Mouton Grammar Library 7

Noonan
A Grammar of Lango

Mouton Grammar Library 7

Editors
Georg Bossong
Wallace Chafe

Mouton de Gruyter
Berlin · New York

Michael Noonan

A Grammar of Lango

1992
Mouton de Gruyter
Berlin · New York

Mouton de Gruyter (formerly Mouton, The Hague)
is a Division of Walter de Gruyter & Co., Berlin.

♾ Printed on acid-free paper which falls within the guidelines of the
ANSI to ensure permanence and durability.

Library of Congress Cataloging in Publication Data

Noonan, Michael (Michael P.)
A grammar of Lango / Michael Noonan.
p. cm. – (Mouton grammar library ; 7)
Includes bibliographical references and index.
ISBN 3-11-012992-2 (acid-free paper)
1. Lango language – Grammar. I. Title. II. Series.
PL8437.1.N66 1992
496.5–dc20 92-5911
CIP

Die Deutsche Bibliothek – Cataloging in Publication Data

Noonan, Michael:
A grammar of Lango / Michael Noonan. – Berlin ; New York : Mouton de Gruyter, 1992
(Mouton grammar library ; 7)
ISBN 3-11-012992-2
NE: GT

Printing: Arthur Collignon GmbH, Berlin – Binding: Dieter Mikolai, Berlin.
Printed in Germany.

To
my mother
Beatrice Noonan
and
the memory of my father
Michael Joseph Noonan

CONTENTS

A note on transcription

Apart from some early section of the phonology where phonetic symbols are used, the transcription employed in this grammar is an adaptation of what has come to be the standard orthography for Lango, modified so as to show tone, vowel quality, and gemination. Except where phonological derivations are discussed, the transcription presupposes the application of tone sandhi and coalescence word internally. The tone sandhi and coalescence rules are applied in external sandhi in Part I, Phonology, and Part II, Morphology, so as to provide examples of the application of the rules, but not in Part III, Syntax, so as not to impede morpheme identification and to comply with the conventions of Lango orthography. It is hoped that this will provide no inconvenience to the reader.

The phonetic symbols are discussed in Sec. 1.1 for consonants, 2.1 for vowels, and 4.1 for tones. The symbols used in the modified standard orthography are given in Sec. 1.3 for consonants and 2.4 for vowels.

List of abbreviations

Morphology/syntax

1s	first person singular subject
2sa	second person singular associative
3po	third person plural object
hab	habitual aspect
perf	perfective aspect
prog	progressive aspect
infin	infinitive
mid	middle voice
ben	benefactive
ven	ventive
subj	subjunctive mood
imper	imperative
ger	gerund
Su	subject
DO	direct object
IO	indirect object
Tr	transitive verb
AN	activity naming verb
SA	secondary argument verb
Intr	intransitive verb
att+part	attributive particle
comp	complementizer
neg	negative
indef	indefinite suffix
theme	thematic suffix
Sg	singular
Pl	plural

Phonology

C_1	first consonant (or consonant glide cluster) or a C_1VC_2 root
V	vowel
C_2	the final consonant of a C_1VC_2 root
G	glide

H	high tone
L	low tone
'H	downstepped high tone
HL	falling tone
H'H	falling downstepped tone
LH	rising tone
H(L)	a class of nouns whose citation forms have H, but which generally behave like HL

Phonological Rules

VH	vowel harmony
Coal	coalescence
Contr	contraction
UFS	underlying fall simplification
HS1	high spread 1
RS	rise simplification
LS	low spread
FS1	fall simplification 1
FS2	fall simplification 2
HS2	high spread 2
H(L)S	H(L) simplification

Introduction

Lango is a member of the Lwo subgroup of Western Nilotic, a branch of the Nilotic languages, which in turn are members of the Nilo-Saharan family (Greenberg 1966). Nilo-Saharan as a whole is a rather poorly studied group despite the fact that the languages are distributed over a large area in the Eastern Sahel and East Africa.

Lango is spoken entirely within Uganda. The population is located primarily in Lango province, north of Lake Kyoga in central Uganda. Lango is most closely allied, both in grammar and lexicon, to Acholi, and somewhat more distantly to Luo and Alur. Tucker (1957) and Tucker and Bryan (1966) have asserted that the Langi originally spoke an Eastern Nilotic language and, since moving to their present habitat, have taken up a form of Western Nilotic (but compare Driberg (1923) on this point). Numerous apparent relics, both syntactical and lexical, can be found which may attest to this earlier linguistic affiliation, though the evidence needs to be very carefully assessed to determine whether these are relics or some sort of adstratum.

The Lango language which is the subject of this study is distinct from that of two groups of people living in the Sudan who are sometimes also referred to as 'Lango.' One of these speaks an eastern Nilotic language closely related to Lotuko; the other, usually referred to as Didinga, speaks a Surma language.

In recent years, the Langi have been a politically important group within Uganda. During the period of the Amin regime and the civil war that followed, the Langi people suffered greatly and many were killed or went into exile. Estimates of the number of Langi vary from 300,000 (Okello, 1975) to 823,200 (Grimes, 1988). Many Langi have some knowledge of English.

There is very little published work on Lango. The earliest and most useful work is Driberg (1923) which contains a short grammar and a dictionary. While this is a most valuable work, it is seriously flawed in a number of crucial areas. Driberg discusses syntax only incidentally and sparsely in the course of his treatment of morphology and, in addition, tends to over-morphologize, i.e. to represent in single words sequences of independent (and separable) words. The tone system of Lango is almost completely ignored. In his transcription of vowels, Driberg fails to note the distinctions based on advanced versus retracted tongue root, thereby cutting the vowel inventory in half. The effects of this transcriptional inadequacy extend beyond mere failure to note phonological processes such as vowel harmony, and differences between lexical items. For example, Driberg fails to recognize grammatical categories such as

the aspect distinctions in the verbal paradigms, which are frequently distinguished only by tone.

Tucker and Bryan (1966) provide the only other grammatical information, presenting a few features of Lango grammar in a chapter giving a general overview of Western Nilotic. Also in a comparative vein is Blount and Curley (1970) which compares Lango vocabulary, in the form of Swadesh's 100 and 200 word lists, with other closely related Western Nilotic languages.

Other literature on Lango is concerned with specific aspects of Lango phonology and syntax. Tucker (1958) is a valuable discussion of segmental and tonemic phenomena at word boundaries. Maddieson, Shopen and Okello (1974), Clifton (1975), and Dwyer (1983) discuss Lango tonemics, while Okello (1975) discusses both tonemic and segmental phonology. The last four works are written in a generative framework. Dwyer (1983) and Bavin (1982) compare Lango with Southern Lwo kin.

Brief mention of Lango is also made in the following works: Tucker (1955), Hall et al (1955), and Greenberg (1966).

Newspapers, pedagogical materials, and some literary works have been published in Lango. A complete translation of the Bible has been available since 1979. There are also radio broadcasts in the language. Personal correspondence between Langi, however, is likely to be in English, the language of schools, higher literacy, and the courts in Uganda.

The primary material upon which this work is based was collected over a period of several years, from 1977 to 1983, from consultants residing in Buffalo, New York, and Los Angeles. A number of Lango speakers served as consultants, chief among them were Mary Okello, Jonas Opio, Florence Monday, and George Ojuk. To all of them I express my gratitude. In addition to data collected from consultants, textual material collected by Driberg (1923) was also used, as were short stories written by Langi.

I would also like to take this opportunity to thank Wally Chafe, Bob Kirsner, Paul Schachter, and Sandy Thompson for helpful comments at various stages in the production of this work. I would like to give special thanks first to Chet Creider, whose detailed comments greatly improved the work, and second, but most importantly, to Edith Bavin, with whom much of the data were collected and with whom I worked out the preliminary analysis of the grammar.

And lastly, I would like to thank Dean Andrade, who designed and typed the final camera-ready version.

PART ONE:
PHONOLOGY
AND
MORPHOLOGY

Lango morphophonemes (=systematic phonemes)

Consonants and glides:

	Bilabial	Alveolar	Palatal	Velar	Labio-velar
VL Stops	p	t		k	
VD Stops	b	d		g	
VL Affricates			c (=tɕ)		
VD Affricates			ɟ (=dʑ)		
Nasals	m	n	ɲ	ŋ	
VD Tap		r (=ɾ)			
VD Lateral		l			
Glides			y		w

Vowels:

	Front		Central		Back	
	[+ATR]	[-ATR]	[+ATR]	[-ATR]	[+ATR]	[-ATR]
High	i	ɪ			u	ʊ
Mid	e	ɛ	ə		o	ɔ
Low				a		

1. Consonants[1]

1.1 Inventory of consonants

Phonetically, the following consonants and glides are attested in Lango:[2]

(1)	bilabials	alveolars	palatals	velars	labio-velar	glottal stop
vl. stops	p	t		k		
geminates	p•	t•		k•		
vd. stops	b	d		g		
geminates	b•	d•		g•		
vl. affricates			tɕ			
geminates			tɕ•			
vd. affricates			dʑ			
geminates			dʑ•			
nasals	m	n	ɲ	ŋ		
geminates	m•	n•	ɲ•	ŋ•		
vl. fricatives	Φ	s	ɕ	x		
vl. tap		ɾ				
vd. tap		ɾ				
lateral		l				
geminate	l•					
glides			y		w	
glottal stop						ʔ

Voiceless stops and affricates are very slightly aspirated. Voiced stops and affricates are fully voiced, even initially, and are sometimes heard with a murmured voice quality.

The geminate consonants are in fact, long — they are not rearticulated.

In utterance final position, stops are normally unreleased, which often makes it difficult to hear whether a final stop is voiced or voiceless. Before voiced stops, as in **dóg** 'mouth', the vowel is slightly longer than before voiceless stops, such as in **dɔ̀k** 'to go back', though the vowel length exhibited before voiced stops is considerably less than that found in fully long vowels (Sec 2.2).

The palatal affricates [tɕ] and [dʑ] and the palatal fricative [ɕ] are phonetically prepalatal and resemble the initial consonants in the Polish words **ciç**, **dzień**, and **siç**, respectively, and like these are not accompanied by lip rounding.

1.2 Distribution of consonants

1.2.1 General patterns

The syllable canon of Lango is relatively simple and can be described by the following formula:

(1) (C) (G) V (C)

C = consonant
G = glide
V = vowel

Consonant final syllables are, with the exception of a few borrowings, found only morpheme finally.[3]

The glide [w] may follow any non-geminate consonant except for the fricatives, [ʂ], and [y]:

(2)	**pwód**	'still'	**bwògò**[4]	'young, unripe'
	twòl	'snake'	**dwɔ̀k•ɔ̀**	'to go back'
	kwèè	'to cool'	**gwènò**	'chicken'
	tɕwè•yò	'to create'	**dʑwìk**	'to shrivel'
	mwòl	'humble'	**nwàŋ**	'thick'
	ɲwàl	'to give birth'	**ŋwé**	'smelly'
	ɾwòt	'king'	**lwɔ̀k•ɔ̀**	'to wash'

The glide [y] is more restricted in distribution: it, too, does not follow geminates, fricatives, and [ʂ], and is found only after bilabials and alveolars:[5]

(3)	**pyèt•ò**	'to winnow'	**byè**	'termite hill'
	tyèk•ò	'to finish'	**dyɛ̀l**	'goat'
	myèn•ò	'to stir'		
	ɾyèk	'wise'	**lyèt**	'hot'

Consonants in Cy sequences are phonetically palatalized.

CG sequences occur only root initially. Note that apparent exceptions like **tùtwàl** 'very' are reduplications — see Section 6.

Consonants clusters (i.e. CC) do not occur natively within Lango morphemes. They are, however, found in morphemes borrowed from English and other languages, e.g. [tɕèntè] 'money', [gàbmèntè] 'government'. Educated speakers tend to preserve these clusters, but in ordinary speech words such as these are likely to be pronounced in conformity with the general Lango pattern. [tɕèntè] may alternately be pronounced [tɕèn•è] or [tɕènè], and [gàbmèntè] may be heard as [gàbàmèntè], [gàbàmèn•è], or [gàbàmènè], the latter with harmonizing vowels.

Consonant clusters occur at morpheme boundaries as a result of affixation:

(4) **kèd+gí**
with-3po
'with them'

twòl+cà
snake-yonder
'yonder snake'

In these clusters, the second member is always palatal, velar or [w]. Clusters where the second member would be a bilabial or an alveolar undergo cluster simplification: see Sec. 1.2.3.

The remaing distributional facts are illustrated in (5). In this chart, CG clusters are ignored, having been described above. Note that word boundaries (#) and morpheme boundaries (+) play a significant role in the distribution of consonants and glides in Lango: see table 5. In (5), environment A describes word initial position:

(6) **n̲áxô** 'girl'
ʔ̲òt 'house'

Environment B describes stem initial position in lexical items to which prefixes have been added (the underlined consonant is in environment B):

(7) ă + $_{V}$[p̲ònò] → **àpónò**
1s hid 'I hid'

Stem initial syllables receive word stress (Sec. 3):[6]

(8) **àpó̲nò**

(In this work, underlined vowels are stressed.) Environment C describes all other intervocalic positions within words:

(9) $_{N}$[gúlú] 'pot'

$_{N}$[kít̲]+**á** → **kíʂá**
character-1sa 'my character'

$_{N}$[gwèn̲ò]+**ná** → **gwènòná**
chicken-1sa 'my chicken'

Environment D is word final position:

(10) **twòl** 'snake'
lyèt 'hot'

First, notice that sound pattern identically in A and B. That is, the same consonants, are found in, and excluded from, environments A and B.

Second, a number of sounds are found only in C:

1) geminates
2) fricatives
3) [ʂ]

Table

	A # _____ V	B V+[_____ V {n, v, a}	C V _____ V	D V _____ #
p	**pì** 'because of'	**ʔàpónò** 'I hid'	**dépô** 'to collect'	**bàp** 'to deflate'
t	**tóŋ** 'spear'	**ʔàtédò** 'I cooked'	-	**lyèt** 'hot'
tɕ	**tɕɔ̀•** 'men'	**ʔàtɕámò**	-	**ɾétɕ** 'fish'
k	**kál** 'millet'	**ʔàkóbò** 'I said'	-	**dɔ̀k** 'to go back'
b	**bòt** 'to'	**ʔàbáxò** 'I accumulate'	**ʔàkóbò** 'I said'	**yíb** 'tail'
d	**dɔ̀k** 'to go back'	**ʔàdínò** 'I threshed'	**gédô** 'to build	**bàd** 'arm'
dʑ	**dʑóbô** 'to sweep'	**ʔàdʑóbò** 'I swept'	**ʔàtódʑò** 'I beat'	**tǒdʑ** 'beat!'
g	**gót** 'mountain'	**ʔàgâl** 'I delayed'	**bwògò** 'young'	**dóg** 'mouth'
p•	-	-	**dèp•ò** 'to collect'	-
t•	-	-	**tɕàt•ò** 'to sell'	-
tɕ•	-	-	**ŋwètɕ•ò** 'to run from'	-
k•	-	-	**dàk•ò** 'to transfer'	-
b•	-	-	**dʑɔ̀b•ɔ̀** 'to sweep'	-
d•	-	-	**kòd•ò** 'to blow'	-
dʑ•	-	-	**tòdʑ•ò** 'to beat up'	-
g•	-	-	**ɾèg•ò** 'to grind'	-
m	**món** 'women'	**ʔàmɔ̂l** 'I float'	**ʔàɲámò** 'I chewed'	**ɲòm** 'marriage'
n	**nên** 'to be visible'	**ʔànénò** 'I saw'	**gwènò** 'chicken'	**càn** 'poverty'
ɲ	**ɲáxô** 'girl'	**ʔàɲámò** 'I chewed'	**wìɲó** 'bird'	**píɲ** 'ground'
ŋ	**ŋèc** 'back'	**ʔàŋɔ̂xéɾê** 'I vomited'	-	**cíŋ** 'fore-arm'
m•	-	-	**tɕàm•ò** 'to eat'	-
n•	-	-	**nèn•ò** 'to see'	-
ɲ•	-	-	**ɾwèɲ•ò** 'to lose'	-
ŋ•	-	-	**ɾìŋ•ò** 'to run from'	-
Φ	-	-	**déΦô** 'to collect'	-
s	-	-	**lósə̀** 'man'	-
ɕ	-	-	**lóɕə̀** 'man'	-
x	-	-	**dáxô** 'woman'	-
ɕ	-	-	**bòɕə́** 'to me'	-
ɾ	**ɾétɕ** 'fish'	**ʔàɾégò** 'I ground'	**néɾó** 'uncle'	**ɲɔ̀ɾ** 'chain'
l	**léb** 'tongue'	**ʔàlégò** 'I prayed'	**lélô** 'to rejoice'	**dyèl** 'goat'
l•	-	-	**kwàl•ò** 'to steal'	
y	**yìtɕ** 'belly'	**ʔàyíɕò** 'I climbed'	**pòyò** 'to remember'	-
w	**wìtɕə́** 'my head'	**ʔàwálò** 'Iboiled'	-	-
ʔ	**ʔɔ̀t** 'house'	**ʔòʔɔ̀lɔ̀** 'he coughed'	-	-

Some sounds are excluded from C:

1) [ŋ]
2) [w]
3) [ʔ]
4) voiceless, non-geminate stops and affricates except [p] (but see below)

Third, some sounds are excluded from D:

1) [ʔ]
2) the glides [y] and [w]
3) geminates
4) fricatives
5) [ʂ]

The latter three may occur in environment D in external sandhi: see Sections 1.2.2 and 1.2.3 below.

1.2.2 Fricatives and [ʂ]

Fricatives and [ʂ] are in complementary distribution with the non-geminate voiceless stops and affricates: the former are found only in environment C (excluding external sandhi from consideration here), whereas the latter are excluded from this environment. Paradigmatic alternations between the two sets are a regular feature of Lango morphophonology. The following alternations are found:

(1) [p] alternates with [Φ]
[t] alternates with [ʂ]
[tɕ] alternates with [ɕ], [s]
[k] alternates with [x]

(2)

2s imperative	*2s perfective*	
dě•p	**ʔìdéΦò**	'gather'
mǎ•t	**ʔìmáʂò**	'drink'
dǎ•tɕ	**ʔìdáɕò**	'drop'
tě•k	**ʔìtéxò**	'start'

The [t]/[ʂ] and [k]/[x] alternations are quite regular and require no comment except to point out that [ʂ] may appear in place of [t] before the suffixes **-wá** and **-wú**,

(1) /ɔ̀t+wá/ → [ʔɔ̀twá] or [ʔɔ̀ʂwá]
house-1pa
'our house'

/ɔ̀t+wú/ → [ʔòtwú] or [ʔòʂwú]
house-2pa
'your house'

and that [ʂ] and [x] may replace final [t] and [k] respectively in fast speech in external sandhi when the latter are intervocalic:

(2) /ătèt # àwó'ró/ → [ʔàtêʂ àwó'ɾó]
1s-forge-perf yesterday
'I forged yesterday'

/ădɔ̀k # àwó'ró/ → [ʔàdɔ̂x àwó'ɾó]
1s-go+back-perf yesterday
'I went back yesterday'

The [p]/[Φ] alternation is not found with all Lango speakers. For some, it is a regular feature; others used [Φ] occassionally; and still others never use [Φ]. I have no data on the social or regional variables affecting this alternation.

The [tɕ]/[ɕ] alternation is quite regular except that some speakers substitute [s] for [ɕ], but only in a few very common words. The word most commonly found with [s] is the word /lôcà/ 'man', which is pronounced either [lócà] or [lósà]. No speaker consistently used [s] for this word, and some speakers rejected the [lósà] pronunciation when it was pointed out to them, even though the pronunciation had passed unnoticed in free speech.

Given the distributional facts, the fricatives and [ʂ] can be viewed as deriving morphophonemically from lexical voiceless stops and affricates via a process of consonant weakening, e.g.:

(3) /ă+màt+ò/ → [ʔàmáʂò]
1s-drink-perf
'I drank it'

1.2.3 Geminates

Geminates are also restricted to environment C in citation forms, though as a product of certain rules of external sandhi they may also occur in environment D. There are three sorts of conditions under which geminates regularly appear:

(1) As a process of cluster simplification, sequences of any consonant C plus an alveolar or bilabial consonant becomes C•. This commonly occurs when a suffix beginning with an anterior (alveolar or bilabial) C is added to a root ending in a C:

/ɔ̀t+ná/ → [ʔɔ̀t•á]
house-1sa
'my house'

/ɔ̀t+mérê/ → [ʔɔ̀t•érê]
house-3sa
'his house'

/ɔ̀t+nɔ̀/ → [ʔɔ̀t•ɔ̀]
house-that
'that house'

/tɔ́ŋ+nì/ → [tɔ̀ŋ•ì]
spear-pl
'spears'

/ɔ̀+tɛ̀d+rɛ̂/ → [ʔɔ̀tɛ̀d•ɛ̂]
3s-cook-mid
'it got cooked'

Velars, palatals, and /w/ do not participate in cluster simplification:

/ɔ̀t+wá/ → [ʔɔ̀twá] (or [ʔɔ̀ʁwá]; see Sec. 1.2.2)
house-1ps
'our house'

/ɔ̀t+gǐ/ → [ʔɔ̀dgǐ] (see Sec. 1.4.3)
house-3pa
'their house'

/tɔ́ŋ+cà/ → [tɔ́ŋtɕâ]
spear-yonder
'yonder spear'

In fast speech, cluster simplification may operate across word boundaries where the second word is a particle or preposition:

[tìtɕ mɛ́ ɔ̀t] or [tìtɕ•ɛ́ ɔ̀t]
work for house
'housework'

A similar process of cluster simplification is optionally found in borrowed words with morpheme internal consonant clusters: [tɕɛ̀n•ɛ̀] 'money' is found alongside [tɕɛ̀ntɛ̀].

(2) The final consonant of a verbal root appears as a geminate in the transitive infinitive and in the progressive aspect, which historically was built off the infinitive:[7]

/din/ 'thresh'
[dìn•ɔ̀] 'to thresh it'
[ʔádìn•ɔ̀] 'I am threshing it'
cf
[ʔàdínɔ̀] 'I threshed it'
[dǐ•n] 'thresh it!'

The root final consonant in benefactive and ventive verb stems is also geminated:[8]

/kel/ 'bring'
[ʔòkèl•ə́] 'he brought it for me'

/riŋ/ 'run'
[ʔòrìŋ•ô] 'he ran to me'

(3) In external sandhi, gemination occurs before:

a) the final consonant of the head of an associative construction before the attributive particle /à/:[9]

/búk # à # dákô/ → [búk• á 'dákô]
book att+part woman
'the woman's book'

b) the third person singular of the progressive aspect:

/món # à+tèd+ò/ → [món• àtèd•ò]
women 3s-cook-prog
'the women is cooking it'

cf [món ótédò]
women 3s-cook-perf
'the women cooked it'

(Plural nouns take 3s subject agreement.) Topicalized elements, including subject pronouns, do not geminate before 3s prog verbs:

[én àtèd•ò]
he 3s-cook-prog
'he is cooking it'

c) a set of words with so-called 'zero consonants' — the name, as well as the first description of the phenomenon, is from Tucker (1955). Like the attributive particle and the third singular progressive prefix, these words were historically consonant initial, but have since lost these consonants. All agent nouns fall into this class as well as a number of other words. A sample follows — Acholi preserves the original consonants:

Acholi	*Lango*	
/làpác/	/àpác/	'carpenter'
/làbvòr/	/àbwòr/	'lion'
/làcɔ̂/	/ìcɔ̂/	'man'
/lùdùkú/	/òdùkú/	'gun'
/rùbíâ/	/òbíâ/	'money'
/làwó'ró/	/àwó'ró/	'yesterday'
/làtîn/	/àtîn/	'child'

All Lango speakers I've consulted accept sentences like:

[mán• òdùxú]
this gun
'this is a gun'

but some would say instead

[mán ódùxú]

without gemination. Some of these words are more likely to condition gemination than others: generally, the more common a word is, the more likely it is to exhibit the zero consonant phenomenon. Agent nouns (Sec. 5.2.2), because they form a coherent class, consistently condition zero consonant effects.

These zero consonants have phonological effects other than conditioning gemination. They can block coalescence in external sandhi (Sec. 2.7) and they can block tone spreading rules (Sec. 4.4.2).

There is no need to posit lexical geminates in Lango: all geminates can be derived morphophonemically from non-geminates via cluster simplification, as a morphophonemic process affecting transitive infinitives and their derivatives, or as a morphophonemic process affecting word final consonants before zero consonants.[10]

1.2.4 [ʔ]

In words said in isolation and in very slow, deliberate speech, the glottal stop precedes all word initial vowels. In faster tempi in connected speech, such glottal stops are omitted except utterance initially. The presence or absence of a glottal stop in initial position is not a lexical feature, but rather a low level phonetic one.

Intervocalically in environment B, i.e. between prefixes and root-initial vowels, either [ʔ] in very slow speech or [ɦ] (murmured voice) in moderately slow speech is inserted:

/ǎ+ɔ̀m+ɔ̀/	→	[ʔàʔɔ́mɔ̀]	Very Slow
1s-fetch-perf		[ʔàɦɔ́mɔ̀]	Moderately Slow
'I fetched it'			

In moderate or fast tempi, neither is likely to appear:

→ [ʔàɔ́mɔ̀] Moderate or Fast

Again, word internal glottal stops need not be specified lexically since their presence is predictable on a combination of morphophonemic and stylistic considerations.

1.2.5 [w]

[w] occurs in morpheme initial position and in clusters following any consonant morhophoneme except /b/ and the glide /y/ in morpheme initial position. (This was exemplified in Sec. 1.2.1.) [w] never occurs in other positions within roots.[11]

1.3 Inventory of consonant morphophonemes

The following inventory of consonant and glide morphophonemes (or systematic phonemes) can be posited for Lango:

	Bilabial	Alveolar	Palatal	Velar	Labio-velar
VL Stops	p	t		k	
VD Stops	b	d		g	
VL Affricates			c (=tʃ)		
VD Affricates			j (=dʒ)		
Nasals	m	n	ɲ	ŋ	
VD Tap		r (=ɾ)			
VD Lateral		l			
Glides			y		w

Notice that in conformity with the usual practice of Niloticists, the symbols 'c', 'j', and 'r' will substitute for 'tʃ', 'dʒ', and 'ɾ', respectively, in morphophonemic transcriptions.

Even though consonant gemination is predictable (but see endnote 10), geminates will always be indicated since gemination is used to signal grammatical categories. Gemination will be transcribed with double consonants:

tèddò	[tèd•ò]	'to cook'
ŋwèccò	[ŋwètʃ•ò]	'to run from'
rwèɲɲò	[ɾwèɲ•ò]	'to lose'

From this point on, all transcriptions of consonants will be morphophonemic except where square brackets indicate phonetic transcriptions.

1.4 Other morphophonemic processes

1.4.1 The lack of a geminate tap

Unlike the other consonant morphophonemes in Lango, there is no geminate counterpart of the tap /r/, neither [ɾ•] nor a trill [r]. Where a geminate tap would be expected, a preceding long vowel is found instead (see below Sec. 2.2):

[ʔàkúɾɔ̀]	'I waited'	cf	[ʔàtédò]	'I cooked it'
[kʊ̀•ɾɔ̀]	'to wait'		[tèd•ò]	'to cook it'

Notice that the long vowel in [kʊ̀•ɾɔ̀] corresponds to the morphophonemically conditioned geminate stop in [tèd•ò].

1.4.2 Intervocalic /ŋ/

Most Lango verb roots are of the form $C_1(G)VC_2$ (Sec. 5.1.1). C_2 can occur word finally or intervocalically, in geminated or non-geminated form, depending on which part of the verbal paradigm we consider:

/ted/	'cook'	
	[tĕ•d]	'cook it!'
	[ʔàtédò]	'I cooked it'
	[tèd•ò]	'to cook it'

In Sec. 1.2.1, it was noted that [ŋ] does not occur in environment C, that is, it does not occur intervocalically except root initially — we find no [ŋ] corresponding to the [d] in [ʔàtédò] above. When the morphophoneme /ŋ/ is C_2 and appears in non-geminated form in environment C, the flanking vowels are nasalized and the /ŋ/ itself is deleted:

/gɛŋ/	'prevent'	
	[gĕ•ŋ]	'prevent it!'
	[ʔàgɛ́ɛ̃ɔ̃]	'I prevented it'
	[gèŋ•ò]	'to prevent it'

Vowels are regularly nasalized before and after nasal stops, but the nasalization in [ʔàgɛ́ɛ̃ɔ̃] is more pronounced than the slight nasalization in the corresponding vowels in [gèŋ•ò] or [gĕ•ŋ].

In nouns also, fully nasalized vowels alternate with [ŋ]:[12]

[cíŋ]	'hand'	[cíɪ̃ɛ̃]	'hands'
[còŋ]	'knee'	[cõ̂ɛ̃]	'knees'
[ɲàŋ]	'crocodile'	[ɲə̀ɛ̃]	'crocodiles'
[tyàŋ]	'durra stalk'	[tyə̀ɛ̃]	'durra stalks'

In nouns and verbs like those given above, there is little difficulty in

positing a morphophoneme /ŋ/: /ŋ/ is deleted in environment C when non-geminate; the flanking vowels are fully nasalized.[13] There are instances of fully nasalized vowels, however, where there is no alternation with [ŋ]:

[ɲãõ]	'morning sun'
[ʔògʊ̃á]	'near'
[ʔòrãà]	'sterile (of a young woman)'

In such cases, there is always a sequence of two nasal vowels, each of which constitutes a separate syllable, i.e. there is always a sequence like:

$$\tilde{V} \$ \tilde{V}$$

In fact, fully nasal vowels do not occur in Lango except in $\tilde{V}$ \$ $\tilde{V}$ pairs. It is always possible, then, to posit a morphophonemic /ŋ/ in such words, catching a free-ride on the nasalization and ŋ-deletion rules. In morphophonemic transcriptions, /ŋ/ will be written in such words:[14]

	/ɲàŋò/	/ògʊ̀ŋá/	/òràŋà/
Nasalization	**ɲãŋõ**	**ògʊ̃ŋ̃á**	**òrãŋ̃à**
ŋ-deletion	**ɲãõ**	**ògʊ̃á**	**òrãà**
other rules	[ɲãõ]	[ʔògʊ̃á]	[ʔòrãà]

1.4.3 Devoicing and voicing assimilation

Non-nasal stops and affricates assimilate in voicing to that of following stops and affricates both across morpheme boundaries within words (where gemination does not apply — Sec. 1.2.3) and across word boundaries:

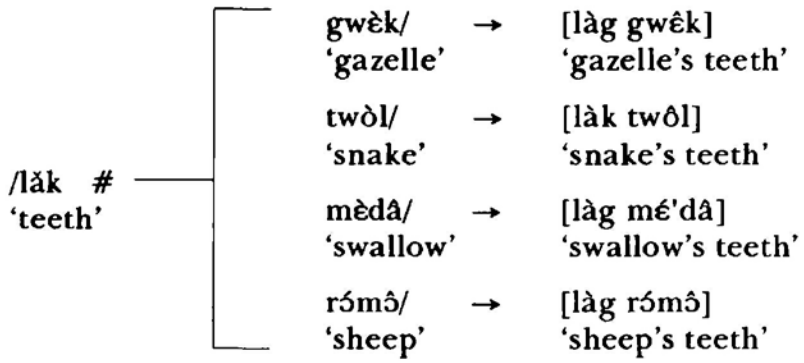
(1) /yàt+gí/ → [yàdgí]
tree-3pa
'their tree'

/dɔ́g+cà/ → [dɔ́kʧâ]
mouth-yonder
'yonder mouth'

(2) /lêb # 'tongue'

gwèk/ 'gazelle' →	[léb gwèk] 'gazelle's tongue'
twòl/ 'snake' →	[lép twòl] 'snake's tongue'
mèdâ/ 'swallow' →	[léb mèdâ] 'swallow's tongue'
rɔ́mɔ̂/ 'sheep' →	[léb 'rɔ́mɔ̂] 'sheep's tongue'

(3)



Syntactic environments which allow such an assimilation in external sandhi in moderate tempo include:

(1) noun + modifier

(2) verb + object

(3) proposition + object

In slow deliberate speech no assimilation need take place in external sandhi; in fast tempo, assimilation is possible in other syntactic environments.

Word final non-nasal stops and affricates preceding the attributive particle **à** are devoiced and, as noted in Sec. 1.2.3, geminated — the latter applying to all final consonants including nasals:

/píg à dákô/ → [pík• à dáxô]
juice att+part woman
'the woman's juice'

/bàd à dákô/ → [bàt• à dáxô]
leg att+part woman
'the woman's leg (of meat)'

cf /ɔ̀t à dákô/ → [ʔɔ̀t• à dáxô]
house att+part woman
'the woman's house'

/dùl à dákô/ → [dùl• à dáxô]
log att+part woman
'the woman's log'

Historically the devoicing and gemination found with the attributive particle **à** were simply regular instances of the general processes of voicing assimilation and cluster simplification (gemination). **à** was historically **pà**, as recorded earlier in this century by Driberg (1923) and as it still is in closely related Acholi.[15]

1.4.4 The Ø/y/c alternation

A number of roots in Lango evidence a Ø/y/c alternation:

(a)	(b)	(c)	
òpà-ò 'he carved it'	**pà•y-ò** 'to carve it'	**àpác** 'carver'	**pác** 'carpentry'
òwè-ò 'he swept it'	**wè•y-ò** 'to sweep it'	**àwéc** 'sweeper'	**òwéc** 'broom'
òwè-ò 'he swept'	**wèy-ò** 'to sweep'		
wì-á 'my head'[16]		**wìc** 'head'	

For these roots, C_2 is realized as Ø in the (a) set, as /y/ in the (b) set, and as /c/ in the (c) set. The generalizations governing this alternation are these:

(1) C_2 is realized as /y/ in verbs otherwise requiring a geminate C_2, such as in the infinitive stem, in forms built off the infinitive stem like the progressive aspect, before the middle voice suffix **-ê**, etc.

(2) C_2 is realized as /c/ word finally, except in subjunctives (imperatives are a variety of subjunctive — Sec. 5.3.2 and Sec. 8.2.7). Compare

pǎ•
'carve it!'

with **àpác** 'carver' from the same root. An exception involves nouns which are heads of inalienable associative constructions (Sec. 8.7.2). In such cases, C_2 is realized as Ø:

wì ògwàŋ	cf **wìcc à dákô**
head merekat	head att+part woman
'a merekat's head'	'the woman's (animal) head'

wì ògwàŋ involves inalienable possession; therefore, the head noun wìc appears as **wì**.

(3) C_2 is realized as geminate /c/ (i.e. as /cc/) in nouns before suffixes signalling alienable possession (Sec. 8.7.2):

	wì-á	**wìcc-á**
	'my (own) head'	'my (animal) head'
cf	**bàm-á**	**bàmm-á**
	'my (own) pelvis'	my (animal) pelvis'

(4) C_2 is realized as Ø elsewhere

Roots that exhibit the Ø/y/c alternation contrast with those that have /c/ in all positions:

òpàcò	**pàccò**	**àpác**	**pác**	**păc**
'he peeled it'	'to peel it'	'peeler'	'to peel'	'peel it!'

These non-alternating roots with /c/, together with the limitations on the occurence of [y] (it does not occur word-finally — Sec. 1.2.1), prompted Okello (1975) to posit morphophonemic /y/ as C_2 for the roots exhibiting the Ø/y/c, a position which I will adopt as well.

1.4.5 Epenthetic /y/

When a root has no C_2 and the morphological configuration requires a geminate C_2 (as for a transitive infinitive, etc.), an epenthetic /y/ is inserted in place of the absent C_2. For example, the verb /tɔ/ 'die' lacks C_2. When the benefactive suffix **ɨ** is attached to a root, C_2 must be geminated, but since /tɔ/ lacks C_2, a /y/ is inserted:

/ò+tɔ+ɨ+á/	→	[òtɔ•yá]
3s-die-ben-1so		
'it died on me'		

(/y/ does not result from **ɨ**: see Sec. 2.6)

/cò+ò/	→	[cò•yò]
wake+up-stem+vowel		
'to wake up (smn)'		

This Ø/y alternation is different from the Ø/y/c alternation discussed in the last section. Compare the following:

Ø/y Alternation:

òcòò	**cò•yò**	**cò•**
'he woke up smn'	'to wake up smn'	'to wake up'

Ø/y/c Alternation:

òcɔ̀ɔ̀	**cɔ̀•yɔ̀**	**côc**
'he wrote/sowed stg'	'to write/sow stg'	'to write/sow'

In the Ø/y/c alternation, /c/ appears word-finally (see (2) in Sec. 1.4.4), but /c/ fails to appear in the Ø/y alternation. Otherwise the two alternation patterns are the same for verbs: the Ø/y alternation is found only with verbs.

1.5 Non-productive alternations

1.5.1 Alternation of voiceless and voiced stops

There are few non-productive consonant alternations in Lango. Of these, the most important is the alternation of voiceless and voiced stops.[17] This alternation is found primarily in singular/plural noun pairs:

ɔ̀t	'house'	**ùdí**	'houses'
rwót	'king'	**rwòdê**	'kings'
gòt	'mountain'	**gódí**	'mountains'
lɔ̀t	'stick'	**lùdì/lùdê**	'sticks'
jɔ̀k	'spirit'	**jógí**	'spirits'
gwôk	'dog'	**gwóggî**	'dogs'

When an alternation occurs, the singular has the voiceless stop and the plural the voiced stop. Most nouns do not show this alternation,

mót	'gift'	**mótê**	'gifts'
búk	'book'	**búkê**	'books'

but those that take the plural suffix **í** always do — see Sec. 5.2.5.

This alternation is also found with some verbs and their nominalizations:

kòbbò	'to speak (tr)'	**kóp**	'speech, talk'
kòb	'to speak (intr)'		

Three nouns representing body-parts (and hence ordinarily found in inalienable associative constructions — see Sec. 8.7.2) devoice their final consonants when followed by singular alienable associative affixes (see also Sec. 5.2.4):

		Inalienable		*Alienable*	
léb	'tongue'	**lébâ**	'my tongue'	**léppá**	'my animal tongue'
bàd	'arm'	**bàdá**	'my arm'	**bàttá**	'my foreleg of meat'
yíb	'tail'	**yíbê**	'its tail'	**yíppérê**	'his animal tail'

lébbá 'my animal tongue' and **bàddá** 'my foreleg of meat' were also recorded. The noun **ɔ̀t** 'house', which is exceptional in taking the inalienable associative suffix (instead of the expected alienable suffix), changes /t/ to /d/: **ɔ̀dá** 'my house'. The inalienable associative is found only in the first person singular with this noun. The expected **ɔ̀ttá** 'my house' was also recorded and does not change /t/ to /d/.

Ventive verb stems (Sec. 8.2.3) whose roots end in /k/ show voicing of /k/ to /g/, along with the expected gemination: