECT 3GEN catch:VN chicken

**káá** **gòó-nà** **yâg-rú.**  
head/reason:LF prepare:VN-OBJ to-3SG.OBJ  
*When a traveller has come, they catch the chicken to cook it for him.*

**pàrà** **rò'** **ʔéé** **kyàg** **ʔín** **kágà** **rè.**  
goodness! word 3SG.C/I.POSS hurt:VN body/self:LF chicken TOPIC  
*Goodness! This issue pains the chicken himself...*

**gêh-náá** ʔ, **tòg** **bádgì-zí** **lààbá** **má** **líbà,**  
day:LF-this EXPECT be peck.around:VN-PL eat:VN with evening

**mùn kágà ”, ró’ líbà bè**  
come:PFV:to.here chicken EXPECT talk:PFV guineafowl QUOT

*One day, when they were pecking food in the evening, the chicken came along, and he said to the guineafowl:*

**'már ?íí, mú lá' ?íng kyàg díngí.**  
friend:LF 1SG.POSS 2SG.OPT hear:OPT thing:LF hurt:VN liver:1SG.POSS.INAL

*“My friend, listen to what is distressing me.*

**kà nà-pùgá vé-lé vérgà ”, ?à gbàh**  
when PFX-person go:FUT-3SG.REFL travel(1er) EXPECT 3:IMPFV catch:VN

**mí ”, mǐí dòógbâh.**

1SG.OBJ EXPECT 1SG:EMPH always

*“When a person is about to go travelling, he catches me, always me.*

**kà vérgà hùm-lé hín ?índú,**  
when travel(1er) come:PERF-3SG.REFL to.here body/at:3SG.POSS.INAL

**?à gbàh mí ”, káà pàg ná'rà yâg-rú.**  
3:IMPFV catch:VN 1SG.OBJ EXPECT head/reason:LF make:VN sauce to-3SG.OBJ

*“When a traveller<sub>i</sub> has come here to his<sub>j</sub> place, he<sub>j</sub> catches me, in order to make sauce for him<sub>i</sub>.*

**rógò ”, má rúgá pímpím, mǐí gòg-ní ”,**  
tomorrow EXPECT with morning very.early 1SG:IRR fly:FUT-1SG.REFL EXPECT

**mǐí ví-ní kúù.**  
1SG:IRR go:FUT-1SG.REFL bushland

*“Tomorrow, early in the morning, I will fly, and I will go to the bush.”*

**líbà gù bè ?ààyéé ”, lá' ?ì-dó' ”, 'már ?íí.**  
guineafowl answer:PFV QUOT indeed! EXPECT like HEAD:ANAPH EXPECT friend 1SG.POSS

*The guineafowl replied, “Indeed! So be it (lit. Like that), my friend.*

**gû ”, kà mù zǒn-nòm, gû mǐí ”,**  
but.then EXPECT when 2SG.S leave:PERF-2SG.REFL but.then 1SG:EMPH EXPECT

**mìí yáá má víínà.**

1SG.FUT stay:FUT with who?:QM

*“But then...when you have left, but then what about me? Who will I stay with?”*

**kà sí-kètí gù-lé rógò má líbà ”**

when/if PFX-God consent:PFV-3SG.REFL tomorrow with evening EXPECT

**mìí gòg-ní.**

1SG:IRR fly:FUT-1SG.REFL

*“If God has consented, tomorrow evening...I will fly.”*

**kágà bè káá ?íg kín mù yàh yìh**

chicken QUOT head/reason:LF thing:LF which? 2SG.S call:VN name:LF

**sí-kètí sàà nà ”.**

PFX-God inside QM EXPECT

*The chicken said, “For what reason are you calling the name of God into this?”*

**sí-kètí gù-lé má gù yá mìí gòg-ní**

PFX-God consent:PFV-3SG.REFL with accept:PFV NEG 1SG:IRR fly:FUT-1SG.REFL

**rógò má rúgà.**

tomorrow with morning

*“Whether God has consented or not, I will fly tomorrow morning.”*

**nìí rúgà pá-lé kágà dúú gìhgìlé ”,**

bottom:LF morning happen:PFV-3SG.REFL chicken hit:PFV wing:3SG.C/I.POSS.INAL EXPECT

**gìh ?ilé bè lè gógrà ”,**

strive:PFV body/self:3SG.C/I.POSS.INAL QUOT 3SG.C/I fly:VN EXPECT

**pèè-lé káá kwéré ” kàgzàg.**

be.limited:PFV-3SG.REFL head/on:LF fence EXPECT IDEO

*When the first light came, the chicken [kaga] flapped his wings, made a great effort intending to fly, but petered out on top of the fence...with a flop [kagzag].*

**má rúgà** “, **nà-pùgzá lùg-zí, kó-zì-rú bè**  
with morning EXPECT PFX-person:PL go.out:PFV-PL see:PFV-PL-3SG.OBJ QUOT

**?áhyyáà, ?ì-náá kágà yóò** “, **?ì-náá kágà yóò.**  
oh.dear! HEAD-this chicken indeed:EMPH EXPECT HEAD-this chicken indeed:EMPH

*In the morning, the people went out and saw him [and they said], “Oh dear! This is the chicken, this is the chicken.”*

**gbăh-zì-rú** “, **hăn-zì-rú hîn sàà kwèrè.**  
catch:PFV-PL-3SG.OBJ EXPECT put.back:PFV-PL-3SG.OBJ to.here inside fence

*They caught him, and put him back here inside the fence.*

**gyâh hàg-lé** “, **libà rô'-rú bè 'mâr ?íí,**  
sun break:PFV-3SG.REFL EXPECT guineafowl say:PFV-3SG.OBJ QUOT friend 1SG.POSS

**libà yáh-rì káálé hîn** “, **kà sí-kètí**  
evening take:PERF-PERF head:3SG.C/I.POSS.INAL to.here EXPECT when/if PFX-God

**gù-lé mǐj gòg-ní vòró kúù rè.**  
consent:PFV-3SG.REFL 1SG:IRR fly:FUT-1SG.REFL to.there bushland TOPIC

*When the sunlight had diminished, the guineafowl said to him, “My friend, evening has joined us here...if God has consented I will fly out to the bush...”*

**libà pá-lé** “, **libà ?ì-zòògá ?in**  
evening happen:PFV-3SG.REFL EXPECT guineafowl HEAD-bird lift:PFV

**?ílé bè sí-kètí, yáh 'màhlé**  
body/self:3SG.C/I.POSS.INAL QUOT PFX-God take:PFV foot:3SG.C/I.POSS.INAL

**sà' sà', gòg-lé** “, **vbírèrèrèrèrè, kàn-lé**  
IDEO IDEO fly:PFV-3SG.REFL EXPECT IDEO pass:PFV-3SG.REFL

**kpúz ì'.**  
far.away definitively

*Evening [liba] came, and the guineafowl [liba] which is a bird lifted himself saying “God,” slowly and jerkily pulled each of his legs up, flew...with a great whirr and went far away forever.*

**kágà kàgzàg tị zòògì fíí, líbà " zòògì kúù.**  
chicken IDEO become:PFV bird:LF home guineafowl EXPECT bird:LF bushland

*So Flop the Chicken [kaga kagzag] became a domestic bird, and the guineafowl a wild bird.*

**?ígà kpá' ", mú yáh yíh sí-kètí,**  
thing all EXPECT 2SG:OPT call:OPT name:LF PFX-God

**?àá pá-lé yâg-ám.**  
3:IRR happen:FUT-3SG.REFL to-2SG.OBJ

*For everything, call the name of God, and it will happen for you.*

## 5. nà-tú' 'Proverbs'

**twǎh bɛ̀è kǎ̀à nà ʔ.**

snake bite:VN stick QM EXPECT

*Does a snake bite the stick?*

explanation: A snake doesn't bite the stick, but rather the person holding the stick. In the same way, one should not attack a messenger for bringing bad news.

**nà-táállá bò' páà zèlǎ tùm.**

PFX-ant.sp. throw:VN man:LF lie:VN forward

*The ant throws the rumour-monger in front.*

explanation: Like the ant that returns to the colony with a report about food and is obliged to lead the way back to the food, a person who makes a claim will have to prove it.

**nà-kǎhrì páà kóm̀nà rúrà nì gǎmbù.**

PFX-fruit.sp.:LF man:LF hunger ripen:VN bottom:LF bag

*The fruit of a hungry man ripens at the bottom of his bag.*

explanation: A hungry person carefully watches over his or her food supply.

**kǎgà ʔ bɛ̀ vyàh túr sùmù ʔ sé' hìg sùgò.**

chicken EXPECT QUOT winnow:VN millet:LF night EXPECT must give:VN ear

*The chicken says, "[Is someone] winnowing night millet? [One] must listen carefully."*

explanation: Like a chicken that listens carefully for the sound of food at night, people should be alert for unseen things that might benefit them.

**kà mù hí-rì nínù yâg páà bìn ʔ**

when 2SG give:PERF-PERF eye to man:LF other EXPECT

**ʔà ʔà-ím kòg kyǎ'.**

3:IMPFV surpass:VN-2SG.OBJ see:VN place/situation

*When you have given your eyes to another man, his view surpasses yours.*

explanation: People exaggerate what they actually see.

**nà-mùrì sù mù té'là mà héélà nà ”.**

PFX-jinn:LF night walk:VN with whistling QM EXPECT

*Does the night jinn whistle when it walks?*

explanation: If someone is doing something wrong, he or she will do it stealthily.

**sígò ” hǐ ðù byáá n̄n b̄hàà**  
crocodile EXPECT 3:NONPFV.NEG hit:VN water eye/in.presence.of:LF ibis.sp.

**bàtì yá.**

two NEG

*The crocodile, it doesn't stir the water near an ibis twice.*

explanation: Like a bird that has been frightened by a crocodile's attack on another bird, a watchful person cannot be overtaken by danger.

**páà n̄á n̄-lé káám ðág t̄mn̄á ”**  
man:LF REL sleep:PFV-3SG.REFL head/on:2SG.POSS.INAL first EXPECT

**?à kp̄g káám t̄m.**  
3:IMPFV wake.up:VN head/on:2SG.POSS.INAL forward

*The man who is asleep ahead of you, he wakes up before you.*

explanation: A person that prepares early has an advantage over those who do not.

**ðǔg hǐ n̄h kp̄ávirá káà páṅn̄i ?éé**  
3GEN 3:NONPFV.NEG take.out:VN bulb.plant.sp.:LF head/on:LF site:LF 3SG.C/I.POSS

**téde yá.**

all NEG

*One doesn't take out all the plant bulbs from where they are situated.*

explanation: People should look after what they may need in the future.

**páà n̄á lá'-rì káà n̄-tú'zì n̄á ”**  
man:LF REL understand:PERF-PERF head/meaning:LF PFX-proverb:PL:LF this EXPECT

**?àà sóg ?íḡ n̄á mì sóg-n̄a n̄i b̄el rógò.**  
3:IRR send:FUT thing:LF REL 1SG send:VN-OBJ bottom/for:LF child:PL:LF tomorrow

*The man that has understood the meaning of these proverbs, he will pass on what I pass on for the children of tomorrow.*

explanation: A wise person will teach his or her wisdom to the next generation.

## Appendix 1: Inalienable possession paradigms

This appendix provides an inventory of inalienable possession paradigms, which are attested in noun-pronoun possessive constructions.

Nouns which may participate in inalienable noun-pronoun possessive constructions (5.3.4.1) are listed in the following table and divided into groups based on the CV shape and tonal melody of their linked forms (5.2.2.1). In each group, inalienable possessive constructions are formed in the same way for all nouns in the group. Nouns exhibiting idiosyncratic paradigms are also listed.

linked form type	noun	linked form (cf. 5.2.2)	gloss
Group 1a: CVV-final, L tone	<b>fààlá</b>	<b>fàà</b>	back, skin
	<b>gǎh</b>	<b>gǎh</b>	beard
	<b>(káà) nǎ-wâdnǎnú</b>	<b>(káà) nǎ-wâdnǎ</b>	buttocks
	<b>mùhnǎ</b>	<b>mùh</b>	vulva
	<b>'màhnǎ</b>	<b>'màh</b>	foot
	<b>nǎ-nǎnú</b>	<b>nǎ-nǎ</b>	bum
	<b>nǎnú</b>	<b>nǎ</b>	bottom
	<b>vbààlá</b>	<b>vbàà</b>	testicle
	<b>wàhlá</b>	<b>wàh</b>	nape (of neck)
Group 1b: CVV-final, HL tone	<b>káálà</b>	<b>káà</b>	head
	<b>vbyâh</b>	<b>vbêh</b>	cheek
Group 2: CVC-final (where final C is a consonant other than <b>n</b> ), HL tone	<b>dágà</b>	<b>dâg</b>	mouth
	<b>súgò</b>	<b>sûg</b>	ear
	<b>sábà</b>	<b>sâb</b>	tail
Group 3a: CVC-final (where final C is <b>n</b> ), L tone	<b>gǎhgǎnú</b>	<b>gǎhgǎn</b>	wing, fin
	<b>gùùgùnú</b>	<b>gùùgùn</b>	gill
	<b>tǎnú</b>	<b>tǎn</b>	front, genitals
Group 3b: CVC-final (where final C is <b>n</b> ), HL tone	<b>fǎnú</b>	<b>fǎn</b>	forehead
	<b>?ǎnú</b>	<b>?ǎn</b>	body, self
	<b>kpánǎ</b>	<b>kpán</b>	penis
	<b>nǎ-vǎnú</b>	<b>nǎ-vǎn</b>	co-wife
	<b>nǎnú</b>	<b>nǎn</b>	eye, face, life
	<b>zǎnú</b>	<b>zǎn</b>	tooth, tusk

Group 4a: CV'n-final, L tone	<b>gì'nú</b>	<b>gì'n</b>	small of back
	<b>tè'nú</b>	<b>tè'n</b>	side (of body)
Group 4b: CV'n-final, HL tone	<b>kàà nà-sí'nú</b>	<b>kàà nà-sí'n</b>	knee
	<b>nà-kànsí'nú</b>	<b>nà-kànsí'n</b>	shadow, soul, spirit
	<b>nà-kànsí'nú</b>	<b>nà-kànsí'n</b>	kneecap, fontanelle
Group 5: CVhn-final, L tone	<b>kìhnú</b>	<b>kìhn</b>	waist, hip
Group 6a: CVVn-final, L tone	<b>hùùnú</b>	<b>hùùn</b>	thigh
Group 6b: CVVn-final, HL tone	<b>síjùnú</b>	<b>síjùn</b>	horn, antenna
Group 6c: CVVn-final, HLH tone	<b>sùjùnú</b>	<b>sùjùn</b>	younger in-law
Group 7: CVgn-final, HL tone	<b>dígnú</b>	<b>dígn</b>	liver
	<b>nì nà-rígnú</b>	<b>nì nà-rígn</b>	underarm
Group 8a: CV-final, L tone	<b>fààzì</b>	<b>fààzì</b>	member of <b>fààzàrà</b> (see Glossary)
Group 8b: CV-final, 2-mora, HLH tone	<b>?ázi´</b>	<b>?ázi´</b>	member of <b>àzgàrà</b> (see Glossary)
Group 8c: CV-final, 3-mora, HLH tone	<b>fàhzi</b>	<b>fàhzi</b>	member of <b>fàhzàrà</b> (see Glossary)
Idiosyncratic constructions	<b>dwǎ'</b>	(multiple forms; see paradigms below)	belly
	<b>kwàá</b>		neck, voice
	<b>kyáá-rìnná</b>		paternal aunt
	<b>márnà</b>		eldest sibling
	<b>'márá</b>		friend
	<b>náábà</b>		colleague
	<b>nánà´</b>		maternal uncle
	<b>nà-púrà</b>		navel
	<b>nà-rìmnú</b>		tongue
	<b>pàà</b>		father
	<b>páá-nà-rìnná</b>		paternal uncle
	<b>pàà vaa</b>		husband
	<b>syâh</b>		hand
	<b>túù</b>		mother
<b>wáà</b>	nose		

Inalienable noun-pronoun possessive construction paradigms are given on the following pages for an example noun from each group in the table above as well as for all nouns with idiosyncratic forms. The third person plural forms are not, morphologically speaking, part of the paradigms (see 6.1.4.2); however, they are included because they complete the semantic inalienable sets, and because they show the linked form of each of the nouns in alienable possessive constructions.

pronoun gloss	inalienable possessive pronoun	Group 1a: fààlá 'back, skin'	Group 1b: káálà 'head'	Group 2: súgò 'ear'	Group 3a: tìnú 'front, genitals'
1SG	-í	fààní	káání	súgí	tìní
2SG	-m	fààm	káám	súgúm	tìním
1&2SG	-ná	fààná	kááná	súgná	tìná
3SG	-rú	fààrú	káárú	súgrú	tìndú
3SG.L/I	-lé	fààlé	káále	súgé	tìlé
1PL	-rí	fààrí	káárí	súgrí	tìrí
2PL	-ró	fààró	kááró	súgró	tìró
1&2PL	-zínzá	fààzínzá	káázínzá	súgzínzá	tìnzínzá / tìnzá
3PL	(dùgú)	(fàà dùgú)	(káà dùgú)	(súg dùgú)	(tìn dùgú)
3PL.L/I	-ré	fààré	kááré	súgré	tìré

	Group 3b: nínù 'eye, face, life'	Group 4a: tè'nù 'side (of body)'	Group 4b: káà nà-sì'nù 'knee'	Group 5: kìhnù 'waist, hip'
1SG	níní	tè'ní	káà nà-sì'ní	kìhní
2SG	níním	tè'ém	káà nà-sì'ím	kìhm
1&2SG	níná	tè'ná	káà nà-sì'ná	kìhná
3SG	nìndú	tè'ndú	káà nà-sì'ndú	kìhndú
3SG.L/I	nìlé	tè'lé	káà nà-sì'lé	kìhlé
1PL	nírí	tè'rí	káà nà-sì'rí	kìhrí
2PL	nìró	tè'ró	káà nà-sì'ró	kìhró
1&2PL	nínzínzá / nínzá	tè'nzínzá / tè'nzá	káà nà-sì'nzínzá / káà nà-sì'nzá	kìhnzínzá / kìhnzá
3PL	(nìn dùgú)	(tè'n dùgú)	(káà nà-sì'n dùgú)	(kìhn dùgú)
3PL.L/I	nìré	tè're	káà nà-sì're	kìhré

	Group 6a: hùùnù 'thigh'	Group 6b: sìínù 'horn, antenna'	Group 6c: sùùnì 'younger in-law'	Group 7: dìgnù 'liver'
1SG	hùùnì	sìínì	sùùnì	dìgnì
2SG	hùùm	sìím	sùùm	dìgním
1&2SG	hùùná	sìíná	sùùná	dìgná
3SG	hùùndú	sìínndú	sùùndú	dìgìndú
3SG.L/I	hùùlé	sìínlé	sùùlé	dìglé
1PL	hùùrí	sìírí	sùùrí	dìgrí
2PL	hùùró	sìíró	sùùró	dìgró
1&2PL	hùùnzínzá / hùùnzá	sìínzínzá / sìínzá	sùùnzínzá / sùùnzá	dìgìnzínzá/ dìgìnzá
3PL	(hùùn dùgú)	(sìín dùgú)	(sùùn dùgú)	(dìgìn dùgú)
3PL.L/I	hùùré	sìíré	sùùré	dìgré

	Group 8a: fààzí 'member of fààzàrà' (see Glossary)	Group 8b: ʔázi 'member of ʔàzgarà' (see Glossary)	Group 8c: fâhzi 'member of fâhzàrà' (see Glossary)	Idiosyncratic: dwá' 'belly'
1SG	fààzí	ʔázi	fâhzi	dwí'
2SG	fààzám	ʔázám	fâhzám	dòʔóm
1&2SG	fààzìná	ʔázìná	fâhzìná	dò'ná
3SG	fààzìrú	ʔázìrú	fâhzìrú	dò'rú
3SG.L/I	fààzé / fààzilé	ʔázé / ʔázilé	fâhzé / fâhzilé	dwéy'
1PL	fààzìrí	ʔázìrí	fâhzìrí	dò'rí
2PL	fààzìró	ʔázìró	fâhzìró	dò'ró
1&2PL	fààzìnzá	ʔázìnzá	fâhzìnzá	dò'zìnzá
3PL	(fààzì dùgú)	(ʔázì dùgú)	(fâhzì dùgú)	(dò' dùgú)
3PL.L/I	fààzìré	ʔázìré	fâhzìré	dò're

	Idiosyncratic: kwáá 'neck, voice'	Idiosyncratic: kyáá-rìnná 'paternal aunt'	Idiosyncratic: márnà 'eldest sibling'	Idiosyncratic: 'màrà 'friend'
1SG	kwíí	kyáá-rìnní	mární	'márí
2SG	kũm	kyáá-rìnm	—	'máram
1&2SG	kùunná	kyáá-rìnná	—	—
3SG	kùurrú	kyáá-rìnnú	—	'márdú
3SG.L/I	kùùlé	kyáá-rìllé	—	—
1PL	kùùrí	kyáá-rìrrí	—	—
2PL	kùùró	kyáá-rìrró	—	—
1&2PL	kùùzìnzá	kyáá-rìnzà / kyáá-rìnzá	—	—
3PL	(kùù dùgú)	(kyáá-rìnn dùgú)	(márn dùgú)	('már dùgú)
3PL.L/I	kùùré	kyáá-rìrré	—	—

	Idiosyncratic: nájábà 'colleague'	Idiosyncratic: nànà 'maternal uncle'	Idiosyncratic: nà-púrà 'navel'	Idiosyncratic: nà-rìmnú 'tongue'
1SG	nájání	nànà	nà-púrí	nà-rìmní
2SG	nájám	nànám	nà-púram	nà-rìmním
1&2SG	—	nànà	—	nà-rìmná
3SG	nájàrú	nànú	nà-púrdú	nà-rìmrú
3SG.L/I	nájále	nànè / nálè	—	nà-rìmlé
1PL	—	nàrì	nà-púrí	nà-rìmrí
2PL	—	nàrò	nà-púró	nà-rìmró
1&2PL	—	nànzìnzá / nànzá	—	nà-rìmnìzìnzá
3PL	(nájàbì dùgú)	(nàn dùgú)	(nà-púr dùgú)	(nà-rìmnì dùgú)
3PL.L/I	—	nàrè	nà-púré	nà-rìmré

	Idiosyncratic: <b>páá</b> 'father'	Idiosyncratic: <b>páá-ná-rìnná</b> 'paternal uncle'	Idiosyncratic: <b>páà vǎà</b> 'husband'	Idiosyncratic: <b>syáh</b> 'hand'
1SG	<b>páy</b>	<b>páá-rìnní</b>	<b>páà vǎy</b>	<b>síh</b>
2SG	<b>pám</b>	<b>páá-rìnní</b>	<b>páà vǎm</b>	<b>sáhm</b>
1&2SG	<b>pááná</b>	<b>páá-rìnná</b>	<b>páà vǎnná</b>	<b>séhná</b>
3SG	<b>páàrú</b>	<b>páá-rìnnú</b>	<b>páà vǎàrú</b>	<b>sèhrú</b>
3SG.L/I	<b>páy</b>	<b>páá-rìlé</b>	<b>páà vǎy / páà vǎalé</b>	<b>séhlé</b>
1PL	<b>páárí</b>	<b>páá-rìrì</b>	<b>páà vǎàrí</b>	<b>séhrí</b>
2PL	<b>pááró</b>	<b>páá-rìró</b>	<b>páà vǎàró</b>	<b>séhró</b>
1&2PL	<b>páázínzá</b>	<b>páá-rìnzínzá / páá-rìnzá</b>	<b>páà vǎàzínzá</b>	<b>séhzínzá</b>
3PL	<b>(páà dùgú)</b>	<b>(páá-rìnn dùgú)</b>	<b>(páà vǎà dùgú)</b>	<b>(sèh dùgú)</b>
3PL.L/I	<b>pááré</b>	<b>páá-rìré</b>	<b>páà vǎàré</b>	<b>séhré</b>

	Idiosyncratic: <b>túù</b> 'mother'	Idiosyncratic: <b>wǎà</b> 'nose'
1SG	<b>tíí</b>	<b>wíí / húúnní</b>
2SG	<b>túm</b>	<b>húúnní</b>
1&2SG	<b>kyááná</b>	<b>húúnná</b>
3SG	<b>túùrú</b>	<b>húúnrú</b>
3SG.L/I	<b>kyéé</b>	<b>húúnlé</b>
1PL	<b>kyáárí</b>	<b>húúnrí</b>
2PL	<b>kyááró</b>	<b>húúnró</b>
1&2PL	<b>kyáázínzá</b>	<b>húúnzínzá / húúnnzá / wǎnzá</b>
3PL	<b>(túù dùgú)</b>	<b>(húù dùgú)</b>
3PL.L/I	<b>kyááré</b>	<b>húúré</b>

## Appendix 2: Verb conjugations

This appendix contains conjugations of the six tonally contrastive verb classes (7.3.2.2.1). Paradigms are given for tenses which are signalled tonally (7.4): Perfective, Perfect, Pluperfect, Imperfective, Future, Optative and, in the case of the verb *vè* ‘go,’ Realis Future (7.3.3.1.2). Since morphology is different for intransitive and transitive verbs (7.3.2.1), and since tone is mapped on verb stems based on their CV shape (7.3.2.2.3), verbs which illustrate these distinctions are shown when they are found in the data.

The order of the conjugations given in this appendix is as follows:

tonal class	transitivity	CV shape of stem	example verb
1	intransitive	C(C)VX C(C)V	<b>yáá</b> ‘move away’ <b>gé</b> ‘get lost’
	transitive	C(C)VX C(C)V	<b>ḃéé</b> ‘bite’ <b>pá</b> ‘make, do’
2	intransitive	C(C)VX	<b>sùù</b> ‘lie down’
3	intransitive	C(C)V	<b>vè</b> ‘go’
4	intransitive	C(C)VX	<b>hèè</b> ‘climb, go up’
	transitive	C(C)VX	<b>gù</b> ‘answer, accept, admit’
5	intransitive	C(C)VX	<b>yââ</b> ‘finish (intr.)’ (derived)
	transitive	C(C)VX	<b>yââ</b> ‘finish (tr.)’
6	intransitive	C(C)VX.CV	<b>?dògí</b> ‘drag one’s feet’ (derived)
	transitive	C(C)VVC	<b>yâân</b> ‘cause to finish (tr.)’
		C(C)V.CVC	<b>dògón</b> ‘cause to drink (tr.)’
		C(C)VX.CV	<b>?dògí</b> ‘set crawling’
		C(C)VX.CV.CV	<b>?dògìní</b> ‘cause to set crawling’
		C(C)VX.CV.CV.CV	<b>?dògìnrí</b> ‘cause to set crawling repeatedly / cause repeatedly to set crawling’

Verb class 1, intransitive, C(C)VX: **yáá** ‘move away’

*Perfective*

1SG	mì	yáá
2SG	mù	yáá
1&2SG	nà	yáá
3SG		yáá
3SG.LOG	lè	yáá
1PL	rì	yáá
2PL	rò	yáá
1&2PL	nà	yáázi
3PL		yáázi
3PL.LOG	rè	yáázi

*Perfect*

1SG	mì	yáàní
2SG	mù	yáám
1&2SG	nà	yáàná
3SG		yáàlé
3SG.LOG	lè	yáàlé
1PL	rì	yáàrí
2PL	rò	yáàró
1&2PL	nà	yáàzìnzá
3PL		yáàzìré
3PL.LOG	rè	yáàzìré

*Pluperfect*

1SG	mì	yáání
2SG	mù	yáám
1&2SG	nà	yááná
3SG		yáàlé
3SG.LOG	lè	yáàlé
1PL	rì	yáàrí
2PL	rò	yáàró
1&2PL	nà	yáázìnzá
3PL		yáázìré
3PL.LOG	rè	yáázìré

*Imperfective*

1SG	mì	yáà
2SG	mù	yáà
1&2SG	nà	yáà
3SG	?à	yáà
3SG.LOG	lè	yáà
1PL	rì	yáà
2PL	rò	yáà
1&2PL	nà	yáàzi
3PL	?à	yáàzi
3PL.LOG	rè	yáàzi

*Future*

1SG	mìí	yáá
2SG	mùú	yáá
1&2SG	nàá	yáá
3SG	?àá	yáá
3SG.LOG	lèé	yáá
1PL	rìí	yáá
2PL	ròó	yáá
1&2PL	nàá	yáázi
3PL	?àá	yáázi
3PL.LOG	rèé	yáázi

*Optative*

1SG	mí	yáá
2SG	mù	yáá
1&2SG	ná	yáá
3SG	má	yáá
3SG.LOG	má	yáá
1PL	rí	yáá
2PL	ró	yáá
1&2PL	ná	yáázi
3PL	má	yáázi
3PL.LOG	má	yáázi

Verb class 1, intransitive, C(C)V: **gé** ‘get lost’

*Perfective*

1SG	<b>mì</b>	<b>gé</b>
2SG	<b>mù</b>	<b>gé</b>
1&2SG	<b>nà</b>	<b>gé</b>
3SG		<b>gé</b>
3SG.LOG	<b>lè</b>	<b>gé</b>
1PL	<b>rì</b>	<b>gé</b>
2PL	<b>rò</b>	<b>gé</b>
1&2PL	<b>nà</b>	<b>gézí</b>
3PL		<b>gézí</b>
3PL.LOG	<b>rè</b>	<b>gézí</b>

*Perfect*

1SG	<b>mì</b>	<b>gènì</b>
2SG	<b>mù</b>	<b>gènèm</b>
1&2SG	<b>nà</b>	<b>gènà</b>
3SG		<b>gèle</b>
3SG.LOG	<b>lè</b>	<b>gèle</b>
1PL	<b>rì</b>	<b>gèrì</b>
2PL	<b>rò</b>	<b>gèrò</b>
1&2PL	<b>nà</b>	<b>gézínzà</b>
3PL		<b>gézírè</b>
3PL.LOG	<b>rè</b>	<b>gézírè</b>

*Pluperfect*

1SG	<b>mì</b>	<b>génì</b>
2SG	<b>mù</b>	<b>génèm</b>
1&2SG	<b>nà</b>	<b>gènà</b>
3SG		<b>gélé</b>
3SG.LOG	<b>lè</b>	<b>gélé</b>
1PL	<b>rì</b>	<b>gèrì</b>
2PL	<b>rò</b>	<b>gèró</b>
1&2PL	<b>nà</b>	<b>gézínzá</b>
3PL		<b>gézírè</b>
3PL.LOG	<b>rè</b>	<b>gézírè</b>

*Imperfective*

1SG	<b>mì</b>	<b>gélà</b>
2SG	<b>mù</b>	<b>gélà</b>
1&2SG	<b>nà</b>	<b>gélà</b>
3SG	<b>?à</b>	<b>gélà</b>
3SG.LOG	<b>lè</b>	<b>gélà</b>
1PL	<b>rì</b>	<b>gélà</b>
2PL	<b>rò</b>	<b>gélà</b>
1&2PL	<b>nà</b>	<b>gézílà</b>
3PL	<b>?à</b>	<b>gézílà</b>
3PL.LOG	<b>rè</b>	<b>gézílà</b>

*Future*

1SG	<b>mì</b>	<b>gé</b>
2SG	<b>mù</b>	<b>gé</b>
1&2SG	<b>nà</b>	<b>gé</b>
3SG	<b>?àá</b>	<b>gé</b>
3SG.LOG	<b>lèé</b>	<b>gé</b>
1PL	<b>rì</b>	<b>gé</b>
2PL	<b>ròó</b>	<b>gé</b>
1&2PL	<b>nà</b>	<b>gézí</b>
3PL	<b>?àá</b>	<b>gézí</b>
3PL.LOG	<b>rèé</b>	<b>gézí</b>

*Optative*

1SG	<b>mí</b>	<b>gé</b>
2SG	<b>mù</b>	<b>gé</b>
1&2SG	<b>nà</b>	<b>gé</b>
3SG	<b>má</b>	<b>gé</b>
3SG.LOG	<b>má</b>	<b>gé</b>
1PL	<b>rí</b>	<b>gé</b>
2PL	<b>ró</b>	<b>gé</b>
1&2PL	<b>nà</b>	<b>gézí</b>
3PL	<b>má</b>	<b>gézí</b>
3PL.LOG	<b>má</b>	<b>gézí</b>

Verb class 1, transitive, C(C)VX: **béé** ‘bite’

*Perfective*

1SG	m̀	béé	ʔígà
2SG	m̀	béé	ʔígà
1&2SG	nà	béé	ʔígà
3SG		béé	ʔígà
3SG.LOG	lè	béé	ʔígà
1PL	rì	béé	ʔígà
2PL	rò	béé	ʔígà
1&2PL	nà	béézí	ʔígà
3PL		béézí	ʔígà
3PL.LOG	rè	béézí	ʔígà

*Perfect*

1SG	m̀	béérì	ʔígà
2SG	m̀	béérì	ʔígà
1&2SG	nà	béérì	ʔígà
3SG		béérì	ʔígà
3SG.LOG	lè	béérì	ʔígà
1PL	rì	béérì	ʔígà
2PL	rò	béérì	ʔígà
1&2PL	nà	béézírì	ʔígà
3PL		béézírì	ʔígà
3PL.LOG	rè	béézírì	ʔígà

*Pluperfect*

1SG	m̀	béérì	ʔígà
2SG	m̀	béérì	ʔígà
1&2SG	nà	béérì	ʔígà
3SG		béérì	ʔígà
3SG.LOG	lè	béérì	ʔígà
1PL	rì	béérì	ʔígà
2PL	rò	béérì	ʔígà
1&2PL	nà	béézírì	ʔígà
3PL		béézírì	ʔígà
3PL.LOG	rè	béézírì	ʔígà

*Imperfective*

1SG	m̀	bèè	ʔígà
2SG	m̀	bèè	ʔígà
1&2SG	nà	bèè	ʔígà
3SG	ʔà	bèè	ʔígà
3SG.LOG	lè	bèè	ʔígà
1PL	rì	bèè	ʔígà
2PL	rò	bèè	ʔígà
1&2PL	nà	bèèzí	ʔígà
3PL	ʔà	bèèzí	ʔígà
3PL.LOG	rè	bèèzí	ʔígà

*Future*

1SG	m̀	béé	ʔígà
2SG	m̀	béé	ʔígà
1&2SG	nà	béé	ʔígà
3SG	ʔà	béé	ʔígà
3SG.LOG	lè	béé	ʔígà
1PL	rì	béé	ʔígà
2PL	rò	béé	ʔígà
1&2PL	nà	béézí	ʔígà
3PL	ʔà	béézí	ʔígà
3PL.LOG	rè	béézí	ʔígà

*Optative*

1SG	m̀	béé	ʔígà
2SG	m̀	béé	ʔígà
1&2SG	nà	béé	ʔígà
3SG	má	béé	ʔígà
3SG.LOG	má	béé	ʔígà
1PL	rì	béé	ʔígà
2PL	rò	béé	ʔígà
1&2PL	nà	béézí	ʔígà
3PL	má	béézí	ʔígà
3PL.LOG	má	béézí	ʔígà

Verb class 1, transitive, C(C)V: **pá** ‘make, do’

*Perfective*

1SG	mì	pá	ʔígà
2SG	mù	pá	ʔígà
1&2SG	nà	pá	ʔígà
3SG		pá	ʔígà
3SG.LOG	lè	pá	ʔígà
1PL	rì	pá	ʔígà
2PL	rò	pá	ʔígà
1&2PL	nà	pází	ʔígà
3PL		pází	ʔígà
3PL.LOG	rè	pází	ʔígà

*Perfect*

1SG	mì	pàrì	ʔígà
2SG	mù	pàrì	ʔígà
1&2SG	nà	pàrì	ʔígà
3SG		pàrì	ʔígà
3SG.LOG	lè	pàrì	ʔígà
1PL	rì	pàrì	ʔígà
2PL	rò	pàrì	ʔígà
1&2PL	nà	pázìrì	ʔígà
3PL		pázìrì	ʔígà
3PL.LOG	rè	pázìrì	ʔígà

*Pluperfect*

1SG	mì	pàrì	ʔígà
2SG	mù	pàrì	ʔígà
1&2SG	nà	pàrì	ʔígà
3SG		pàrì	ʔígà
3SG.LOG	lè	pàrì	ʔígà
1PL	rì	pàrì	ʔígà
2PL	rò	pàrì	ʔígà
1&2PL	nà	pázìrì	ʔígà
3PL		pázìrì	ʔígà
3PL.LOG	rè	pázìrì	ʔígà

*Imperfective*

1SG	mì	pàg	ʔígà
2SG	mù	pàg	ʔígà
1&2SG	nà	pàg	ʔígà
3SG	ʔà	pàg	ʔígà
3SG.LOG	lè	pàg	ʔígà
1PL	rì	pàg	ʔígà
2PL	rò	pàg	ʔígà
1&2PL	nà	pàgzì	ʔígà
3PL	ʔà	pàgzì	ʔígà
3PL.LOG	rè	pàgzì	ʔígà

*Future*

1SG	mìí	pá	ʔígà
2SG	mùú	pá	ʔígà
1&2SG	nàá	pá	ʔígà
3SG	ʔàá	pá	ʔígà
3SG.LOG	lèé	pá	ʔígà
1PL	rìí	pá	ʔígà
2PL	ròó	pá	ʔígà
1&2PL	nàá	pází	ʔígà
3PL	ʔàá	pází	ʔígà
3PL.LOG	rèé	pází	ʔígà

*Optative*

1SG	mí	pá	ʔígà
2SG	mú	pá	ʔígà
1&2SG	ná	pá	ʔígà
3SG	má	pá	ʔígà
3SG.LOG	má	pá	ʔígà
1PL	rí	pá	ʔígà
2PL	ró	pá	ʔígà
1&2PL	ná	pází	ʔígà
3PL	má	pází	ʔígà
3PL.LOG	má	pází	ʔígà

Verb class 2, intransitive, C(C)VX: **sùù** ‘lie down’

*Perfective*

1SG	<b>mì</b>	<b>sùù</b>
2SG	<b>mù</b>	<b>sùù</b>
1&2SG	<b>nà</b>	<b>sùù</b>
3SG		<b>sùù</b>
3SG.LOG	<b>lè</b>	<b>sùù</b>
1PL	<b>rì</b>	<b>sùù</b>
2PL	<b>rò</b>	<b>sùù</b>
1&2PL	<b>nà</b>	<b>sùùzì</b>
3PL		<b>sùùzì</b>
3PL.LOG	<b>rè</b>	<b>sùùzì</b>

*Perfect*

1SG	<b>mì</b>	<b>sùùní</b>
2SG	<b>mù</b>	<b>sùùm</b>
1&2SG	<b>nà</b>	<b>sùùná</b>
3SG		<b>sùùlé</b>
3SG.LOG	<b>lè</b>	<b>sùùlé</b>
1PL	<b>rì</b>	<b>sùùrí</b>
2PL	<b>rò</b>	<b>sùùró</b>
1&2PL	<b>nà</b>	<b>sùùzìnzá</b>
3PL		<b>sùùzìré</b>
3PL.LOG	<b>rè</b>	<b>sùùzìré</b>

*Pluperfect*

1SG	<b>mì</b>	<b>sùùní</b>
2SG	<b>mù</b>	<b>sùùm</b>
1&2SG	<b>nà</b>	<b>sùùná</b>
3SG	<b>?à</b>	<b>sùùlé</b>
3SG.LOG	<b>lè</b>	<b>sùùlé</b>
1PL	<b>rì</b>	<b>sùùrí</b>
2PL	<b>rò</b>	<b>sùùró</b>
1&2PL	<b>nà</b>	<b>sùùzìnzá</b>
3PL	<b>?à</b>	<b>sùùzìré</b>
3PL.LOG	<b>rè</b>	<b>sùùzìré</b>

*Imperfective*

1SG	<b>mì</b>	<b>sùngà</b>
2SG	<b>mù</b>	<b>sùngà</b>
1&2SG	<b>nà</b>	<b>sùngà</b>
3SG	<b>?à</b>	<b>sùngà</b>
3SG.LOG	<b>lè</b>	<b>sùngà</b>
1PL	<b>rì</b>	<b>sùngà</b>
2PL	<b>rò</b>	<b>sùngà</b>
1&2PL	<b>nà</b>	<b>sùngìrà</b>
3PL	<b>?à</b>	<b>sùngìrà</b>
3PL.LOG	<b>rè</b>	<b>sùngìrà</b>

*Future*

1SG	<b>mìí</b>	<b>sùú</b>
2SG	<b>mùú</b>	<b>sùú</b>
1&2SG	<b>nàá</b>	<b>sùú</b>
3SG	<b>?àá</b>	<b>sùú</b>
3SG.LOG	<b>lèé</b>	<b>sùú</b>
1PL	<b>rìí</b>	<b>sùú</b>
2PL	<b>ròó</b>	<b>sùú</b>
1&2PL	<b>nàá</b>	<b>sùúzì</b>
3PL	<b>?àá</b>	<b>sùúzì</b>
3PL.LOG	<b>rèé</b>	<b>sùúzì</b>

*Optative*

1SG	<b>mí</b>	<b>sùú</b>
2SG	<b>mú</b>	<b>sùú</b>
1&2SG	<b>ná</b>	<b>sùú</b>
3SG	<b>má</b>	<b>sùú</b>
3SG.LOG	<b>má</b>	<b>sùú</b>
1PL	<b>rí</b>	<b>sùú</b>
2PL	<b>ró</b>	<b>sùú</b>
1&2PL	<b>ná</b>	<b>sùúzì</b>
3PL	<b>má</b>	<b>sùúzì</b>
3PL.LOG	<b>má</b>	<b>sùúzì</b>

Verb class 3, intransitive, C(C)V: **vè** ‘go’

*Perfective*

1SG	<b>mì</b>	<b>vè</b>
2SG	<b>mù</b>	<b>vè</b>
1&2SG	<b>nà</b>	<b>vè</b>
3SG		<b>vè</b>
3SG.LOG	<b>lè</b>	<b>vè</b>
1PL	<b>rì</b>	<b>vè</b>
2PL	<b>rò</b>	<b>vè</b>
1&2PL	<b>nà</b>	<b>vèzí</b>
3PL		<b>vèzí</b>
3PL.LOG	<b>rè</b>	<b>vèzí</b>

*Perfect and Pluperfect*

1SG	<b>mì</b>	<b>vìní</b>
2SG	<b>mù</b>	<b>vùnùm / vùm</b>
1&2SG	<b>nà</b>	<b>vàná</b>
3SG		<b>vèlé</b>
3SG.LOG	<b>lè</b>	<b>vèlé</b>
1PL	<b>rì</b>	<b>vìrí</b>
2PL	<b>rò</b>	<b>vòró</b>
1&2PL	<b>nà</b>	<b>vànzyá</b>
3PL		<b>vèzìré</b>
3PL.LOG	<b>rè</b>	<b>vèzìré</b>

*Imperfective*

1SG	<b>mì</b>	<b>vágà</b>
2SG	<b>mù</b>	<b>vágà</b>
1&2SG	<b>nà</b>	<b>vágà</b>
3SG	<b>?à</b>	<b>vágà</b>
3SG.LOG	<b>lè</b>	<b>vágà</b>
1PL	<b>rì</b>	<b>vágà</b>
2PL	<b>rò</b>	<b>vágà</b>
1&2PL	<b>nà</b>	<b>vâgzí</b>
3PL	<b>?à</b>	<b>vâgzí</b>
3PL.LOG	<b>rè</b>	<b>vâgzí</b>

*Realis Future*

1SG	<b>mì</b>	<b>víní</b>
2SG	<b>mù</b>	<b>vúnùm / vúm</b>
1&2SG	<b>nà</b>	<b>váná</b>
3SG	<b>?à</b>	<b>vélé</b>
3SG.LOG	<b>lè</b>	<b>vélé</b>
1PL	<b>rì</b>	<b>vìrí</b>
2PL	<b>rò</b>	<b>vóró</b>
1&2PL	<b>nà</b>	<b>vánzyá</b>
3PL	<b>?à</b>	<b>vézìré</b>
3PL.LOG	<b>rè</b>	<b>vézìré</b>

*Future*

1SG	<b>mìí</b>	<b>víní</b>
2SG	<b>mùú</b>	<b>vúnùm / vúm</b>
1&2SG	<b>nàá</b>	<b>váná</b>
3SG	<b>?àá</b>	<b>vélé</b>
3SG.LOG	<b>lèé</b>	<b>vélé</b>
1PL	<b>rìí</b>	<b>vìrí</b>
2PL	<b>ròó</b>	<b>vóró</b>
1&2PL	<b>nàá</b>	<b>vànzyá</b>
3PL	<b>?àá</b>	<b>vézìré</b>
3PL.LOG	<b>rèé</b>	<b>vézìré</b>

*Optative*

1SG	<b>mí</b>	<b>víní</b>
2SG	<b>mù</b>	<b>vùnùm / vùm</b>
1&2SG	<b>ná</b>	<b>váná</b>
3SG	<b>má</b>	<b>vélé</b>
3SG.LOG	<b>má</b>	<b>vélé</b>
1PL	<b>rí</b>	<b>vìrí</b>
2PL	<b>ró</b>	<b>vóró</b>
1&2PL	<b>ná</b>	<b>vànzyá</b>
3PL	<b>má</b>	<b>vèzìré</b>
3PL.LOG	<b>má</b>	<b>vèzìré</b>

Verb class 4, intransitive, C(C)VX: **hèè** ‘climb, go up’

*Perfective*

1SG	<b>mì</b>	<b>hèè</b>
2SG	<b>mù</b>	<b>hèè</b>
1&2SG	<b>nà</b>	<b>hèè</b>
3SG		<b>hèè</b>
3SG.LOG	<b>lè</b>	<b>hèè</b>
1PL	<b>rì</b>	<b>hèè</b>
2PL	<b>rò</b>	<b>hèè</b>
1&2PL	<b>nà</b>	<b>hèèzí</b>
3PL		<b>hèèzí</b>
3PL.LOG	<b>rè</b>	<b>hèèzí</b>

*Perfect*

1SG	<b>mì</b>	<b>hèèní</b>
2SG	<b>mù</b>	<b>hèém</b>
1&2SG	<b>nà</b>	<b>hèèná</b>
3SG		<b>hèèlé</b>
3SG.LOG	<b>lè</b>	<b>hèèlé</b>
1PL	<b>rì</b>	<b>hèèrí</b>
2PL	<b>rò</b>	<b>hèèró</b>
1&2PL	<b>nà</b>	<b>hèèzínzá</b>
3PL		<b>hèèzìré</b>
3PL.LOG	<b>rè</b>	<b>hèèzìré</b>

*Pluperfect*

1SG	<b>mì</b>	<b>hèèní</b>
2SG	<b>mù</b>	<b>hèém</b>
1&2SG	<b>nà</b>	<b>hèèná</b>
3SG		<b>hèèlé</b>
3SG.LOG	<b>lè</b>	<b>hèèlé</b>
1PL	<b>rì</b>	<b>hèèrí</b>
2PL	<b>rò</b>	<b>hèèró</b>
1&2PL	<b>nà</b>	<b>hèèzínzá</b>
3PL		<b>hèèzìré</b>
3PL.LOG	<b>rè</b>	<b>hèèzìré</b>

*Imperfective*

1SG	<b>mì</b>	<b>héèrà</b>
2SG	<b>mù</b>	<b>héèrà</b>
1&2SG	<b>nà</b>	<b>héèrà</b>
3SG	<b>?à</b>	<b>héèrà</b>
3SG.LOG	<b>lè</b>	<b>héèrà</b>
1PL	<b>rì</b>	<b>héèrà</b>
2PL	<b>rò</b>	<b>héèrà</b>
1&2PL	<b>nà</b>	<b>héèzìrà</b>
3PL	<b>?à</b>	<b>héèzìrà</b>
3PL.LOG	<b>rè</b>	<b>héèzìrà</b>

*Future*

1SG	<b>mìí</b>	<b>hèè</b>
2SG	<b>mùú</b>	<b>hèè</b>
1&2SG	<b>nàá</b>	<b>hèè</b>
3SG	<b>?àá</b>	<b>hèè</b>
3SG.LOG	<b>lèé</b>	<b>hèè</b>
1PL	<b>rìí</b>	<b>hèè</b>
2PL	<b>ròó</b>	<b>hèè</b>
1&2PL	<b>nàá</b>	<b>hèèzí</b>
3PL	<b>?àá</b>	<b>hèèzí</b>
3PL.LOG	<b>rèé</b>	<b>hèèzí</b>

*Optative*

1SG	<b>mí</b>	<b>hèè</b>
2SG	<b>mú</b>	<b>hèè</b>
1&2SG	<b>ná</b>	<b>hèè</b>
3SG	<b>má</b>	<b>hèè</b>
3SG.LOG	<b>má</b>	<b>hèè</b>
1PL	<b>rí</b>	<b>hèè</b>
2PL	<b>ró</b>	<b>hèè</b>
1&2PL	<b>ná</b>	<b>hèèzí</b>
3PL	<b>má</b>	<b>hèèzí</b>
3PL.LOG	<b>má</b>	<b>hèèzí</b>

Verb class 4, transitive, C(C)VX: **gù** ‘answer, accept, admit’

*Perfective*

1SG	<b>mì</b>	<b>gù</b>	<b>?ígà</b>
2SG	<b>mù</b>	<b>gù</b>	<b>?ígà</b>
1&2SG	<b>nà</b>	<b>gù</b>	<b>?ígà</b>
3SG		<b>gù</b>	<b>?ígà</b>
3SG.LOG	<b>lè</b>	<b>gù</b>	<b>?ígà</b>
1PL	<b>rì</b>	<b>gù</b>	<b>?ígà</b>
2PL	<b>rò</b>	<b>gù</b>	<b>?ígà</b>
1&2PL	<b>nà</b>	<b>gùzì</b>	<b>?ígà</b>
3PL		<b>gùzì</b>	<b>?ígà</b>
3PL.LOG	<b>rè</b>	<b>gùzì</b>	<b>?ígà</b>

*Perfect*

1SG	<b>mì</b>	<b>gùrì</b>	<b>?ígà</b>
2SG	<b>mù</b>	<b>gùrì</b>	<b>?ígà</b>
1&2SG	<b>nà</b>	<b>gùrì</b>	<b>?ígà</b>
3SG		<b>gùrì</b>	<b>?ígà</b>
3SG.LOG	<b>lè</b>	<b>gùrì</b>	<b>?ígà</b>
1PL	<b>rì</b>	<b>gùrì</b>	<b>?ígà</b>
2PL	<b>rò</b>	<b>gùrì</b>	<b>?ígà</b>
1&2PL	<b>nà</b>	<b>gùzìrì</b>	<b>?ígà</b>
3PL		<b>gùzìrì</b>	<b>?ígà</b>
3PL.LOG	<b>rè</b>	<b>gùzìrì</b>	<b>?ígà</b>

*Pluperfect*

1SG	<b>mì</b>	<b>gùrì</b>	<b>?ígà</b>
2SG	<b>mù</b>	<b>gùrì</b>	<b>?ígà</b>
1&2SG	<b>nà</b>	<b>gùrì</b>	<b>?ígà</b>
3SG		<b>gùrì</b>	<b>?ígà</b>
3SG.LOG	<b>lè</b>	<b>gùrì</b>	<b>?ígà</b>
1PL	<b>rì</b>	<b>gùrì</b>	<b>?ígà</b>
2PL	<b>rò</b>	<b>gùrì</b>	<b>?ígà</b>
1&2PL	<b>nà</b>	<b>gùzìrì</b>	<b>?ígà</b>
3PL		<b>gùzìrì</b>	<b>?ígà</b>
3PL.LOG	<b>rè</b>	<b>gùzìrì</b>	<b>?ígà</b>

*Imperfective*

1SG	<b>mì</b>	<b>gù</b>	<b>?ígà</b>
2SG	<b>mù</b>	<b>gù</b>	<b>?ígà</b>
1&2SG	<b>nà</b>	<b>gù</b>	<b>?ígà</b>
3SG	<b>?à</b>	<b>gù</b>	<b>?ígà</b>
3SG.LOG	<b>lè</b>	<b>gù</b>	<b>?ígà</b>
1PL	<b>rì</b>	<b>gù</b>	<b>?ígà</b>
2PL	<b>rò</b>	<b>gù</b>	<b>?ígà</b>
1&2PL	<b>nà</b>	<b>gùzì</b>	<b>?ígà</b>
3PL	<b>?à</b>	<b>gùzì</b>	<b>?ígà</b>
3PL.LOG	<b>rè</b>	<b>gùzì</b>	<b>?ígà</b>

*Future*

1SG	<b>mìj</b>	<b>gù</b>	<b>?ígà</b>
2SG	<b>mùj</b>	<b>gù</b>	<b>?ígà</b>
1&2SG	<b>nàj</b>	<b>gù</b>	<b>?ígà</b>
3SG	<b>?àá</b>	<b>gù</b>	<b>?ígà</b>
3SG.LOG	<b>lèé</b>	<b>gù</b>	<b>?ígà</b>
1PL	<b>rìj</b>	<b>gù</b>	<b>?ígà</b>
2PL	<b>ròó</b>	<b>gù</b>	<b>?ígà</b>
1&2PL	<b>nàj</b>	<b>gùzì</b>	<b>?ígà</b>
3PL	<b>?àá</b>	<b>gùzì</b>	<b>?ígà</b>
3PL.LOG	<b>rèé</b>	<b>gùzì</b>	<b>?ígà</b>

*Optative*

1SG	<b>mí</b>	<b>gù</b>	<b>?ígà</b>
2SG	<b>mù</b>	<b>gù</b>	<b>?ígà</b>
1&2SG	<b>ná</b>	<b>gù</b>	<b>?ígà</b>
3SG	<b>má</b>	<b>gù</b>	<b>?ígà</b>
3SG.LOG	<b>má</b>	<b>gù</b>	<b>?ígà</b>
1PL	<b>rí</b>	<b>gù</b>	<b>?ígà</b>
2PL	<b>ró</b>	<b>gù</b>	<b>?ígà</b>
1&2PL	<b>ná</b>	<b>gùzì</b>	<b>?ígà</b>
3PL	<b>má</b>	<b>gùzì</b>	<b>?ígà</b>
3PL.LOG	<b>má</b>	<b>gùzì</b>	<b>?ígà</b>

Verb class 5, intransitive, C(C)VX: **yàà** ‘finish (intr.)’ (derived from **yàà** ‘finish (tr.)’; see 7.3.2.1.2)

*Perfective*

(uses transitive counterpart; cf. 7.3.2.1.2)

*Perfect*

1SG	<b>mì yàánì</b>
2SG	<b>mù yàám</b>
1&2SG	<b>nà yàánà</b>
3SG	<b>yàálè</b>
3SG.LOG	<b>lè yàálè</b>
1PL	<b>rì yàári</b>
2PL	<b>rò yàárò</b>
1&2PL	<b>nà yààzínà</b>
3PL	<b>yààzìrè</b>
3PL.LOG	<b>rè yààzìrè</b>

*Pluperfect*

1SG	<b>mì yàánì</b>
2SG	<b>mù yàám</b>
1&2SG	<b>nà yàánà</b>
3SG	<b>yàálè</b>
3SG.LOG	<b>lè yàálè</b>
1PL	<b>rì yàári</b>
2PL	<b>rò yàárò</b>
1&2PL	<b>nà yààzínà</b>
3PL	<b>yààzìrè</b>
3PL.LOG	<b>rè yààzìrè</b>

*Imperfective*

(uses transitive counterpart; cf. 7.3.2.1.2)

*Future*

1SG	<b>mì yàánì</b>
2SG	<b>mù yàám</b>
1&2SG	<b>nà yàánà</b>
3SG	<b>?àá yààlé</b>
3SG.LOG	<b>lèé yààlé</b>
1PL	<b>rì yàári</b>
2PL	<b>rò yàáró</b>
1&2PL	<b>nà yààzínà</b>
3PL	<b>?àá yààzìré</b>
3PL.LOG	<b>rèé yààzìré</b>

*Optative*

1SG	<b>mí yàánì</b>
2SG	<b>mù yàám</b>
1&2SG	<b>nà yàánà</b>
3SG	<b>má yààlé</b>
3SG.LOG	<b>má yààlé</b>
1PL	<b>rì yàári</b>
2PL	<b>rò yàáró</b>
1&2PL	<b>nà yààzínà</b>
3PL	<b>má yààzìré</b>
3PL.LOG	<b>má yààzìré</b>

Verb class 5, transitive, C(C)VX: **yàà** ‘finish (tr.)’

*Perfective*

1SG	mì	yàà	?ígà
2SG	mù	yàà	?ígà
1&2SG	nà	yàà	?ígà
3SG		yàà	?ígà
3SG.LOG	lè	yàà	?ígà
1PL	rì	yàà	?ígà
2PL	rò	yàà	?ígà
1&2PL	nà	yààzí	?ígà
3PL		yààzí	?ígà
3PL.LOG	rè	yààzí	?ígà

*Perfect*

1SG	mì	yàáàrì	?ígà
2SG	mù	yàáàrì	?ígà
1&2SG	nà	yàáàrì	?ígà
3SG		yàáàrì	?ígà
3SG.LOG	lè	yàáàrì	?ígà
1PL	rì	yàáàrì	?ígà
2PL	rò	yàáàrì	?ígà
1&2PL	nà	yààzíàrì	?ígà
3PL		yààzíàrì	?ígà
3PL.LOG	rè	yààzíàrì	?ígà

*Pluperfect*

1SG	mì	yàáàrì	?ígà
2SG	mù	yàáàrì	?ígà
1&2SG	nà	yàáàrì	?ígà
3SG		yàáàrì	?ígà
3SG.LOG	lè	yàáàrì	?ígà
1PL	rì	yàáàrì	?ígà
2PL	rò	yàáàrì	?ígà
1&2PL	nà	yààzíàrì	?ígà
3PL		yààzíàrì	?ígà
3PL.LOG	rè	yààzíàrì	?ígà

*Imperfective*

1SG	mì	yáà	?ígà
2SG	mù	yáà	?ígà
1&2SG	nà	yáà	?ígà
3SG	?à	yáà	?ígà
3SG.LOG	lè	yáà	?ígà
1PL	rì	yáà	?ígà
2PL	rò	yáà	?ígà
1&2PL	nà	yáàzí	?ígà
3PL	?à	yáàzí	?ígà
3PL.LOG	rè	yáàzí	?ígà

*Future*

1SG	mìí	yàá	?ígà
2SG	mùú	yàá	?ígà
1&2SG	nàá	yàá	?ígà
3SG	?àá	yàá	?ígà
3SG.LOG	lèé	yàá	?ígà
1PL	rìí	yàá	?ígà
2PL	ròó	yàá	?ígà
1&2PL	nàá	yààzí	?ígà
3PL	?àá	yààzí	?ígà
3PL.LOG	rèé	yààzí	?ígà

*Optative*

1SG	mí	yàá	?ígà
2SG	mù	yàá	?ígà
1&2SG	ná	yàá	?ígà
3SG	má	yàá	?ígà
3SG.LOG	má	yàá	?ígà
1PL	rí	yàá	?ígà
2PL	ró	yàá	?ígà
1&2PL	ná	yààzí	?ígà
3PL	má	yààzí	?ígà
3PL.LOG	má	yààzí	?ígà

Verb class 5, intransitive, C(C)VX: **ʔòògí** ‘drag one’s feet’ (derived from **ʔòògí** ‘set crawling’; see 7.3.2.1.2)

*Perfective*

(uses transitive counterpart; cf. 7.3.2.1.2)

*Perfect*

1SG	<b>mì ʔòògínì</b>
2SG	<b>mù ʔòògínìm</b>
1&2SG	<b>nà ʔòògínà</b>
3SG	<b>ʔòògìlè</b>
3SG.LOG	<b>lè ʔòògìlè</b>
1PL	<b>rì ʔòògírì</b>
2PL	<b>rò ʔòògírò</b>
1&2PL	<b>nà ʔòògìzínzà</b>
3PL	<b>ʔòògìzírè</b>
3PL.LOG	<b>rè ʔòògìzírè</b>

*Pluperfect*

1SG	<b>mì ʔòògínì</b>
2SG	<b>mù ʔòògínìm</b>
1&2SG	<b>nà ʔòògínà</b>
3SG	<b>ʔòògìlè</b>
3SG.LOG	<b>lè ʔòògìlè</b>
1PL	<b>rì ʔòògírì</b>
2PL	<b>rò ʔòògírò</b>
1&2PL	<b>nà ʔòògìzínzà</b>
3PL	<b>ʔòògìzírè</b>
3PL.LOG	<b>rè ʔòògìzírè</b>

*Imperfective*

(uses transitive counterpart; cf. 7.3.2.1.2)

*Future*

1SG	<b>mǐ ʔòògíní</b>
2SG	<b>mùú ʔòògíním</b>
1&2SG	<b>nàá ʔòògíná</b>
3SG	<b>ʔàá ʔòògìlé</b>
3SG.LOG	<b>lèé ʔòògìlé</b>
1PL	<b>rìí ʔòògírì</b>
2PL	<b>ròó ʔòògírò</b>
1&2PL	<b>nàá ʔòògìzínzá</b>
3PL	<b>ʔàá ʔòògìzírè</b>
3PL.LOG	<b>rèé ʔòògìzírè</b>

*Optative*

1SG	<b>mí ʔòògíní</b>
2SG	<b>mú ʔòògíním</b>
1&2SG	<b>ná ʔòògíná</b>
3SG	<b>má ʔòògìlé</b>
3SG.LOG	<b>má ʔòògìlé</b>
1PL	<b>rí ʔòògírì</b>
2PL	<b>ró ʔòògírò</b>
1&2PL	<b>ná ʔòògìzínzá</b>
3PL	<b>má ʔòògìzírè</b>
3PL.LOG	<b>má ʔòògìzírè</b>

Verb class 6, transitive, C(C)VXC: **yààń** ‘cause to finish (tr.)’

*Perfective*

1SG	mì	yààń	ʔígà
2SG	mù	yààń	ʔígà
1&2SG	nà	yààń	ʔígà
3SG		yààń	ʔígà
3SG.LOG	lè	yààń	ʔígà
1PL	rì	yààń	ʔígà
2PL	rò	yààń	ʔígà
1&2PL	nà	yààńzí	ʔígà
3PL		yààńzí	ʔígà
3PL.LOG	rè	yààńzí	ʔígà

*Perfect*

1SG	mì	yààńńì	ʔígà
2SG	mù	yààńńì	ʔígà
1&2SG	nà	yààńńì	ʔígà
3SG		yààńńì	ʔígà
3SG.LOG	lè	yààńńì	ʔígà
1PL	rì	yààńńì	ʔígà
2PL	rò	yààńńì	ʔígà
1&2PL	nà	yààńńìrì	ʔígà
3PL		yààńńìrì	ʔígà
3PL.LOG	rè	yààńńìrì	ʔígà

*Pluperfect*

1SG	mì	yààńńì	ʔígà
2SG	mù	yààńńì	ʔígà
1&2SG	nà	yààńńì	ʔígà
3SG		yààńńì	ʔígà
3SG.LOG	lè	yààńńì	ʔígà
1PL	rì	yààńńì	ʔígà
2PL	rò	yààńńì	ʔígà
1&2PL	nà	yààńńìrì	ʔígà
3PL		yààńńìrì	ʔígà
3PL.LOG	rè	yààńńìrì	ʔígà

*Imperfective*

1SG	mì	yááń	ʔígà
2SG	mù	yááń	ʔígà
1&2SG	nà	yááń	ʔígà
3SG	ʔà	yááń	ʔígà
3SG.LOG	lè	yááń	ʔígà
1PL	rì	yááń	ʔígà
2PL	rò	yááń	ʔígà
1&2PL	nà	yááńzí	ʔígà
3PL	ʔà	yááńzí	ʔígà
3PL.LOG	rè	yááńzí	ʔígà

*Future*

1SG	mìí	yààń	ʔígà
2SG	mùú	yààń	ʔígà
1&2SG	nàá	yààń	ʔígà
3SG	ʔàá	yààń	ʔígà
3SG.LOG	lèé	yààń	ʔígà
1PL	rìí	yààń	ʔígà
2PL	ròó	yààń	ʔígà
1&2PL	nàá	yààńzí	ʔígà
3PL	ʔàá	yààńzí	ʔígà
3PL.LOG	rèé	yààńzí	ʔígà

*Optative*

1SG	mí	yààń	ʔígà
2SG	mú	yààń	ʔígà
1&2SG	ná	yààń	ʔígà
3SG	má	yààń	ʔígà
3SG.LOG	má	yààń	ʔígà
1PL	rí	yààń	ʔígà
2PL	ró	yààń	ʔígà
1&2PL	ná	yààńzí	ʔígà
3PL	má	yààńzí	ʔígà
3PL.LOG	má	yààńzí	ʔígà

Verb class 6, transitive, C(C)V.CVC: **dògón** ‘cause to drink (tr.)’

*Perfective*

1SG	m̀	dògón	ʔígà
2SG	m̀	dògón	ʔígà
1&2SG	nà	dògón	ʔígà
3SG		dògón	ʔígà
3SG.LOG	lè	dògón	ʔígà
1PL	rì	dògón	ʔígà
2PL	rò	dògón	ʔígà
1&2PL	nà	dògònzí	ʔígà
3PL		dògònzí	ʔígà
3PL.LOG	rè	dògònzí	ʔígà

*Perfect*

1SG	m̀	dògónnì	ʔígà
2SG	m̀	dògónnì	ʔígà
1&2SG	nà	dògónnì	ʔígà
3SG		dògónnì	ʔígà
3SG.LOG	lè	dògónnì	ʔígà
1PL	rì	dògónnì	ʔígà
2PL	rò	dògónnì	ʔígà
1&2PL	nà	dògònzí	ʔígà
3PL		dògònzí	ʔígà
3PL.LOG	rè	dògònzí	ʔígà

*Pluperfect*

1SG	m̀	dògónnì	ʔígà
2SG	m̀	dògónnì	ʔígà
1&2SG	nà	dògónnì	ʔígà
3SG		dògónnì	ʔígà
3SG.LOG	lè	dògónnì	ʔígà
1PL	rì	dògónnì	ʔígà
2PL	rò	dògónnì	ʔígà
1&2PL	nà	dògònzí	ʔígà
3PL		dògònzí	ʔígà
3PL.LOG	rè	dògònzí	ʔígà

*Imperfective*

1SG	m̀	dógôn	ʔígà
2SG	m̀	dógôn	ʔígà
1&2SG	nà	dógôn	ʔígà
3SG	ʔà	dógôn	ʔígà
3SG.LOG	lè	dógôn	ʔígà
1PL	rì	dógôn	ʔígà
2PL	rò	dógôn	ʔígà
1&2PL	nà	dógònzí	ʔígà
3PL	ʔà	dógònzí	ʔígà
3PL.LOG	rè	dógònzí	ʔígà

*Future*

1SG	m̀	dògón	ʔígà
2SG	m̀	dògón	ʔígà
1&2SG	nà	dògón	ʔígà
3SG	ʔàá	dògón	ʔígà
3SG.LOG	lèé	dògón	ʔígà
1PL	r̀	dògón	ʔígà
2PL	r̀	dògón	ʔígà
1&2PL	nà	dògònzí	ʔígà
3PL	ʔàá	dògònzí	ʔígà
3PL.LOG	rèé	dògònzí	ʔígà

*Optative*

1SG	m̀	dògón	ʔígà
2SG	m̀	dògón	ʔígà
1&2SG	nà	dògón	ʔígà
3SG	má	dògón	ʔígà
3SG.LOG	má	dògón	ʔígà
1PL	r̀	dògón	ʔígà
2PL	r̀	dògón	ʔígà
1&2PL	nà	dògònzí	ʔígà
3PL	má	dògònzí	ʔígà
3PL.LOG	má	dògònzí	ʔígà

Verb class 6, transitive, C(C)VX.CV: ʔòògí ‘set crawling’

*Perfective*

1SG	mì	ʔòògí	ʔígà
2SG	mù	ʔòògí	ʔígà
1&2SG	nà	ʔòògí	ʔígà
3SG		ʔòògí	ʔígà
3SG.LOG	lè	ʔòògí	ʔígà
1PL	rì	ʔòògí	ʔígà
2PL	rò	ʔòògí	ʔígà
1&2PL	nà	ʔòògìzì	ʔígà
3PL		ʔòògìzì	ʔígà
3PL.LOG	rè	ʔòògìzì	ʔígà

*Perfect*

1SG	mì	ʔòògírì	ʔígà
2SG	mù	ʔòògírì	ʔígà
1&2SG	nà	ʔòògírì	ʔígà
3SG		ʔòògírì	ʔígà
3SG.LOG	lè	ʔòògírì	ʔígà
1PL	rì	ʔòògírì	ʔígà
2PL	rò	ʔòògírì	ʔígà
1&2PL	nà	ʔòògìzírì	ʔígà
3PL		ʔòògìzírì	ʔígà
3PL.LOG	rè	ʔòògìzírì	ʔígà

*Pluperfect*

1SG	mì	ʔòògírì	ʔígà
2SG	mù	ʔòògírì	ʔígà
1&2SG	nà	ʔòògírì	ʔígà
3SG		ʔòògírì	ʔígà
3SG.LOG	lè	ʔòògírì	ʔígà
1PL	rì	ʔòògírì	ʔígà
2PL	rò	ʔòògírì	ʔígà
1&2PL	nà	ʔòògìzírì	ʔígà
3PL		ʔòògìzírì	ʔígà
3PL.LOG	rè	ʔòògìzírì	ʔígà

*Imperfective*

1SG	mì	ʔóógì	ʔígà
2SG	mù	ʔóógì	ʔígà
1&2SG	nà	ʔóógì	ʔígà
3SG	ʔà	ʔóógì	ʔígà
3SG.LOG	lè	ʔóógì	ʔígà
1PL	rì	ʔóógì	ʔígà
2PL	rò	ʔóógì	ʔígà
1&2PL	nà	ʔóógìzì	ʔígà
3PL	ʔà	ʔóógìzì	ʔígà
3PL.LOG	rè	ʔóógìzì	ʔígà

*Future*

1SG	mìí	ʔòògí	ʔígà
2SG	mùú	ʔòògí	ʔígà
1&2SG	nàá	ʔòògí	ʔígà
3SG	ʔàá	ʔòògí	ʔígà
3SG.LOG	lèé	ʔòògí	ʔígà
1PL	rìí	ʔòògí	ʔígà
2PL	ròó	ʔòògí	ʔígà
1&2PL	nàá	ʔòògìzì	ʔígà
3PL	ʔàá	ʔòògìzì	ʔígà
3PL.LOG	rèé	ʔòògìzì	ʔígà

*Optative*

1SG	mí	ʔòògí	ʔígà
2SG	mú	ʔòògí	ʔígà
1&2SG	ná	ʔòògí	ʔígà
3SG	má	ʔòògí	ʔígà
3SG.LOG	má	ʔòògí	ʔígà
1PL	rí	ʔòògí	ʔígà
2PL	ró	ʔòògí	ʔígà
1&2PL	ná	ʔòògìzì	ʔígà
3PL	má	ʔòògìzì	ʔígà
3PL.LOG	má	ʔòògìzì	ʔígà

Verb class 6, transitive, C(C)VX.CV.CV: **ʔòògìní** ‘cause to set crawling’

*Perfective*

1SG	mì	ʔòògìní	ʔígà
2SG	mù	ʔòògìní	ʔígà
1&2SG	nà	ʔòògìní	ʔígà
3SG		ʔòògìní	ʔígà
3SG.LOG	lè	ʔòògìní	ʔígà
1PL	rì	ʔòògìní	ʔígà
2PL	rò	ʔòògìní	ʔígà
1&2PL	nà	ʔòògìnízì	ʔígà
3PL		ʔòògìnízì	ʔígà
3PL.LOG	rè	ʔòògìnízì	ʔígà

*Perfect*

1SG	mì	ʔòògìnírì	ʔígà
2SG	mù	ʔòògìnírì	ʔígà
1&2SG	nà	ʔòògìnírì	ʔígà
3SG		ʔòògìnírì	ʔígà
3SG.LOG	lè	ʔòògìnírì	ʔígà
1PL	rì	ʔòògìnírì	ʔígà
2PL	rò	ʔòògìnírì	ʔígà
1&2PL	nà	ʔòògìnízìrì	ʔígà
3PL		ʔòògìnízìrì	ʔígà
3PL.LOG	rè	ʔòògìnízìrì	ʔígà

*Pluperfect*

1SG	mì	ʔòògìnírì	ʔígà
2SG	mù	ʔòògìnírì	ʔígà
1&2SG	nà	ʔòògìnírì	ʔígà
3SG		ʔòògìnírì	ʔígà
3SG.LOG	lè	ʔòògìnírì	ʔígà
1PL	rì	ʔòògìnírì	ʔígà
2PL	rò	ʔòògìnírì	ʔígà
1&2PL	nà	ʔòògìnízìrì	ʔígà
3PL		ʔòògìnízìrì	ʔígà
3PL.LOG	rè	ʔòògìnízìrì	ʔígà

*Imperfective*

1SG	mì	ʔóógìní	ʔígà
2SG	mù	ʔóógìní	ʔígà
1&2SG	nà	ʔóógìní	ʔígà
3SG	ʔà	ʔóógìní	ʔígà
3SG.LOG	lè	ʔóógìní	ʔígà
1PL	rì	ʔóógìní	ʔígà
2PL	rò	ʔóógìní	ʔígà
1&2PL	nà	ʔóógìnízì	ʔígà
3PL	ʔà	ʔóógìnízì	ʔígà
3PL.LOG	rè	ʔóógìnízì	ʔígà

*Future*

1SG	mìí	ʔòògìní	ʔígà
2SG	mùú	ʔòògìní	ʔígà
1&2SG	nàá	ʔòògìní	ʔígà
3SG	ʔàá	ʔòògìní	ʔígà
3SG.LOG	lèé	ʔòògìní	ʔígà
1PL	rìí	ʔòògìní	ʔígà
2PL	ròó	ʔòògìní	ʔígà
1&2PL	nàá	ʔòògìnízì	ʔígà
3PL	ʔàá	ʔòògìnízì	ʔígà
3PL.LOG	rèé	ʔòògìnízì	ʔígà

*Optative*

1SG	mí	ʔòògìní	ʔígà
2SG	mú	ʔòògìní	ʔígà
1&2SG	ná	ʔòògìní	ʔígà
3SG	má	ʔòògìní	ʔígà
3SG.LOG	má	ʔòògìní	ʔígà
1PL	rí	ʔòògìní	ʔígà
2PL	ró	ʔòògìní	ʔígà
1&2PL	ná	ʔòògìnízì	ʔígà
3PL	má	ʔòògìnízì	ʔígà
3PL.LOG	má	ʔòògìnízì	ʔígà

Verb class 6, transitive, C(C)VX.CV.CV.CV:

**ʔòògìnrì** ‘cause to set crawling repeatedly / cause repeatedly to set crawling’

*Perfective*

1SG	mì	ʔòògìnrì	ʔígà
2SG	mù	ʔòògìnrì	ʔígà
1&2SG	nà	ʔòògìnrì	ʔígà
3SG		ʔòògìnrì	ʔígà
3SG.LOG	lè	ʔòògìnrì	ʔígà
1PL	rì	ʔòògìnrì	ʔígà
2PL	rò	ʔòògìnrì	ʔígà
1&2PL	nà	ʔòògìnrìzì	ʔígà
3PL		ʔòògìnrìzì	ʔígà
3PL.LOG	rè	ʔòògìnrìzì	ʔígà

*Perfect*

1SG	mì	ʔòògìnrìrì	ʔígà
2SG	mù	ʔòògìnrìrì	ʔígà
1&2SG	nà	ʔòògìnrìrì	ʔígà
3SG		ʔòògìnrìrì	ʔígà
3SG.LOG	lè	ʔòògìnrìrì	ʔígà
1PL	rì	ʔòògìnrìrì	ʔígà
2PL	rò	ʔòògìnrìrì	ʔígà
1&2PL	nà	ʔòògìnrìrìzì	ʔígà
3PL		ʔòògìnrìrìzì	ʔígà
3PL.LOG	rè	ʔòògìnrìrìzì	ʔígà

*Pluperfect*

1SG	mì	ʔòògìnrìrì	ʔígà
2SG	mù	ʔòògìnrìrì	ʔígà
1&2SG	nà	ʔòògìnrìrì	ʔígà
3SG		ʔòògìnrìrì	ʔígà
3SG.LOG	lè	ʔòògìnrìrì	ʔígà
1PL	rì	ʔòògìnrìrì	ʔígà
2PL	rò	ʔòògìnrìrì	ʔígà
1&2PL	nà	ʔòògìnrìrìzì	ʔígà
3PL		ʔòògìnrìrìzì	ʔígà
3PL.LOG	rè	ʔòògìnrìrìzì	ʔígà

*Imperfective*

1SG	mì	ʔóógìnrì	ʔígà
2SG	mù	ʔóógìnrì	ʔígà
1&2SG	nà	ʔóógìnrì	ʔígà
3SG	ʔà	ʔóógìnrì	ʔígà
3SG.LOG	lè	ʔóógìnrì	ʔígà
1PL	rì	ʔóógìnrì	ʔígà
2PL	rò	ʔóógìnrì	ʔígà
1&2PL	nà	ʔóógìnrìzì	ʔígà
3PL	ʔà	ʔóógìnrìzì	ʔígà
3PL.LOG	rè	ʔóógìnrìzì	ʔígà

*Future*

1SG	mìí	ʔòògìnrì	ʔígà
2SG	mùú	ʔòògìnrì	ʔígà
1&2SG	nàá	ʔòògìnrì	ʔígà
3SG	ʔàá	ʔòògìnrì	ʔígà
3SG.LOG	lèé	ʔòògìnrì	ʔígà
1PL	rìí	ʔòògìnrì	ʔígà
2PL	ròó	ʔòògìnrì	ʔígà
1&2PL	nàá	ʔòògìnrìzì	ʔígà
3PL	ʔàá	ʔòògìnrìzì	ʔígà
3PL.LOG	rèé	ʔòògìnrìzì	ʔígà

*Optative*

1SG	mí	ʔòògìnrì	ʔígà
2SG	mú	ʔòògìnrì	ʔígà
1&2SG	ná	ʔòògìnrì	ʔígà
3SG	má	ʔòògìnrì	ʔígà
3SG.LOG	má	ʔòògìnrì	ʔígà
1PL	rí	ʔòògìnrì	ʔígà
2PL	ró	ʔòògìnrì	ʔígà
1&2PL	ná	ʔòògìnrìzì	ʔígà
3PL	má	ʔòògìnrìzì	ʔígà
3PL.LOG	má	ʔòògìnrìzì	ʔígà

## References<sup>12</sup>

- Abraham, Roy C. and Malam Mai Kano. 1949. *Dictionary of the Hausa language*. London: Crown Agents for the Colonies.
- Adler, Alfred. 1982. *La mort est la masque du roi: La royauté sacrée des Moundang du Tchad*. Paris: Payot.
- Ameka, Felix K. 2001. Ideophones and the adjective class in Ewe. *Ideophones*, F. K. Erhard Voeltz and Christa Kilian-Hatz (eds.), 25–48. Amsterdam: John Benjamins.
- Anonby, Erik John. 2004a. *Exposé de l'alphabet et de l'orthographe proposés pour la langue mambay* (preliminary version). Yaoundé and N'Djaména: Association SIL Cameroun and Association SIL Tchad.
- \_\_\_\_\_. 2004b. The labial flap in Mambay (Niger-Congo, Adamawa). Paper presented at the 34<sup>th</sup> Colloquium of African languages and linguistics, Leiden University, August 23–25, 2004.
- \_\_\_\_\_. 2005. *Aperçu des traits du discours en Mambay* (preliminary version). Yaoundé and N'Djaména: Association SIL Cameroun and Association SIL Tchad.
- \_\_\_\_\_. 2006. Illustrations of the IPA: Mambay. *Journal of the International Phonetic Association* 36:221–233.
- \_\_\_\_\_. 2007. The labial flap in Mambay (Niger-Congo, Adamawa): Phonological rarity or fundamental element? *Journal of African languages and linguistics* 28:1, 1–17.
- \_\_\_\_\_. 2008 (forthcoming). Vestigial noun suffixes in Mambay (Niger-Congo, Adamawa): Vestiges of what? *Afrika und Übersee*, Lukas memorial publication.

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<sup>12</sup> Acronyms retained in the references are as follows:

- CERDOTOLA Centre Régional de Recherche et de Documentation sur les Traditions Orales et  
pour le Développement des Langues Africaines
- CNRS Centre National de la Recherche Scientifique
- DGRST Délégation Générale à la Recherche Scientifique et Technique
- ISH Institut des Sciences Humaines
- SELAF Société pour l'Etude des Langues Africaines

- Anonby, Erik John and Eric Johnson. 2001. *A sociolinguistic survey of the Zaghawa (Beria) of Chad and Sudan*. N'Djaména, Chad: Association SIL Tchad.
- Anonby, Erik John and Oussoumanou Bouba. 2008 (forthcoming). *Dictionnaire mambay-français, accompagné d'un guide d'orthographe et d'une esquisse linguistique*. Yaoundé: Association SIL Cameroun and Köln: Rüdiger Köppe.
- Archangeli, Diana and D. Terence Langendoen (eds.). 1997. *Optimality theory: A handbook*. Malden, MA: Blackwell.
- Aschmann, Herman P. 1946. Totonaco phonemes. *International journal of American linguistics* 12:34–43.
- Baudelaire, H. 1944. La numération de 1 à 10 dans les dialectes Habé de Garoua, Guider-Poli et Rey-Bouba. *Bulletin de la Société d'Etudes Camerounaises* 5:25–30.
- Beavon, Keith H. 1986. Anaphora, pronouns and reference in Konzime. *Pronominal systems*, Ursula Wiesemann (ed.), 167–89. Tübingen: Gunter Narr.
- Bennett, Patrick R. 1983. Adamawa-Eastern: Problems and prospects. *Current approaches to African linguistics* 1, Ivan R. Dihoff (ed.), 23–47. Dordrecht: Foris.
- Bentinck, Julie. 1975. Le niboua, langue sans consonnes nasales? *Annales de l'Université d'Abidjan* 8(1):5–14.
- Bohnhoff, Lee E. 1986. *Vowel length in Duru* (Ph.D. dissertation). Toronto: University of Toronto.
- \_\_\_\_\_. 1986. Yag Dii (Duru) pronouns. *Pronominal systems*, Ursula Wiesemann (ed.), 103–30. Tübingen: Gunter Narr.
- \_\_\_\_\_. 1987. *Phonology of Yag Dii*. Ngaoundéré and Mbé: Centre de Littérature Dii.
- Bole-Richard, Rémy. 1985. Hypothèse sur la genèse de la nasalité en niger-congo. *Journal of West African languages* 15(2):3–28.
- Boyd, Raymond. 1974. *Étude comparative dans le groupe adamawa*. Paris: SELAF.
- \_\_\_\_\_. 1978. Les langues Adamawa. *Inventaire des études linguistiques sur les pays d'Afrique noire d'expression française et sur Madagascar*, Daniel Barreteau (ed.), 187–94. Paris: Conseil International de la Langue Française.
- \_\_\_\_\_. 1989a. Adamawa-Ubangi. *The Niger-Congo languages*, John Bendor-Samuel and R. Hartell (eds.), 178–215. Lanham, MD: University Press of America.
- \_\_\_\_\_. 1989b. Number systems in the Adamawa branch of Niger-Congo. *African Languages and Cultures* 2(2):149–173.

- Boyeldieu, Pascal (ed.). 1987. *La maison du chef et la tête du cabri: des degrés de la détermination nominale dans les langues d'Afrique centrale*. Paris: Geuthner.
- Breton, Roland and Bikia Fohitung. 1991. *Atlas administratif des langues nationales du Cameroun*. Paris: ACCT (Agence de Coopération Culturelle et Technique) and Yaoundé: CERDOTOLA.
- Bright, William (ed.). 1991. *International encyclopedia of linguistics*. New York: Oxford University Press.
- Broselow, Ellen. 1995. Skeletal positions and moras. *The handbook of phonological theory*, John A. Goldsmith (ed.), 175–205. Cambridge, MA: Blackwell.
- Bybee, Joan. 1985. *Morphology: A study of the relation between meaning and form*. Amsterdam: John Benjamins.
- Caprile, Jean-Pierre. 1972. Langues du Tchad. *Atlas pratique du Tchad*, J. Cabot (ed.), 36–7. Paris: IGN (Institut Géographique National) and INSH (Institut National pour les Sciences Humaines).
- \_\_\_\_\_. (ed.). 1977. *Études phonologiques tchadiennes*. Paris: SELAF.
- Childs, G. Tucker. 2001. Research on ideophones, whither hence? *Ideophones*, F. K. Erhard Voeltz and Christa Kilian-Hatz (eds.), 63–73. Amsterdam: John Benjamins.
- Clements, George N. 1975. The logophoric pronoun in Ewe: its role in discourse. *Journal of West African Languages* 10:141–177.
- \_\_\_\_\_. 2000. Phonology. *African languages: An introduction*, Bernd Heine and Derek Nurse (eds.), 123–60. Cambridge: Cambridge University Press.
- Clements, George N. and Elizabeth V. Hume. 1995. The internal organization of speech sounds. *The handbook of phonological theory*, John A. Goldsmith (ed.), 245–306. Cambridge, MA: Blackwell.
- Cole, Desmond T. 1955. *An introduction to Tswana grammar*. Cape Town: Longman.
- Comrie, Bernard. 1976. *Aspect*. Cambridge: Cambridge University Press.
- Corbett, Greville G. 2000. *Number*. Cambridge: Cambridge University Press.
- Creissels, Denis. 1994 (2<sup>nd</sup> ed.). *Aperçu sur les structures phonologiques des langues négro-africaines*. Grenoble: Ellug.
- Crystal, David. 2003. *A dictionary of linguistics and phonetics* (5<sup>th</sup> ed.). Malden, MA: Blackwell.
- Cysouw, Michael. 2003. *The paradigmatic structure of person marking*. Oxford: Oxford University Press.

- \_\_\_\_\_. 2005. Inclusive/exclusive forms for “we.” *The world atlas of language structures* (CD-ROM version), Martin Haspelmath et al. (eds.). Oxford: Oxford University Press.
- DAPLAN (Direction d'Alphabétisation et de Promotion des Langues Nationales). [2000]. Les lettres de l'alphabet nationale des langues du Tchad (ms.). N'Djaména: DAPLAN.
- Davis, Daniel and Lawrence Seguin. 1990. *A linguistic and sociolinguistic survey of the Eastern Mbum languages*. Yaoundé: SIL and Centre de Recherches et d'Etudes Anthropologiques, Institut des Sciences Humaines.
- Delafosse, Maurice. 1924. Les langues du Soudan et de la Guinée. *Les langues du monde*, A. Meillet and Marcel Cohen (eds.), 463–560. Paris: Édouard Champion.
- Defense Mapping Agency Aerospace Center. 1962/1982. *Cameroon, Central African Republic, Chad, Niger, Nigeria, (ONC K-3) (1:1 000 000)*. St. Louis, MO: Defense Mapping Agency Aerospace Center.
- Dieu, Michel and Patrick Renaud (eds.). 1983. *Atlas linguistique de l'Afrique centrale: Atlas linguistique du Cameroun (ALCAM)*. Paris: ACCT (Agence de Coopération Culturelle et Technique) and Yaoundé: CERDOTOLA and DGRST.
- Dimmendaal, Gerrit. 2000. Morphology. *African languages: An introduction*, Bernd Heine and Derek Nurse (eds.), 161–93. Cambridge: Cambridge University Press.
- Doke, Clement Martin. 1935. *Bantu linguistic terminology*. London: Longmans, Green.
- Eguchi, Paul Kazuhisa. 1971. Esquisse de la langue mambai. *Kyoto University African studies* 6:139–194.
- Elders, Stefan. 2000. *Grammaire mundang*. Leiden: CNWS.
- \_\_\_\_\_. 2001. Defining ideophones in Mundang. *Ideophones*, F. K. Erhard Voeltz and Christa Kilian-Hatz (eds.), 97–110. Amsterdam: John Benjamins.
- \_\_\_\_\_. 2006. Issues in comparative Kebi-Benue (Adamawa). *Africana Linguistica* 12:37–88.
- Esling, John H. 1996. Pharyngeal consonants and the aryepiglottal sphincter. *Journal of the International Phonetic Association* 26(2)103–11.
- \_\_\_\_\_. 2002. The laryngeal sphincter as an articulator: How register and phonation interact with vowel quality and tone. *Proceedings of the Western Conference of Linguistics* 14:68–86.
- Goldsmith, John A. 1984. Meussen's rule. *Language sound structure*, Mark Aronoff and Richard T. Oehrle (eds.), 245–59. Cambridge, MA: MIT Press.

- \_\_\_\_\_. 1990. *Autosegmental and metrical phonology*. Oxford: Blackwell.
- Gravina, Richard. [2001]. Provisional orthography / Conseils pour le projet Mambai (ms.). Maroua: SIL Greater North Regional Office.
- Greenberg, Joseph H. 1949. Studies in African linguistic classification I: The Niger-Congo languages. *Southwestern journal of anthropology* 5:79–100.
- \_\_\_\_\_. 1955. Studies in African linguistic classification. New Haven, CT: Compass.
- \_\_\_\_\_. 1963. *The languages of Africa*. Bloomington, IN: Indiana University.
- \_\_\_\_\_. 1970. Some generalizations about glottalic consonants, especially implosives. *International journal of American linguistics* 36:123–45.
- \_\_\_\_\_. 1983. Some areal characteristics of African languages. *Current approaches to African linguistics* 1, Ivan R. Dihoff (ed.), 3–21. Dordrecht: Foris.
- \_\_\_\_\_. 1988. The first person inclusive dual as an ambiguous category. *Studies in Language* 12:1–18.
- Grimes, Barbara (ed.). 2000a. *Ethnologue, Vol. I: Languages of the world* (14<sup>th</sup> ed.). Dallas, TX: SIL International.
- \_\_\_\_\_. 2000b. *Ethnologue, Vol. II: Maps and indexes*. Dallas, TX: SIL International.
- Hagège, Claude. 1974. Les pronoms logophoriques. *Bulletin de la Société de Linguistique de Paris* 69(1):287–310.
- \_\_\_\_\_. 1975. Some contributions of Central African languages to African linguistics, linguistic theory, and language universals. *Proceedings of the sixth conference on African linguistics*, Robert K. Herbert (ed.), 148–160. Columbus, OH: Ohio State University.
- \_\_\_\_\_. 1981. Les langues de l'Adamawa et leur classification. *Les langues dans le monde ancien et moderne: Afrique sub-saharienne / pidgins et créoles*, Jean Perrot (ed.), 183–5. Paris: CNRS.
- Hamm, Cameron. 2001. A sociolinguistic survey of the Mambay of Cameroon and Chad. N'Djaména: SIL Tchad.
- Hassoumi, Nassourou. n.d. Si le lamidat de Bibémi vous était conté. [additional bibliographic information unavailable].
- Heine, Bernd and Derek Nurse. 2000. *African languages: An introduction*. Cambridge: Cambridge University Press.
- Hoffman, C. 1963. *A grammar of the Margi language*. London: International African Institute and Oxford University Press.

- Institut Géographique National. 1974. *Garoua (NC-33) 1: 1 000 000*. Paris: Institut Géographique National (France).
- Institut Géographique National (France) and Institut National de Cartographie (Cameroun). 1994. *Cameroun: Carte routière au 1: 1 500 000*. Paris and Yaoundé: Institut Géographique National (France) and Institut National de Cartographie (Cameroun).
- International Phonetic Association. 2005. IPA news. *Journal of the International Phonetic Association* 35(2):261–2.
- Jogri, Emmanuel. 2006. *La foi chrétienne parmi les mambay* (graduating essay). Kaélé, Cameroon: École Biblique de l'Église des Frères Luthérienne du Cameroun.
- Kaye, Jonathan. 1981. Implosives as liquids. *Studies in African Linguistics* 8 (supplement):78–81.
- Kenstowicz, Michael. 1994. *Phonology in generative grammar*. Cambridge, MA: Blackwell.
- Kiparsky, Paul. 1982. From cyclic to lexical phonology. In Harry van der Hulst and Norval Smith (eds.), *The structure of phonological representations* 1:131–75. Dordrecht: Foris.
- Kutsch Lojenga, Constance. [1976]. *Langues sans consonnes nasales: Ebrié (Kwa, Côte d'Ivoire)* (ms.).
- \_\_\_\_\_. 1985. The tones of the Ebrié associative construction. *Journal of African languages and linguistics* 7:1–22.
- \_\_\_\_\_. 1994. Ngiti: A Central-Sudanic language of Zaïre. Köln: Rüdiger Köppe.
- \_\_\_\_\_. 1996. Participatory research in linguistics. *Notes on Linguistics* 73:13–27.
- \_\_\_\_\_. 2007. Coreference in Ngiti. *Advances in Nilo-Saharan Linguistics: Proceedings of the 8<sup>th</sup> Nilo-Saharan Linguistics Colloquium, University of Hamburg, August 22–25, 2001*, Mechthild Reh and Doris L. Payne (eds.), 143–61. Köln: Rüdiger Köppe.
- Ladd, Robert D. 1996. *Intonational phonology*. Cambridge: Cambridge University Press.
- Ladefoged, Peter. 1964/1968. *A phonetic study of West African languages*. Cambridge: Cambridge University Press.
- Ladefoged, Peter and Ian Maddieson. 1996. *The sounds of the world's languages*. Oxford: Blackwell.

- Lakoff, Robin T. 1968. *Abstract syntax and Latin complementation*. Cambridge, MA: MIT Press.
- Le Saout, J. 1973. Langues sans consonnes nasales. *Annales de l'Université d'Abidjan* 6(1):179–206.
- Leal, Mary. 1950: Patterns of tone substitution in Zapotec morphology. *International journal of American linguistics* 16:132–6.
- Leben, William R. 1973. *Suprasegmental phonology* (Ph.D. dissertation). Cambridge, MA: MIT.
- Lembezat, Bertrand. 1961. *Les populations païennes du nord-Cameroun et de l'Adamaoua*. Paris: Presses Universitaire de France.
- Lestringant, Jacques. 1964. *Les pays de Guider au Cameroun: essai d'histoire régionale*. Versailles: [multicopied].
- Longacre, Robert E. 1955. Rejoinder to Hamp's 'Componential restatement of syllable structure in Trique.' *International journal of American linguistics* 21:189–94.
- Lukas, Johannes. 1937. *Zentralsudanische Studien*. Abhandlungen aus dem Gebiet der Auslandskunde 45 / Reihe B. Völkerkunde, Kulturgeschichte und Sprachen 24. Hamburg: Friederichsen, de Gruyter and Co.
- Lyons, John. 1995. *Linguistic semantics*. Cambridge: Cambridge University Press.
- Mann, Michael and David Dalby. *A thesaurus of African languages*. London. Hans Zell, 1987.
- Meeussen, A. E. 1965. A preliminary analysis of Ganda verb forms. *Journal of African languages* 4(2):108–13.
- Mohammadou, Eldridge. 1979. *Ray ou Rey-Bouba (Tradition transmise par Alhadji Hamadjoda Abdoullaye): Traditions historique des Foulbé de l'Adamâwa*. Garoua: Musée Dynamique du Nord-Cameroun and ONAREST (Office National de la Recherche Scientifique et Technique), and Paris: CNRS.
- Mouchet, Jean. 1938. Vocabulaires comparatifs de 15 parlers du Nord-Cameroun. *Journal de la société des africanistes* 8:123–43.
- Mounce, William D. 1994. *The morphology of biblical Greek*. Grand Rapids, MI: Zondervan.
- Newman, Paul. 1990. *Nominal and verbal plurality in Chadic*. Publications in African languages and linguistics 12. Dordrecht: Foris.
- \_\_\_\_\_. 2000. *The Hausa language*. New Haven, CT: Yale University Press.

- Noye, Dominique. 1974. *Cours de foulfouldé: Dialecte peul du Diamaré, Nord-Cameroun*. Maroua, Cameroon: Mission Catholique and Paris: Geuthner.
- Olson, Kenneth S. 2004. Acoustic correlates of the labial flap. Paper presented at the Linguistic Society of America annual meeting, January 2004, Boston, MA.
- Olson, Kenneth S., and John Hajek. 1999. The phonetic status of the labial flap. *Journal of the International Phonetic Association* 29(2):101–114.
- \_\_\_\_\_. 2001. The geographic and genetic distribution of the labial flap. *SIL Electronic Working Papers* 2001-002. Dallas, Texas: SIL. Online. URL: <http://www.sil.org/silewp/2001/002/>.
- \_\_\_\_\_. 2003. Crosslinguistic insights on the labial flap. *Linguistic Typology* 7(2):157–186.
- \_\_\_\_\_. 2004. A crosslinguistic lexicon of the labial flap. *Linguistic Discovery* 2(2):21–57. Available online at: <http://linguistic-discovery.dartmouth.edu>.
- Oxford English Dictionary online*. 2007. Available at: <http://www.oup.com/online/oed/>.
- Palmer, F. R. 2001. *Mood and modality*. Cambridge: Cambridge University Press.
- Payne, Thomas. 1997. *Describing morphosyntax*. Cambridge: Cambridge University Press.
- Pickett, Velma. 1951. Nonphonemic stress: A problem of stress placement in Isthmus Zapotec. *Word* 7:60–5.
- Pike, Kenneth L. 1967. *Language in relation to a unified theory of the structure of human behavior*. The Hague: Mouton.
- Plank, Frans. 1996. Domains of the dual, in Maltese and in general. *Rivista di Linguistica* 8:123–40.
- Pullum, Geoffrey K. and William A. Ladusaw. *Phonetic symbol guide* (2<sup>nd</sup> ed.). Chicago: University of Chicago Press.
- République du Tchad. [1993]. *Recensement général de la population et l'habitat 1993* (ms). N'Djaména: Ministre du Plan et de la Coopération.
- Robbins, Frank E. 1961. Quiotepec Chinantec syllable patterning. *International journal of American linguistics* 27:237–50.
- Roberts, John R. Modality in Amele and other Papuan languages. *Journal of Linguistics* 26:363–401.
- Robertson, A. T. 1934. *A grammar of the Greek New Testament in the light of historical research*. Nashville, TN: Broadman.

- Ruelland, Suzanne. 1992. Description du parler tupuri de Mindaore, Mayo-Kebbi (Tchad): Phonologie, morphologie, syntaxe. Paris: Université de la Sorbonne-Nouvelle-Paris III.
- Samarin, William J. 1971. Adamawa-Eastern. *Current trends in linguistics 7: Linguistics in sub-Saharan Africa*, Thomas Sebeok (ed.), 213–44. The Hague: Mouton.
- Schadeberg, Thilo. 1982a. Nasalization in Umbundu. *Journal of African languages and linguistics* 4:109–32.
- \_\_\_\_\_. 1982b. Les suffixes verbaux séparatifs en bantou. *Sprache und Geschichte in Afrika* 4:55–66.
- \_\_\_\_\_. 1994. Die extensive Extension im Bantu. *Sprachen und Sprachzeugnisse in Afrika*, Thomas Geider and Raimund Kastenholz (eds.), 357–366. Köln: Rüdiger Köppe.
- Schilder, Kees. 1994. Quest for self-esteem: State, Islam and Mundang ethnicity in northern Cameroon. Leiden: African Studies Centre.
- Segerer, Guillaume. 1995. *Remarques sur la phonologie de la langue duru, d'après les travaux de Lee E. Bohnhoff* (Master's thesis). Paris: ILPGA (Institut de Linguistique et Phonétique Générales et Appliquées), Nouvelle Sorbonne III.
- SIL. 1995. *Speech Analyzer* (version 1.5). Dallas, TX: SIL International.
- \_\_\_\_\_. 2003. *SIL comparative African word list with Fulfulde glosses*. Yaoundé and Maroua, Cameroon: Association SIL Cameroun.
- Snider, Keith. 1990. Tonal upstep in Krachi: Evidence for a register tier. *Language* 66:453–74.
- \_\_\_\_\_. 1998. Phonetic realization of downstep in Bimoba. *Phonology* 15(1):77–101.
- \_\_\_\_\_. 1999. *The geometry and features of tone*. Arlington, TX: SIL International and University of Texas at Arlington.
- \_\_\_\_\_. [2007]. Tonal phenomena in African languages. Handout for tone analysis course, Spring 2007. Langley, BC: Canada Institute of Linguistics.
- Stauch, Alfred. 1966. Annexe II: Complément aux listes des noms vernaculaires. *Le bassin camerounaise de la Bénoué et sa pêche*, 143–7. Paris: ORSTOM (Office de la Recherche Scientifique et Technique).
- Stewart, John M. 1983. Downstep and floating low tones in Adioukrou. *Journal of African languages and linguistics* 5:57–78.

- Strümpell, R. Kürt. 1910. Vergleichendes Wörterverzeichnis der Heidensprachen Adamauas. *Zeitschrift für Ethnologie* 42:444–88.
- Tadadjeu, Maurice and Étienne Sadembouo. 1984. *General alphabet of Cameroon languages / Alphabet générale des langues camerounaises*. Yaoundé: ISH and DLL (Département des Langues et Linguistique).
- Tessmann, Günter. 1932. Die Völker und Sprachen Kameruns. *Petermanns' Geographische Mitteilungen* 78(5/6):113–20; and 78(7/8):184–90.
- Thomas, David. 1955. Three analyses of the Ilocano pronoun system. *Word* 11:204–8.
- Thomas, Jacqueline M. C. (1972). Aires de phonèmes et aires de tons dans les langues d'Afrique centrale. *Langues et techniques, nature et société, tome 1: Approche linguistique*, Jacqueline M. C. Thomas and Lucien Bernot (eds.), 111–120. Paris: Klincksieck.
- Trimingham, J. Spencer. 1980. *The influence of Islam upon Africa* (2<sup>nd</sup> edition). London: Longman.
- Ubels, Edward H. 1983. Mood and aspect in Karang. *Studies in African linguistics* 14(1):47–70.
- Ubels, Edward and Virginia Ubels. 1980. *Phonology of Karang*. Yaoundé: SIL, ISH, and DGRST.
- Voegelin, Carl F. and F.M. Voegelin. 1964. Languages of the world: African fascicule 1. *Anthropological Linguistics* 6(5).
- Voeltz, F. K. Erhard and Christa Kilian-Hatz (eds.). 2001. *Ideophones*. Amsterdam: John Benjamins.
- Watters, John R. 2000. Syntax. *African languages: An introduction*, Bernd Heine and Derek Nurse (eds.), 194–230. Cambridge: Cambridge University Press.
- Welmers, William E. 1971. Checklist of language and dialect names. *Current trends in linguistics 7: Linguistics in sub-Saharan Africa*, Thomas Sebeok (ed.), 759–900. The Hague: Mouton.
- \_\_\_\_\_. 1973. *African language structures*. Berkeley and Los Angeles: University of California Press.
- Westermann, Diedrich. 1940. Die Sprachen. *Völkerkunde Afrikas*, Herrmann Baumann, Richard Thurnwald and Diedrich Westermann (eds.), 375–433. Essen: Essener Verlagsanstalt. =

- \_\_\_\_\_. 1948 (reprint 1962). Les langues et l'éducation. Herrmann Baumann and Diedrich Westermann (eds.), *Les peuples et les civilisations de l'Afrique*, trans. L. Homburger. Paris: Payot.
- Westermann, Diedrich and M.A. Bryan. 1952. *Languages of West Africa*. London: International African Institute and Oxford University Press.
- Wiesemann, Ursula. 1986. Grammaticalized coreference. *Pronominal systems*, Ursula Wiesemann (ed.), 437–63. Tübingen: Gunter Narr.
- Williamson, Kay. 1989. Niger-Congo overview. *The Niger-Congo languages*, John Bendor-Samuel and R. Hartell (eds.), 3–45. Lanham, MD: University Press of America.
- Williamson, Kay and Roger Blench. 2000. Niger-Congo. *African languages: An introduction*, Bernd Heine and Derek Nurse (eds.), 11–42. Cambridge: Cambridge University Press.
- Yip, Moira. 1989. Contour tones. *Phonology* 6(1):149–74.
- \_\_\_\_\_. 2002. *Tone*. Cambridge: Cambridge University Press.

## **Curriculum vitae**

Erik John Anonby was born on 14 January 1975 in Winnipeg, Canada. He studied at Rosyln Academy in Nairobi, Kenya and in 1993 graduated from Brookwood Secondary School in Langley, Canada. From 1993 to 1997, he studied linguistics and art at Trinity Western University, where he graduated with a Bachelor of Arts and received the Governor-General's Award for academic excellence. From 1997 to 1999, he pursued further studies at Université du Québec à Chicoutimi and Trinity Western University, graduating with a Master's degree in Linguistics and Exegesis. Following a year of sociolinguistic research on several languages in Chad and two years of linguistic research on the Luri language continuum in Iran, he began doctoral research on Mambay in 2003. An associate of Leiden University Centre for Linguistics, he is presently carrying out a research project on Kumzari, a language in northern Oman.

## Samenvatting

Het Mambay behoort tot de Adamawa-taalgroep binnen de Niger-Congo taalfamilie. Het wordt door 15.000 mensen in Tsjaad en Kameroen gesproken. Deze studie begint met een overzicht van de historische en taalkundige achtergrond. Er volgt een presentatie van de klanken en een studie van hun distributiepatronen. Tot de bijzonderheden behoren de duidelijk gefonologiseerde labiale *flap* en een rijk klinkersysteem met contrastieve klinkerlengte, nasalisatie, glottalisatie en faryngalisatie. Bijzondere aandacht wordt er besteed aan nasaliteit en aan het toonsysteem met twee onderliggende niveaus en daarbij downstep, maar eveneens met pragmatisch gestuurde wisseling tussen intonatieregisters. Bij de beschrijving van de morfologie worden eerst de naamwoorden behandeld, met aandacht voor het verschil tussen vrije en gebonden naamwoordelijke vormen en de aanwezigheid van een serie naamwoordelijke voorvoegsels die niet verwant zijn aan die van de algemeen in het Niger-Congo voorkomende naamwoordklassen. Een rijk systeem van TAM (tempus/aspect/modus) inflectie wordt zowel op het werkwoord als op de voornaamwoorden gemarkeerd. Bijwoorden, bijvoeglijke naamwoorden en ideofonen worden gezamenlijk behandeld, evenals de resterende woordsoorten telwoorden, aanwijzende voornaamwoorden en voorzetsels. Het laatste hoofdstuk van dit proefschrift behandelt eenvoudige en samengestelde zinnen en plaatst de woordsoorten in het verband van zinsbouw en teksteenheid. Er volgt een aantal teksten met interlineaire vertaling, gekozen uit de genres lied, legende, fabel en spreekwoord. Twee appendices bevatten de paradigmata van de onvervreembare vormen van het naamwoord en de vervoegingen van het werkwoord.